SLICE PRO
Modular, High-Speed, Rugged Data Acquisition System

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.

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.

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.

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.

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

www.dtsweb.com

DSH-002 (REV 05-2018)
## Specifications
### SLICE PRO SIM (Sensor Input Module)
- **Description:** Data acquisition module
- **Size:** 9 or 10 channels
- **Mass:** 52 x 90 x 80 mm
- **Sensor Connectors:** LEMO 1B or Tajimi rectangular
- **Features:** 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
- **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

### 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 Batteries (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)
- **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:** 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) “wire” silicon serial number

### IEPE Sensor Interface (if so equipped)
- **Fixed Low Pass:** 8-bit fixed Butterworth with factory configured maximum bandwidth.
  - Options: 4.0 kHz, 100 kHz, 200 kHz
- **Adjustable Low Pass:** 6-bit 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:** 18-bit SAR (Successive Approximation Register) ADC, one per channel, simultaneous sampling 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 with 9 channels used or 500k sps/ch with 18 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.

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**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

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