PRODUCT DATASHEET

SLICE PRO

Modular, High-Speed, Rugged Data Acquisition System

APPLICATIONS

- Acoustic studies
- Aerospace analysis
- Automotive safety
- Biomechanics
- Blast dynamics
- Ballistics Research
- Helicopter & aircraft
- Parachute deployment
- Pyrotechnic shock
- Ride & handling
- Sound measurement
- Sports & safety equipment
- Vibration testing
- Wind Tunnel

PRODUCTS

Diversified Technical Systems designs and manufactures data acquisition systems and sensors for experienced test professionals.

SLICE PRO is a complete modular data acquisition system that supports sensor inputs, airbag squib fire, trigger distribution, digital inputs & more. Designed for extreme test environments, data writes directly to flash memory.

SLICE PRO is a shock-hardened, mega-sample data acquisition system with unmatched flexibility, accuracy and reliability. Modular and configurable, SLICE PRO makes it easy to build test set-ups with different channel counts and features. SLICE PRO is a complete standalone system with signal conditioning, filtering and multiple bandwidth options. SLICE PRO writes data directly to non-volatile flash memory, making it ideal for a variety of critical applications including automotive safety and blast testing.

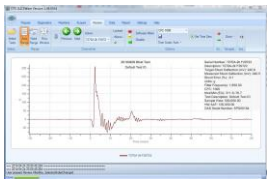
The SLICE PRO SIM is available with either 9 or 18 (as shown) fully-programmable sensor input channels that provide power and signal conditioning to support a variety of external sensors.

Features

- Modular solution, easily configures to create the exact features and channel count needed. Daisy-chain up to hundreds of channels per test.
- Easy and intuitive software, users enter sensor and sampling parameters and the software automatically sets-up the hardware.
- User-selectable sampling rates up to 1M sps/channel
- Data writes directly to 16 GB non-volatile flash memory
- High bandwidth options up to 200 kHz
- Supports a variety of external sensors, including full and half-bridge sensors, strain gages, IEPE, voltage input, thermocouples, etc.
- Compatible with TDAS G5 and TDAS PRO hardware
- Complies with ISO 6487 and SAE J211 recommended practices, as well as NHTSA and FAA requirements

Software

DTS offers two powerful software options for SLICE PRO. SLICEWare provides fast, easy tools for storing sensor information, performing data collection, viewing and exporting data. DataPRO is a fully-featured software package with a comprehensive database and user interface for tracking sensor information, creating test objects and test setups, performing diagnostic routines, and conducting tests. Both software packages offer the most advanced self-diagnostics, plus support for EQX, ISO MME and many other data exchange file formats.



DTS

www.dtsweb.com

COMPATABILITY

Using DataPRO Software, SLICE PRO is compatible with both TDAS PRO and TDAS G5 hardware, making it easy to expand system features and channel counts.

SERVICES

24/7 Worldwide Tech Support
ISO 17025 (A2LA) Calibration
On-site Calibration & Training
Application Consulting
Software Integration
OEM/Embedded Applications

WORLDWIDE SUPPORT

HELP CENTER (24/7/365 Access)
DTS Technical Centers
Global Sales Partners

HEADQUARTERS

Seal Beach, California USA

CONTACT US

Phone: +1 562 493 0158
Email: sales@dtsweb.com
Web: www.dtsweb.com

Specifications

SLICE PRO SIM (Sensor Input Module)

Description:	Data acquisition module 9 or 18 channels
Size:	52 x 90 x 80 mm
Mass:	726 g (26 oz)
Sensor Connectors:	LEMO 1B or Tajimi rectangular Insertion and removal tool available

SLICE PRO Ethernet Controller

Description:	Interface for start, status, event, power and 10/100 Ethernet communication signals
System Capability:	Each Controller supports up to 72 channels and provides interconnection compatibility with additional SLICE PRO systems, TDAS PRO & TDAS G5 systems. Hundreds of channels can be combined in one setup.
Start/Trigger Input:	Start: 5 V active high Trigger: Fully isolated contact closure with nominal 20 V open circuit voltage
Size:	26 x 90 x 80 mm
Mass:	305 g (15 oz)
Connectors:	COM: LEMO 2B 19-pin, Power: LEMO 2B 4-pin Note: Ethernet Controller "COM" ports are compatible with TDAS PRO and G5 COM ports

SLICE PRO USB Controller

Description:	Simple connections for start, status, event, power and USB 2.0 communication signals.
System Capability:	Supports up to 72 channels
Start/Trigger Input:	Contact closure, also compatible with 5-volt logic signals, active low.
Size:	52 x 90 x 80 mm
Mass:	454 g (16 oz)
Connectors:	COM: USB B-Type, Power: LEMO 2B 4-pin

INTERNAL BATTERES (ALL MODULES)

Type:	Lithium Polymer with built-in charger.
Run Time:	One hour fully armed, all channels in use with 5 V excitation (40 min. with 10 V excitation)
Recharge Time:	3-4 hours

POWER

Supply Voltage (SIM):	9-15 VDC; Note: 12-15 VDC required for charging internal battery
Power (Maximum):	15 W per 18-channel unit with 350 ohm loads and battery charging
Power Control:	Push button, not impact critical
Protection:	Reverse current, ESD

START & TRIGGER OPTIONS

Level Trigger:	Positive or negative level on any active sensor channel (first level crossing of any programmed sensor triggers system)
Software Trigger:	Data collection may be started or triggered via software

ENVIRONMENTAL

Operating Temp:	0 to 60°C (32 to 140°F) Contact DTS re: extended temperature ranges
Humidity:	95% RH non-condensing
Shock:	100 g, 12 msec half sine

BRIDGE or VOLTAGE SENSOR INTERFACE

Type:	Differential Instrumentation Amplifier
Common Mode Range:	-2.5 to +6.0 volts
Differential Input Range:	±2.45 volts
Bandwidth:	DC to 200 kHz (see options in AAF section)
Gain Range:	1 to 12,000
Noise (SNR typical):	75-80 dB (100 kHz BW, typical gain)
Gain Check:	Automatic voltage Insertion
Linearity (typical):	0.1% (gain 1 to 400), ≤0.5% (gain ≥640)
Accuracy:	0.2% including reference uncertainty
Auto Offset Range:	2X effective input range at gain ≥2 (typical)
Excitation Voltage:	Off, 2.0, 5.0, 7.5 and 10.0 V selected in software
Excitation Current:	40 mA via independent current-limited source
Bridge Support:	3k ohm half-bridge completion. 120 or 350 ohm 3/4 bridge completion for strain gages, etc.
Shunt Check:	Emulation method, automatically calculated
Sensor ID:	Maxim Integrated (Dallas) "1-wire" silicon serial number

IEPE SENSOR INTERFACE (if so equipped)

Input Range:	0.5 to 23.5 V
Excitation:	10.0 mA constant current with 25 V source. Contact DTS for other options if needed.
Sensor ID:	Works with EID or "TEDS" equipped sensors

ANTI-ALIAS FILTERS (AAF)

Fixed Low Pass:	8-pole fixed Butterworth with factory configured maximum bandwidth. Options: 4.0 kHz, 100 kHz, 200 kHz
Adjustable Low Pass:	5-pole Butterworth set under software control: 50 to 35 kHz (bypassed for maximum bandwidth)
Custom Options:	Contact DTS for any special requirements
Overall Response:	System response complies with SAE J211/ ISO 6487 recommended practices

ANALOG-TO-DIGITAL CONVERSION

Type:	16-bit SAR (Successive Approximation Register) ADC, one per channel, simultaneous sample of all channels
Acquisition Time:	80 ns (min)
Conversion Time:	420 ns (max)

DATA RECORDING

Modes:	Recorder, circular buffer and multiple test modes available
Memory:	16 GB non-volatile flash per module
Sample Rate:	User-programmable from 100 sps to 1M sps Maximum 1M sps/ch with 9 channels used or 500k sps/ch with18 channels used per SIM

CALIBRATION

Calibration Supplied:	NIST traceable
ISO 17025:	ISO 17025 (A2LA Accredited) available
Service Options:	Standard, On-site & Service Contracts available

SOFTWARE

Control:	SLICEWare, DataPRO, API NOTE: Timed Output Module (TOM) requires DataPRO software
Operating Systems:	Windows® 7/8/10 (32- and 64-bit)
Communication:	USB and Ethernet 10/100M

ACCESSORIES

See website for full line of SLICE PRO accessories, including:

SLICE PRO Base Plate
Aluminum mounting plate, available in multiple sizes to support a variety of configurations

Additional SLICE PRO modules also available – see website for details.

SLICE PRO TOM
Timed Output Module

SLICE PRO TDM
Trigger Distributor Module

SLICE PRO DIM
Digital Input Module

SLICE PRO LAB
Non-Rugged System

DTS
www.dtsweb.com