

APPLICATIONS

- Aerospace analysis
- Amusement ride testing
- Automotive safety
- Biomechanics
- Blast testing
- Helicopter & aircraft
- Impact testing
- Parachute deployment
- Package testing: truck, air, ship & rail
- Ride & handling
- Seismic measurements
- Sports & safety equipment
- Vibration testing

PRODUCTS

DTS offers a full line of data acquisition recorders and sensors for dynamic, high shock testing.

TSR

Shock Recorder with 3 Internal Sensors



The TSR (65 x 65 x 18 mm) features a triaxial accelerometer and the ability to record up to 20k samples per second per channel.

The TSR from DTS is a self-powered shock recorder with three internal accelerometers. High sampling rates, small size and rugged packaging make the TSR ideal for unattended monitoring of acceleration including vibration, blast, package testing and multi-event impacts.

Simple and reliable, the TSR is always on and ready to record for up to 24 months unattended. An advanced sleep mode wakes for an event trigger, collects data to flash memory and then automatically re-arms and returns to ready mode to capture the next event. A detailed time history for thousands of events can be stored in up to 1 GB of data memory.

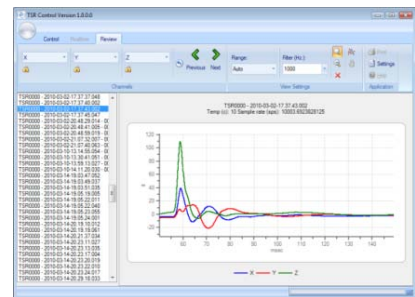
Available in 3 models: TSR, TSR PRO and TSR PRO-HB

Features

- Simple, easy-to-use software
- Compact size allows TSR to attach or discretely embed on or even in test article
- Memory: 1 GB Flash
Over 4 hrs of data storage time at maximum sampling rate
- Lithium battery options: USB rechargeable or non-rechargeable. Able to operate up to 24 months on Lithium primary battery.
- Standard sensor ranges from ± 50 to 2000 g
Special order option: 5000 g
Each model offers ranges to fit different testing needs.
- High sampling rate options. Able to record up to 20k samples per second per channel.
- Logs temperature and time stamp for each event.
Able to match up time sequence for event reporting.

Software

TSR Control software provides fast, easy-to-use tools for controlling the recorder and viewing the stored events. With a focus on speed and simplicity, TSR Control provides the tools to configure the recorder, view real-time sensor output and review your time-history data.



SERVICES

24/7 Worldwide Tech Support
 Calibration & Repair Services
 Application Support
 Software Integration
 OEM/Embedded Applications

OFFICES

Seal Beach, California USA
 Novi, Michigan USA
 Sydney, Australia
 Shanghai, China
 Zorge, Germany
 Tokyo, Japan

Specifications

MODEL:	TSR	TSR PRO	TSR PRO-HB
Internal Accelerometer	Piezo-Electric Triaxial (non-DC response)	MEMS Triaxial (DC response)	MEMS Triaxial (DC response)
Sensor Range Options	±100, 500, or 2000 g 5000 g option available	±50 or 250 g	±50 or 500 g
Frequency Response	1 to 4000 Hz 4-pole Butterworth	DC to 300 Hz 4-pole Butterworth SAE/ISO Class 180	DC to 1650 Hz 4-pole Butterworth SAE/ISO Class 1000
Sampling Rate	1 kHz – 20k samples per second per channel, 12-bit ADC	1 kHz – 10k samples per second per channel, 16-bit ADC	1 kHz – 10k samples per second per channel, 16-bit ADC
Battery Options	Lithium Rechargeable (900 mAh) Recording Mode >6 days Ready Mode >6 months Sleep Mode >12 months -or- Lithium Non-Rechargeable (2400 mAh) Recording Mode >12 days Ready Mode >12 months Sleep Mode >24 months	Lithium Rechargeable (900 mAh) Recording Mode >3 days Ready Mode >5 days Sleep Mode >12 months -or- Lithium Non-Rechargeable (2400 mAh) Recording Mode >6 days Ready Mode >10 days Sleep Mode >24 months	Lithium Rechargeable (900 mAh) Recording Mode >3 days Ready Mode >5 days Sleep Mode >12 months -or- Lithium Non-Rechargeable (2400 mAh) Recording Mode >6 days Ready Mode >10 days Sleep Mode >24 months

PHYSICAL	
Size:	65 x 65 x 18 mm (2.56 x 2.56 x 0.71")
Weight:	155 g (5.76 oz)
Model Options:	TSR, TSR PRO, TSR PRO-HB
ENVIRONMENTAL	
Operating Temp.:	0-60°C (32-140°F) Rechargeable 0-85°C (32-185°F) Non-Rechargeable
Shock:	2000 g (5000 g option available)
INPUT CHANNELS	
Number:	3 ch/module, internal triaxial accelerometer
Features:	Logs temperature and time stamp per event
DATA CONVERSION	
Sampling Rate:	20k samples/sec (maximum)
Memory Capacity:	1 GB flash
Sleep Mode:	Advanced motion detection for power savings
Ready Mode:	Data collection starts <20 µsec after trigger
Data Collection Modes:	
Recorder mode:	Start/stop or set specific timer duration
Circular Buffer mode:	Loops in memory waiting for trigger
Dynamic Level mode:	Starts/stops based on accelerometer

TRIGGERING	
Software Trigger:	Programmable level trigger
Hardware Trigger:	Voltage input Voltage or contact-closure output
Status:	Voltage or contact-closure output
POWER	
External:	External power input available 4 to 36 VDC
Internal Battery Options:	USB rechargeable lithium -or- non-rechargeable hi-temp lithium
SOFTWARE	
Control:	TSR Control
Operating Systems:	Windows® XP, Vista, 7
Communication:	USB



All models offer USB-rechargeable lithium battery or non-rechargeable battery options.

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Specifications subject to change without notice.