

## SLICE6 HB

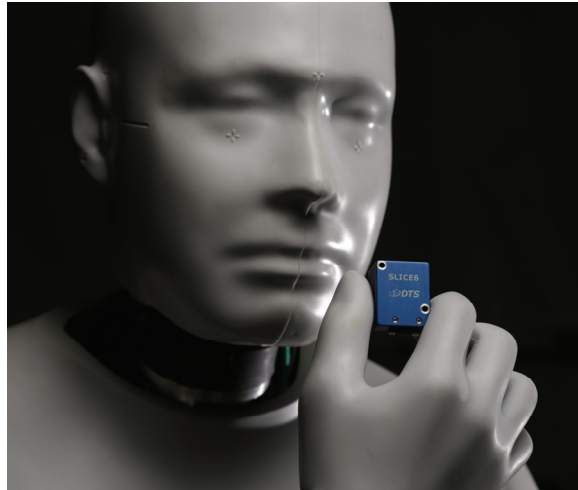
### Miniature, High Bandwidth Data Recorder with PTP Timing

#### APPLICATIONS

- WIAMan blast dummy

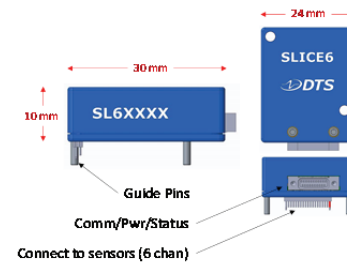
NOTE: SLICE6 HB and associated instrumentation, wiring and distribution components to support blast site use are specifically designed for the U.S. Army WIAMan and are not offered for commercial sale.

See SLICE6 datasheet for THOR and other ATD in-dummy DAS solutions, as well as additional SLICE6 applications.



SLICE6 HB is an ultra-small 6-channel standalone data acquisition system designed for the U.S. Army WIAMan, which requires high-speed sampling with precision timing. An IEEE 1588 compliant Ethernet switch allows PTPv2 daisy-chaining of hundreds of channels per test setup.

SLICE6 HB is a modular, high bandwidth data acquisition system featuring unmatched performance, flexibility and reliability in an ultra-small package. Each module contains a microprocessor, flash memory, control circuits and a sensor interface complete with excitation, variable gain, and 16-bit ADCs. A simple interface provides trigger and communication signals for chaining multiple modules. Designed for the U.S. Army WIAMan underbody blast manikin, SLICE6 HB is uniquely engineered for the WIAMan high shock environments that require maximum bandwidth and high sampling capabilities.



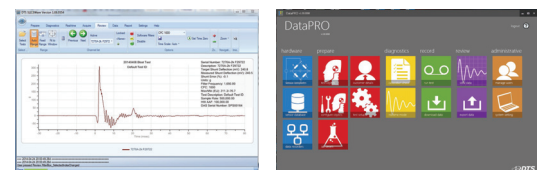
SLICE6 HB supports a variety of sensors and writes data directly to flash memory.

#### Features

- SLICE6 HB is a 6-channel DAS module that can be networked to create the exact features and channel count needed with reduced cabling requirements
- Ultra-small and lightweight (10 x 24 x 30 mm and 28 grams)
- Variable sampling rates  
Maximum 400k sps/ch (simultaneously sampled on all ch)  
Records >50 minutes of data sampled at 400k sps
- One per channel, 16-bit ADC direct write to 16 GB flash memory
- IEEE 1588 compliant Ethernet switch in each module allows PTPv2 daisy-chain of SLICE6 HB modules. Sampling sync <10  $\mu$ sec throughout system of hundreds of channels.
- Supports a variety of sensors, including full and half-bridge sensors, strain gauges, voltage input, thermocouples
- Two data recording modes: recorder and circular buffer
- Complies with ISO 6487 and SAE J211 recommended practices, as well as NHTSA and FAA requirements
- Tested per IEEE 1057 requirements

#### Software

DTS offers two powerful software options for SLICE6 HB. SLICEWare provides fast, easy tools for storing sensor information, performing data collection, viewing and exporting data. DataPRO is a fully-featured software 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.



#### PRODUCTS

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



[www.dtsweb.com](http://www.dtsweb.com)

DSH-029 (Rev 09-2018)

## Specifications

| PHYSICAL                              |   |
|---------------------------------------|---|
| Size:                                 | 24 x 30 x 10 mm (0.94 x 1.18 x 0.39")                       |
| Mass:                                 | 28 g (0.99 oz)  |
| Connectors:                           | Nano-Strip for 6 sensor inputs, NanoD for chain             |
| ENVIRONMENTAL                         |   |
| Operating Temp:                       | -40° to 60°C (-40° to 140°F)                                |
| Humidity, Moisture:                   | 95% RH non-condensing, IP51                                 |
| Shock:                                | 500 g, 3 msec half sine<br>2000 g, 0.8 msec half sine       |
| DATA RECORDING                        |   |
| Modes:                                | Recorder and circular buffer                                |
| Memory:                               | 16 GB non-volatile flash                                    |
| Max Sample Rate:                      | 400k sps programmable ****                                  |
| Recording Time:                       | >50 minutes at max sample rate                              |
| Pre-Trigger Data                      | Any part of memory can be used for pre or post trigger data |
| BRIDGE OR VOLTAGE SIGNAL CONDITIONING |   |
| Input Range:                          | -2.4 V to +2.5 V (2.5 V center)                             |
| Bandwidth:                            | DC to 20 kHz (up to 40 kHz, factory configurable*)          |
| Gain Range:                           | 1.0-1,280, software programmable                            |
| Auto Offset Range:                    | 100% of effective input range at gain >2                    |
| Shunt Check:                          | Yes   |
| Sensor ID:                            | Maxim Integrated (Dallas) silicon serial number             |
| Linearity (typical):                  | 0.1% (gain 1 to 320), ≤0.5% (gain ≥640) **                  |
| Accuracy:                             | 0.2% including reference uncertainty ***                    |
| POWER                                 |   |
| Supply Voltage:                       | 9-15 VDC  |
| Current (Maximum):                    | < 2.5 W with full sensor load                               |
| Protection:                           | Reverse current, ESD  |
| Backup Power:                         | Optional Supercap Power Hub                                 |

\* Validated according to IEEE 1057 Section 10.1  
 \*\* Validated according to IEEE 1057 Section 4.7.1  
 \*\*\* Validated according to IEEE 1057 Section 4.2.3  
 \*\*\*\* Validated according to IEEE 1057 Section 12.1.1

| EXCITATION                               |   |
|--|---|
| Type:                                    | Independent regulator for each channel  |
| Level:                                   | 5.0 V regulated, up to 20 mA per channel  |
| Recovery:                                | Short circuit safe, recovers <1 msec  |
| ANTI-ALIAS FILTER                        |   |
| Fixed Low Pass:                          | 4-pole Butterworth, standard knee frequency at 20 kHz. -50 dB at 100k sps, -80 dB at 200k sps                               |
| Custom Options:                          | Contact DTS for other filter options or 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 sampling of all channels                  |
| Synchronization:                         | <10 µsec, via IEEE 1588 PTPv2 (channel-to-channel entire system)  |
| TRIGGERING                               |   |
| Hardware Trigger:                        | Contact closure & TTL logic-level (active low)  |
| Level Trigger:                           | Positive and/or negative level on any active sensor channel (first level crossing of any programmed sensor triggers system) |
| SOFTWARE                                 |   |
| Control:                                 | SLICEWare, DataPRO, API   |
| Operating Systems:                       | Windows® 7/8/10 (32- and 64-bit)  |
| Communication:                           | 100M bps Ethernet (unit-to-unit)  |
| CALIBRATION                              |   |
| Calibration Supplied:                    | NIST traceable  |
| ISO 17025:                               | ISO 17025 (A2LA Accredited)   |
| Service Options:                         | Standard, On-site & Service Contracts available   |
| ACCESSORIES                              |   |
| See website for full line of accessories |   |

## 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

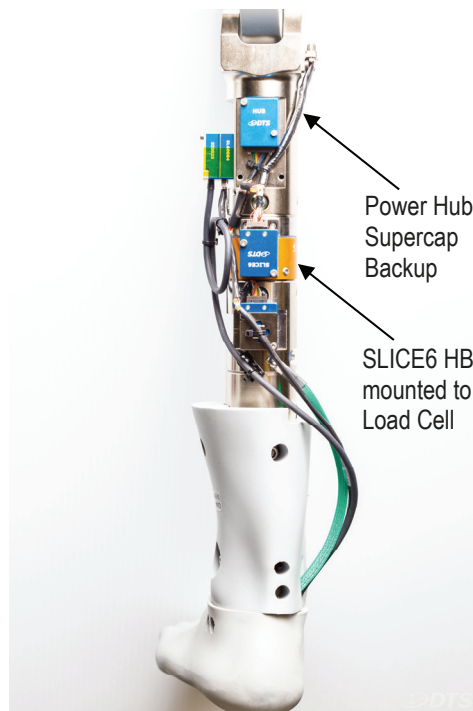
Seal Beach, California USA

## CONTACT US

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## ATD Integration

SLICE6 HB shown integrated into the WIAMan vertical load anthropomorphic test device (ATD)



WIAMan with 146 SLICE6 HB channels



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Specifications subject to change without notice.  
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