



Version 3.0 April 2020

10920-04010-MAN (Rev. 5)

© Diversified Technical Systems, Inc. - All Rights Reserved

Table of Contents

DTS Support	5
Introducing DataPRO	6
PC Requirements	6
Software Installation	6
Local Database Installation	7
Centralized Database Installation	7
Both Installation	8
Data Collection Concepts	9
Data Collection Modes	10
Circular Buffer Mode	10
Circular Buffer Mode + UART	10
Recorder Mode	10
Recorder Mode + UART	10
Hybrid Recorder Mode	10
Auto Arm	11
Streaming	11
Sampling Rates	12
How to Calculate Maximum Recording Time	12
SLICE Circular Buffer Limitations	13
Navigating DataPRO	14
Using DataPRO	17
Quick Start Steps	17
Database	18
Data Recorders: Refresh, Add, Detect, Edit, Delete, Export, Import	18
Sensor Templates: Add, Edit, Delete	25
Sensor Database: Refresh, Save, Add, Import, Export, Delete, Delete all	30
Prepare	38
Groups: Add, Import, Edit, Delete, Copy	38
Test Setups: Add, Edit, Refresh, Import, Export, Delete, Copy	48
Additional Details	68
Lab Details	68
Customer Details	69

Engineer Details	
Channel Code Details	
Diagnostics	
Check Channels	
Realtime configured with "Level triggers off":	
Realtime configured with "Level triggers on":	
Check Trigger	
Quick Checkout	
Record	85
Run Test	
Download Data	101
Review	102
View Data: View, Modify	102
Viewer Layout	102
Chart Pane	112
Modification Pane	
Export Data	116
Administrative	119
Manage Users	119
System Settings	122
Test Options	122
TestSetupDefaults	127
Realtime	135
Channel Code Settings	137
UI (User Interface)	
Network Options	
Power Settings	
Sensor Settings	
Database	
Appendix A: Common Sensor Types and Bridge Connections	143
Accelerometer	
Upper Neck Load Cell	
ARS – Angular Rate Sensors	
Linear Potentiometer	

Non-linear Devices	144
IRTRACC for WorldSID and THOR dummies	144
Digital Input Options	144
Digital Output Options	144
Squib Options	144
Sensors with External Conditioning Modules	144
Appendix B: Sensor Database Import	155
Supported Sensor Database Import Formats	155
DataPRO (*.xml)	155
SLICEWare (*.xml)	155
TDAS Control Sensor Database	155
Sensor Information File (*.sif)	155
Equipment Exchange (*e2x)	155
TDAS Manager CSV Export	155
Command Line Import	155
Appendix C: Discover Hardware	156
Appendix D: Quick Arm	160
Appendix D: Quick Arm Appendix E: DataPRO File Structure	160 163
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format	160 163 166
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview	160 163 166 166
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview	 160 163 166 166
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format	 160 163 166 166 166 172
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format Appendix H: SQL Server Setup (Windows 7)	 160 163 166 166 172 173
 Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format	 160 166 166 172 173 199
 Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format Appendix H: SQL Server Setup (Windows 7) How to Backup the Centralized (SQL Server) DataPRO Database How to Restore the Centralized (SQL Server) DataPRO Database 	 160 166 166 172 173 199 204
 Appendix D: Quick Arm	 160 166 166 172 173 199 204 208
 Appendix D: Quick Arm	 160 166 166 172 173 199 204 208 209
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format Appendix G: DataPRO Binary File Format Appendix H: SQL Server Setup (Windows 7) How to Backup the Centralized (SQL Server) DataPRO Database How to Restore the Centralized (SQL Server) DataPRO Database Instructions for Using SQL Server for the DataPRO Database Appendix I: Setting up SLICE6 AIR DataPRO.exe.config Settings	 160 166 166 172 173 199 204 208 209 209
Appendix D: Quick Arm Appendix E: DataPRO File Structure Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format Appendix G: DataPRO Binary File Format Appendix H: SQL Server Setup (Windows 7) How to Backup the Centralized (SQL Server) DataPRO Database How to Restore the Centralized (SQL Server) DataPRO Database Instructions for Using SQL Server for the DataPRO Database DataPRO.exe.config Settings Hardware Settings	 160 166 166 172 173 199 204 208 209
Appendix D: Quick Arm Appendix E: DataPRO File Structure. Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format Appendix G: DataPRO Binary File Format Appendix H: SQL Server Setup (Windows 7) How to Backup the Centralized (SQL Server) DataPRO Database How to Restore the Centralized (SQL Server) DataPRO Database Instructions for Using SQL Server for the DataPRO Database Appendix I: Setting up SLICE6 AIR DataPRO.exe.config Settings Hardware Settings DataPRO Settings	 160 166 166 172 173 199 204 208 209
Appendix D: Quick Arm Appendix E: DataPRO File Structure. Appendix F: DataPRO .dts File Format Overview XML Structure Appendix G: DataPRO Binary File Format Appendix G: DataPRO Binary File Format Appendix H: SQL Server Setup (Windows 7) How to Backup the Centralized (SQL Server) DataPRO Database How to Restore the Centralized (SQL Server) DataPRO Database Instructions for Using SQL Server for the DataPRO Database Appendix I: Setting up SLICE6 AIR DataPRO.exe.config Settings Hardware Settings DataPRO Settings Configuring a SLICE6 AIR Test Setup	 160 166 166 172 173 199 204 208 209 209 209 209 210

DTS Support

DTS systems are designed to be reliable and simple to operate. Should you need assistance, DTS has support engineers worldwide with extensive product knowledge and test experience to help via telephone, e-mail or on-site visits.

The best way to contact a DTS support engineer is to submit a request through the DTS Help Center web portal (<u>support.dtsweb.com</u>). You must be registered (<u>support.dtsweb.com/registration</u>) to submit a request (<u>https://support.dtsweb.com/hc/en-us/requests/new</u>). Registration also enables access to additional self-help resources and non-public support information.

This manual supports the following products: 10920-04010: DataPRO Software

Introducing DataPRO

DataPRO is a comprehensive software application that supports SLICE PRO, SLICE 6, SLICE6 AIR, SLICE MICRO/NANO and legacy TDAS PRO and TDAS G5 hardware. DataPRO allows seamless integration of SLICE and TDAS systems in a single test setup. Suitable for both small facility and multi-user lab settings, DataPRO includes extensive diagnostics and hardware checks, customizable user interface with access control, support for sensor templates and group templates, an off-line test builder and multiple data export formats.

Please contact DTS Support for the latest software information.

PC Requirements

DataPRO is a Windows®-based program. PC specifications are:

- Windows 8 and later (32- and 64-bit versions are supported)
- Microsoft .NET Runtime version 4.5.2
- i5 processor minimum; i7 processor recommended
- 8 GB RAM minimum; 16 GB RAM recommended (more RAM is important for high channel counts and longer/higher sample rates)
- 2 GB disk space for software plus additional storage for test data
- 1366 x 768 minimum screen resolution; 1920 x 1080 recommended

Additionally, DTS recommends a network that supports gigabit Ethernet (GbE).

NOTE: DTS Recommends ensuring the PC power plan is set to High Performance or Max Performance for best response when in Realtime

Software Installation

During installation, DataPRO can be configured to work with a local database, a SQL server database, or both. If installing with a local database, the existing database can be migrated during installation. It may be necessary to contact facility IT in order to install DataPRO.

Initial installation steps, as well as completing installation and launching the software are the same regardless of database configuration.

- 1. Locate the installation files (e-media or downloaded from the Help Center).
- 2. DataPRO can be installed as a 32- or 64-bit system. Ensure the correct installer is chosen for your PC operating system.

3. Run the setup file to install DataPRO.



- 4. Follow the prompts to:
 - a. Start InstallShield Wizard for DataPRO.
 - b. Install drivers if necessary. You may be asked several times to permit installation of drivers.
 - c. Change the install directory if desired.
- *NOTE:* The default installation location for DataPRO is C:\DTS\DTS.Suite\ and organized in folders by version number.
- NOTE: The configuration file DataPRO.exe.config will be automatically updated from the previous installed version. To install DataPRO with a non-migrated config file, simply rename the config file in the previous installation before running the installer.

Local Database Installation

- 5. Select "Local database".
- 6. Optionally enable "Copy data from previous Local database to new Local database".

DataPRO Database Informatic	in
The following database prope	aties will be used:
 Local database 	Copy data from previous Local database to new Local database
O Centralized database	
O Both	
Database hostname:	
Database name:	
DataPro	
Use NTLM auther	tication
Database user	
Database passwo	ard-
Database passive	
	Show password
	OK

- a. This will migrate the database from the previous version of DataPRO for use with the version being installed.
- NOTE: It is advised to use "DataPRO" as the Database name.
 - 7. Select "OK", then Finish to complete DataPRO installation.

Centralized Database Installation

NOTE: SQL Server must be set up and connected to a database prior to installation. See Appendix H: SQL Server Setup (Windows 7), page 173, for additional information on SQL Server initial setup. 5. Select Centralized Database.

aPRO Database Information	
The following database propert	ies will be used:
O Local database	Copy data from previous Local database to new Local database
Centralized database	
O Both	
Database hostname:	
your db host here	
Database name:	
DataPro	
Use NTLM at the st	n tion
Database user	Callon
DataPROUser	
Database password	
	•
	Snow password
	OK

- a. Enter Database hostname and Database name.
- b. Select to use NTLM authentication or enter user login credentials.
- 6. Select "OK", then Finish to complete DataPRO installation.

Both Installation

NOTE: SQL Server must be set up and connected to a database prior to installation. See Appendix H: SQL Server Setup (Windows 7), page 173, for additional information on SQL Server initial setup.

- 5. Select Both.
 - i. See *System Settings*, page 139, for information on database connection when using a database configured with "Both".
- 6. Optionally enable "Copy data from previous Local database to new Local database":

aPRO Database Information	
The following database opportie	se will be used:
The following database propertie	a will be used.
O Local database	Copy data from previous Local database to new Local database
O Centralized database	
Both	
Database hostname:	
your db host here	
Database name:	
DataPro	
Use NTLM authentic	ation
Database user	
DataPROUser	
Database password:	
•••••	
	Show password
	ок

a. Enter Database hostname and Database name.

- b. Select to use NTLM authentication or enter user login credentials.
- 7. Select "OK", then Finish to complete DataPRO installation.
- NOTE: You can change the Database type at any moment. See Database, page 141 for more information.
 - 8. When installation is complete, open DataPRO using the desktop icon or Start menu:



- NOTE: Windows may ask you to reinstall the hardware driver each time you connect a SLICE Stack to a different USB port.
 - 9. Log in as the Administrator (Admin). Admin password = DTSAdmin
 - a. If the database was migrated during installation, all user profiles will be available with the same passwords and settings.
 - b. Features and functions available to all other users are controlled by the DataPRO Administrator (see section *Manage Users*, page 119). This password can be changed the in the System Settings tab.



Data Collection Concepts

SLICE and TDAS DAS are standalone data loggers. Once the DAS is armed, the PC can be disconnected if desired. However, DAS must remain powered throughout data collection. Power can be supplied from internal batteries, when available, or from a suitable external power supply. After receiving a Start Record or Event (trigger) signal, the DAS autonomously collects data, storing it to memory with no user interaction. After the test, the user can reconnect the PC to download the data.

DataPRO includes a Realtime mode that allows the user to check channel inputs on an oscilloscope-style screen. Realtime also includes an optional audible beep that can be used to help complete polarity checks on systems (See *Realtime configured with "Level triggers off*", page 74, for more information).

NOTE: DataPRO is capable of logging real-time data at a low sample rate but cannot simultaneously display the data while the system is recording (See Check Channels, page 71, for more information).

DataPRO supports a Streaming Mode for use with SLICE6 AIR DAS. See *Appendix I: Setting up SLICE6 AIR*, page 209, for information on SLICE6 AIR Streaming Mode.

Data Collection Modes

Three data collection modes are supported: Circular Buffer, Recorder and Hybrid.

Circular Buffer Mode

In Circular Buffer mode, the user can program the DAS to record pre- and post-trigger data. Time Zero (T=0) is marked when the trigger signal is received. An Event (T=0) signal is required to record data in Circular Buffer Mode.

Circular Buffer Mode + UART

This data collection mode is available with SLICE6 AIR DAS. This data collection mode will allow for simultaneously sampling from analog (bridge, IEPE and thermocouple) sensors as well as a UART GPS device. When collecting data in this mode, half the internal flash memory will be available for analog data and half will be available for UART data.

Recorder Mode

Recorder mode starts recording data when a Start Record signal is received and continues for the time specified in the test setup. If a trigger signal is received some time after Start Record, this is marked as T=0.

Recorder Mode + UART

This data collection mode is available with SLICE6 AIR DAS. This data collection mode will allow for simultaneously sampling from analog (bridge, IEPE and thermocouple) sensors as well as a UART GPS device. When collecting data in this mode, half the internal flash memory will be available for analog data and half will be available for UART data.

Hybrid Recorder Mode

Hybrid recorder mode starts recording data when a Start Record signal is received and continues until the unit receives a trigger signal, after which it records for the post-trigger time specified by the test setup. The trigger signal marks Time Zero (T=0) and all data recorded is available for download.

NOTE: Hybrid Recorder Mode is not available in TDAS PRO, TDAS G5 and SLICE PRO Gen2 hardware.

Auto Arm

DataPRO is also capable of configuring DAS in Auto Arm mode, which will cause the unit to arm automatically after being power cycled. This mode is useful when the unit needs to be configured before being placed in a location with limited access.

Here are the steps to use the Auto Arm mode:

- 1. Once the recording mode and settings (pre-/post-trigger times, test ID, etc.). are chosen, you can Auto Arm the DAS;
- 2. Remove power (or the ON signal);
- Place the DAS in test location it does not matter how long the DAS stays unpowered, it will keep the arming settings in its internal memory, ready to be configured at the next boot;
- 4. Reapply power (or the ON signal) the unit will boot;
- 5. The unit will either arm directly or perform Diagnostics on all channels (see *Test Setups*, page 48, for more details on how to enable the Diagnostics when using the Auto Arm mode and how to configure the delay before performing the Diagnostics);
- 6. Depending on the LED scheme of the DAS, the LED will indicate that the DAS is armed and ready to record data it will still need either a Start Record or a Trigger signal to record data.

Streaming

DataPRO is capable of configuring SLICE6 AIR DAS for streaming data applications. In this mode, no data will be recorded to the internal flash memory and all data will be streamed to a third-party application for viewing and analysis. See *Appendix I: Setting up SLICE6 AIR*, page 209, for more information.

Sampling Rates

DataPRO allows collecting data from DAS configured with different sample rates in the same test. Sample rates can be set per DAS; each SLICE PRO Module can be configured with a different sample rate, each TDAS PRO Rack must have the same sample rate, each SLICE Nano/Micro stack must have the same sample rate.

SLICE and TDAS equipment support different sampling rates. Additionally, TDAS G5 DAS, TDAS PRO TOM and all SLICE DAS will record all channels even if they are not programmed, so these unused channels must be included when calculating recording time.

		Maximum	Sampling Rate (per o	channel)		
Number of	SLICE MICRO/NANO		SLICI	SLICE PRO		
Channels*	Base	Base+	SIM (Gen 2/3), DIM	том	SLICE6 AIR	
3	120,000 sps	500,000 sps	1,000,000 sps			
4				1,000,000 sps**		
6	60,000 sps	400,000 sps	1,000,000 sps		400,000 sps	
9	40,000 sps	300,000 sps	1,000,000 sps			
12	30,000 sps	200,000 sps	500,000 sps			
15	24,000 sps	200,000 sps	500,000 sps			
18	20,000 sps	200,000 sps	500,000 sps			
21	17,000 sps	200,000 sps				
24	15,000 sps	200,000 sps				

* All channels are recorded even if they are not programmed.

** Records current and voltage for each channel (i.e., records 8 channels).

	Maximum Sampling Rate (per channel)						
Number of Channels	TDAS G5 DAS*	TDAS PRO SIM (16 MB)	TDAS PRO SIM (4 MB)	TDAS PRO TOM*			
4				38,000 sps**			
8		38,000 sps	38,000 sps				
32	100,000 sps						

* All channels are recorded even if they are not programmed.

** Records current and voltage for each channel (i.e., records 8 channels).

How to Calculate Maximum Recording Time

SLICE MICRO/NANO, SLICE PRO, SLICE 6, TDAS G5 and TDAS PRO have different data storage capacities.

	SLICE MICRO/ NANO Base SLICE MICRO/NANO Base+, SLICE PRO SIM (Gen 2/3), SLICE6/SLICE6 AIR		SLICE PRO TOM	SLICE PRO Trig Dist
Data Capacity	6.48 GB	15 GB	15 GB	15 GB
Samples Available*	3,240,000,000	7,500,000,000	7,500,000,000	7,500,000,000

* 1 sample = 2 bytes

	TDAS G5 DAS*	TDAS G5 DAS*	TDAS PRO SIM*	TDAS PRO SIM*	TDAS PRO TOM
Data Capacity	100 MB (RAM)	50 MB (RAM)	16 MB**	4 MB**	16 MB
Samples Available	50,000,000	25,000,000	8,000,000	2,000,000	8,000,000

* Contact DTS if you need help determining the capacity of your unit.

** Flexibly allocated to programmed channels only.

To determine the recording time possible, use the equation below:

Samples available

= number of seconds

Sampling rate (sps) X number of channels

Example 1: 10,000 sps using a 9-channel SLICE NANO/MICRO stack

3,240,000,000 = 36,000 sec (10 hours) 10,000 X 9

Example 2: 25,000 sps using an 18-channel SLICE PRO SIM

7,500,000,000 = 16,667 sec (4.63 hours) 25,000 X 18

Example 3: 20,000 sps using 6 channels of a 16 MB TDAS PRO SIM

8,000,000 20,000 X 6

SLICE Circular Buffer Limitations

Due to the nature of flash memory, SLICE systems cannot be armed in Circular Buffer mode indefinitely. To determine the maximum time available in Circular Buffer mode, use the equation below:

0.8 * recording time = maximum time available in Circular Buffer mode

Example:

0.8 * 16,667 sec = 13,333.6 sec (222.227 minutes)

In this example, the test must occur within 222 minutes, after which time the unit stops recording data.

Navigating DataPRO

DataPRO's user interface uses tabs color-coded by function. Not all tabs will be available to all users. Account Administrators can configure DataPRO to allow access to certain tabs and functions within tabs as necessary.

Tabs with blue icons contain Database information

- Data Recorders
- Sensor Templates
- Sensor Database

Tabs with Orange Icons contain Preparation information

- Groups
- Test Setups
- Additional Details; Channel Codes, Customer/Engineer/Lab Details

Tabs with yellow icons perform Diagnostic routines

- Check Channels
- Check Trigger
- Quick Checkout

Tabs with green icons perform Data Collection routines

- Run Test/Data collection
- Download Data

Tabs with purple icons perform Data Review routines

- View Data
- Export Data

Tabs with brown icons contain Administrative functions

- Manage Users
- System Settings

🖉 DataPRO - Data Recorders								- 0	×
Check Trigger	🚾 Quick Checkout	👓 Run Test	🕒 Download	l Data 📃 🔎 Vie	v Data	👛 Export Data	🕵 Manage Users	📴 System Settings	Ξ
😤 Data Recorders	🔯 Sensor Template	s 📃 Sens	or Database	🔗 Groups	🔂 Test	t Setups	🛃 Additional Details	Check Channels	

DataPRO Tab Options

Within tabs, most screens have menus along the left side (navsteps), along the top (page buttons), or both. Some screens have additional options (action buttons, radio buttons) that allow for quickly filtering tables or manipulating data. In general, proceed from top to bottom when using the navsteps; if there are no navsteps, use the page buttons. Not all navsteps or page buttons need to be completed on each menu. Use the Done button to return to the tab home screen. On most pages DataPRO will alert if changes have been made and not saved. However, it is recommended to save early and often.



Up and down arrows indicate menus that can be expanded or collapsed. Required fields are indicated in red.



When viewing test data, available channels are listed on the left side. The modification pane offers on-the-fly customizable data views, filter options and the ability to modify a data channel (These features are explained in more detail in *Review*, page 102).



Using DataPRO

DataPRO allows for the use of ISO Codes, User Codes, or both. To select which code type to use, go to "System Settings \rightarrow Channel Code Settings" and enable the appropriate options. This manual was written with only ISO Codes enabled (See <u>https://www.iso-mme.org/</u> for more information on using ISO Codes).

Restore settings	
System Settings	
Test options	Show channel names only
Test setup defaults	Show ISO codes
Tables	Snow user codes Display channel code lookup table Ul
Realtime	Display ISO string builder UI Require unique ISO codes
hannel code settings	Use ISO Code Filter Mapping
JI	
Network options	
Power settings	
Sensor settings	

Quick Start Steps

To collect data with the least amount of setup, complete the following steps:

1. Add Hardware (DAS and sensors)	2. Prepare test setup	3. Record test event and download data
😤 Data Recorders 👤 Sensor Database	🔩 Test Setups	<mark>○○</mark> Run Test

While this may be the quickest way to begin testing, DTS highly recommends implementing a documented test procedure and using the diagnostic functions available to provide the most reliable and consistent testing experience.

Database

The tabs in the Database group manage and maintain the configurations and parameters for all DAS and sensors.

Data Recorders: Refresh, Add, Detect, Edit, Delete, Export, Import

To detect (auto-discover) DAS, start at step 1.

To update hardware configuration, go to step 8.

- To add DAS manually, go to step 9.
- To edit DAS, go to step 13.
- To delete DAS, go to step 14.
- To export DAS, go to step 15.
- To import DAS, go to step 16.
- NOTE: Detecting DAS and updating hardware configuration can also be done from within groups and test setups.
- 1. To detect DAS, power up and connect DAS to the PC (Windows may install a device driver to support USB communications and ask to reinstall the hardware driver each time a SLICE Stack is connected to a different USB port):



2. Select the "Data Recorders" tab:



3. From Data Recorder home screen, select "Detect" to find all connected DAS:

🖉 DataPRO - Data Recorders							- 0	×
Check Trigger	Quick Checkout	👓 Run Test	🗅 Download Data	🔎 View Data	🖆 Export Data	🕵 Manage Users	😸 System Settings	=
🚰 Data Recorders	Sensor Templates	👤 Sen	or Database	🔗 Groups	Test Setups	Additional Details	🔁 Check Channels	
Refresh Add Detect Export	Import							
Data Recorders	Search							
Show modules								
Serial Number 💌 Type 💌	IP Address 💌 Channels 💌	Firmware 🔻	vlax Sample Rate 💌 🛛 Cal Date	Cal Due Date				
								I

4. If IP address(es) of connected DAS is known, enter IP address(es) for Ethernet DAS and select "Add". IP address(es) will populate Add/Update DAS table:

🖉 DataPRO - Dat	a Recorders												- 0	×
Check Tr	rigger	Cuicl	k Checkout	°° Run T	est	🛓 Download	Data	🔎 View Data	👛 Exp	ort Data	🔝 Mar	nage Users 🛛 🚦	System Settings	Ξ
😤 Data R	ecorders		Sensor Templates		📃 Sensor Data	abase	🕜 G	roups	Setups		🙎 Additional D	etails 📔	Check Channels	
Done Cancel	Save Scan sele	cted Scan all	Query selected											
Recorder di	scovery													
Hardware	e discove	ery												
							Re	ady						
AutoDiscovery														
IP addresses	192.168.0.150		^ •	Add	←	_								
Add/Update	DAS													
Show modules														
DAS channels	Firmura	Calidate	Configuration	Action		DÂS	Mađula	Connection	Chann	ala	Status	Innut Voltage Status	Patters Valtage 9	Charles
4	Firmware	Cal date	Conliguration	Action		DAS	wodule	Connection	Channe	215	Status	input voltage status	battery voltage :	> atus
Current DAS	list													
TDAS	SLICE	ALL		_										
Scan/Query	Firmware	Cal date	Configuration	Action		DÂS	Module	Connection	Channe	els	Status	Input Voltage Status	Battery Voltage S	Status
														,
	_						_							
DAS 000 Com	im 🔍 🗖										c	onnected to: Local Curre	nt view: Admin Logi	in: Admin

a. If IP address(es) are not known, enable AutoDiscovery to ping all available IP addresses in the compatible range:

👼 DataPRO v3.0.9	8 - Data Recon	ders											- 0	\times
Check Tr	igger	Quicl	< Checkout	°° Run T	est	🛓 Downloa	d Data	🔎 View Data	🖆 Export I	Data	🕵 Mar	age Users	📒 System Settings	=
😤 Data R	ecorders		Sensor Templates		👤 Sensor Da	atabase	8	Groups	Setups Test Setups		👤 Additional D	etails 🕴	Check Channels	
Done Cancel	Save Scanisele	cted Scan all	Query selected											
Recorder di	scovery													
Hardware	e discove	ery												
							Re	eady						
AutoDiscovery	└ ←													
A dal (I la data I														
Show modules	JAS													
DAS channels														
Scan/Query	Firmware	Cal date	Configuration	Action		DÂS	Module	Connection	Channels		Status	Input Voltage Status	Battery Voltage	e Status
4														•
Current DAS I	ist													
TDAS	SLICE	ALL												
Scan/Query	Firmware	Cal date	Configuration	Action		DÂS	Module	Connection	Channels		Status	Input Voltage Status	Battery Voltage	e Status
														•
DAS 000 Com	m 🔘 💻										с	onnected to: Local Cun	ent view: Admin Lo	gin: Admin

- 5. Select "Scan all" or "Scan selected" to confirm IP address(es) and to discover USB connected DAS:
 - a. Scan all will attempt to confirm communication with all DAS in the database, or in the compatible range if AutoDiscovery is enabled.
 - b. Scan selected will attempt to confirm communication only with selected DAS

🙎 Check Trigger		C Quick Checkout	Run Test	🗠 Download		
😤 Data Recorder	rs	Sensor Templates	👤 Sensor Database			
Done Cancel <u>S</u> ave S	Scan selected	Scan all Query selected				

6. Select "Query Selected" to establish communication and query the hardware configuration of discovered or selected DAS:

	Check Trigger	Quick Checko	out 💿 Run T	est 🗾 Download			
	😤 Data Recorders	💿 Senson	Implates	👤 Sensor Database			
Done	Cancel Save Scan	selected Scan all Query	selected				

a. Select "Show Modules" to display modules connected to each discovered DAS:

📴 DataPRO - Dat	ta Recorders: (m	odified)											- 0	×
🔡 Data Recorder	rs 🔣 Sensor Te	mplates 🔝 Sensi	or Database 🛛 🔗 Groups	😫 Test Setups 🛛 🖳 Additiona	l Details 📔 Cher	ck Channels	Check Trigge	r 🛛 🔁 Quick Checkout	Run Test 🗠	Download Data	👂 View Data	🔨 Export Data 🛛 🔼 Manage User	s 😼 System Settings	≡
Done Cancel	Save Scan selec	ted Scan all Que	ery selected											
Recorder d	iscovery													
Hardward	e discove	rv												
		,					Done							
AutoDiscovery														
Add/Update	DAS	/												
DAS channels														
Analog: found	d 33 of 33													
Scan/Query	DÂS	Module	Connection	Channels	Firmware	Cal date	Configu	ration		Action	Status	Input Voltage Status	Battery Voltage Statu	is *
\checkmark	BA51253		USB	15 analog channel(s)	B1F4	4/29/2019	MAX	<u>₽</u> ▼	Remove	Add	Connected	11.7 V		
	BR50113	BR50113	USB		00C6	5/15/2019	MAX	₽ ▼		Add	Connected	11.7 V		
	BR50201	BR50201	USB		00D0	4/29/2019	MAX	<u> </u>		Add	Connected	11.7 V		
	BR51827	BR51827	USB		00D0	4/29/2019	MAX	₽ −		Add	Connected	11.7 V		
	BR51890	BR51890	USB		00D0	4/29/2019	MAX	<u>₽</u> ▼		Add	Connected	11.7 V		
	BR52276	BR52276	USB		00D0	4/29/2019	MAX	<u> </u>		Add	Connected	11.7 V		-
Current DAS	list													
TDAS	SLICE	ALL												
Scan/Query	Firmware	Cal date	Configuration	Action	0	DÂS	Modu	le Co	nnection	Channels	Sta	itus Input Voltage Status	Battery Voltage St	tatus
DAS 003 Com	nm	_										Connected to: Local Cu	urrent view: Admin Loo	in: Admin
043 003 001												Connected to: Local Ct	ment view. Admin Log	n. Admin

7. Select "Save" to add DAS to the database:

📅 DataPRO - Data Recorders: (m	odified)			DataPRO - Data Recorders: (saved)							
Check rigger	💁 Quick Checkout	👓 Run Test	也 Download	Check Trigger	🔁 Quick Checkout	👓 Run Test	📥 Download				
😤 Data Recorders	Sensor Templates	🛄 Senso	r Database	😽 Data Recorders	Sensor Templates	👤 Sens	or Database				
Done Cancel Save Scan selec	ted Scan all Query selected			Done Cancel Save Scan sele	ected Scan all Query selected						
Recorder discovery				Recorder discovery							

- 8. To update the configuration of DAS that has already been added to the database, select the desired DAS from the table and follow steps 6 and 7.
- 9. To add DAS manually, select "Add" from Data Recorder home screen:

Che	ck Trigger	Ouick Checkout	Run Test	🕁 Downloa		
3	ta Recorders	Sensor Templates	I Sensor Database			
Refresh Add	d Detect Expor	t Import				
Data Rec	orders	Search				

10. Select DAS type from the pull-down menu. All fields in red must be completed:

🦉 DataPRO - Ad	dd DAS										
Check	Trigger	🔄 Quick Checkout	00	Run Test	📥 Download						
😤 Data	Recorders	Sensor Templates		👤 Sens	or Database	📕 DataPRO - Ad	d DAS				
Done <u>S</u> ave						Check 1	frigger	Quick Checkout	•• Run 1	lest	😃 Download
Data Reco	rdors	Search				😤 Data i	Recorders	Sensor Templates		👤 Sensor I	Database
Duta Neco	lacis					Done <u>S</u> ave					
Туре	SLICE NANO		*								
Serial number	SLICE NANO		-		- Alton	Data Recor	ders	Search			
Firmware	SLICE Distribu	utor				Type	SLICE PRO SI	M	-		
	SLICE NANO	Base+		-		Carial averages					22
	SLICE MICRO	Base+		190		Senai number				A STATE	8
	SLICE G5					Firmware	A IJ4			SEPRO	
	SLICE PRO Et	hernet Controller				Configuration	600K SPS (*	18 CH)	· · · ·		10
Module SN	SLICE PRO SI	M								1000	
	SLICE PRO TO	M									
	SLICE PRO DI	M									
	SLICE PRO La	ib Ethernet Controller									
	SLICE PRO La	ID SIM									
	SLICE PRO La		*								

11. Select "Save" to add DAS to the database:

👼 DataPRO - Ado	d DAS					🦉 DataPRO - Add DAS SPS00999 (saved) 🗲								
Check Tr	rigger 🔂 🔂	uick Checkout	Run Test	🛃 Downloa	d	Check Ti	rigger	😔 Quick Checkout	• • Run	Test	🕁 Download			
😤 Data R	lecorders	Sensor Templates		Sensor Database	1	😤 Data R	ecorders	Sensor Templates		🛄 Sensor I	Database			
Done <u>S</u> ave	<u> </u>					Done <u>S</u> ave								
Data Record	ders	Search				Data Record	ders	Search						
Туре	SLICE PRO SIM		-	2		Туре	SLICE PRO SIM	1	-					
Serial number	SPS00999					Serial number	SPS00999			833				
Firmware	A1J4		s	LICE PRO		Firmware	A1J4			SLICEPRO				
Configuration	600K SPS (18 CH)		A -			Configuration	600K SPS (18	8 CH)	â -		10			
			1	and a second						and the second s				

NOTE: Firmware and calibration date (if supported by the DAS/firmware) will be updated upon establishing communication with the hardware.

12. Select "Done" to return to the Data Recorder tab Home screen:

🖉 DataPRO - Ado	DAS SPS0099	9 (saved)			
Check Tr	rigger	🚰 Quick Checkout	<u>••</u> R	lun Test	🖆 Download
🚽 😤 Data R	ecorders	💿 Sensor Ten	nplates	👤 Sens	or Database
Done <u>S</u> ave					
Data Record	ders	Search			
Туре	SLICE PRO	SIM	•		20
Serial number	SPS00999				
Firmware	A1J4			SLICEPRO	
Configuration	600K SPS	(18 CH)	ê -		and a
				and the second s	0

13. To edit DAS information ("Type", "IP address", "Serial number" and "Firmware"), select the DAS from the "Data Recorders" home screen. Select "Edit" to change the information. Select "Save" to record the changes to the database:

🦉 DataPRO - Data R	lecorde <mark>s</mark>									-	o ×
Check Trig	ger 🛛 🔛 Quick	Checkout	Run Test	<u>e</u>	Download Data	🔎 View	Data	👛 Export Data	🕵 Manage Users	😣 System Settin	gs 📃
😤 Data Rec	orden 🚺 🔯	Sensor Template:	5	Sensor Databas	e 🛛 🕅	Groups	😪 Test S	ietups	Additional Details	Check Channel	s
Refresh Add Def	tect Edit Delete Export	Import									
Data Recorde	ers	Search									
Data recorders	with calibrations due										
Serial Number	Type Channels	Firmware M	Aax Sample Rate	Cal Date Cal D	ue Date						
SPS00999	SLICE PRO SIM 18 Analog	A1J4 60	0,000 4/	/7/2016 4/7/20)17						
Show modules											
Serial Number 💌	Type 🔻	IP Address 🔻	Channels 🔻	Firmware 🔻	Max Sample Rate 💌	Cal Date 🔻	Cal Due Date				
BA51253	SLICE+		15 Analog	B1F4	200,000	4/29/2019	4/28/2020				
SPE00150	SLICE Ethernet Controlle	192.168.0.150	18 Analog	B0B3	600,000	N/A	N/A				
SPS00999	SLICE PRO SIM		18 Analog	A1J4	600,000	4/7/2016	4/7/2017				

Check	Trigger	C Quick	Checkout	Run Test	🖆 Dow
😤 Dat	a Recorders		Sensor Templates	🔝 Se	nsor Database
Done <u>S</u> ave	~ ~ ~				
Data Reco	orders	:	Search		
Туре	SLICE NANO	Base+		-	
Serial numbe	BA51253				300
Firmware	B1F4				
				T	
				9	
Module SN					
		None	*		
BR50113	BRIDGE SLICE	None Bridge	*		
BR50113 BR51827	BRIDGE SLICE	None Bridge Bridge	• •		
BR50113 BR51827 BR52276	BRIDGE SLICE BRIDGE SLICE BRIDGE SLICE BRIDGE SLICE	None Bridge Bridge Bridge	* * *		
BR50113 BR51827 BR52276 BR50201	BRIDGE SLICE BRIDGE SLICE BRIDGE SLICE BRIDGE SLICE BRIDGE SLICE	None Bridge Bridge Bridge Bridge	* * *		
BR50113 BR51827 BR52276 BR50201 BR51890	18 BRIDGE SLICE 18 BRIDGE SLICE	None Bridge Bridge Bridge Bridge Bridge	* * * *		

14. To delete a DAS from the database, select the DAS, select "Delete" and then "Yes" to confirm:

🧱 DataPRO - Data Record	ders									- 0	×
Check Trigger	Quick C	Checkout	👓 Run Tes	t 🖻	Download Data	🔎 View	Data	😐 Export Data	🚺 Manage Users	System Settings	=
😵 Data Recorder	rs 🚺 S	ensor Templates		Sensor Databas	e 🛛 🕅	Groups	STest S	etups	Additional Details	Check Channels	
Refresh Add Detect	Edit Delete Export	Import									
Data Recorders	Se	earch									
Data recorders with	n calibrations due										
Serial Number	Type Channels	Firmware Ma	x Sample Rate	Cal Date Cal D	ue Date						
SPS00999 SLICE	E PRO SIM 18 Analog	A1J4 600	000	4/7/2016 4/7/2	017						
Show modules											
Serial Number 💌	Type 💌	IP Address 🔻	Channels 🔻	Firmware 💌	Max Sample Rate 💌	Cal Date 🔻	Cal Due Date 💌				
BA51253 SL	LICE+		15 Analog	B1F4	200,000	4/29/2019	4/28/2020 🧲				
SPE00150 SL	LICE Ethernet Controller	192.168.0.150	18 Analog	B0B3	600,000	N/A	N/A				
SPS00999 SL	LICE PRO SIM		18 Analog	A1J4	600,000	4/7/2016	4/7/2017				
				J	Are you sure yo	ou want to o	lelete?				
				Yes			No	>			

- a. Select and delete multiple DAS by using Shift or CTRL.
- 15. To export DAS information to an XML file, select "Export". Select one or more DAS and browse to the desired location to save the file. Enter a file name and select "Save". Select "Export" to export the DAS, select "Done" when finished:

DataPRO - Data Recorders								
Check Irigger	ck Checkout	un lest Dow	nload Data	View Data	st Setups			
Refresh Add Detect Export Import		_						
Refer no sect sport inport	M							
Data Recorders	Check Trigger	Cuick Checkout	Run Test	Downlo	ad Data	eur Data 🚺 Ev		
Data recorders with calibrations due	Data Recorders	Sensor Temp	lates	Sensor Database	Groups	Test Setups		
Serial Number Type Channe SPS00999 SLICE PRO SIM 18 Analo	Done Export	, <u> </u>				· _ ·		
	Data Recorders	Search			1			
Show modules					Waiting			
Serial Number 💌 Type 💌					5			
BA51253 SLICE+								
SPE00150 SLICE Ethernet Control SPS00000 SLICE PRO SIM	Export File C:\Users\Jenr	na.miller\Desktop\DataPRO\Im	ports\ExampleDAS.xml	Browse	<u> </u>			
SF300555 SEICE PICO SIM	loclude All	1						
	Data Recordure	📙 DataPRC - Data	Recorders					
	Included	🙎 Ci eck Tr	igger 📴 C	uick Checkout	👓 Run Test	🕘 Download Data	🔎 View Data	👛 Đ
	./	BA5125	ecorders	Sensor Templates	👤 Sensor D	atabase 🛛 🕅 🖓 🛛	Groups 🔂 T	est Setups
	V ./	BR50113 Done Export						
	1	BR50201 Data Record	lors	Search				
	\checkmark	BR51827						_
	\checkmark	BR51890				D	one	
	\checkmark	BR52276						
		Export File	:\Users\Jenna.miller\Des	<top\datapro\imports\e< td=""><td>ExampleDAS.xml</td><td>Browse</td><td></td><td></td></top\datapro\imports\e<>	ExampleDAS.xml	Browse		
		Include All	Clear All					
		Data Recorde	rs					
		Includ	ed S	rial number	Туре	Number of channels	Firmware version	
		\checkmark	BA51253	SLI	ICE NANO Base+	15 analog channel(s)	B1F4	200,00
		\checkmark	BR50113	Bri	idge		00C6	
		\checkmark	BR50201	Bri	idge		00D0	
		V	BR51827	Bri	idge		00D0	
		\checkmark	BR51890	Bri	idge		00D0	
		\checkmark	BR52276	Bri	idge		00D0	

16. To import DAS information from an XML file, select "Import". Browse to select the file and then select "Import". Select one or more DAS to import and select "Save". Select "Done" when finished:

🕎 DataPRO - Data Recorders								
Check Trigger Quick	Checkout	Run Test	🗠 Download Dat	ta 🛛 🔎 View Da	ta 🚺 Ex			
🔡 Data Recorders 🛛 🔽 📧	Sensor Templates	💶 Se	ensor Database	🕜 Groups	Set Setups			
Refresh Add Detect Export Import	👼 DataPRO - Data Recorde	rs						
Data Recorders	Check Trigger		Quick Checkout	👓 Run Test	🖆 Download Data	🔎 View Data	👛 Exp	
	😵 Data Recorders		🐼 Sensor Templates	👤 Sensor D	atabase 🔗 Gro	oups 🔂 Te	est Setups	
Data recorders with calibrations due	Done <u>S</u> ave							
SPS00999 SLICE PRO SIM 18 Analog			C					
	Data Recorders		Search					
					Wait	ting		
Show modules								
Serial Number 🔻 Type 💌								
SPE00150 SLICE +	Import File C:\Users\.	lenna.miller\D	esktop\DataPRO\Imports\E	xampl Browse	, ,			
SPS00999 SLICE PRO SIM	Include All Clear Al	1						
	Data Recorders		👼 DataPRO - Data Recorde	rs				
	Included	Seria	Check Trigger	Quick Checke	out 🔤 Run Test	Download E	Data 🔑 View I	Data 🔤 Expor
	\checkmark	BA51253	Lata Recorders	Sensor	iempiates	Sensor Database	Groups	iest Setups
	\checkmark	BR50113	Done <u>S</u> ave					
	\checkmark	BR50201	Data Recorders	Search				
	\checkmark	BR51827					Dana	
	\checkmark	BR51890					Done	
	\checkmark	BR52276						
	\checkmark	SPE00150						
	\checkmark	SPE00150:S	Import File C:\Users\.	Jenna.miller\Desktop\DataPl	RO\Imports\Exampl Browse			
	\checkmark	SPS00999	Include All Clear Al					
			Data Recorders —					
			Included	Serial number	Туре	Number of channels	Firmware version	Max sample rate
			\checkmark	BA51253	SLICE NANO Base+	15 analog channel(s)	B1F4	200,000
			\checkmark	BR50113	Bridge		00C6	
			\checkmark	BR50201	Bridge		00D0	
			\checkmark	BR51827	Bridge		00D0	
			\checkmark	BR51890	Bridge		00D0	
			\checkmark	BR52276	Bridge		00D0	
			V	SPE00150	SLICE PRO Ethernet Controller	18 analog channel(s)	B0B3	
			\checkmark	SPE00150:SPS00331	SLICE PRO SIM	18 analog channel(s)	A1Q1	600,000
			\checkmark	SPS00999	SLICE PRO SIM	18 analog channel(s)	A1J4	600,000

- 17. Select Refresh to update the display with any updates made while connected to a SQL Server Database.
- 18. To return to the Quick Start Steps, click *here* (page 17).

Sensor Templates: Add, Edit, Delete

Create an optional sensor template to support commonly used sensors and to speed up sensor entry and promote accuracy. A template is easily applied when creating a new sensor and the sensor specifics (S/N, calibration data, etc.). can be added or modified for each unique sensor.

To add a sensor template, start at step 1. To edit a sensor template, go to step 5. To delete a sensor template, go to step 6.

- NOTE: In the below screenshots, both ISO Codes and User Codes are enabled. To enable only ISO Codes or User Codes, see System Settings, page 122.
- 1. Select the "Sensor Template" tab:



2. To add a sensor template, select "Add":

👹 DataPRO - Sensor Templates	;				
Check Trigger	🛀 Quick Checkout	👓 Run Test	🕘 Download		
😤 Data Recorders	🐼 Sensor Templates	💶 Sens	Sensor Database		
Refresh Add					
Sensor Templates	Search				

3. Only the Manufacturer and Model must be completed, however completing more fields in the template will help with sensor setup and avoid the need to revisit this information during sensor creation. It is useful to have a transducer data sheet available to complete sensor template entry:

Check Trigger	Cuick Checkout	👓 Run Test	🛃 Downloa
👑 Data Recorders	🔯 Sensor Templates	Senso	or Database
Done <u>S</u> ave			
Add Sensor Model: {	0}		
Manufacturer	(new)	-	
New Manufacturer Name			
Model			
Property	🔿 Axis 1 📃		
 Display 			
ISO Code	???????????????????????????????????????		
ISO Name			
Capacity	2,400.00		
Range High	1,000.00		
Range Medium	100.00		
- Range Low	10.00		
Units	q		
Delavitu	-		
	+	•	
Default Filter	CFC 1000 (A)	Ť	
• Physical			
Sensor type	Full bridge	*	
Supported excitation	2V 5V 🗸 10V		
Sensor Offset	Check 🗸		
	Low (mV) -100.000		
	High (mV) 100.000		
Shunt	Emulation Resistance	(Ω) 350.00	
Calibration			
Calibration	Non-Linear		
	Sensitivity Details		
	Proportional to Excitation		
	Remove offset		
	Software zero Method		
	Avg over time	-	
	Start (sec)		
	-0.05000		
	-0.02000		
	Sancitivity	0000000	
	Sensitivity Units		
	Valid for excitation	mV/V/EU +	
		5.0 +	
		•	
	+		
	Initial Offset		
	Offset type None	•	
	-		
	· · · · · · · · · · · · · · · · · · ·		

- Manufacturer: Use to select from list of existing sensor manufacturers.
- New Manufacturer Name: Use to enter new manufacturer name if not available in above list.
- **Model**: Enter new model number/name.
- **Property**: Currently each sensor entry can have only one axis. Future versions of DataPRO will support multiple axes per sensor entry.
- **User Code**: Optional code used to identify measurement channel.
- User Name: Optional description for measurement channel.
- **ISO Code**: Optional code used to identify measurement channel. Can be restricted/required to 16-character length.
- **ISO Name**: Optional description for measurement channel. See <u>https://www.iso-mme.org/</u> for more information on using ISO Codes.
- Capacity: Maximum measurable capacity of sensor in Engineering Units (EU).
- **Range High/Medium/Low**: Optional, selectable measurement ranges in EU.
- Units: Engineering Units for the sensor.
- **Polarity**: Negative (-) value indicates output from sensor will be inverted before converting to engineering units.
- **Default Filter**: The default frequency of a software filter to be applied to the data when viewing. This only affects the viewed data as all data stored will be collected with the hardware anti-alias filter.

NOTE: Range, polarity and filter can be changed once a sensor is added to a Group or a Test Setup. Any changes to the Group or the Test Setup will not affect the settings in the sensor database.

- **Sensor Type**: Select IEPE, Quarter bridge, Half bridge or Full bridge (See *Appendix A: Common Sensor Types and Bridge Connections*, page 143 for more details).
- **Supported Excitation**: Select one or more options. DataPRO can support multiple active calibration entries for each sensor entry.
 - DataPRO will apply the first entered calibration record that is supported. For example:
 - A SLICE PRO SIM can support 2 V, 5 V and 10 V excitation.
 - An accelerometer was calibrated at 2 V, 5 V and 10 V excitation.
 - The 10 V record was entered first, followed by the 2 V record, followed by the 5 V record.
 - When supported, the 10 V record will be the calibration factor used.
 - If 10 V excitation is not supported, 2 V excitation will be applied.
 - If neither 10 V nor 2 V excitation are supported, the calibration record with 5 V excitation will be applied.

- **Sensor Offset**: Enable "Check" to measure average output during Diagnostics and compare against the low/high values entered.
- **Shunt**: Select Emulation to perform a shunt check (verify sensor impedance and signal path from sensor to analog-to-digital converter).
 - Shunt check requires accurate bridge resistance value.
 - Select None or enter Bridge Resistance value of 0 to bypass shunt check.
- NOTE: Shunt checks are unreliable at over $4k\Omega$. If using sensors with a high bridge resistance, the shunt tolerance may have to be expanded.
 - **Non-Linear**: Used to indicate a sensor's output is not linear and will use an IR-TRACC or Cubic Polynomial equation for the sensitivity. A non-linear sensor can have an additional linear sensitivity value entered. This can be collected as a separate channel.
 - **Proportional to Excitation**: Used to indicate sensor output is proportional to applied excitation.
 - If selected, actual excitation voltage applied will be used in calculating EU values.
 - If not selected, desired excitation voltage (2 V, 5 V, 10 V) will be used in calculating EU values.
 - **Remove Offset**: Enable to attempt to zero ADC offset measured during diagnostics. This option is not available for all sensor types, notably non-linear sensors.
 - **Based on Output at Capacity**: Used to indicate sensor output is based on the capacity of the sensor. If enabled, capacity of sensor must be entered.
 - **Software Zero Method**: The type of post-download software zeroing to perform before displaying engineering units.
 - Average over time: Used in conjunction with Start (sec)/End (sec), the average EU value during the defined window will be used to zero the collected data. The Start/End window must be included in the collected data. If using a window pre-T=0, the recording time specified in the Test Setup must include this time window.
 - **Diagnostic level**: The Zero Measured Output (ZMO) of the sensor during diagnostics will be used to set the EU zero of the downloaded data.
 - Absolute zero: For SLICE hardware, the actual recorded input will not be adjusted or compensated for zero level. This setting can be used to show the actual mV offset. An example may be to record a logic level signal and see the actual on/off state. For TDAS and SLICE PRO hardware, a calibrated signal of 0mV is directly injected and measured to be removed via software.
 - **Sensitivity**: Enter nominal sensitivity value for the sensor type, select appropriate sensitivity units and excitation voltage.

- Sensitivity Units: Select mV/V/EU or mV/V based on sensitivity value entered.
- Valid for excitation: If "Proportional to Excitation" is selected the excitation voltage for which the sensitivity is valid must be selected.
- NOTE: Use the plus (+) sign to add additional calibration entries for different excitation voltages.
 - Initial Offset: Used to indicate the EU that should be offset by a constant value to account for the starting point or value of the sensor. Can be entered as either EU or EU @ mV.
 - Select EU, EU at mV, LHS, RHS, or Frontal to define the offset type. Select Offset type in Parameters navstep when configuring a Group or Test Setup.
- 4. Select "Save" to record sensor template to database:

🖉 DataPRD - Add Sensor Model	ARS PRO 300				
🙎 Check Trigger	🚾 Quick Checkout	👓 Run Test	🕹 Download		
Data Recorders	Sensor Templates	👤 Sens	Sensor Database		
Done <u>S</u> ave					
Add Sensor Model: {0	}				

5. To edit a sensor template, select the sensor template from the list. Select "Edit" to change the information. Select "Save" to record the changes to the database:

Check Tringer	🚾 Quick Checkout	Run Test	📥 Downloa	id Data	🔎 View	Data	👛 Export 🛙
😤 Data Necorders	Sensor Template	s 📃 Sen	isor Database	2	Groups	S Test	Setups
Refresh Add Edit Delete							
Sensor Templates	Search						
Sensor Templates Manufa	Search		Model			Ca	pacity
Sensor Templates Manufa DTS	Search	ARS PRO 300	Model			Ca	pacity

6. To delete a sensor template from the database, select the sensor template from the list, select "Delete" and then "Yes" to confirm:

Check Trigger	Cuick Checkout	Run Test	😃 Download	Data	🔎 View Data	👛 Export 🛙
😤 Data Recorder	Sensor Templates	👤 Ser	nsor Database	🔗 Gro	ups	STest Setups
Refresh Add Edit Delete						
Sensor Templates	Search					
Manufac	turer		Model			Capacity
DTS	AF	RS PRO 300				
DTS	Al	RS PRO 1500				
	ļ	Are you sure you wa	nt to delete?			
	Yes		No			

7. To return to the Quick Start Steps, click *here* (page 17).

Sensor Database: Refresh, Save, Add, Import, Export, Delete, Delete all

To import an existing database (DataPRO *.xml, SLICEWare *.xml, TDAS Control CSV or SIF files, EQX (.e2x), or TDAS Manager CSV) start at step 1.

To add sensors manually, go to step 7.

To edit sensors, go to step 10.

To export sensors, go to step 11.

To delete sensors, go to step 13.

Sensors in the Sensor Database will be shaded based on their calibration status. Sensors shaded orange have a calibration due date that is within the Warning Period; Sample Sensor 1 in below image. Sensors that are shaded red have a calibration that is past due; Sample Sensor 2 in below image. See *System Settings*, page 122, for more information on Sensor Calibration Policies.

👹 DataPRO - Edit:						
🙎 Check Trigger		😔 Quick Checkout	0	Run Test	😃 Dow	nload Data
😤 Data Recorde	ers	💿 Sensor Tem	plates		Sensor Database	R (
Refresh <u>S</u> ave Add	Read IDs and M	easure Bridges Impor	t Export			
Sensor Databas	e	Search				
Sensors						
Analog (10) Squib S	ettings (0) D	igital Input Settings (0) Digital Outp	out Settings	(0)	
Serial Number	Name 💌	Manufacturer 💌	Model 🔻	IEPE 🔻	Capacity (EU) 💌	Sensitivity 💌
2kg033	Upper Neck				2,000.00	0.00042000 mV
2kg040	Upper Neck				2,000.00	0.00040300 mV
6DX0082 AC1	6DX0082 AC	DTS	(None)		2,000.00	0.01755000 mV
6DX0082 AC2	6DX0082 AC	DTS	(None)		2,000.00	-0.01700000 m [\]
6DX0082 AC3	6DX0082 AC	DTS	(None)		2,000.00	0.01825000 mV
6DX0082 AR1	6DX0082 AR	DTS	(None)		18,000.00	0.09440000 mV
6DX0082 AR2	6DX0082 AR	DTS	(None)		18,000.00	0.09370000 mV
6DX0082 AR3	6DX0082 AR	DTS	(None)		18,000.00	-0.09456000 m ¹
Sample Sensor 1					2,400.00	0.02000000 mV
Sample Sensor 2					2,400.00	0.02000000 mV

1. Select the "Sensor Database" tab:



2. Select "Import" from the menu:

Check	Trigger	🔄 Quick Checkout	👓 Run	Test 🗖 Download
😤 Data	Recorders	Sensor Templa	tes	Sensor Database
Refresh <u>S</u> ave	Add Read II	Ds and Measure Bridges Import	Export Delete	

3. Select database format and browse to select the file to import. Select "Open" to continue:

Check Trigger	Contraction Checkout	💿 Run Test 🛛 🗖 Dowr		ad Data	🔎 View Data	👛 Expor	rt Data
😤 Data Recorders	Sensor Templates	👤 Senso	or Database	🔗 Group	ps 🧧	Test Setups	
one							
nport Sensors						↓	
-	Format			DataPRO (*.xn	nl)	*	
Options	File(s)			DataPRO (*.xr	nl)		Browse
Proviow				Sliceware (*.xr	ml)		
TCVICW .				TDAS Control	Sensor Database		
mport				Sensor inform	nation file (*.sif)		
mport				Equipment ex	change (*.e2x)		
				TDAS Manage	er CSV Export		

4. The **Preview** navstep lists the sensors available for import (Other import options such as Models may be available to include or remove from the import):

Image: Sensor Emplates Sensor Database C Groups Test Setups Additional Details Image: Sensor Balabase bordt Sensors Image: Sensor Emplates Image: Sensor Balabase Image: Sensor Balabase <th>Capacity (EU) Sensitivity Resistance (Ω) Excita 36.00 23.19600000 m/V/VEU (5V) 350.00 5.0 36.00 23.23460000 m/V/VEU (5V) 350.00 5.0 1,000.00 1.01474000 m/V/VEU (5V) 300.00 5.0 1,000.00 1.01442000 m/V/VEU (5V) 3024.00 5.0 1,000.00 1.01393000 m/V/VEU (5V) 3024.00 5.0 1,000.00 1.19990000 m/V/EU (5V) 3024.00 5.0 1,000.00 1.22330000 m/V/EU (5V) 3024.00 5.0</th>	Capacity (EU) Sensitivity Resistance (Ω) Excita 36.00 23.19600000 m/V/VEU (5V) 350.00 5.0 36.00 23.23460000 m/V/VEU (5V) 350.00 5.0 1,000.00 1.01474000 m/V/VEU (5V) 300.00 5.0 1,000.00 1.01442000 m/V/VEU (5V) 3024.00 5.0 1,000.00 1.01393000 m/V/VEU (5V) 3024.00 5.0 1,000.00 1.19990000 m/V/EU (5V) 3024.00 5.0 1,000.00 1.22330000 m/V/EU (5V) 3024.00 5.0
Included Sensors 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels Included Sensors 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital inputs, 0 Digital outputs, 4 Squib channels 100 Analog sensor(s), 0 Digital o	Capacity (EU) Sensitivity Resistance (Ω) Excit 36.00 23.1960000 mV/V/EU (5V) 350.00 5.0 36.00 23.23460000 mV/V/EU (5V) 350.00 5.0 1,000.00 1.01474000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.01442000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.19990000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.1233000 mV/EU 3.024.00 5.0
Included Sensors ions Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista ions Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista ort Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista ort Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista ort Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista ort Infloored	Capacity (EU) Sensitivity Resistance (Ω) Excit 36.00 23.19600000 mV/V/EU (5V) 350.00 5.0 36.00 23.2346000 mV/V/EU (5V) 350.00 5.0 1,000.00 1.01474000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.01442000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.0193000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.19990000 mV/V/EU (5V) 3.024.00 5.0 1,000.00 1.2233000 mV/EU (3.024.00 5.0 5.0
Instruction Sensors ions 180 Analog sensor(s), 0 Digital inputs, 0 Digital inputs, 0 Digital outputs, 4 Squib channels ions Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista //ew included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista //ew included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista //ew included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista //ew if 1700383 17100383 Humanetics String Pot 3600 23.246000 mV/V/EU (SV) 30.0400 // 6DX05046-AC2 unknown Interview Interview 10.0000 1.11474000 mV/V/EU (SV) 30.2400 // 6DX05046-ARS1 unknown Interview Interview 1.000.00 1.119900000 mV/EU	Capacity (EU) Sensitivity Resistance (Ω) Excit 36.00 23.19600000 mV/V/EU (SV) 350.00 5.0 36.00 23.23460000 mV/V/EU (SV) 350.00 5.0 1,000.00 1.01474000 mV/V/EU (SV) 3024.00 5.0 1,000.00 1.01442000 mV/V/EU (SV) 3,024.00 5.0 1,000.00 1.0193000 mV/V/EU (SV) 3,024.00 5.0 1,000.00 1.19990000 mV/V/EU (SV) 3,024.00 5.0 1,000.00 1.2233000 mV/EU (SV) 3,024.00 5.0
Sensors Solution Sensors Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Ort Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Ort Influence Serial number Influence String Pot Image: Sensore (Sensore (Sens	Capacity (EU) Sensitivity Resistance (Ω) Exci 36.00 23.19600000 mV/V/EU (5V) 350.00 5.0 36.00 23.23460000 mV/V/EU (5V) 350.00 5.0 1,000.00 1.01474000 mV/V/EU (5V) 3024.00 5.0 1,000.00 1.01442000 mV/V/EU (5V) 3,024.00 5.0 1,000.00 1.0193000 mV/V/EU (5V) 3,024.00 5.0 1,000.00 1.19990000 mV/V/EU (5V) 3,024.00 5.0 1,000.00 1.2233000 mV/EU (3,024.00 5.0
Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Included Serial number Name Manufacturer Model IEPE Capacity (EU) Sensitivity Resista Included Serial number 17089949 17089949 Humanetics String Pot 36.00 23.29460000 mV/V/EU (SV) 350.00 Included 6DX05046-AC1 unknown Image: Serial number Image: Serial number 1.000.00 1.01474000 mV/V/EU (SV) 30.04.00 Included 6DX05046-AC2 unknown Image: Serial number Image: Serial number Image: Serial number 1.000.00 1.0149000 mV/V/EU (SV) 30.24.00 Included 6DX05046-AC3 unknown Image: Serial number Image: Serial number Image: Serial number Image: Serial number 30.24.00 Included 6DX05046-ARS1 unknown Image: Serial number Ima	Capacity (EU) Sensitivity Resistance (Ω) Exc. 36.00 23.1960000 mV/V/EU (SV) 350.00 5.0 36.00 23.23460000 mV/V/EU (SV) 350.00 5.0 1.000.00 1.01474000 mV/V/EU (SV) 30.24.00 5.0 1.000.00 -1.01442000 mV/V/EU (SV) 3.024.00 5.0 1.000.00 1.01393000 mV/V/EU (SV) 3.024.00 5.0 1.000.00 1.13990000 mV/V/EU (SV) 3.024.00 5.0 1.000.00 1.19990000 mV/EU 3.024.00 5.0 1.000.00 1.22330000 mV/EU 3.024.00 5.0
iew image Senial humber Name Manualizative Model ize Capacity (EU) Senial humber Name V 17089949 Humanetics String Pot 36.00 23.1660000 mV/V/EU (SV) 350.00 V 17100383 17100383 Humanetics String Pot 36.00 23.1660000 mV/V/EU (SV) 300.00 V 60X05046-AC1 unknown 1.000.00 1.01474000 mV/V/EU (SV) 30.24.00 V 60X05046-AC2 unknown 1.000.00 1.01442000 mV/V/EU (SV) 3.024.00 V 60X05046-AC3 unknown 1.000.00 1.01393000 mV/V/EU (SV) 3.024.00 V 60X05046-ARS1 unknown 1.000.00 1.01393000 mV/V/EU (SV) 3.024.00 V 60X05046-ARS1 unknown 1.000.00 1.01393000 mV/V/EU (SV) 3.024.00 V 60X05046-ARS2 unknown 1.000.00 1.19990000 mV/VE 3.024.00 V 60X05046-ARS2 unknown 1.000.00 1.122330000 mV/VE 3.024.00 3.024.00 3.024.00 <	Capacity (U) Sensitivity Resistance (L) Excl 36.00 23.19600000 mV/V/EU (SV) 350.00 5.0 36.00 23.23460000 mV/V/EU (SV) 350.00 5.0 1,000.00 1.01474000 mV/V/EU (SV) 3.024.00 5.0 1,000.00 1.01474000 mV/V/EU (SV) 3.024.00 5.0 1,000.00 1.01393000 mV/V/EU (SV) 3.024.00 5.0 1,000.00 1.19990000 mV/EU (SV) 3.024.00 5.0 1,000.00 1.22330000 mV/EU 3.024.00 5.0
Independent Independent String Pot Back 22,1800000 mV/V/EU (SV) Stocol Interpendent 17100383 17100383 Humanetics String Pot 36.00 23,23400000 mV/V/EU (SV) 350.00 Interpendent 60X05046-AC1 unknown 1,000.00 1.01474000 mV/V/EU (SV) 3024.00 Interpendent 60X05046-AC2 unknown 1,000.00 1.0143000 mV/V/EU (SV) 3024.00 Interpendent 60X05046-AC3 unknown 1,000.00 1.01393000 mV/V/EU (SV) 3024.00 Interpendent 1,000.00 1.01393000 mV/V/EU (SV) 3024.00 1.01990000 mV/V/EU (SV) 3024.00 Interpendent unknown 1,000.00 1.01393000 mV/V/EU (SV) 3024.00 1.01990000 mV/V/EU (SV) 3024.00 Interpendent unknown 1,000.00 1.19990000 mV/VEU (SV) 3024.00 1.22330000 mV/VEU (SV) 3024.00 Interpendent 0.000.00 1.12330000 mV/VEU (SV) 3024.00 1.12330000 mV/VEU (SV) 3024.00 Interpendent 0.000.00 1.12910000 mV/VEU (SV) 3024.00 1.19810000 mV/VEU (S	36.00 23,1900000 mV/V/EU (SV) 35.00 5.0 36.00 23,23460000 mV/V/EU (SV) 350.00 5.0 1,000.00 1,01474000 mV/V/EU (SV) 3,02400 5.0 1,000.00 1,01474000 mV/V/EU (SV) 3,02400 5.0 1,000.00 1,01474000 mV/V/EU (SV) 3,02400 5.0 1,000.00 1,1999000 mV/V/EU (SV) 3,02400 5.0 1,000.00 1,1999000 mV/EU (SV) 3,02400 5.0 1,000.00 1,22330000 mV/EU 3,024.00 5.0
Opt Fillenges Fillenges Stand Polt	3800 252340000 mV/VEU (SV) 3000 30 1,000.00 1.01474000 mV/VEU (SV) 3.02400 5.0 1,000.00 1.0142000 mV/VEU (SV) 3.02400 5.0 1,000.00 1.01393000 mV/VEU (SV) 3.02400 5.0 1,000.00 1.19990000 mV/VEU (SV) 3.024.00 5.0 1,000.00 1.22330000 mV/EU 3.024.00 5.0
Image: Constraint of the	1,000,00 -1,0144200 mV/VEU (SV) 3,02400 5,0 1,000,00 -1,01442000 mV/VEU (SV) 3,02400 5,0 1,000,00 1,0193000 mV/VEU (SV) 3,02400 5,0 1,000,00 1,19990000 mV/VEU (SV) 3,02400 5,0 1,000,00 1,22330000 mV/EU (SV) 3,02400 5,0
↓ 00X00040-XL2 unknown 1,00000 1,01442000 mV/VEU (5V) 5,024,00 ↓ 6DX05046-AC3 unknown 1,000,00 1,01393000 mV/VEU (5V) 3,024,00 ↓ 6DX05046-ARS1 unknown 1,000,00 1,119990000 mV/EU 3,024,00 ↓ 6DX05046-ARS2 unknown 1,000,00 1,22330000 mV/EU 3,024,00 ↓ 6DX05046-ARS3 unknown 1,000,00 -1,19810000 mV/EU 3,024,00	1,000,00 1,0148200 mV/VEU (SV) 5,02400 5,0 1,000,00 1,1099000 mV/VEU (SV) 3,02400 5,0 1,000,00 1,12990000 mV/EU 3,02400 5,0
✓ 60X00046-ARS1 unknown 1,00000 1.19990000 mV/EU 3,024.00 ✓ 6DX05046-ARS1 unknown 1,000.00 1.19990000 mV/EU 3,024.00 ✓ 6DX05046-ARS2 unknown 1,000.00 1.2330000 mV/EU 3,024.00 ✓ 6DX05046-ARS3 unknown 1,000.00 1-1.19810000 mV/EU 3,024.00	1,000.00 1.19990000 mV/EU 3,024.00 5,0 1,000.00 1.22330000 mV/EU 3,024.00 5,0
↓ 6DX05046-ARS2 unknown 1,000.00 1,22330000 mV/EU 3,024.00 ↓ 6DX05046-ARS3 unknown 1,000.00 -1.19810000 mV/EU 3,024.00	1,000.00 11.2233000 mV/EU 3,024.00 5.0
✓ 6DX05046-ARS3 unknown 1,00000 -1.19810000 mV/EU 3,024.00	1,000,00 1.22550000 1117/20 5,024,00 5.0
	1 000 00 -1 19810000 mV/EU 3 024 00 5 0
4	1,00.00 -1.19610000 1117/20 3,024.00 5.0
Models	
Sensor groups	
\circ .	

NOTE: Sensors with critical exceptions (including no excitation, no calibration record, no sensitivity, duplicate EID) will not be imported.

5. Select sensors to import and select Import navstep:



6. Select "Done" to return to the sensor table or "Import another" to continue (back to step 3):

Data R Import Sensors						
Check Trigger	Cuick Checkout	👓 Run Test	🗖 Download			
😤 Data Recorders	Sensor Templates	Sen:	👤 Sensor Database			
Done Import another						
Import Sensors						

7. Select "Add" to add a sensor manually:

🖉 DataPRO - Sensor Templ	ates						
🙎 Check Trigger	🔁 Quick Checko	out	👓 Run Test	🕹 Downloa	ad Data	🔎 View Data	👛 Export D
😽 Data Recorders	Sensor	Templates	es 📃 Sensor Database			oups	Setups
Refresh Add Edit Dele	te		,				
Sensor Templates	Search						
Ma	nufacturer		Model				Capacity
DTS		ARS PF	RO 300				
DTS		ARS PF	RO 1500				

- a. Only fields noted below as Required must be completed, however having correct information in the sensor database is critical to ensuring the accuracy of collected data. It is useful to have calibration documentation available to complete sensor entry.
- b. Generic sensor fields are completed if using a Sensor Template. Some generic sensor fields are optional, but all unique sensor fields must be completed in the sensor database (Refer to Sensor Templates: Add, Edit, Delete, page 25, for generic sensor fields).

Analog channel type:

- Serial Number (*Required*): Used to identify the sensor; each sensor serial number must be unique. The default display of the sensor database is sorted by sensor serial number.
- Name: Used as a secondary identifier of the sensor.
- **Bypass AAF**: Enable to bypass/remove the hardware anti-alias filter (AAF) (Not available for all DAS types).
- **Tags**: Used for Meter Mode display in Realtime. See *Check Channels*, page 71, for more information on using Meter Mode display.
- **Unipolar:** Used to indicate that a sensor's output is $0 \rightarrow$ Capacity, not +/- Capacity.
- User Value 1, 2, 3: Additional descriptor fields for sensors.
 - If enabled, these fields are also available in Groups and Test Setups.
 - Values entered will be included in the *.dts export.
- **Sensor ID**: Unique 16-character sensor identifier. No sensor ID may be associated with more than one active sensor at a time.
- Last Calibration Date (Required): Date sensor was last calibrated.
- Calibration Interval: Number of days in each valid calibration cycle.
- **Sensitivity** (*Required*): If using sensor templates, this will be populated with a nominal value but should be updated based on the individual sensor's calibration documentation.
- **Documents**: Link to calibration (or other) documents.

• Calibration History: This will populate when the sensor is saved as it is updated.

Digital Input channel type:

- **Name**: Used as a primary identifier of a Digital Input sensor.
- **Mode**: How the signal will be generated.
 - Transition Low-to-High
 - Transition High-to-Low
 - Contact Closure Normally Open
 - Contact Closure Normally Closed
- **Default/Active value**: The expected values for the Digital Input signal in a default/rest state and the active/signaled state.
- Sensor ID: Unique 16-character sensor identifier. No ID may be associated with more than one active sensor at a time.
- **Tags**: Used for Meter Mode display in Realtime. See *Check Channels*, page 71, for more information on using Meter Mode display.

Squib channel type:

- Name: Used as a primary identifier of a Squib sensor.
- **Define delay in test**: If enabled, the delay time can only be defined in a Test Setup.
- Delay (ms): Time after T=0 for squib to fire.

NOTE: DataPRO stores the link, not the document. If the document is moved, DataPRO will not be able to retrieve it to view.

- Limit Duration: Yes/No
- **Duration**: If enabled, time limit for signal sent to squib.
- Low/High tolerance: Min/Max allowable resistance values for squib.
- Firing Mode: How the signal will be generated.
 - Capacitor Discharge
 - Constant Current
- **Sensor ID**: Unique 16-character sensor identifier. No ID may be associated with more than one active sensor at a time.
- **Tags**: Used for Meter Mode display in Realtime. See *Check Channels*, page 71, for more information on using Meter Mode display.

Digital Output channel type:

- Name: Used as a primary identifier of a Digital Output sensor.
- Mode: How the signal will be generated.
 - Five Volt Low-to-High Transition
 - Five Volt High-to-Low Transition
 - Contact Closure Normally Open
 - Contact Closure Normally Closed
- **Delay (ms)**: Time after T=0 for signal to be sent.
- Limit Duration: Yes/No
- **Duration**: If enabled, time limit for signal sent to Digital Output.
- **Tags**: Used for Meter Mode display in Realtime. See <u>Check Channels</u>, page 71, for more information on using Meter Mode display.
- 8. See *Appendix A: Common Sensor Types and Bridge Connections*, page 143, for more information on entering common sensor types.
- 9. Select "Save" to record sensor to database:

	🖉 DataPRO	Ed	it: 6DX	05046-A	C1								
ĺ	🙎 Chi	🙎 Check Trigger				🚾 Quick Checkout				0.0	Run Test	📥 Download	
	😤 D	😤 Data Recorders				Sensor Templates					or Database		
	Refresh <u>S</u> a	ve	Add	Read IE)s and	Measure	Bridges	Import	Export	Dele	te		
	Sensor Database					Sear	ch						

Check Trigger	Quick Checkout	Run Test 🗾 Dov	vnload Data	🔎 View Data	🖆 Export Data	🔁 Manage Users	🐱 System Settin
😵 Data Recorders	Sensor Templates	Sensor Database	9 0	roups	Setups	Additional Details	Check Channels
Refresh Save Add Read ID	s and Measure Bridges Import Export Del	ete					
Sensor Database	Search						
6			_				
Analog (6) Squib Settings (0) Digital Input Settings (0) Digital Outp	ut Settings (0)		Shunt	None	 Resistance (Ω) 3,024.00 	0
Serial Number	e 💌 Manufarturer 💌 Model 💌	IEPE Capacity (ELI)	Sensitivity 🔻	Sensor ID			
6DX05046-AC1	unknown	1,000.00	1.01474000 mV/	Calibration			_
6DX05046-AC2	unknown	1.000.00	-1.01442000 mV	Calibration	Last Calibration	Date	
6DX05046-AC3	unknown	1,000.00	1.01393000 mV/		8/1/2019	T	
6DX05046-ARS1	unknown	1,000.00	1.19990000 mV/				
6DX05046-ARS2	unknown	1,000.00	1.22330000 mV/		Calibration Inte	rval (Days) 365	
6DX05046-ARS3	unknown	1.000.00	-1.19810000 mV		Non-Linear Sonsitivity Dota	ile.	
					Proportional t	o Excitation	
					Remove offset	\checkmark	
					Based on Out	out at Capacity	
					Software zero	Method	
					Diagnostic le	vel	•
						Sensitivity 1.01474000	
					-	Sensitivity Units mV/V/EU	*
						Valid for excitation 5.0	•
					4		
					+		
4			•		Initial Offset		

- a. Different sensor types are managed using separate sensor tabs.
- b. Select the appropriate sensor tab to view and modify parameters for those sensor types.
- NOTE: If multiple users are modifying the sensor database, select "Refresh" to update the latest sensor settings.

👼 DataP	RO - Ec	lit: 6DX	05046-A	C1							
2	Check Trigger				Cuick Checkout				° ≏ Ru	un Test	🗖 Download
	😵 Data Recorders				Sensor Templates					👤 Sens	or Database
Refresh	Save	Add	Read ID)s and I	Measure	Bridges	Import	Export	Delete		
Senso	or Da	taba	se			Sear	ch				

11. To export sensor information, select "Export":

👼 DataPRO - Edit: 6DX05046-A	AC1		
🙎 Check Trigger	Contraction Quick Checkout	👓 Run Test	🖆 Download
😤 Data Recorders	Sensor Templates	📕 📃 Sens	or Database
Refresh <u>S</u> ave Add Read II	Ds and Measure Bridges Import Expo	ort Delete	
Sensor Database	Search		

12. Select export format and browse to the desired location to save the file. (If exporting to TDAS Control Sensor Database format, enable "Export only TDC compatible sensors" to export only sensors compatible with TDAS Control). Browse to desired location to save database file and modify export file name if desired (Default location is C:\DTS\DTS.Suite\3.0.311\SensorDatabase). Select sensors to include in export. Select "Export" to save. Select "Done" when finished:

🚦 DataPRO - Sensor Database								
Check Trigger	😔 Quick Checkout	•• Run Test	📥 Download Da	ta 🔑 View				
😵 Data Recorders	Sensor Templates	👤 Senso	or Database	🔗 Groups				
Done Export								
Sensor Database								
			Waitin	g for user sele				
Export format DataPRO XN	ИL		· • •					
File C:\DTS\DTS.Su	ite\SensorDatabase\SampleSensorDa	atabase.xml	Browse					
Analog (6) Squib Settings (0)	Digital Input Setting (0) Digital O	utput Settings (0)						
Serial Number 🔻	Name Manufacturer	Model 🔻 IEPE 💌	Capacity (EU) 🔻	Sensitivity 🔻 Linear				
✓ 6DX05046-AC1	unknown		1,000.00	1.01474				
✓ 6DX05046-AC2	unknown		1,000.00	-1.0144;				
✓ 6DX05046-AC3	unknown		1,000.00	1.01393				
✓ 6DX05046-ARS1	unknown		1,000.00	1.19990				
✓ 6DX05046-ARS2	unknown		1,000.00	1 22220				
6DX05046-ARS3	unknown		1,000 DataPRO /3	.0.98 - Sensor Database	Ouish Charlingt	Due Test	Developed Date	
•				a Recorders	Sensor Templates	Sense	or Database	Groups
			Dana Event					
			Done Expon					
			Sensor D	atabase				
								Done
			Export form	at DataPRO XML				
			File	C:\DTS\DTS.Suite\Sens	orDatabase\SampleSensor[Database.xml	Browse	
			Analog (6)	Squib Settings (0) Digital	Input Settings (0) Digital (Output Settings (0)		

6DX05046-AC1

✓ 6DX05046-AC2

✓ 6DX05046-AC3

6DX05046-ARS3

6DX05046-ARS1

6DX05046-ARS2

 \checkmark

 \checkmark

4

Serial Number 💌 Name 💌 Manufacturer 💌 Model 💌 IEPE 💌 Capacity (EU) 💌 Sensitivity 💌 Linear:

1,000.00

1.000.00

1,000.00

1,000.00

1.000.00

1.000.00

1.01474(

-1.01442

1.01393(

1.19990(

1.223300

-1.19810

unknown

unknown

unknown

unknown

unknown

unknown
13. To delete a sensor from the database, select the sensor from the list, select "Delete" and then "Yes" to confirm:

Check Trigger	🛀 Quick Checkout	Run Test	📥 Download Data
😽 Data Recorders	Sensor Templates	Senso	r Database
Refresh <u>S</u> ave Add Read IDs a	nd Measure Bridges Import Export	Delete	
Sensor Database	Search		
Sensors			
Analog (6) Squib Settings (0)	Digital Input Settings (0) Digital	Output Settings (0)	
Serial Number 💌 Name	 Manufacturer Model 	🔻 IEPE 💌 Ca	pacity (EU) 💌 Sensitivity
6DX05046-AC1	unknown	1,00	0.00 1.01474000
6DX05046-AC2	unknown	1,00	0.00 -1.01442000
6DX05046-AC3	unknown	1,00	0.00 1.01393000
6DX05046-ARS1	unknown	1,00	0.00 1.19990000
6DX05046-ARS2	unknown	1,00	0.00 1.22330000
6DX05046-ARS3	unknown	1,00	0.00 -1.19810000
	Are you sure you want	o delete?	
	1		

- a. Select and delete multiple sensors by using Shift or CTRL.
- 14. To delete *all* sensors from the database, select "Delete all" and then "Yes" to confirm.
 - a. The ability to delete all sensors must first be enabled in the *DataPRO.exe.config* file.
- NOTE: DTS recommends making a backup copy of the database before deleting all sensors.
- 15. To return to the Quick Start Steps, click *here* (page 17).

Prepare

The tabs in the Prepare group allow for creation and management of commonly used test devices, test setup configurations and records used for certain data export formats.

Groups: Add, Import, Edit, Delete, Copy

Creating a "Group" combines the sensors and (optional) DAS into one operational test device. Groups can be created using sensors, ISO Codes, User Codes, DAS or any combination thereof. Groups can also be imported as *.grp files; all sensors must exist in the sensor database in order to import the *.grp file.

To add a group, start at step 1. To import a group, go to step 8. To edit a group, go to step 12. To delete a group, go to step 13.

- NOTE: Only ISO Codes are displayed in the below images. To enable User Codes see System Settings, page 122.
- 1. Select the "Groups" tab:



2. Select "Add" to create a group:

👹 DataPRO - Groups							
🙎 Check Trigger	🚾 Quick Checkout	👓 Run Test	👛 Download	🗅 Download Data			
😤 Data Recorders	Sensor Templates	👤 Sens	👤 Sensor Database				
Refresh Add Import				-			
Groups	Search						

3. Enter Name and (optional) Description for the group:

🖉 DataPRO - Add Group: Group 1				
Check Trigger	🚾 Quick Checkout	Run Test	🛃 Download Data	🔎 View
😽 Data Recorders	脑 Sensor Templa	ates 📃 Sen	sor Database	🔗 Groups
Done <u>S</u> ave Discover hardware				
Groups				
	<< Name	Group 1		←
Info	Description	Sample Group		è—
Hardware	Tags			
Channels	Tests Using			
Parameters				

4. Add **Hardware** (optional), otherwise skip to step 5:

Check Irigger	C Quick Checkout	Run Test	🛃 Download Data	🔎 V
😤 Data Recorders	Sensor Templates	Sensor	Database	🔗 Groups
Done <u>S</u> ave Discover hardware				
Groups	Search			
	0 channels require	ed, 0 physical channels inclu	ded.	
Info	Compact	Expanded		
Llardurara	Serial Nu	umber 🔻 Type	Channels	Firmware 🔻
Hardware				
Chappels	SPS0099	9 SLICE PRO SIM	18 Analog	A1J4
Channels	SPS0099.	9 SLICE PRO SIM 0 SLICE Ethernet	18 Analog Controller 18 Analog	A1J4 B0B3

- a. Select Compact or Expanded to configure display of DAS table.
 - i. Expanded will show all selectable DAS units (SLICE PRO modules, SLICE Micro/Nano Base units, SLICE 6/SLICE6 AIR units, Distributors, TDAS PRO Racks and TDAS G5 units).
 - ii. Compact will display the Distributor or Base of configured DAS systems as well as modules that are not currently configured in a DAS system.
- b. If the DAS is known and has been added to the data recorder database, select the appropriate boxes in the Included column.
- c. If the DAS is powered on and connected, select "Discover Hardware". See *Appendix C: Discover Hardware*, page 156, for instructions on how to use Discover Hardware.

5. On the **Channels** navstep, assign channels to groups and (optionally) DAS hardware channels to the group:

👹 DataPRO - Add Group: Group 1						-	o ×
Check Trigger 🔛 Qui	ck Checkout 🔤 Run Test 🛄 Download I	Data 🛛 🖉 View Data	🗠 Export D	ata 🔂 Manage	e Users	😣 System Setting	js 📃 🗏
Tata Recorders	Sensor Templates	Croups	Setups	Additional Deta	ils 📔	Check Channels	
Done Save Discover hardware							
Groups	-						
a 🛾	Channel List		 Sensors Avail 	able			
Info	e	ihow bottom row	e	-		Assigned	
Hardware	0 channel(s) in group 0 of 15 physical channel(s) assigned						
	TOP A BOT Remove Sensor Delete		Unassigned	All Onlin	ne		
Channels	ISO (13499) code VISO channel name	Type Senso	Analog Squib Setti	ngs Digital Input Settings	Digital Output Setting	IS	
Analog			Serial Number 💌	Name 💌 IEPE 💌	Capacity (EU) 🔻	Units 🔻 O	Dut Of Date 🔺
Digital In			2kg034	Upper Neck Fx	2,000.00	9	
Squib			2kg035	Upper Neck Fy	2,000.00	9	
5400			2kg040	Upper Neck Fz	2,000.00	9	
Digital Out			6DX0082 AC1	6DX0082 AC-1	2,000.00	g	-
All			4				•
Parameters			A Hardware				
			е				
			DAS	CH #	Туре	Channel	^
			BA51253:BR51890	[BA51253:BR51890] CH-01	Bridge		
			BA51253:BR51890	[BA51253:BR51890] CH-02	Bridge		
			BA51253:BR51890	[BA51253:BR51890] CH-03	Bridge		
			BA51253:BR50201	[BA51253:BR50201] CH-01	Bridge		
	4	,	BA51253:BR50201	[BA51253:BR50201] CH-02	Bridge		
	Drag and drop sensors or hardware here to create new char	nels	BA51253:BR50201	[BA51253:BR50201] CH-03	Bridge		
	Drag a squib or digital output hardware channel to create a	squib or digital output setting	BA51253:BR52276	[BA51253:BR52276] CH-01	Bridge		
	Highlighted cells will use ID for assig	Inment	R∆51253-RR52276	IR451253-RR522761 CH-02	Rridae		•
DAS 001 Comm 🔘	User Admin navigated to: Prepare_TestObjects_EditObject_Page	e_Sensors		Conr	nected to: Local Curr	ent view: Admin	Login: Admin

- a. Use the 'Snap Arrows' to collapse the Navigation Pane;
- b. Channel List table displays all channels assigned to the Group;
- c. Sensors Available table displays all sensors in the Sensor Database; use radio buttons to filter table display.
 - i. Assigned displays only sensors that have been assigned to the group;
 - ii. Unassigned displays only sensors that have not been assigned and are available;
 - iii. All displays all sensors, regardless of assignment;
 - iv. Online displays only sensors that were found during Discover Hardware;
- d. If hardware is included in the group, available DAS channels will be displayed in the Hardware table.
 - i. DAS channels highlighted green indicate channel assignment, either manually or by EID;
- e. Use search bar to search within table;
- f. Add channels to the group.
 - i. Select sensors from Sensors Available table and drag to Channel List table to add channels to group:

豊	ataPRO - Add Group: Group 1											-		<
	Check Trigger	🔁 Quick Checkout	👓 Run Te	st	📥 Download I	Data	🔎 View	Data	🖆 Export Data	🛃 Ma	anage Users	🔣 System Se	ettings	
	😤 Data Recorders	Sensor Templates		🔝 Sensor D	atabase	🔗 Group	s	🤽 Te	est Setups	👤 Additional	Details	🖹 Check Char	nnels	
Do	ne Save Discover hardware													
-														_
Gr	oups													
>>	Channel List						Ser Ser	nsors Availa	ible					_
	Search		Show bottom row	w			Search				Assign	ed Unassigned	All	
	6 channel(s) in group 3 of 15 physic	cal channel(s) assigned										5		
	TOP 🔺 🔻 BOT Rem	ove Sensor Delete						Online						
	ISO (13499) code 🔻	ISO channel na	me 🔻	Type 🔻	Sensor (S	5N) 🔻	Analog	Squib Settin	nos Digital Input Settin	ns Digital Outpu	t Settings			
	???????????????????????????????????????			Bridge	6DX0082 AC-1 (6DX0082 AC1)	Serial	Number 💌	Name VIEPE	Canacity (F	u Vioits	Out Of Date	In Warning	
	22222222222222222			Bridge	6DX0082 AC-2 (6DX0082 AC2)	21:002	4	Hanar Nack Fr	2 000 00				-
	1111111111111111			Bridge	6DX0082 AC-2	CDA0082 AC3)				2,000,00	9	_		
	2222222222222222			Bridge	6DX0002	6DX0082 AR1)	2kg03	>	Upper Neck Fy	2,000.00	g			
	2222222222222222		1	NEGGA	6DX0082 AR-2 ((EDX0082 AR2)	2kg04)	Upper Neck Fz	2,000.00	g			
			<	bridge	CDX0002 AR-2 (6DX05	046-AC1		1,000.00	g			*
				Bridge	6DX0082 AK-3 (0DX0082 AK3)							•	
	111111111111111111111111111111111111111						🔿 Ha	rdware —						_
							Search							_
								DAS	CH #	Туре	e C	hannel	Sensor	Â.
							BA5125	3:BR51890	[BA51253:BR51890] CH	-01 Bridge				
							BA5125	3:BR51890	[BA51253:BR51890] CH	-02 Bridge				
							BA5125	3:BR51890	[BA51253:BR51890] CH	-03 Bridge				
							BA5125	3:BR50201	[BA51253:BR50201] CH	-01 Bridge				
	1		_				BA5125	3:BR50201	[BA51253:BR50201] CH	-02 Bridge				
	Dress and de						BA5125	3:BR50201	[BA51253:BR50201] CH	-03 Bridge				
	Drag a squib	or digital output hardware cha	nnel to create a	squib or digit	tal output setting		BA5125	3:BR52276	[BA51253:BR52276] CH	-01 Bridge				
		Highlighted cells will	use ID for accio	nment			R45125	R-RR52276	IR451253-RR522761 CH	-02 Bridge				*
		Lises Admin an	insted to Drass	ra TarlOhiar	te EditObiaet Daar	Sansars		_			o	1.0		
- DA	is uuu comm 🔘 📃	-User Admin hav	igateu to: Prepa	re_restObject	is_concobject_Page	_sensors					Connected to: Lo	cal Current view: Ad	min Lögin: Adi	min

- Sensors that have EIDs will be shaded green in the Hardware column of the Channel List table;
- Sensors that do not have EIDs will have standard grey/white shading and will need to be manually assigned to a hardware channel before collecting data. (This can be done in the group, the Test Setup, or in the Check Sensor ID navstep).
- ii. Select hardware channels from Hardware table and drag to Channel List to add channels to group:

🦉 DataPRO - Add Group: Group 1								$-$ 0 \times	
Check Trigger	Quick Checkout	👓 Run Test	📥 Download Data	🔎 View Data	🖆 Export Data	🔼 Manage	Users 🛛 🕹 Syst	tem Settings 📃	
😤 Data Recorders	Sensor Templates	🔝 Sensor D	Database 🔗 Gro	ups	Setups	👤 Additional Detail	ls 📄 Check	k Channels	
Done Save Discover hardware									
Groups									
Channel List						Concern Aurile	h la		
						Sensors Availa	bie		
6 channel(s) in group 3 of 15 physical c	channel(s) assigned	w bottom row				Search			
TOP S BOT Remove	e Sensor Delete					Unassigned	All Onlin	e	
ISO (13499) code 🔻	ISO channel name	Type Type	Sensor (SN)	Hardware 🔻		Analan Cault Cali	Disitellanut Cattings	Disited October Continue	
222222222222222		Bridge	6DX0082 AC-1 (6DX0082 AC1)	[BA51253:BR518	TOP - 001 - BOT	Analog Squib Settin	igs Digital input Settings	Digital Output Settings	
2222222222222222		Bridge	6DX0082 AC-2 (6DX0082 AC2)	[BA51253:BR518	TOP • 002 • BOT	Senai Number	Name Visite Co	Capacity (EU)	
277777777777777		Bridge	6DX0082 AC-3 (6DX0082 AC3)	[BA51253:BR518	TOP • 003 • BOT	2kg054	Opper Neck Px	2,000.00 g	
222222222222222		Bridge	6DX0082 AR-1 (6DX0082 AR1)	Assigned by ID	TOP A 004 V BOT	2kg035	Upper Neck Fy	2,000.00 g	
7777777777777777		Bridge	6DX0082 AR-2 (6DX0082 AR2)	Assigned by ID		2kg040	Upper Neck Fz	2,000.00 g	
2777777777777777		Bridge	6DX0082 AR-3 (6DX0082 AR3)	Assigned by ID		6DX0082 AC1	6DX0082 AC-1	2,000.00 g	
		bhoge	00/10002 / 11 0 (00/10002 / 110)	rongneo by to		Hardwara			
						Search			
						DAS	CH #	Type	
						BA51253:BR51890	(BA51253:BR51890) CH-01	Bridge	
						BA51253:BR51890	[BA51253:BR51890] CH-02	Bridge 6	
						BA51253:BR51890	[BA51253:BR51890] CH-03	Bridge (
						BA51253:BR50201	[BA51253:BR50201] CH-01	Bridge -	
				_		BA51253:BR50201	[BA51253:BR50201] CH-02	Bridge -	
		,	BA51253:BR50201	[BA51253:BR50201] CH-03	Bridge				
	Drag and drop sensors or Drag a squib or digital ou	naroware here to creat tput hardware channel t	e new cnannels to create a squib or digital output	setting		BA51253:BR52276	[BA51253:BR52276] CH-01	Bridge -	
	Hi	ahliahted cells will use l	ID for assignment			R451253-RR52276	IR451253-RR522761 CH-02	Rridne .	
DAC 000 Comm	User Admin navigate	d to: Prenare TertObiec	tr EditObiact Page Senrorr	_		C	antadan land. Cumatuin		

- Group Channels created by adding hardware channels will have default settings as defined in *System Settings*, page 122;
- All channel types can be created by adding Hardware Channels to Channel List, however, Digital Input and Analog channels require a sensor to be assigned prior to use;
- iii. Add ISO Code(s), User Code(s), or Channel Name(s) to add channels to the group:

Check Trigger	🔁 Quick Checkout	Run Test	🗅 Download Data	🔎 View Data	🖆 Export Data	🔼 Manag	e Users 🛛 😣 Sy:	stem Settings
😤 Data Recorders	Sensor Templates	🔝 Sensor E)atabase 🔗	Groups	Test Setups	👤 Additional Det	ails 📄 Che	ck Channels
Save Discover hardware								
ps						<u> </u>		
annel List						 Sensors Avail 	able	
ch	2	how bottom row				Search		
nannel(s) in group 0 of 15 ph	/sical channel(s) assigned							
Test Object Desition Main I	entine Contest Contest Contest	Dimension Disection Eilter	Class			Unassigned	All Onlir	he
rescobject Position Main D	-	Dimension Direction Pilder	Sensor (SN)	Hardware				
? ? HEA	(D	Deidee	6DX0083 AC 1 (6DX0083 (700 001 007	Analog Squib Setti	ngs Digital Input Settings	Digital Output S
EAU		Bridge	6DX0082 AC-1 (6DX0082 A	AC I)		Serial Number 🔻	Name 🔻 IEPE 🔻	Capacity (EU)
22HEADUD00HEACR2 Hoad I	Inner Acceleration Resultant	Bridge	6DX0082 AC-2 (6DX0082 /	AC2)	TOP 🔺 002 🔻 BOT	2kg034	Upper Neck Fx	2.000.00
??HEADUP00HFACX? Head U	Ipper Acceleration X	Bridge	6DX0082 AC-3 (6DX0082 A	AC3)	TOP 🔺 003 🔻 BOT			
??HEADUP00HFACY? Head L	Ipper Acceleration Y					2kg035	Upper Neck Fy	2,000.00
??HEADUP00HFACZ? Head L	Ipper Acceleration Z	Bridge	6DX0082 AR-1 (6DX0082 A	ART) Assigned by ID	TOP A 004 BOT	2kg040	Upper Neck Fz	2,000.00
??HEADFROOHFACR? Head F	ront Acceleration Resultant	Bridge	6DX0082 AR-2 (6DX0082 A	AR2) Assigned by ID	TOP 🔺 005 🕶 BOT	CDV0002 AC1	CDV0002 AC 1	2 000 00
22HEADFROOHFACX2 Head F	ront Acceleration X	Bridge	6DX0082 AR-3 (6DX0082 /	AR3) Assigned by ID		6DX0082 ACT	6DX0082 AC-1	2,000.00
??HEADFROOHFACZ? Head F	ront Acceleration Z	onoge		and y had gried by to				
??HEADLE00HFACR? Head L	eft Acceleration Resultant				TOP -001 BOT	Ardware -		
??HEADLE00HFACX? Head L	eft Acceleration X					Search		
??HEADLE00HFACY? Head L	eft Acceleration Y					DAS	CH#	Type
22HEADRIOOHFACZ? Head L	inht Acceleration Resultant					PA51252, PD51900	IRA61353.RR618001.CU.01	Reidee
??HEADRIDOHFACX? Head R	light Acceleration X					DR01200;BR01090	[BM31233:BN31690] CH-01	bridge
??HEADRIOOHFACY? Head R	light Acceleration Y					BA51253:BR51890	[BA51253:BR51890] CH-02	Bridge
??HEADRIOOHFACZ? Head R	light Acceleration Z					BA51253:BR51890	[BA51253:BR51890] CH-03	Bridge
??HEADREOOHFACR? Head R	lear Acceleration Resultant					BA51253;BR50201	[BA51253:BR50201] CH-01	Bridge
??HEADRE00HFACY? Head R	lear Acceleration Y					DA51252 0050201	IDAE1050 00500011 CU 00	Dides
??HEADRE00HFACZ? Head R	lear Acceleration Z				•	BAD1205:BK50201	[BAD1205:BK50201] CH-02	bridge
	Drag and drap concorr	or bardware bere to creat	a new channels			BA51253:BR50201	[BA51253:BR50201] CH-03	Bridge
	Drag a squib or digital	output hardware channel	o create a squib or digital ou	tput setting		BA51253:BR52276	[BA51253:BR52276] CH-01	Bridge
	,		. ,					

- Manually add ISO/User Code(s) or Chanel Name(s), or copy/paste multiple to create multiple Group Channels;
- ISO Code Builder and Lookup Table are optional and can be disabled in *System Settings*, page 122;
- g. Select sensors from the Sensors Available table and drag to Channel List to assign to channels.
 - i. A Group can be saved with channels added that do not have sensors assigned. These sensor-less-channels must have a sensor assigned once added to a Test Setup;
- h. Manually assign hardware channels to sensors without EIDs by dragging from the Hardware table to the Channel List table:

🖉 DataPRO - Add Group: Group 1										- 0	\times
Check Trigger	Quick Checkout	Run Test	🛓 Download Dat	a	🔎 View Data	👛 Exp	ort Data	🔝 Manag	je Users 🛛 🖁	System Settings	Ξ
😵 Data Recorders	Sensor Templates	💷 Sensor Da	atabase	🔗 Group	is l	Test Setups		🔜 Additional Deta	ails 📔	Check Channels	
Done Save Discover hardware											
Groups											
Channel List								 Sensors Availa 	able		
Search	Show	oottom row						Search			11
6 channel(s) in group 3 of 15 physical c	hannel(s) assigned										
TOP - BOT Remove	Sensor Delete							Unassigned	All	Online	
ISO (13499) code 💌	ISO channel name 🔻	Туре 🔻	Sensor (SN)	•	Hardware 🔻			Analog Squib Setti	ngs Digital Input Settin	ngs Digital Output Sett	ttings
??HEAD0000H3ACX?	Head Acceleration X	Bridge	6DX0082 AC-1 (6D)	K0082 AC1)	[BA51253:BR518	TOP 🔺 001 👻	BOT	Serial Number	Name VIEPE	Capacity (EU)	-
??HEAD0000H3ACY?	Head Acceleration Y	Bridge	6DX0082 AC-2 (6D)	X0082 AC2)	[BA51253:BR518	TOP 🔺 002 🔻	BOT	2kq034	Upper Neck Fx	2,000.00	
??HEAD0000H3ACZ?	Head Acceleration Z	Bridge	6DX0082.45-3 (6D)	K0082 AC3)	[BA51253:BR518	TOP 🔺 003 👻	BOT	2kg035	Upper Neck Fy	2,000.00	 g
??HEAD0000H3AVX?	Head Angular Velocity X	Bridge	6DX0082 AR-1 (6b)	082 AR1)	Assigned by ID	TOP 🔺 004 💌	BOT	2kg040	Upper Neck Fz	2,000.00	g
??HEAD0000H3AVY?	Head Angular Velocity Y	Bridge	6DX0082 AR-2 (6D)	K0082 Atta	Assigned by ID	TOP 🔺 005 👻	BOT	6DX0082 AC1	6DX0082 AC-1	2.000.00	
??HEAD0000H3AVZ?	Head Angular Velocity Z	Bridge	6DX0082 AR-3 (6D)	K0082 AR3)	Assigned by ID	TOP 🔺 006 👻	BOT	4		_,	9
						TOP 🔺 -001 🔹	BOT	Alardware -			
								Search			
								DAS	CH #	Туре	
							\sim	BA51253:BR51890	[BA51253:BR51890] CH	H-01 Bridge	F
								BA51253:BR51890	[BA51253:BR51890] CH	H-02 Bridge	F
								BA51253:BR51890	[BA51253:BR51890] CH	H-03 Bridge	F
								BA51253:BR50201	[BA51253:BR50201] CH	H-01 Bridge	-

- 6. The **Parameters** navstep allows for modifications to certain channel parameters. These changes apply only to the Group. Select channel type to display parameters for that channel type (See *Appendix A: Common Sensor Types and Bridge Connections*, page 143, for more information about different sensor types and options during sensor entry).
 - a. Analog Channels:

DataPRO - Add	d Group: Group	51								-	
Check Tr	rigger	Quick Checkout	👓 Run Test	🖆 Download Da	ata 🖉 Vie	ew Data	🖆 Export Data	<u>*</u>	Manage Users	😸 System Set	tings 📃
😤 Data R	lecorders	Sensor Terr	nplates	Sensor Database	🔗 Groups		Test Setups	🙎 Additio	nal Details	📔 Check Chanr	nels
Done Save Discoverhardware											
oups											
Analog	Squib	Digital out Digit	al in Modify glob	al range CAC Global	range (CAC) Manual		-		Apply		
Order 🔻	Group 💌	ISO (13499) code 💌	ISO channel name 💌	Sensor (SN) 💌	Rai Capacity			Units 🔻	Channel filter class 🔻	Polarity 🔻	Zero Metho
001	Group 1	??HEAD0000H3ACX?	Head Acceleration X	6DX0082 AC-1 (6DX0082 A	AC1) 2,0 RangeMedium RangeLow			9	CFC 1000 (A)	+ v	Avg over time
002	Group 1	??HEAD0000H3ACY?	Head Acceleration Y	6DX0082 AC-2 (6DX0082 A	AC2) 2,000.00	2,000.00	-0.01700000 mV/V/EU	g	CFC 1000 (A)	÷ •	Avg over time
003	Group 1	??HEAD0000H3ACZ?	Head Acceleration Z	6DX0082 AC-3 (6DX0082 A	AC3) 2,000.00	2,000.00	0.01825000 mV/V/EU	g	CFC 1000 (A)	÷ •	Avg over time
004	Group 1	??HEAD0000H3AVX?	Head Angular Velocity X	6DX0082 AR-1 (6DX0082 A	AR1) 18,000.00	18,000.00	0.09440000 mV/EU	deg/s	CFC 1000 (A)	÷ •	Avg over time
005	Group 1	??HEAD0000H3AVY?	Head Angular Velocity Y	6DX0082 AR-2 (6DX0082 A	AR2) 18,000.00	18,000.00	0.09370000 mV/EU	deg/s	CFC 1000 (A)	. .	Avg over time
006	Group 1	??HEAD0000H3AVZ?	Head Angular Velocity Z	6DX0082 AR-3 (6DX0082 A	AR3) 18,000.00	18,000.00	-0.09456000 mV/EU	deg/s	CFC 1000 (A)	* *	Avg over time
	DataPRO - Adic Check T Check T Data F ne Save OUDS Analog Order * 001 002 003 004 005 006	DataPRO - Add Group: Group Check Trigger Check Trigger State corders Save Discover hardward Order Squib Order Group 1 002 Group 1 003 Group 1 004 Group 1 005 Group 1	DataPRO - Add Group: Group 1 Check Trigger Couck Checkout Discover hardware Coups Analog Group Group Group Group Group Coups Group Group Coups Group Coups Group Coups Coups	Add Group: Group 1 Coulck Checkout Coulck Replace Check Trigger Coulck Checkout Coulck Replace Check Trigger Coulck Checkout Coulck Checkout Check Trigger Coulck Checkout Coulck Checkout Coulck Checkout Croup 1 CriteAD0000H3AUX?	Add Group: Group 1 Image: Group 1	DataPRO - Add Group: Group 1 C Quick Checkout Image: Run Test Image: Download Data Image: Vir Image: Data Recorders Image: Sensor Templates Image: Sensor Database Image: Groups Image: Discover hardware Image: Sensor Database Image: Groups Image: Groups Image: Discover hardware Image: CAC Image: Groups Image: Groups Image: Groups Image: Order Group 1 Image: Order Image: Groups Image: Groups Image: Groups Image: Order Group 1 Image: Order Image: Order Groups Image: Order Image: Order <td>Model Operation Op</td> <td>bataPRO - Add Group: Group 1 C Check Trigger C Quick Checkout C Run Test C Download Data V Vew Data P Sensor Database C C Cours Test B Sensor Template C Sensor Database C C Cours Test Setups C Cours Test Setups C Cours C</td> <td>DataPRO - Add Groups Group 1 Check Trigger C Quick Checkout C Run Test Download Data C Groups C Quick Checkout C Run Test C Download Data C Groups C Test Setups C Add Grou C Run Part C C C C C C C C C C C C C C C C C C C</td> <td>bataPRO- Add Group: Group 1 C Check Trigger C Quick Checkout C GRun Test C Download Data C View Data C Export Data C Manage Users C Group 2 C Test Setup C C Concert Particular C C C C Manage C C C C Manage</td> <td>Data PRO - Add Group: Group 1 C Quick Checkout C Run Test D Download Data View Data C Beport Data Additional Details C System Set C Docket Tingger C Quick Checkout C Run Test D Download Data View Data C Beport Data Additional Details C Check Chan R Sate D Bonor Template S Sensor Database C Groups Test Setups Additional Details C Check Chan res Sate D Bonor Template Sensor Template Sensor Template C Concert Test Setups Additional Details C Check Chan res Sate D Bonor Template Sensor Template Sensor Template C Concert Test Setups Additional Details C Check Chan res Sate D Stall D Igtal out D Igtal nut Modify global range CAC G Concert Manual L Check Chan L Che</td>	Model Operation Op	bataPRO - Add Group: Group 1 C Check Trigger C Quick Checkout C Run Test C Download Data V Vew Data P Sensor Database C C Cours Test B Sensor Template C Sensor Database C C Cours Test Setups C Cours Test Setups C Cours C	DataPRO - Add Groups Group 1 Check Trigger C Quick Checkout C Run Test Download Data C Groups C Quick Checkout C Run Test C Download Data C Groups C Test Setups C Add Grou C Run Part C C C C C C C C C C C C C C C C C C C	bataPRO- Add Group: Group 1 C Check Trigger C Quick Checkout C GRun Test C Download Data C View Data C Export Data C Manage Users C Group 2 C Test Setup C C Concert Particular C C C C Manage C C C C Manage	Data PRO - Add Group: Group 1 C Quick Checkout C Run Test D Download Data View Data C Beport Data Additional Details C System Set C Docket Tingger C Quick Checkout C Run Test D Download Data View Data C Beport Data Additional Details C Check Chan R Sate D Bonor Template S Sensor Database C Groups Test Setups Additional Details C Check Chan res Sate D Bonor Template Sensor Template Sensor Template C Concert Test Setups Additional Details C Check Chan res Sate D Bonor Template Sensor Template Sensor Template C Concert Test Setups Additional Details C Check Chan res Sate D Stall D Igtal out D Igtal nut Modify global range CAC G Concert Manual L Check Chan L Che

- i. Modify Range, Channel Filter Class, Polarity, Software Zero Method, Average Over Time Start/End and Initial Offset for individual Analog channels;
- ii. Select Modify Global Range CAC to modify the range for all Analog Channels based on High, Medium, Low Range and Capacity settings in Sensor Database;

b. Squib Channels:

贈	DataPRO - A	dd Group: Group	1											- 0	×
	Check	Trigger	Quick Che	ckout	👓 Run Test	🗠 Download Dat	a 📃 Vie	w Data	💁 Expo	rt Data		Manage Users	😸 Syste	m Settings	Ξ
	😤 Data	Recorders	Sen:	sor Templates	💷 Sen	sor Database	🔗 Groups	Test Set	ıps		🙎 Additio	onal Details	📔 Check	Channels	
Do	one <u>S</u> ave	Discover hardware													
G	roups														
>>	Analog	Squib	Digital out	Digital in											
	Order 🔻	Grou 🔻	Ch: 🔻	ISO (13499) code 🔻		ISO channel name 💌	Sensor (SN) 🔻	Fire mode 🔻		Delay (r	ns) 🔻	Limit duration 💌	Duration (ms)	Current (A)	-
	009	Group 1	??AIRBF	FRLE01CU00	Standard	Front Airbag Primary	Squib	Capacitor discharge	٣	17.00	÷	\checkmark	10.0		
	010	Group 1	??AIRBF	FRLE02CU00	Standard	Front Airbag Secondary	Squib	Capacitor discharge	•	20.00	-	\checkmark	10.0		

- i. Change Fire Mode, Delay, Limit Duration, Duration and Current (if Constant Current is the selected Fire Mode);
- c. Digital Output Channels:

贈っ	DataPRO - Ad	ld Group: Group	1								- 0	×
	Check 1	Trigger	Quick Checkout	Run Test	🗠 Download [Data 🖉 Vie	w Data 🔤 Ex	port Data		Manage Users	System Settings	
	😵 Data	Recorders	Sensor Templa	tes 📃 Se	nsor Database	🔗 Groups	Setups	Test Setups		nal Details	📔 Check Channels	
0	one <u>S</u> ave C	Discover hardware										
C	Groups											
>>	Analog	Squib	Digital out Digital in									
	Order 🔻	Grou 🔻	Chi 💌 ISO (13499)	code 💌	ISO channel name 💌	Sensor (SN) 💌	Output mode 💌		Delay (ms) 🔻	Limit duration 🔻	Duration (ms)	
	011	Group 1	**********	T=0 Str	be	Digital output	5V low to high transition	*	0.00	\checkmark	10.0	
	012	Group 1	7777777777777777	Airbag I	Primary Strobe	Digital output	5V low to high transition	Ŧ	0.00	\checkmark	10.0	

- i. Modify Output mode, Delay, Limit duration and Duration;
- d. Digital Input Channels:

Check Trigger	🚾 Quick Checkout	🔤 Run Test 📃 Download Data	🔎 View Data	📫 🛄 Export Da	ata 🔼 Manage Users	🔀 System Settings
😵 Data Recorders	Sensor Templates	Sensor Database	Groups	Test Setups	🙎 Additional Details	Check Channels
one Save Discover hardwar	e					
roups						
Analog Squib	Digital out Digital in					
Order 🔻 Grou 💌	Chi 🔻 ISO (13499) code 🔻	ISO channel name	Sensor (SN)	Input mode 💌	Default value 🔻 Active value 🔻	
007 Group 1	??ENGNFR01000000	Engine Front Initial Contact	Conta	ct closure normally open	0 1	
	2251 (5) (50 20 20 20 20 20 20 20 20 20 20 20 20 20	E S E VE VE VE C V V	-			

i. Change Input Mode, Default Value and Active Value;

7. To save the changes to the group, select "Save":

🖉 DataPRO	- Add Group: Group 1						
C 🗧	eck Trigger	🚾 Quick Checkout	👓 Run Test	📥 Download	Data	🔎 View	
3	Data Recorders	Sensor Templates	👤 Sens	📃 Sensor Database		Groups	
Done Save Discover hardware							
Groups	;						

8. To import a group, select "Import":

🖉 DataPRO - Groups					
Check Trigger	🚾 Quick Checkout	👓 Run Test	🕛 Download	l Data	🔎 View
😤 Data Recorders	Sensor Templates	👤 Sens	or Database	9	Groups
Refresh Add Import					
Groups	Search				

- NOTE: Groups can be imported as *.grp files. All sensors must exist in the Sensor Database in order for the group to be imported.
- 9. Select "Browse" and navigate to and select *.grp file to import:

Open									×
$\leftarrow \rightarrow \cdot \uparrow$	> This P	C > Desktop > DataPRO > Imports			v ē	Search Imports			P
Organize 🔻 Ne	w folder								?
DataPRO	^	Name	Date modified	Туре	Size				
Imports		Group_3.grp	6/7/2019 1:43 PM	Microsoft Progra	1	KB			
Manuals									
🐔 OneDrive									
💻 This PC									
3D Objects									
E Desktop									
😫 Documents									
👆 Downloads									
Music									
Pictures									
🔛 Videos									
🏪 Windows (C:)									
i Network	~								
	File <u>n</u> ame	e: Group_3.grp			~	TDAS group fil	e (*.grp)		\sim
						<u>O</u> pen v	•	Cancel	

Check Trigger	Quick Checkout	👓 Run Test	Download Data	🔎 View Data	👛 Export	Data	🕵 Manage Users	🐱 System Settings
😵 Data Recorders	Sensor Templates	Sensor Datal	ase 🔗 G	roups	🤽 Test Setups	👤 Ad	ditional Details	🔁 Check Channels
one								
mport								
iipoit	<<							
Options	Included Overwrite	Group name		Tags			File	
 .:		Group_3		iugs	C:\Users\Jenna.mi	ller\Desktop\Data	PRO\Imports\Group_3.gr	p
review	(
mport	Channels that will be i	mported						
1	Gro	oup name	Display nam	e Se	ensor serial number	Full scale	Invert	Warnings
	Group_3	F	orce X	2kg(033	1000		
	Group_3	F	orce Y	2kg(034	1000		
	Group_3	F	orce Z	2kg(035	1000	\checkmark	
	Group_3	A	ccel AX	6DX	0082 AC1	2000		
	Group_3	А	ccel AY	6DX	0082 AC2	2000		
	Group_3	A	ccel AZ	6DX	0082 AC3	2000	\checkmark	
	Group_3	A	ngular Rate WX	6DX	0082 AR1	300		
	Group_3	A	ngular Rate WY	6DX	0082 AR2	300		
	Group_3	A	ngular Rate WZ	6DX	0082 AR3	300	\checkmark	
	Channels that will not	be imported						
	Group r	name	Display name	Sensor serial number	Full scale	Invert	Issue	

10. Make any necessary modifications in the **Preview** navstep:

11. Select **Import** to import the group:

Bata Recorders Sensor Templates Sensor Database Groups Done Import Import Options Preview	Check Trigger	🚾 Quick Checkout	👓 Run Test	📥 Download	Data 🛛 🔎 Vie
Done Import Options Preview Import Import	😽 Data Recorders	Sensor Templates	👤 Sens	or Database	🔗 Groups
Import Options Preview Import	Done				
Options Preview Import	Import				
Options Preview Import		<< Done			
Preview Import	Options				
Import	Preview				
	Import				

12. To edit a group, double-click on the group –or– select the group and select "Edit" (see steps 3-7):

Check	(Trigger	🔄 Quick Ch	eckout 🛛	Run Test	也 Download Data	🔎 Vie
😤 Data	a Recorders	💿 Sei	nsor Templates	👤 Sensor Data	base	🔗 Groups
Refresh Add	Edit Import D	elete Copy				
Groups		Sea	rch			
Name 💌	Description 💌	Channels 💌	Last modified by	Last modified 💌	Associated Test Setu	ps 🔻
Name Group_3	Description 💌	Channels 💌 9	Last modified by	Last modified 1/21/2020 12:01:15 PM	Associated Test Setu	ps 🔻

_

13. To delete a group from the database, select the group from the list, select "Delete" and then "Yes" to confirm:

👼 DataPRO - (Groups						
🙎 Chec	k Trigger	🔄 Quick Cł	neckout	° ⁰ Run 1	Test	也 Download Data	P 1
😤 Dat	a Recorders	🔊 Se	nsor Templates		📃 Sensor Data	base	🔗 Groups
Refresh Add	Edit Import D	Delete Copy					
Groups		Sea	arch				
Name 💌	Description 💌	Channels 🔻	Last modified I	by 💌 L	ast modified 💌	Associated Test Setu	ips 💌
Group_3		9		1/21/	2020 12:01:15 PM		
Group 1	Sample Group	12	Admin	1/21/	2020 11:56:07 AM	Example Test Setup	,
			Are you sure y	ou want to d	elete?		
		Vor			No		

14. To copy a group, select the group to copy and select Copy:

👼 DataPRO - Groups - [Exampl	e Test Setup]			
🕺 Check Trigger	🚾 Quick Checkout	👓 Run Test	📥 Download	Data 🖉 View
😤 Data Recorders	Sensor Templates	🛄 Sensor	Database	🔗 Groups
Refresh Add Edit Import	Delete Copy			
Groups	Search			
Name 💌 Description 💌	Channels 💌 Last modified	by 💌 Last modified	 Associated 1 	Test Setups 💌
Group 1 🗲 🗕	12	1/21/2020 11:56:0	7 AM Example Tes	st Setup

a. Enter a new Name and optionally enter a Description and Tag(s):

👹 DataPRO - Add Group:				
Check Trigger	🚾 Quick Checkout	Run Test	📥 Download Data	a 🛛 🔎 View
Pata Recorders	💿 Sensor Templa	tes 📃 Sens	or Database	🔗 Groups
Done Save Discover hardware				
Groups				
	<< Name			—
Info	Description			•
	Description			
Hardware	Tags			
Channels	Tests Using	Example Test Setup		
Parameters				

- b. Select Save to save the new group to the database.
- 15. To return to the Quick Start Steps, click *here* (page 17).

Test Setups: Add, Edit, Refresh, Import, Export, Delete, Copy

Test Setups are collections of measurement channels, hardware and recording parameters used for data collection. Test Setups can contain existing predefined "Groups" or dynamic groups; random collections of measurement locations and sensors. Each Test Setup can be used for multiple data collection events. (See *Groups: Add, Import, Edit, Delete, Copy*, page 38 for instructions on creating a Group).

The steps and images below are for a "Record in Place" test, where data is stored on the internal flash memory of the DAS. For information on configuring SLICE6 AIR DAS for a Streaming test, see *Appendix I: Setting up SLICE6 AIR*, page 209.

To add a test setup, start at step 1. To edit a test setup, go to step 14. To copy a test setup, go to step 15. To delete a test setup, go to step 16. To import a test setup, go to step 17. To export a test setup, go to step 18. To change the current/default test setup, go to step 19. To update latest SQL Server Test Setup settings, go to step 20.

1. Select the "Test Setups" tab:



2. Select "Add" to create a new test setup:

體	DataPRO - Test Setups							
	Check Trigger	🚾 Quick Checkout	👓 Run Test	🗖 Download	Data	🔎 View Dat	a	👛 Export Da
	😽 Data Recorders	Sensor Templates	👤 Sens	or Database	1	Groups	🧠 T	Test Setups
A	dd Import Export Refresh							
Te	est Setups	Search						

- 🧮 DataPRO Add Test Set Additional Detail Check Trigger Quick Checkout Run Test Download Data
 View Data
 Export Data
 base
 Groups
 Groups
 Test Setups System Set Done Save Create summary Discover hardware Run Test Check Channels Pull sensor parameter Test Setups Test info Test Details Test Setup name Description Groups Recording mode Circular buffe . Hardware Samples per second 10.000 • Pre-trigger second(s) 1.0000 Channels Post-trigger second(s) 1.0000 Parameters Set DAS to Streaming 1 Download region of interest (ROI) Level triggers ROI period start (sec) -1.000 Calculated channels ROI period end (sec) 1.000 Graphs View ROI 1 ISO export \checkmark Download all View all Diagnostic optic Realtime opti Realtime option
 Export options Arm checklist
 Upload options
- 3. The Info navstep contains the test parameters. All fields in red must be completed:

- a. The default settings for test parameters can be set in the *System Settings* tab (page 122).
- NOTE: Level triggers and Calculated channels are optional navsteps that must be enabled in System Settings.
 - b. Use the arrows to expand/collapse each section menu:

outo necoluers	Sensor Templates	Sensor Database	Groups	Test Seture	Additional Details	Check Channels
gave Create summary Discov	over hardware Run Test Check Channels Pull sensor parar		cicups	i i storops		Crick Charmela
Setups						
	 Test info 			Test Details		
	Test Setup name			ngs		
105	Description			alibration Behavior	Use non-linear sen	sitivity, if available 🛛 👻
ps -	Recording mode	Circular buffer	*	uppress missing sensors warning	\checkmark	
ware	Samples per second	10,000	*	uppress quit test warning		
mals	Pre-trigger second(s)	1.0000	:	leal-time: suppress view all channels warnin	9	
ineis	Post-trigger second(s)	1.0000	:	/iewer: suppress view all channels warning		
meters	Set DAS to Streaming			heck Trigger step	\checkmark	
be	Download region of interest (ROI)	\checkmark	0	ommon status line	\checkmark	
115	ROI period start (sec) -1.000	:	(ab details		
export	ROI period end (sec) 1.000	:		au details		
				ustomer details		
	View 201			est engineer details Varn on mission or failed hatten		
	View ROI	~	`	vani on missing of laned battery		
	View all	V				
	Diagnostic options		(v	Realtime options		
	Arm checklist			Export options		

c. Test info:

Test info		
Test Setup name		
Description		
Recording mode	Circular buffer	•
Samples per second	10,000	•
Pre-trigger second(s)	1.0000	:
Post-trigger second(s)	1.0000	1
Set DAS to Streaming		
Download region of interest (ROI)	\checkmark	
ROI period start (sec) -1.000	:	
ROI period end (sec) 1.000	:	
+		
View ROI	\checkmark	
Download all	\checkmark	
View all		

- i. **Test Setup name**: Name to identify Test Setup. (Each data collection event will have an additional, unique Test ID).
- ii. **Description**: Optional description of Test Setup.
- iii. Recording mode: Default recording mode options are Circular Buffer and Recorder Mode. Optional Hybrid Record mode can be turned on in System Settings (See *Data Collection Concepts* page 9, for more information on recording modes. See *System Settings* page 122, to enable Advanced Recording Options).
- iv. Samples per second: Choose from options in list to set one sample rate for all DAS in the Test Setup. If DAS in Test Setup have different sample rates, "Multiple" will be displayed. See *Hardware*, page 56, for more information on selecting multiple sample rates.
- v. **Pre-trigger second(s)**: The amount of data (in seconds) to be collected pre-trigger. Only applies to Circular Buffer Mode.
- vi. **Post-trigger second(s)**: The amount of data (in seconds) to be collected post-trigger.
- vii. **Set DAS to Streaming**: If enabled, SLICE6 AIR DAS will be configured to stream data when armed (See *System Settings*, page 122, to enable Streaming Mode).
- viii. **Download region of interest (ROI)**: A period of time within the full dataset that contains the dynamic test data. Must be enabled in System Settings. If enabled, DataPRO will download a dataset containing only the time window indicated as the ROI.
 - \circ Use the plus sign (+) to add additional ROI segments to the test setup.
 - Use the minus sign (-) to remove ROI segments from the test setup.
- NOTE: If additional Regions of Interest are added, an "ROI x Channels" navstep will be present to allow the user to select which channels to include in each ROI.
 - ix. ROI period start (sec): Defines the amount of time pre-trigger to begin the ROI.
 Define ROI period Start for each included segment.

- x. **ROI period end (sec)**: Defines the amount of time post-trigger to end the ROI.
 - Define ROI period end for each included segment.
 View ROI: If enabled data collection process will include a na
- xi. **View ROI**: If enabled, data collection process will include a navstep to view the ROI.
- xii. **Download All**: If enabled, DataPRO will download a dataset containing the full dataset defined in Recording Options.
- xiii. **View All**: If enabled, data collection process will include a navstep to view the full dataset.

d. Test Details:

 Test Details 		
Tags		
Calibration Behavior	Use non-linear sensitivity, if avail:	•
Suppress missing sensors warning	\checkmark	
Suppress quit test warning		
Real-time: suppress view all channels warning		
Viewer: suppress view all channels warning		
Check Trigger step	\checkmark	
Common status line	\checkmark	
Automatic mode		
Lab details		•
Customer details		•
Test engineer details		•
Warn on missing or failed battery		

- i. **Tags**: Can be used to filter display/access to Test Setups. Must correspond to tags used in User Profiles.
- ii. **Calibration Behavior**: Select how to collect data from non-linear sensors that also have linear sensitivities.
 - Always use linear sensitivity: Only collect data using the linear sensitivity, regardless of non-linear sensitivity entry.
 - Use non-linear sensitivity, if available: Collect data with the non-linear sensitivity.
 - Use both sensitivities, if available, as separate channels: Collect two data channels for each sensor; one for the non-linear sensitivity and one for the linear sensitivity.
- iii. **Suppress missing sensors warning**: If enabled, DataPRO will allow user to progress without warning if not all sensors are found/channels resolved at Check Sensor ID step.
- iv. **Suppress quit test warning**: If enabled, DataPRO will not warn if user selects "Done" before completing all steps of a data collection event.
- v. **Real-time: suppress view all channels warning**: If enabled, DataPRO will not warn if user does not view Realtime output from all channels in a test setup.
- vi. Viewer: suppress view all channels warning: If enabled, DataPRO will not warn if user does not review data collected from all channels in a test.
- vii. Check Trigger step: Select to include a trigger check during data collection event.

viii. **Common status line**: Select if all DAS shares same communication path to PC. A typical non-common status line would be a vehicle test that includes a mobile barrier.

NOTE: Tests that have multiple sample rates cannot have a common status line.

- ix. **Automatic Mode**: Select to automatically progress through data collection sequence. If selected, define an optional delay before DataPRO progresses to the next step.
- x. Lab details: Select Lab Details record from list (See Lab Details, page 68). Lab Details can be modified if a record is selected, or manually entered if no records exist.
- xi. **Customer details**: Select Customer Details record from list (See *Customer Details*, page 69). Customer Details can be modified if a record is selected, or manually entered if no records exist.
- xii. **Test Engineer details**: Select Engineer Details record (See *Engineer Details*, page 69). Engineer Details can be modified if a record is selected, or manually entered if no records exist.
- xiii. **Warn on missing or failed battery**: If selected, DataPRO will alert user if SLICE Nano DAS battery is missing or if measured voltage is outside thresholds set in System Settings (See *Power Settings*, page 139).
- e. Diagnostic options:

🕑 Diagnostic options 🛛 ————		
Require all units pass diagnostics	\checkmark	
Require user confirmation on errors	\checkmark	
Allow missing sensors		
Require id found for sensors with ids		
Prepare Hardware delay second(s)	6.0	÷
Run post-test diagnostics on analog channels		

- i. **Require all units pass diagnostics**: If enabled, DataPRO will not advance beyond Diagnostics navstep if any channels fail or if measured DAS voltage is outside thresholds set in System Settings.
- ii. **Require user confirmation on errors**: If enabled, DataPRO will require user confirmation in order to progress if any errors are detected.
- iii. **Allow missing sensors**: If enabled, DataPRO will allow user to progress if sensors in Test Setup still require hardware channel assignments.
- iv. **Require id found for sensors**: If enabled, DataPRO will require the EID to be detected for any sensor that has an EID listed in the sensor database.
- v. **Prepare hardware delay second(s)**: Optional delay at the start of Diagnostics for sensor/hardware warm up.
- vi. **Run post-test diagnostics on analog channels**: If enabled, Post-Test Diagnostics will be included as a step in data collection process. For tests that include TDAS G5 DAS, pre-test diagnostics will be displayed.

f. Realtime options:

Realtime options		
Show realtime		
Number of graphs	6	•

- i. **Show Realtime**: If enabled, Realtime navstep will be included in data collection process.
- ii. **Number of graphs**: Select to display 1, 3 or 6 separate charts at Realtime landing. This can be changed from Realtime navstep.
- g. **Arm checklist:** The Arm Checklist is automatically added and required to pass for tests that include a TOM. This behavior can be changed by modifying the configuration file (See the DataPRO Settings manual for information regarding making changes to the config file):

🖉 Arm chacklist 🔤		
	_	
Perform arm checklist	\checkmark	
Check battery voltage	\checkmark	
Check input voltage	\checkmark	
Check squib resistance	\checkmark	
Check sensor ids	\checkmark	
Check start/event line(s)	\checkmark	
Check tilt sensor(s)	\checkmark	
Check temperature	\checkmark	
Require all units pass arm checklist		

- i. **Perform arm checklist**: If enabled, DataPRO will perform Arm Checklist during data collection. Arm checklist test options will only be displayed if Arm Checklist is enabled.
- ii. **Check battery voltage**: If enabled, Arm Checklist will include battery voltage measurement. Arm Checklist will fail if measured battery voltage is outside thresholds set in *System Settings* (See page 122).
- iii. **Check input voltage**: If enabled, Arm Checklist will include input voltage measurement. Arm Checklist will fail if measured input voltage is outside thresholds set in *System Settings* (See page 122).
- iv. Check squib resistance: If enabled, Arm Checklist will include squib resistance check on TOM channels. Arm Checklist will fail if measured squib resistance is outside threshold set in Sensor Database (See page 30).
- v. **Check sensor ids**: If enabled, Arm Checklist will include sensor ID check. Arm Checklist will fail if expected IDs are not found.
- vi. **Check start/event line(s)**: If enabled, Arm Checklist will include check of start/event status lines. Arm Checklist will fail if DataPRO detects a short on either.
- vii. **Check tilt sensor(s)**: If enabled, Arm Checklist will include check of SLICE6 tilt sensor(s). Measured values will only be displayed.
- viii. Check temperature: If enabled, Arm Checklist will include check of SLICE6 temperature. Measured values will only be displayed.

- ix. **Require all units pass arm checklist**: If enabled, DataPRO will not progress to Arm System if any faults are detected in any tests included in Arm Checklist.
- NOTE: Squib resistance failure will prevent progressing to Arm navstep regardless of "Require all units to pass arm checklist" setting.
 - h. Export options:



- i. **Export data**: If enabled, DataPRO will export a data set in each of the selected format(s). Raw data is always downloaded.
- ii. CSV: All test data is contained in one Comma Separated Variable file.
- iii. **DIAdem**: Data format comprised of one .dat header file for the test and one binary file for each channel in the test.
- iv. **ISO**: Data format that follows the ISO-TS 13499 requirements.
- v. **SoMat**: Data format compatible with SoMat DAQ.
- vi. **TDAS**: Data format compatible with TDAS Control.
- vii. TTS: Customer specific data format.
- viii. **TSV**: All test data is contained in one Tab Separated Value file.
- ix. RDF: Customer specific data format.
- x. **TDMS**: Data format that follows the TDM Streaming file format.
- xi. DDAS: Customer specific data format.
- xii. **HDF**: Hierarchical Data Format; designed to store and organize large amounts of data.
- xiii. Excel (xlsx): Data format compatible with Microsoft Excel.
- i. Upload options:

O Upload options		
Upload data	\checkmark	
Upload folder		Browse
Upload Export file(s) only		

- i. **Upload data**: If enabled, collected data will be uploaded to a specified location during the data collection process. Data will still be downloaded to the default location (*C*:*DTS**DTS*.*Suite**Data*), or other location defined in the configuration file.
- ii. **Upload folder**: File location for collected data to be uploaded to during data collection process.
- iii. Upload Export file(s) only: If enabled, will upload only data export files.
- 4. Select the **Groups** navstep to add groups to the Test Setup:

Check Trigger	Cuick Checkout	Run Test	😃 Download Data	🔎 View Data 🔤 E	xport Data 🔂 Manage User	rs 🛛 🔀 System Sett
😵 Data Recorders	Sensor Templates	🛄 Sensor Dat	abase 🔗 Grou	ps Setups	👤 Additional Details	Check Channe
Done <u>S</u> ave Create summary	Discover hardware Run Test Check	Channels Pull sensor paramete	rs			
Test Setups	Search					
Info	<< Add Group					
Groups	Groups in test				Available groups	
Hardware	Group_3		1		Group 1 12 Channel(s)	
			-		Sample Group	
Channels	Test object ?	-				
Parameters	Position ?		Remove group			
Lough triggers						

- a. Add pre-defined groups to the "Groups in test" by selecting "Add" for the appropriate available group.
 - i. If using ISO Codes, enter/update the Test Object and Position for each group that has been added. Test Object and Position can be modified per channel in the Channels navstep; "Mixed" will be displayed if a single group contains multiple values.
- b. Remove a group from a test by selecting "Remove group" for the appropriate group. Pre-defined groups will be returned to the list of Available Groups.
- c. A temporary, dynamic group can be added by selecting "Add Group" or by adding additional channels in the Channels navstep and assigning a group name to these added channels:

Check Trigger	Course Checkout	👓 Run Test	😃 Download	d Data	🔎 View Data	👛 Expo
😤 Data Recorders	Sensor Templates	📃 Sen	sor Database	🔗 Group	5	Test Setups
one <u>S</u> ave Create summary [Discover hardware Run Test Check	Channels Pull sensor pi	arameters			
est Setups	Search					
nfo	Add Group					
Groups	Groups in test					
lardware	Group_3			1		
hannels	2			•		
arameters	Position ?			Remove group		
evel triagers				-		
eventinggers				2 🗸		
alculated channels	Test object ?					
Graphs	Position ?			Remove group		

i. Use the arrows to change the order of groups in the test setup.

Check Trigger	Contract Check	cout 💿	Run Test 📃 🗠 Do	ownload Data 🛛 🖉 V	iew Data	👛 Export Data	🕵 Manage Us	ers 🚦	System Setti
🔡 Data Recorders	Senso	or Templates	👤 Sensor Database	🔗 Groups	S. 1	Test Setups	👤 Additional Details		Check Channe
Done Save Create summary	Discover hardware R	un Test Check Channel	s Pull sensor parameters						
Test Setups	Searc								
	< -	Even and a start							
Info	_	expanded							
	N N	Serial Number	Type 🔽	Channels 💌	Firmware 💌	Max Sample Rate	Test Sample Rate	Cal Date 💌	Cal Due Date
Groups		BA51253	SLICE+	15 Analog	B1F4	200,000		4/29/2019	4/28/2020
Hardware		SPD00999	SLICE PRO DIM	18 Digital input	A1J4	600,000		4/7/2016	4/7/2017
	~	SPE00150	SLICE Ethernet Controller	18 Analog,4 Squib,8 Digital out	B0B3	600,000	10,000 💌	5/15/2019	5/14/2020
Channels		SPS00999	SLICE PRO SIM	18 Analog	A1J4	600,000		4/7/2016	4/7/2017
Development		SPT00999	SLICE PRO TOM	4 Souib 8 Digital out	D0D7	600.000		4/7/2016	4/7/2017

5. Select the Hardware navstep to add DAS to the test setup:

- a. Any hardware that is assigned to a pre-defined group that is included in the 'Groups in test' will automatically be added to the Test Setup.
- b. Additional DAS can be added by selecting the appropriate check box in the Included column, or by selecting "Discover hardware" (See *Appendix C: Discover Hardware*, page 156, for more information).
- c. Select "Expanded" to display all selectable DAS units or "Compact" to display DAS systems and individual units that are not configured with a DAS system.

Comp	pact Expanded							
	Serial Number 💌	Туре	Channels 🔻	Firmware 🔻	Max Sample Rate 💌	Test Sample Rate 💌	Cal Date 🔻	Cal Due Date 🔻
	BA51253	SLICE+	15 Analog	B1F4	200,000		4/29/2019	4/28/2020
	SPD00999	SLICE PRO DIM	18 Digital input	A1J4	600,000		4/7/2016	4/7/2017
\checkmark	SPE00150	SLICE Ethernet Controller		B0B3			5/15/2019	5/14/2020
\checkmark	SPS00331	SLICE PRO SIM	18 Analog	A1Q1	600,000	10,000 💌	5/15/2019	5/14/2020
	SPS00999	SLICE PRO SIM	18 Analog	A1J4	600,000		4/7/2016	4/7/2017
\checkmark	SPT00107	SLICE PRO TOM	4 Squib,8 Digital out	DOLO	1,000,000	10,000 💌	5/15/2019	5/14/2020
	SPT00999	SLICE PRO TOM	4 Squib,8 Digital out	D0D7	600,000		4/7/2016	4/7/2017

- i. Selectable DAS Units are SLICE PRO Modules (ECM, SIM, DIM, TOM), SLICE Micro/Nano/IP68 Base/Base+, SLICE/SLICE6/SLICE6 AIR Distributor, TDAS PRO Rack, TDAS G5 or TDAS G5/VDS.
- ii. A DAS system is a SLICE Micro/Nano/IP68 stack, SLICE PRO or TDAS Rack, integrated SLICE/SLICE6 system with a Distributor.

🙎 Check Trigger	C Quick Checkout	🗠 Run Test 🛛 🗖 Downlo	ad Data 📃 View Dat	n 🗠 Export E	Data 🗾 🚺 Ma	anage Users	🔀 System Setting	gs
🚰 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups	🥵 Test Setups	🙎 Additional	Details	Check Channels	5
Done <u>S</u> ave Create summary I	Discover hardware Run Test Check Chan	nels Pull sensor parameters						
Test Setups								
	Channel List			 Sensors Avai 	lable			
Info	Search		Show bottom row	Search			Assigned	
Groups	12 channel(s) in test 6 of 3 TOP	Remove Sensor Delete		Unassigned	All	Online		
Hardware	Group] ISO (13499)	code 🔻 ISO char	nel ni Analog Squib Sett	ings Digital Input Settin	ngs Digital Output Settin	qs	
Channels	Test channels	10BUMPFRCG00ACXB	Bumper Front Cent	er AX Serial Number 🔻	Name 🔻 IEPE	E 💌 Capacity (EU) 💌	Units 🔻	Out Of Dat
Channels	Test channels	10BUMPFRRT00ACXB	Bumper Front Right	AX 2kg033	Upper Neck Fx	2,000.00	g	
Analog	Test channels	10BUMPFRLT00ACXB	Bumper Front Left /	2kg034	Upper Neck Fx	2,000.00	g	
Digital In	Group_3	11NECKUP00H3FOX?	Neck Upper Force)	2kg035	Upper Neck Fy	2,000.00	g	
Squib	Group_3	11NECKUP00H3FOY?	Neck Upper Force 1	2kg040	Upper Neck Fz	2,000.00	q	
Digital Out	Group_3	11NECKUP00H3FOZ?	Neck Upper Force 2	•				1
All	Group_3	11HEAD0000H3ACX?	Head Accel AX	Aardware -				
	Group_3	11HEAD0000H3ACY?	Head Accel AY	Search				
Parameters	Group_3	11HEAD0000H3ACZ?	Head Accel AZ	DAS	CH #	Туре	Char	nnel
Level triggers	Group_3	11HEAD0000H3AVX?	Head Angular Rate	WX SPE00150:SPS00331	[SPE00150:SPS00331]	CH-15 Bridge/IEPE		-
Colorilated also and	Group_3	11HEAD0000H3AVY?	Head Angular Rate	WY SPE00150:SPS00331	[SPE00150:SPS00331] (CH-16 Bridge/IEPE	Neck Upper	Force X
Calculated channels	Group_3	11HEAD0000H3AVZ?	Head Angular Rate	WZ SPE00150:SP500551	[SPE00150:SP500351]	CH-17 Bridge/IEPE	Neck Upper I	Force 7
Graphs				SPE00150:SPT00107	[SPE00150-SPT00107]	SO-01 Squib		force 2
ISO export	•			SPE00150:SPT00107	[SPE00150:SPT00107]	SQ-02 Squib		
150 export	Drag and drop sen Drag a squib or die	sors or hardware here to create new sital output hardware channel to crea	channels te a squib or digital output setting	SPE00150:SPT00107	[SPE00150:SPT00107]	SQ-03 Squib		
	and a select of	Highlighted cells will use ID for		SPEO0150-SPT00107	ISPEND150-SPT001071	sn-n4 Souib		
		ringringrited cells will dise to for a	and the second se					

6. The **Channels** navstep lists the sensors and channels included in the Test Setup:

- a. The controls of the Channels navstep in Test Setup are the same as the controls for the Channels navstep in Group (See *Groups: Add, Import, Edit, Delete, Copy*, page 38, for more information).
- 7. The **ROI x Channels** navstep will only be present if there are multiple Regions of Interest included in the Test Setup:

🔼 Check Trigger	🚾 Quick Checkout	👓 Run Test	🕹 Download	d Data	🔎 View Data	👛 Export Data	. <u>s</u>	Manage Users	🐷 System	Settings
👑 Data Recorders	Sensor Templates	👤 Se	ensor Database	📝 Groups		Setups	🙎 Addition	nal Details	😑 Check Ch	annels
one <u>S</u> ave Create summary Disco	over hardware Run Test Check C	hannels Pull sensor parar	meters							
est Setups										
	🔄 Region of Int	erest Channel	Assianments -							
nto	Group Name 🔻	ISO Code 🔻	ISO Channel Name 🔻	Serial Number 🔻	Sensor Name 🔻	DAS Serial Number 🔻	Sample Rate 🔻	Display Units 🔻	_ROI Period 1	_ROI Period 2
Groups	Test channels	10BUMPFRCG00ACXB	Bumper Front Center A	BP027	Bridge Plug	SPS00331	10000	9	\checkmark	
-	Test channels	10BUMPFRRT00ACXB	Bumper Front Right AX	BP028	Bridge Plug	SPS00331	10000	9	\checkmark	
lardware	Test channels	10BUMPFRLT00ACXB	Bumper Front Left AX	BP029	Bridge Plug	SPS00331	10000	9	\checkmark	
Thannels	Group_3	11NECKUP00H3FOX?	Neck Upper Force X	2kg033	Upper Neck Fx	N/A	N/A	9	\checkmark	
OL v Channels	Group_3	11NECKUP00H3FOY?	Neck Upper Force Y	2kg034	Upper Neck Fx	SPS00331	10000	9	\checkmark	
	Group_3	11NECKUP00H3FOZ?	Neck Upper Force Z	2kg035	Upper Neck Fy	SPS00331	10000	9	\checkmark	
Parameters	Group_3	11HEAD0000H3ACX?	Head Accel AX	6DX0082 AC1	6DX0082 AC-1	N/A	N/A	9	\checkmark	
evel triggers	Group_3	11HEAD0000H3ACY?	Head Accel AY	6DX0082 AC2	6DX0082 AC-2	N/A	N/A	9	\checkmark	
ever anggers	Group_3	11HEAD0000H3ACZ?	Head Accel AZ	6DX0082 AC3	6DX0082 AC-3	N/A	N/A	9	\checkmark	
Calculated channels	Group_3	11HEAD0000H3AVX?	Head Angular Rate WX	6DX0082 AR1	6DX0082 AR-1	N/A	N/A	deg/s	\checkmark	
Graphs	Group_3	11HEAD0000H3AVY?	Head Angular Rate WY	6DX0082 AR2	6DX0082 AR-2	N/A	N/A	deg/s	\checkmark	
	Group_3	11HEAD0000H3AVZ?	Head Angular Rate WZ	6DX0082 AR3	6DX0082 AR-3	N/A	N/A	deg/s	\checkmark	

- a. Select channels to be included in each ROI segment.
- b. Selection can be modified prior to ROI Download.
- c. Every channel must be included in at least one ROI segment.

8. The **Parameters** navstep allows for modifications to certain channel parameters. These changes apply only to the Test Setup. Select channel type to display with sub navsteps (See *Appendix A: Common Sensor Types and Bridge Connections*, page 143, for more information about different sensor types and options during sensor entry).

Check Tr	rigger 🛛	Quick Chec	kout	👓 Run Test	🗠 Downloa	d Data	🔎 View Dati	а	🖆 Expo	rt Data 🛛 💈	Manage Users	😣 System	Settings	
😵 Data R	lecorders	💿 Sens	or Templates		Sensor Database	R	Groups	2	Test Setups	🙎 Additi	onal Details	Check C	hannels	
ne <u>S</u> ave Cr	reate summary Discov	er hardware	Run Test Check Ci	hannels Pull senso	or parameters									
st Setups														
Analog	Squib D	ligital out	Digital in	Modify glob	al range CAC									
•	Sensor (SN)	•	Range (CAC)	Capacity 🔻	Sensitivity 💌	Units 💌	Channel filter class	•	Polarity 🔻	Zero Method 🔻	Start (sec) 💌	End (sec) 🔻	Initial offset	•
	Bridge Plug (BP027))	2,000.00	2,000.00	0.02000000 mV/V/EU	g	CFC 600 (B)	•	• •	Avg over time	-0.05000	-0.02000 🗘	None	Ŧ
	Bridge Plug (BP028))	2,000.00	2,000.00	0.02000000 mV/V/EU	9	CFC 600 (B)	•	• •	Avg over time	-0.05000	-0.02000	None	Ŧ
	Bridge Plug (BP029))	2,000.00	2,000.00	0.02000000 mV/V/EU	9	CFC 600 (B)	*	+ *	Avg over time	-0.05000	-0.02000	None	¥
	Upper Neck Fx (2kg	033)	1,000.00	2,000.00	0.00042000 mV/V/EU	g	CFC 1000 (A)	Ŧ	. *	Avg over time	-0.05000	-0.02000	None	¥
	Upper Neck Fx (2kg	034)	1,000.00	2,000.00	0.00042000 mV/V/EU	g	CFC 1000 (A)	•		Avg over time	-0.05000	-0.02000	None	v
	Upper Neck Fy (2kg	035)	1,000.00	2,000.00	0.00040500 mV/V/EU	g	CFC 1000 (A)	•	. 🔻	Avg over time	-0.05000	-0.02000	None	Ŧ
	6DX0082 AC-1 (6D)	(0082 AC1)	2,000.00	2,000.00	0.01755000 mV/V/EU	g	CFC 1000 (A)	Ŧ	• •	Avg over time	-0.05000	-0.02000 🛟	EU	
	6DX0082 AC-2 (6D)	(0082 AC2)	2,000.00	2,000.00	-0.01700000 mV/V/EU	g	CFC 1000 (A)	•	• •	Avg over time	-0.05000 🗘	-0.02000 🛟		Ŧ
	6DX0082 AC-3 (6D)	(0082 AC3)	2,000.00	2,000.00	0.01825000 mV/V/EU	9	CFC 1000 (A)	*	. 🔻	Avg over time	-0.05000	-0.02000 🗘		¥
	6DX0082 AR-1 (6DX	(0082 AR1)	300.00	18,000.00	0.09440000 mV/EU	deg/s	CFC 1000 (A)	*	÷ •	Avg over time	-0.05000	-0.02000 🛟		۲
	6DX0082 AR-2 (6DX	(0082 AR2)	300.00	18,000.00	0.09370000 mV/EU	deg/s	CFC 1000 (A)	Ŧ	. .	Avg over time	-0.05000	-0.02000 🕻		Ŧ
	6DX0082 AR-3 (6D)	(0082 AR3)	300.00	18,000.00	-0.09456000 mV/EU	deg/s	CFC 1000 (A)	Ŧ	. 🔻	Avg over time	-0.05000	-0.02000 🗘		
4														

a. Analog Channels:

- i. Modify Range, Channel Filter Class, Polarity, Software Zero Method, Average Over Time Start/End and Initial Offset for individual Analog channels.
- ii. Select Modify Global Range CAC to modify the range for all Analog Channels based on High, Medium, Low Range and Capacity settings in Sensor Database.
- NOTE: If "Allow push/pull of sensors" is enabled, any difference from the Sensor Database will be indicated in orange. See System Settings, page 122, for more information.
 - b. Squib Channels:

뿽	DataPRO - Edit T	est Setup: Exan	nple Test Setup (modified)						– o ×
	🙎 Check Trig	gger	C Quick Checkout	😳 Run Test 🔛 Dov	vnload Data	🔎 View Data	😐 Export Data	🚺 Manage Use	ers 🛛 🔯 System Settings
	😤 Data Rei	corders	Sensor Templates	👤 Sensor Database	🔗 Group	os 🥵 T	Test Setups	🙎 Additional Details	📔 Check Channels
Do	ine <u>S</u> ave Crea	ate summary (Discover hardware Run Test Chec	k Channels					
Тс	et Setune								
	st setups								
>>	Analog	Squib	Digital out Digital in						
	Order 💌	Group 🔻	ISO (13499) code 🔻	ISO channel name 🔻	Sensor (SN) 💌	Fire mode 🔻	Delay (ms)	 Limit duration 	Duration (ms) 💌 Current (A) 💌
	007	Group 1	11AIRBFRLE01CU00	Standard Front Airbag Primary	Squib	Capacitor discharge	▼ 17.00	: 🗸	10.0
	008	Group 1	11AIRBFRLE02CU00	Standard Front Airbag Secondary	Squib	Capacitor discharge	▼ 20.00	: 🗸	10.0

i. Change Fire Mode, Delay, Limit Duration, Duration and Current (if applicable based on fire mode).

c. Digital Output Channels:

Check Tri	igger	Quick Checkout	😳 Run Test 🔛 Dov	wnload Data	🔎 View Data 🔷 Exp	ort Data	🔁 Manage Users	System Settings
😵 Data Re	ecorders	Sensor Templates	Sensor Database	🔗 Groups	s Setups	. 👤	Additional Details	Check Channels
one <u>S</u> ave Cre	eate summary 🛛 🕻	Discover hardware Run Test Chec	k Channels					
est Setups								
Analog	Squib	Digital out Digital in						
Order 💌	Group 🔻	ISO (13499) code 💌	ISO channel name	Sensor (SN) 💌	Output mode	Delay (ms) 🔻	Limit duration	Duration (ms)
Order 💌 009	Group 💌	ISO (13499) code 💌	ISO channel name 💌 T=0 Strobe	Sensor (SN) 💌 Digital output	Output mode SV low to high transition	Delay (ms)	Limit duration 💌	Duration (ms)

- i. Modify Output mode, Delay, Limit duration and Duration.
- d. Digital Input Channels:

曹	DataPRO - Edit T	est Setup: Example Test S	etup (modified)					- 0	×
	🙎 Check Trig	iger 🔂 🔁 Qu	iick Checkout	🗠 Run Test 🔛 Download Data	🔎 View Data	🖆 Export Data	🔼 Manage Users	🐱 System Settings	=
	😵 Data Rec	orders	Sensor Templates	Sensor Database	🔗 Groups	💁 Test Setups	Additional Details	📔 Check Channels	
D	one <u>S</u> ave Crea	te summary Discover har	dware Run Test Check Chan	nels					
Te	est Setups								
>>	Analog	Squib Digital	out Digital in						
	Order 💌	Group 💌	ISO (13499) code 💌	ISO channel name 💌	Sensor (SN) 💌	Input mode 💌	Default value 🔹 Active value	·	
	013	Test channels	11FRAMCG01000000	Frame Center Initial Contact	DI01	Contact closure normally open	0 1		
	014	Test channels	11FRAMCG02000000	Frame Center Second Contact	DI02	Contact closure normally open	0 1		

- i. Change Input mode, Default Value and Active Value.
- 9. In order to designate a channel as a **Level Trigger**, the Level Trigger option must be enabled in System Settings (See *System Settings*, page 122, for more information):

🖉 DataPRO - Edit Test Setup: Exa	ample Test Setup						- 0	×
Check Trigger	Quick Checkout	👓 Run Test	🖆 Download Data	🔎 View Data	🖆 Export Data	🔼 Manage Users	🔀 System Settings	Ξ
😤 Data Recorders	Sensor Templates	📃 Senso	r Database	🔗 Groups	Test Setups	👤 Additional Details	📔 Check Channels	
Done Save Create summary	Discover hardware Run Test Check C	hannels						
Test Setups								
	Warning! The use of	Level-trigger is not rec	ommended for destructive te	sting.				
Info	Existing trig	ger channel(s)	Availabl	e channel(s)			
Groups			-,					
	Group 1 6	DX0082 AC1 (6DX0082	AC-1) Remove	Group 1 6	DX0082 AC2 (6DX0082 AC-2)	Add		
Hardware	Device channe Sensor informatio	E [BA51253:BR51890] C	CH-01	Head Acc	eleration 7			
Channels	Maximum rang	e 2000 g	162 AC-1)	Group 1 6	DX0082 AC3 (6DX0082 AC-3)	Add		
Demonstern	Zero metho	d Average over time fro	om -0.05 to -0.02					
Parameters	Option	S Above or below	Only below Only abo	ve				
Level triggers		+/- 2400 g	0.00 角 g 0.00	🗎 g				

- a. A level trigger will initiate data collection or mark T=0 when a predetermined sensor threshold is exceeded. Five (5) consecutive samples at or above the specified threshold is required for the level trigger to be considered valid.
- b. Only channels with hardware channel assignments will be listed as Available channels to designate as a level trigger.
 - i. Channels must be manually assigned to a hardware channel or discovered by EID in order to be listed as an Available channel.

NOTE: DTS does not recommend using a level trigger for destructive testing.

NOTE: When using level triggers, allow adequate time for sensors to warm up before performing a diagnostic checkout, as sensors may drift from the measured zero level.

- c. To designate a channel as a level trigger, select Add.
- d. Select Triggering option (Above or below, Above only, or Below only).
 - i. Available triggering options depend on hardware connection.
- e. Enter trigger threshold value.
- f. Select Save to save level trigger to Test Setup.
- 10. In order to add **Calculated Channels** to a Test Setup, the Calculated channels option must be enabled in System Settings to add Calculated Channels to Test Setup (See *System Settings*, page 122, for more information). Calculated Channels can also be added in the data viewer.

👹 DataPRO - Edit Test Setup: Example Test Set	tup							- 0	\times
Check Trigger Quic	ck Checkout 🔹 Run T Sensor Templates	lest Down	nload Data	P View Data	Export Setups	t Data	Manage Users ditional Details	System Settings	=
Done Save Create summary Discover hardw	ware Run Test Check Channels								
Test Setups									
Info	Existing calculation	ns Add	Name Operator	SUM - Head Accele	eration 👻	Serial number	BA51253	<u>a</u> ~	^
Groups Hardware	Head Acceleration X (?? HEAD0000H3ACXA), Head Acceleration Y (??HEAD0000	H3ACY?),	Input Chan	nels			Available	e channel(s)	
Channels Parameters	Head Acceleration Z (?? HEAD0000H3ACZ?)		Head Accelera ??HEAD0000H3A Group 1	CXA 6DX0082	AC-1 (6DX0082 AC1)	Remove			
Level triggers			Head Accelera ??HEAD0000H3A Group 1	CY? 6DX0082	AC-2 (6DX0082 AC2)	Remove			
Calculated channels Graphs			Head Accelera ??HEAD0000H3A Group 1	CZ? 6DX0082	AC-3 (6DX0082 AC3)	Remove			
ISO export									

NOTE: Only channels with hardware channel assignments will be listed as Available channel(s).

NOTE: All input channels must be assigned to the same DAS.

- a. Select Add to add a calculated channel.
- b. Enter name for calculated channel.
- c. Choose calculated channel type from Operator drop-down.
- d. Select DAS from Serial Number drop-down.
- e. Select channels to include in calculation from Available channel(s).
- f. Select Calculated channel from Existing calculations to display Input Channels.
- g. Enable "Supports Realtime" to view the calculated channel in Realtime.

11. The **Graphs** navstep allows configuring pre-defined channel overlays for post-test data viewing. Channel overlays can also be added in the data viewer:

DataPRO - Edit Test Setup: Exam	ple Test Setup	-					- 0	n x
Check Trigger	Quick Checkout	Run Test	sor Database	Groups	ta 🔛 Export Data	Additional Details	System Settings	;
Done Save Create summary D	iscover hardware Run Test Check	Channels				_		
Test Setups								
Info	Existing gra	aph(s)	Add new graph	Graph details Graph name	Head Acceleration Overlag	,		
Groups	Head Acceler N/A	ation Overlay	Remove	Description	N/A			
Hardware	•		•	Graph chan	nel(s)	Available char	nnel(s)	
Channels				Head Accelera ??HEAD0000H3AC	tion X	Head Angular Vel ??HEAD0000H3AVXA	ocity X	•
Parameters				Group 1	6DX0082 AC-1 (6DX0082 AC1)	Group 1 6D (6E	X0082 AR-1	
Level triggers				Head Accelera ??HEAD0000H3AC	tion Y CY? Remove	Head Angular Vel ??HEAD0000H3AVY?	ocity Y	
Calculated channels				Group 1	6DX0082 AC-2 (6DX0082 AC2)	Group 1 6D (6E	X0082 AR-2 X0082 AR2)	
Graphs ISO export				Head Accelera ??HEAD0000H3AC Group 1	tion Z CZ? 6DX0082 AC-3 (6DX0082 AC3)	Head Angular Vel ??HEAD0000H3AVZ? Group 1 6D (60	Add Add X0082 AR-3 X0082 AR3	
						Standard Front Ai Primary ??AIRBFRLE01CU00 Group 1 Squ	rbag Add	
						Standard Front Ai Secondary ??AIRBFRLE02CU00 Group 1 Squ	rbag Add	

- a. To add an overlay graph, select Add new graph.
- b. Enter Graph name and optional Description.
- c. Select channels to include in the graph overlay from Available Channels.
- d. Select Existing graph to display included Graph channels.

Check Trigger	Quick Checkout	👓 Run Test	📥 Download Data	🔎 View Data	🖆 Export Data	🔼 Manage Users	System Settings
😵 Data Recorders	Sensor Templates	👤 Sens	or Database	🔗 Groups	Setups	Additional Details	Check Channels
one <u>S</u> ave Create summary D	iscover hardware Run Test Check C	Channels					
est Setups							
	Test settings						
nfo	Title		Example Te	est Setup			
Frouns	Medium no./number	r of media	1/1				
510005	Comments		NOVALUE				
Hardware	Type of the test		(new)		*		
Channels	New type						
Parameters	Reference temperatu	ure	NOVALUE	:			
Level triggers	Relative air humidity	,	NOVALUE				
	Regulation		NOVALUE				
Calculated channels	Subtype of the test		NOVALU	JE	*		
Graphs	Date of the test (yyy	y-mm-dd)	2020-01-2	2			
ISO export	Test objects Group 1		1	ients			
			Comment	s of test object '1'	71 6 11	· · · · · · · · · · · · · · · · · · ·	
			Comment	s of test object '1'	The foll	owing block describes test object :	
			Comment	s of test object '1'			
			Name of t	est object '1'	NOVALL	JE	
			Velocity te	st object '1'			m/sec 👻
			Mass test	obiect '1' (ka)			
			Mass test	object i (iig)			

12. ISO Export:

- a. Enter preliminary metadata required for ISO MME export.
- b. ISO Export metadata can be entered in the Info navstep of Run Test, as well as before each data export. All metadata must be entered in order for the ISO Export to run.
- 13. Select "Save" when finished:

👼 DataPRO	- Edit Test Setup: E	xample Test Setup					
2 C	ieck Trigger	🚾 Quick Checkout	👓 Run Test	🛃 Download	Data	🔎 View Data	👛 Export D
	Data Recorders	🔂 Sensor Template	is 📃 Sens	or Database	1	Groups	🥵 Test Setups
Done <u>S</u> a	ve Create summary	Discover hardware Run Test C	heck Channels				
Test Se	tups						

a. Once a Test Setup is saved, "Run Test" and "Check Channels" are enabled as options:

👹 DataPRO - Edit Test Setup: E	xample Test Setup					
Check Trigger	🔁 Quick Checko	Jt	👓 Run Test	🗖 Download	Data 🖉 View	Data 🔷 Export D
😤 Data Recorders	💿 Sensor	mplates	🖌 📃 Sens	or Database	🔗 Groups	Setups
Done <u>S</u> ave Create summary	Discover hardware Rur	n Test Check C	hannels			·
Test Setups						

- i. Select Run Test to go directly to the Run Test tab and begin a data collection with the current Test setup.
- ii. Select Check Channels to go directly to the Check Channels tab and begin a Diagnostic test with the current Test Setup.
- 14. To edit a test setup, double-click on the test setup –or– select the test setup and select "Edit" (see steps 4-13):

check ingger	🔄 Quick Checkout	Run Test	🖆 Download Data	🔎 View Da	ta
Data Recorde	rs 🔂 Sensor Template	es 📃 Senso	or Database	🔗 Groups	Se Test Se
Add Edit Copy Dele	ete Import Export Refresh				
Test Setups	Search				
Name 💌	Description 💌 Recording Mode 💌	Pre-Trigger Seconds 🔻	Post-Trigger Seconds 🔻	Last Modified 💌	Last Modified 8
Example Test Setup 2	Circular buffer	1.00	1.00	1/22/2020 12:04:18 PM	Admin
					A.4.3

15. To Copy a test setup, select "Copy" from the menu:

🙎 Check	Trigger 🔗	Quick Checkout	Run Test	🖆 Download Data	🔎 View Dat	ta 📃 🗠 Exp	ort Dat
😤 Data	Recorders	🔊 Sensor Templates	📃 Senso	or Database	🔗 Groups	🔏 Test Setups	
Add Edit C	opy Delete Import Ex	port Refresh					
Test Setup	S	Search					
Name	Description	Recording Mode	Pre-Trigger Seconds 💌	Post-Trigger Seconds	Last Modified 💌	Last Modified By	Read
	Setup 2	Circular buffer	1.00	1.00	1/22/2020 12:04:18 PM	Admin	\checkmark
Example Test							

- a. All groups, hardware and test parameters will be copied.
- b. Enter a unique Test Setup name and select Save:

Check Trigger	🚾 Quick Checkout	👓 Run Test	👛 Download	Data 🛛 🔎 Vie	ew Data 🔷 Export D
😽 Data Recorders	Sensor Templates	💶 Sens	or Database	🔗 Groups	S Test Setups
Done <u>S</u> ave Create summary (Discover hardware Run Test Check	Channels			
Test Setups					
	🗠 🔿 Test info 🛛 —				
Info	Test Setup name				
Groups	Description				
Groups	Recording mode		Cir	rcular buffer	-
Hardware	Samples per second	ł	10,	000	-
Chappels	Pre-trigger second(s)	1.00	00	:
Channels	Post-trigger second	(s)	1.00	00	:
Parameters	Set DAS to Streamin	ng			
Lovel triggers	Download region o	f interest (ROI)	\checkmark		
Lever triggers	ROI period star	t (sec) -1.000		:	
Calculated channels	ROI period end	(sec) 1.000		\$	
Graphs			+		
ISO export	View ROI		\checkmark		

16. To delete a test setup from the database, select the test setup from the list, select "Delete" and then "Yes" to confirm:

Check Trigger	Cuick Checkout	👓 Run Test 🗖 Downlo	ad Data 🛛 🔎 View D	ata 🚺 🗠 Ex	oort Data
😽 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups	STest Setups	
Add Edit Copy Delete Import	Export Refresh				
Test Setups	Search				
Name 💌 Description	Recording Mode F	re-Trigger Seconds 💌 Post-Trigger Seco	nds 🔻 Last Modified 💌	Last Modified By 🔻	Read
Example Test Setup 2	Circular buffer 1.0	0 1.00	1/22/2020 12:04:18 PM	I Admin	\checkmark
Example Test Setup	Circular buffer 1.0	0 1.00	1/22/2020 11:55:33 AM	I Admin	
	Are you sure y	vou want to delete test Example Ter	it Setup?		

- 17. To import a test setup, select "Import" from the menu. Browse to select the file and then select "Open".
- NOTE: The import performed in this manual uses a DataPRO Test Setup XML. There are multiple format options for a Test Setup import. The format option selected will dictate the files available for selection. Some import types require additional files, see table below for more details regarding import type requirements.

NOTE: Some imports add new sensors and DAS to the database, some require that all items in the import exist in the database prior to import.

Туре	Type Additional Files Required		Database Requirements	
DataPRO XML	None	Multiple test setups can be imported with one *.xml file	Additional sensors and DAS will be added to database	
TDC Test Setup File (*tsf)	*.ini	All hardware used in the *.tsf must be in the database	Additional sensors will be added to database, all DAS must be in database	
DataPRO Test Sensor Import File (*.csv)	None	System Settings option to create static groups from imported groups	Additional sensors will be added to database	
TTS (*.csv, *.xml)	None	Customer specific import	All sensors and DAS must be in database	

Test Setup Import Requirements

Check Trigger	Cuick Checkout	Run Test	🖆 Download Data	🔎 View Dat	ta 📃 🗠 Exp	ort Dat
😤 Data Recorders	🐼 Sensor Templates	Sens	or Database	🔗 Groups	Setups	
dd Edit Copy Delete	Import Export Refresh					
est Setups	Search					
					Lass Marillard Du	
Name 💌 Des	cripion 💌 Recording Mode 💌	Pre-Trigger Seconds	Post-Trigger Seconds 🔍	Last Modified	Last Modified by	Read
Name Des Example Test Setup 2	crip ion 💌 Recording Mode 💌 Circular buffer	Pre-Trigger Seconds	Post-Trigger Seconds 1.00	1/22/2020 12:04:18 PM	Admin	Read

Check Trigger	Cuick Checkout	💀 Run Test 🔛 Download Data	a 🛛 🔎 View Data	🖆 Export Data	🔼 Manage U	sers 🛛 😸 Sys	tem Settings
😤 Data Recorders	s Sensor Templates	Sensor Database	🔗 Groups 💁 Test	t Setups 📃 Addi	tional Details	Chec	k Channels
e Cancel <u>S</u> ave							
port Test Setur	DS						
			Waiting				
			waiting				
port File							
	Browse	Dpen 📴					×
		← → ~ ↑ 📙 → This PC	C → Desktop → DataPRO → Imports	>	5 V	Search Imports	م
ensor templates	0	Organize 🔻 New folder					
ensors	0	^	Name	Date modified	Type	Size	
roups est Setups	0	📌 Quick access	Archive	1/22/2020 12:31 PM	File folder		
AS	0	OneDrive	TestSetups.xml	4/25/2019 11:09 AM	XML File	2,228 KB	
		This PC	THOR.xml	8/6/2018 8:20 PM	XML File	3,433 KB	
		3D Objects					
		Desktop					
		🗄 Documents					
		🔶 Downloads					
		J Music					
		E Pictures					
		🛃 Videos 🗸 🗸					
		File <u>n</u> ame	TestSetups.xml		~	DataPRO Test Setup XM	1L File (* $ \sim $
				_	\rightarrow	<u>O</u> pen	Cancel
					· · · · · · · · · · · · · · · · · · ·		

a. Select the Test Setup(s) to be imported:

📱 DataPRO - Import Test Setur	05					
Check Trigger	🚾 Quick Checkout	•• Run Test	🛃 Download D	ata 🔎	View Data	👛 Export Da
😤 Data Recorders	Sensor Templates	👤 Sen	sor Database	Groups	S Test S	etups
Done Cancel <u>S</u> ave						
Import Test Setups						
				Waiting		
Import File		C:\Users\.	enna.miller\Desktop\Da	itaPRO\Imports\TestSe	tups.xml	
	Browse					
Sensor templates	0					
Sensors	14					
Groups	2					
Test Setups	2					
DAS 🗸	6					
Included Overwrite Te	est Setup Name					
\checkmark	Sample Test Setup					
\checkmark \checkmark	Example Test Setup					

- i. "Red Boxed" Test Setups indicate a naming conflict.
- ii. Select Overwrite to import and overwrite any test setups with naming conflicts.

b. Select Save once all conflicts are resolved. Select Done when import is complete:

Check Trigger		C Quick Checkout	• • Run	Test	😃 Downloa	ad Data	🔎 View Da	ata 🔷 Ex	port [
🔡 Data Reporders		Sensor Templates		L Sensor	Database	9	Groups	Setups	
Done Cancel <u>S</u> ave									
mport Test Setup	IS								
						[Done		
Import Filo				C\Users\leng	a miller) Desktor		voorte\TestSetues ve	al.	
import rile		Brow	se	C:\Users\Jenr	a.miller\Desktop) DataPNO (in	iports\iestSetups.xm	11	
Sensor templates	0								
Sensors	14								
Groups	2								
Test Setups	2								
DAS	6								
Included Overwrite	Test Set	up Name							
\checkmark		Sample Test Setup							
\checkmark \checkmark	r	Example Test Setup							

18. To export a test setup, select "Export" from the menu:

Check Trigger	Cuick Checkout	Run Test	😐 Download Data	🔎 View Dat	ita 🚺 Export D		
😤 Data Recorders	🐼 Sensor Templates	Sens	or Database	🔗 Groups	Setups	aps	
id Edit Copy Delete Import	Export Refresh						
est Setups	Search						
Name Description	Recording Mode	Pre-Trigger Seconds 💌	Post-Trigger Seconds 💌	Last Modified 💌	Last Modified By 💌	Read	
xample Test Setup 2	Circular buffer	1.00	1.00	1/22/2020 12:04:18 PM	Admin	\checkmark	
xample Test Setup	Circular buffer	1.00	1.00	1/22/2020 11:55:33 AM	Admin		

a. Select the test(s) to be exported and select "Browse". Navigate to the desired location, enter a name for the test setup export file and select "Save". Select "Export". Select Done" when finished:

DataPRO - Export te	est setup(s)					- 0
Check Trigger	r Quick Che ders 🔯 Sen	eckout 😳 Run Test 🖳 nsor Templates 🛄 Sensor Databa	Download Data se 🔗 Group	View Data 🗠 Export Data	Additional Details	System Settings
ne Export	. –				_	
port test setu	up(s)					
			Waitir	na		
				.9		
port file	l	1	Browse	~ ~		
	Included	Name Example Test Satur		Description	Cu	stomer
		Sample Test Setup				
	\checkmark	Example Test Setup 2				
DataBPO - Export te	et setun(s)					- 0
Check Trigger	r Quick Che	eckout 😳 Run Test 🔟	Download Data	🔎 View Data 🔷 Export Data	🛃 Manage Users	System Settings
😵 Data Record	ders 💿 Sen	nsor Templates	ie 🛛 🕅 Group	is Setups	Additional Details	Check Channels
ne Export						
port test setu	up(s)					
	1.02		Waitir	na		
				.9		
			📅 Save As			×
port file			← → ~ ↑	This PC > Desktop > DataPRO > Imports >	・ ・	م ا
	Included	Name	Organize 🔻 New f	folder		8= - ()
	\checkmark	Example Test Setup	1011	Name	Date modified Type	Size
	V V	Sample Test Setup	Y Quick access	Archive	1/22/2020 12:31 PM File folder	
	v		OneDrive	2.1.424_TestSetup.xml	4/25/2019 11:09 AM XML File	2,228 KB
			🗸 💻 This PC	IestSetups.xml THOR.xml	1/22/2020 12:33 PM XML File 8/6/2018 8:20 PM XML File	373 KB 3.433 KB
			3D Objects			-,
			Desktop			
			Documents Documents			
			Music			
				•		
			File name: D	xportExample		<u> </u>
			Save as type: Da	ataPRO XML File (*.xml)		~
			∧ Hide Folders		Save	Cancel
						a
S 000 Comm 🔘					Connected to: Local C	urrent view: Admin Login: /
1						
RC - Export test se	etup(s)					- 0
Clieck Trigger	Quick Check	cout 🔤 Run Test 🛄	Download Data	🔎 View Data 🛄 Export Data	💁 Manage Users	📒 System Settings
ta Recorders	Sensor	r Templates 📃 Sensor Databas	e 🔗 Group	is 🔂 Test Setups	👤 Additional Details	🖹 Check Channels
Export						
rt tast satun((c)					
t test setup((3)		2			
			Done	е		
<i>a</i>	Chilleare learne mille 2 De	ackton\DataPRO\langerts\EurortEurortEurort				
tile	c:\osers\venna.miller\De	esktop (Batar NO (III) ports (Exportexample.xm)	Browse			
	Included	Name		Description		Customer
		Example Test Setup				
	V	Enample rest octop				
	V V	Sample Test Setup				

19. To change the active Test Setup, select the desired test setup and select "Make Current":

👹 DataPRO - Tes	t Setups									
🙎 Check T	rigger	🔁 Qu	ick Checkout	00	Run Test	👛 Download	Data	🔎 View Da	ta 🚺 🖸 E	xport Data
😤 Data R	Recorders		🖄 Sensor Tem	olates	👤 Senso	or Database		🔗 Groups	🥵 Test Setups	
Add Edit Cop	y Delete I	mport Export	t Make current	Refresh						
Test Setups			Search							
Name 🔻	Desc	ription 🔻	Recording Mode	 Pre-Trigg 	ger Seconds 💌	Post-Trigger Seconds	•	Last Modified 💌	Last Modified By 💌	Ready
Example Test Se	etup	0	Circular buffer	1.00		1.00	1	/22/2020 12:34:09 PM	Admin	
Sample Test Set	tup	(Circular buffer	1.00		1.00	1	/22/2020 12:34:09 PM	Admin	\checkmark
Example Test Se	etup 2	(Circular buffer	1.00		1.00	1	/22/2020 12:04:18 PM	Admin	\checkmark

- a. A test must be indicated as "Ready" in order to be designated as the Current Test Setup.
- b. The Current Test Setup will be displayed in brackets in the DataPRO header bar:

Check Trigger	Quick Checkout	👓 Run Test	Download Data	🔎 View Da	ta 👛 Exp	port Data
😤 Data Recorders	Sensor Templates	s Sens	sor Database	🔗 Groups	Set Setups	
Add Edit Copy Delete Im	port Export Make current Ret	fresh				
Test Setups	Search					
Name Descri	ntion Recording Mode	Pre-Tringer Seconds	Post-Trigger Seconds	Last Modified	Last Modified By	Ready
Example Test Setup	Circular buffer	1.00	1.00	1/22/2020 12:34:09 PM	Admin	
Sample Test Setup	Circular buffer	1.00	1.00	1/22/2020 12:34:09 PM	Admin	\checkmark
Example Test Setup 2	Circular buffer	1.00	1.00	1/22/2020 12:04:18 PM	Admin	1

20. If using a SQL Server Networked Database, use Refresh to ensure the latest test setup settings are used:

👹 DataPRO - Test Setups - [Sample	: Test Setup]					
Check Trigger	😔 Quick Checkout	👓 Run Test	🕁 Download Data	🔎 View Da	ta 📃 Exp	ort Data
😤 Data Recorders	🔁 Sensor Templates	Sens	or Database	🔗 Groups	STest Setups	
Add Edit Copy Delete Impor	rt Export Make current Refr	esh				
Test Setups	Search					
Name 🔻 Descriptio	en 💌 Recording Mode 💌	Pre-Trigger Seconds 💌	Post-Trigger Seconds 💌	Last Modified 💌	Last Modified By 💌	Ready
Example Test Setup	Circular buffer	1.00	1.00	1/22/2020 12:34:09 PM	Admin	
Sample Test Setup	Circular buffer	1.00	1.00	1/22/2020 12:34:09 PM	Admin	\checkmark
Example Test Setup 2	Circular buffer	1.00	1.00	1/22/2020 12:04:18 PM	Admin	\checkmark

21. To return to the Quick Start Steps, click *here* (page 17).

Additional Details

Lab Details

Exporting data for "Lab Details" is a required component of following ISO MME protocol. Completing "Lab Details" is optional for use with data exports.

1. Select the "Additional Details" tab:



2. Select the Lab details navstep and enter the information for each Lab Record:

🖉 DataPRO - Additional Details - [Sa	mple Test Setup]							- 0	×
Check Trigger	🚾 Quick Checkout	Run Test	📥 Downl	oad Data 💋 🔎	View Data	😐 Export Data	🔼 Manage Users	😇 System Settings	Ξ
👑 Data Recorders	🖸 Sensor Template	is 🚺 Si	ensor Database	🔗 Groups	Set Setu	ups 📃 Ad	ditional Details	Check Channels	
Refresh Delete									
Additional Details									
	Record name	Laboratory name Labo	ratory contact name	Laboratory contact phone	Laboratory contact fax	Laboratory contact email	Laboratory test ref. number	Laboratory project ref. nun	mber
Lab details	(none)			NOVALUE	NOVALUE	NOVALUE			
Customer details									
Engineer details									
Channel code details									

- a. This information can be modified before exporting data.
- b. Records are automatically saved.
- 3. To delete a Lab Details Record, select the record from the list and select Delete:

🦉 DataPRO - Additional Details - [Sample T	Test Setup]						- 0	×
Check Trigger Q	uick Checkout 💿 Run D Sensor Templates			^	ta 🔝	Manage Users Additional Details	System Settings	=
Refresh Delete		Are you sure you w	ant to delete DTS HO?					
Additional Details		,						
to be the flat	Record name Labora				tact fax	Laboratory contact email	Laboratory test ref. n	umber
Lab details	DTS HQ DTS Set	Yes	N	lo				
Customer details	(none)		INUVALUE	NUVALUE		NOVALUE		
Engineer details								
Channel code details								

4. To return to the Quick Start Steps, click *here* (page 17).

Customer Details

Exporting data for Customer Details is a required component of following ISO MME protocol. Completing Customer Details is optional for use with data exports.

- 1. Select the "Additional Details" tab.
- 2. Select the Customer details navstep and enter the information for each Customer Record:

📴 DataPRO - Additional Details - [S	ample Test Setup]					- 0	×
Check Trigger	Cuick Checkout	🔤 Run Test 📃 Down	nload Data 🛛 🖉 V	iew Data 📃 Export Di	ata 🗾 🛃 Manage Users	System Settings	Ξ
🚟 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups	Set Setups	Additional Details	Check Channels	
Refresh Delete							
Additional Details							
	Record name	Customer name Cu	ustomer test ref. number	Customer project ref. number	Customer order number	Customer cost unit	
Lab details	(none)		٩	NOVALUE	NOVALUE	NOVALUE	
Customer details							
Engineer details							
Channel code details							

- a. This information can be modified before exporting data.
- b. Records are automatically saved.
- 3. To delete a Customer Details Record, select the record from the list and select Delete.
- 4. To return to the Quick Start Steps, click *here* (page 17).

Engineer Details

Exporting data for "Engineer Details" is a required component of following ISO MME protocol. Completing "Engineer Details" is optional for use with data exports.

- 1. Select the "Additional Details" tab.
- 2. Select the Engineer details navstep and enter the information for each Engineer Record:

🖉 DataPRO - Additional Details - [S	Sample Test Set	tup]									_	٥	×
Check Trigger	🔛 Quick	Checkout	👓 Run Test	🕹 Download 🛙	Data	🔎 View Data	📥 E	xport Data	🔼 Manage Us	ers	🐷 System Set	tings	Ξ
🚟 Data Recorders		Sensor Templates		Sensor Database	🔗 Gro	ups	🔒 Test Setups		🔜 Additional Details		😑 Check Chann	rels	
Refresh Delete													
Additional Details													
	< <	Record	name	Test engineer nan	ne	Test engineer	phone	Test	engineer fax	Te	st engineer email		
Lab details		(none)		NOVALUE		NOVALUE		NOVALUE		NOVALUE			
Customer details													
Engineer details													
Channel code details													

- a. This information can be modified before exporting data.
- b. Records are automatically saved.
- 3. To delete an Engineer Details Record, select the record from the list and select Delete.
- 4. To return to the Quick Start Steps, click *here* (page 17).

Channel Code Details

A Channel Code is a shorthand code used to describe a measurement channel. Channel Codes can either follow the ISO MME protocol of 16 alpha-numeric characters, or they can be "User Codes" and contain an unrestricted number of characters of any type. See <u>https://www.iso-mme.org/</u> for more information on ISO Codes.

- 1. Select the "Additional Details" tab.
- 2. Select "ISO 13499" or "User" to display the current available channel codes:

DataPRO - Additional Details	- [Sample Test Setup]								– o ×
Check Trigger	🚾 Quick Checkout	👓 Run Test	🗠 Downle	oad Data 🛛 🔎	View Data	🖆 Export Da	ta 🔂 Mana	ge Users 🛛 🔯	System Settings 📃
😵 Data Recorders	Sensor Templates	L Ser	nsor Database	🔗 Groups	2	Test Setups	👤 Additional De	tails 🔛 C	heck Channels
Refresh Delete									
Additional Details									
Lab details	so 😵 🔊 🛛 ۲	ser							
	IS	iO 13499 code 🔻		ISO 13499 ch	annel name 🔻				
Customer details	??HEAD1100H3ACX?			Head 11 Acceleration X					
Engineer details	??HEAD1100H3ACY?			Head 11 Acceleration Y					
Engineer details	??HEAD1100H3ACZ?			Head 11 Acceleration Z					
Channel code details			[
	Refresh Delete Additional Details		ISO 13499	Jeer		·		,	
	Lab details			User code 💌		U	ser channel name		
	Customer details		H3HeadAcX			H3 Head Ax			
			H3HeadAcY			H3 Head Ay			
	Engineer details		H3HeadAcZ			H3 Head Az			
	Channel code deta	ils							

- a. Any ISO Codes used that are not defined by ISO/TS 13499 will be listed in and managed through the Channel codes details table in the Additional Details tab.
- b. All User Codes will be listed in and managed through the Channel codes details table in the Additional Details tab.
- 3. Create new Channel Codes by typing in the last field.
 - a. Multiple codes can be created by pasting multiple Channel Codes/Channel Names into the last field.
- 4. To edit a Channel Code or Channel Name, select the field to edit and enter the corrected information.
- 5. To delete a Channel Code from the database, select the Channel Code from the list, select "Delete."
 - a. Select and delete multiple Channel Codes using Shift or Ctrl during code selection.
- 6. To return to the Quick Start Steps, click *here* (page 17).

Diagnostics

Diagnostic functions (channel, sensor, hardware and trigger checks) are performed as a part of a data collection sequence. The Diagnostic tabs allow for these functions to be performed additionally, outside of a data collection routine to verify proper functioning of the system.

DataPRO automatically generates a series of reports during use of the Diagnostic and Record tabs. See *Appendix E: DataPRO File Structure*, page 163, for more information.

Check Channels

Check Channels confirms the hardware connection and sensor assignment, then performs a diagnostic/channel checkout routine and allows verification of channel output(s) in Realtime Mode.

1. Select the "Check Channels" tab:



a. Optionally, select Check Channels from within a completed, saved Test Setup:

👹 DataPRO - Edit Test Setup: Exa	emple Test Setup - [Example Test Se	tup]					- 0	×
Check Trigger	🔄 Quick Checkout	👓 Run Test	👍 Download Data	🔎 View Data	🗠 Export Data	🚺 Manage Users	System Settings	Ξ
😤 Data Recorders	Sensor Templates	Sensi	or Database	🕜 Groups	Setups	🔝 Additional Details	Check Channels	
Done Save Create summary	Discover hardware Run Test Check	Channels						
Test Setups								

2. The **Hardware** navstep will automatically attempt to connect to the hardware associated with the active test setup:

Check Trigger	🚾 Quick Checkout	👓 Run Test 👘 Download	Data 🔑 View Data	🖆 Export Data	🔼 Manage Users	😹 System Setti
😵 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups	Test Setups	Additional Details	📔 Check Channe
Done						
Charle Channels						
Check Channels						
Hardware	Example Tes	it Setup				
Run			Pass	sed		
Check sensor ID						
	Details					
Disconting	Details					
Diagnostics		Table view				
Diagnostics Realtime	Tree view	Table view				

a. Select Run to re-run the Hardware navstep.

Data Recorders Sensor Ter	nplates 🔲 Sensor Database 🧖 Groups 🧧	🖥 Test Setups 🛛 🛃 Additional Details 📗	Check Channels	er 📃 Quick Checkout 🔤 Run Test 🛄	Download Data 🔀 View	Data 🔄 Export Data 🚺 Ma	inage Users 🛛 🐯 Sy	stem Settings	
Check Channels									
Hardware	Example Test Setu	q							
Check sensor ID			li li	ncomplete. 2 channel(s)	require manua	al identification.			
Run									
Diagnostics	Unresolved Channels	Canror	Tune	Chatur	At	Open In Use N	Ianually Assigned		
Realtime	Tu0 Stocke	Terfonentic	Digital Out	Channel not arright	Hardware Channels			1	1
- Nebionie	Airban Drimany Stroba	TSD_TestSpecific	Digital Out	Channel not assigned	DAS	CH #	Type	Channel	Sensor
	An bag Frinday Stroba			Channel not assigned	SPE00150:SPS00331	[SPE00150:SPS00331] CH-01	Bridge/IEPE		
		Test chann	els with EID that		SPE00150:SPS00331	[SPE00150:SPS00331] CH-02	Bridge/IEPE	***	***
		Sensor	ID discovery		SPE00150:SPS00331	[SPE00150:SPS00331] CH-03	Bridge/IEPE	***	
					SPE00150:SPS00331	[SPE00150:SP500331] CH-04	Bridge	Head Angular Velocity X	6DX0082 AR-1 (6DXI
					SPE00150:SPS00331	[SPE00150:SPS00331] CH-05	Bridge	Head Angular Velocity Y	6DX0082 AR-2 (6DX)
	100 B				SPE00150.SPS00331	[SPE00150:SP500331] CH-06	Bridge	Head Angular Velocity Z	6DX0082 AR-3 (6DX0
	Extra Sensor Ids				SPE00150:SPS00331	[SPE00150:SPS00331] CH-07	Bridge	Head Acceleration X	6DX0082 AC-1 (6DX
	Channel #	220000012610752	Sensor Id	Sensor	SPE00150:SP500331	[SPE00150:SPS00331] CH-08	Bridge	Head Acceleration Y	6DX0082 AC-2 (6DX)
	[SPE00150(SP500331) CH-14	2200000126487620	2kg	034 (Upper Neck FX)	SPE00150:SPS00331	[SPE00150/SPS00331] CH+09	Bridge	Head Acceleration Z	6DX0082 AC-3 (6DX0
	[15PE00150/5P500551] CH-15	S6000012646002		uss (upper weck ry)	SPE00150:SP500331	[SPE00150/SP500331] CH-10	Bridge	Neck Upper Force 2	Upper Neck Fz (2kg)
		Vere not fo	und during Check		SPE00150/SP500331	[SPE00150:SP500331] CH-11	Bridge	Neck Upper Force X	Upper Neck Fx (2kg)
		Sensor	ID discovery		SPE00150:SP500331	[SPE00150/SPS00331] CH-12	Bridge/IEPE		
					SPE00150(SP500331	[SPE00150:SP500331] CH-13	Bridge/IEPE		
					SPE00150/SP500331	[SPE00150/SP500331] CH-14	Bridge/IEPE		***
					SPE00150(SP500331	[SPE00150/SP500331] CH-15	Bridge/IEPE		
	Out of position sensors				SPE00130(SP500331	[SPE00130:SP500331] CH-10	BridgenEPE		
	Current channel #	Original channel #	Sensor ID	Sensor	SPE00130:SP300331	[SPE00150:SP500351] CH-17	Bridge/IEFE		
	[SPE00150:SPS00331] CH+07	[SPE00150:SPS00331] CH-01	760000075066DD2D	6DX0082 AC1 (6DX0082 AC-1)	SPE00150 SP500331	ISDE00150/SP300351] CH-10	Couib	Standard Front Airban Briman	Coulib
	[SPE00150:SPS00331] CH-08	(SPE00150/SPS00331) CH-02	CB000007508CEC2D	6DX0082 AC2 (6DX0082 AC-2)	SPE00150-SPT00107	ISDE00150-SPT001071 SQ-07	South	Standard Front Airbag Primary	Squib
	[SPE00150:SPS00331] CH-09	[SPE00150:SPS00331] CH-03	220000075066312D	6DX0082 AC3 (6DX0082 AC-3)	SPE00150 SPT00107	ISPE00150/SPT001071 SQ-02	Squib	sandard most Airbag secondary	separa
		If enabled, h	ardware channel		SPE00150-SPT00107	ISPE00150 SPT001071 SOLO	Squib		
		location o	f EID discovery		SPE00150-SPT00107	ISPE00150:SPT001071 DO-01	Digital Out		
		_			SPE00150-SPT00107	ISPE00150/SPT001071 DO-07	Digital Out		
					SPE00150-SPT00107	ISPE00150:SPT001071 DO-03	Digital Out		1
	Channels highlighted green has	ve been assigned via EID or hardware as	signment.		SPE00150-SPT00107	ISPE00150:SPT001071 DO-04	Digital Out		
	Channels highlighted orange in	idicate the sensor EID was not found an	d the hardware channel assignment	will be used instead.	SPE00150-SPT00107	ISPE00150:SPT001071 DO-01	Digital Out		
	Channels highlighted yellow int	dicate the sensor was manually assigned	using this navigation Step.			In eee	and the state		

3. Select the Check sensor ID navstep to perform a sensor check:

- a. The Check Sensor ID step verifies each channel in the Test Setup has been configured with a hardware channel.
 - i. Sensors with EID will automatically populate with the hardware channel assignment.
 - ii. Sensors without EID will need to be 'resolved' and manually assigned to a hardware channel.
- NOTE: Manual assignments of hardware channels performed in Check Channels or in Run Test will have to be repeated for subsequent Check Sensor ID initiations.
 - b. DataPRO indicates the following EID conditions with different tables:
 - i. Unresolved Channels: Channels that have not been configured with a hardware channel assignment. These channels need to be manually assigned.
 - ii. Extra Sensor IDs: Sensor EID(s) detected that are not assigned to a channel included in the Test Setup.
 - iii. Out of position sensors (if enabled): Sensor EID(s) that are detected on a hardware channel that differs from the Test Setup configuration.
 - c. DataPRO indicates the following channel configuration conditions with highlighting:
 - i. Green: EID or manual hardware assignment completed in Group or Test Setup.
 - ii. Orange: EID not found, hardware assignment completed in Group or Test Setup.
 - iii. Yellow: Manual hardware assignment completed in current step.
 - iv. Purple: EID found does not match hardware assignment completed in Group or Test Setup (Channel is Out of Position).
- NOTE: Channel Out Of Position indication is optional and must be enabled in System Settings, page 122.
- 4. Select the **Diagnostics** navstep and then select "Run" to perform a diagnostic check on all channels, "Run (DAS)" to perform a diagnostic check on one DAS module or "Run (Channel)" to perform a diagnostic check on one channel:

Check Channels					
	🔄 Example Test Setup				
Hardware	Example lest betup		Waiting for user selection	ac	
Check sensor ID			waiting for user selection	511	
Diagnostics					
Run	Tree view Ta	ble view			
Run (DAS)	Groups	DAS SPE00150	Channels Head Angular	Results SPS00331	
Run (Channel)	Sample Group	192.168.0.150	[SPE00150:SPS00 X 331] CH-04	6DX0082 AR1	
Realtime		SPS00331	6DX0082 ART	Velocity Head Angular Velocity X	
	Test channels	SPT00107	[SPE00150:SPS00 Y 331] CH-05	·····,	Low (%)
			6DX0082 AR2	Velocity Excitation	-2
			[SPE00150:SPS00 Z 331] CH-06	(Cobly)	LOW (V)
			6DX0082 AR3	tion X Noise	
			331] CH-07 6DX0082 AC1		Low (m
			[SPE00150:SPS00 Head Accelera	tion Y	-100
			331] CH-08 6DX0082 AC2	Shunt	
			[SPE00150:SPS00 Head Accelera	tion Z	
			331J CH-09 6DX0082 AC3	Actual range	
			[SPE00150:SPT00 Standard From 107] SQ-01	t Airbag	
			Standard Fron	t Airbag	

a. Tree View (above) is the default display, select Table View (below) to display diagnostic data in table format:

DataPRO - Check Channels - [Example Test S	ietup]										- o ×	×
🚰 Data Recorders 🛛 🥶 Sensor Templates 📃 S	Sensor Databa	se 🛿 🔗 Groups 🛛 💁 Te	st S e tups 🛛 🔜 Additic	nal Details 📔 Check 🛛	Channels 🔁 Check	Frigger 🛜 Quick Che	ckout 🔤 Run Test 🔝 Download D	ata 🛛 🔎 View Da	ata 🚺 Export 🛙	ata 🚺 Manage Users	s 😸 System Settings	Ξ
Done Low power View report												
Check Channels												
	Example	e Test Setup										
Check sensor ID		Passed										
Rup	Tere		Table sizes	A11			Delted.					-
Rue (DAS)	iree	view	lable view	All		assec	raileu		I			
Kun (DAS)	#	DAS	Module	Channel	Group	Sensor s/n	Description	Excitation	24V power	Initial offset (mV)	AutoZero % Deviation	
Run (Channel)	2	SPE00150:SPS00331	SPS00331	CH-07	Group 1	6DX0082 AC1	Head Acceleration X	4.9988	0.0	0	0.13	
Pooltinoo	2	SPE00150:SP500331	SPS00331	CH-08	Group 1	6DX0082 AC2	Head Acceleration 7	5.0032	0.0	0	0.39	
Reduitte	4	SPE00150:SPS00331	SPS00331	CH-04	Group 1	6DX0082 AR1	Head Angular Velocity X	5.0037	0.0	9	0.07	
	5	SPE00150:SPS00331	SPS00331	CH-05	Group 1	6DX0082 AR2	Head Angular Velocity Y	5.0015	0.0	-6	0.13	
	6	SPE00150:SPS00331	SPS00331	CH-06	Group 1	6DX0082 AR3	Head Angular Velocity Z	5.0022	0.0	-8	0.07	
	7	SPE00150:SPT00107	SPT00107	SQ-01	Group 1		Standard Front Airbag Primary	0.0000	0.0	0	0.00	
	8	SPE00150:SPT00107	SPT00107	SQ-02	Group 1		Standard Front Airbag Secondary	0.0000	0.0	0	0.00	
	10	SPE00150:SPS00331	SPS00331	CH-10	Test channels	2kg040	Neck Upper Force Z	5.0008	0.0	0	0.80	
	11	SPE00150:SPS00331	SPS00331	CH-11	Test channels	2kq033	Neck Upper Force X	5.0084	0.0	0	0.44	
	4											•

b. Select individual channels in Tree View to display diagnostic results for that channel:

DataPRO - Check Channels - [Ex	ample Test Setup]	ture 🗖 Additional Dataile 🖸 Charle Channels 🧖	haak Trianan 💋 Quisk Chaskaut 📅 Run Tast 🛺 Duumka	ad Data 🛛 View Data 🖸 Eve	- 🗗 X
Done Low power View report	ipiates 🔝 Sensor Database 🚺 Groups 🔛 lest a		neck ingger Calck Checkout Markun lest Calck Checkout Markun lest Calck Checkout Calck Checkout	ad Data 🚰 view Data 🛅 cxp	on Data 🔤 Manage Osers 🔯 system settings 📃
Check Channels					
Hardware	Example Test Setup				
Check sensor ID			Passed		
Diagnostics					
Run	Tree view 1	able view			
Run (DAS)	Groups	DAS	Channels	Results	
Run (Channel)	Sample Group	192.168.0.150 Input (V): 15.150 Battery (V): 8.330	(SPE00150:SPS00 331] CH-04 6DX0082 AR1	issed ^{8.00}	
Nearume	Test channels	Passed SP500331 Input (V): 12.300 Battery (V): 8.360	ISPE00150:SP500 V 331] CH-05 6DX0082 AR2	6.00 4.00	\mathbf{N}
		Passed SPT00107 Input (V): 12.300 Robies (0): 6.260	ISPE00150:SPS00 331] CH-06 6DX0082 AR3	ssed 2.00	
		Passed	(SPE00150:SPS00 Head Acceleration X 331] CH-07 6DX0082 AC1 Pa	ussed 0.00	
			(SPE00150:SPS00 Head Acceleration Y 331] CH-08 6DX0082 AC2 Pa	issed	
			(SPE00150:SPS00 Head Acceleration Z 331] CH-09 6DX0082 AC3 Pa	Delay Duration	Passed Expected delay (ms) 17.000 Passed Expected duration 10.000 (ms)
			[SPE00150:SPT00] Standard Front Airbag 107] SQ-01 Primary Pa	Issed	7.815
			Standard Front Airbag		

- i. Test Setups can be configured to require all channels to pass Diagnostics before progressing to Realtime.
- 5. Select the **Realtime** navstep to verify sensor output.

Realtime configured with "Level triggers off":



- NOTE: If "Use test channel order" is enabled, only one chart will be available and one channel will be displayed at a time in Realtime. See <u>System Settings</u>, page 122, for more information.
- NOTE: Realtime AAF ratio is 1:1 by default. This setting can be changed in the DataPRO.exe.config file. See DataPRO Settings Manual for more information about the config file.
- NOTE: Realtime data will be streaming with SLICE PRO and SLICE6 with firmware versions A1P8 or F0P9, respectively, or higher. Realtime data will be polling with lower firmware versions (See System Settings, page 122, for more information).
 - a. The initial display is defined by the test setup.
 - b. Realtime display selection. See *Realtime*, page 135, for more information on configuring the initial Realtime display.



- 1. Select Prev/Next to advance 1/3/6 channel(s) based on chart(s) displayed.
- 2. Use snap arrows to hide or display the navstep menu.
- 3. Select Settings to display additional Realtime settings and options.



- a. Current Sample Rate and AAF value displayed.
- b. Modify chart width.
- c. Select 1, 3, or 6 charts.
- d. Restart Realtime to apply changes.

- 4. Select DAS from drop-down to choose channels to display.
- a. Channels can only be displayed from one DAS at a time.
- 5. Use Available Channels drop-down to select from all channels in Test Setup.
 - a. Type Serial Number, Sensor Description, Channel Name or ISO Code to search.
- 6. Use chart drop-down to select channel(s) from current DAS.
- c. Display units:



- i. Select ADC, mV or EU.
- d. Oscope/Meter Mode:



- i. Osc mode (Osciloscope) displays 1, 3 or 6 charts of analog output.
- ii. Meter Mode displays digital readout of all channels in Test Setup.
 - 1. Select subgroups of channels to display based on Tags applied in Sensor Database.
- e. Select "Fullscreen" to enlarge active chart to fullscreen:



f. Display range:

Neck Upper Force Z / 101 (BA50896:BR50262) CH-03 BridgePlug013 (BR302-CH3)	600 400	Neck Upper Moment Z / • 600 [BA50896:BR50190] CH-03 8ridgePlug016 (BR303-CH3) 400
Neck Upper Force Z Mx +01.591 Mn +00.454 Av +01.064	200	Neck Upper Moment Z Mx +03.967 Mn -00.076 Av +01.648 200
+01.591	0	+00.839 0
g	-200 50	g -200
	-400 20 10 5	-400
	0	
	Osc mode Meter mode Fullscreen Auto range 🕉 full scale Fixed Value 200 🔻 🔽 200	Snapshot Realtime logging

- i. Select "Auto range" to display a predefined percentage of the full scale range.
 - 1. Default Auto range value is 6.6% of full scale and can be modified in *DataPRO.exe.config* file.
- ii. Select "% full scale" to select the percentage of full scale to display.
- iii. Select "Fixed value" to select a fixed value to display.

g. AutoZero/Zero:



- i. Select "AutoZero" to automatically software zero channels when selecting a new channel to display.
- ii. Select "Zero" to software zero all channels.
- h. Snapshop/Realtime logging:



- i. Select "Snapshot" to output an excel file for each displayed channel with the ADC, mV and EU data for that sample. Snapshot files will be saved in the Data folder. (See *Appendix E: DataPRO File Structure*, page 163, for more information).
- ii. Select "Realtime logging" to enable Realtime logging for all channels displayed on the chart. Realtime logging files will be saved in the Data folder.



NOTE: Realtime logging is only available when 1 Chart is displayed.

Realtime configured with "Level triggers on":

DataPRO includes and optional "Level Trigger" check in Realtime. The level trigger threshold is set as a percentage of the sensor's full scale output and can be modified in Realtime. This can be used to verify polarity or channel output.

To configure DataPRO to have "Level triggers on" in Realtime:

- Enable Use test channel order in System Settings tab -> Realtime navstep.
- Enable Level triggers on in System Settings tab -> Realtime navstep.

If DataPRO is configured to have "Level triggers on" in Realtime, the Realtime display will allow only one channel to be displayed on a single chart.

👑 DataPRO - Run test - [Example Test	Setup 2]					- 6 ×
Check Trigger	Quick Checkout 🔤 Run Test	😃 Downloa	ad Data 🛛 🔎 Viev	v Data 🔛 Export	Data 🔼 Manage Users	System Settings
😵 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups	Set Setups	Additional Details	Check Channels
Done Resume (Automatic mode)						
Check Channels						
Hardware	Sample rate 120 AAF Cl	nart Width (s)	2.0	Restart realtime		
Check sensor ID	Settings Available channel	5		•		
Diagnostics	[SPE00150:SPS00331] CH-11 2kg033 (Upper Neck Fx)	2000-				
Realtime	11NECKUP00H3FOXC Neck Upper Force X	2000				
Prev	Mx +11.664Mn -10.978Av +00.725 Polarity: +	1500				
Next	-01.487	1000				
	g	500				
		0				
		-500				
		-1000-				
		4500				
		-1500-				
		0 0.1 0.	2 0.3 0.4 0.5 (0.6 0.7 0.8 0.9	1 1.1 1.2 1.3 1.4 1.5	1.6 1.7 1.8 1.9
		Ore made Mater and		6 full cools First Mains 100	× AugoZago Zogo 5	auchast Bastims Jacobia
	NOC MV EU	Meter mod	Auto range	Fixed Value 100	Autozero Zero S	rapsilot. Realitine logging
DAS 003 Comm 🔘 📃	User Admin navigated to: Record_I	Realtime			Connected to: L	ocal Current view: Admin Login: Admi

- a. Level Trigger threshold is indicated by the dashed line and can be moved to allow for easier sensor output verification.
- b. Optional audible beeping indicates waiting for trigger and trigger received.
- c. If enabled, displayed channel will advance once level trigger has been received.
- d. DataPRO will automatically save *.png and *.CSV files of the data and plot to the Realtime folder of the dataset. See *Appendix E: DataPRO File Structure*, page 163, for more information.
- 6. Select "Done" to return the previous location. To return to the Quick Start Steps, click *here* (page 17).

6.82	ataPRO - Cheo	k Channels - [Example	Test Setup]				
÷.	ata Recorders	Consor Templates	🧕 Sensor Database	🕜 Groups	Setups 🔁	🔝 Additional Details	Check Channels
Do	ne						
Cł	neck Chanr	nels					

Check Trigger

Check Trigger confirms the hardware connection and sensor assignment, as well as allows for verification of the Event signal (See *System Settings*, page 122, to configure the system to test the Start Record signal as well). The Arm Checklist provides a squib resistance measurement, if squibs are included in the Test Setup.

1. Select the "Check Trigger" tab:



- 2. The **Hardware** navstep will automatically attempt to connect to the hardware associated with the active test setup.
 - a. Select Run to re-test the hardware connection.
- 3. Select the **Check sensor ID** navstep to perform a sensor check.
 - a. Select run to re-scan for sensor IDs.
- 4. Select the **Check trigger** navstep, select "Run", then generate a hardware trigger signal. Select "Cancel trigger check" to bypass the trigger check, or "Software trigger" to generate a trigger signal and progress to Arm Checklist:

😤 Data Recorders	🚯 Sensor Templates	Sensor Database	🔗 Groups	Test Setups	🚨 Additional Details	📔 Check Channels			
Check Trigger	Quick Checkout	👓 Run Test 🔛 Dow	nload Data 🔑 View Data	Export Data	🔼 Manage Users	System Settin			
Done									
Check Trigger									
Hardware	Example Te	st Setup							
Check sensor ID		Waiting for trigger check							
Check trigger									
Run		Trigger: wait	tina		Faults: clear				
Cancel trigger check	O Details								
Software trigger	Gre	bup	DAS	Triggered	Faults	Status			
Arm checklist	Group 1	SPE00150				Waiting			
	Test channels	SPE00150				Waiting			
	Group 1	SPE00150:SPS003	31			Waiting for trigger check			
	Test channels	SPE00150:SPS003	31			Waiting for trigger check			
	Group 1	SPE00150-SPT001	07			Waiting for trigger check			

... Trigger signal is sent ...

😤 Data Recorders	Sensor Templates	📃 Sensor Database 🛛 🔗 G	iroups 🔂 Test Setups	🖳 Additional Details	📔 Check Channels							
Check Trigger	Quick Checkout	Run Test 🗖 Download Data	🔎 View Data 🔷 Expor	t Data 🔼 Manage Users	System Settings							
e												
eck Trigger												
ardware	Example Test S	etup										
		Passed										
heck sensor ID												
heck trigger												
Run		Triggered		Faulta, alaan								
Cancel trigger check		inggered		Faults, Clear								
	🔿 Details ———											
rm checklist	Group	DAS	Triggered	Faults	Status							
	Group 1	SPE00150	\checkmark		Waiting							
	Test channels	SPE00150	\checkmark		Waiting							
	Group 1	SPE00150:SPS00331	\checkmark		Passed							
		CDE001E0 CDC00001	1		Parred							
	Test channels	SPE00100:SPS00331	V		rasseu							

5. Select Arm Checklist, select "Run" to perform tests defined in Test Setup:

🖉 DataPRO - Check Trigger - [Exa	ample Test Setup]							– o ×		
😤 Data Recorders	Sensor Templates	👤 Sensor Datab	oase 🛛 🛜 Grou	os 🧧	Test Setups	🖳 Additional Details	s 📔 Che	eck Channels 📃		
Check Trigger	Cuick Checkout	•• Run Test	🕹 Download Data	🔎 View Data	🗠 Export Data	🔼 Manage	Users 🛛 🔀 Sj	stem Settings		
Done										
Check Trigger										
Hardware	Example Test	Setup								
Check sensor ID			۷	laiting for u	ser selection					
Check trigger										
Anna ala al Pat	Sensor Id check									
Arm checklist	Group	Channel	Sensor serial	Sensor name	DAS	Ch. #	Sensor Id	Status		
Run	DAS voltage che	eck								
	C	DAS	Input Voltage S	nput Voltage Status Battery Voltage Status			us Status			
	 Squib resistance 	check								
	Group	Channel	DAS Ch #	Settin	g Delay	Duration	Fire Test Status	Low (Ω) High (Ω)		
	•) F		
	Event lines check	k								
	E	DAS	Start		Trigge	er	Sta	tus		
	 Tilt sensor check 	k								
	DAS	System ID	System Location	X-axis D	legrees Y-axis	Degrees 2	Z-axis Degrees	Status		
	 Temperature che 	eck								
		DAS		Sensor Temperate	ure in Degrees C		Status			
	Clock sync check	k						······································		
		DAS		Clock syn	ic profile		Status			

a. Sensor ID check:

Sensor Id check							
Group	Channel	Sensor serial	Sensor name	DAS	Ch. #	Sensor Id	Status
Group 1	Head Acceleration X	6DX0082 AC1	6DX0082 AC-1	SPE00150:SPS00331	CH-07	760000075066DD2D	Passed
Group 1	Head Acceleration Y	6DX0082 AC2	6DX0082 AC-2	SPE00150:SPS00331	CH-08	CB000007508CEC2D	Passed
Group 1	Head Acceleration Z	6DX0082 AC3	6DX0082 AC-3	SPE00150:SPS00331	CH-09	220000075066312D	Passed
Group 1	Head Angular Velocity X	6DX0082 AR1	6DX0082 AR-1	SPE00150:SPS00331	CH-04	EC0000173C278B01	Passed
Group 1	Head Angular Velocity Y	6DX0082 AR2	6DX0082 AR-2	SPE00150:SPS00331	CH-05	380000173C27C301	Passed
Group 1	Head Angular Velocity Z	6DX0082 AR3	6DX0082 AR-3	SPE00150:SPS00331	CH-06	250000173C116001	Passed

i. Performs a scan and compares Sensor IDs found to assignments defined in Test Setup.

b. DAS voltage check:

DAS voltage check			
DAS	Input Voltage Status	Battery Voltage Status	Status
SPE00150:SPS00331	12.3 V	8.4 V (Charging)	Passed
SPE00150:SPT00107	12.3 V	8.3 V (Charging)	Passed
SPE00150	15.1 V	8.3 V (Charging)	Passed

- i. Measures input voltage and battery voltage of connected DAS and compares to power threshold settings defined in System Settings (See *System Settings*, page 122).
- c. Squib resistance check:

 Squib 	Squib resistance check										
Group	Channel	DAS	Ch #	Delay	Dur	Fire Test Status	Low (Ω)	High (Ω)	Resistance (Ω)	Status	Setting
Group 1	Standard Front Airbag Primary	SPE00150:SPT00107	SQ-01	17.00	10.00	N/A	0.9	8.0	3.66	Passed	
Group 1	Standard Front Airbag Secondary	SPE00150:SPT00107	SQ-02	20.00	10.00	N/A	0.9	8.0	3.66	Passed	
4											F

- i. Measures resistance of squib channels and compares measurement to threshold values defined in Test Setup Parameters.
- NOTE: Delay, Duration and Fire Test Status are only tested/reported if using "Slow Trigger Check" method (See System Settings, page 122). If not using "Slow Trigger Check" method, requested values from Test Setup will be displayed.
 - d. Event lines check:

Event lines check ————————————————————————————————————			
DAS	Start	Trigger	Status
SPE00150:SPS00331			Passed
SPE00150:SPT00107			Passed
SPE00150			Passed

- i. Checks Start and Event lines and reports current status of connected DAS.
- e. Tilt sensor check SLICE6 only:

 Tilt sensor che 	ck					
DAS	System ID	System Location	X-axis Degrees	Y-axis Degrees	Z-axis Degrees	Status
SL60014	010	Example 1	NaN	-0.8	-87.4	N/A
SL60023	020	Example 3	0.3	NaN	-87.3	N/A

- i. Reports current tilt measurements from SLICE6 DAS.
- NOTE: Tilt sensors are configured using the Tilt Sensor Control utility.
 - f. Temperature check SLICE6DB only
 - i. Reports current temperature reading of connected SLICE6 Distributor.
- 6. Select "Done" to return to the previous location. To return to the Quick Start Steps, click *here* (page 17).

Quick Checkout

Quick Checkout allows for quickly creating a single-use test setup based on connected channels. This test setup will not be saved but will allow a diagnostic checkout and Realtime verification of connected or manually assigned channels.

1. Select the "Quick Checkout" tab:



- NOTE: Optional setting in DataPRO.exe.config to automatically Query Hardware when using Quick Checkout. If this setting is set to true, start at Step 3.
- 2. Select DAS to be used during Quick Checkout.

DataPRO - Quick Chee	ckout - [Example Test Setup	p]						- 0	×
😤 Data Recorde	rs 🔂 Ser	nsor Templates	Sensor Database	🔗 Groups	💁 Test Setups	👤 Additional Det	tails 📔 C	heck Channels	Ξ
Check Trigger	Cuick Che	eckout 💁 Run Test	🗠 Download Data	🔎 View Data	🗠 Export I	Data 🚺 🔂 Mana	ge Users 🛛 🔯	System Settings	
Query selected Run chee	:k								
Quice Checkout									
				Waiting					
				J.					
Data Recorders -		-						- · ·	
Included	Serial number	Туре	Number of channels	Firmware version	Max sample rate	Cal date	Cal due date	Sample rate	
	BA51253	SLICE NANO Base+	15 analog channel(s)	B1F4	200,000	4/29/2019	4/28/2020		_
	SPD00999	SLICE PRO DIM	18 digital input channel(s)	A1J4	600,000	4/7/2016	4/7/2017		
\checkmark	SPE00150	SLICE PRO Ethernet Controller	SLICE PRO Ethernet Controller	BOB3					
	SPS00999	SLICE PRO SIM	18 analog channel(s)	A1J4	600,000	4/7/2016	4/7/2017		
	SPT00999	SLICE PRO TOM	4 squib, 8 digital output channel(s)	D0D7	600,000	4/7/2016	4/7/2017		•
Manual assignm	ents								
Channel List									
Search		Show bottom row							
0 channel(s) in test 0 of 0	Remove Sensor	Delete							
Group		ISO (13499) code 🔻	ISO channel name	Type Sensor (SN)	Hardware				
					,		Remove Sensor	Delete	- 1
							nemove sensor	Delete	
			DELET 11	II					
			Highlighted ce	iis wiii use ib for assignme	ent				
DAS 000 Comm 🔘		Waiting for user input				Сог	nnected to: Local Curren	t view: Admin Login:	Admin

a. If using EID, select "Query selected":

b. If not using EID or to assign additional, undiscovered channels for checkout, select "Manual assignments" to enable manually assigning sensors to hardware channels:

🦉 DataPRO - Quick Check	out - [Example Test Setup]								– o ×
👑 Data Recorder	s 🚺 Senso	or Templates	Sensor Database	🔗 Gro	oups	💁 Test Setups	💂 Additional D	etails 🔂 🖸	heck Channels 📃
Check Trigger	Quick Check	cout 💀 Run Test	上 Download Data		🔎 View Data	a 🔤 Export D	lata 📃 🔼 Man	age Users 😼	System Settings
Query selected Run check									
Quick Checkout									
-				\\/ait	ting				
				vvai	ung				
Data Recorders									
Included	Serial number	Туре	Number of channels	Firm	mware version	Max sample rate	Cal date	Cal due date	Sample rate
	BA51253	SLICE NANO Base+	15 analog channel(s)	B1F4		200,000	4/29/2019	4/28/2020	
	SPD00999	SLICE PRO DIM	18 digital input channel(s)	A1J4		600,000	4/7/2016	6 4/7/2017	
\checkmark	SPE00150	SLICE PRO Ethernet Controller	SLICE PRO Ethernet Controller	BOB3					
	SPS00999	SLICE PRO SIM	18 analog channel(s)	A1J4		600,000	4/7/2016	6 4/7/2017	
	SPT00999	SLICE PRO TOM	4 squib, 8 digital output channel(s)	D0D7		600,000	4/7/2016	4/7/2017	
Manual assignment	nts (Sensors Av	ailable			
Search		Show bottom row			Search			Assigned Unassigned	All
0 channel(s) in test 0 of 0 ph	nysical channel(s) assigned				0.5				
	Remove Sensor Dele	te			Unline				
Group	150 (13499) cobe 🔹	ISO channel name	pe 💌	Analog Squib S	ettings Digital Input Setting	s Digital Output Settings		
				_	Serial Number	Name V IEPE	Capacity (EU)	Units V Out Of Date V	In Warning Period
					2kg033	Upper Neck Fx	2,000.00 g		•
					A Hardware				
					Search				
					DAS	CH #	Туре	Channel	Sensor ^
					SPE00150:SPS003	31 [SPE00150:SPS00331] CH	H-01 Bridge/IEPE		Clear
1				•	SPE00150:SPS003	31 [SPE00150:SPS00331] CF	H-02 Bridge/IEPE		Clear
Drag Drag	g and drop sensors or hardwar a squib or digital output hard	re here to create new channels dware channel to create a souib	or digital output setting		SPE00150:SPS003	31 [SPE00150:SPS00331] CF	H-03 Bridge/IEPE		Clear
0.03	Ushishes	d sells will use ID for an instance			SPE00150:SPS003	31 [SPE00150:SPS00331] CF	H-04 Bridge/IEPE		Clear 🕶
D10 000 0	Highlighte	a cens will use 10 for assignment		_	•			a	· · · · · · · · · · · · · · · · · · ·
DAS 000 Comm	Wartu	ng tor user input						Connected to: Local Curren	it view: Admin Login: Admin

- i. Quick Checkout channel assignments are the same as those for Groups and Test Setups (See *Groups: Add, Import, Edit, Delete, Copy*, page 38, for more information).
- 3. Select "Run Check" after all channel assignments have been made:

Check Trigger Cut Check Cut Cal date Cal	DataPRO - Quick Checke	out								
Check Trigger Cuck Checkout Cury sesteds Run fest Cury sesteds Run fest Cuck Checkout Cury sesteds Run fest Cuck Checkout Cuck	🔡 Data Recorders	Senso	r Templates	Sensor Database	📝 G	iroups	Setups	見 Additional 🛙	Details 📔	Check Channels
Query sected Run check Data Recorders Done Included Serial number Type Number of channels Firmware version Max sample rate Cal date Cal date Sample rate Included SPE00150 SUCE PRO Ethernet Controller B083 Seriors Available Serior Sensors Available Serior Serior Series Assigned Ai Torm (V) Soft Series Delete Series Series Sensors Available	Check Trigger	Quick Check	out 🔤 Run Test	🕹 Download	Data	🔎 View Data	🗠 Export Data	Ma 🔝 Ma	anage Users	System Settings
Quick Checks It Done Data Recorders	Query selected Run check									
Data Recorders Data Recorders Included Serial number Type Number of channels Firmware version Max sample rate Cal date Cal date Cal date Sample rat Cal date Cal da										
Data Recorders Included Serial number Type Number of channels Firmware version Max sample rate Cal date Cal due date Sample rate Included Serial number Type Number of channels Firmware version Max sample rate Cal date Cal due date Sample rate Image: Serial number SUCE PRO Ethernet Controller SUCE PRO Ethernet Controller BOB3 Serial Succe Processing Serial Suce Processing Serial Succe Proces	Julek Checkout									
Data Recorders Included Serial number Type Number of channels Firmware version Max sample rate Cal date Cal due date Sample rate ✓ SPE00150 SUCE PRO Ethernet Controller B083 Cal date Cal due date Sample rate ✓ Manual assignments Channel List Sensors Available Search Search Search Search Search Assigned Al TOP A B071 Remove Sensor Deleter Top Top Top State of the physical channel() attigged Al					Do	one				
Included Serial number Type Number of channels Firmware version Max sample rate Cal date Cal date Sample rate Image: SPE00150 SLICE PRO Ethernet Controller SLICE PRO Ethernet Controller B0B3 Image: Second State	Data Recorders ——									
SPE00150 SUCE PRO Ethemet Controller SUCE PRO Ethemet Con	Included	Serial number	Туре	Number of channels	Fi	rmware version	Max sample rate	Cal date	Cal due date	Sample rate
✓ Manual assignments Channel List Search Search 8 drawnel() In tet: 0 130 physical channel() assigned TOP Norm TOP Norm Stature () In tet: Stature () and () assigned	\checkmark	SPE00150	SLICE PRO Ethernet Controller	SLICE PRO Ethernet Controlle	er BOB3					
Search Show bottom row Search Asigned Unassigned All TOP W BOT Remove Sensor Delete Online Group W 1507 Search Search Asigned Context Search S										
TOP A BOT Remove Sensor Delete Online	✓ Manual assignment Channel List	ts				Sensors Avai	lable			
	Manual assignment Channel List iearch	đ5	Show bottom row			Sensors Avai	lable		Assigned Unassigned	All
Analog Squib Settings Digital Input Settings	Manual assignment Channel List 8 channel() Intest 0 of 30 ph 70 pl Al V BOT	ts ysical channel(s) assigned Remove Sensor	Show bottom row			Sensors Avai Search	lable		Assigned Unassigned	All
Test channels 1116200000434/XA (60000024 AR1 Bridge Serial Number V Name V IEEE V Capacity (EU) V Units V Out Of Date V In Warning Period	Manual assignment Channel List Search 8 channel() In test 0 of 30 ph TOP (A W BOT) Group (W	ts vsical channe(i) assigned Remove Sensor Delet ISO (1	E Show bottom row	ISO channel name 💌	Type 🖣	Sensors Avail Search Online Analog Squib Set	lable	Digital Output Settings	Assigned Unassigned	Al
Test channels 11HEAD0000HBAVYA (60X0002 AR2 Bridge 2kg033 Upper Neck Fx 2,000.00 g	Manual assignment Channel List iearch 8 channel() in test: 0 of 30 ph TOP (* 100) Group (* 100) Test channel	ts tysical channe(i) assigned Remove Sensor Delet 150 (t) t11H6A00000-BA	Show bottom row c 24690 code ¥ V/A 5DX008	150 channel name 💌 2 AR1	Type 🔽	Sensors Avai Search Online Analog Squib Set Setal Number	lable	Digital Output Settings Gapacity (EU)	Assigned Unassigned	All
Test channels 1114EAD0000H3AVZA (6DX0082.AR3 Bridge	Manual assignment Channel List Search 3 channe(t) in test: 0 of 30 ph TOP (A) (V) (BOT) Group (V) Test channels	ts ysical channel(r) assigned Remove Sensor Delet iso (n 11HEAD000H2A 11HEAD000H2A	Show bottom row 2 3499 code ¥ VXA 80X008 V/A 60X008	ISO channel name T	Type ▼ ▲ Bridge Bridge	Sensors Avail Search Online Analog Squib Set Serial Number Zkq033	lable tings Digital Input Settings Name v IEFE v Upper Neck F	Digital Output Settings Capacity (EU) ¥ 2,000.00	Assigned Unassigned	All
Test channelis 111HEA0000H3ACKA 6DX0082 Ac1 Bridge Alardware	Manual assignment Channel List Search 3 channels in test 0 of 30 ph TOP A W BOT Group W Test channels Test channels	ts ysical channel() assigned Remove Sensor IDelet I11H6A0000HA I11H6A0000HA I11H6A0000HA	Show bottom row 2469) code VIA 650X008 V/A 650X008 V/A 650X008	150 channel name 💌 2 AR1 2 AR2 2 AR3	Type ♥▲ Bridge Bridge Bridge	 Sensors Avail Search Online Analog Squib Set Serial Number ¥ 2kg033 4 	lable tings Digital Input Settings Name V EPE V Upper Neck Fix	Digital Output Settings Capacity (EU) V 2,000.00	Assigned Unassigned	All In Warning Rerod V
Tet channels I11H6A0000HAC/A B000BEAC2 Bridge	Manual assignment Channel List Search Colonare(s) Intes: 0 of 30 ph TOP A W BOT Group W Test channels Test channels Test channels	ts	Show bottom row 2 3499) code ¥ VXA 60XX08 VXA 80XX08 VXA 80XX08 VXA 80XX08 VXA 80XX08	50 channel name 💌 2 A81 2 A82 2 A83 2 A63 2 A61	Type V Bridge Bridge Bridge Bridge	Sensors Avai Search Online Analog Squib Set Setal Number 2kg03 4 Anadox Avai Anadox Avai Anadox Avai	lable tings Digital Input Settings Name V EPE V Upper Neck Fix	Digital Output Settings casacity (EU) ¥ 2,000.00	Assigned Unassigned Units V Out Of Date V 9	All
Text channels 111HE00000H3ACIA BD000ELAC3 Bridge LAX CLH # Type Channel Sensor	Manual assignment Channel List Search S channels TOP A V ISOT Group V Test channels Test channels Test channels Test channels Test channels	ts	E Show bottom row 2499) code ¥ VXA 60X008 VZA 60X008 CXA 60X008 CXA 60X008 CXA 60X008	50 channel name 👻 2 AR1 2 AR2 2 AR3 2 AR3 2 AC1 2 AC2	Type V Bridge Bridge Bridge Bridge Bridge	Sensors Avai Search Online Analog Squib Set Serial Number 22g033 Search Search Search Search Search Search	lable tings Digital Input Settings Name V EPE V Upper Neck Fx	Digital Output Settings Capacity (EU) V 2,000.00	Assigned Unassigned Units V Out Of Date V g	All

4. This will begin the Check Channel process (See *Check Channels*, page 71, for more information).

Record

Run Test

Use the Run Test tab to initiate a data collection sequence based on the active Test Setup. The settings and parameters in the Test Setup and the System Settings tabs determine the navsteps and behavior of DataPRO during the data collection process (See *Test Setups*, page 48, or *System Settings*, page 122, for more information).

The steps and images below are for a "Record In Place" test, where data is stored on the internal flash memory of the DAS. For information on configuring SLICE6 AIR DAS for a Streaming test, see *Appendix I: Setting up SLICE6 AIR*, page 209.

DTS recommends using the Diagnostic tab(s) prior to collecting data. However, many of the same steps will be repeated with each Data Collection sequence.

Navsteps are configurable for each Test Setup. Not all navsteps listed are required, therefore some steps listed below may not be applicable.

1. Select the "Run Test" tab:



2. The **Basic info** navstep displays an overview of the test setup:

Data Recorders	Sensor Templates	Senso	r Database	📝 Gro	oups	Set Se	tups	🔜 Additional Deta	ils	Check Channels	
Check Trigger	Quick Checkout	👓 Run Test	📥 Download	Data	🔎 View	Data	👛 Export Data	Manage	e Users	🐷 System Setting	js
Done Start (Automatic mode) View si	ummary										
Run test											
D 1 1 C	Example Tes	t Setup									
Basic Into	Tratia	(Need)			(Time	Channel w	h				
Hardware	lest id	[ivone]			Lime	stampj *					
	Description	Circular buffer	Control or	Des Casard	10.000						
Check sensor ID	Pre-Trigger Seconds:	1.00	Samples Post-Trio	per Second: aer Seconds:	1.00						
Check trigger	 Sensor details 	d		<u>.</u>							
eneck angger	Analog (8) Squib Se	ttings (0) Digital Inpu	t Settings (0) Digit	al Output Settin	gs (0)						
Diagnostics	Serial Num	er 🔻 Name 💌	Manufacturer 🔻	Model 🔻	IEPE 💌	Capacity (EU) 💌	Sensitivity 🔻	Linear Sensitivity 💌	Resistance (Ω)	Excitation (V)	Units
Pooltimo	√ 2kg033	Upper Neck				2,000.00		0.00042000 mV/V/EU	985	5	9
Reduine	√ 2kg040	Upper Neck				2,000.00		0.00040300 mV/V/EU	999	5	g
Arm checklist	✓ 6DX0082 A	C1 6DX0082 AC	DTS	(None)		2,000.00		0.01755000 mV/V/EU	347	5	q
Arm	./ 6DY0082 A/	2 6DX0082 AC	DTS	(None)		2,000,00		-0.01700000 mV////E	3//8	5	-
Ann			DTC	(None)		2,000.00		0.01025000	240	5	9
Download ROI	V 6DX0082 AV	.3 6DX0082 AC	DIS	(ivone)		2,000.00		0.01825000 mV/V/E0	348	2	9
	✓ 6DX0082 AI	6DX0082 AR	DTS	(None)		18,000.00		0.09440000 mV/EU	3004	5	deg/s
View ROI	✓ 6DX0082 AI	6DX0082 AR	DTS	(None)		18,000.00		0.09370000 mV/EU	3007	5	deg/s
Download all	✓ 6DX0082 AI	6DX0082 AR	DTS	(None)		18,000.00		-0.09456000 mV/EU	3004	5	deg/s
	•										
	Groups 🕞										
					Name					Test Object	Position
					Group 1					1	1
					Test channel	5				?	?

- a. Test Setup and Test ID are displayed throughout data collection sequence.
- b. Test ID prefix and suffix can be selected from pre-defined options. Set pre-defined options in System Settings tab (See *System Settings*, page 122, for more information).
- c. Verify recording mode/parameters as defined in Test Setup.
- d. Verify sensors in test in Sensor details table.
- NOTE: DataPRO can be configured to allow or to prevent running a test with sensors and hardware that is past due for calibration (See System Settings, page 122, for more information).
 - e. Verify Groups in test. Select up/down arrows to hide/display sensor list.
 - f. Select Start to start Automatic test progression, if enabled. Select View Summary to review Test Summary (Test Summary will be automatically generated and saved with data files. See *Appendix E: DataPRO File Structure*, page 163, for more information).
- 3. Continue to the **Hardware** navstep. DataPRO will attempt to communicate with the hardware associated with the active Test Setup:

😤 Data Recorders	😒 Sensor Temp	olates [Sensor Database	🔗 Groups	Test Setups	🛄 🚨 A	dditional Details	📔 Check Channe
Check Trigger	Quick Checkout	Run Test	😃 Download Dat	ta 🛛 🖉 View D	ata 🛄 Ex	port Data	🔼 Manage Users	😺 System Sett
Done Start (Automatic mode)								
Run test								
Basic info	Examp	le Test Setup						
Hardware					Passed			
Run								
Check sensor ID	🔿 Details	;						
	Tre	se view	Table view					
Check trigger	DÂS	Module Connecti	ion Channe	els	Status I	nput Voltage Status	Battery Voltage Status	
Diagnostics	SPE00150	192.168.0.1	50 18 analog, 4 squib, 8 digit	tal output channel(s) Passe	ed 15.	2 V	8.3 V (Charging)	
Pooltimo								
Redititite								
Arm chacklist								

- a. If needed, select Run to re-run Hardware navstep and reattempt hardware connection.
- 4. Proceed to **Check sensor ID** navstep to confirm sensors in test setup are properly configured with a hardware channel. Sensors without EID that have not yet been configured with hardware channels will need to be manually assigned before proceeding:

😤 Data Recorders	😒 Sensor Templates	📃 Sensor Database	e	🕜 Groups	Test Setups	🔜 Addit	tional Details		📔 Check Channe
Check Trigger	🚾 Quick Checkout 🔍 👓 Ru	un Test 🗾 🖬	Download Data	🔎 View Data	😐 Export I	Data	🔼 Manage U	Jsers	🔀 System Setti
Done Resume (Automatic mode)									
Kun test									
Basic info	Example Test Set	tup							
Dasic IIIIO			Incomplete	e 1 channel(s) r	equire manu:	lidentifica	ation		
Hardware		'	incomplet		equire manua		ation.		
Charly concor ID									
Check sensor iD	Unresolved Channels								
Run	Channel	Sensor	Туре	Status	All	Open In U	Jse Ma	anually Assigned	
Check trigger	Standard Front Airbag Second	dary TSQ_TestSpecific	Squib	Channel not assigned	Hardware Channel			Tune	0
Diamatia					SPE00150-SPS00331		- 13311 CH-01	Bridge	Head Acce
Diagnostics					SPE00150:SPS00331	[SPE00150:SPS00	03311 CH-02	Bridge	Head Acce
Realtime	Extra Sensor Ids				SPE00150:SPS00331	[SPE00150:SPS00	03311 CH-03	Bridge	Head Acce
A 1 111	Channel #	Sensor lo	d	Sensor	SPE00150:SPS00331	ISPE00150:SPS00	03311 CH-04	Bridge	Head And
Arm checklist	[SPE00150:SPS00331] CH-10	2200000126A8762D	2kg	034 (Upper Neck Fx)	SPE00150:SPS00331	ISPE00150:SPS00	03311 CH-05	Bridge	Head Ang
Arm					SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-06	Bridge	Head Ang
Developed DOI					SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-07	Bridge/IEPE	
					SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-08	Bridge/IEPE	
View ROI					SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-09	Bridge/IEPE	
Developed all					SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-10	Bridge	Neck Upp
Download all	Channels highlighted green H	have been assigned via El	D or hardware assi	ignment.	SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-11	Bridge	Neck Upp
	Channels highlighted orange assignment will be used inste	e indicate the sensor EID v	was not found and	the hardware channel	SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-12	Bridge/IEPE	
	Channels highlighted yellow	indicate the sensor was n	nanually assigned	using this Navigation Step.	CRE00150-SRE00331	[SPE00150:SPS00	0331] CH-13	Bridge/IEPE	
	Channels highlighted purple	indicate the sensor EID fo	ound does not mat	tch the hardware channel	SPE00150:SPS00331	[SPE00150:SPS00	0331] CH-14	Bridge/IEPE	
1	assignment.				•				

- a. Channels that are included in the Test Setup but not yet assigned to hardware channels will be listed in the Unresolved Channels table.
 - i. Select from Unresolved Channels table and drag to Hardware Channels table to make assignments.
 - ii. Each Test Setup can be configured to allow progressing with missing sensors (unresolved channels) (See *Test Setups*, page 48, for more information).
- b. Sensor IDs that were detected but are not included in the Test Setup will be displayed in the Extra Sensor IDs table. If the sensor ID(s) are associated with sensors in the Sensor Database, the serial number(s) will be displayed.
- c. The key defines what different shading in the Hardware Channels table indicates (See *Check Channels*, page 71, for more information).
- 5. The **Check Trigger** navstep allows the Event signal to be verified. The Check Trigger step is optional and can be configured in multiple ways in the System Settings tab (See *System Settings*, page 122, for more information):
- NOTE: DataPRO can be configured with the Check Trigger navstep to occur after Diagnostics. See System Settings, page 122, for more information.

😤 Data Recorders	Sensor Templates	Sensor I)atabase 🛛 🔗 Group	s 🔂 Test Setups	🔜 Additional Details	📔 Check Chann
Check Trigger	Cuick Checkout	👓 Run Test	🕘 Download Data	🔎 View Data 📃 Exp	ort Data 🔂 Manage Users	System Sett
Done Resume (Automatic mode)						
Run test						
Basic info	Example Tes	t Setup				
			N	aiting for user select	ion	
Hardware						
Check sensor ID						
Check trigger		Trigg	er: waiting		Faults: clea	ar
			-	V		
Run	(^) Details					
Run Bypass check	Details Grou	p	DAS	Triggered	Faults	Status
Run Bypass check	(> Details Grou, Group 1	p SPEO	DAS 0150	Triggered	Faults	Status Waiting
Run Bypass check Diagnostics	Oroup 1 Test channels	P SPEO SPEO	DAS 0150	Triggered	Faults	Status Waiting Waiting
Run Bypass check Diagnostics Realtime	Operails Grou Group 1 Test channels Group 1	P SPEO SPEO SPEO	DAS 0150 0150 0150:SPS00331	Triggered	Faults	Status Waiting Waiting Waiting
Run Bypass check Diagnostics Realtime	Details Group 1 Test channels Group 1 Test channels	P SPEO SPEO SPEO SPEO SPEO	DAS 0150 0150 0150:SPS00331 0150:SPS00331	Triggered	Faults	Vaiting Waiting Waiting Waiting Waiting

a. Select Run to perform a Trigger Check or Bypass check (if enabled) to bypass the trigger check:

😽 Data Recorders	Sensor Templates	Sensor Database	Groups	Test Setups	💂 Additional Details	Check Channels
Check Trigger	Quick Checkout	💀 Run Test 🔛 Downle	pad Data 🔑 View I	Data 🔤 Export Data	🔼 Manage Users	System Settings
Done Resume (Automatic mode)						
Run test						
Basic info	Example Te	st Setup				
Hardware			Waiting	for trigger check		
Check sensor ID				1.1		
Check trigger		Trigger: waiti	ng		Faults: clea	r
Run	🔿 Details 🛛 —	<u> </u>	<u> </u>	V		
Bypass check	Gro	up D	AS	Triggered	Faults	Status
Cancel trigger check	Group 1	SPE00150				Waiting
Software trigger	Test channels	SPE00150				Waiting
Solutione algger	Group 1	SPE00150:SPS00331				Waiting for trigger check
Diagnostics	Test channels	SPE00150:SPS00331				Waiting for trigger check

- i. After Trigger Check has been run, options to Cancel Trigger Check and issue Software Trigger are available.
- b. DAS indicates individual status:

🦉 DataPRO - Run test - [Example	: Test Setup]					– 🗗 🗙
😤 Data Recorders	Sensor Templates	Sensor Database	🕜 Groups	Setups	👤 Additional Details	Check Channels
Check Trigger	🙌 Quick Checkout	👓 Run Test 🛃 Download	Data 🔑 View Data	👛 Export Data	🔼 Manage Users	System Settings
Done Resume (Automatic mode)						
Run test						
Basic info	Example Tes	t Setup				
Hardware			Pa	assed		
Check sensor ID						
Check trigger		Triggered			Faults: clear	r
Run	🔿 Details ——			Ψ		
Cancel trigger check	Group	DAS	Tr	iggered	Faults	Status
	Group 1	SPE00150		\checkmark		Waiting
Diagnostics	Test channels	SPE00150		\checkmark		Waiting
Realtime	Group 1	SPE00150:SPS00331		\checkmark		Passed
Reductive	Test channels	SPE00150:SPS00331		\checkmark		Passed
Arm checklist	Group 1	SPE00150:SPT00107		\checkmark		Passed

.

6. Continue to **Diagnostics** navstep. DataPRO will automatically configure the DAS:

Run test					
Basic info	Example Test Setup				
Hardware			Waiting for user selec	tion	
Check sensor ID					
Check trigger	Tree view Ta	able view	Channels	Barrita	
Diagnostics Run	Group 1 Sample Group	SPE00150 192.168.0.150	[SPE00150:SPS00 Head Acco 331] CH-01 6DX0082	Ieration X SPS00331 6DX0082 AC1	
Run (DAS) Run (Channel)		SP500331	[SPE00150:SPS00 Head Acce 331] CH-02 6DX0082 /	CH-01 Jeration Y Head Acceleration X	
Realtime	lest channels	SPT00107	[SPE00150:SPS00 Head Acce	eleration Z Excitation	Low (%) -2
Arm checklist			[SPE00150:SPS00	ular Velocity	2011 (1)
Arm			331] CH-04 6DX0082	ARI	
Download ROI			[SPE00150:SPS00 Y	ular Velocity Initial offset	Low (mV) -100
View ROI			6DX0082	AR2 Shunt	
Download all			[SPE00150:SPS00 331] CH-06 Z 6DX0082 /	AR3 Actual range	
			[SPE00150:SPT00 Standard i 107] SQ-01	ront Airbag	
			(SPE00150-SPT00 Standard I	Front Airbag	

- a. Select Run to perform a diagnostic checkout on all DAS/Channels included in Test Setup.
- b. Select Run (DAS) to perform a diagnostic checkout on only the selected DAS.
- c. Select Run (Channel) to perform a diagnostic checkout on only the selected Channel.
- d. Select Low Power to turn off excitation voltage. Diagnostics will have to be performed again to resume data collection sequence.
- 7. A pre-test diagnostics report will be automatically generated and saved with the test data folder (See *Appendix E: DataPRO File Structure*, page 163, for more information).
 - a. Select View report to display this report:





8. The Realtime navstep allows for Realtime verification of each channel:

- a. The controls of Realtime in a data collection sequence are the same as the controls for the Check Channels diagnostic tab. (See *Check Channels*, page 71, for more information).
- NOTE: Realtime AAF ratio is 1:1 by default. This setting can be changed in the DataPRO.exe.config file. See DataPRO Settings Manual for more information about the config file.
- 9. Continue to the Arm Checklist navstep (if enabled):

📅 Data Recorders	😳 Sensor T	femplates	Sens	or Database		Groups		强 Test Setups		Additional De	tails	Check Chan	nels
Check Trigger	Quick Checkou	it	💿 Run Test	📥 Downloa	d Data	, , ,	View Data	🖆 Export	t Data	🔼 Mani	age Users	🐱 System Se	ttings
Resume (Automatic mode)													
													_
test													
	Examr	ole Test S	etun										
c info	Examp		etup										
dware							Pa	assed					
eck sensor ID													
eck trigger	(^) Senso	or Id check									1		
sek trigger	G	Broup	Channel	Sensor s	serial	Senso	r name	DAS	(h. #	Sensor Id	S	tatus
ignostics	Group 1		Head Acceleration X	6DX0082 AC1		6DX0082 AC	-1	SPE00150:SPS00331	CH-01		760000075066DD2D	Passed	
he.	Group 1		Head Acceleration Y	6DX0082 AC2		6DX0082 AC	-2	SPE00150:SPS00331	CH-02		CB000007508CEC2D	Passed	
aitime	Group 1		Head Acceleration Z	6DX0082 AC3		6DX0082 AC	-3	SPE00150:SPS00331	CH-03		220000075066312D	Passed	
n checklist	Group 1		Head Angular Velocit	y X 6DX0082 AR1		6DX0082 AR	-1	SPE00150:SPS00331	CH-04		EC0000173C278B01	Passed	
Run	Group 1		Head Angular Velocit	y Y 6DX0082 AR2		6DX0082 AR-2		SPE00150:SPS00331	CH-05		380000173C27C301	Passed	
	Group 1		Head Angular Velocit	y Z 6DX0082 AR3	6DX0082 AR3 6DX0082 AR-3			SPE00150:SPS00331	CH-06		250000173C116001	Passed	
n	O DAS V	voltage check											
1 1881		DA	S		Input Volt	age Status		Battery	Voltage Status			Status	
wnload ROI	SPE00150:5	SPS00331		12.3 V				8.4 V (Charging)			Passed		
w ROI	SPE00150:5	SPT00107		12.3 V				8.3 V (Charging)			Passed		
	SPE00150			15.1 V				8.3 V (Charging)			Passed		
wnload all	🔿 Squib	resistance ch	leck										
	Group	CI	nannel	DAS	Ch #	Delay	Dur	Fire Test Status	Low (Ω)	High (Ω)	Resistance (Ω)	Status	Setti
	Group 1	Standard Front	Airbag Primary S	PE00150:SPT00107	SQ-01	17.00	10.00	Passed	0.9	8.0	3.66	Passed	
	Group 1	Standard Front	Airbag Secondary	PE00150:SPT00107	SQ-02	20.00	10.00	Passed	0.9	8.0	3.64	Passed	
	 Event 	lines check											
		DA	S		St	art			Trigger			Status	
	SPE00150:5	SPS00331									Passed		
	SPE00150:5	SPT00107									Passed		
	SPE00150										Passed		
	🔿 Tilt se	ensor check											

- a. If enabled, the Arm Checklist will run system tests as defined in the Test Setup.
- NOTE: If a TOM is included in the hardware used in the test, the Arm Checklist is automatically included.

10. Continue to the **Arm** navstep:

🚰 Data Recorders	😒 Sensor Templates	Sensor	Database	🕜 Groups	Test Setups	🖳 Addition	nal Details	😑 Check Cha	innel
Check Trigger	🚰 Quick Checkout	•• Run Test	👍 Download Dat	a 🔑 View	Data 🔤 Export	Data 🚺	Manage Users	🐱 System S	Jettir
Done Resume (Automatic mode)									
Run test									
Basic info	<<								
Hardware	Example Test	Setup - 2020_01_2	23 12_01 🔶						_
Check sensor ID	Recording Mode: Pre-Trigger Second	Circular buffer s: 1.00	Samples Per Seconds: Post-Trigger Seconds:	10,000 Channels: 1.00 Level Trigge	12 (8 analog, 2 SQUIB, 0 ers: None) digital input, 2 digital	output)		
Check trigger				Waitin	g for user selection	on			
Diagnostics					^				
Realtime		Trig	ger: waiting	~	\rightarrow		Faults: clea	r	
Arm checklist	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	
Arm	Group 1	SPE00150		15.1 V	8.3 V (Charging)				
Run	Group 1	SPE00150:SPS00331	10,000						
Software Start	Group 1	SPE00150:SPT00107	10,000		小				
Coffeense Trianese	Test channels	SPE00150		15.1 V	8.3 V (Charging)				
sortware ingger	Test channels	SPE00150:SPS00331	10,000						

- a. Confirm Test Setup, Test ID, recording mode and parameters, channel count, group(s) and associated DAS.
- b. Verify Input Voltage (if present) and Battery Voltage (if present).
- c. System status displays.
 - i. "Waiting for user selection": Select Run to arm the system.
 - ii. "Trigger: waiting" indicates that a trigger has not been received.
- iii. "Faults: clear" indicates that no faults have been detected.
- *NOTE:* If enabled, additional Arm Prepare navstep will be present. See Appendix D: Quick Arm for more information.
- 11. Select Run to arm the system.
 - a. Circular Buffer recording mode:

🖉 DataPRO - Run test - [Example Test Setup]									- 0	×
😚 Data Recorders 🛛 🔂 S	ensor Templates	👤 Sensor D	Database	🔗 Groups	S Test Setups	Addition	nal Details	Check	Channels	=
🕺 Check Trigger 👘 Quick C	heckout	Run Test	📥 Download Data	🔑 View Da	ita 🔛 Export	Data 🚺	Manage Users	Syste	em Settings	
Done Resume (Automatic mode)										
Run test										
Rasic info					Armed					
busic into	 Example Test S 	etup - 2020_01_23	3 12_01							
Hardware										
Check sensor ID	Recording Mode: Pre-Trigger Seconds:	Circular buffer S 1.00 F	Samples Per Seconds: Post-Trigger Seconds:	10,000 Channels: 1.00 Level Triggers:	12 (8 analog, 2 SQUIB, None	0 digital input, 2 digital	output)			
Check trigger				Recording,	waiting for trig	ger 1s				
Diagnostics					50%	-				
Realtime										
		Trigg	ger: waiting			F	Faults: clea	ir		
Arm checklist	Group	DAS	Test sample rate	Input Voltage Status 🔻	Battery Voltage Status	Time left in arm	Triggered	Faults		Status
Arm	Group 1	SPE00150		15.1 V	8.3 V (Charging)					
Run	Group 1	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	12:35:39			Recording	
Software Start	Group 1	SPE00150:SPT00107	10,000	12.3 V	8.3 V (Charging)	1.01:10:59			Recording	
Software Trigger	Test channels	SPE00150		15.1 V	8.3 V (Charging)					
Software ingger	Test channels	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	12:35:39			Recording	
Stop Monitoring	•									•
Disarm										
Download ROI										
View ROI					Armed					
		to: Doored Arm			Annea		0			

- i. Once armed, status bar indicates recording, waiting for trigger. Displays time left in pre-defined test parameters.
- ii. Time left in arm is only displayed for SLICE hardware and displays total time available on 16 GB internal memory (See *How to Calculate Maximum Recording Time*, page 12, for more information).
- iii. Each DAS reports individual status.
- iv. Select Software Trigger to apply a software trigger.
- v. Select Stop Monitoring to disconnect the control PC from the DAS for data collection.

Run test										
Basic info										
Hardware	(*) Example Test S	etup - 2020_01_	23 12_01							
Check sensor ID	Recording Mode: Pre-Trigger Seconds:	Circular buffer 1.00	Samples Per Seconds: Post-Trigger Seconds:	10,000 1.00	Channels: Level Triggers:	12 (8 analog, 2 SQUIB, 0 None	digital input, 2 digital	output)		
Check trigger				Moni	toring Sto	pped, Ok to Dis	sconnect			
Diagnostics										
Realtime		Tric	nger: waiting				F	aults: cle	ar	
Arm checklist	Group	DAS	Test sample rate	Input	Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Status
Arm	•									Þ
Run										
Software Start										
Software Trigger										
Start Monitoring										
Disarm										

NOTE: Do not disconnect Ethernet or USB communication until the "Monitoring Stopped, OK to Disconnect" message appears.

- vi. Select Disarm to disarm the system and abort the test.
- b. Recorder Mode:

👹 DataPRO - Run test - [Example Test Setu	ID]								- 0	×
😽 Data Recorders	Sensor Templates	👤 S	ensor Database	🔗 Groups	Sector 1 Test	t Setups	Additional Details		Check Channels	=
🕺 Check Trigger 🛛 🕐 C	Quick Checkout	•• Run Test	😃 Downloa	id Data 🖉	View Data	👛 Export Data	🔼 Manage Us	ers	🐱 System Settings	
Done Resume (Automatic mode)										
Run test										
- · · · (< ▲				Arme	Ч				
Basic info					7 (1110)	u				
Hardware	(Example	lest Setup - 2020	_01_23 16_28							
Check sensor ID	Recording Mo	ode: Recorder Sa Te:	mples Per Seconds: st Length In Seconds:	10,000 Channels: 5.00 Level Triggers	12 (8 analog, 2 s None	SQUIB, 0 digital input, 2 digi	ital output)			
Check trigger				\rightarrow	Waiting for	r start				
Diagnostics										
Realtime		-	Frigger: waiti	na			Faults	clear		
Arm checklist			ingger. waru	ing			rauits.	cieai		
Anneleckist	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage S	Status Time left in arm	Triggered	Faults	Status	
Arm	Group 1	SPE00150		15.1 V	8.3 V (Charging)					
Run	Group 1	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	00:00:05			Armed	
Software Start	Group 1	SPE00150:SPT00107	10,000	12.3 V	8.3 V (Charging)	00:00:05			Armed	
5 0 T	Test channels	SPE00150		15.1 V	8.3 V (Charging)					
Software ingger	Test channels	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	00:00:05			Armed	
Stop Monitoring	4									•
Disarm										
Download ROI										
View ROI	•				Arme	d				
DAS 003 Comm 🌒 🗖	User Admin na	vigated to: Record_Arm	n				Connecte	ed to: Local	Current view: Admin Logi	n: Admin

- i. Once armed, status bar indicates Waiting for start.
- ii. Time left in arm displays total test length.
- iii. Each DAS reports individual status.
- iv. Generate Start Record signal either via hardware or by selecting Software Start (Software Trigger will be enabled once DAS receives Start Record signal):

📒 DataPRO - Run test - [Example Te	est Setup]								- 0	×
Data Recorders Check Trigger	Sensor Templates	e Run				ta	dditional Details Manage l	sers	Check Channels	
Done Resume (Automatic mode)			Are :	to start						
Run test			Are y	Su sure you want to start re	2cording:					
						-				
	Example	Test Setup	Yes		No					
Hardware										
Check sensor ID	Recording Mo	ode: Recorder Sa	imples Per Seconds:	10,000 Channels:	12 (8 analog, 2 SQUIB, None	0 digital input, 2 digital	output)			
Check trigger			it Lengur in Seconds	5.00 Level magazz	Waiting for sta	rt				
Realtime			Trigger: wait	Ing			Faults	clear		
Arm checklist		245	Inggen nu	lig			Timerad	Crea.		
- A	Group 1									
Rup	Group 1									
Ruh	Group 1									
Software Start	Test channels									
Software Trigger	Test channels			12.3 V	8.4 V (Charging)				Armed	
Stop Monitoring										
Disarm										
Download ROI										
View ROI					Armed					
DAS 003 Comm	User Admin na	avigated to: Record_Arr	m				Conne	ted to: Local	Current view: Admin Lc	ain: Admin

v. "Time left in arm" will start counting down once Start Record signal has been received:

🧱 DataPRO - Run test - [Example Tes	it Setup]								- 0	×
😤 Data Recorders	🕸 Sensor Templates	📃 Si	ensor Database	🔗 Groups	Setu 🔁	ps 🚦	Additional Details	🖹 Check 🤅	Channels	
Check Trigger	Contract Checkout	Run Test	🗖 Downloa	ad Data 🖉 🔎	View Data	Export Data	🔼 Manage Use	rs 🔂 System	m Settings	
Done Resume (Automatic mode)										
Run test										
	<<				Armod					
Basic info					Anneu					
Hardwaro	(^) Example	Test Setup - 2020	_01_23 16_28							_
Thardware	_									
Check sensor ID	Recording Mo	ode: Recorder Sa	mples Per Seconds:	10,000 Channels:	12 (8 analog, 2 SQUIE	3, 0 digital input, 2 dig	tal output)			
CL LLC		le	st Length In Seconds:	5.00 Level Trigger	s: None					
Check trigger				Record	ing, waiting for	r trigger 3s				
Diagnostics					220/					
					2270					
Realtime		-					Coulton a			
Arm chacklist			ingger. waiti	ng			rauits. C	lear		
Ann checklist	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Status	
Arm	Group 1	SPE00150		15.1 V	8.2 V (Charging)					
Run	Group 1	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	00:00:03		Recording		
Software Start	Group 1	SPE00150:SPT00107	10,000	12.3 V	8.3 V (Charging)	00:00:03		Recording		
Software Start	Test channels	SPE00150		15.1 V	8.2 V (Charging)					
Software Trigger	Test channels	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	00:00:03		Recording		
Stop Monitoring	4		1							•
Disarm										
Download ROI										
View POI										_
VIEW ROI					Armed					
	Licer Admin na	vigated to: Record Arm	2				Constant	the level Connection	Aduta Lata	Admin
	-Oser Admin ha	Myateu to-Necolu_Alli					Connected	a to: Local Current view	Admin Login:	Aamin

- vi. Generate Trigger/ T=0 signal either via hardware or by selecting Software Trigger.
- vii. Select Stop Monitoring to disconnect the control PC from the DAS for data collection.
- NOTE: Do not disconnect Ethernet or USB communication until the "Monitoring Stopped, OK to Disconnect" message appears.
 - viii. Select Disarm to disarm the system and abort the test.

c. Hybrid Mode:

🖉 DataPRO - Run test - [Example Test	t Setup]								- 0 ×
📅 Data Recorders	🚯 Sensor Templates	📃 Sensor 🛛	Database	🕜 Groups	Test Setups	🔝 Addition	nal Details	📔 Check	Channels 📃
Check Trigger	Conteckout	• • Run Test	🛃 Download Data	a 🛛 🔎 View D	ata 📃 Export	t Data 📃 🥵	Manage Users	🐱 Syst	em Settings
Done Resume (Automatic mode)									
Run test									
	<< 🔺								
Basic info					Armed				
Hardware	 Example Test 	t Setup - 2020_01_2	3 16_38						
Check sensor ID	Recording Mode:	Hybrid recorder Sa Po	mples Per Seconds: st-Trigger Seconds:	10,000 Channels: 5.00 Level Triggers:	12 (8 analog, 2 SQUIB, 0 None	digital input, 2 digital o	utput)		
Check trigger				> Wa	iting for start				
Diagnostics									
Realtime		Tuiou				,	Taulta, clas		
Arm chocklist		ingg	ger. waiting			, I	raults. clea	Ir	
ATTI CHECKIST	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Status
Arm	Group 1	SPE00150		15.1 V	8.2 V (Charging)				
Run	Group 1	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	12:36:08			Armed
Software Start	Group 1	SPE00150:SPT00107	10,000	12.3 V	8.3 V (Charging)	1.01:11:29			Armed
Sortware Start	Test channels	SPE00150		15.1 V	8.2 V (Charging)				
Software Trigger	Test channels	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	12:36:08			Armed
Stop Monitoring	4		1						Þ
Disarm									
Download ROI									
View ROI					Armed				
DAS 003 Comm 🔘	User Admin navigat	ed to: Record_Arm					Connected to:	Local Current viev	w: Admin Login: Admin

- i. Status bar indicates Waiting for start.
- ii. Post-Trigger Seconds displays total test length defined in Test Setup. Time left in arm displays total record time based on available DAS memory.
- iii. Each DAS reports individual status.
- iv. Select Software Start to apply a software Start Record signal (Software Trigger will be enabled once DAS receives Start Record signal).
- v. Time left in arm begins counting down once Start Record signal is received. Data is being written to flash memory and will be included in "Download All" dataset:

👹 DataPRO - Run test - [Example Te	st Setup]								- 0 >
😵 Data Recorders	Sensor Templates	👤 Sensor I	Database	🔗 Groups	STest Setups	🔝 Additio	nal Details	Check (Channels
Check Trigger	🚾 Quick Checkout	Run Test	🕘 Download Data	a 🔑 View D	ata 🚺 Export	Data 🗾	Manage Users	😣 System	m Settings
Done Resume (Automatic mode)									
Run test									
	<<				Armod				
Basic info					Anneu				
Hardware	Example Tes	t Setup - 2020_01_2	3 16_38						
Check sensor ID	Recording Mode:	Hybrid recorder Sa Po	amples Per Seconds: ost-Trigger Seconds:	10,000 Channels: 5.00 Level Triggers:	12 (8 analog, 2 SQUIB, 0 None	digital input, 2 digital c	output)		
Check trigger				Recording,	waiting for trig	ger 5s			
Diagnostics	_				0%				
Realtime		Tria	ger: waiting				Faults: clea	r	
Arm checklist	Carva		Test severals ante	Innut Voltage Chatur	Retters Voltage Status	Time left in ear	Trippond	Faulte	C+-
Arm	Group 1	50E00150	rest sample rate	15 1 V	8 2 V (Charging)	time left in arm	inggered	rauits	5141
Ann	Group 1	SPE00150-SPS00221	10,000	12.2 V	8.4 V (Charging)	12-25-28			Recording
KUN	Group 1	SPE00150/SPT00107	10,000	12.3 V	83 V (Charging)	1.01-10-49			Recording
Software Start	Test channels	SPE00150	10,000	15.1 V	8.2 V (Charging)				Recording
Software Trigger	Test channels	SPE00150:SPS00331	10.000	12.3 V	8.4 V (Charging)	12:35:28			Recording
Stop Monitoring	4				err r (errerging)				
Disarm									
Download ROI									
View ROI	100				Armod				
	• ·				Annea				
DAS 003 Comm	User Admin navigat	ted to: Record Arm					Connected to:	local Current view	Admin Login: Ad

vi. Specified Post-Trigger Seconds begins counting down once Event signal has been received:

🧱 DataPRO - Run test - [Example Test Setup]									- 🛛 🗙
😤 Data Recorders 🛛 🐼 S	ensor Templates	Sensor D	atabase	🕜 Groups	Test Setups	🖳 Addition	nal Details	😑 Check	k Channels 🛛 🗏
Check Trigger 🔂 Quick C	Checkout	•• Run Test	📥 Download Data	a 🔑 View D	ata 🔷 Export	Data 🔝	Manage Users	Syst	em Settings
Done Resume (Automatic mode)									
Run test									
<<									
Basic info					Armed				
Hardware	 Example Test 	Setup - 2020_01_23	16_38						
Hardware									
Check sensor ID	Recording Mode:	Hybrid recorder Sa Po	mples Per Seconds: st-Trigger Seconds:	10,000 Channels: 5.00 Level Triggers:	12 (8 analog, 2 SQUIB, 0 None	digital input, 2 digital o	utput)		
Check trigger				R	ecording 3s				
Diagnostics					26%				
Realtime									
		Ti	riggered			F	Faults: clea	r	
Arm checklist	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Status
Arm	Group 1	SPE00150		15.1 V	8.2 V (Charging)				
Run	Group 1	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	12:35:20	\checkmark		Recording
Software Start	Group 1	SPE00150:SPT00107	10,000	12.3 V	8.3 V (Charging)	1.01:10:42	\checkmark		Recording
	Test channels	SPE00150		15.1 V	8.2 V (Charging)				
Software Ingger	Test channels	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)	12:35:20	\checkmark		Recording
Stop Monitoring	4								۱.
Disarm									
Download ROI									
View ROI					Armed				
DAS 003 Comm	User Admin navigate	ed to: Record_Arm					Connected to:	Local Current vie	w: Admin Login: Admin

- vii. Select Stop Monitoring to disconnect the control PC from the DAS for data collection.
- *NOTE:* Do not disconnect Ethernet or USB communication until the "Monitoring Stopped, OK to Disconnect" message appears.
 - viii. Select Disarm to disarm the system and abort the test.
- 12. When the test has been completed and DAS has been detected (if applicable) select the **Download ROI** –or– **Download all** navstep. Skip to step 15 to proceed with Download All. Continue to the next step to proceed with Download ROI:

😤 Data Recorders	🐼 Sensor Templates	Sensor	Database	🚰 Groups	Test Setups	🛄 Additio	nal Details	😑 Check Ch	nannels
Check Trigger	Cuick Checkout	👓 Run Test	🖆 Download Dat	a 🛛 🖉 View D	ata 🔤 Export	t Data 🔼	Manage Users	🐉 System	Settings
Done Resume (Automatic mode)									
Run test									
Check sensor ID	*								
Check trigger	 Example Tes 	t Setup - 2020_01_2	23 16_38						
Diagnostics									
Realtime	Recording Mode:	Hybrid recorder 5	amples Per Seconds: Post-Trigger Seconds:	10,000 Channels: 5.00 Level Triggers:	12 (8 analog, 2 SQUIB, 0 None	digital input, 2 digital o	output)		
Realance				Read	ly for download				
Arm checklist									
Arm									
Run		-	Triggered				Faults: clea	r	
Software Start	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Stat
Software Trigger	Group 1	SPE00150		15.1 V	8.2 V (Charging)				
Stop Monitoring	Group 1	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)		\checkmark		Done recording
Disarm	Group 1	SPE00150:SPT00107	10,000	12.3 V	8.3 V (Charging)		\checkmark		Done recording
	Test channels	SPE00150		15.1 V	8.2 V (Charging)				
Download ROI	Test channels	SPE00150:SPS00331	10,000	12.3 V	8.4 V (Charging)		\checkmark		Done recording
View ROI	•								
Export ROI									
Download all									
Export all	-								

- a. Download and export options are configurable for each Test Setup (See *Test Setups*, page 48, for more information).
- NOTE: DataPRO will indicate if squib resistance is still present or TOMs are not in "Safe Position". See Settings Manual for options to configure DataPRO to allow or prevent progression:

🖉 DataPRO - Run test - [Example Test S	Setup]								- 0	\times
Tata Recorders	Sensor Templates					Addition	nal Details	Chee	ck Channels	
Check Ingger	Quick Checkout	Nun Run				ta 📃	Manage Users		stem Settings	
Done Resume (Automatic mode)		WARNIN	IG! All TOMs are not in	n the SAFE position. Click I	Retry to check again or					_
Run test		FIOCECO	to commue.							
	<< A					-				
Basic into	Example Ter	et Setup	Retry		Proceed					
Hardware	Contrainible les	st betup								
Check sensor ID	Recording Mode:	Hybrid recorder Sa Po	amples Per Seconds: ost-Trigger Seconds:	10,000 Channels: 5.00 Level Triggers:	12 (8 analog, 2 SQUIB, 0 None	digital input, 2 digital o	utput)			
Check trigger				Read	y for download					
Diagnostics										
Realtime										
		T	riggorod				Equite: close			
Arm checklist		Т	riggered			1	aults: clea	ar		
Arm checklist	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Faults: clea	a r Faults		itatus
Arm checklist	Group Group 1	DAS SPE00150	Test sample rate	Input Voltage Status	Battery Voltage Status 8.2 V (Charging)	Time left in arm	Faults: clea	Faults		itatus
Arm checklist Arm Run	Group 1 Group 1	DAS SPE00150 SPE00150:SPS00331	Test sample rate	Input Voltage Status 15.1 V 12.3 V	Battery Voltage Status 8.2 V (Charging) 8.4 V (Charging)	Time left in arm	Triggered	Faults	S Done recording	itatus 9
Arm checklist Arm Run Software Start	Group Group 1 Group 1 Group 1	DAS \$PE00150 \$PE00150:\$P500331 \$PE00150:\$P500301	Test sample rate 10,000 10,000	Input Voltage Status 15.1 V 12.3 V 12.3 V	Battery Voltage Status 8.2 V (Charging) 8.4 V (Charging) 8.3 V (Charging)	Time left in arm	Faults: clea	Ir Faults	Done recording	itatus g g
Arm checklist Arm Run Software Start Software Trigger	Group 1 Group 1 Group 1 Group 1 Test channels	DAS SPE00150 SPE00150:SPS00331 SPE00150:SPT00107 SPE00150	Test sample rate 10,000 10,000	Input Voltage Status 15.1 V 12.3 V 12.3 V 15.1 V	Battery Voltage Status 8.2 V (Charging) 8.4 V (Charging) 8.3 V (Charging) 8.2 V (Charging)	Time left in arm	Faults: clea	I r Faults	Done recording	itatus g g
Arm checklist Arm Run Software Start Software Trigger Stop Monitoring	Group 1 Group 1 Group 1 Group 1 Test channels Test channels	DAS SPE00150 SPE00150:SP500331 SPE00150:SP700107 SPE00150 SPE00150:SP500331	riggered Test sample rate 10,000 10,000	Input Voltage Status 15.1 V 12.3 V 12.3 V 15.1 V 12.3 V	Battery Voltage Status 8.2 V (Charging) 8.4 V (Charging) 8.3 V (Charging) 8.2 V (Charging) 8.4 V (Charging)	Time left in arm	Triggered	Faults	Done recording Done recording Done recording	itatus 9 9 9
Arm checklist Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Group 1 Group 1 Group 1 Group 1 Test channels Test channels 4	DAS SPE00150 SPE00150.SP500331 SPE00150.SP100107 SPE00150 SPE00150.SP500331	riggered Test sample rate 10,000 10,000	Input Voltage Status 15.1 V 12.3 V 15.1 V 15.1 V 12.3 V	Battery Voltage Status 8.2 V (Charging) 8.4 V (Charging) 8.3 V (Charging) 8.2 V (Charging) 8.4 V (Charging)	Time left in arm	Faults: clea	Faults	Done recording Done recording Done recording	itatus g g g g
Arm checklist Arm Run Software Start Software Trigger Stop Monitoring Disarm Download ROI	Group Group 1 Group 1 Group 1 Test channels Test channels 4	T DAS SPE00150 SPE00150:SP500331 SPE00150:SPT00107 SPE00150 SPE00150:SP500331	riggered Test sample rate 10,000 10,000 10,000	Input Voltage Status 15.1 V 12.3 V 12.3 V 15.1 V 12.3 V	Battery Voltage Status 8.2 V (Charging) 6.4 V (Charging) 8.3 V (Charging) 8.2 V (Charging) 8.4 V (Charging)	Time left in arm	Faults: clea	Faults	S Done recording Done recording	itatus g g g g
Arm checklist Arm Run Software Start Software Trigger Stop Monitoring Disarm Download ROI View ROI	Group Group 1 Group 1 Group 1 Test channels Test channels (T DAS SPE00150 SPE00150.SP500331 SPE00150.SPT00107 SPE00150 SPE00150.SP500331	riggered Test sample rate 10,000 10,000 10,000	Input Voltage Status 15.1 V 12.3 V 12.3 V 15.1 V 12.3 V	Battery Voltage Status 8.2 V (Charging) 8.4 V (Charging) 8.3 V (Charging) 8.2 V (Charging) 8.4 V (Charging)	Time left in arm	Faults: clea	Faults	Done recording Done recording Done recording	g g g

13. Modify the ROI period start/end if desired:

😤 Data Recorders	Sensor Templates	📃 Se	ensor Database	🔐 Groups	🥄 Te	st Setups	👤 Additional Deta	ils	📔 Check Channels	
Check Trigger	🚾 Quick Checkout	•• Run Test	😃 Download [Data 💋	View Data	😐 Export Data	🛃 Manage	e Users	😸 System Settings	
Done Resume (Automatic mode)										
Run test	Search									
Basic info	Example Te	st Setup								
Hardware				Wai	ting for use	r selection				
Check sensor ID										
Check trigger	ROI Details Data start (see	: -46.150 Dat	a end (sec): 5.184 S	ample rate (sps): 1	0.000					
Diagnostics	Test ID Suffix:	ROI Period 1	ROI period	start (sec) -1.000	ROI period	end (sec) 1.000]			
Realtime	Test ID Suffix:	ROI Period 2	- 🗸 ROI period	start (sec) 0.000	ROI period	end (sec) 5.000	ĺ			
Arm checklist		4	Λ [• 🔶			,			
Arm	Region o	f Interest Ch	annel Assignme	ents						
Download ROI	ISO Cod 11AIRBERI FI	1CU00 Standar	50 Channel Name	Serial Number	Sensor Name	DAS Serial Number	Sample Rate	Display Units	_ROI Period 1	_RO
Run	11AIRBFRLE	02CU00 Standar	d Front Airbag Secondary	TSQ_TestSpecific	TSQ_TestSpecific	N/A	10000	V	\checkmark	
View ROI	??NECKUP0	H3FOZC Neck Up	oper Force Z	2kg040	Upper Neck Fz	SPS00331	10000	g	\checkmark	
Export ROI	11NECKUP0	0H3FOXC Neck Up	oper Force X	2kg033	Upper Neck Fx	SPS00331	10000	9	\checkmark	
Download all	A Details									
	Groups		DAS							
Export all		Group 1 Sample Group		SPE00 192.16	150 8.0.150					

- a. Select Run to download the defined ROI Segment(s).
 - i. Add additional ROI Segment(s) with the plus (+).
 - ii. Remove ROI Segment(s) with the minus (-).
- b. If multiple ROIs are included, channels to be included in each ROI must be defined.
 i. Each channel in a test must be included in at least one ROI.
- 14. Select View ROI to display the downloaded data in the Region Of Interest:

lup tost						
tun test		3				Charl Online 14 17
Basic info	Search		•	Test Setup: Test Id: Hardware Char	Example Test Setup 2020_01_23 16_38_ROI Period 1 (SDE001E0.SDE001071 SO. 01	Chart Unit Type
Hardware	1_23 16_38_ROI Period 1 Example Test Setup ROI 1/23/2 : Channels [12 Channels]	c	20	Serial Number: Channel Descri	iption: TSQ_TestSpecific (Voltage)	EU mV ADC
Check sensor ID	Head Acceleration X 6DX0082 AC-1 11HEAD0000H3ACXA		10	Channel ISO Co Channel ISO N	ode: 11AIRBFRLE01VO00 ame: Standard Front Airbag Primary	Auto Range EU Res
Check trigger	11HEAD0000H3ACY? Head Acceleration Z 6DX0082 AC-3			Recording Moo Sample Rate (H	de: HybridRecorderMode Hz): 10000 r (H-1): 2000	% Full Scale EU 100
Diagnostics	11HEAD0000H3ACZ? Head Angular Velocity X 6DX0082 AR-1		16	Software Filter Excitation (V):	Class: Unfiltered 0.000	Fixed EU
Realtime	11HEAD0000H3AVXA Head Angular Velocity Y 6DX0082 AR-2 11HEAD0000H3AVY2		14	Min/Max (V) :	-1.8484/18.168	Min: -2.218 Max: 21.8
Arm checklist	Head Angular Velocity Z 6DX0082 AR-3 11HEAD0000H3AVZ?		12	StdDev (V) : Value @ T0 (V)	1.1129	Min: -1,000.000 Max 1,000
Arm	Standard Front Airbag Primary (Voltage) TS 11AIRBFRLE01VO00	C				Display Filter Time Unit Type
Download ROI	Standard Front Airbag Primary (Current) TSQ_T 11AIRBFRLE01CU00 Standard Front Airbag Sociadary (Acitage) TSC	>	10			Unfiltered ms
View ROI	11AIRBFRLE02VOOD Standard Front Airbag Secondary (Current) TSC	2	8			Custom
Export ROI	11AIRBFRLE02CU00 Neck Upper Force Z Upper Neck Fz		6			Save Chart
Download all						Save to PDF
Export all			4			
			2			
			0			
			-1000 -800 -600 -400	-200 0 200	400 600 800	
			•		¥	

- a. The data set(s) displayed in the View ROI Test Selection pane are the ROI Segment(s) just downloaded.
- b. See View Data: View, Modify, page 102, for information on Viewer controls.
- 15. Select Export ROI to export the downloaded data in the ROI Segment(s) (Optional):

😤 Data Recorders	Sensor Templates	👤 Sensor D	atabase 🚺	Groups	Test Setups	🖳 Additional Details	📔 Check Channels
Check Trigger	Cuick Checkout	•• Run Test	👍 Download Data	🔎 View Data	👛 Export D	ata 🔼 Manage Users	🐱 System Settings
one Resume (Automatic mode)							
lun test							
	Evenada Test	Satur (2020	01 02 16 20				
Basic info	Example lesi	. Setup / 2020	01_25 10_56				
Hardware			Modity fie	elds, if needed,	then click on	'Run' button	
Thack consor ID							
LITECK SETISOF ID	DIAdem	CSV export in	fo				
Check trigger		Type:		\checkmark	Unfiltered	Filtered mV ADC	
Diagnostics	V C3V	Test ID Suf	ix: _ROI Period 1	✓ ROI period star	: (sec) 0.000	ROI period end (sec) 1.000	
Realtime	ISO	Test ID Suf	DOI Devied 2		(POlymeiad and (and) 5 000	
tearanne	TTS	lest ID Sun	IX: _KOI Period 2	V KOI period star	(sec) 0.000 +	KOI period end (sec) 5.000	
Arm checklist	RDF						
Arm	TDAS						
Download ROI	TDMS						
	DDAS						
/iew ROI	TSV						
Export ROI	HDF						
Run	Excel (xis	c)					
Download all							
weet all							
export all							

- a. Add or remove export types as needed.
- b. Select Run to export ROI data.

16. Select Download all then Run to download the full data set (Optional):

🚟 Data Recorders	Sensor Templates	Sensor Data	abase	🕜 Groups	💁 Test Setups	Additional Details	Check Channels
Check Trigger	Quick Checkout	📀 Run Test	Download Data	🔎 View Di	ta 🔛 Export Data	🔼 Manage Users	🐱 System Settings
one Resume (Automatic mode)							
un test							
	Evample Test Set	a					
asic info	Example lest set	up		Maiting f			
lardware				waiting to	or user selection		
heck sensor ID							
heck trigger							
liagnostics							
ealtime							
rm checklist							
rm							
ownload ROI							
iew ROI							
xport ROI							
) ownload all							
Run							
iew all							
un est ell	Details						
xport all	Groups		DAS				
	Group 1 Sample G	roup	SPE0 192.1 IDLE	0150 68.0.150			

- 17. Select View All to display the full data set.
 - a. The data set displayed in the View All Test Selection Pane is the full data set just downloaded.
 - b. See View Data: View, Modify, page 102, for information on Viewer controls.
- 18. Select Export all to export the full data set (Optional)
 - a. Add or remove export types as needed.
 - b. Select Run to export all data (See Appendix E: DataPRO File Structure, page 163).
- 19. Select "Done" to return to the previous location. To return to the Quick Start Steps, click *here* (page 17).
- NOTE: Automatic mode is enabled in the Test Setup used for the images used above.

Download Data

Use the Download Data tab to re-download a data set that has already been collected and is still present on the DAS internal memory.

- 1. Ensure the correct Test Setup is selected as the Active Test Setup.
- 2. Select the "Download Data" tab:



- 3. Select Show recovery tools to browse to test setup if necessary.
- 4. Modify the Test id if desired.
 - a. DataPRO defaults to using the most recently run Test Setup .xml file when downloading data via the Download Data tab.
 - b. Select Show recovery controls to browse to and use a different Test Setup .xml file:

😤 Data Recorders	Sensor Templates	Sensor	Database	📝 Groups	🔁 Te	est Setups	👤 Additional Details	📔 Check C	nannels
Check Trigger	Quick Checkout	👓 Run Test	🖆 Download D	ata 🖉	View Data	🖆 Export Data	🔼 Manage Us	sers 🛛 🔯 System	Settings
e Show recovery controls									
wnload Data									
sic info	Example T	est Setup							
	Test id	2020_01_24 10_41-Re	Downl						
rdware	Description								
woload ROI	Recording Mode:	Circular buffer							
Whiodd Not	Pre-Trigger Secon	nds: 1.00	Post-Trigge	er Seconds: 5.00					
ew ROI	 Sensor deta 	ils							
	Analog (8) Squil	o Settings (0) Digital Input	Settings (0) Digital	Output Settings (0)					
oort ROI	Serial N	lumber 💌 🛛 Name 💌	Manufacturer 💌	Model 💌 IEF	E 💌 Capacity (EU) 💌 Sensitivity 💌	Linear Sensitivity 💌	Resistance (Ω) 💌 Exci	ation (V) 💌
wnload all	✓ 2kg033	Upper Neck F	(2,000.00		0.00042000 mV/V/EU	985 5	9
	√ 2kg040	Upper Neck F	:		2,000.00		0.00040300 mV/V/EU	999 5	g
w all	√ 6DX008	2 AC1 6DX0082 AC-1	DTS	(None)	2,000.00		0.01755000 mV/V/EU	347 5	9
ort all	✓ 6DX008	2 AC2 6DX0082 AC-2	DTS	(None)	2,000.00		-0.01700000 mV/V/EU	348 5	q
orean	- 6DX008	2 AC3 6DX0082 AC-3	DTS	(None)	2 000.00		0.01825000 mV/V/EU	348 5	
oad data	4 6DX008	2 AP1 6DV0092 AP-1	DTS	(None)	18,000,00		0.09440000 mV/EU	2004 5	de
	00000	2 AR1 00X0002 AR-	013	(NONE)	10,000.00		0.00070000 1117/20	3004 5	
	✓ 6DX008	2 AK2 6DX0082 AK-2	DIS	(None)	18,000.00		0.09370000 mV/E0	3007 5	de
	✓ 6DX008	2 AR3 6DX0082 AR-3	DTS	(None)	18,000.00		-0.09456000 mV/EU	3004 5	de
	Groups			News				Test Object	n Desition
				Nam	1			rest Object	1 Position
				Group	1. 			1	1
				lest char	ineis			1	f

- 5. Continue to the **Hardware** navstep.
- 6. Continue from step 11 above under Run Test, page 85.

Review

View Data: View, Modify

Review a data set that has been collected and downloaded with any version of DataPRO. Perform basic manipulations of data channels, add calculated channels or modify certain parameters for the full data set.

To view data from a test not listed in the table, start at step 1. To view data from a test in the table, go to step 4.

Viewer Layout

The viewer is divided into three panes:

🗒 DataPRO - View test - [Example Te	est Setup]					– 0 ×
😤 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups	STest Setups	2 Additional Details	Check Channels
Check Trigger	Contract Checkout	° Run Test 🔄 Downlo	pad Data 🦻 View Dat	a 🔤 Export Data	🕵 Manage Users	🐱 System Settings
Add Calculation						
View test Tests 0/100 Graphs 0/12 Setting Refresh Browse Seal Sort: Time Stamp (Descend ○ 202001_24 10_41 ○ 202001_23 16_38_R ○ 202001_23 16_38_R ○ 202001_23 16_38_R	rch ing) • KOI Period 1 KOI Period 2 KOI Period 2	F	'lease select Test(s) to view di	ita	Chart Options N Chart Unit Type III EU Range III Auto Range % Full Scall Fixed EU Min	Iodify mV ADC EU Reset All EU 100 0000 [2] Maxc 1.000 [2]
 ♥ 202001_07 09_53_R ♥ 202001_07 09_53_R ♥ 202001_06 16_20 ♥ 202001_06 16_00 ♥ 202001_06 11_42 rr 	e-download e-download_ROII e-download_ROII				Lock T Min: Display Filter Unfiltered Save Chart Save to PDF	efault
Test/Graph Select	ion Pane		Chart Pane		Moo	dification Pane
DAS 000 Comm 🔘 📃	User Admin naviga	ated to: Record_BasicInfo			Connected to: Loo	al Current view: Admin Login: Admin

- 1. Test/Graph Selection Pane (See Selection Pane for more details).
 - a. Test Selection:



- i. Select tests from data directory.
- ii. Browse to other datasets.
- iii. Search for text in test descriptors.

Add Calculation

- iv. Sort display order of data.
- b. Graph Selection:



- i. Select pre-defined graphs, individual channels or calculated channels to display.
- ii. Select/lock multiple channels to chart to dynamically review and compare.
- iii. Search for channel(s) by Channel name or Channel description.

c. Settings:

Add Calculation	
View test	
Tests 1/102 Graphs 1/1	13 Settings
Calibration Behavior	Use the non-linear sen:
	Always use a linear sensitivit Use the non-linear sensitivit Use both sensitivities, if avai

- i. Select Calibration Behavior for non-linear sensors that also include a linear sensitivity.
- 2. Chart Pane (See *Chart Pane*, page 112, for more details):



- a. Select channel(s) to review test data.
- b. Dynamically zoom.
- c. Use Modification Pane to manipulate chart display or write modifications to test data.

3. Modification Pane (See *Modification Pane*, page 114, for more details):

Chart Options Modify					
Chart Unit Type					
EU mV ADC	Chart Options	Chart Options Modify Description: 6DX0082 AR-3 Filter: CFC 1000 Data Flag: Normal Shift T₀ (ms): 0.000 ♀ EU Multiplier: 1.0000000 ♀ EU Offset: 0.000 ♀ Sensitivity: -0.09456000000 ♀ Line Fit: 1.0000 ♀ T₁ (ms): 0.000 ♀ Cancel Write Restore All 0.000 ♀			
Range	Description:	6DX0082 AR-	.3		
Auto Range ELL Reset All	Filter:	CFC 1000	•		
	Data Flag:	Normal	-		
	Shift T₀ (ms):		0.000 🔷	Test	-
Fixed EU	EU Multiplier:	1.000	000000		
Min: -977.392 Max: 1,581.824	EU Offset:	0.000	000000		
Lock T Reset T	Sensitivity:	-0.0945600	000000 🛟		
Min: -1,000.000 🔹 Max: 5,000.000 🔹	Line Fit:				
- Display Filter - Time Unit Type	T₁ (ms):		0.000 🜩		
Unfiltered ms	T ₂ (ms):		0.000 🗢		
Test Setup Default Seconds	Can	cel		Write	
Custom			Res	store All	
Unfiltered					
Save Chart					
Save to PDF					

- a. Chart Options tab allows for real-time manipulation of the channel(s) displayed in the chart.
 - i. Select Save to PDF to save the current graph as a PDF. The PDF is currently saved with the binary data. *Appendix E: DataPRO File Structure*, page 163.
- b. Modify tab allows for single-channel modifications that are written to the data.
 - i. Multiple modifications can be made to each channel.
 - ii. Restore All will undo all changes and revert data to original, as collected values.

4. Selection Pane:

Tests tab

Select test(s) to review individual channel data:



- 1. Use arrows to expand/collapse test description.
- 2. Search for test descriptors (Test Setup, Test ID, Type, Description, etc.).
- Browse to dataset(s) in other locations.
 a. DataPRO and SLICEWare data can be imported and viewed.
- 4. Sort datasets by Time Stamp, File Date, test ID, Test Setup.
- 5. Select dataset(s) from DataPRO data directory.
 - a. Selecting a dataset adds the channels (individual test channels, pre-defined graphs and calculated channels) to the Graphs tab.
- 6. Tests tab displays number of tests selected/number of tests available. Graphs tab displays number of graphs displayed/number of graphs available.
- 7. Use snap arrows to expand/collapse menu.

Graphs tab

Select channels (pre-defined graphs, individual test channels and calculated channels) to display and review:



- 1. Channels (individual test channels, pre-defined graphs and calculated channels) from selected test(s) are displayed in the Graphs tab.
 - a. Selected/locked channels displayed in numerator (3/19).
 - b. Available channels displayed in denominator (3/19).
- 2. Search for channel name, channel description, or channel code.
- Test Setup name/Test ID for test(s) selected in Tests tab.
 a. Expand or collapse test ID to hide or display available channels.
- 4. Pre-defined graphs will be displayed first.
- 5. Select individual channels, pre-defined graphs, or calculated channels.
 - a. Select channels by highlighting description.
 - b. Lock channels to chart with checkbox.

6. Select to add Calculated Channel:

🚰 Data Recorders	🔂 Sensor Templates	📃 Senso	or Database	🔗 Groups	
Check Trigger	Quick Checkout	👓 Run Test	🕹 Download Data	Viev	v Data
dd Calculation Cancel Save					
iew test					
Add Calculated (Channel				
Channel Name	New Channel				
SO Code	NONE				
Calculation	Integral		•	•	

- a. Enter Channel name and (optional) ISO Code.
- b. Select Calculation type and included channels:
 - i. Coefficients for 3D IR-TRACC calculations can be found in the *DataPRO.exe.config* file.

😤 Data Re	ecorders	Sensor Templates	Sens	or Database	🔗 Group	s	
🗧 Check Tri	igger	Quick Checkout	Run Test	🕹 Download 🛙	Data	🔎 View Data	
dd Calculation	Cancel Save						
iew test							1
dd Calci	lated C	hannel					
Channel Name	Sample Calcu	Ilation					
SO Code	NONE						
alculation	SUM				-		
nput channels			Channel				
		Head Acceleration X/11HE	AD0000H3ACXA/[6DX00	82 AC-1]			
		Head Acceleration Y/11HEA	AD0000H3ACY?/[6DX008	32 AC-2]			
		Head Acceleration Z/11HEA	AD0000H3ACZ?/[6DX00	32 AC-3]			
		Head Angular Velocity X/11	HEAD0000H3AVXA/[6D	X0082 AR-1]			
		Head Angular Velocity Y/11	HEAD0000H3AVY?/[6D)	(0082 AR-2]			
		Head Angular Velocity Z/11	HEAD0000H3AVZ?/[6D]	X0082 AR-3]			
		Standard Front Airbag Prim	ary/11AIRBFRLE01VO00	//[TSQ_TestSpecific (Vol	tage)]		
		Standard Front Airbag Prim	ary/11AIRBFRLE01CU00	/[TSQ_TestSpecific (Cur	rent)]		
		Standard Front Airbag Seco	Voltage)]				
		Standard Front Airbag Seco	ondary/11AIRBFRLE02CU	J00/[TSQ_TestSpecific (Current)]		
	\checkmark	Neck Upper Force Z/??NEC	KUP00H3FOZC/[Upper	Neck Fz]			
	1	Neck Upper Force X/11NFC		Nack Evi			

c. Select Save to add calculated channel to dataset.


Graph Selection

1. Selecting a dataset adds the channels (individual test channels, pre-defined graphs and calculated channels) to the Graphs tab:



- DataPRO View test [Another Example Test Setup] 😤 Data Recorders Sensor Templates Sensor Database 🔗 Groups Test Setups 🛄 Additiona •• Run Test Check Trigger Quick Checkout 🛃 Download Data View Data 🖆 Export Data 🕵 M Add Calculati View test Tests 1/102 Graphs 2/13 Settings 800 020 01 24 11 17 Example Test Setup ROI 1/24/2020 Graph Channels: Head ARS [3 Channels] 600 Head Angular Velocity X 6DX0082 AR-1 Head Angular Velocity Y 6DX0082 AR-2 Head Angular Velocity Z 6DX0082 AR-2 Head Angular Velocity Z 6DX0082 AR-3 Test Channels [12 Channels] 400 Head Acceleration X 6DX0082 AC-1 200 11HEAD0000H3ACXA Head Acceleration Y 6DX0082 AC-2 11HEAD0000H3ACY? 0 Head Acceleration Z 6DX0082 AC-3 11HEAD0000H3ACZ? -200 σ Head Angular Velocity X 6DX0082 AR-1 114640000434VX4 Head Angular Velocity Y 6DX0082 AR-2 11HEAD0000H3AVY? -400 Head Angular Velocity Z 6DX0082 AR-3 11HEAD0000H3AVZ? -600 Standard Front Airbag Primary (Voltage) TS 11AIRBFRLE01VO00 -800 Standard Front Airbag Primary (Cu 11AIRBFRLE01CU00 -1000 Standard Front Airbag Secondary (Voltag 11AIRBFRLE02VO00 Standard Front Airbag Secondary (Cur 11AIRBERLE02CU00 Neck Upper Force Z Upper Neck Fz ??NECKUP00H3FOZC -1000 -800 -600 -400 -200 ò 200 400 600 800 Neck Upper Force X Upper Neck Fx 11NECKUP00H3FOXC 4 l b MS Waiting for user input DAS 000 Comm
- 2. Selecting a channel adds that graph to the chart:

- a. If a test contains predefined graphs, these will be displayed first in the Chart pane. If there are no predefined graphs, the first channel in the test will be displayed.
- b. A single channel, predefined graph, or calculated channel can be selected and displayed in the chart or locked to the chart.
 - i. In the above example, Neck Upper Force X is locked to the chart and Neck Upper Force Z is selected.
 - ii. Use the arrow keys or click to change the selected channel.
- c. When a single channel is displayed on the chart, channel details will be displayed on the chart:



- i. Hover over the channel details to hide.
- 3. Select the Calibration Behavior for non-linear sensors in the Settings tab:



Chart Pane

Selected/locked channels are displayed in the Chart pane:



1. Dynamic Zoom selection:





- a. Select Reset All or use ESC key to return to full chart view.
- 2. Red T=0 indicator:



- a. Present when a single channel is displayed.
- b. Move with right mouse click or via entry in Modification pane.

3. Channel overlay:

Test Setup:	Example Test Setup
Test Id:	2020_01_24 11_17
Hardware Channel:	[SPE00150:SPS00331] CH-10
Serial Number:	2kg040
Channel Description:	Upper Neck Fz
Channel ISO Code:	??NECKUP00H3FOZC
Channel ISO Name:	Neck Upper Force Z
Recording Mode:	CircularBuffer
Sample Rate (Hz):	10000
Hardware Filter (Hz):	2900
Software Filter Class:	CFC 180
Excitation (V):	5.005
Polarity:	+
Min/Max (g) :	-1090/741.15
Average (g) :	-604.53
StdDev (g) :	534.08
Value @ T0 (g) :	157.56

- a. Present when a single channel is displayed.
- b. Hover over to hide channel overlay.

Modification Pane

Use controls to temporarily modify the displayed view, or to write changes to collected data.

1. Chart Options: Changes made in Chart Options temporarily modify the display view:



- 1. Select to display EU, mV, or ADC as chart unit.
- 2. Select Range to display.
 - a. Reset All reverts to Auto Range.
 - b. Lock T locks X axis at displayed values.
 - c. Reset T reverts X axis to default/full range values.
- 3. Select filter type to apply to chart view.
- 4. Select to display time in milliseconds or seconds.
- 5. Select to save current graph view to PDF. See *Appendix E*, page 163, for more information.

2. Modify: Changes made in Modify can be written to the collected data set:

Chart Options	Modify				
Description:	Upper Nec	k Fz			
Filter:	CFC 180		•		
Data Flag:	Normal		•		
Shift T₀ (ms):		0.000	•	Test	-
EU Multiplier:	1.0	0000000	•		
EU Offset:	0.0	0000000	•		
Sensitivity:	0.00040	3000000	•		
Line Fit:					
T1 (ms):		0.000	•		
T₂ (ms):		0.000	-		
Can	cel			Write	
			Re	store All	

- 1. Software filter options:
 - a. None.
 - b. CFC 10.
 - c. CFC 60.
 - d. CFC 180.
 - e. CFC 600.
 - f. CFC 1000.
 - g. Unfiltered.
- 2. Data flag options:
 - a. None.
 - b. Normal.
 - c. Saturated.
 - d. Zero Crossing Error.
 - e. Broken Wire.
 - f. Other.
- 3. Shift T=0:
 - a. If T=0 indicator is moved with mouse click, new location will be displayed.
 - b. Enter value to move T=0 indicator.
 - c. Apply shift to DAS or to test.
- 4. Select Cancel to exit and not save changes.
- 5. Select Write to write changes to data.

Select Restore All to revert to original as-collected data.

Export Data

Export a data set that has been collected and downloaded with any version of DataPRO.

To export data from a test not listed in the table, start at step 1. To export a file listed in the table, go to step 3.

1. Select the "Export Data" tab:



2. To export data collected in DataPRO but not listed in the table, select "Browse":

📅 DataPRO - Export Data - [A	Another Example Test Setup]			
😤 Data Recorders	😳 Sensor Templates	📃 Sensor Database	📝 Groups	S Test Setups
Export Browse	😓 Quick Checkout	👓 Run Test 🗾 Downl	oad Data 🛛 🔎 Viev	v Data 🗠 Export Data
Export Data	Search			

3. Browse to the desired location (*C:\DTS\DTS.Suite\Data* is the default location for data) and select the DataPRO.dts file from the desired test data folder. Test data is organized by Test Setup name then by the name of the individual dataset:



4. To export data from a test listed in the table, double click on the desired test, or highlight and select Export. The table is populated from the DataPRO Data folder. See *Appendix E: DataPRO File Structure*, page 163:

😤 Data Recor	ders 🔂 Sensor Templates	Sensor Da	atabase 🧖	Groups	Test Setups	
Check Trigge	r Quick Checkout	👓 Run Test	🕹 Download Data	🔎 View Data	🖆 Expor	t Data
Export Browse						
Export Data	Search					
Test Setup Name	Test ID	Description	Number of Channels	Test Date/Time	Laboratory	Custon
Example Test Setup	2020_01_24 11_17		12	1/24/2020 11:22 AM		
Example Test Setup	2020_01_24 11_17		12	1/24/2020 11:22 AM		
Example Test Setup	2020_01_24 10_41		12	1/24/2020 10:48 AM		
Example Test Setup	2020_01_23 16_38_ROI Period 1		12	1/23/2020 4:47 PM		
Example Test Setup	2020 01 23 16 38 ROI Period 2		2	1/23/2020 4:47 PM		

5. Select the calibration behavior and the data export format(s) and modify fields as needed. All fields in red must be completed:

👑 DataPRO - Export Data - [Anoth	er Example Test Setup]					– o ×	
😤 Data Recorders	Sensor Templates	Sensor Database	🕜 Groups	Setups	🔜 Additional Details	Check Channels	Ξ
Check Trigger	Cuick Checkout	👓 Run Test 🔲 Download Data	🔎 View Data	👛 Export Data	🔼 Manage Users	System Settings	
Done							
Export Data							
Export all	Example Test	t Setup / 20 <mark>20_01_24 11_17</mark>					
Run		Modify	fields, if needed	l, then click on 'Ru	ın' button		
	Use non-linear sensi Always use linear sen Use non-linear sensi	tivity, if available		Filtered			
	Use both sensitivitie	s, if available, as separ					
	TTS						
	RDF						
	TDAS						
_	DDAS						
	TSV						
	HDF						
	V Excel (xis	x)					
DAS 000 Comm 🔘 🗾	User Admin navigate	ed to: Record_ExportALL			Connected to: 1	.ocal Current view: Admin Login: Adm	in

- a. DIAdem: Choose descriptor for line 200 and 201.
- b. CSV: Choose Filtered or Unfiltered and whether to include mV and/or ADC data.
- c. ISO: See ISO TS13499 RED A for information on export fields.
- d. TTS: Customer specific export format. Choose sub sample intervals.
- e. RDF: Customer specific export format. No export options.
- f. TDAS: Export format compatible with TDAS Control. No export options.
- g. TDMS: Export format compatible with TDAS Manager. No export options.
- h. DDAS: Customer specific export format. No export options.
- i. TSV: Choose Filtered or Unfiltered.
- j. HDF: Choose to include logs, reports, test setup file, ADC data, mV data, EU data.
- k. Excel (xlsx): Choose Filtered or Unfiltered.

6. Select Run to export data:

😤 Data Recorders	Sensor Templates	Sensor	Database 🛛 🕅 Gri	oups 🔂	Test Setups	👤 Additio
Check Trigger	Cuick Checkout	Run Test	🕹 Download Data	🔎 View Data	👛 Export Data	
Done						
Export Data						
Export all	Example Test	Setup / 202	0 01 24 11 17			
		1.7	 Modify field	c if pooded th	on click on 'Pu	in' hut
Run			would held	s, ii neeueu, iii		in but
	United and the second state	ite if eaching a set				
	Use non-linear sensitiv	ity, if available +	DIAdem export info	rt info		
	√ DIAdem		DIAdem Channel Name (200)	ISO Code	-	
	√ CSV		DiAdem Uses Comment (200)	Channel Description		
	ISO		Diadem Oser Comment (201)	channel Description		
	TTS					
	RDF					
	TDAS					
	TDMS					
	DDAS					
	130					
	HDF					

- 7. The export file(s) will be saved in the original test folder. See *Appendix E: DataPRO File Structure*, page 163.
- 8. When finished, select "Done" to return to previous location. To return to the Quick Start Steps, click *here* (page 17).

Administrative

Manage Users

This tab allows the Administrator to add, edit and delete users and user settings. Features and functions available to all DataPRO users are controlled by the Administrator. Contact your Administrator if you need access to features or functions you do not currently have.

REMEMBER:
After initial installation, the Administrator should change the password as soon as possible.
Default Admin password = DTSAdmin

Four user templates are included and available to use when creating additional users. The templates can be used in the default configuration or modified prior to use.

📱 DataPRO - Manage Users - [Another	Example Test Setup]							-	٥	×
😤 Data Recorders	ڬ Sensor Templates	👤 Sensor Databas	se 🛛 🛜 Groups		Test Setups	🔜 Additional Details	s 📔	Check Channe	els	Ξ
Check Trigger	Quick Checkout	👓 Run Test 🔛 🗠	Download Data	🔎 View Data	👛 Export Data	🔁 Manage	Users	System Setti	ings	
Add										
Manage Users	Search									
Display name		User name	Role		Mod	ified	м	odified by		
Admin	Admin		Administrator			5/30/2017 11:20 AM	Admin			
PowerUser	PowerUser		PowerUser			11/8/2017 1:19 PM	PowerUser			
User	User		User			11/8/2017 1:19 PM	User			
Guest	Guest		Guest			11/8/2017 1:19 PM	Guest			

To modify an existing user or edit user templates (Admin, PowerUser, User and Guest), start at step 1.

To add a user using existing user templates, go to step 4.

1. To add or edit users, select the "Manage Users" tab:



2. To modify a user, highlight the desired user and then select "Edit":

😤 Data Recorders	🗈 Sei	nsor Templates	Sensor Dat	abase 🛛 🛛 📝	Groups	🔧 Test Setups	🔜 Additional Details	
Check Trigger	Quick Ch	eckout	👓 Run Test	🕹 Download Data	🔎 View Data	🖆 Export Data	🔼 Manage	Users
Add Edit 🧲								
Manage Users	Sea	rch						
Display name			User name		Role	Modified	ł	
Admin		Admin		Administrator			5/30/2017 11:20 AM	Admin
				D 11			11/8/2017 1-19 PM	PowerUse
PowerUser		PowerUser		PowerUser			11/0/2011 1110 1111	
PowerUser User		PowerUser User		User			11/8/2017 1:19 PM	User

3. Use the navsteps to edit the user "Info", "Permissions" and "Visibility":

👹 DataPRO - Edit User: PowerUser					
😤 Data Recorders	🗈 Sensor Templates	👤 Sens	or Database	9	
🕺 Check Trigger	😔 Quick Checkout	👓 Run Test	🛃 Download D	ata	
Done <u>S</u> ave					
Add user					
	Username	PowerUser	-		
Info	Display name	PowerUser			Change the user's display name
Permissions	User role	Power user	≙ <i>▼</i>		Change the user's display hame.
	Tags				
Visibility	Password	•••••	•••••		Use Tags to filter/restrict visibility of T
	Confirm password	•••••	•••••		Setups
	Local only				Change/confirm the user's password.
	Last modified	N/A			
	Last modified by	N/A			

NOTE: It is recommended to use Visibility to limit user access to features and functions:

😤 Data Recorders	Sensor Templates	🧕 Sensor Database	🔗 G	
🗧 Check Trigger	Cuick Checkout	👓 Run Test 🔂 🖆 🛙	ownload Data	
Done <u>S</u> ave				
Add user				
	<		1	Use arrows to expand menus as necessa
Info	▶DataRecorders		\checkmark	ose anows to expand menus as necessal
Parmissions	▶SensorModels		\checkmark	Charleta anabla a tab
1 CITIII33IOTI3	▶Sensors		\checkmark	Check to enable a tab
Visibility	▲ Prepare		\checkmark	
	▲ConfigureTestOb	jects		Uncheck to hide a tab
	Page			
	▶ TestSetups		\checkmark	
	AdditionalDetails		\checkmark	
	▲ Diagnostics		\checkmark	
	▶ Realtime		\checkmark	
			\checkmark	
	▶QuickSensorChec	:k	\checkmark	
	Record		\checkmark	
	Page		\checkmark	
	▶DownloadAndVie	ew	\checkmark	
	CollectData		\checkmark	
	Review		\checkmark	
	ViewData		\checkmark	
	▶ExportData		\checkmark	
	▶Admin			

a. Select Save to save changes.

4. To create a new user, select "Add":

👹 DataPRO - Manage Users - [A	nother Example Test Setup]		
😤 Data Recorders	😳 Sensor Templates	👤 Senso	r Database
🕺 Check Trigger	🚾 Quick Checkout	👓 Run Test	📥 Download
Add Edit			
Manage Users	Search		

5. Complete the information and select the user template to assign to the user:

😤 Data Recorders	🚯 Sensor Template	es 📃 Sens	or Database	
🗧 Check Trigger	Quick Checkout	Run Test	🕘 Download	Data
Done <u>S</u> ave				
Add user				
	Username			
Info	Display name			
Permissions	User role	Guest	-	
	Tags	Administrator		
Visibility	Password	Power user		
	Confirm passw	User		
	Local only	Guest		
	Last modified	N/A	a	
	Last modified I	by N/A		

- a. Each of the four user templates contain default access settings that can be modified when creating new users:
 - i. Administrator: Contains access to all tabs with Admin privileges; Edit, Read and Execute all steps in all tabs.
 - ii. Power User: Contains access to all but "Administrative" tabs with Edit privileges.
 - iii. User: Contains access to all but "Administrative" tabs with Read and Execute privileges.
- iv. Guest: Contains access to all but "Administrative" tabs with Read privileges.
- 6. Make any changes to "Permissions" or "Visibility" unique to this user (see step 3) and select "Save" to continue.
- 7. When finished, select "Done" return to the previous location.

System Settings

Use the System Settings tab to configure DataPRO default Test Setup settings, table layout, ISO settings, Network options and Power settings:



Test Options

Configure default settings for new Test Setups, AAF settings, DAS Calibration Intervals, etc.

1. Features:

😤 Data Recorders	Sensor Templates	Sensor	Database	🔗 Gro	ups	Setups 🔁 🌜	
Check Trigger	C Quick Checkout	👓 Run Test	🕘 Download	Data	🔎 View Data		Export Data
Restore settings							
System Settings							
	Features						
Test options	Allow push/pull of se	nsors					
T	Check Trigger quick r	node	~	/			
lest setup defaults	Automatically add Ar	mCheckList when addin	g TOMs	/			
Realtime	Enable level-trigger l	IL	~	/			
	Allow calculated char	nels	~	/			
Channel code settings	AutoArm diagnostics	delay (ms)	30,	000			
111	Include Group name	in ISO export					
01	Warn if test is cancel	ed without data export	~	/			
Network options	Control surface port		N	ONF		-	
-	Derive ROI from All						
Power settings	Trigger Check After F	eal-time					
Sensor settings	Use circular buffer tri	gger check	~	/			
2	Download mode		h	n parallel			
	Max parallel TDAS do	wnloads	4				
	Test ID Prefix/Suffix \	alues	Ru	n Test,Dry Run,Be	ench Test		
		omostibility loval		Nam			
	Ware when a sensor	with ID is out of position		varri			
	Allow data collection	with D is out of position	1	/			
	Allow data collection	with a sensor id out of	class setting				
	Use legacy TDAS Cor	trol coffware filter adju	tment				
	Allow modification of	f Test Setup Name and I	Description				
	Anow Mounication o	fications to Test only	rescription				
	Fire TOM digital outr	uts during diagnostics		/			
	Allow push/pull of G	roup modifications to Te	et Sature				
	Apply concor data wi	an accioning charged		/ Analyzani			
	Apply sensor data wi	ien assigning channel		Apply setting t	o an users		
	Enable region of inte	rest (KOI) download opt	ions V	<i>,</i>			
	Enable input and out	put clock source option	s V	/		100	1
	Actual Range low lim	nit (%)				200	
	Actual Nange high lin	ine (vo)				200 🗸	1

- Allow push/pull of sensors: If enabled, DataPRO will allow users to push updates made in the Sensor Database to any Groups and Test Setups that include the updated sensor(s). DataPRO will also allow users to pull updates from the Sensor Database to Groups and Test Setups.
- Check Trigger quick mode: If enabled, hardware will be dummy armed for trigger check.

NOTE: Level triggers can only be verified if this is **NOT** selected.

- Automatically add ArmCheckList when adding TOMs: If enabled, Arm Checklist will automatically be added to any Test Setup that contains TOMs.
- Enable level-trigger UI: If enabled, a sensor can be set up as a level trigger in Test Setup.
- Allow calculated channels: If enabled, user can add calculated channels to dataset(s).

NOTE: Channels included in each calculation must be in the same DAS.

- AutoArm diagnostics delay (ms): Time to wait after rebooting before running diagnostics when configured to AutoArm.
- Include Group name in ISO export: If enabled, Group name will be included in ISO export.
- Warn if test is cancelled without data export: If enabled, DataPRO will warn user if Run Test is exited before data download.

NOTE: If not selected, user will be warned of undownloaded data present on hardware during next diagnostic check.

- Control surface port: Customer specific setting.
- **Derive ROI from All**: If enabled, the ROI dataset will be automatically generated from the full dataset. If T0 is modified in View Data, the ROI dataset will be automatically regenerated.
- **Trigger check after Real-time**: If enabled, Trigger Check step will happen after Realtime. If not enabled, Trigger Check step will happen before Check Sensor ID.
- Use circular buffer trigger check: If enabled, Trigger Check will only test the Event line, regardless of recording mode chosen.
- **Download Mode**: Refers to how the data will be downloaded post-test. Options are In parallel, In parallel by DAS type, or Sequentially.
 - TDAS systems should select either In parallel by DAS type or Sequentially.
- **Max parallel TDAS downloads**: Maximum number of TDAS systems to download data at the same time.
- **Test ID Prefix/Suffix Values**: Modify or enter additional options to choose as Test ID prefix or suffix.
- **ISO channel/sensor compatibility level**: Options are Don't warn, Warn, Don't allow.
 - Don't warn will allow sensors of any physical dimension to be assigned to any ISO channel without any indication.

- Warn will indicate physical dimension conflicts but will allow them.
- Don't allow will require corresponding physical dimension settings in both sensors and ISO channel.
- Warn when a sensor with ID is out of position: If enabled, DataPRO will indicate if a sensor's EID is detected on a different hardware channel than what was assigned in Test Setup.
- Allow data collection with a sensor ID out of position: If enabled, an out of position sensor EID will not be considered a fault and DataPRO will be able to continue to data collection.
- Use legacy TDAS Control TOM software filter class setting: If enabled, TOM channels acquired at greater than 8,000 sps will be filtered at 1650 Hz, while TOM channels acquired at 8,000 sps or less will remain unfiltered.
- Use legacy TDAS Control software filter adjustment: If enabled, data will be shifted one sample when filtered to match legacy TDAS Control filter methods.
- Allow modification of Test Setup Name and Description: If enabled, modifications to Test Setup Name and Description will be allowed.
- Apply "Shift T₀" modifications to Test only: If enabled, T=0 modifications will be applied to test only, option to apply to DAS will not be present.
- Fire TOM Digital Outputs during Diagnostics: If enabled, DataPRO will initiate Digital Output signals during diagnostics.
- Allow push/pull of Group modifications to Test Setup: If enabled, DataPRO will allow users to push updates made to Groups to any Test Setups that include the updated Group(s). DataPRO will also allow users to pull updates from Group(s) to a Test Setup.
- **Apply sensor data when assigning channel**: If enabled, parameters from the Sensor Database will be applied when adding a sensor to a Group or Test Setup.
- Enable region of interest (ROI) download options: If enabled, an option to download the ROI will be present in Test Setup.
- Enable input and output clock source options: If enabled, an additional menu "Clock sync" will be available in Test Setup to define Master/Slave Clock options.
- Actual Range low limit (%): User configurable value for the Actual Range Low Limit used in Diagnostics.
- Actual Range high limit (%): User configurable value for the Actual Range High Limit used in Diagnostics.
- **Range overhead factor (%)**: User configurable value for the overhead to be added to the Capacity of the sensor.
- Show Sensor/Channel user values: Will display the "User Value 1, User Value 2 and User Value 3" fields in Parameters navstep of Groups and Test Setups.
 - Values entered will be included in the *.dts export.

2. Communication Timeouts:

Communication Timeouts	
Diagnostics Timeout TDAS (sec)	480
Diagnostics Timeout SLICE (sec)	240
Query Download Timeout TDAS (sec)	240
Query Download Timeout SLICE (sec)	120
Query Config Timeout TDAS (sec)	240
Query Config Timeout SLICE (sec)	120
Connect Timeout TDAS (sec)	90
Connect Timeout SLICE (sec)	120

a. Maximum time to wait for communication response from hardware.

3. Sample rates and AAF rates:

Sample rates and AAF rates	
Import sample rates and AAF settings from TDAS.ini	Browse
Valid sample rates	5,50,100,200,250,500,1000,2000,2500,5000,8000,100 00,12500,20000,25000,40000,50000,60000,75000,100 000,150000,300000,400000,500000
SLICE AAF Rates	1@5,10@50,20@100,40@200,50@250,100@500,200 @1000,400@2000,500@2500,1000@5000,1600@80 00,2900@10000,2900@12500,4000@20000,5000@2 5000,8000@40000,10000@50000,12000@60000,150 00@75000,20000@100000,30000@150000,60000@ 300000,80000@400000,100000@500000
Max AAF TDAS PRO	4,300
Max AAF G5	3,620
TDAS AAF Rates	50@250,100@500,200@1000,500@2000,500@2500, 1000@5000,2000@8000,2900@10000,2900@12500, 3620@20000,3620@25000,0@40000,0@50000,0@6 0000,0@75000,0@100000,0@150000,0@300000

- a. Import existing values from TDAS.ini (available in TDAS Control setup folder, located under C:\DTS\TDAS Control\ by default).
- b. Default valid sample rates and AAF filtering rates. Each value needs to be separated from another by a coma ",".
- c. Add additional sample/filter rates for any hardware type. Each value needs to be written according to the following syntax: *AAF_Value@Sample_Rate*. And separated from another by a coma ",".

4. DAS Calibration intervals (days):

DAS Calibration Intervals (days)		
TDAS cal interval (days)	365	
G5 cal interval (days)	365	
SLICE 1.0 cal interval (days)	365	
SLICE Base+ cal interval (days)	365	
SLICE PRO cal interval (days)	365	
Calibration due warning period (days)	30	
HW calibration due grace period (days)	30	
HW calibration policy	Allow data collection with overdue hardware calibrations	

- a. Specify calibration interval for each hardware type.
- b. Specify 'Calibration Due' warning period.
- c. Choose hardware calibration due grace period and hardware calibration policy.

5. Data Export Options:

Data Export Options					
DIAdem Channel Name (200)	ISO Code				•
DIAdem User Comment (201)	Channel Description				•
Export INI file		â	Browse	Clear	
Use Test Setup for Test ID Header In CSV Export					
Keep ROI downloads within test folder					
Use flat folder structure					
Use UTC time in CSV Exports					

- a. Specify DIAdem export settings.
- b. Specify where INI file (compatible with TDAS Control) will be saved.
- c. Select additional options for CSV exports, folder structure and ROI downloads.
- 6. Test Setups Import Options:

Test Setups Import Options —	
Clear database before TSF import	
Use dynamic groups with CSV import	\checkmark

- a. Select the first option to erase sensors and objects currently in the database when importing a TSF.
- b. Select the second option to create dynamic groups when importing a CSV Test Setup.
 - i. These groups will only be available for use in the Test Setup created by the import; they will not be stored in the database for use with additional tests.

TestSetupDefaults

Select to configure default settings for new Test Setups. The Admin can configure the default settings for each user. Default settings can be configured for and applied to individual users, or multiple users at one time.

😤 Data Recorders	Sensor Templates	Sens	or Database	🔗 Groups	🥵 Test Setu	ps	👤 Additio	onal Details	😑 Check Channels
Check Trigger	Contract Checkout	•• Run Test	📥 Download Data	🔎 View	Data 🚺	Export Data		Manage Users	😻 System Settings
re settings									
tem Settings									
	Test setup defaults f	for user:			Tagg			Search	
st options	Admin			-	luga.			Scarch	
	TestSetupDefault	s			Display nam	e User name	Role	Modified	Modified by
st setup defaults					Admin	Admin	Administrator	5/30/2017 11:20:14 AM	Admin
	i i i i Search			×	PowerUser	PowerUser	PowerUser	11/8/2017 1:19:48 PM	PowerUser
altime	4 (1) Test info			-	User	User	User	11/8/2017 1:19:48 PM	User
and the state of the second	Allow advance	d recording modes	\checkmark		Guest	Guest	Guest	11/8/2017 1:19:49 PM	Guest
nannel code settings	Allow UART re	cording modes	\checkmark						
1	Recording more	de	Circular buffe	er Y					
	Default sample	es per second	10000	¥					
twork options	Default pre-tri	gger second(s)	1						
curone options	Default post-tr	rigger/Test length secon	i(s) 1						
ower settings	Set DAS to aut	to-arm							
	Enable repeat	when auto-arm/streamin	g 🗌						
ensor settings	Preserve run te	est diagnostics for auto-	arm/streaming 🗹	Apply	:0:				
	Set DAS to stre	eaming							
	Download reg	ion of interest (ROI)	~						
	ROI period sta	rt second(s)	-1						
	ROI period end	d second(s)	1						
	View ROI		✓						
	Download all		 Image: A set of the set of the						
	View all								
	4 (2) Test Details	•							
	Suppress missi	ing sensors warning	\checkmark						
	Calibration bel	havior	Use non-line	ar sei 👻 🔻					

Make changes as needed, all changes are automatically saved to the db for the current logged-in user's profile. To make changes to the default settings for another user, first select that user from the drop down to display their current default settings.

1. Test info:

(1) Test info	
Allow advanced recording modes	✓
Allow UART recording modes	✓
Recording mode	Circular buffer 🛛 👻
Default samples per second	10000 ~
Default pre-trigger second(s)	1
Default post-trigger/Test length second(s)	1
Set DAS to auto-arm	
Enable repeat when auto-arm/streaming	
Preserve run test diagnostics for auto-arm/streaming	
Set DAS to streaming	
Download region of interest (ROI)	\checkmark
ROI period start second(s)	-1
ROI period end second(s)	1
View ROI	\checkmark
Download all	\checkmark
View all	

- Allow advanced recording modes: If enabled, it will add Hybrid Record mode to Recording Mode selection in Test Setup (See *Data Collection Concepts*, page 9, for more information).
- Allow UART recording modes: If enabled, options for collecting data in Circular Buffer + UART and Recorder + UART modes will be present.
- **Recording mode**: Default recording mode options are Circular Buffer and Recorder Mode. Optional Hybrid Record mode can be turned on in System Settings (See *Data Collection Concepts*, page 9, for more information on recording modes. See *System Settings*, page 122, to enable Advanced Recording Options).
- **Default samples per second**: Choose from options in list. Sample rate chosen must be supported by all DAS in test setup (See *System Settings*, page 122, to add additional options to list).
- **Default pre-trigger second(s)**: The amount of data (in seconds) to be collected pretrigger. It does not apply to Recorder mode.
- **Default post-trigger/Test length second(s)**: The amount of data (in seconds) to be collected post-trigger.
- Set DAS to auto-arm: If enabled, it will configure DAS to Auto Arm.
- Enable repeat when auto-arm/streaming: If enabled, DAS will automatically boot in an armed or streaming state if auto-arm or streaming is enabled. This option will only work with SLICE6 AIR product.
- Preserve run test diagnostics for auto-arm/streaming: If enabled, diagnostic results from Run Test will be preserved and used when DAS is armed for either auto-arm or streaming applications.
- Set DAS to streaming: If enabled, DAS will be set to streaming.

NOTE: Set DAS to streaming is only available with SLICE6 AIR DAS.

- **Download region of interest (ROI)**: A period of time, within the full dataset, that contains the dynamic test data. If selected, DataPRO will download a dataset containing only the time window indicated as the ROI.
- ROI period start (sec): Defines the amount of time pre-trigger to begin the ROI.
 Define ROI period Start for each included segment.
- ROI period end (sec): Defines the amount of time post-trigger to end the ROI.
 Define ROI period end for each included segment.
- View ROI: If selected, data collection process will include a navstep to view the ROI.
- **Download All**: If selected, DataPRO will download a dataset containing the full dataset defined in Recording Options.
- View All: If selected, data collection process will include a navstep to view the full dataset.

2. Test Details:

(2) Test Details	
Suppress missing sensors warning	\checkmark
Calibration behavior	Use non-linear ser 👻
Suppress quit test warning	
Realtime: suppress view all channels warning	
Viewer: suppress view all channels warning	
Common status line	\checkmark
Check trigger step	\checkmark
Automatic mode	
Automatic mode delay second(s)	0.5
Warn on missing or failed battery	

- **Suppress missing sensors warning:** If selected, DataPRO will allow user to progress without warning if not all sensors are found/channels resolved at Check Sensor ID step.
- **Calibration behavior:** Select to define how data from non-linear sensors that also have a linear sensitivity entry will be collected.
 - Always use linear sensitivity.
 - Use non-linear sensitivity, if available.
 - Use both sensitivities, if available, as separate channels.
- **Suppress quit test warning:** If selected, DataPRO will not warn if user selects "Done" before completing all steps of a data collection event.
- **Real-time: suppress view all channels warning:** If selected, DataPRO will not warn if user does not view Realtime output from all channels in a test setup.
- Viewer: suppress view all channels warning: If selected, DataPRO will not warn if user does not review data collected from all channels in a test.
- **Common status line:** Select if all DAS shares same communication path to PC. A typical non-common status line would be a vehicle test that includes a mobile barrier.
- Check Trigger step: Select to include a trigger check during data collection event.
- Automatic Mode: Select to automatically progress through data collection sequence. If selected, define an optional delay before DataPRO progresses to the next step.
- Automatic mode delay second(s): Optional delay before advancing to the next navstep when using Automatic Mode.
- Warn on missing or failed battery: If selected, DataPRO will alert user if DAS battery is missing or if measured voltage is outside thresholds set in System Settings (See *Power Settings*, page 139).

3. Diagnostic options:

(3) Diagnostic options	
Require all units pass diagnostics	\checkmark
Require user confirmation on errors	\checkmark
Allow missing sensors	
Require id found for sensors with ids	\checkmark
Prepare hardware delay second(s)	6
TOM warmup time (ms)	20000
IEPE warmup time (ms)	30000
Run post-test diagnostics on analog channels	
Use tree mode in diagnostics	\checkmark
Run diagnostics on next step	

- **Require all units pass diagnostics:** If selected, DataPRO will not advance beyond "Diagnostics" if any channels fail or if measured DAS voltage is outside thresholds set in System Settings.
- **Require user confirmation on errors:** If selected, DataPRO will require user confirmation in order to progress if any errors are detected.
- Allow missing sensors: If selected, DataPRO will allow user to progress if not all sensors are found/channels resolved at Check Sensor ID step.
- **Require id found for sensors:** If selected, DataPRO will require the EID to be detected for any sensor that has an EID listed in the sensor database.
- **Prepare hardware delay seconds:** Optional delay at the start of Diagnostics for sensor/hardware warm up.
- **TOM warmup time (ms):** Optional delay at the start of Diagnostics for TOM hardware to warm up.
- **IEPE warmup time (ms):** Optional delay at the start of Diagnostics for IEPE sensors to warm up.
- **Run post-test diagnostics on analog channels:** If selected, Post-Test Diagnostics will be included as a step in data collection process.
- Use tree mode in diagnostics: If selected, diagnostic results will be displayed in Tree mode.
- **Run diagnostics on next step:** If selected, diagnostics will automatically run on landing after preparing the configuration.

4. Realtime options:

(4) Realtime options	
Show realtime	\checkmark
Number of graphs	6 ~
Chart width second(s)	2
UDP Stream Profile	Ch10 w/manual cc ~ ~
UDP Stream Time Channel Id	1
UDP Stream Data Channel Id	3
UDP Stream TmNS Config	(1,6,60,0,0,0,0,0)
IRIG Time Data Packet Interval (ms)	500

- Show Realtime: If selected, Realtime navstep will be included in data collection process.
- **Number of graphs:** Select to display 1, 3, or 6 separate charts at Realtime landing. This can be changed from Realtime navstep.
- **Chart width second(s):** Time interval to be displayed in Realtime. This can also be modified in Realtime navstep.
- **UDP Stream Profile:** Select the appropriate UDP streaming method from the drop down. This will dictate how the DAS is programmed to stream data.
- NOTE: The TMATS file included with the DataPRO installation will support the following UDP Streaming Profiles:
 - Ch10 w/manual config
 - Ch10 w/PCM & TDP format 1
 - Ch10 w/12-bit PCM
 - TmNS w/standard PCM
 - TmNS w/supercom PCM

If another UDP Streaming Profile is selected, an appropriate TMATS file must be supplied. See Appendix E: DataPRO File Structure, page 163, for more information.

- **UDP Stream Time Channel Id:** Enter the appropriate channel ID for the time channel.
- **UDP Stream Data Channel Id:** Enter the appropriate channel ID for the data channel.
- **UDP Stream TmNS Config:** Only valid for TmNS streaming. Values are Packet ID, TmNS Message ID and read only 60 minor frame/major frames.
- IRIG Time Data packet Interval (ms): Interval of time between time data packets that are sent.

5. Arm checklist:

(5) Arm checklist	
Perform arm checklist	
Check battery voltage	\checkmark
Check input voltage	\checkmark
Require arm checklist when TOM present	\checkmark
Check squib resistance	\checkmark
Check sensor ids	\checkmark
Check start/event line(s)	\checkmark
Check tilt sensors	\checkmark
Check temperatures	\checkmark
Check clock sync	\checkmark
Require all units pass arm checklist	

- **Perform arm checklist:** If enabled, DataPRO will perform Arm Checklist during data collection. Arm checklist test options will only be displayed if Arm Checklist is selected.
- Check battery voltage: If enabled, Arm Checklist will include battery voltage measurement. System will fault if measured battery voltage is outside thresholds set in System Settings.
- **Check input voltage:** If enabled, Arm Checklist will include input voltage measurement. System will fault if measured battery voltage is outside thresholds set in System Settings.
- **Require arm checklist when TOM present:** If enabled, Arm Checklist will be automatically added to a Test Setup if a TOM is included in the hardware.
- **Check squib resistance:** If enabled, Arm Checklist will include squib resistance check on TOM channels. System will fault if measured squib resistance is outside threshold set in sensor database.
- **Check sensor ids:** If enabled, Arm Checklist will include sensor ID check. System will fault if expected IDs are not found.
- **Check start/event line(s):** If enabled, Arm Checklist will include check of start/event status lines. System will fault if DataPRO detects a short on either.
- **Check tilt sensor(s):** If enabled, Arm Checklist will include check of SLICE6 tilt sensor(s). Measured values will only be displayed.
- **Check temperature:** If enabled, Arm Checklist will include check of SLICE6 temperature. Measured values will only be displayed.
- Check clock sync: If enabled, Arm Checklist will include a check of the Clock Sync.
- **Require all units pass arm checklist:** If enabled, DataPRO will not progress to Arm System if any faults are detected in any tests included in Arm Checklist.

6. Export options:

(6) Export options	
Export data	
CSV unfiltered EU	
CSV filtered EU	
CSV unfiltered mV	
CSV unfiltered ADC	
DIAdem ADC	
ISO unfiltered EU	
ISO filtered EU	
TDAS ADC	
TTS unfiltered EU	
TSV unfiltered EU	
TSV filtered EU	
RDF ADC	
TDMS ADC	
DDAS filtered EU	
HDF unfiltered EU	
HDF mV	
HDF ADC	
XLSX unfiltered EU	
XLSX filtered EU	

- **Export data:** If enabled, DataPRO will export a data set in each of the selected format(s). Raw data is always downloaded.
- CSV unfiltered EU/filtered EU/unfiltered mV/unfiltered ADC: Select desired data types to be exported in one Comma Separated Variable file.
- **DIAdem ADC:** Data format comprised of one .dat header file for the test and one binary file for each channel in the test.
- **ISO unfiltered EU/filtered EU:** Data format that follows the ISO-TS 13499 requirements.
- **TDAS ADC:** Data format compatible with TDAS Control.
- **TTS unfiltered EU:** Customer specific data format.
- **TSV unfiltered EU/filtered EU:** All test data is contained in one Tab Separated Value file.
- **RDF ADC:** Customer specific data format.
- **TDMS ADC:** Data format that follows the TDM Streaming file format.
- DDAS filtered EU: Customer specific data format.
- **HDF unfiltered EU/mV/ADC:** Hierarchical Data Format; designed to store and organize large amounts of data.
- XLSX unfiltered EU/filtered EU: Data format compatible with Microsoft Excel.

7. Upload Options:

(7) Upload options	
Upload data	√
Upload folder	
Upload Export file(s) only	

- **Upload data**: If enabled, collected data will be uploaded to a specified location during the data collection process. Data will still be downloaded to the default location of *C:\DTS\DTS.Suite\Data*, or other location as defined in the configuration file.
- **Upload folder**: File location for collected data to be stored/uploaded during data collection process.
- Upload Export file(s) only: If enabled, only the data export files will be uploaded to the designated location.
- 8. Clock sync options:

(8) Clock sync options		
Clock master default profile	None	~
Clock slave default profile	None	~

- **Clock master default profile**: Select appropriate profile for Clock Master. Make sure to choose the proper In AND Out clock type for the Master default.
- Clock slave default profile: Select appropriate profile for Clock Slave.
- 9. UART options:

(9) UART options	
Baud rate	57600
Data bits	8
Stop bits	None ~
Parity	None ~
Flow control	None ~

- Baud rate: Set the transmission speed of the UART communication.
- Data bits: Set the number of bits of Data in the transmitted package.
- **Stop bits:** Set how many bits define the end of the transmitted package (None, One, OnePointFive or Two).
- **Parity:** Set the parity of the transmitted package (Odd, Even, Mark or Space).
- Flow control: Set the method used to start/stop the flow of transmissions (None, XOnXOff, RequestToSend, RequestToSendXOnXOff).

Realtime

View/change default Realtime settings:

- Data Recorders	Sensor Temp	lates 📃 Sens	sor Database	🔗 Groups	
Check Trigger	📯 Quick Checkout	Run Test	🕁 Download Data	i 🖉	
Restore settings					
ystem Settings					
	RealtimeSe	ttinas			
Test options		Search		~	
		search		~	
lest setup defaults	Chart wid	th (seconds)	2		
De altier a	Delay bet	ween polls	4		
Realume	Level trigg	ger auto advance	True		
Channel code settings	Level trigg	ger beep count	3		
channel code settings	Level trigg	ger beep interval (ms)	0		
Л	Level trigg	ger default value (% FS)	10		
	Level trigg	ger freeze time (sec)	2		
Network options	Level trigg	ger idle beep	True		
	Level trigg	ger idle beep interval (ms)	1000		
Power settings	Level trigg	ger qualifying samples	2		
	Level trigg	ger require trigger check comp	letion True		
Sensor settings	Level trigg	gers on			
	Realtime :	ample rate (Slice IP)	120		
	Realtime :	ample rate (Slice USB)	400		
	Realtime :	ample rate (TDAS G5)	1000		
	Realtime	JDP address	UDP://239.1	2.10:8400	
	Sample ra	te SLICE6	1000		
	Use meter	mode	✓		
	Use test c	hannel order	v		
	Use UDP :	streaming			

- 1. ChartWidth: Period of time to display in Realtime view panel (Also adjustable in Realtime navstep).
- 2. DelayBetweenPolls: Time, in ms, between calls to DAS for Realtime data.
- NOTE: Realtime Data will be streaming from SLICE hardware, rather than polling, if the installed firmware supports this feature. (See table below).

Hardware Type	Firmware Required
SLICE Base 1.0	Not supported
SLICE Base+	B1F8
SLICE PRO SIM	A1N1
SLICE6	F0L7

- NOTE: Realtime AAF ratio is 1:1 by default. This setting can be changed in the DataPRO.exe.config file. See DataPRO Settings Manual for more information about the config file.
- **3.** Level trigger auto advance: If True, channel will automatically advance once Realtime level trigger threshold has been met. Level triggers on must be enabled in order to modify.

- **4. Level trigger beep count**: Number of audible beeps once Realtime level trigger threshold has been met. Level triggers on must be enabled in order to modify.
- 5. Level trigger beep interval (ms): Interval for audible beeps indicating Realtime level trigger threshold has been met. Level triggers on must be enabled in order to modify.
- 6. Level trigger default value (%FS): Default value for Realtime level trigger threshold. Level triggers on must be enabled in order to modify.
- 7. Level trigger freeze time (sec): Amount of time for Realtime display to freeze once Realtime level trigger threshold has been met. Level triggers on must be enabled in order to modify.
- 8. Level trigger idle beep: If True, an audible beep will be heard at the interval specified in "Level trigger idle beep interval" when Realtime signal is not within the Realtime level trigger bounds. Level triggers on must be enabled in order to modify.
- **9.** Level trigger idle beep interval (ms): Interval for audible beeps indicating Realtime level trigger threshold is not within Realtime level trigger bounds. Level triggers on must be enabled in order to modify.
- **10. Level trigger qualifying samples**: Number of consecutive samples within Realtime level trigger bounds required to validate Realtime level trigger. Level triggers on must be enabled in order to modify.
- **11.Level trigger require trigger check completion**: If True, DataPRO will require that all channels included in Test Setup complete the Realtime level trigger check. Level triggers on must be enabled in order to modify.
- **12.Level triggers on**: If enabled, above settings can be used to configure Realtime level triggers.
- **13. Realtime sample rate (Slice IP)**: Realtime sample rate to be used for SLICE hardware with an Ethernet connection.
- **14. Realtime sample rate (Slice USB)**: Realtime sample rate to be used for SLICE hardware with a USB connection.
- **15.Realtime sample rate (TDAS G5)**: Realtime sample rate to be used for TDAS G5 hardware.
- **16.UDPAddress**: UDP streaming address and port to be used for SLICE6 AIR streaming applications. DataPRO will increment the port for each SLICE6 AIR unit included in the test.
- 17. Sample rate SLICE6: Sample rate to be used by SLICE6 DAS.
- **18.UseMeterMode**: If enabled, Meter Mode will be available as a display option during Realtime.
- **19. UseTestChannelOrder**: If enabled, channels will be displayed in Realtime in same order as configured in Test Setup.
- 20. UseUDPStreaming: If enabled, UDP streaming with SLICE6 AIR in Realtime.

Channel Code Settings

Choose channel code settings for use in Sensor Database, Group and Test Setup tabs:

Restore settings		
System Settings		
Test options	Show channel names only	
Test setup defaults	Show ISO codes	\checkmark
lest setup deidates	Show user codes	
Tables	Display channel code lookup table UI	\checkmark
D. IV	Display ISO string builder UI	\checkmark
Kealtime	Require unique ISO codes	
Channel code settings	Use ISO Code Filter Mapping	\checkmark

DataPRO allows for the use of three different channel identifiers; Channel Names, ISO Codes and User Codes. If no ISO or User codes are used, select "Show channel names only".

If "Show channel names only" is selected, all other options are disabled.

If "Show ISO codes" is selected, the following options are enabled:

- 1. **Display Channel Code lookup table UI:** If selected, a table listing all available Channel Codes will be displayed to assist in code selection.
- 2. **Display ISO string builder UI**: If selected, a table identifying each ISO Code parameter will be displayed to assist in creating ISO Codes.
- 3. **Require unique ISO codes**: If selected, each channel in a Test Setup must have a unique ISO Code in order to be considered a valid test setup.
- 4. **Use ISO Code Filter Mapping**: If selected, the ISO Code must match the sensor filter setting. Changing one of these options will change the other to match.

If "Show user codes" is selected, the following option is enabled:

1. **Display Channel Code lookup table UI**: If selected, a table listing all available Channel Codes will be displayed to assist in code selection.

UI (User Interface)

These settings affect the display format and use standard numeric format strings:

system settings	et constraint for the const	N8	1 1 1 2 2 4 5 6 7
Test options	 Sensitivity display format 	INO	example: 1.123456/
lest options	Non-Linear display format	N8	example: 1.1234567
Test setup defaults	Trigger seconds display format	N4	example: 1.1235
	Capacity display format	N2	example: 1.12
lables	Display offset in EU		
Realtime			
Channel code settings			

Description	Format and Precision Specifier	Example		
Number: Integers and decimals, group and decimal separators, with optional negative sign	N or n Number of decimal places	N where 1234.567 = 1,234.57 N <i>1</i> where 1234 = 1,234.0 N3 where -1234.56 = -1,234.560		
Decimal: Integers with optional negative sign	D or d Minimum number of digits	D where 1234 = 1234 D6 where -1234 = -001234		
Exponential (scientific): Exponential notation	E or e Number of decimal digits	E where 1052.0329 = 1.052033E+003 E2 where -1052.0329 = -1.05e+003		
Fixed-point: Integers and decimals with optional negative sign	F or f Number of decimal digits	F where 1234.567 = 1234.57 F <i>4</i> where -1234.56 = -1234.5600		

For more information, see https://msdn.microsoft.com/en-us/library/dwhawy9k%28v=vs.110%29.aspx.

Network Options

Specify network settings for DAS.

Restore settings			
System Settings			
Test options	Available Network Interfaces	✓ Use Default	6
Test setup defaults	Wi-Fi Intel(R) Wireless-	AC 9560 160MHz Wireless80211	Up
Tables			
Realtime			
Channel code settings			
UI			
Network options	SLICE6 Multicast Options		
Power settings	Broadcast address	239.1.2.3	
Sensor settings	Response port	8503	

- 1. **Available Network Interfaces:** Select the Network interface to which the DAS is connected. Check the "Use Default" option to let DataPRO chose the default Network Interface. Click on the circled arrow on the top right to refresh the list.
- 2. SLICE6 Multicast Options:
 - a. Broadcast address: Define the IP address used to broadcast data.
 - b. Command port: Define the port used to command the DAS.
 - c. Response port: Define the port used to receive the response from the DAS.

Power Settings

Specify thresholds for input power/battery warnings:

😤 Data Recorders	🕸 Sensor Templates	👤 Sensor Data	base 🛛 📝	Groups	Set Set 🔁	ups	👤 Addition	al Details		📔 Check Channels
Check Trigger	Cuick Checkout	•• Run Test	😃 Download Data	🔎 View Data	a	😃 Export Data	1 🛃	Manage Users		😼 System Settings
store settings										
/stem Settings										
	Settings									
est options	-	Input								
		Diagnostics (Io	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
est setup defaults	TDAS Des Bask	11.50	12.50	13.20	11.50	12.50	13.20	4.00	16.00	
ables	TDAS FIG Nack	Battery								
40105		Diagnostics (Ic	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
Realtime		11.50	12.50	13.20	11.50	12.50	13.20	4.00	10.00	
"hannel code settings		Input								
channel code settings		Diagnostics (Io	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
JI		10.90	11.30	13.20	10.90	11.30	13.20	4.00	16.00	
	G5 (VDS)	Battery								
Network options		Diagnostics (Ic	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
ower settings		10.90	11.30	13.20	10.90	11.30	13.20	4.00	16.00	
		Input								
ensor settings		Diagnostics (Ic	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
		11.00	11.50	15.00	11.00	11.50	15.00	4.00	16.00	
	G5 (In-dummy)	Battery								
		Diagnostics (Io	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
		11.00	11.50	15.00	11.00	11.50	15.00	4.00	16.00	
		luuut								
		Diagnostics (Ic	w) Diagnostics (med)	Diagnostics (high)	Armed (low)	Armed (med)	Armed (high)	Min valid	Max valid	
		10.00	12.70	15.30	6.50	10.90	15.30	4.00	19.00	
	SLICE distributor	Pattern								

Sensor Settings

Set the default settings for new sensor database entries of various sensor types:

😤 Data Recorders	😂 Sensor Templates	🧕 Sensor Databa	se 🚺	Groups	S Tes	t Setups	🚨 Additional Deta	ails	📔 Check Channels	3
Check Trigger	Quick Checkout	Run Test 🛃 🕹	Download Data	🔎 View Dat	ta	🖆 Export Data	🔁 Manag	e Users	System Settings	
Restore settings										
System Settings										
Test options	Squib defaults — Delay (ms)			0.00						
	Constantinue			0.00	•					
lest setup defaults	Duration (ms)			V						
Tables	low tolerance (O)			10.0	•					
Realtime	High tolerance (Ω)			8.0	:					
Channel code settings	Firing mode			Capacitor disch	arge			*		
1.0	 Digital output defa 	ults								
UI	Output mode			5V low to high t	transition			-		
Network options	Delay (ms)			0.00	•					
Power settings	Limit duration			\checkmark						
i ottor socarigs	Duration (ms)			10.00	-					
Sensor settings	Digital input defau	ts								
	Constant current breakpoint	(ADC)		19,005.00	÷					
	Voltage input breakpoint (AD	C)		19,661.00	÷					
	Display SPD analog data									
	 IEPE defaults — 									
	24V Power low (V)			23.0	-					
	24V Power high (V)			26.5	:					
	Actual range low limit (x full :	cale)		1.0						

3. Squib defaults:

🔿 Squib defaults	
Delay (ms)	0.00
Limit duration	\checkmark
Duration (ms)	10.0
Low tolerance (Ω)	0.9
High tolerance (Ω)	8.0
Firing mode	Capacitor discharge

- a. See Sensor Templates, page 25, and Sensor Database, page 30, for more information on options.
- 4. Digital output defaults:

 Digital output defaults 		_
Output mode	5V low to high transition	•
Delay (ms)	0.00	
Limit duration	\checkmark	
Duration (ms)	10.00	

a. See Sensor Templates, page 25, and Sensor Database, page 30, for more information on options.

5. Digital input defaults:

 Digital input defaults 		
Constant current breakpoint (ADC)	19,005.00	•
Voltage input breakpoint (ADC)	19,661.00	-
Display SPD analog data		

a. See Sensor Templates, page 25, and Sensor Database, page 30, for more information on options.

6. IEPE defaults:

IEPE defaults	
24V Power Iow (V)	23.0
24V Power high (V)	26.5
Actual range low limit (x full scale)	1.0
Actual range high limit (x full scale)	100.0
Disable auto-sense	

- a. Select default low/high power and low/high range limits for IEPE sensors.
- b. If enabled, Auto-Sense will not be run to detect IEPE sensors and will instead rely on test configuration.
- 7. Sensor calibration policies:

Sensor calibration policies	
Policy	Do not allow data collection with overdue sensor calibration 🔹
Warning period (days)	14

- a. Select to allow or disallow data collection with sensors that have past-due calibration entries.
- b. Select desired warning period.
 - i. Sensors that are used within this warning period prior to the calibration due date will be shaded orange and DataPRO will alert the user of the nearing calibration deadline.
- 8. Analog defaults:

Analog defaults		
Define Default Filter	1650 (CFC1000)	•

a. Select the default software filter for new sensors.

Database

This navstep is only enabled when DataPRO is configured to operate with both a local database and a SQL server database.

1. When configured to connect to the local database, DataPRO will give the option to "Switch to remote":

System Settings	
Done Restore settings	
Test options	
Test setup defaults	Convifrom remote server to local
Tables	Switch to local Switch to remote
Realtime	
Channel code settings	
UI	
Network options	
Power settings	
Database	

2. When configured to connect to a remote/SQL database, DataPRO will give the option to "Switch to local":

se System Settings			
Done Restore settings			
Test options			
Test setup defaults	Conv from remote results to local		
Tables	Switch to local Switch to remote		
Realtime			
Channel code settings			
UI			
Network options			
Power settings			
Database			

- Select "Copy from remote to local" to make a copy of the SQL server database for use while operating with a local database connection.
- NOTE: The database connection type will be displayed in the lower left corner when configured to operate with both.

Comm 🔍 Local	OR	Comm 🔍 192.168.2.53

- NOTE: To manually change the Database type (local, remote or both) if you haven't selected "both" when installing the software, open the DataPRO.exe.config file in the software folder and modify the "DBType" setting to the following:
 - *"0" for centralized SQL database;*
 - *"1" for local database;*
 - *"2" for both databases.*

Appendix A: Common Sensor Types and Bridge Connections

The sensor setup application notes are general and apply broadly to categories of sensors. Please contact DTS for more information or with specific questions. Sensor setup information and application diagrams for many commonly used sensors are available on the Help Center. In order to effectively use the connector diagrams, both the pin configuration of the hardware and the wire scheme of the sensor must be known.

See Sensor Templates, page 25, and Sensor Database, page 30, for more information on sensor fields.

NOTE: DTS recommends to always use shunt checks when possible – except for Bridges above $4k\Omega$, active sensors or unbalanced Bridges.

Accelerometer

- Typical Capacity of 400 to 2,000 g
- Typical Units of "g"
- Sensor type is typically "Full Bridge"
- Typical bridge resistance of 500-510 ohms
- Output is Proportional to Excitation
- Enter Sensitivity in mV/V/g

Upper Neck Load Cell

- Enter Capacity same as load cell capacity
- Sensor type is typically "Full Bridge"
- Typical bridge resistance of 350 or 700 ohms
- Output is Proportional to Excitation
- Enter Sensitivity in mV/V/N (lbf, etc.)

ARS – Angular Rate Sensors

- Enter Capacity same as ARS capacity
- Sensor type is "Full Bridge"
- Equivalent bridge resistance is 3000 ohms
- Output is NOT Proportional to Excitation
- Enter Sensitivity in mV/deg/sec

Linear Potentiometer

- Enter Capacity same as potentiometer capacity
- Potentiometer is part of a half or full bridge
- Bridge resistance varies according to design
- Output is Proportional to Excitation
- Do not remove offset
- Enter Sensitivity in mV/V/mm (inch, etc.)

Non-linear Devices

Certain ATD displacement sensors

- Enter Capacity same as potentiometer capacity
- Potentiometer is part of a half or full bridge
- Bridge resistance varies according to design
- Sensor is Non-Linear
- Select correct non-linear format
 - Typically, Cubic Polynomial for chest displacement potentiometers
- Enter calibration coefficients into Sensitivity Details table

IRTRACC for WorldSID and THOR dummies

- Enter Capacity same as potentiometer capacity
- Potentiometer is part of a half or full bridge
- Bridge resistance varies according to design
- Sensor is Non-Linear
- Select correct non-linear format:
 - IR-Tracc Legacy
 - IR-Tracc Diagnostic Zeroed
 - IR-Tracc mV for 0 mm
 - o IR-Tracc Average over time
 - IR-Tracc Radius Cal with Cal Factor use for NCAP 0 position intercept
- Enter calibration information based on selected non-linear format

Digital Input Options

• All options other than Name can be modified in Group and Test Setup

Digital Output Options

• All options other than Name can be modified in Group and Test Setup

Squib Options

• All options other than Name can be modified in Group and Test Setup

Sensors with External Conditioning Modules

Contact your Support representative for assistance with setting up these sensors.

- Thermocouples
- Voltage sources
SLICE Bridge – Sensor Interface



Standard 4-wire Bridge Connection



Strain Gage 3-wire Connection



Strain Gage 2-wire Connection





Strain Gage 2-wire Connection





Signal Generator w/floating output





Measuring Large Differential Voltages





Appendix B: Sensor Database Import

An existing sensor database can be imported into the DataPRO Sensor Database.

Supported Sensor Database Import Formats

DataPRO (*.xml)

Native DataPRO Sensor Database format. Will import sensors and sensor templates contained in selected file.

SLICEWare (*.xml)

Requires both Data.SensorDB.xml and Calibration.SensorDB.xml in order to import sensor data.

TDAS Control Sensor Database CSV file created from TDC Sensor Database.

Sensor Information File (*.sif) Individual Sensor Information Files from TDAS Control.

Equipment Exchange (*e2x) DataPRO fully supports e2x version 1.2, with limited support for version 1.5.

TDAS Manager CSV Export

"Sensors" CSV file generated from TDAS Manager.

Command Line Import

A batch file can be run to import a CSV sensor database file.

Appendix C: Discover Hardware

Discover Hardware is a feature that allows in-process addition of connected hardware to the database and discovery of connected sensors with EID. This feature is available in both Groups and Test Setups.

All hardware to be discovered and added to the database must be powered on and connected. All sensors to be discovered must a) already exist in the sensor database, b) be connected and c) have EID installed.

1. To quickly add DAS to the data recorder database, or to detect powered on and connected DAS (and sensors with EID), select "Discover Hardware":

朦 DataPRO - Edit Group: Group 1 -	[SLICE PRO Te	st]				
Check Trigger	🔁 Quick Ch	neckout	👓 Run Test	😃 Dow	nload Data	🔎 View
😤 Data Recorders	💿 Se	nsor Template:	5	Sensor Database	R	Groups
Done <u>S</u> ave Discover hardware						
Groups						
	<< N	lame (Group 1			
Info		escription				
	-	·				
Hardware	li li	ags				
Channels	Т	ests Using				
Parameters						

2. DAS that are already in the database will be listed in the Available DAS table. DAS that have been added to the group will be listed in the Included DAS table:

👹 DataPRO - Ed	it Group: Gro	up 1 - [SLIC	E PRO Test]									-	o ×
Check	Trigger		Quick Checkout	•• Run 1	est	😃 Do	wnload Data		🔎 View Data	👛 Export D	ata 💁 Manage Users	🐱 System Settin	gs 🔳
😤 Data	Recorders		🚯 Sensor Tem	plates	🛄 Senso	r Database		Group	s	Setups Test Setups	🛃 Additional Details	🖹 Check Channel	s
Done Cancel	≦ave Scan	selected Sci	an all Query select	ted									
Recorder d	liscovery												
Hardwar	e disco	very											
								Read	у				
AutoDiscovery	(
IP addresses				•							•		
				Add					DAS	included in	Group		
Included DA	s 🗲							S	ensors				
Show modules	5								sensors	Sentor	SN (rensor name)	Location	Action
DAS channels										Jenson .	Siv (sensor name)	Location	Action
Scan/Query	DÂS	Module	Connection	Channels	Status	Input Vo	ltage Status	Ba					
\checkmark	BA51253		USB	15 analog channel(s	Online								
•								+					
								-	Avail	able DAS a	alreadv in Databas	e	
Available DA	s 🗲										,		
Include Conne	cted	TDAS	SLICE	ALL									
Scan/Query	DÂS	Module	Connection	Channel	5	Status	Input Voltag	eS 👚					
	S6A0047		192.168.4.47	6 analog channel(s	1								
	SPD00999			18 digital input cha	nnel(s)								
	SPE00150		192.168.0.150	SLICE PRO Etherne	Controller			-					
•								•					
DAS 001 Cor	mm 🔘 🔳		User Adr	min navigated to: Pre	are_TestObj	ects_EditObj	ect_Page_Hardv	vare			Connected to: Loca	al Current view: Admin	Login: Admin

3. To add new Ethernet DAS to the database, enter the IP address and select "Add". USB connected DAS will be discovered automatically during the scan:

🔋 DataPRO - Edit Group: Group 1	- [SLICE PRO Test]			
Check Trigger	🚰 Quick Checkout	👓 Run Test	😃 Download Data	🔎 View
😤 Data Recorders	Sensor Templates	👤 Senso	r Database	🔗 Groups
Done Cancel Save Scan select	ed Scan all Query selected			
Recorder discovery				
н н н				
Hardware discove	ry			
				Ready
AutoDiscovery				
IP addresses 192.168.0.153	^			
		Add		

a. If IP address(es) are not known, enable "AutoDiscovery" to ping all available IP addresses in the compatible range:

🦉 DataPRO - Edit Group: Group 1 -	[SLICE PRO Test]			
Check Trigger	🚾 Quick Checkout	Run Test	也 Download Data	🔎 View
😽 Data Recorders	💿 Sensor Templates	👤 Sens	or Database	🔗 Groups
Done Cancel <u>S</u> ave Scan selecte	d Scan all Query selected			
Recorder discovery				
Hardware discover	у			
				Ready
AutoDiscovery				

4. Select "Scan all" or "Scan selected" to confirm IP address(es) and discover USB DAS:



5. Select "Query selected" to establish communication and confirm DAS configuration. DAS that is powered on and connected will be displayed in the Included DAS table. Connected sensors with EID will be displayed in Sensors table:

🖉 DataPRO - Edit Group: Group	1 - [SLICE PRO Test]							— í	5 ×
Check Trigger	Cuick Checkout	👓 Run Te	est 📃 Dow	nload Data	🔎 View Data	💷 Export Data	Manage Users	😸 System Setting	s 🔳
📅 Data Recorders	Sensor Tem	plates	👤 Sensor Database	🔗 Gr	oups	Setups	2 Additional Details	Check Channels	
Done Cancel Save Scan selec	cted Scan all Query selec	ted							
Recorder discovery									
Hardware discove	ery								
				Do	one				
AutoDiscovery									
Included DAS					Sensors				
Show modules					Analog: found 3				
DAS channels					Analog. Tourid 5	Sensor SN (sensor na	me)	Location	Action
Analog: found 9 of 9									All
Scan/Query DÂS N	Iodule Connection	Channels	Status	Input Voltage St	6DX0082 ART(6DX0	0082 AR-1)		[BA51253:BK50201] CH-01	Add
✓ BA51253	USB	9 analog channel(s)	Connected	11.7 V	6DX0082 AR2(6DX0	0082 AR-2)		[BA51253:BR50201] CH-02	Add
4				Þ	6DX0082 AR3(6DX0	0082 AR-3)		[BA51253:BR50201] CH-03	Add

a. Enable "Show modules" to display modules (SIM/TOM/Bridge) connected to each DAS (TDAS Rack, ECM, Base):

						D)or
AutoDiscovery							
	1						
luded DAS							
cluded DAS	I						
cluded DAS how modules AS channels nalog: found	9 of 9						
cluded DAS how modules AS channels halog: found Scan/Query	9 of 9 DÂS	Module	Connection	Channels	Status	Input Voltage	
cluded DAS how modules AS channels halog: found scan/Query	9 of 9 DÂS BA51253	Module	Connection USB	Channels 9 analog channel(s)	Status Connected	Input Voltage 11.7 V	
cluded DAS show modules AS channels nalog: found Scan/Query	9 of 9 DÂS BA51253 BR50201	Module BR50201	Connection USB USB	Channels 9 analog channel(s) 	Status Connected Connected	Input Voltage 11.7 V 11.7 V	

6. Once DAS has been discovered and added to the database, it can be removed from the group by selecting "Remove" from the Discover Hardware screen or by unselecting the box from the Hardware navstep:

Remove DAS from group by	Included DAS Show modules DAS channels	1									
selecting "Remove" on	Analog: found Scan/Query	9 of 9 DÂS	Module	Connection	Channels	Status	Input Voltage Status	Battery Voltage Status	Action		•
Discover Hardware screen.	\checkmark	BA51253		USB	9 analog channel(s)	Connected	11.6 V		Update	Remove	
		BR50201	BR50201	USB		Connected	11.6 V		Update		
		BR51890	BR51890	USB		Connected	11.6 V		Update		-

	DataPRO - Edit Group: Group 1 -	[SLICE PRO Test]	- 55 D.	in Task	number of Data	O View
	Data Recorders	Sensor 1	femplates	Sensor Database	Gro	oups
	Done Save Discover hardware					
	Groups	Search				
Remove DAS by unselecting box on Hardware	Info	 0 chan Com; 	nels required, 9 physic pact Expanded	al channels included.		
navstep.	Hardware		Serial Number 💌	Туре 💌	Channels 💌	Firmware
	Chappels		SPT00999	SLICE PRO TOM	4 Squib,8 Digital out	D0D7
	Channels		SPT00107	SLICE PRO TOM	4 Squib,8 Digital out	DOLO
	Parameters		SPS00331	SLICE PRO SIM	18 Analog	A1Q1
			SPE00150	SLICE Ethernet Controller		BOB3
			SPD00999	SLICE PRO DIM	18 Digital input	A1J4
			S6A0047	SLICE 6 AIR	б Analog	G015
		\checkmark	BA51253	SLICE+	9 Analog	B1F4

7. Select "Save" to add the discovered DAS to the database and to the group:

👼 DataPRD - Edit Group: Group	1 - [SLICE PRO Test]			
🙎 Check Trigger	Cuick Checkout	👓 Run Test	🗖 Download E)ata 🛛 🖉 View
😤 Data Recorders	Sensor Templates	🛄 Sens	or Database	🔗 Groups
Done Save Discover hardware				
Groups	Search			

8. Select "Done" to return to the Groups home screen:

DataPRO - Edit Group: Group 1	- [SLICE PRO Test]				
Check Trigger	🚾 Quick Checkout	👓 Run Test	😃 Download	l Data	🔎 View
😽 Data Recorders	Sensor Templates	👤 Sens	or Database	🔗 Gr	roups
Done <u>S</u> ave Discover hardware					
Groups	Search				

Appendix D: Quick Arm

Quick Arm is a feature that will add an additional Arm Prepare sub-navstep to the Arm navstep. This allows the TOM to remain un-armed until the full system is armed, thereby allowing for shorter DAS set times and helping to ensure safety when conducting time-sensitive airbag deployment tests.

Configuring the system to use Quick Arm requires modifying the *DataPRO.exe.config* file as well as changing the default Test Options in System Settings.

Config file settings:

- 1. With DataPRO closed, open the *DataPRO.exe.config* file with a text editor.
- 2. Change the following settings:
 - a. "ArmArmPrepareStepCheckTOMSafety".
 - i. Default setting is True.
 - ii. Change to False to enable Quick Arm.
 - b. "ArmIncludeArmPrepareStep".
 - i. Default setting is False.
 - ii. Change to True to enable Quick Arm.
 - c. "ArmChecklistRequiredIfTOM"
 - i. Default setting is True.
 - ii. Change to False to enable Quick Arm.
- 3. Save and close the *DataPRO.exe.config* file.
- 4. Open System Settings tab.
- 5. Disable "Require arm checklist when TOM present":

(5) Arm checklist	
Perform arm checklist	
Check battery voltage	\checkmark
Check input voltage	\checkmark
Require arm checklist when TOM present	
Check squib resistance	\checkmark
Check sensor ids	\checkmark
Check start/event line(s)	\checkmark
Check tilt sensors	\checkmark
Check temperatures	\checkmark
Check clock sync	\checkmark
Require all units pass arm checklist	

6. Select "Done".

7. Arm Prepare sub-navstep will be present in Arm navstep:

Check Trigger	😔 Quick Checkout	👓 Run Test	📥 Download Dat	a 📃 View D	ita 📃 Export I	Data 🚺	Manage Users	😣 System S	ettings
😵 Data Recorders	Sensor Templates	L Senso	or Database	🔗 Groups	🥵 Test Setups	👤 Addition	al Details	🔁 Check Cha	nnels
ı test									
ic info	<<								
ic inio	SUCE PRO T	oct 2020 02 10 1	2 40						
dware	SLICE PRO I	est - 2020_02_19 1	5_40						
eck sensor ID	Recording Mode: Pre-Triager Secon	Circular buffer ds: 1.00	Samples Per Seconds: Post-Trigger Seconds:	10,000 Channels: 1.00 Level Triggers	6 (4 analog, 2 SQUIB, 0 None	digital input, 0 digital c	output)		
eck trigger				Waiting	for user selection	on			
gnostics				5					
ltime									
_		Triç	gger: waiting			ł	-aults: clea	r	
n	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Statu
rm Prepare	Test channels	SPE00150							
un	Test channels	SPS00331	10,000	12.3 V	8.4 V (Charging)				
oftware Start	Test channels	SPT00107	10,000	12.3 V	8.4 V (Charging)				
oftware Trigger	•								
top Monitoring									
isarm									
vnload ROI									
W ROT									

a. Arm Prepare configures system:

Check Trigger	Quick Checkout	👓 Run Test	📥 Download Dat	a 📃 View D	ata 📃 🗠 Export D	ata 🔝	Manage Users	System 3	Settings
😵 Data Recorders	Sensor Templates	👤 Senso	or Database	🕜 Groups	Setups	R Addition	al Details	Check Ch	annels
one									
un test									
asic info	<<								
3510 1110	SLICE PRO T	est - 2020_02_19 1	3_40						
ardware									
heck sensor ID	Recording Mode: Pre-Trigger Second	Circular buffer ds: 1.00	Samples Per Seconds: Post-Trigger Seconds:	10,000 Channels: 1.00 Level Trigger:	6 (4 analog, 2 SQUIB, 0 d None	ligital input, 0 digital o	utput)		
heck trigger			Arm	Prepare compl	ete. Waiting for u	user selectio	n.		
					j				
lagnostics									
ealtime		.				-			
		Iriç	gger: waiting			ł	aults: clear		
Arm Branasa	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Stat
Arm Prepare	Test channels	SPE00150							
Run	Test channels	SPS00331	10,000	12.3 V	8.4 V (Charging)			[Jone 100%
Software Start	Test channels	SPT00107	10,000	12.3 V	8.4 V (Charging)				Jone 100%
Software Trigger	•								
Stop Monitoring									
Disarm									
ownload ROI									
iew ROI									
	-								
lownload all									

b. TOMs do not have to be Armed until Run is selected (Enabled after Arm Prepare is completed):

🖉 DataPRO - Run test - [SLICE PRO 7	Test]							-	. 0	×
Check Trigger	Quick Checkout	Run				ta 💽	Manage Users	System S	ettings	
Done	Sensor remplates					Activities	lai Detaiis			
			Please pl	lace all TOMs in Arm Mode	1					
Run test										
Basic info						*				
busic into	SLICE PRO Tes	t - 202	Retry							
Hardware										
Check sensor ID	Recording Mode: Pre-Trigger Seconds:	Circular buffer 1.00	Samples Per Seconds: Post-Trigger Seconds:	10,000 Channels: 1.00 Level Trigger	б (4 analog, 2 SQUIB, 0 s: None	digital input, 0 digital o	output)			
Check trigger				Prepa	iring for arming	J				
Diagnostics					0%					
Realtime		Tri	ager: waiting				Faults: clea	r		
Arm	Group	DAS	Tert rample rate			Time left in arm	Triggered	Faultr		
Arm Prepare	Test channels									
Run	Test channels				8.4 V (Charging)					
Software Start	Test channels				8.3 V (Charging)					
Software Trigger										
Stop Monitoring										
Disarm										
Download ROI										
View ROI										
Download all	-									
DAS 002 Comm	User Admin navigated	to: Record Arm					Connected to:	Local Current view: A	dmin Logir	i: Admin

8. Continue data collection from Run Test, select Run to arm the system.

Appendix E: DataPRO File Structure

NOTE: All locations listed below are default installation locations.

C:\DTS\DTS.Suite

Contains DataPRO software organized in folders by version number.

C:\DTS\DTS.Suite\SensorDatabase

Contains sensor database export files for all versions of DataPRO.

C:\DTS\DTS.Suite\ImportArchive\<test ID>

Contains xml backup of a TTS Test Setup import.

C:\DTS\DTS.Suite\Data

Contains data files organized in folders by Test Setup/Test ID. This file location is used for all versions of DataPRO.

C:\DTS\DTS.Suite\Data\<test setup name>

Contains test data organized by unique Test ID for a given test setup.

NOTE: All instances of Diagnostic tabs automatically generate a new test data folder. Instances of Run Test generate a new test data folder on progressing to Hardware navstep.

📙 🛛 🛃 🧧 🗸 Example	Test Setup 2		
File Home Share	View		
← → ~ ↑ <mark> </mark> → Tł	is PC \rightarrow Windows (C:) \rightarrow DTS \rightarrow DTS.Suite \rightarrow Data \rightarrow	Example Test Setup 2	~
A 1011	Name	✓ Date modified	Туре
> 🗶 Quick access	2020_02_06 15_48	2/6/2020 3:56 PM	File folder
> 🦲 OneDrive	2020_02_14 15_20	2/14/2020 3:53 PM	File folder
V This PC	CheckChannels_2020_02_06 13_26	2/6/2020 1:30 PM	File folder
	CheckChannels_2020_02_06 13_34	2/6/2020 1:37 PM	File folder
> J SD Objects	CheckChannels_2020_02_06 13_39	2/6/2020 1:43 PM	File folder
> E Desktop	CheckChannels_2020_02_06 13_45	2/6/2020 1:46 PM	File folder
> 🔮 Documents			

C:\DTS\DTS.Suite\Data\<test setup name>\<test ID>\Binary\<ROI or ALL> Contains channel data files (.CHN) from a given test. Sub-folders for ALL vs ROI will be present based on user's selection during download. UART data collected with SLICE6 AIR will be saved as a .bin file.

C:\DTS\DTS.Suite\Data\<test setup name>\<test ID>\DASConfigs

Contains the xml configuration file for each DAS with sensor(s) and recording parameters.

C:\DTS\DTS.Suite\Data\<test setup name>\<test ID>\Exports

Contains test data in the user-selected export format(s) (DIAdem, CSV, ISO, TTS, RDF, TDAS, TDMS, TSV, HDF, Excel) after test completion.

📕 🛃 🥃 🖛 Exports			
File Home Share View			
← → → ↑ 📙 « DTS.Suite → Data → Exar	mple Test 001 > Sample Test	A_2017_04_03 17_0)6 → Exports →
^ Name	Date modified	Туре	Size
CSV	6/1/2018 1:20 PM	File folder	
DIAdem	6/1/2018 1:21 PM	File folder	
ISO	6/1/2018 1:20 PM	File folder	
TDAS	6/1/2018 1:21 PM	File folder	

C:\DTS\DTS.Suite\Data\<test setup name>\<test ID>\Logs

Contains log files generated during instance of Diagnostic tab or data collection. Some log files are limited in size and will create archived, *.bz2 files. These archived files will include the date and timestamp as they are created.

- IP Address.log: A heartbeat log for each Ethernet device in the test.
- DASConfigs.log: Configuration information for all DAS included in the test.
- DataPRO.log: Communication and information generated between software, firmware and DAS during instance of Diagnostic tab or data collection.
- Ping.log: Log of ping attempts during instance of Diagnostic tab or data collection.
- TDAScomm.log: Communication and information generated between TDAS PRO hardware, software and firmware during instance of Diagnostic tab or data collection.

C:\DTS\DTS.Suite\Data\<test setup name>\<test ID>\Reports

Contains test reports and summaries for the hardware channels included in the test. PDF versions of reports can be enabled in the config file.

- Layout Reports: Created when leaving Check Sensor ID navstep. One report generated for each DAS included in test. Sensor serial number, hardware channel connection, sensitivity, filter and excitation voltage are recorded. ISO Code, level trigger parameters, squib fire mode, delay and duration are also recorded if applicable to the channel.
- Channel Calibration List: Created when leaving Check Sensor ID navstep. Lists all channels used in test with ISO Code, channel name, sensor serial number, sensor name, manufacturer, sensitivity, calibration date and calibration due date.
- Post-test Diagnostics: Created during Post Test Diagnostics, if included in Test Setup. Report with results from post-test diagnostics, if included in test.
- Pretest Diagnostics: Created after Diagnostics is run. Report with results from pre-test diagnostics.
- Test Summary: Created when leaving Basic Info navstep. Report that includes DAS/DAS information, Channels and channel configuration and ISO export information.
- Squib Resistances: Created after Arm Checklist is complete. Report that is included if Squib Resistance measurement is performed during Arm Checklist, contains squib resistance measurements if squibs are included in test.

📙 🛃 📙 🖛 Reports			—
File Home Share	View		
← → ~ ↑ 📙 « W	indows (C:) > DTS > DTS.Suite > Data > SLICE PRO Test > 2020	0_02_19 11_55 → Repo	rts v ඊ
	Name	Date modified	Туре
Culck access	2020_02_19 11_55 ChannelCalibrationList.xlsx	2/19/2020 11:56 AM	Microsoft Excel W
OneDrive	😰 2020_02_19 11_55 Pretest Diagnostics 2020-02-19T120205.xlsx	2/19/2020 12:02 PM	Microsoft Excel W
This PC	2020_02_19 11_55 Pretest Diagnostics 2020-02-19T120205.xml	2/19/2020 12:02 PM	XML File
10 Objects	😰 2020_02_19 11_55 SPS00331 - 2020-02-19T120048Layout.xlsx	2/19/2020 12:00 PM	Microsoft Excel W
JU Objects	😰 2020_02_19 11_55 SPT00107 - 2020-02-19T120048Layout.xlsx	2/19/2020 12:00 PM	Microsoft Excel W
Desktop	2020_02_19 11_55 TestSummary.xlsx	2/19/2020 11:56 AM	Microsoft Excel W

C:\DTS\DTS.Suite\<version number>\DataPRO\DASConfigs Contains current configuration file(s) for DAS in Database.

C:\DTS\DTS.Suite\<version number>\DataPRO\db Contains DataPRO database files (includes sensors, DAS, group templates, groups, test setups, etc.).

NOTE: The db files should not be opened or modified outside of DataPRO.

C:\DTS\DTS.Suite\<version number>\DataPRO\Logs

Contains log file(s). To assist troubleshooting, DTS Support may ask you to send these files.

C:\DTS\DTS.Suite\<version number>\DataPRO\Manuals

Contains manuals for SLICE equipment and DataPRO software that are current at time of software release.

C:\DTS\DTS.Suite\<version number>\DataPRO\ReportTemplates Contains default and user-defined report templates. Changes or additions to Report Templates must be manually carried over to new versions of DataPRO.

C:\DTS\DTS.Suite\<version number>\DataPRO\Sounds

Contains files used for Realtime Level Triggers. Beep.wav is the sound when the sensor is idle/blow the trigger threshold, TriggeredBeep.wav is the sound when the sensor has reached the trigger threshold. Either file can be replaced, but the naming convention must remain the same.

C:\DTS\DTS.Suite\<version number>\DataPRO\TMTTemplates

Contains the TMATS file used for SLICE6 AIR streaming applications. The file included at the time of publication will support the following UDP Streaming Profiles:

- Ch10 w/manual config
- Ch10 w/PCM & TDP format 1
- Ch10 w/12-bit PCM
- TmNS w/standard PCM
- TmNS w/supercom PCM

To use a different UDP Streaming Profile, an appropriate TMATS file will need to be provided. Any supplied TMATS file must be named S6ATMTTemplate.tmt in order to be used.

Appendix F: DataPRO .dts File Format

Overview

The .dts file is an XML-based file that contains information about the overall test and the individual channels. Some of the information may be redundant with information stored in the binary channel header.

The attributes and relationships of each XML node are described below.

XML Structure

<u><Test></u>

The Test tag is the outer most tag. It contains the following attributes and describes details common to the entire test.

Name	Data Type	Description
Test Id	String	The name of the Test Setup, as well as the name of the subfolder in the "Data" folder which contains the data, reports and exports for all occurrences of runs of this Test Setup (further organized by the "Test Id" which may be modified by the user in the "Basic info" step of the "Run Test" tab). The "Test Id" is typically the same as the .dts file name.
Description	String	The text optionally modified by the user in the "Description" field of the "Basic info" step of the "Run Test" tab.
Guid	Windows UUID string	A unique identifier assigned to each event.
FaultFlags	Integer (UInt16)	16-bit bit array Bit 0: Incoming status line dropped Bit 1: ADC Buffer Overrun Bit 2: Flash CRC Error Bit 3: Trigger before start Bit 4: Input voltage low Bit 5: Input voltage high Bit 6: Backup voltage low Bit 7: Backup voltage high Bit 8-15: Unused
Software	String	Identifies DataPRO as the software used for data collection.
SoftwareVersion	String	Identifies the version of DataPRO used.

<Modules>

Within the Test node is a list of modules contained within a <Modules></Modules> tag. Module definitions depend on the DAS type. A <module> corresponds to a SLICE MICRO or NANO Base; a SIM, TOM or DIM in a TDAS PRO Rack; 1 of 4 internal, 8-channel modules in a TDAS G5 DAS; 1 of 6 [or 1 of 3] internal, 3-channel modules in an 18-channel [or 9channel] SLICE PRO SIM or DIM; or an entire SLICE PRO TOM.

Name	Data Type	Description
AaFilterRateHz	Integer	The name cut off frequency of the hardware anti-alias filter used during the test.
Number	Integer	A sequential number assigned to each module within the test.
SerialNumber	String	The factory assigned serial number of the SLICE Base.
BaseSerialNumber	String	For TDAS modules installed in a rack, this is the rack's serial number. All other DAS use the unit's serial number.
NumberOfSamples	Integer	The number of samples stored in each channel file. This will be fewer than the number of samples originally requested by the user if the data has been subsampled or if only a portion of the data was downloaded.
UnsubsampledNumberOfSamples	Integer	The total number of samples collected during data acquisition.
RequestedPostTriggerSeconds	Double	The exact number of seconds specified in the "Default post- trigger second(s)" field of a Test Setup. This may differ slightly from PostTriggerSeconds which reflects the amount of actual data recorded.
RequestedPreTriggerSeconds	Double	The exact number of seconds specified in the "Default pre- trigger second(s)" field of a Test Setup. This may differ slightly from PreTriggerSeconds which reflects the amount of actual data recorded.
PostTriggerSeconds	Double	The number of seconds of recorded data that the user requested after T=0.
PreTriggerSeconds	Double	The number of seconds of recorded data that the user requested before T=0.
RecordingMode	String	Options are RecorderMode, CircularBuffer, AutoRecorderMode, AutoCircularBufferMode, ContinuousRecorderMode, HybridRecorderMode and MultiHybridRecorderMode.
SampleRateHz	Integer	The rate at which sampling occurred during data collection
StartRecordSampleNumber	Integer	The sample number at which the start signal was first detected. The value will always be 0 when RecordingMode = CircularBuffer.
NumberOfChannels	Integer	The number of user configured channels within the module.
InlineSerializedData	Boolean	
BaseSerialNumber	String	For TDAS modules installed in a rack, this is the rack's serial number. All other DAS use the unit's serial number.
StartRecordTimestampSec	Integer	
StartRecordTimestampNanoSec	Integer	
TriggerTimestampSec	Integer	
TriggerTimestampNanoSec	Integer	
PTPMasterSync	Boolean	

<TriggerSampleNumbers>

This is a list (possibly 0 length) of trigger sample numbers. In the Circular Buffer case, there will be one trigger sample number. In Recorder mode, the trigger is optional. In the case of multiple event mode, there may be more than one trigger sample number.

<Channels>

The Channels tag contains a list of channel elements. It should have the same number of entries as NumberOfChannels in the Module tag. The type of the child elements will depend on the type of channel.

<AnalogInputChannel>

The AnalogInputChannel tag is used for any DAS input channel (analog or digital). (Note: There is a typo in the tag name and "Chanel" is misspelled. It has been retained for backward compatibility). Many of the attributes indicate how the channel was configured during the test. The AnalogInputChannel element has the following properties:

Name	Data Type	Description
ChannelType	String	This identifies the representation of the data contained in the .BIN file. Currently this value is always expected to be DTS.Serialization.Test+Module+AnalogInputChannel.
Number	Integer	The channel number within the DAS <module>. For SLICE Bridge, channels are numbered 0–2. For TDAS PRO SIM, channels are numbered 0-7. For TDAS PRO TOM, channels are numbered 0-7 where channel 0 is the voltage measurement for TOM external channel 1 and channel 1 is the current measurement for TOM external channel 1; channel 2 is the voltage measurement for TOM external channel 2 and channel 3 is the current measurement for TOM external channel 2, etc. For SLICE PRO SIM, channels are numbered 0-2 for each module. For TDAS G5 DAS, channels are numbered 0-7 for each module.</module>
DigitalMultiplier	String	Used for digital input channels only. The channel's form of multiplier (currently only ArbitraryLowAndHigh), the low value (typically 0) and the high value (typically 1).
DigitalMode	String	Used for digital input channels only. CCNO = Contact Closure Normally Open (the default for digital inputs and the only mode that TDAS G5 DAS support) CCNC = Contact Closure Normally Closed TLH = Transition Low to High THL = Transition High to Low
Start	Date	Currently unused.
Bridge	String	Either FullBridge or HalfBridge.
BridgeResistanceOhms	Integer	The specified bridge resistance used during the shunt check.
ZeroPoint		

Name	Data Type	Description
ChannelDescriptionString	String	The user-provided description for the channel.
ChannelName2	String	For channels created in ISO mode, the name of the channel from the Group Template. For channels created in non-ISO mode, the name of the sensor used to create the channel.
Channelld	String	An internal representation of the channel based on its Group name and position in the hardware.
HardwareChannelName	String	For SLICE Bridge = [$\langle BR \ sn \rangle$] CH-01 through 03 For TDAS PRO SIM = [$\langle SIM \ sn \rangle$] CH-01 through 08 For TDAS PRO TOM = [$\langle TOM \ sn \rangle$] SQ-01 through 04 TOM digital outputs = [$\langle TOM \ sn \rangle$] DO-01 through 08 For TDAS PRO DIM = [$\langle DIM \ sn \rangle$] DI-01 through 16 For TDAS G5 DAS = [$\langle G5 \ sn \rangle$] CH-01 through 32 G5 DAS digital inputs = [$\langle G5 \ sn \rangle$] DI-01 through 16 For SLICE PRO SIMs = [$\langle SPS \ sn \rangle$] CH-01 through 18] For SLICE PRO TOM = [$\langle SPT \ sn \rangle$] SQ-01 through 04 TOM digital outputs = [$\langle SPT \ sn \rangle$] DO-01 through 08 For SLICE PRO DIM = [$\langle SPT \ sn \rangle$] DI-01 through 18
Description	String	The user-provided description for the sensor; currently the same as ChannelDescriptionString.
DesiredRange	Integer	The user-requested full scale.
Sensitivity	Double	The sensitivity of the sensor in either mv/V/EU or mv/EU depending on ProportionalToExcitation.
SoftwareFilter	String	The requested filtering to apply to this channel. Stored data is unfiltered and this value must be used to apply proper filtering. Typical values are "1650hz" for CFC1000.
ProportionalToExcitation	Boolean	Indicates if the output of this sensor is proportional to excitation. Used in conjunction with Sensitivity.
IsInverted	Boolean	<i>(Optional)</i> Indicates if the data should be inverted before presenting to the user. If missing, this attribute is considered 'false'.
LinearizationFormula	String	The formula used to generate a graph of data collected using a non-linear sensor.
IsSubsampled	Boolean	<i>(Optional)</i> Indicates if the data stored on disk is at a lower sample rate than the original data collection. If missing, this attribute is considered 'false'.
AbsoluteDisplayOrder	Integer	The nominal ordering of channels in reports, graphs and exports.
LastCalibrationDate	Date	The most recent date that a sensor was calibrated.
SensorID	String	A sensor's electronic ID.
OffsetToleranceLowMv	Double	The most that a sensor's offset is allowed to vary below 0 mV and still pass a diagnostic offset check.
OffsetToleranceHighMv	Double	The most that a sensor's offset is allowed to vary above 0 mV and still pass a diagnostic offset check.

Name	Data Type	Description
DataFlag	Boolean	A value that can be assigned to a channel when viewing data. Possible values are "0" (None), "1" (Normal), "2" (Saturated), "3" (ZeroCrossing), "4" (BrokenWire) and "5" (Other).
ExcitationVoltage	String	The voltage specified in a sensor's definition.
Eu	String	The user provided Engineering Units (EU) (e.g., mm, g, or msec ²).
SerialNumber	String	The serial number of the sensor used with this channel.
CalSignalEnabled	Boolean	Applies to SLICE IEPE only.
ShuntEnabled	Boolean	For SLICE Bridge only. Indicates if the user requested the channel be shunted during diagnostics.
VoltageInsertionCheckEnabled	Boolean	True = check enabled or False = no check performed.
RemoveOffset	Boolean	Indicates if the user requested hardware offset compensation be used during diagnostics.
ZeroMethod	String	Identifies the type of software offset compensation that should be used. If the value is "UsePreCalZero," then the Pre- Calibration zero value stored in the channel file should be used. If the value is "AverageOverTime," then an average value computed from the channel data should be used.
ZeroAverageWindowBegin	Double	If ZeroMethod = AverageOverTime, this is the beginning of the window to be used for computing the average.
ZeroAverageWindowEnd	Double	If ZeroMethod = AverageOverTime, this is the end of the window to be used for computing the average.
InitialEu	Double	A value provided by the user that should be subtracted from all scaled data in addition to the selected ZeroMethod.
InitialOffset	Double	A sensor's offset when last calibrated.
UnsubsampledSampleRateHz	Integer	The sampling rate used during data collection. Valid only if IsSubsampled = True.
MeasuredExcitationVoltage	Double	<i>(Optional)</i> The measured excitation voltage, if available. Used by DataPRO for scaling proportional-to-excitation sensor data if "factory" excitation voltage is not available.
FactoryExcitationVoltage	Double	<i>(Optional)</i> The factory excitation voltage, if available. Used by DataPRO for scaling proportional-to-excitation sensor data.
TimeOfFirstSample	Double	The time relative to T=0 of the first sample.
Multiplier		
UserOffsetEU		
UnitConversion	Double	The factor used to calculate displayed EU given a sensor's sensitivity and desired range.
AtCapacity	Boolean	Whether or not a sensor was calibrated based on its maximum output.
CapacityOutputIsBasedOn	Double	If AtCapacity = True, the sensor's output that calibration was based on.

Name	Data Type	Description
SensitivityUnits	String	The units that a sensor's sensitivity is based on; either "NONE", "mV", "mvPerV" (mv/V), "mvPerVperEU" (mV/V/EU), or "mvPerEU" (mV/EU).
SensorCapacity		
ChannelGroupName		
MeasuredShuntDeflectionMv	Double	(Optional) If a shunt test was performed, the actual deflection of the shunt.
TargetShuntDeflectionMv	Double	(Optional) If a shunt test was performed, the expected shunt deflection.
MeasuredCalSignalMv	Double	Diagnostic results from calibration signal used to determine gain (IEPE 1.0 only).
TargetCalSignalMv	Double	Diagnostic results from calibration signal used to determine gain (IEPE 1.0 only).

Appendix G: DataPRO Binary File Format

Bin File Header Version 4*

Offset	# of bytes	Data Type	Description
0	4	UInt32	Magic key to identify file: 0x2C36351F
4	4	UInt32	Version number of this file header*
8	8	UInt64	Offset (in bytes) from start of file to where data samples start
16	8	UInt64	Number of samples in this file
24	4	UInt32	Number of bits per sample
28	4	UInt32	0 = unsigned samples; 1 = signed samples
32	8	Double	Sample rate
40	2	UInt16	Number of triggers (may be 0)
42	N = number of triggers * 8	UInt64	Trigger sample number
N + 42	4	Int32	Pre-test zero level (in counts)
N + 46	4	Int32	Removed ADC (in counts)
N + 50	4	Int32	Pre-test diagnostics level (in counts)
N + 54	8	Double	Pre-test noise (percentage of full scale)
N + 62	4	Int32	Post-test zero level (in counts)
N + 66	4	Int32	Post-test diagnostics Level (in counts)
N + 70	4	Int32	Data zero level (in counts)
N + 74	8	Double	Scale factor mV (mV/Count)
N + 82	8	Double	Scale factor EU (mV/EU or mV/V/EU)
N + 90	2	Int16	EU field length (with terminator)
N + 92	X = length of EU field	Char	Engineering units (without NULL termination)
N + 92 + X	8	Double	Excitation
N + 100 + X	4	Int32	Trigger adjustment samples (reserved)
N + 104 + X	4	Int32	Zero mV (in counts)
N + 108 + X	4	Int32	Window average (in counts)
N + 112 + X	4	Int32	Original offset (in counts)
N + 116 + X	16	Char []	ISO code
N + 132 + X	4	Int32	CRC16 for binary header information from byte 0 to $(N + 132 + X - 1)$
N + X + 136 64bit (ulong) offset found in 3rd file field	Size of sample data	16-, 24-, or 32-bit depending on "Number of bits per sample"	DATA SAMPLES START HERE

Appendix H: SQL Server Setup (Windows 7)

1. In Windows 7 OS, run the 2014 version of SQLEXPR_x64_ENU.exe:



2. Select "Run":

				1200		
90-	🚚 + Computer + Local Disk (Ci) + Jerry +			• +7	Search Jerry 🔎	
Organize	Open New folder				#• 🗆 0	
🚖 Favor	nites Name	·	Date modified	Туре		
E Des	ktop 1.4.594.26243		12/18/2018 11:05	File folder		
🔒 Dov	emloads BQLManagementStudio_x64_ENU		12/19/2018 3:04 PM	File folder		
📃 Rec	ent Places 🛃 AccessDatabaseEngine_X64		12/18/2018 12:14	Application		
	ACT12010		12/19/2018 12:06	Compressed (zipp		
词 Librar	ries datapro_chad		12/18/2018 11:03	Data Base File		
🖻 Doo	cuments 19 msodbcsal(11)		2/12/2018 1:32 PM	Windows Installer		
🌙 Mu	sic 😰 msodbcsql(13)		12/19/2018 1:48 PM	Windows Installer		
Pict	tures 😥 msodbcsgl(13.1)		12/19/2018 1:50 PM	Windows Installer		
🗄 Vide	eos SQLEXPR(2005)		12/20/2018 4:02 PM	Application		
	R SQLEXPR_x64_ENU		1/17/2019 1:31 PM	Application		
j 🖷 Comp	puter 😸 SQLManagementStudio x64 ENU	Choose Directory	For Extracted Files	Dication		
	19 sqincli			adows Installer		
🗣 Netw	rork 💋 SQL Server 2005_BC_x64	Choose Directory	For Extracted Files	dows installer	1.1100000000000000000000000000000000000	
	SQLServer2005_SSMSEE_x64	C. Meny/SOLEX	PR_x64_ENUV	idows Installer	No preview available.	
	sqlserver2005expresssp4-kb2463332-x86-e	u_896d55b16d7d097		plication		
	d vc_redist.x64	Ok	Cancel Browse	plication		
	🚽 vcredist_x64		12/18/2018 11:18	Application		
and the second						
	201					
	SQLEXPR_x64_ENU Date modified: 1/17/2019 1:31 PM	ate created: 1/17/2019 2:04 PM				
	Application Size 130 MB					

3. Click OK:

Ciguratize Dopen New folder Forothes Name LASSA22201 B Downlands SQLDRP, 64 [NU	Date modified Type
Fravoites Marrie Mar	Date modified Type
Favorites Devintop JA.594.26243 Doumloads JOLEURP.y64_ENU	
Descop JA-394/20243 SQLEX/PR_x64_ENU	A STATE AND A STATE OF THE STATE AND A STATE A
SQLEAPR_X54_ENU	12/10/2018 12:03 File Folder
Second Discore	12/12/2019 2:23 PM Hile Folder
2 Recent Praces	12/13/2018 304 PM File Folder
ACCESSDatabaseEngine_Ab4	12/18/2018 12:124 — Application
Desemble States and	12/19/2010 12/00 - Compressed (2000-
Music all and	2/03/2010 1.20 DA Windows To stuffing
mission m	Crass costs a second and the second
In modes and an intervention of the second s	12/13/2018 L48 PM Windows Installer
Ordens IB winnersdiftstil	12/13/2019 12/0 PW Windows Proteiner
Commenter de Commenter de Calificia de Calif	12/20/2018 4:02 PM Application
Microsoft SQL Server 2014 E	press and a second s
Provide and a state of the stat	
Igr sprice I	vide END 1000 ENLIPHINGS from wheel Automotivation vite
In additional and a second sec	
salsener2005emressin4.kh2463332.v86.enu 890	Cancel
W redict of A	12/18/2018 11:16 Amplication
a wredit via	12/38/2018 11:38 Application
_ ·····	
e	
SQLEXPR_x64_ENU Date modified: 1/17/2019 1:31 PM Date created: 1/17/2019 2:04 PM	
Application Size 196 MB	

4. Wait...

Preving Art by Jong Preving build inter the state of the state of the state of the state of the	×
Image: State	
Planning ACTIN by start Planning Installation New QQ, Sever 311 al in somo-dusted or mainting installation function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in somo-dusted or manment or to add function is unable QQ, Sever 311 al in some 311 al	
Determinant Maintranace Teatures to in entitive you (Server 2004 K2) or SQL Server 2004 K2) or SQL Serv	
Tools Dignostrimo SQ, Strever 2009, SQ, Strever 2009, SQ, Strever 2009, SQ, Strever 2009, SQ, Strever 2012, Date modified Type Resources Strever 2012 to SQ, Strever 2019, S	
012552 Options 1217/0312.25 PM Findeder 12177/	
12/17/2181 23:14 Application 12/17/2181 23:16 Compared Dip 12/17/2181 23:16 Deb Base File 21/12/2181 23:17 Windows Institie 21/12/2181 23:17 Windows Institie	
12/27/2781.59/FM Windows Institution 12/27/2781.59/FM Application 12/27/2781.59/FM Application 2/27/2781.59/FM Application 2/27/2781.59/FM Mapping Section	
12/27/2718.357 M/ Windows Institie / Nor present advalue. 12/27/2718.327 M/ Visions Institie 12/27/2718.327 M/ Application	
Microsoft SQL Server 2014	
SiglEXPR/s44_SNU Date modified 1/17/2019.131 PM Date created: 1/17/2019.264 PM Application Scie: 166 MB	
😵 🙆 📜 🔍 🐮	2-30 PM /17/2019

5. Click "New SQL Server stand-alone installation or add features to an existing installation":

Planning	New SQL Server stand-alone installation or add features to an existing installation		
Installation	Launch a wizard to install SQL Server 2014 in a non-clustered environment or to add features to an existing SQL Server 2014 instance.	• 47 Sea	rch Jeny P
Maintenance	Lingrade from SOL Server 2005 SDL Server 2008 SOL Server 2008 R2 or SOL Server 2012		#• 🗆 0
Tools	Launch a wizard to upgrade SQL Server 2005, SQL Server 2008, SQL Server 2008 R2 or SQL	Date modified Type	
Resources	Server 2012 to SQL Server 2014.	12/18/2018 11:05 File folder	
Options		1/1//2019 2:29 PM Hie Folder 12/19/2018 3:04 PM File folder	
		12/18/2018 12:14 Application	
		12/19/2018 12:06 Compressed (2ipp 12/18/2018 11:03 Data Base File	
		2/12/2018 1:32 PM Windows Installer	
		12/19/2018 1:49 PM Windows Installer 12/20/2018 1:50 014 Windows Installer	
		12/20/2018 4:02 PM Application	
	SQL Server 2014	1 102000131014 4-15-16-1	
	Please wait while Microsoft SQL Server 20	014 Setup processes the current operation.	No preview available.
		12/18/2018 11:10 Application	
		Tritologie Tito - Mbbicagou	
Microsoft SQL Server 2014			
		1	
	2	,	
SQLEXPR Application	Lx64_ENU Date modified: 1/17/2019 1:31 PM Date created: 1/17/2019 2:04 PM		

6. Wait...



7. Check the "I accept the license terms" box, then click "Next>":

Regycle Bin ACT by Sage Premium	SQL Server Installation Center Planning Installation Maintenance Tools Resources	Constraints of the second	
Unano Norano Sol Artículo Jeny	Options Microsoft SQL Server 2014	Microsoft Update Use Microsoft Update to check for important updates License Terms Global Rules Microsoft Update and Conver 2014 Updates are delivered using Automatic Updates, or your the Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your the Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your the Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your the Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your the Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your the Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your The Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your The Microsoft Update to check row 2014 Updates are delivered using Automatic Updates, or your Fauture Statection Fauture Statection Fauture Statection Complete Initiation Prograss Complete	fin vat
	Poper Applar	MALENU Date modified See 106 MB	

8. Check "Use Microsoft Update to check for updates (rec'ed)" box then click "Next>":

Recycle Bin ACT by Sage Premium Dura PRO	SQL Saver Sutalition Center Planning Installation Multitrance Tools Resources	New SQL Server st Lunch a wixard to feature: to an exist Image: Server SQL Server st Lunch a wixard to server 2022 to 525	and-alone installation or add features install SQL Server 2014 in a non-cluvi ong SQL Server 2014 instance. Server 2016, SQL Server 2016, SQL Server Immonde SQL Server 2014 Setup	to an existing installation tered environment or to add ver 2008 R2 or SQL Server 2012 2008 SQL Server 2018 R2 or SQL	• fg Search Arr Dats modified Type	7 P 7 P			
terrere	Microsoft SQL Server 2014		Install Setup Files If we update for SQL Server S Locente Terms Gabas Thus Morosoft Update Parkur Stupiste Parkur Stupiste Parkur Stucistin Parkur Stucistin Parkur Configuration fullas Localitation Progess Complete	top is found and specified to be included in the second seco	nded, the update will be installed. Status Completed Steped Steped Not stated	de.			
e e i	SUBA Applea	PR_X64_ENU Date modified tion Site 3	06 MB		(bu) Bot>	Circit	P & 3 .	P* 10 €) 104	PM 2015

9. Click "Next>":

ycle Bin by Sage mium	1 SQL Server Installation Center Planning Installation	New SQL Server stand Leunch a wizard to ins features to an existing	alone installation or add features t tall SQL Server 2014 in a non-cluste SQL Server 2014 instance.	c an existing installation red environment or to add		• 4) Search Jeny			
-	Maintenance Tools Resources	Upgrade from SQL Ser Launch a wizard to un Server 2012 to SQ	ver 2005, SQL Server 2008, SQL Serv nrade SQL Server 2005, SQL Server	er 2009 R2 or SQL Server 2012 2008, SQL Server 2008 R2 or SQL	Date modified	Type	• • • •		
aFR0	Options		Feature Selection Select the Express features to a	nstall.					
ani: SSR			License Terms Global Rules	Eeatures:		Feature description:			
102010		1	Microsoft Update Product Updates Install Setup Files Install Rules	Database Engine Services SQL Server Replication Shared Features SQL Client Connectivity S Redistributible Features	DK	instance feature of a SQL Server instance is isolated from other SQL Server instances. SQL Server instances can operate side-by-side on * Prerequisites for selected features:			
a l			Feature Selection Feature Rules Instance Configuration	Trease and the second		Already installed: Windows PowerShell 2.0 Microsoft, NET Framework 3.5 *	sble.		
lany			Server Configuration Database Engine Configuration Feature Configuration Rules Installation Progress			Disk Space Requirements Drive C: 1058 MB required, 38042 MB available +			
	Microsoft SQL Server 2014		Complete	Select All Unselect All Instance goot directory: Shared feature directory: Shared feature directory (206):	C:\Program Files\Mi C:\Program Files\Mi C:\Program Files (d)	crosoft SQL ServerA			
	SQLEX Applicat	PR_x64_ENU Date modified:	MB .	^ 	< <u>B</u> ack	Mext> Cancel Help			

10. Click "Next>":

No sw-win7	7 - Remote Desktop Connection							- (a ×
Recycle Bir									Î
	T SQL Server Installation Center								
ACTI by Sag Premium	Planning Installation Maintenance	New SQL Server stand-alone installation or add feat Launch a wizard to install SQL Server 2014 in a non- features to an existing SQL Server 2014 instance.	ures to an existing installation clustered environment or to add		• + ₉ Search Jerry				
	Tools Tools Tools	Upgrade from SQL Server 2005, SQL Server 2008, SQ Launch a wipard to unorade SQL Server 2008, SQL Server 2012 Server 2012 Server 2014 Setup	L Server 2008 R2 or SQL Server 2012	Date modified Type					
California	Options	Instance Configuration							
Nutanie 55	2	Specify the name and instance License Terms Global Rules Microsoft Update	ID for the instance of SQL Server. Instance ② <u>D</u> efault instance ③ Ngmed instance: <u>DQLExpress</u>	D becomes part of the installation path.					
AGTERIO		Product Updates Install Setup Files Install Rules	Instance [D: SQLEXPRESS						
		Feature Selection Feature Rules Instance Configuration Server Configuration	SQL Server directory: C:\Program Files\/ Installed instances:	Microsoft SQL Server\MSSQL12.SQLEXPRE	E22	v available.			
Jenny		Database Engine Configuration	Instance Name Instance ID	Features Edition	Version				
	Microsoft SQL Server 2014	Feature Configuration Rules Installation Progress Complete	ACT7 MSQL1	Syltngine,Syltn	5.3.4030				
	SQLEXPR.Xea	Contermol Size: 196 M8	[< Back Next > Ca	ancel Help				
0							ля 💐 A	• • •	3:16 PM 1/17/2019

11. Click "Next>":

😼 sw-win7 - Remote Des	sktop Connection							- • ×	^
Recycle Bin									
-	🐮 SQL Server Installation Center			0 0 0					
ACTI by Sage Premium	Planning Installation Maintenance Tools	New SQL Server sta Launch a wizard to features to an existi Upgrade from SQL Launch a wijzard.to.	nd-alone installation or add feat install SQL Server 2014 in a non- ng SQL Server 2014 instance. Server 2005, SQL Server 2009, SQ unnrada SQL Server 2005, SQL Se	ures to an existing installation clustered environment or to add . Server 2008 R2 or SQL Server 2012 mer 2008 - SQL Server 2008 R2 or SQL	fearth Jerry Rete modified Tupe				
DataPRO	Options	Siter in a	IL Server 2014 Setup erver Configuration Specify the service accounts an	d collation configuration.					
Nutani: SSR		Lice Glob Mici	nse Terms pal Rules rosoft Update	Service Accounts Collation	use a separate account for each SQL Server service.	1			
ACTIZOLO		Proc Inst Inst Feat	duct Updates all Setup Files all Rules ture Selection	Service SQL Server Database Engine SQL Server Browser	Account Name Pasword Startup Type NT Senice VMSSQLSQL Automatic * NT AUTHORITY/Networ Automatic *				
Jeny		Feat Inst Serv Data Feat	ure Rules ance Configuration ver Configuration abase Engine Configuration ture Configuration Rules allation Process			v available.			
	Microsoft SQL Server 2014	Con	npiete						
	SQLEXO Applica	PR_x64_ENU Date more	96 MB		<pre></pre>				
()	S 0 3 3						₽€1₽	3:17 PM 1/17/2019	¢

12. Click "Next>":

😼 sw-win7 - Remote Desk	ktop Connection		– ø ×
Resycle Bin			
	1 SQL Server Installation Center		
ACTI by Sage Premium	Planning Installation Maintenance	Hew SQL Server stand-alone installation or add features to an existing installation Auscuck withord in install SQL Server 3114 is non-chuttered environment or to add factors to an existing SQL Server 3114 instance. Used Add SQL Server 3114 instance. Used Add SQL Server 3114 instance. Used Add SQL Server 3114 instance. () (Server 3114 i	
	Tools Resources	Lauch a vigned a unequel 500 Serva 2085 501 Serva 2088 501 Serva 2088 82 ar 501 Date modified Type	
DataPRO	Options	Comparison of the state strategy Database Engine Configuration Specify Ditabase Engine subtretication security mode, administrators and data directories.	
Notanio SSR		License Terres Server Configuration Data Directories User Instances / FASTREAM Global Maris Microard Irolan Server y lar authentication mode and administrators for the Database Engine.	
ACTION		Product Updates Authentication Mode Install Schup Files Windows authentication mode Install Schup Files Mindows authentication mode Install Rules Mode (DQL Server authentication) Fasture Site/Fasture	
any .		Frature Rules Specify the password for the 5QL Sever system administrator (si) account. = available. Jostrare Configuration Enter paraword.	
	Microsoft SQL Server 2014	Jostalision Program approxy spic, and diaministration Detallision Program 0113/strp://www.rcf 920, Server administration Complete 0113/strp://www.rcf 920, Server administration	
		Add Current Uler Add_ Remove	
	SQLEX Applicat	Cancel Help	
😗 (ð [3 0 😤 📆		JP € A - ➡ ➡ ♠ 1/17/2015 -

13. Click "Next>":

😼 sw-win7 - Remote D	Jesktop Connection					- a ×
Recycle Bin						Ŷ
	1 SQL Server Installation Center					
ACTI by Sage Premium	Planning Instillation Maintenance Tools	New SQL Server stand-alone installation or add Launch a wizard to install SQL Server 2014 in a n features to an existing SQL Server 2014 instance.	features to an existing installation on-clustered environment or to add SQL Server 2008 R2 or SQL Server 2012		₽ 9 ₩•• 0	
DataPRO	Resources Options	Server 2012 20 Server 2014 Setup				
Nutanio 55R		License Terms Global Rules	-			
ACTROLO		Product Updates Install Setup Files Install Rules Explana Selection	Setting feature install state.			
Jany		Frature Rules Instance Configuration Server Configuration Database Engine Configuration Easting Configuration			v available.	
	Microsoft SQL Server 2014	Installation Progress Complete				
	SQLEXT Applica	PR_x64_ENU Date mot		Next > Cancel Help		
	1/					
	11					
<u>)</u>						JP ♥ 🖁 🕹 - 🖿 🐑 🌒 🕺 329 PM 1/17/2015 ♥

14. Wait...

😼 sw-win7 - Remote Desk	top Connection					- a ×
Resycle Bin						
and the	1 SQL Server Installation Center					
ACTI by Sage Premium	Planning Installation Maintenance Tools	New SQL Server stand-alone in Launch a wizard to install SQL features to an existing SQL Ser The SQL Server 2005	nstallation or add features to an existing installation Servez 2014 in a non-clustered environment or to add ver 2014 instance. , SQL Server 2008, SQL Server 2008 R2 or SQL Server 2012	• 49 Search Jerry	Ω Ω Ω 	
	Resources	Launch a wizard to unovade Si Server 2012 🛬 SQL Server 20	20. Sanar 2005. SOI. Sanar 2008. SOI. Sanar 2008. S. or SOI. 114 Setup	Date modified Type		
DataPRO	Options	Installati	on Progress			
Nutanii 53R		License Terms Global Rules				
AUTEOD		Microsoft Upd Product Updat Install Setup Fi Install Rules	ate Install_sql_engine_core_inst_Cpu64_Acti es les	n : InstallFiles. Copying new files		
Jany		Feature Rules Instance Config Database Engin Feature Configu	guration aration ne Configuration unation Rules		v available.	
	Microsoft SQL Server 2014	Installation Pr Complete	ogress			
	SQLEXT	PR_x64_ENU Date mod		Next > Cancel Help		
	17					
	1					
🙆 🌔 🕻						JP 🦉 👗 → 🏴 👘 🌒 🔒 331 PM 1/17/2019 🗸

15. Keep waiting...

Recycle Bin	🐮 SQL Server Installation Center Planning	🙊 New SQL Server stand-alone installation	or add features to an existing installation			^ ^
ACTI by Sage Premium	Installation	Launch a wizard to install SQL Server 20 features to an existing SQL Server 2014 in	14 in a non-clustered environment or to add nstance.	• 4 Search Jerry	٩	
100	Tools	Upgrade from SQL Server 2005, SQL Server Launch a wigard to unorade SQL Server	ver 2008, SQL Server 2008 R2 or SQL Server 2012 2005: SQL Server 2008, SQL Server 2008 R2 or SQL	Date modified Type		
DataPRO	Resources	Server 2012 📩 SQL Server 2014 Setup		- C (D		
Ø		Complete Your SQL Server 20:	Complete Your SQL Enror 2014 initializion completed successfully with product updates. Licens Terms Didus Musis Microard Update Fature Solution Fature Fature Fature Solution Fature Fature Solution Fature			
Nuterin: SSR		License Terms Global Rules	Information about the Setup operation	or possible next steps:		
AGTIZELO		Microsoft Update Product Update Install Setup Files Install Setup Files Feature Selection Feature Rules Instance Configuration Server Configuration	Prawne Charles Engines Engines SQL Server Replication SQL Writer SQL Writer SQL Client Connectivity SQL Client Connectivity Replication	Artical Gucceenid Succeenid Succeenid Succeenid Succeenid Succeenid Succeenid	v available.	
leny	Microsoft SQL Server 2014	Database Engine Config Feature Configuration R Iostaliation Programs Complete	Union Viewing Product Documentation uter Only the components that you use been instand: Or y data, the help SOL Sarver, you can use the help you local computer. For more infor (Chtp://go.microsoft.com/Melk/7/L Sammany log (if he has been aved to the Chtp://got.fieluMicrosoft.SOL.Sol. Servi Minil. 2019/01/2.159010.et	for SQL Server is view and manage the documentation for SQL Server have Winew component uses the online library. After installing altrary Manager component to download documentation to nation, see Use Microsoft Books Online for SQL Server MID/2005/782-) following location: 02005chup. Bootstrapik.og/2019/01/1509205/summary. 201-		
	SQLEX Applica	PR_x64_ENU Date mot		Close Help		
🚱 🎯	😫 o 😤 😤					JP 🦉 Å → 🏲 💬 🌒 343 PM 1/17/2019 v

16. Click "Close":

Blanning	allation Center						
Planning	CO + Computer + Local Disk (C3 + Jeny +			• 4+ Search Jany D			
Maintanance							
Took	Organize • 🛄 Open	New folder					
1000	🔆 Favorites	Name	Date modified	Туре			
Resources	E Desktop	J.4.594.26243	12/18/2018 11:05	File folder			
Options	😹 Downloads	SQLEXPR_x64_ENU	1/17/2019 2:29 PM	File folder			
	Secent Places	SQLManagementStudio_x64_ENU	12/19/2018 3:04 PM	File folder			
	1000	AccessDatabaseEngine_X64	12/19/2018 12:14	Application			
	Libraries	AC 112010	12/19/2018 12:06 -	Compressed (zipp			
	Documents	atspro_chad	2/12/2018 11:03	Dista Base File			
	Pictures	10 wrogersdi(11)	12/10/2010 1:32 PM	Windows pristaller			
	Videos	modecal(13.1)	12/19/2018 1:50 PM	Windows Installer			
		SOLEXPR(2005)	12/20/2018 4:02 PM	Application			
	1 Computer	B SQLEUPR, 164_ENU	1/17/2019 1:31 PM	Application			
		掲 SQLManagementStudio_x64_ENU	2/21/2018 8:55 AM	Application			
	🗣 Network	19 sqincli	12/20/2018 3:52 PM	Windows Installer	Manual Annual		
		B SQLServer2005_BC_x64	12/19/2018 2:05 PM	Windows Installer	ivo preview avaliable.		
		B SQLServer2005_SSMSEE_x64	12/19/2018 2:55 PM	Windows Installer			
		sqlserver2005expresssp4-kb2463332-x86-enu_896d55b16d7d0978618378f6bbbb3b6ab23296cc	12/20/2018 4:27 PM	Application			
		響 vc_redist.x64	12/18/2018 11:10	Application			
			12/18/2018 11:18	Application			
Microsoft S	¢						
	-						
		* (•			
	SQLManagementStudio_x64_ENU Date modified: 22/21/2018.855 AM Date created: 12/19/2018 2:57 PM Split Control Split						
17. Install SQL Server Management Studio 2014 by running SQLManagementStudio_x64_ENU.exe:



18. Click "Yes":

Planning	anation Center					
Installation	Co . Compute	r + Local Disk (Ci) + Jerry +		- 4,	Search Jamy P	
Maintenance	Ornanize - R Open	New folder				
Tools		Name	Data modified	Tune		
Resources	Favorites	14940000	12/02/2010 11:02	The folders		
Ortions	Desetop	14.394.20243 SOLEVER JAA ENLL	12718/2018 1E05	File folder		
Options	Recent Places	SOLManagementStudio v64 ENU	1/17/2019 2:29 PM	File folder		
	2	AccessDatabaseEngine X64	12/19/2018 12:14	Application		
	Calibraries	ACTI2010	12/19/2018 12:06	Compressed (zipp		
	Documents	atapro_chad	12/18/2018 11:03	Data Base File		
	Music	😰 msodbcsql(11)	2/12/2018 1:32 PM	Windows Installer		
	Pictures	👘 msodbesgl(13)	12/19/2018 1:48 PM	Windows Installer		
	Videos	15 msodbcsql(13.1)	12/19/2018 1:50 PM	Windows Installer		
		SQLEXPR(2005)	12/20/2018 4:02 PM	Application		
	1 Computer	RE SQLEAPK, SHEENU	Choose Directory For Extracted Files	plication		
	Se Network	Bi solocii	Choose Directory For Extracted Files	ndows Installer		
		SQLServer2005_BC_x64	L. Veny/SOLManagamen/Studio.x64_ENU	ndows Installer	No preview available.	
		B SQLServer2005_SSMSEE_x64		ndows Installer		
		El sqlserver2005expresssp4-kb2463332-x86-enu_896d55b16d7d0	97 Ok Cencel Browse	plication		
		gg vc_redist.x64	12/18/2018 11/10	Application		
		🛃 vcredist_x64	12/18/2018 11:18	Application		
Microsoft S	ic .					
		* (•		
	SQLManagem	entStudio_x64_ENU Date modified: 2/21/2018 8:55 AM Date	created: 12/19/2018 2:57 PM			
	Application	Size: 683 MB				

19. Modify the path if desired, then click "OK":

Planning						
Installation	Compute	rr 🔸 Local Disk (Ci) 🔸 Jerry 🔸		• 4,	Search Jerry P	
Maintenance		Newfolder				
Topls	organize • 🔤 open	New Ioner		2.275	- L V	
Resources	🙀 Favorites	Name	Date modified	Type		
resources	Desktop	1.4.594.26243	12/18/2018 11:05	File folder		
Options	Downloads	SQLEXPR_x64_ENU	1/17/2019 2:29 PM	File folder		
	📃 Recent Places	SQLManagementStudio_x64_ENU	1/17/2019 3:36 PM	File folder		
	The second s	AccessDatabaseEngine_X64	12/18/2018 12:14	Application		
	Desuments	AC 12010	12/19/2018 12:06	Compressed (zipp		
	Music	at produced (1)	12/18/2018 11:03	Mindows Installar		
	Pictures	By modecial(1)	12/19/2010 1:32 PM	Windows Installer		
	Videos	msofficsal(13.1)	12/19/2018 1-50 DM	Windows Installer		
	-	SOLEX(PR(2005)	12/20/2018 4:02 PM	Application		
	Computer	SOLEXPR.x64 ENU	-th COL County 2014 Management On the Empire			
		# SQLManagementStudio_x64_ENU	on sige server 2014, management schulo express			
	🗣 Network	😰 sqincli			Para de la companya d	
		19 SQLServer2005_BC_x64 Prepar	ing: C:\Jerry\SQLManagementStudio_x64_ENU\1033_ENU_LP\x	6\LLERGLUG.DLL	no preview available.	
		SQLServer2005_SSMSEE_x64		Cancel		
		sqlserver2005expresssp4-kb2463332-x86-enu_896		Gamericana		
		謂 vc_redistx64	12/18/2018 11:10	Application		
			12/18/2018 11:18	Application		
Microsoft S(
		21	100			
-		and the set of the transmission of the second				
	a souwarayer	Size 683 MB	Pare Creates: 12/18/2018 2.5/ PW			

20. Wait...

sw-win7 - Remote Desktop Connection	_						
20							
CTI by Sage	Com 🖉 🖉 🖉	😭 SQL Server Installation Center		Search Jerry P			
	Organize 👻 📑 O	Planning	New SQL Server stand-alone installation or add features to an existing installation	# • 🗆 😡			
	🙀 Favorites	Installation	features to an existing SQL Server 2014 instance.				
5	E Desktop	Maintenance	Upgrade from SQL Server 2005, SQL Server 2008, SQL Server 2008 R2 or SQL Server 2012				
	Recent Places	Resources	Launch a wizard to upgrade SQL Server 2005, SQL Server 2008, SQL Server 2008 R2 or SQL Server 2012 to SQL Server 2014.				
~	1000	Detion					
	Documents	opani					
luterner SSR	Music						
	Pictures						
1	Videos						
	1 Computer						
	Se Network						
	4			No preview available.			
		Microsoft SQL Server 2014					
		() ()	m +				
	SQLManag Application	ementStudio_x64_ENU(2014) Date modifie Sig	d: 1/1//2019 dr43 PM Uate created: 1/1//2019 3/43 PM de: 683 MB				
	1				JP 💐	A - P 🐑 🚯	3,49 PM

21. Click "New SQL Server stand-alone installation or add features to an existing installation":

Organize + 🖻 O	2 SQL Server Installation Planning Installation	in Center	SQL Server stand-alone in: th a wizard to install SQL Server	tallation or add features erver 2014 in a non-clus - 2014 instance	to an existing installa	tion to add	Search Jarry Bil	₽	
Desktop Downloads Recent Places	Maintenance Tools Resources Options	SQL Server 2014 Setup Installation Type Perform a new installation of Global Rules	r add features to an existin	ig instance of SQL Servi	r 2014. 014			-	
Pictures		Product Updates Install Setup Files Install Rules Installation Type Feature Galection Feature Configuration Rules Installation Progress Complete	Select this option components such Add features to an SQUEXPRESS Select this option want to add the A within an instance Installed instances:	if you want to install a as SQL Server Manage existing instance of SQ if you want to add feat malysis Services feature must be the same edit	new instance of SQL ment Studio or Integr L Server 2014 ures to an existing in s to the instance that on.	Server or want to ins stion Services. tance of SQL Server contains the Datab	tall shared . For exemple, you sse Engine. Features	ible.	
	Microsoft SQL		Instance Name SQLEUPRESS ACT7 <shared compone.<="" th=""><th>Instance ID MSSQL12.SQLEXPR MSSQL1</th><th>Features SQLEngine, SQLEn SQLEngine, SQLEn LocalDB</th><th>Edition Express Express</th><th>Version 12.0.2000.8 9.3.4035 12.0.2000.8</th><th></th><th></th></shared>	Instance ID MSSQL12.SQLEXPR MSSQL1	Features SQLEngine, SQLEn SQLEngine, SQLEn LocalDB	Edition Express Express	Version 12.0.2000.8 9.3.4035 12.0.2000.8		
SQLManag Application	< (ementStudio_x64_ENU(Size: 683 MB			< Back	at > Cance	el Help		

22. Change selection to "Add features to an existing instance of SQL Server 2014", then click "Next>":

Organize +	Com SQL Server Installati	on Center	SQL Server stand-alone installation or add ch a wizard to install SQL Server 2014 in a n	Features to an existing installation on-clustered environment or to add	Search Jerry	P		
Fivorites Desitop Recent Pla	Maintenance Tools Resources Options	SQL Server 2014 Setup Feature Selection Select the Express features t	o install.					
☐ Document		Global Rules Product Updates Install Setup Files Install Rules Installation Type Feature Selection Evature Rules	Eestures: Totance Festures Shered Festures Client Tools Schwards Comp Client Tools Sackwards Comp Client Tools Sak Management Tools - Basic Management Tools - Basic	Feature description: The configuration and o instance feature of a SQU isolated from other SQL Server instances can ope Prerequisites for salected Already installed:	veration of each * Server instances sQL ate side-by-side on * features:			
The Frethork		Feature Configuration Rules Installation Progress Complete	Redistributable Features	Mindows PowerShell Mindows Power	2.0 ************************************	able.		
	Microsoft SQL		Select All Unselect All Instance goot directory: C Shared feature directory: C Shared feature directory (SR): C	\Program Files\Microsoft SQL Server\ \Program Files\Microsoft SQL Server\ \Program Files\dlig\Microsoft SQL Server\				
SqLN Appli	< lanagementStudio_x64_ENUs ation	Size: 683 MB		Kara Kara Kara Kara Kara Kara Kara Kara	scel Help			

23. Check the "Management Tools – Basic" and "Management Tools – Complete" boxes, then click "Next>":

Remote Desktop Connection						72
	Core + Com	🐮 SQL Server Installatio	in Center		Search Jerry P	
	Organize 👻 📓 O	Planning	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	New SQL Server stand-alone installation or add features to an existing installation aunch a wizard to install SQL Server 2014 in a non-clustered environment or to add	s• • •	
	Favorites	Maintenance	fi SOL Senser 2014 Setun	eatures to an existing SOL Senser 2014 instance		
	Downloads	Tools Resources	Installation Progre	ess		
	Ca Libraries	Options				
	Music		Global Rules	-		
	Pictures		Install Setup Files	Expanding user features.		
			Install Rules Installation Type			
	1 Computer		Feature Selection			
	🗣 Network		Feature Rules Feature Configuration Rules		able.	
			Installation Progress		27 ma	
			Complete			
		Microsoft SOL				
		2010				
	SQLManag	ementStudio_x64_ENU		Ment > Ci	Preip	
	Application		Size: 683 MB			
11						
						# ₹ A = P ∰ 40

24. Wait...

	SOI Server Installatio	n Center	m [B] [S] families	
			New COL Source dead along installation or add features to an addition installation	
Organize + 🛄 (Installation	1	Launch a wizard to install SQL Server 2014 in a non-clustered environment or to add	• • •
Favorites	Maintenance	1 SOL Server 2014 Setup	features to an existing SOL Senser 2014 instance	n in the second s
🔒 Downloads	Tools	Complete		
📜 Recent Places	Resources	Vers 501 Seams 201	d installation consolided successfully with product undated	
🗊 Libraries	Options	roar age arren en	with and the completed successionly with product opener.	
Documents		Global Rules	Information about the Setup operation or possible next steps:	
Pictures		Product Updates	Feature Status	
🖬 Videos		Install Rules	Management Tools - Complete Succeeded	
1 Computer		Installation Type	Wanagement roos * basic Succeeded	
A		Feature Selection Feature Rules		
Network		Feature Configuration R	les	able.
		Installation Progress	Datalie	
		compiete	Viewinn Product Documentation for SOL Server	
			Only the components that you use to view and manage the documentation for SQL Server have	
			been installed. By default, the Help Viewer component uses the online library. After installing SQL Server, you can use the Help Library Manager component to download documentation to	
			your local computer. For more information, see Use Microsoft Books Online for SQL Server (chttp://ap.microsoft.com/Bidink/21/ak/D=296/220)	
	Microsoft SQL		(Strategy ge marked a constraint of the following factors (see)	
			C:\Program Files\Microsoft SOL Server\120\Setup Boststrap\Log\20190117 155021\Summary SW-	
			Win7 20190117 155921.txt	
			Close Hele	
Jan SQLMana	gementStudio_x64_ENU(and the	
Applicatio		Size: 683 N	18	

25. Click "Close".

26. Go to Control Panel | System and Security:



27. Click on "Allow a program through Windows Firewall":

	contrast i system and secondly is intrastant to submediately and				4 Search Control Panel	٩	
00-1	Allow programs to communicate through W	lindows F	irewall				
Organize 🖛	To add, change, or remove allowed programs and ports, o	lick Change	settings.				
	What are the risks of allowing a program to communicate	a	- Ch	ange settings			
Favorite							
Dewn	Anowed programs and features:	1351/1002					
S. Recen	Name	Domain	Home/Work (Private)	Public *			
100 m 100 m	BranchCache - Content Retrieval (Uses HTTP) BranchCache - Hosted Cache Client (Uses HTTPS)	П		n #			
Cill Libraries	BranchCache - Hosted Cache Server (Uses HTTPS)		i i i	- U			
Docur	BranchCache - Peer Discovery (Uses WSD)						
🚽 Music	Connect to a Network Projector						
🔛 Pictur	Core Networking	2	8	2			
Video:	Distributed Transaction Coordinator						
	File and Printer Sharing		-				
1 Comput	L Homeuroup	H		H			
	Key Management Service	E C	n	E I			
Metwork	Media Center Extenders		ä				
			Details	Remove			
			Allow anoth	er nendarsen			
			PRIVATE BUILDEN	er hindramen			
			OK	Cancel			
2			ОК	Cancel			
R :			OK	Cancel			
*			OK	Cancel			

28. Click on "Change settings", then click on "Allow another program...":

No. 10 Sw-win7 - Remote Desktop Connection		- 🛛 🗙
1		
Recycle bin		
1 (S)	System and Security • Windows Firewall • Allowed Programs	+ + Search Control Panel
ACTI by Sage	Allow programs to communicate through Windows Firewall	
Premium	Organize To add, change, or remove allowed programs and ports, click Change settings,	
1990	What are the risks of allowing a program to communicate?	ange settings
2	Favorite Diskte Allowed economy and faitures	
DataPRO	Down	Bully A
	Recen Add a Program	
<i>C</i> 4	BranchCac Select the program you want to add, or click browse to find one that is not listed and then click for	
2	Docur	
Nutanii: SSR	Music	
	Core Netw GACTI Scheduler	
1		
•••	P Comput	
A0102010	Key Manag SQL Server 2014 Database Engine Tuning Advisor	
	Network	· · ·
4	5QL Server 2014 Execute Package Utility	Remove
	SQL Server 2014 Import and Export Data (32-bit)	er program
OBBY	Path: C:\Program Files (x86)(ACT)Act for Windows), growse	
	What are the risks of unblocking a program?	
	You can choose which network location types to add this program to.	
	Qetwork location types Add Cancel	
	D V	Cancel
		10 2 1 402 PM
		- 🗘 🗘 👘 👘 🗤 1/17/2019 🗸

29. Click on "Browse...", then browse to C:\Program Files\Microsoft SQL Server\MSSQL12.SQLEXPRESS\MSSQL\Binn\sqlservr, click "Open":



30. Click "Add":

Visit Visit <th>Normal Strength Stren</th> <th></th> <th></th> <th></th> <th></th> <th>– a ×</th>	Normal Strength Stren					– a ×
						·
For det Image: Control for all 1 states and Society 1 Without Frend II + Advand Frend II + Advan						
Image: Control field 1 - System classes (provide provide pr	Recycle Bin					
	and the second					
Control	and the second					
Allow programs to communicate through Windows FixedII C	200	😋 🌍 🖝 🔐 🕨 Control Panel 🔸 System and Se	curity Windows Firewall Allowed Programs		- 4 Search Control Panel P	
All regions All region			Mr. Sta		A REPORT OF THE REPORT OF T	
Terretion Topics <	ACTI by Sage		Allow programs to comprise through MC	Endours Electroll		
Image: set of the set	Premium		Allow programs to communicate through w	vindows Firewaii		
Image: Constraint of the constraint o	1 million and	Organize	To add, change, or remove allowed programs and ports, ci	click Unange settings.		
Image: Control Image		* Favorita	What are the risks of allowing a program to communicate?	Change settings		
Image: Control of the second of t		Desite	All second and second distances			
Nation Review	Contraction of the second seco	Person	Allowed programs and features:			
Image: Second Parties Management Image: Second Parties Management Image: Second Parties Second Parties Second Parties Second Parties Management Image: Second Parties Second Parties Second Parties Second Parties Management Image: Second Parties Second Parties Second Parties Second Parties Parties Second Parties	contractor	Down	Name	Domain Home/Work (Private) Public *		
Image: Second Secon		2 Recen	Remote Scheduled Tasks Management	0 0 0		
Image: Compare to the second to t	C 1		Remote Service Management			
Image: Series Serie		Cill Librarie:	Remote Volume Management			
Learning Protocol Box Scott Luncing Protocol Box Scott Lunc		Docur	Routing and Remote Access	0 0 0		
Image: Service Service Image: Service Service Image: Service Service Image: Service Service Service Service Image: Service Servic	Nutanii: SB	J Music	Secure Socket Tunneling Protocol			
Image: Compare Marce Service EXE Image: Compare Marce Service EXE <th></th> <th>🖬 Pictur</th> <th>SMC Service</th> <th></th> <th></th> <th></th>		🖬 Pictur	SMC Service			
Image: Compare Line Section 10 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	-	😸 Video:	SNAC Service			
Image: Compare Imag			SNMP Trap			
Active Image: Computer Vision of Computer V		1 Comput	SQL Browser Service EXE			
Webce Windows Collection Compare Name Resistant. Windows Collection Compare Name Resistant. Etable. Response Response Response	ACTI2010		SQL Server Windows NT			
		🗣 Network	SQL Server Windows NT - 64 Bit			
			Windows Collaboration Computer Name Registrati			
	3			Details Remove		
	Jeny			Allow another program		
The second						
Circle						
A Cond						
Concel						
A Cond						
Conce						
Concil		-				
		. 🔊 🧐 1		OK Cancel		
					-	
	2.11/h					
						10 8 1 406 PM
						J S A - P S 1/17/2019 -
¢	<					>

31. Click "OK", then close the "System and Security" window:

No. 10 Sw-win7 - Remote Desktop Connection							- 0	×
Recycle Bin								
100				12.00				
ACTI by Sage	Comput	ar + Local Disk (C) + Jeny +		• • • • [Search Jerry D			
Premium	Organize - 🖻 Open	n New folder			#• 🗆 🛛			
E CO	🔆 Exumites	Name	Date modified	Туре				
	Deskton	1458476243	12/18/2018 11:05	File folder				
DataPRO	Downloads	SOLEVER VEA ENLI	1/17/2010 2:20 DM	Eile folder				
	Recent Places	SQL Management Studio vid ENU/2014	1/17/2010 2-40 DM	File folder				
	and toteller Proces	AccessDatabaseEngine X64	12/10/2010 12/14	Application				
64	SR 1 houses	Actional actions	12/10/2010 12:06	Concernent lines				
21-2	Documente	A determined	12/12/2018 11/03	Compressed (opp				
Nutanov SSR	Munic	a detepto_cneu	2/12/2010 11:03	Mindaus Installer				
	Bichana	and an and a second sec	12/10/2010 1:32 PM	windows instanter				
	Pictures	(B ⁴ msodecsql(L3)	12/19/2018 1:48 PM	windows installer				
	Videos	19 msodbcsql(13.1)	12/19/2018 1:50 PM	Windows Installer				
		SQLEXPR(2005)	12/20/2018 4:02 PM	Application				
ACTIONA	It Computer	#SQLEDPR_x64_ENU (2014)	1/17/2019 1:31 PM	Application				
AUT2010	0.000	Bit SQLManagementStudio_xh4_ENU(2014)	1/1//2019 3:43 PM	Application				
a land	Network	19 sqinch	12/20/2018 3:52 PM	Windows Installer	No preview available.			
		15 SQLServer2005_BC_x64	12/19/2018 2:05 PM	Windows Installer	and the second			
		III SQLServer2005_SSMSEE_x64	12/19/2018 2:55 PM	Windows Installer				
Windows Update *		sqlserver2005expresssp4-kb2463332-x86-enu_896d55b16d7d0978618378f6bbbb3b6ab23296cc	12/20/2018 4:27 PM	Application				
XPS Viewer		響 vc_redistx64	12/18/2018 11:10	Application				
Accessories		∰ vcredist_x64	12/18/2018 11:18	Application				
AC II by Sage Premium	Jerry Lawrence							
DIS	sory comence							
Maintenance	Documents							
Microsoft SOI Sanuar 2005								
Microsoft SOL Server 2008	Pictures							
Microsoft SQL Server 2014	Murie							
Download Microsoft SQL Server Compa								
SQL Server 2014 Import and Export Data	Computer							
SQL Server 2014 Import and Export Data		20						
🕀 SQL Server 2014 Management Studio	Control Panel							
Analysis Services	gem	nentStudio_xb4_ENU(2014) Uate modified: 1/1//2019 3/43 PM Date created: 1/17/2019 3/43	PM					
Configuration Tools	Devices and Printers	3428: 003 MB						
20 Jul Server 2014 Configuration Mani	Default Programs							
SOI Server 2014 Installation Center (and the region of							
SOL Server 2014 Reporting Services (-	Help and Support							
4 Back	Windows Security							
	()							
search programs and files	Log off							
						JP 🖣	🖞 Å - 🏴 🐑 👀 📩	1210
							00	and v

- 32. Run SQL Server Configuration Manager. Click "Yes" to let the firewall run the program:

33. Expand "SQL Server Network Configuration", select "Protocols for SQLEXPRESS", rightclick on "TCP/IP" and select "Enable":



34. Click "OK":

💀 sw-win7 - Remote Desktop Connection						a)	ĸ
File Action View Help							^
🗢 🔶 🗾 🖂 🔂							
1 SQL Server Configuration Manager (Local)	Protocol Name	Status					
SQL Server Services	Shared Memory	Enabled					
SQL Server Network Configuration (32bit)	TNamed Pipes	Disabled					
J SQL Server Network Configuration	TCP/IP	Disabled					
Protocols for SQLEXPRESS							
SQL Native Client 11.0 Configuration							
			-				
				Warning			
				Any changes made will be saved, however, they will not take effect until the environment of the saved however, they will not take effect until the environment of the saved however, they will not take effect until the environment of the saved however.			
				<u>і</u> зк			
	1						
					1 22 (1)	5:04 PN	1
	N				8 V	1/17/201	-

35. Double-click on the "TCP/IP" Protocol Name:

Normal Strength Stren			-	- 0 ×
File Action View Help				^
🗢 🐟 🖄 🖾 🗟 🛛				
1 SQL Server Configuration Manager (Local)	Protocol Name	Status		
SQL Server Services	👕 Shared Memory	Enabled		
SQL Native Client 11.0 Configuration (32)	Named Pipes	Disabled		
SQL Server Network Configuration	a Toriar	enabled		
 B SQL Native Client 11.0 Configuration 				
			P 🖲 A	5:07 PM
	N			1/17/2019
•				,

36. Select the "IP Addresses" tab, scroll to the bottom, blank out the "TCP Dynamic Ports" value and add "1433" as the "TCP Port" value under "IP All":



37. Click "OK":

🍇 sw-win7 - Remote Desktop Connection	×
File Action View Help	~ ~ ~
File Action View Holp Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Services Image: Solid Server Ser	TC2/IP Properties IP Add tests IP Add tests
	ICP hert ICP set
📀 🏉 🚞 🔍 🖳	P ♥ 🖡 + 👘 🐨 €) 530 PM 1077/005 U

38. Run SQL Server Management Studio:

🎭 sw-win7 - Remate Desktop Connection								o ×
1								
Recycle Bin								
2003	-							
	Constant	er 🕨 Lacal Dick (CA 🔺 Jenny 🕨			Search Jenny O			
Auli by Sage Premium								
	Organize • 📑 Open	New folder			··· 🗆 🔮			
	🔆 Favorites	Name	Date modified	Type				
	📃 Desktop	1.4.594.26243	12/18/2018 11:05	File folder				
	😹 Downloads	SQLEXPR_x64_ENU	1/17/2019 2:29 PM	File folder				
	Recent Places	SQLManagementStudio_x64_ENU(2014)	1/17/2019 3:49 PM	File folder				
-		AccessDatabaseEngine_X64	12/18/2018 12:14	Application				
	Cal Libraries	ACTI2010	12/19/2018 12:06	Compressed (zipp				
2	Documents	a datano chad	12/19/2018 11:03	Data Base File				
lutanic SSR	Music	(# modecol/11)	2/12/2018 1:32 DM	Windows Installer				
	Bicturar	S model (1)	12/10/2018 2.40 054	Windows Entellar				
	Pictures	(B) msoapcsq(Ls)	12/19/2010 1:40 PM	windows installer				
4	Videos	19 msodbcsql(13.1)	12/19/2010 1:50 PM	Windows Installer				
		SQLEXPR(2005)	12/20/2018 4:02 PM	Application				
	rt Computer	R SQLEXPR_x64_ENU (2014)	1/17/2019 1:31 PM	Application				
	The second se	聞 SQLManagementStudio_x64_ENU(2014)	1/17/2019 3:43 PM	Application				
	Network	😰 sqIncli	12/20/2018 3:52 PM	Windows Installer	AL			
		B SQLServer2005_BC_x64	12/19/2018 2:05 PM	Windows Installer	ino preview available.			
		1 SQL Server2005_SSMSEE_x64	12/19/2018 2:55 PM	Windows Installer				
Windows Media Center		sqlserver2005expresssp4-kb2463332-x86-enu_896d55b16d7d0978618378f6bbbb3b6ab23296cc	12/20/2018 4:27 PM	Application				
Windows Media Player	and the second se	🐙 vc. redist.x64	12/18/2018 11:10	Application				
Windows Update		a veredist x64	12/18/2018 11:18	Application				
A XPS Viewer								
Accessories	Jerry Lawrence							
ACTI by Sage Premium	A CONTRACTOR OF							
DTS	Documents							
A Games								
J Maintenance	Pictures							
Microsoft SQL Server 2005	Music							
🗼 Microsoft SQL Server 2008	Notesting 1							
🗼 Microsoft SQL Server 2014	Computer							
Download Microsoft SQL Server Cor								
SQL Server 2014 Import and Export C	Control Panel			•				
SQL Server 2014 Import and Export C	gem	nentStudio_x64_ENU(2014) Date modified: 1/17/2019 3/43 PM Date created: 1/17/2019 3/43 P	PM					
SQL Server 2014 Management Studio	Devices and Printers	Stee: 683 MB						
🚛 Analysis Services	1000 000		_					
Configuration Tools	Default Programs							
Jutegration Services	Male and Summa							
Performance Tools -	escip and support							
4	Wedness Same							
1 Back	windows secondy							
[In-the second file and file	THE REAL PROPERTY AND ADDRESS OF THE REAL PROPERTY							
I bearch programs and files	rog an in							
					and the second	and the second	the second second second second second	
							P 🖲 A 🛼 De Garriso	5:11 PA

39. Set "Server name" to "<your host name>\SQLEXPRESS", then click "Connect":

Normal Structure Connection				– a ×
🐙 Microsoft SQL Server Management Studio				- 8 -
File Edit View Tools Window Help				
1 1 + 12 + 12 1 1 New Query 1 + 12 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		0	- 🔊 🕈 🎾 🖬 - 🛛	
All at further				
Concerts and a real real real real real real real re				
Connect. 24 20 = 1 [1] [2]				
	🚽 Connect to Server			
	Microsoft S	SOL Server 2014		
	interoport e	Quberrer Lorri		
	Constant	Dutation Facilies		
	Server gype:	Database Engine		
	Server name:	FW-WIN7\SQLEXPRESS	•	
	Authentication	Windows Authentication	•	
	User name:	DTS \jeny.lawrence	Ψ	
	Password			
		Remember password		
	Conne	ect Cancel Help	Options >>	
				JP 💐 🖡 👘 👘 SE2 PM 🗸
x				>

40. Right-click on the top-most level of the tree and select "Properties". On the "Security" page, select "SQL Server and Windows Authentication mode" then click "OK":

🎭 sw-win7 - Remote Desktop Connection		-	o ×
🐙 Microsoft SQL Server Management Studio			
File Edit View Debug Tools Window Help			
🛐 * 🗇 * 💕 🖉 🥥 🐊 🔔 New Query 🐚 🏫 🏠 🏠 🐇 🖓 🖄 🥠 (ベール) - 🖓 - 🖏 🖓 (本)		- 🙆	
Manual Control (Scherrer Manual Scherer Help Care Let View Under Teilt Winders Help Care Let View Care Scherer Help Care Let View Care Scherer Lis 2000 - DTS(erg/averned) Debut Scherer Lis 2000 - DTS(erg/averned) Debut Scherer Care Scherer Lis 2000 - DTS(erg/averned) Debut Scherer Scherer Lis 2000 - DTS(erg/averned) Debut Scherer Scherer Lis 2000 - DTS(erg/averned) Debut Scherer	Sever Properties - SW-WMM Select a page Memory Processing Corroctione Corroctione Corroctione Pressione	NOQE DEPENS Soft = Heb Soft	
	Server SW-WIN7/SQLEXPRESS Connection: D15Vemy.lawrence W Vew connection properties	Chinesia Optimus Ender C2 audit taxing Dono dadate converting charing	
	Progress		
	O Ready		
		OK Cancel	
Pandu			
			514 PM
		P C A v D Dari	>

41. Click "OK":

					- D X
😓 Microsoft SQL Server Management Studio					6
File Edit View Debug Tools Window Help					
🗄 🕶 🖅 🥵 😹 🏈 🔔 New Query 🐚 😘 😘 🏠 🕹 🖄 👘 🖉 🕫 🖉 🖉		- 2	- 🔍 🕾 🗶 🖬		
Image: Source and Source and Source 22,2000 - DTD/prev/sectors.cl Image: Source and Source 20, 2000 - DTD/prev/sectors.cl Image: Source 20, 2000 - DTD/prev/sectors.cl Image: Source 20, 2000 - DTD/preverse.cl Image: Source 20,	Server Properties - 3W-WD Solect a page Canad Manage Convertient Convertient Advanced Premisions	WINOQLEXPRESS Solar Solar	• 2 • v • •		
	Microsoft SQL Server in the server in the server Solution SQLEDGRESS Coveraion DT Say Inserver in the server in the ser	Each type on Management Studio r configuration changes will not take effect unt Encound Options Encode C2 audit taking Cost database onvemblo chanleg	1 52, Serve is restanted.		
Rnay -	Eventing		OK.	Canod	

42. Go back to Sql Server Configuration Manager, select "SQL Server Services", right-click on "SQL Server (SQLEXPRESS)" then click "Restart":

sw-win7 - Remote Desktop Connection							-	a ×
Sol Server Continuation Manager								
File Action View Help								
SQL Server Configuration Manager (Local)	Name	State	Start Mode	Log On As	Process ID	Service Type		
SQL Server Network Configuration (32bit)	SQL Server (ACT7)	Running	Automatic	LocalSystem	1516	SQL Server		
B SQL Native Client 11.0 Configuration (32)	DISUL Server Browser	Running	Automatic	NT AUTHORITY/Ne	4135	SQL Browser		
■ J. SQL Server Network Configuration ■ Protocols for SQLEXPRESS ■ SQL Native Client 11.0 Configuration	SQL Server Agent (SQLEXPRESS)	Stopped	Other (Boot, Syste	NT AUTHORITY/NE	0	SQL Agent	-	
K								
<u>a</u> 🗡 📷 🗖							19 🜒 A 🔔 🖚 🖛	5:16 PM

43. Wait...

A dots wire wire A dots A dots wire A dots A dots A dots A	- 0
 A Anno. Vere Heip Configuration Manager (Doc) Sol Some (Samp Leo Configuration (Samp Le	66
Source Construction Manager Local Source Construction Manager Source Construct	
20. Sever Configuration Manager Loss 20. Sever Antenna Configuration 20. Sever Antenna Configura	
 Solar Service Configuration Manager Solar Merice Manager So	
 10. Starte Header Configuration (Margaret Delayer and Section 11 Configuration (Margaret Delayer and Secti	
20. Hore Carding and Sector Hall Configuration (Specific Sector Configuration Massare Configuration Configuration Configuration C	
Die Server Anderer Color Dates Stopped Other (Boot, Synt NT AUTHORTYNE # SQL Agent	
SQL Server Contiguration Manager	
SQL Sincer Configuration Manager	
	5-18

44. Go back to SQL Server Management Studio, right-click on Security | Logins and select "New Login...":

🎭 sw-win7 - Remote Desktop Connection					-	o ×
😓 Microsoft SQL Server Management Studio						
Ele Edit View Debug Tools Window Help						
1 51 • 51 • 56 51 64 12 New Ouey 13 63 63 53 13 13 13 19 • 64 • 53 • 51 103 14		- 3	- 🔊 🔫 👷 🖬			
Ubject Exprorer + + ×						
connect. 27 22 II Y 2 30						
O SW-WINT/SQLEXPRESS (SQL Server 12.0.2000 - DTS/jeny/lawrence)						
B System Databases						
E Security						
😑 🦢 Logins	-					
###MS_PolicyEventProcessingLogin##	Login - New					
BUILTINUsers	Select a page	🔜 Script 👻 🌄 Help				
DTS\jemy.lawrence	Server Roles					
NT AUTHORITY/SYSTEM	🚰 User Mapping	Login game:	DataPROUser	Sgarch		
NT Service\MSSQL\$SQLEXPRESS	Securables	Windows authentication				
NT SERVICE/SQLWriter	- Stata	SQL Server authentication				
a sa		Paceword				
🛞 🦢 Server Roles		Confirm password:				
🗉 🦢 Credentials		Specily old parsword				
Easter Ubjects Easter Store				1		
E D Management		Enterne namened police		_		
,		Enforce password expl	r ation			
		User must change page	word at next login			
		 Mapped to certificate 		ิล 🍡		
		Mapped to asymmetric key				
		Man to Dedential				
	Connection	Harris Cardenials		. 800		
	Server SW-WIN7\SQLEXPRESS	Mapped Liedensals	Credential Provider			
	Connection: DTS'(jetty lawrence					
	View connection properties					
	Progress			Bemoye		
	C Beady	Default gatabase:	macher			
	10 ⁴	Default language:	English			
			OK.	Cancel		
				<i>a</i> 1		
					IP 📲 A. 🐷 Berland	5722 P/M

45. Enter "DataPROUser" in the "Login name" field, select "SQL Server authentication", enter "DTSSealBeachHQ" in the "Password" and "Confirm password" fields (this is arbitrary and can be changed to match the contents of the "LocalDBPassword" setting in the "*DataPRO.exe.config*" file that is installed as part of the DataPRO installation), then click "OK".

sw-win7 - Remote Desktop Connection	- o ×
🨓 Microsoft SQL Server Management Studio	- @ <mark>.</mark> ^
Ele Edit View Qebug Iools Window Help	
[] - 三・2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	◎ · · · · · · · · · · · · · · · · · · ·
Object Explorer v P ×	
Connect - 👷 🐉 🔲 🍸 🖬 🕉	
Constraint of the constra	
Ready	
	년 🛃 A 🗸 🐽 🚥 () - 523 PM 🗸

46. Click "New Query" to open a query window, enter "EXEC sp_configure 'clr enabled', 1; RECONFIGURE WITH OVERRIDE" and click "! Execute":

🎭 sw-win7 - Remote Desktop Connection			– a ×
50 SQLQuery1.sql - SW-WIN7/SQLEXPRESS.master (DTS\jerry.lawrence (52))* - Microsoft S	QL Server Management Studio		
Elle Edit View Query Project Debug Tools Window Help			
1	R-1. ALS	a 🕫 🕫 a 🖕	
		40×0 :	
: 27 Gg mater			
Object Explorer + 0 ×	SQLQueryLsql - SWeryslawrence (52))* ×	•	Properties 👻 🖗
Connect * 🛃 🛃 = 🍸 💽 🔏	EXEC sp_configure 'clr enabled', 1; RECONFIGURE WITH OVERRIDE	4	Current connection parameters
E 🐻 SW-WINT/SQLEXPRESS (SQL Server 12.0.2000 - DTS/jerry.lawrence)		· · · · · · · · · · · · · · · · · · ·	12 AL 10
🖃 🦢 Databases			Aggregate Status
System Databases			Connection failure
Datapeto			Elapsed time
E Security			Finish time
E Legins			Name SW-WIN7\SQLEXPRI
A ##MS_PolicyEventProcessingLogin##			Rows returned 0
A MMMS_PolicyTsqlExecutionLoginMM			Start time
😹 BUILTIN\Users			State Open
DTS\jerry.lawrence			 Connection
A NT AUTHORITY\SYSTEM			Connection name SW-WINT\SQLEXPRI
VIL SERVICE/WSSQLESDRESS			 Connection Details
 NT SERVICE(SQLWHITE) NT SERVICE(SQLWHITE) 			Connection elaps
A 53			Connection finish
A DataPROUser			Connection rows o
🗉 🦢 Server Roles			Connection start Open
🗉 🚞 Credentials			Display name SW-WIN7\SOLEXPRI
E Server Objects			Login name DTS\ierry.lawrence
Eplication			Server name SW-WINT\SQLEXPRI
🗉 🛄 Management			Server version 12.0.2000
			Session Tracing ID
			SPID 52
1	102 % - /		Name
1	Connected. (1/1)	SM-WINISOLE(PRESS (12.0 RTM) DTSSiem/Javarence (52) master 00:00:00 0 moves	The name of the connection.
	C	an man advance and the sub- an advance of a mission and and	
Ready		ln1	Col 63 Ch 63 IP
			JP 🔍 🗛 , 🖛 🚛 9:10 AM 🗸
<			>

47. Note the successful response:

🌄 sw-win7 - Remote Desktop Connection				- a ×
4 SQLQuery1.sql - SW-WIN7\SQLEXPRESS.master (DTS\jerry.lawrence (52))* - Microsoft	t SQL Server Management Studio			
Elle Edit View Query Project Debug Tools Window Help				
🗄 🐨 - 😂 😹 🥔 🔔 New Query 🐚 📸 📸 👗 🖏 🛝 🦘 - (* -	- 💭 - 🖏 🗸 🕨 - 🛛 - 🦉	- 🔍 🕾 😥 🖬 - 🖕		
🗄 🐏 🔐 master 🔹 🕴 Egecute 🕨 Debug 💻 🗸 🕎 🔿 🔓	2 22 49 40 42 40 12 42 13 43 43 43 -			
Object Explorer - 4 ×	SOLOuerv1.sql - SWenv.lawrence (57))* ×			- Properties - 0
Connect - 💱 💱 = 🍸 💽 🔏	EXEC sp_configure 'clr enabled', 1; RECONFIGURE WITH OVERF	IDE		Current connection parameters
Connect	DEC sp_configure 'Cir emabled', 1; RECONTARE WITH OVER 100 % Menager Configuration option 'Cir emabled' changed from 0 to 1. Run 1	ne ACCOWIGURE statement to install.		Connection parameter Connection failur Sove failur
	100 % • · ·			* Name
	Query executed successfully.	SW-WINT\SQLEXP	RESS (12.0 RTM) DTS\jerry:lawrence (52) master 00:00:00 0 ro	N2
Rasy			lni	Col 63 Ch 63 D JP 🜒 A . 📭 🖙 👘 9:11 AM

48. After DataPRO has been installed on a client system, copy the "DataPRO.mdf", "DataPRO_log.ldf", "ISO.mdf" and "ISO_log.ldf" files to the server, then right-click "Databases" and select "Attach...":

sw-win7 - Remote Desktop Connection		-
1 Microsoft SQL Server Management Studio		
Elle Edit View Debug Iools Window Help		
🚼 • 🗉 • 💕 🖉 🥔 🔔 New Query 🐚 📸 📸 🚳 🖓 🖄 🛝 🖄 🕐 • (* • 💭 • 🖏 🚧 👂		- 10 T × 0
Object Evaluate T V		
Connects (1) (1) = 7 (1) (2)		
B DM-MRV/SQLESPRESS (OQL Severa 12.8.2000 - DTD)ensylwerence) B DMBMet B DMBMet B DMMEt Debalance B Lagnu B Lagnu Metting Palacy ForeFracessingLagnim M MMEt, Palacy ForeFracessingLagnim	J Attach Databases Select a page	
BUILTIN/Users	🚰 General	Sorte - El uni
BrSperghametee Art AuthorNet Sortham Art SINGENMANGEN Art SINGENMANGEN	Connector Sover SoverSQLDPPESS Corrector DTSmy Jeanne DTSmy Jeannes ∰ ℃the correction specifie	Database to attach: MGF File Location Termine Database Agaite Cogned File Name File Type Current File Path Message effet
	Program	Add Calaba Pergave
	O Ready	
		OK Cancel
Fandy		

49. Click "Add...":

sw-win7 - Remote Desktop Connection					- 0
Microsoft SQL Server Management Studio					
ile Edit View Debug Tools Window Help					
1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 • 1 •		- 13	- 💀 🕾 🔊		
Nintfolms - 1 X					
Connects 1 1 = 7 7 7					
Databases					
System Databases					
🗉 🦕 Security					
🖂 🧰 Logins					
4 ##MS_PolicyEventProcessingLogin##	U Attach Databases				
Policy I sqlexecutionLogin	Select a page	🖾 Script 👻 🚺 Help			
A DTSlienvlawrence					
A NT AUTHORITY\SYSTEM	B Lower Detailore Dive	ON MANY COLONDOLOG			
MT Service\MSSQL\$SQLEXPRESS	Cocate Database Files	- SW-WEY/SQLEAPRESS		=	
NT SERVICE\SQLWiter	Database Data File Jocation	C:\DataPR0	(a)		
A sa	8-19 C	DiataPRID.mdf			
A DataPROUser	B SRecycle.Bin C CT 2010	ISO.mdf			
🛞 📴 Server Roles	- DataPRO				
Credentials	Documents and	d Settings			
Server Objects Benilisation	e _ DTS				
Anagement	PertLogs				
The management	III - Can Program Files				
	Program Files ()	d6)		5	
	Geovery			P	
	🕀 🧰 System Volume	Infomation			
	E III TEMP				
	Windows				
	54				
	C.				
	D				
	E En a sura	DataEB0 mdf	Database Data Elect" rotti		
	rite Lione.	Cons Hound	(Database Data Field (Intel)		
	Pre		<u>OK</u> <u>Cancel</u>		
	1				
	100				
			OK. Cance	a l	
					JP 📕 🛔 . 📭 🚛 📣 531

50. Browse to the folder where the .mdf/.ldf files were copied, select "DataPRO.mdf" and click "OK":

Normal Structure Connection							– ø ×
🐙 Microsoft SQL Server Management Studio							- R -
File Edit View Debug Tools Window Help							
: 🚼 🕶 🖂 🚅 💭 🏈 🤽 New Query 🐚 😘 😘 🎧 🖓 🕹 🛝 👘 🕐 – 🕫 – 💭 – 🖏 🗛 🕨		- 🔯	-	🖏 🕾 😥 🖬 * 🚦			
Object Explorer T A X							
Supervision (201 Server 12.0.2019 - DTS) (and (201 Server 12.0.2019)							
Databases							
🛞 🦢 System Databases							
I Security							
Server Objects Server Objects	Amerik Damitarus						
Management	Select an arm	-					
,	Ceneral General	🔊 Script 🔻 🚺 Help					
		Databases to attach:					
		MDF File Location	Datab	ase Name Attach As	Owner Status	Message	
		UND & APHUVD at aPHU.mdf	U atar-	HU DataPHU	D1S yeny lawr		
		•				•	
					Add	<u>Remove</u>	
		"DataPRO" database dețails:					
		Original File Name	File Type	Current File Path	Message		
	Connection	DataPR0.mdf	Data	C:\DataPR0\DataPR0.mdf			
	Server:	DataPR0_log.kdf	Log	C:\DataPRO\DataPRO_log.ldf			
	SW-WIN/ SULEAPRESS						
	DTS\jeny.lawrence						
	SQ View connection properties						
	Progress				Add <u>C</u> atalog	Remove	
	C Ready						
					DK.	Cancel	
Ready							
A 📉 🔊 🕕							 9:20 AM
<							>

51. Click "Add...":

/-win/ - Remote Desktop Connection				-	
licrosoft SQL Server Management Studio					
Edit View Debug Iools Window Help					
• 田 • 😅 🗐 🥩 🔽 New Query 🐚 🎲 🎲 🎲 🌾 🖄 🖄 👘 🖓 - ベ - 泉 - 瑞 📖 🔊		- 2	- 🔍 🕾 🗶 🖬 - 🗉		
rt Evolorer 🔹 🗉 🗙					
nerty 🕄 🕄 = 🗸 🖬 🐨					
A SHAWNTI SOLEY RESS (SOL Savar 12.0.2001 - DTS) and Instance)					
Databases					
🛞 🦢 System Databases					
🗉 📴 Security					
Logins	Amerik Demikeren				
A ##MS_PolicyTsgExecutionLogin##	Select anom				
BUILTIN\Users	Ceneral General	Script 🔻 🚺 Help			
A DTS\jerry.lawrence					
NT AUTHORITY SYSTEM NT Service MSSOI #SOI EVERESS	🚺 Locate Database Files	- SW-WIN7\SQLEXPRESS			
NT SERVICE\SQLWitter	Database Data File location	c:\DataPR0			
A NT SERVICE\Winmgmt		D Daverso			
A 58	B Ca \$Recycle.Bin	ISO ma			
A DataPROUser	e 🔁 ACTI2010				
Credentials	- DataPRO B-C Documents an	d Settings			
🛛 🗀 Server Objects	🕀 🧰 DTS				
E Replication	B-Ca Jerry				
🗄 🛄 Management	B - Program Files				
	🕀 🎦 Program Files (x66)	5		
	ProgramData Recovery		P		
	🕀 🧰 System Volume	a Information			
	B-Ca TEMP				
	S S				
	9				
	D				
	File name:	ISO mdf	Database Data Files(".mdt)		
	Pri				
			QK Gancel		
			UK Cancel		

52. Select "ISO.mdf" and click "OK":

😓 sw-win7 - Remote Desktop Connection			- 0 ×
🌿 Microsoft SQL Server Management Studio			
File Edit View Debug Tools Window Help			
1		- 12 · · · · · · · · · · · · · · · · · ·	
Ali a fatan - 1 M			
Counset at 35 at 1 a 10			
SW-WIN/SQLEXPRESS (SQL Server 12.0.2000 - D1Stjerty.lawrence)			
Databases Databases			
E Security			
😑 🛅 Legins			
A ##MS_PolicyEventProcessingLogin##	📑 Attach Databases		
444445_PolicyTsqlExecutionLogin###	Select a page	C Soviet + 17 Math	
Buil TIN Users	Ceneral General	S onto E unto	
A NT AUTHORITY/SYSTEM		Databases to attack	
NT Service\MSSQL\$SQLEXPRESS		Alleria and a second se	
A NT SERVICE\SQLWriter		Characteria Datasen et Datasen datas	
A NT SERVICE\Winmgmt		C10xtxFR0VS0.md 150 150	
A. 58			
A DataPROUser			
 Green controls Credentials 			
Server Objects			
🗉 🦢 Replication			
🛞 🛄 Management			
		< >	
		Add Bemove	
		"ISO" database detalli:	
		Driginal File Name File Type Cuttert File Path Message	
	Connection	ISD.mdf Data C:DataPROVSD.mdf	
	Server: SW-WIN7\SQLEXPRESS	ISO_log.kt Log C:\DetaPROVSO_log.kt	
	Connection: DTSView lawance		
	View connection properties		
	Progress	Add_atalog Remove	
	And Ready		
Readu			
			523.014
		P 🛃 🗼	> Cm (∩ 332 PM ∨

53. Click "OK":



54. Note the "DataPRO" and "ISO" databases under "Databases".

How to Backup the Centralized (SQL Server) DataPRO Database

1. In SQL Server Management Studio, right-click on "DataPRO":



2. Select "Tasks", "Backup...":

8		enchilada - Remote De	esktop Connection	- ð ×
🌿 Solution1 - Microsoft SQL Server Management Studio				- III - IIII - III - IIII - IIIII - IIII - IIIII - IIII - IIIII - IIII - IIII - IIII - IIII - IIIII - IIIII - IIII - IIII - IIIII - IIIIII
Ele Edit View Debug Iools Window Help				
😳 🔹 🐨 💕 🚽 🎱 🤮 New Query 🐚 📸 📸 🖓 🎽 🖉 🖉 🖉 🖉 🖉 🖉	*	- DataPROUser	- 🕄 🕈 🛠 🖬 - 🖕	
Object Explorer • 0 × Comment • 2 × 2 = 0 × 0 Image: Development of the set of t	🔰 Back Up Database - DataPRO			
a ⊒ Mangement	Select a page	Soar - Datase Datase Recupergendet Backup type: Copyony Backup Backup component Datase Files and Regroups Backup set Files and Regroups Backup set	Dearth0 • (SAT)15 Feal • Dearth0	
	Connection	Description: Backup set will expire: After:	0 🕀 daye	
	ENGILIDATION PROFILE	Ωπ Destination Back up to: Back up to: Output	324/2015 - 8 Dph Cape Tops FCVD/2024 with at at a Emone Contents	
·			DK. Carcel	

3. Select "Remove" to delete the file name in the "Destination" box:

8		enchilada - Remote Des	top Connection		- 0 ×
🌿 Solution1 - Microsoft SQL Server Management Studio					
Elle Edit View Debug Iools Window Help					
🗄 🔁 = 🗃 = 🌌 🚽 😫 New Query 🐚 📸 📸 🖓 🖓 🖓 🖉 + 🔍 - 🖓 = 🖏 🕰 🕨	*	- 🎯 DataPROUser	- 🔍 🕾 💥 🔍 - 🚬		
Object Explorer 👻 🖟 🗙					
Connect - 💱 💱 = 🍸 👔 🔏					
KOCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILADA\)					
🖂 🗀 Databases					
System Databases DataBRO					
Security					
🛞 🦢 Server Objects	🤘 Back Up Database - DataPRO)			
E Peplication	Select a page	Scint - D Help			
🗄 🔜 Management	General Options				
	The observe	Source			
		Dajabace:	DataPRO	-	
		Recovery model	SIMPLE		
		Backup type:	Eul	•	
		Copy-only Backup			
		Backup component			
		Database			
		C Files and filegroups:			
		Backup set			
		Name:	DataPRO-Full Database Backup		
		Description:			
		Backup set will expire:			
	Connection	After:	0 🗘 days		
	Server	0 <u>0</u> n	3/24/2015		
	ENCHILADA\SQLEXPRESS	Destination			
	Connection: ENCHII ADA\SoftwareTech	Back up to:	Djsk 🔿 Tage		
				Add	
				Parent I	
	Progress			Demove	
	C Beady			Contents	
			OK	Cancel	
· · · · · · · · · · · · · · · · · ·					
Ready					
					11:18 AM 🗸
8					>

4. Select "Add...", then browse to your desired location:

5	enchilada - Remote Desktop Connection	- Ö 🗙
🌿 Solution1 - Microsoft SQL Server Management Studio		- P -
Elle Edit View Debug Tools Window Help		
1 21 - 11 - 16 1 4 2 New Overy 12 - 25 - 25 - 25 - 25 - 21 - 21 - 21 -	- DetaPROUser - Di Pro-	
Object Explorer + U ×		
Connect* 🛃 🚼 = 🝸 🛃		
ENCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILADA\S		
🖂 🛄 Databases		
Jystem Databases DataBRO		
🗑 🧰 Server Objects		
Replication	Select a page	
🗉 🗀 Management	P General Select the Re:	
	2 Options	
	Recycle Bin	
	🕀 🧰 Diadem Files	
	Documents and Settings	
	🕀 🧰 National Instruments Downloads	
	Perception	
	B C Pagan File (AB)	
	🗑 🗃 PoganData	
	Because Andread Contraction Co	
	in a sonte	
	B SQLConventer	
	B Car System Volume Information	
	Connection and American Connection	
	Server.	
	ENCHILADA/SQLEXPH	
	Connection: ENVIN ENVIN	
	Add.	
	Progress Selected path C:\SQL Backups Berrove	
	Files of type: Backup Files("task;"tm)	
	Contents	
	and the Desire and the De	
	OK Cancel	
	Cancel	
< >>		
Ready		
		11-71 AM
K MARK		

5. Enter your file name and select "OK":

9		enchilada - Remote Desktop	Connection	- 8 ×
🐙 Solution1 - Microsoft SQL Server Management Studio				
Eile Edit View Debug Iools Window Help				
🗄 🔂 🕈 🖾 🖌 🎯 🛄 🥥 🔔 New Query 🐚 😘 😘 😘 🖓 🖓 🖉 🖉 🖉 🖉 🖉 🖉 🖉 🖓 🖓 👘		- DataPROUser	- 🖓 🕾 💥 🖬 - 🖕	
Object Explorer v 0 ×				
Connect* 🔢 🛃 = 🍸 🛃				
KOCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILADA\: Databases				
DatsPRO				
Geounity Geounity Geounity Geounity	Back Up Database - Da	ataPRO		
🗉 🧰 Replication	Select a page	Scriet - Th Help		
🗈 🛄 Management	General	3 ····		
	- opiain	Source		
		Dajabase:	DataPR0 -	
		Recovery model	SIMPLE	
		Backup type:	Full	
		Select Backup Destination		
		Select the file or backup device for the backup dest	ination. You can create	
		backup devices for frequently used files.		
		Destinations on disk		
		Ele name:		
		C:\SQL Backups\mgBackup_2015_03_34.bak		
		Backup device:		
	Connection			
	Server:		0 Cruzi	
	Connection			
	ENCHILADA\SoftwareTech		444	
	View connection prope	aties		
	Progress		Berrove	
	Ready		Contents	
			OK. Cancel	
· · · · · · · · · · · · · · · · · · ·				
Ready				
🔊 🖉 🤭 🖪 🛄				11:22 AM 🗸
¢				>

6. Select "OK" again:

N		enchilada - Remote Desktop Conn	ection	- ð 🔀
🌿 Solution1 - Microsoft SQL Server Management Studio				
Elle Edit View Debug Iools Window Help				
1 🔄 = 🖂 🖓 🚽 😫 New Query 🗋 🎬 💁 🍒 🖉 🖄 🖉 🖉 - 🔍 - 💭 = 🖏 🖾	*	- DataPROUser	· N 3 X 0 * -	
Object Explorer 👻 🖣 🗙				
Connect - 💱 💱 = 🍸 💽 😼				
KOCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILADA\)				
Getabases System Databases				
DataPRO				
Security Security				
Beplication	Select a page	(7) · · · · · · · · · · · · · · · · · · ·		
🗉 🗀 Management	🚰 General	Script + D Help		
	Options	Sare		
		Dajabase:	DataPRO	
		Recovery model	SIMPLE	
		Backup type:	Full	
		Copgronly Backup		
		Backup component:		
		Database		
		C Eles and filegroups:		
		Backup set		
		Name: DataPHU+	ull Database Backup	
		Description:		
		Backup ter will expire:	A dama	
	Connection	0 0v 3/24/2015	i days	
	ENCHILADA\SQLEXPRESS	Destination		
	Connection:	Back up to: 💿 Djsk	O Tage	
	ENCHILADA\Software1ech	C:\SQL Backups\myBackup_2015_03_34.bak	Add	
	gy vew connection properties			
	Progress		Bemove	
	C Ready		Contents	
	\sim			
			DK. Cancel	
· · · · · · · · · · · · · · · · · · ·				
Ready				
🔊 🖉 🐃 🔃				. 📴 💷 🏠 11-22 AM 🗸
K				>

7. In the "Select a page" pane, select "Options":

U.		enchilada - Remote Desktop	Connection		- 0 ×
🍢 Solution1 - Microsoft SQL Server Management Studio					
Eile Edit View Debug Iools Window Help					
🗄 🖿 - 🔤 🚽 🥥 🖉 🤮 New Query 🐚 😘 😘 😘 🖓 🖓 👘 🖉 - (* - 💭 - 🖏 🕰) 🕨		- 🍱 DataPROUser	- 🧠 🕾 🎾 🖬 - 🖕		
Object Explorer + 0 ×					
Connect = 12 = 7 = 3					
ENCHLADA/SOLEXPRESS (SOL Server 11 # 2100 + ENCHLADA/S					
Databases					
🗉 📴 System Databases					
DataPRO					
Security Security	Real Us Database DataOD	<u>_</u>			
Replication	Select a page				
🗉 🛄 Management	General	Script 👻 🎦 Help			
	Options 1	Quantita madia			
		 Back up to the existing media set 			
		Append to the existing backup set	t		
		 Overwrite all existing backup sets 			
		Check media set name and back	up set expiration		
		Media set game:			
		Back up to a new media set, and era	se all existing backup sets		
		New media set name:		- I	
		New media set geocription:		A	
		D-G-bill-		<u> </u>	
		Marilu backup shan finishad			
		Perform check sum before writing to re	andina.		
	Connection	Continue on error			
	Server:	Transaction log			
	ENCHILADA\SULEXPHESS	 Truncate the transaction log 			
	ENCHILADA\SoftwareTech	 Back up the tail of the log, and leave 	the database in the restoring state		
	32 View connection properties	Tape drive			
		Unigad the tape after backup			
	Progress	Revind the tape before unloading	0		
	C Ready	Compression			
	201	Set backup congression:	Use the default server setting		
			DK Cancel		
* >.					
Ready					
🙈 🛆 😁 🖪 💷					11:23 AM 🗸
<					>

8. Check the "Verify backup when finished" box and select "OK":

5		enchilada - Remote Desktop Connection	- 8 ×
🌿 Solution1 - Microsoft SQL Server Management Studio			- @ ^
Elle Edit View Debug Tools Window Help			
1 🕤 • 🖬 • 💕 🖉 🖉 🔔 New Query 🐚 😘 🏤 🖓 🖓 🖉 🖉 🖉 • 🔍 • 🖓 • 🖓 • 🖓		- 🧑 DataPROUser - 🖓 😤 🎾 💽 -	
Chine Frances			
Connector and an an an and an			
O ENCHILADA/SQLEXPRESS (SQL Server 11/0.2100 - ENCHILADA/; O ENCHILADA/SQLEXPRESS (SQL Server 11/0.2100 - ENCHILADA/;			
Gradientes System Databases			
DataPRO			
🛞 🛄 Security			
Server Objects	🔰 Back Up Database - DataPRO		
Replication	Select a page	Scipt - D Help	
a 🛄 management	General Options		
	and opening	Overweite media	
		Back up to the geisting media set	
		Append to the existing backup set	
		O vepvite all existing backup sets	
		Check media set name and backup set expiration	
		Media set game:	
		Back up to a new media set, and erase all existing backup sets	
		New media set name:	
		New media set gescription:	
		· · · · ·	
		Relative	
		V getty backup when hritiked	
	Connection	Preform checksun betale writing to media	
	Server	Complete on tensor	
	ENCHILADA\SQLEXPRESS	The second region of the transaction in	
	Connection:	C market to dataset dataset	
	ENCHILADA\Software1ech	 stack up the tay of the log, and leave the database in the restoring state 	
	Vew connection properties	Tape dive	
	Progress	Urigad the tape after backup	
	(D) Death	Revend the tape before unloading	
	O needy		
		Set backup compression: Use the default server setting	
		UK Cancel	
Ready			
			11:23 AM

9. Select "OK":

N		enchilada - Remote Desktop Connection	= 0 ×
🐙 Solution1 - Microsoft SQL Server Management Studio			
Elle Edit View Debug Icols Window Help			
🚺 🕶 🖬 🖬 🚰 💭 New Query 🔓 🤮 🎲 🎲 🖄 🛝 👘 🗠 - 🖓 - 🖏 🚳 🔺	•	- 🙆 DataPROUser - 🥺 😤 💥 🖬 📲	
Object Explorer 👻 🖲 🗙			
Connect - 🛃 🛃 = 🝸 💽 💑			
ENCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILADA\:			
Jatabises System Databases			
DatsPRO			
🗉 🧰 Security			
B Replication	Select a page		
🗉 🚞 Management	🛫 General	Scopt 👻 💽 Help	
	2 Options	Overwite media	
		Back up to the existing media set	
		Append to the existing backup set	
		O verwite all existing backup sets	
		Uheck media set name and backup set expiration	
		Media ter name:	
		Back up to a new media set, and erase all existing backup sets	
	Microsoft SOL Server M	New meda set name:	
	The backup of	database DataPRO' completed successfully.	
		OK	
	Conndenan	Continue on error	
	ENCHILADA\SQLEXPRESS	Transaction log	
	Connection:	Transversion of an accounting Or Transversion to a state of the sector is the extension state	
	ENCHILADA/Softwarei ech	back up me call or the log, and leave the database in the restoring state	
	ar new correction property	I decided the targe effective	
	Progress	Revind the tape before unloading	
	Executing (0%)	Compression	
	Stop action now	Set backup compression: Use the default server setting	
*[
Ready			
🔊 🛆 🐃 🔊 🛄			11:24 AM -
¢			>

How to Restore the Centralized (SQL Server) DataPRO Database

1. In SQL Server Management Studio, right-click "DataPRO":



2. Select "Tasks", "Restore", "Database...":

5		enchilada - Remote Desktop Connection	- Ö 🗙
🌿 Solution1 - Microsoft SQL Server Management Studio			- G G -
Elle Edit View Debug Tools Window Help			
🔄 🔁 = 📰 - 🐸 😹 🥔 🔔 New Query 👍 🎲 😘 👗	19 12 9 - 19 - 19 - 19 12	b A B DetaPROUser A D DetaPROUser A D D D D D D D D D D D D D D D D D D	
Object Explorer 🔹 🦑	[↓] ×		
Connect * 🛃 🛃 💷 🍸 💽 🔏			
ENCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILA	😓 Restore Database - DataPRO		
Databases Detabases	🕕 Ready		
 Jystem Databases DataPRO 	Select a page	Script - 🐚 Help	
🗉 🤖 Security	🚰 General		
Server Objects	Cotions	Source	
Generation Generation Generation	- opuons	Database: Database:	
		Device:	
		Database:	
		Destination	
		Database: DataSe00 -	
		Barbon by: The last back on Theory March 24, 2015 11-12-08 # Timeline	
		Berne m. Ine las partos taken (Tessagy Harrin 2, 192) 1123-6- Timeline	
		Restore plan	
		Bagkup sets to restore:	
		Peatore Name Component Type Server Database Position Fi	
		DataPRO-Full Database Bac Database Full ENCHILADA/SQLEXPRESS DataPRO 1 2	
	Concernition .		
	Connection		
	[ENCHILADA\SQLEXPRESS [ENCHILADA\SoftwareTech]		
	View connection properties		
	Progress		
	C Ready	Varifu Barkun Media	
		Trub second usan	
		OK Cancel Help	
1			
1			
<	· ·		
Ready			

3. In the "Source" box, select "Device" and then the Browse ellipsis:

6		enchilada - Remote Desktop Connection	- ð 🗙
🌿 Solution1 - Microsoft SQL Server Management Studio			- I&I -
Elle Edit View Debug Tools Window Help			
🗄 🕤 🕶 📨 🐷 😹 🥔 🔔 New Query 🕠 😘 😘 🚳	10 日本	2월 👂 - · · · · · · · · · · · · · · · · · ·	
Object Explorer * 1	* ×		
Connect * 🛃 🛃 = 🍸 💽 🍒			
ENCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILA Distribution	😓 Restore Database -		
System Databases	😵 No backupset selected to be r	r restored.	
🛞 📑 DatsPRO	Select a page	📓 Script - 📓 Help	
Security Security	Priles		
Replication	Poptions	source	
🗉 🚞 Management		DataPRO v	
		Dgvice:	
		Select backup devices	
		Specify the backup media and its location for your restore operation.	
		Racius media trans	
		Backun media:	
		Add	
		Berne	
		SN Checkpoint LSN Ful L	
		Conjents	
	Connection		
	ENCHILADA\SQLEXPRESS	DK Cancel Help	
	(EIVCHILADA\S000wareTech)		
	View connection properties		
	Progress		
	C Ready	Verifie Bachus Madia	
		OK Cancel Help	
×	•		
Ready			
			. Inc (m. 4) 11-26 AM 🗸
<			>

4. Select "Add" and browse to the backup file that you want to be used for the Restore:

S.		enchilada - Remote Desktop Connection	- 0 ×
蟝 Solution1 - Microsoft SQL Server Management Studio			- G -
File Edit View Debug Tools Window Help			
Same and a second secon	A DALIN - N		
: Ch		esure i cel	
Object Explorer 👻	1×		
Connect * 🛃 🛃 🗉 🍸 💽 🔏			
= R ENCHILADA\SOLEXPRESS (SOL Server 11.0.2100 - ENCHILA	Restore Databa		
😑 🗀 Databases	Se nestore pacapa		
🗉 🧰 System Databases	1 No backupset	ected to be restored.	
🗉 📋 DataPRO	Select a page	🖾 Script 🕞 🔣 Help	
E Security	General		
E Server Objects	Elles	Source	
Replication	Options	C Database Develop	
🕢 🧰 Management		C Exercise Despino	
		Lacate Backup File - ENCHILADASQUEXPRESS	
		Backup He jocator: L'ISUL Backups	
		🕀 🛄 \$Recycle.Bin 📃 Development	
		Goldem File Golden File	
		B Coursents and Settings In Beckup_2015_03_34 bak	
		Or a Vencement Desperative 20	
		the image of the i	
		Andonal Instruments Downloads	
		D Pettogs	
		Compare Fire (MB)	
		Origination of the second	
		B Career Contract Con	
		Colpts	
		iii - Sul Backton	
		General Value Information	
		A Table See See See See See See See See See S	
	Connection	Windows	
	E FAICHE AD AL		
	IENCHILADA		
		File game: myBackup_2015_01_34 bak Backup File((1)bak/.1m)	
		DK Cancel	
	View connection	No. Benera	
1	Progress		
1	alle Dud		
1	C Ready	Verify Bacium Media	
1		To the measure of the second second	
1			
1		Un Unixer Prep	
1			
1			
1			
	→		
Ready			
			11:28 AM 🗸
<			>

5. Select "OK":

	enchilada - Remote Desktop Connection	- 0 ×
🐙 Solution1 - Microsoft SQL Server Management Studio		
Eile Edit View Debug Tools Window Help		
🗄 🚼 🕶 🖂 🐨 🛃 🥥 🔔 New Query 👍 🏫 😘 🐇	※141211 9 - C - 22 - 23 - 23 - 23 - 23 - 23 - 23	
Object Explorer		
ENCLU ADAISOL EXTRESS (SOL Secure 11 0 2100 - ENCLU		
Databases		
🛞 🧰 System Databases	Carlos termente Contra Carlos	
DataPRO Security	ment a page Script - La Help	
🛞 🥅 Server Objects	Files Source	
Replication Management	Database: Database:	
in a management	Prvice:	
	I Selectbackup devices	
	Stercify the backup media and its location for your restore operation	
	Eaclup media type: File	
	Backup media:	
	C sigt best op injecting_con_co_s bak	
	Benove SN CheckpointSN Full	
	Cordents	
	Connection	
	EVCHILADA/SQLEXPRESS DK Cancel Help	
	[ENCHILADA/SoftwareTech	
	View connection properties	
	Progress	
	Redy	
	And Kenk Receip Association	
	OK Cancel Help	
1		
1		
1		
·		
Ready		
🔊 🛆 🕋 🖪 🛄		11:28 AM 🗸
<		>

6. Select "OK":

1 5		enchilada - Remote Desktop Connection	- 0 ×
🐙 Solution1 - Microsoft SQL Server Management Studio			- B
Eile Edit View Debug Iools Window Help			
🗄 🕤 🕶 📨 🥁 🚽 🔔 New Query 🕒 😘 😘 🐒	🍋 🖾 ウ・ペ・泉・马 🕰	🛛 🕨 🦉 DataPROUser - 🖓 😤 😓 -	
Object Explorer 👻	ġ×		
Connect* 🛃 🛃 🖩 🍸 💽 😹			
ENCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILA	Restore Database - DataPRO		
🖃 🛄 Databases	Ready		
System Databases	Select a page	Project Diale	
Security	General	Parity - Fluch	
🛞 🦕 Server Objects	🚰 Files	Source	
Replication	Coptions 2	Databaser	
🗈 🛄 Management		District	
		Ugvice: C:\SQL Backups\myBackup.2015_03_34.bak	
		Database: DataPRO •	
		Destination	
		PERMINUNI Des RDO	
		Datapase Datapato	
		Restore to: The last backup taken (Tuesday, March 24, 2015 11:23:48 A Imeline	
		Restore plan	
		Backup sets to restore:	
		Restore Name Component Type Server Database Position	
		V DataPRO-Full Database Backup Database Full ENCHILADA\SQLEXPRESS DataPRO 1	
	Connection		
	ENCHILADA\SQLEXPRESS		
	[Encrative/solowarerech]		
	View connection properties		
	Progress		
	Done Done		
		Yerify Backup Media	
		Of Charat Hale	
		OK CHICK HAP	
<	•		
Ready			
			11:28 AM ¥
<		· · · · · · · · · · · · · · · · · · ·	>

7. In the "Select a page" pane, select "Options" and then in the "Restore options" box, select "Overwrite the existing database (WITH REPLACE)" box. Select "OK":

18		enchilada - Remote Desktop Connection	- 0 ×
🐙 Solution1 - Microsoft SQL Server Management Studio			
Elle Edit View Debug Tools Window Help			
🗄 🐨 = 🗃 🖓 🛃 🔔 New Query 🕞 🎲 😘 🐇	山区 り・ペ・ジ・ジ (型)	→ · · · · · · · · · · · · · · · · · · ·	
Object Explorer 💌	ф ×		
Connect = 🛃 🛃 💷 🍸 💽 🍒			
ENCHILADA\SQLEXPRESS (SQL Server 11.0.2100 - ENCHILA	😓 Restore Database - DataPRO		
Databases System Databases	Restoring: DataPRO-Full Database Ba	kup 100% Stop	
	Select a page	Script - 1 🔂 Help	
Security	General General		
server Objects Replication	P Options	Restore options	
🗉 🛅 Management		Overwrite the existing database (WITH REPLACE)	
		Preserve the replication settings (WITH KEEP_REPLICATION)	
		Restrict access to the restored database (MTH RESTRICTED_USER)	
		Recovery state: RESTORE WITH RECOVERY *	
		Standay file: cAPregram File (Microsoft SOL Server)MSSOL11.SOLEXPRES:	
		Leave the database ready to use by rolling back uncommitted transactions. Additional transaction loss cannot be	
		reitored.	
		Tail-Log backup	
		Take tail-log backup before restore	
		👝 Leave source database in t Microsoft SQL Server Management Studio	
		(WTH NORECOVERY)	
		Backup file: Gi Database 'DataPRO' restored successfully.	
		Server connections	
		Close existing connections to dea	
		OK	
	Connection		
	ENCHILADA\SQLEXPRESS [ENCHILADA\SoftwareTech]	Prompt	
		The Full Test langed speecements controls whether full-test indexes are imported, rebuilt, or reset for	
		the restored database.	
	View connection properties		
	Progress		
	0		
		OK Cancel Help	
×			
Para A			
			11/20 414
			De din yn 1150 AM V

Instructions for Using SQL Server for the DataPRO Database

After installing DataPRO, modify the following options in the *DataPRO.exe.config* file found in the *C:\DTS\DTS.Suite\<version>* folder:

- 1. Set DBType to 0 (the default when installed is 1 which causes DataPRO to use a local SQLite database).
- 2. Set LocalDbHost to the address where SQL Server is installed (either an IP address or a hostname that resolved to that IP address). The config file initially contains "your db host here" for this option.
- 3. If you want to use Windows authentication when accessing the SQL Server database, thereby avoiding the need to use a clear-text password (LocalDBPassword in the *DataPRO.exe.config* file), set UseNTLMAuthentication to True (the default is False).

Then, to create the initial, blank DataPRO database, run DataPROCreationScript_3.0.sql in SQL Server Management Studio. This script can be found in your *C:\DTS\DTS.Suite\<version>\SQL Server Scripts* folder.

If connectivity fails when you run DataPRO, ensure that the LocalDBPassword option in the *DataPRO.exe.config* file matches the password that was used when setting up DataPROUser in SQL Server (or, if UseNTLMAuthentication is True, that SQL Server allows the user's login) and that the server's firewall has allowed access to SQL Server.

Appendix I: Setting up SLICE6 AIR

Because SLICE6 AIR is capable of both Record In Place and Streaming data collection modes, there are a number of additional options for configuring SLICE6 AIR DAS. These options will be outlined here, followed by instructions for setting up and running a SLICE6 AIR Streaming test.

DataPRO.exe.config Settings

a. "AllowStreaming" setting in *DataPRO.exe.config* file must be set to True for streaming applications.

```
<setting name="AllowStreaming" serializeAs="String">
<value>True</value>
</setting>
```

Hardware Settings

- 1. Each SLICE6 AIR has a Streaming IP Address and port. When multiple SLICE6 AIR units are used in a test, they each need to have a unique IRIG Streaming IP Address and port. DataPRO will configure this during Test Setup.
- 2. SLICE6 AIR units must have the latest Firmware installed in order to have access to all features of SLICE6 AIR.

DataPRO Settings

- 1. "Enable input and output clock options" should be enabled.
 - a. Found in System Settings tab -> Test Options navstep.
 - b. If enabled, a Clock sync menu will be present in Test Setup tab ->Info navstep to allow choosing Clock Master/Slave Input Clock Type and Clock Slave Input Clock Type.
- 2. "Allow UART recording modes" will enable SLICE6 AIR units to record both analog data and UART data to flash memory.
 - a. Found in System Settings tab -> Test Setup Defaults navstep -> Test Info.
 - b. 4GB of data storage will be available for analog data and 4GB of data storage will be available for UART data.
 - c. UART data will be downloaded and stored as .bin files with analog data.
- 3. Select the appropriate UDP Stream Profile from the dropdown options.
 - a. Found in System Settings tab -> Test Setup Defaults navstep -> Realtime.
- 4. Set the appropriate UDP Stream Time Channel ID.
 - a. Found in System Settings tab -> Test Setup Defaults navstep -> Realtime.
- 5. Set the appropriate UDP Stream Data Channel ID.
 - a. Found in System Settings tab -> Test Setup Defaults navstep -> Realtime.
- 6. UDP Stream TmNS Config
 - a. This is currently an editable value in DataPRO, but it will either be hidden or just a displayed value.

- 7. IRIG Time Data Packet Interval (ms)
 - a. Found in System Settings tab -> Test Setup Defaults navstep -> Realtime.
 - b. Defines the delay in milliseconds between sending time data packets.

Configuring a SLICE6 AIR Test Setup

Test Setups are collections of measurement channels, hardware and recording parameters used for data collection. Test Setups can contain existing predefined "Groups" or dynamic groups; random collections of measurement locations and sensors. Each Test Setup can be used for multiple data collection events. (See *Groups: Add, Import, Edit, Delete, Copy*, page 38, for instructions on creating a Group).

SLICE6 AIR is capable of both Record In Place data acquisition as well as streaming data applications. The below steps will outline how to configure SLICE6 AIR for streaming data applications, as well as Record In Place for applications that deal with both UART and analog (bridge, IEPE, thermocouple sensor) data. For information on configuring and using SLICE6 AIR units for Record In Place applications using only analog inputs, see *Test Setups*, page 48, and *Run Test*, page 85.

1. Select the "Test Setups" tab:



2. Select "Add" to create a new test setup:

贈	DataPRO - Test Setups							
	🙎 Check Trigger	Cuick Checkout	👓 Run Test	🗖 Download	Data	🔎 View Da	ata 🔹 Export I	Da
	🖌 😽 Data Recorders	Sensor Templates	📃 Sens	or Database	8	Groups	Setups 🔁 Test Setups	٦
A	id Import Export Refresh							
Te	est Setups	Search						

3. The Info navstep contains the test parameters. All fields in red must be completed:

DataPRO - Add Test Setup: Data Recorders G Sensor Templates Done Save Create summary Discover hardway	Sensor Database 🚺 Groups 💽 Test Setups 🛃 Addition are Run Test Check Channels	aal Details 📄 Check Channels 🔂 Check Trigger	- O ger 🖉 Quick Checkout 🔯 Run Test 🔃 Download Data 🎉 View Data 🔃 Export Data 🚺 Manage Users 💌 System Settings	<
Test Setups				
<<	Test info		🖳 🕑 Test Details 🦳	
Info	Test Setup name			
Groups	Description			
Groups	Recording mode	Circular buffer 👻		
Hardware	Samples per second	10,000 👻		
Channels	Pre-trigger second(s)	1.0000		
Chamleis	Post-trigger second(s)	1.0000		
Parameters	Set DAS to Streaming			
Graphs	Download region of interest (ROI)	\checkmark		
Graphs	ROI period start (sec) -1.000	\$		
ISO export	ROI period end (sec) 1.000	:		
	16ROI	1		
	New Kor	V		
	View all	v		
	Diagnostic options	-	- (v) Realtime options	
	Clock sync		— 🔆 Arm checklist	
	Export options		— 💿 Upload options —————	

- a. The default settings for test parameters can be set in the System Settings tab (See *System Settings*, page 122.
- NOTE: Level triggers and Calculated channels are optional navsteps that must be enabled in System Settings, page 122.
 - b. Use the arrows to expand/collapse each section menu.

Record In Place with Analog and UART data

4. If recording analog and UART data, select Recording Mode from dropdown:

📅 DataPRO - Edit Test Setup: SL	LICE6AIR				
🙎 Check Trigger	😔 Quick Checkout 🛛	Run Test	😃 Download Data	🔎 View D	lata 🔷 Export Da
😤 Data Recorders	Sensor Templates	👤 Sensor Da	tabase 🚺	Groups	Setups 🔁 Test Setups
Done <u>S</u> ave Create summary	Discover hardware Run Test Check Chanr	neis			
Test Setups					
	🔄 🔿 Test info 🛛 —				
Info	Test Setup name		SLICE6AIR		
Groups	Description				↓
	Recording mode		Circular buf	fer + UART	-
Hardware	Samples per second		10,000		•
Channels	Pre-trigger second(s)		2.0000		÷
	Post-trigger second(s)		5.0000		:
Parameters	Set DAS to Streaming				
Graphs	Download all		\checkmark		
	View all				
ISO export	🕑 Test Details 🛛 —				
	 Diagnostic option 	ns —			
	 Realtime options 				
	Clock sync				
	👻 Arm checklist 🛛 –				
	 Export options 				
	Upload options				

- a. When recording analog and UART data:
 - i. Ensure "Allow UART recording modes" is enabled in System Settings tab -> Test setup defaults navstep.
 - ii. Half the internal memory will be available for analog data and half will be available for UART.
- iii. Download ROI is not available.
- In Streaming mode, Sample Rate is limited to 30,000 samples per second (sps) or lower (UART Baud Rate needs to be set before. See *TestSetupDefaults*, page 127, for more information).
- v. UART data will be downloaded as a .bin file in the Binary folder with analog channel data.

Streaming Data with SLICE6 AIR

4. Enable Set DAS to Streaming if configuring for streaming data applications:

Check Trigger	Cuick Checkout	👓 Run Test	📥 Download	Data 🖉 Viev	v Data 📃 Export I
😤 Data Recorders	Sensor Templates	🛄 Sens	or Database	🔗 Groups	Setups
Done <u>S</u> ave Create summary D	iscover hardware Run Test Check	Channels			
lest Setups					
	< 🔿 Test info 🛛 —				
Info	Test Setup name		SLIC	E6AIR	
Groups	Description				
o. o apo	Samples per secon	d	10,	000	•
Hardware	Set DAS to Streami	ng	\longrightarrow \checkmark		
Channels	 Test Details 				
Channels	🕑 Diagnostic o	ptions			
Parameters	🕑 Realtime opt	ions			
	Clock sync				
	 Arm checklis 	t			

- a. Ensure "AllowStreaming" is set to true in *DataPRO.exe.config* file.
- b. Download/View ROI and All and Export Data options are not available with streaming applications.
- NOTE: All DAS in test must be SLICE6 AIR in order to configure Test Setup for streaming.
- 5. Configure Clock Sync options:

Clock sync		
Clock Master Input Clock Type	None	-
Clock Master Output Clock Type	None	-
Clock Slave Input Clock Type	None	-

- a. Select Clock Master Input from dropdown:
 - vi. None
 - vii. IRIG

- viii. GPS
 - ix. 1PPS
 - x. IRIG + 1PPS
 - xi. GPS + 1PPS
- b. Select Clock Master Output from dropdown:
 - xii. None
 - xiii. PTP: If PTP is selected, select PT Type/Mode:
 - 1. E2E
 - 2. P2P
- c. Select Clock Slave Input type:
 - xiv. None
 - xv. PTP: If PTP is selected, select PTP Type/Mode:
 - 1. E2E
 - 2. P2P
- 6. Select Hardware navstep to define SLICE6 AIR unit to act as Clock Master:

ababPRO - Edit Test Setup: SLICE6AIR (modified) - [SLICE6AIR]								- 0	×
🙎 Check Trigger 🛛 🚧 Qi	uick Checkout	😳 Run Test 📃 Do	wnload Data 🛛 🖉 V	riew Data 🔯 Export Data		🔼 Manage Users	😣 Sys	🐱 System Settings	
😵 Data Recorders	Sensor Templates	Sensor Database	🔗 Groups		est Setups	👤 Additional Details	🕒 Cheo	🕒 Check Channels	
Done Save Create summary Discover ha	rdware Run Test Check Cr	annels							
Test Setups	Search						1		
Info	Compact Exp	anded							
IIIO	Serial Numb	er 🔻 Type 🔻	Channels 🔻	Firmware 💌	Max Sample Rate 🔻	Test Sample Rate 🔻	leck Master? 💌	Cal Date 🔻	Cal D
Groups	BA51253	SLICE+	15 Analog	B1F4	200,000		•	4/29/2019	4/28/2
Hardware	✓ S6A0041	SLICE 6 AIR	6 Analog	00A1	400,000	10,000 👻			
Channels	√ S6A0047	SLICE 6 AIR	6 Analog	G015	400,000	10,000 💌	\checkmark	10/10/2019	10/9/2
	SPD00999	SLICE PRO DIM	18 Digital input	A1J4	600,000			4/7/2016	4/7/20
Parameters	SPE00150	SLICE Ethernet Controller	18 Analog,4 Squib,8 Digital out	B0B3	600,000			5/15/2019	5/14/2
	SPT00999	SLICE PRO TOM	4 Squib,8 Digital out	D0D7	600,000			4/7/2016	4/7/20
	•								•

- NOTE: See the <u>IEEE 1588 2008 Standard</u> for more information on Precision Clock Synchronization Protocol.
- NOTE: Continue steps in Prepare: Test Setups, page 48, to configure the Test Setup.

Running a SLICE6 AIR Streaming Test

Use the Run Test tab to initiate a data collection sequence based on the active Test Setup. The settings and parameters in the Test Setup and the System Settings tabs determine the navsteps and behavior of DataPRO during the data collection process (See *Test Setups*, page 48, or *System Settings*, page 122, for more information).

The steps and images below are for a Streaming test, where data is not stored on the internal flash memory of the DAS. For information on using SLICE6 AIR DAS in a Record In Place test, see *Run Test*, page 85.

DTS recommends using the Diagnostic tab(s) prior to collecting data. However, many of the same steps will be repeated with each Data Collection sequence.

Navsteps are configurable for each Test Setup. Not all navsteps listed are required, therefore some steps listed below may not be applicable.

NOTE: See Run Test, page 85, for more information on navsteps and options within each navstep common to Record In Place and Streaming tests.

Select the "Run Test" tab:



1. The **Basic info** navstep displays an overview of the test setup:

😵 Data Recorders	🕑 Sensor Templates 📃 Sensor Database 📝 Groups 🔄 Test Setups 📃 Additional D	Details Check Channels
🗧 Check Trigger	🔽 Quick Checkout 🤓 Run Test 🛄 Download Data 😥 View Data 🔯 Export Data 🚺 Mar	nage Users 🛛 🔯 System Settings
Done View summary		
.		
Run test		
Basic info	SLICE6AIR	
	Test id [None] 👻 Demo Test [Time Stamp] 💌	
Hardware	Description	
Check sensor ID	Recording Mode: Streaming Samples Per Second: 10,000	
Di la la	A Sayrar dataile	
Diagnostics	Analog (1) Squib Settings (0) Digital Input Settings (0) Digital Output Settings (0)	
Realtime	Serial Number V Name Manufacturer Model I IEPE Capacity (EU) Sensitivity Linear Sensitivity	Resistance (Ω) Excitation (V) Units
٨		U 3004 5 deg/s
Arm	4	•
	Groups	
	Name	Test Object Position
	Test channels	1 1
DAS 000 Comm	User Admin anyiested to Paced Pacielofo	

- 2. Continue to the **Hardware** navstep. DataPRO will attempt to communicate with the hardware associated with the active Test Setup.
 - a. If needed, select Run to re-run the Hardware navstep and reattempt hardware connection.

- 3. Proceed to **Check sensor ID** navstep to confirm sensors in test setup are properly configured with a hardware channel. Sensors without EID that have not yet been configured with hardware channels will need to be manually assigned before proceeding.
 - a. Channels that are included in the Test Setup but not yet assigned to hardware channels will be listed in the Unresolved Channels table.
 - i. Select from Unresolved Channels table and drag to Hardware Channels table to make assignments.
 - ii. Each Test Setup can be configured to allow progressing with missing sensors (unresolved channels) (See *System Settings, page 122, for more information*).
 - b. Sensor IDs that were detected but are not included in the Test Setup will be displayed in the Extra Sensor IDs table. If the sensor ID(s) are associated with sensors in the Sensor Database, the serial number(s) will be displayed.
 - c. The key defines what different shading in the Hardware Channels table indicates (See *Check Channels, page 71,* for more information).
- 4. Continue to **Diagnostics** navstep. DataPRO will automatically configure the DAS.
 - a. Select Run to perform a diagnostic checkout on all DAS/Channels included in Test Setup.
 - b. Select Run (DAS) to perform a diagnostic checkout on only the selected DAS.
 - c. Select Run (Channel) to perform a diagnostic checkout on only the selected Channel.
 - d. Select Low Power to turn off excitation voltage. Diagnostics will have to be performed again to resume data collection sequence.
- 5. A pre-test diagnostics report will be automatically generated and saved with the test data folder (See *Appendix E: DataPRO File Structure*, page 163, for more information).
 a. Select View report to display this report.
- 6. The (optional) **Realtime** navstep allows for Realtime verification of each channel.
 - a. The controls of Realtime in a data collection sequence are the same as the controls for the Check Channels diagnostic tab (See *Check Channels, page 71, for more information*).
- NOTE: Realtime AAF ratio is 1:1 by default. This setting can be changed in the DataPRO.exe.config file. See DataPRO Settings Manual for more information about the config file.
- 7. Continue to the Arm Checklist navstep (if enabled).a. If enabled, the Arm Checklist will run system tests as defined in the Test Setup.

8. Continue to the Arm navstep:

👹 DataPRO - Run test - [SLICE6AIR]										- 0	\times
😤 Data Recorders	Sensor Templates	📃 Senso	or Database	🕜 Groups	[[Test Setups	🚨 Addi	tional Details	Check	Channels	Ξ
🙃 Check Trigger 🔛 Qui	ck Checkout	•• Run Test	📥 Download 🛛	Data 🖉 Viev	/ Data	👛 Expo	ort Data	🔁 Manage Users	📴 Syst	em Settings	
Done											
Run test											
Basic info	<										
Hardware	SLICEGAIR - 2	020_02_13 10_32									
Check sensor ID	Recording Mode:	Streaming Samples	s Per Seconds: 10,00	00 Channels: 1 (Level Triggers: No	l analog, (ne) SQUIB, 0 digital i	input, 0 digital output)				
Diagnostics		Waiting for user selection									
Realtime											
Arm	Trippenersitien										
Run		Irigger: waiting						Faults: clear			
Software Start	Group	DAS	Test sample rate	Input Voltage Status	Batten	/ Voltage Status	Time left in arm	Triggered	Faults	Status	
Software Tripper	Test channels	S6A0047	10,000	14.9 V							
Stop Monitoring											
Disarm											
DAS 001 Comm	User Admin navig	ited to: Record Arm						Connected t	to: Local Current view	er Admin Login	a: Admin

- a. Confirm Test Setup, Test ID, recording mode and parameters, channel count, group(s) and associated DAS.
- b. Verify Input Voltage.
- c. System status displays.
 - i. "Waiting for user selection": Select Run to arm the system.
 - ii. "Trigger: waiting" indicates that a trigger has not been received.
 - iii. "Faults: clear" indicates that no faults have been detected.
- *NOTE:* If enabled, additional Arm Prepare navstep will be present. See Appendix D: Quick Arm for more information.
9. Select Run to arm the system:

DataPRO - Run test - [SLICE6AIR]	Sensor Templates k Checkout	oo Run				Addi ta	tional Details 🕫 Manage Users	Ch	- 🗗 eck Channels iystem Settings	× =
Done		Units	can now be disconnected	ed and the ON signal rem	oved. Units will automatically					
Run test		arm w	vhen the ON signal is ap	oplied.						
Basic info					_	•				
Hardware	SLICE6AIR - 2	020_02_1								
Check sensor ID	Recording Mode:	Streaming Samp	les Per Seconds: 10,0	000 Channels: 1 Level Triggers: N	(1 analog, 0 SQUIB, 0 digital lone	input, 0 digital output)				
Diagnostics					Auto arming					
Realtime										
Arm		Tri	ager: waiting				Faults: cl	ear		
Arm	Group	Tri	gger: waiting	Innut Voltage Status	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults		
Arm Run Software Start	Group Test channels	DAS S6A0047	gger: waiting Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status
Arm Run Software Start Software Trigger	Group Test channels	DAS S6A0047	gger: waiting Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status +
Arm Run Software Start Software Trigger Stop Monitoring	Group Test channels	DAS S6A0047	gger: waiting Test sample rate 10,000	Input Voltage Status 15 V	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status 🕨
Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Test channels 4	DAS S6A0047	gger: waiting Test sample rate 10,000	Input Voltage Status 15 V	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status
Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Test channels 4	DAS S6A0047	gger: waiting Test sample rate 10,000	Input Voltage Status 15 V	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status 🔸
Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Test channels 4	Tri Das S6A0047	gger: waiting Test sample rate 10,000	Input Voltage Status 15 V	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status 🔸
Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Test channels 4	Tri DAS S6A0047	gger: waiting Test sample rate 10.000	Input Voltage Status	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Ştatus >
Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Test channels 4	Tri DAS S6A0047	gger: waiting Test sample rate 10,000	Input Voltage Status 15 V	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status +
Arm Run Software Start Software Trigger Stop Monitoring Disarm	Group Test channels *	DAS S6A0047	gger: waiting Test sample rate 10,000	Input Voltage Status 15 V	Battery Voltage Status	Time left in arm	Faults: cl	ear Faults	Done 100%	Status , F

- a. DataPRO will configure the SLICE6 AIR for streaming data collection.
- b. Status LED will flash blue to indicate DAS is being configured for streaming.
- c. After cycling power/removing and reapplying the ON signal, both LEDs should be solid green to indicate SLICE6 AIR is actively streaming data.
- NOTE: Streaming data can now be viewed with a third-party viewer. See that manufacturer's documentation for configuring the display.
- 10. Select Done to return to previous location.
- 11. The SLICE6 AIR will continue to stream data until power is cycled or it is disarmed.
- NOTE: If the DAS is configured to "Enable repeat when auto-arm/streaming", it will continue to boot into streaming mode and must be disarmed by selecting Stop Streaming from within the Arm navstep.
 - a. On reconnecting the DAS, start a new Run Test instance with the appropriate active Test Setup.
 - b. DataPRO will detect the SLICE6 AIR is streaming in the Hardware navstep:

🖉 DataPRO - Run test - [SLICE6AIR]										-	٥	×
Data Recorders	Sensor Ter Quick Checkout	mplates	oo Run '				▲ ta	Additional Details	s	Check Channels		Ξ
Done Resume (Automatic mode)					Warning: DAS is stream	mina!						
Run test					,							
Basic info	SLICE	6AIR					-					
Hardware						, ,						
Cancel						75%						
Check sensor ID	🔿 Deta	nils ——									_	—
Diagnostics		Tree view		able view								
Arm checklist	DAS S6A0047		Connection 192.168.4.47	6 analog channel(s)	Connected							
Arm												

- c. The Arm navstep will be the only available navstep.
 - i. Select Stop Streaming and OK when prompted:

🚰 Data Recorders	Sensor Templates		Sensor Database	🔗 Groups	S Test Setups	👤 Add	itional Details	🖹 Cheo	k Channels
Check Trigger	⊱ Quick Checkout	Run Test	🗖 Download	Data 📃 Viev	v Data 🔤 Exp	ort Data	🔼 Manage Users	🐱 Sys	tem Settings
one Start (Automatic mode)									
un test									
acic info	<<								
asic inito	SLICEGAIR -	2020_02_19 15_4	45						
lardware									
Theck sensor ID	Recording Mode:	Streaming Sa	mples Per Seconds: 10,0	00 Channels: 1 (Level Triggers: No	1 analog, 0 SQUIB, 0 digital	input, 0 digital output)			
Diagnostics				Str	eaming - active				
Arm checklist					-				
Rup		Т	rigger: waiting				Faults: clea	ır	
Software Start	Group	DAS	Test sample rate	Input Voltage Status	Battery Voltage Status	Time left in arm	Triggered	Faults	Status
Software Trigger		S6A0047	10,000	15 V					Streaming - activ
Stop Monitoring									
Stop Streaming									
Stop Streaming									_
Stop Streaming DataPRO - Run test - [SLICE6Ali Data Recorders Check Trigger	R]	at Run				Add	itional Details	Chec	- 🗗 :k Channels :tem Settings
Stop Streaming DataPRO - Run test - [SLICE6Ali Data Recorders Check Trigger one Start (Automatic mode)	R]	Run			-2	Add	itional Details	Chec	– Ø tk Channels tem Settings
Stop Streaming DataPRO - Run test - [SLICE6AII Data Recorders Check Trigger Start (Automatic mode) Cun test	R]	Be Run	Are	you sure you want to disarr	m?	Add	itional Details Manage Users	Chec Sys	— 🗗 k Channels tem Settings
Stop Streaming DataPRO - Run test - [SLICEGAII Data Recorders Check Trigger one Start (Automatic mode) Un test	R] Quick Checkout	Run	Are	you sure you want to disam	n?	Add	itional Details	Chec	— 🗗
Stop Streaming DataPRO - Run test - [SLICEGAII Data Recorders Check Trigger one Start (Automatic mode) un test Basic info	R] Consor Templates Consor Templates Consor Templates Consort	2020.02.1	Are <u>-</u> OK	you sure you want to disarr	n? Cancel	Add	itional Details	Chec	– Ö ik Channels tem Settings
Stop Streaming DataPRO - Run test - [SLICEGAII Data Recorders Check Trigger Check Trig	R] Caloria Sensor Templates Caloria Quick Checkout Caloria SLICEGAIR - 2	2020_02_1	Are <u>-</u> OK	you sure you want to disarr	n? Cancei	Add	itional Details	ि Chei हि Syz	– 🗗
Stop Streaming DataPRO - Run test - [SLICEGAII Data Recorders Check Trigger one Stert (Automatic mode) un test Basic info Hardware Check sensor ID	R] Cuick Checkout SLICEGAIR - 2 Recording Mode:	2020_02_1t Streaming Sa	Are : OK mples Per Seconds: 10,0	you sure you want to disarr 00 Channels: 1 (n? Cancel 1 analog, 0 SQUIB, 0 digital	Add	itional Details	Chec Sys	- 6 k Channels tem Settings
Stop Streaming DataPRO - Run test - [SLICEGAII Data Recorders Check Trigger on Start (Automatic mode) un test Basic info Hardware Check sensor ID Diagnostics	R] Cuck Checkout Chec	2020_02_1: Streaming Sa	Are ; OK mples Per Seconds: 10,0	you sure you want to disar 00 Channels: 1 (Level Triggers: No Stri	n? Cencel 1 analog, 0 SQUIB, 0 digital ne eaming – active	input, 0 digital output	tional Details	Sys	- D k Channels tem Settings
DataPRO - Run test - [SLICEGAI Data Recorders Check Trigger one Start (Automatic mode) un test Basic info Hardware Check sensor ID Diagnostics Arm checklist	R] Cuck Checkout	2020, 02, 1 Streaming Sa	OK mples Per Seconds: 10,0	you sure you want to disan 00 Channels: 1 (Level Triggers: No Stru	n? Cancel 1 analog, 0 SQUIB, 0 digital ne eaming - active	input, 0 digital output	itional Details	Check	- 6 k Channels tem Settings
DataPRO - Run test - [SLICEGAI Data Recorders Check Trigger one Start (Automatic mode) un test dasic info Hardware Check sensor ID Diagnostics Arm checklist	R] Curck Checkout Cur	2020, 02, 11 Streaming Sa	OK mples Per Seconds: 10,0	you sure you want to disan 00 Channels: 1 (Level Triggers: No Stru	n? Cancel 1 analog, 0 SQUIB, 0 digital ne eaming - active	input. 0 digital output	itional Details	Syn	- 6 k Channels tem Settings
Stop Streaming DataPRO - Run test - (SLICEGAI Data Recorders Check Trigger one Start (Automatic mode) un test assic info dardware check sensor ID Diagnostics wm checklist um Run	R] Cuck Checkout	CO20, 02, 11 Streaming Sa	ox mples Per Seconds: 10,0 Trigger: waiting	you sure you want to disan 00 Channels: 1 (Level Triggers: No Stru	n? Carcel 1 analog, 0 SQUIB, 0 digital ne eaming - active	input, 0 digital output	itional Details	Checker System r	- 6 k Channels tem Settings
Stop Streaming DataPRO - Run test - [SLICE6AI Data Recorders Check Trigger Int East asic Info lardware heck sensor ID liagnostics cm checklist cm Run Software Start	R] Cuck Checkout	ZO20, 02, 11 Streaming Sa	OK mples Per Seconds: 10,0 Trigger: waiting Test sample rate	you sure you want to disan 00 Channels: 1 (Level Triggers: No Stru Input Voltage Statua	n? Cancel 1 analog, 0 SQUIB, 0 digital ne eaming - active Battery Voltage Status	input, 0 digital output	itional Details	Portes	c Channels tem Settings
Stop Streaming DataPRO - Run test - (SLICEGAI Data Recorders Check Trigger one Start (Automatic mode) un test assic info dardware check sensor ID Diagnostics wm checklist wm Software Start Software Start Software Trigger	R] Carlos Sensor Templates Carlos Checkout Car	Streaming Sa	Are: ox mples Per Seconds: 10,0 Trigger: waiting Test sample rate 10,000	you sure you want to disan 00 Channels: 1 (Level Triggers: No Stru Input Voltage Status 15 V	n? Cancel 1 analog, 0 SQUIB, 0 digital ne eaming - active Battery Voltage Status	input, 0 digital output	itional Details	Paults	c Channels tem Settings
Stop Streaming DataPRO - Run test - [SLICEGAI Data Recorders Check Trigger one Start (Automatic mode) un test dasic info -lardware Lardware Lardware Check sensor ID Diagnostics Arm Run Software Start Software Start Software Trigger Stop Monitoring	R] C SLICEGAIR - Recording Mode: Group	Streaming Sa Streaming Sa DAS SSA0047	CK mples Per Seconds: 10,0 Trigger: waiting Test sample rate 10,000	you sure you want to disar 00 Channels: 1 (Level Triggers: No Stru Input Voltage Status 15 V	n? Cancel 1 analog, 0 SQUIB, 0 digital ne eaming - active Battery Voltage Status	input, 0 digital output	itional Detaile	Paults	k Channels tem Settings

d. DAS will no longer be streaming data and can be re-configured for another test.

Rev	Date	Ву	Description
5	7 April 2020	JC/MR	Updates for v3.0
4	3 April 2019 28 May 2019	JC EK	Updates for v2.0.
3	6 June 2018	JC	Updates for v1.9.
2	2 Oct 2017	JC	Updates for v1.4.
1	6 Sept 2016	DQ/EK	Updated the Binary File (Appendix C) description for CRC32. Completed missing sections and updated entire document for v1.1.
0	10 Dec 2015	EK/TR	Initial release.

Revision History