

APPLICATIONS

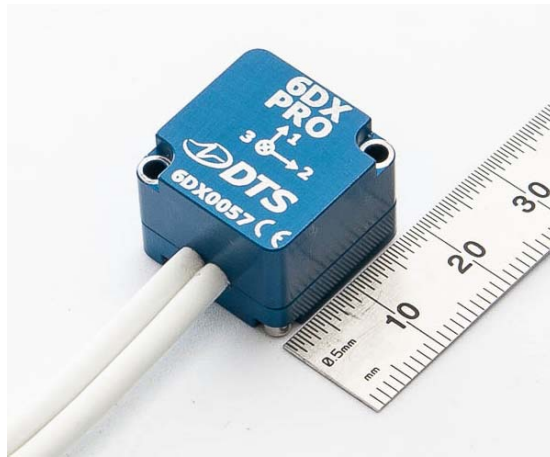
- Aerospace analysis
- Amusement ride testing
- Automotive safety
- Biomechanics
- Blast testing
- PMHS (cadaveric) testing
- Embedded monitoring
- Helicopter & aircraft
- Impact testing
- In-dummy
- Injury investigation
- Parachute deployment
- Package testing: truck, air, ship & rail
- Pedestrian head & leg form
- Ride & handling
- Sports & safety equipment
- Vibration testing

PRODUCTS

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

DTS 6DX PRO

World's Smallest, Rugged 6 Degrees-of-Freedom Sensor Package



Designed for applications measuring high rates of acceleration and angular velocity, the DTS 6DX PRO packages three accelerometers and three angular rate sensors in a compact 19 x 19 x 14.5 mm package.

Features

- Incredibly compact and lightweight
- Ideal for high acceleration and high angular rate measurements
- Available in several range options:

6DX PRO	ACCELEROMETER RANGES	ANGULAR RATE RANGES
2K-300	±2000 g, triax	±300 deg/sec, triax
2K-1500	±2000 g, triax	±1500 deg/sec, triax
2K-8K	±2000 g, triax	±8000 deg/sec, triax
2K-18K	±2000 g, triax	±18000 deg/sec, triax
20K-50K	±20000 g, triax	±50000 deg/sec, triax

- IP67 Rated: dust protection and water immersion
The sealed enclosure is also ideal for PMHS work
- Factory repair of sensor channels available
- DTS re-calibration services available, NIST traceable
- Complies with NHTSA, FAA, ISO 6487 and SAE J211 recommended practices

The DTS 6DX PRO features three linear accelerometers and three angular rate sensors conveniently packaged in a compact, high-shock enclosure.

Designed to meet the rigorous demands of dynamic test environments, the DTS 6DX PRO offers several range options. The 6DX PRO is ideal for in-manikin, PMHS, structural and blast testing applications.



Each sensor cable is 7 meters (23 feet) long and terminates to a single triaxial connector. Pigtail or adapter cables are available to support a variety of termination options.



Specifications

PHYSICAL	
Size:	19 x 19 x 14.5 mm (0.75 x 0.75 x 0.57")
Mass:	12 g (0.42 oz.) without cables
Enclosure:	Anodized aluminum
Mounting Holes:	Thru-holes for two 2-56 or M2 bolts

ENVIRONMENTAL	
Operating Temp.:	-40 to +85°C (-40 to +185°F)
Humidity:	99%, non-condensing, sealed
Shock:	2K-models: 10000 g, any direction 20K-50K: 20000 g, any direction
IP Rating:	IP67

SENSORS: ACCELEROMETER	
Range Options:	Triaxial, ±2000 or 20000 g
Bandwidth:	0-10000 Hz, DC response
Excitation Voltage:	2-10 V
Linearity:	<1% (typical)
Transverse Sensitivity:	±3% (max)
Current:	< 3 mA per axis
Packaging:	All axes intersect at one point
Sensor Type:	Full bridge piezo-resistive design
Nominal Sensitivity:	2000 g: 0.02 mV/V/g 20000 g: 0.001 mV/V/g

CONNECTORS	
Type:	Standard: two triax 16-pin Omnetics connectors with Dallas ID (23 ft). Optional: Adapter cable with pigtailed connectors of choice (2 ft).

CALIBRATION	
Acceleration:	NIST traceable shock, half-sine
Angular Rate:	NIST traceable rate table with stepper motor and encoder
Calibration:	Re-calibration services available

SENSORS: ANGULAR RATE	
Range Options:	Triaxial, ±300, 1500, 8K, 18K or 50K deg/sec
Bandwidth:	0-2000 Hz, DC response
Excitation Voltage:	4.9-14 V, not proportional to excitation
Linearity:	<1%
Transverse Sensitivity:	±5% (max)
Current:	6 mA nominal per axis
Full Scale Output:	±2 V nominal
Zero Output:	±200 mV

SERVICES

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

TECH CENTERS

Novi, Michigan USA
Sydney, Australia
Zorge, Germany
Tokyo, Japan

HEADQUARTERS

Seal Beach, California USA

CONTACT US

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REVISIONS			
REV	DESCRIPTION	DATE	APPR
1	ADDED DRAWING NUMBER	11/7/12	GN

WIRE COLOR & PIN ASSIGNMENTS

AXIS	FUNCTION	COLOR	PIN
1	+EXCITATION	RED	6
	-EXCITATION	BLACK (1)	7
	+SIGNAL	GREEN	1
	-SIGNAL	WHITE	5
	+ID		2
2	+EXCITATION	BROWN	8
	-EXCITATION	BLACK (2)	13
	+SIGNAL	BLUE	4
	-SIGNAL	YELLOW	3
	+ID		9
3	+EXCITATION	ORANGE	11
	-EXCITATION	BLACK (3)	12
	+SIGNAL	GRAY	10
	-SIGNAL	PURPLE	14
	+ID		15
ALL	-ID / SHIELD	SHIELD	16

NOTE: SEE MANUAL FOR INSTRUCTIONS TO DIFFERENTIATE THE 3 BLACK WIRES

**MOUNT USING 2-56 x 5/8" OR M2 x 16MM SCREWS
TORQUE TO 2.5 IN-LB CLEAN AND DRY**

UNLESS OTHERWISE SPECIFIED DIMENSION ARE IN INCHES TOLERANCES ARE:			
FRACTIONS: 8 1/64	DECIMALS: X .1 1/100		
DO NOT SCALE DRAWING		NAME/DESC: 6DX PRO, MOUNTING DRAWING	
MATERIAL: 6061-T6 ALUMINUM CASE	DRAWING NO: 13000-51000-TCN	REV: 1	SHEET 1 OF 1
DRAWN BY: G NEWTON	DATE: 11/6/2012	SCALE: 2:1	SCALE: 2:1



Specifications subject to change without notice.
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