

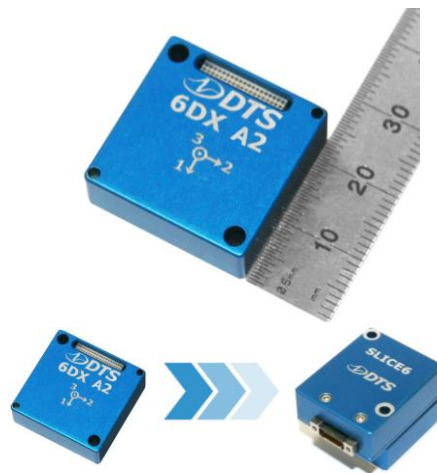
**New & Improved  
for Global NCAP**  
★Low Noise & Drift  
★High Level Output

## 6DX A2

Rugged, 6 Degrees of Freedom Sensor Package  
Direct-mount to SLICE6 or Standard Cable Solutions

### 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



The miniature 6DX A2 measures high rates of acceleration and angular velocity and is designed for test articles with tight space constraints. The 6DX A2 mounts directly to the DTS SLICE6 data acquisition system via a built-in Nano-Strip connector which eliminates all sensor cabling.

### Features

- Ultra-compact and lightweight
- Ideal for high acceleration and high angular rate measurements, as well as transit vibration and NVH
- NIST traceable, ISO 17025 accredited re-calibration services available
- Complies with NHTSA, FAA, ISO 6487 and SAE J211 recommended practices
- Available in multiple range options

The 6DX A2 is the newest 6DOF sensor package from DTS featuring three linear accelerometers and three angular rate sensors in a rugged, ultra-small enclosure. The 6DX A2 supports a wide range of excitation voltages and delivers high level outputs with lower noise and drift. The 6DX A2 is designed to mount directly to the compact SLICE6 data acquisition system, completely eliminating sensor cabling. Using a cable adapter, the 6DX A2 can also be used with other data acquisition systems.

The 6DX A2 sensor is ideal for injury biomechanics, transit vibration testing, vehicle NVH and multi-axis vibration testing without the need for accelerometer arrays.



The 6DX A2 is ideal for Six Degrees of Freedom (6DOF) measurements in all Global NCAP ATDs, head and leg forms, as well as many other applications.

### PRODUCTS

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

6DX A2 Part No.	Model	Triaxial Accelerometer Ranges	Triaxial Angular Rate Ranges (Bandwidth)	Common Application
13001-50090	500-8K-600	±500 g	±8000 deg/sec (600 Hz)	ATD
13001-50080	500-8K-2K	±500 g	±8000 deg/sec (2 KHz)	ATD
13001-50070	500-18K-2K	±500 g	±18000 deg/sec (2 KHz)	ATD

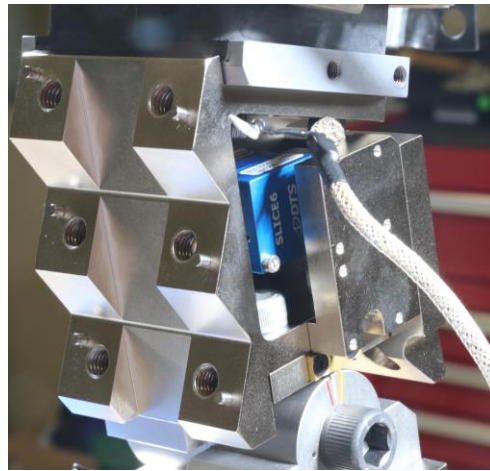
## Specifications

PHYSICAL	
Size:	24 x 24 x 9.5 mm (0.98 x 0.98 x 0.39")
Mass:	14 g (0.42 oz.) without cables
Enclosure:	Anodized aluminum
Mounting Holes:	Thru-holes for two M2.5 bolts
ENVIRONMENTAL	
Operating Temp.:	-40 to +85°C (-40 to +185°F)
Humidity:	99%, non-condensing
Shock:	2000 g, any direction
IP Rating:	IP51
SENSORS: ACCELEROMETER	
Range:	Triaxial, ±500 g
Bandwidth:	0-5000 Hz, DC response
Excitation Voltage:	4.9-14 V, not proportional to excitation
Linearity - % FS:	< 1%
Transverse Sensitivity:	±3% (max)
Current:	2 mA nominal per axis
Packaging:	All axes intersect at one point
Nominal Sensitivity:	4 mV/g
Zero Output:	±200 mV

CONNECTORS	
Direct Connect:	36 pin Nano-Strip, connects directly to SLICE6
Cable Adapter:	Standard: Adapter with cable splitter to six individual pigtails (3m) Optional: Adapter with cable splitter to six connectors of choice (3m or 50cm)
CALIBRATION – ISO 17025 ACCREDITED	
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, ±8K, 18K deg/sec
Bandwidth:	0-600 Hz or 0-2 KHz, DC response
Excitation Voltage:	4.9-14 V, not proportional to excitation
Linearity - % FS:	< 1%
Transverse Sensitivity:	±5% (max)
Current:	4 mA nominal per axis
Full Scale Output:	±2 V nominal
Zero Output:	±200 mV

## SERVICES

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



Rugged and ultra-small, the 6DX A2 is designed to embed directly on or in the test article.



The 6DX A2 is ideal for dynamic applications with tight space constraints that require precision measurements.

## WORLDWIDE SUPPORT

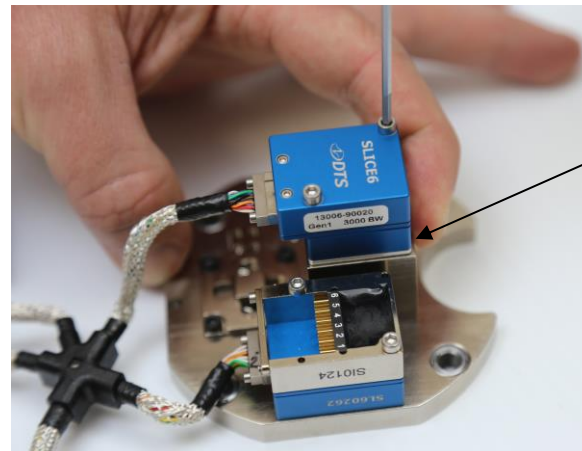
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DTS Technical Centers  
Global Sales Partners

## HEADQUARTERS

Seal Beach, California USA

## CONTACT US

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Web: www.dtsweb.com



Shown as part of a THOR in-dummy DAS integration, the 6DX A2 mounts directly to the SLICE6 data acquisition for a cable-free solution.

SLICE6 reduces in-dummy cabling and connectors by up to 75%.



Specifications subject to change without notice.  
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## APPLICATIONS

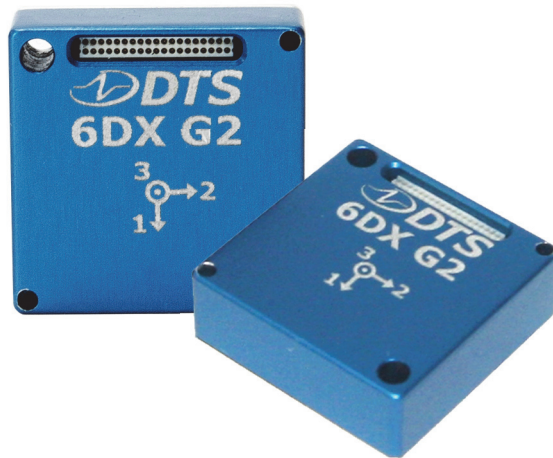
- Aerospace analysis
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## PRODUCTS

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

## 6DX G2

### Rugged, 6 Degrees-of-Freedom Sensor Package Direct-Mounts to SLICE6, Cable-Free



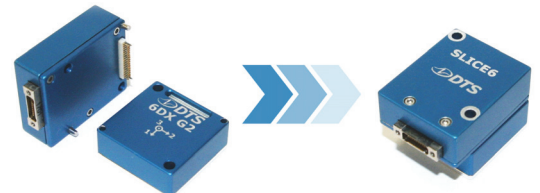
Designed as part of the DTS SLICE6 data acquisition system, the miniature 6DX G2 sensor package measures high rates of acceleration and angular velocity. Ideal for applications with limited space, the direct-mount 6DX G2 can be daisy-chained for high channel count tests.

## Features

- Ultra-compact and lightweight
- Ideal for high acceleration and high angular rate measurements
- DTS re-calibration services available, NIST traceable
- Complies with NHTSA, FAA, ISO 6487 and SAE J211 recommended practices
- Available in multiple range options:

6DX PRO	Triaxial Accelerometer Ranges	Triaxial Angular Rate Ranges	Common Application
2K-300	±2000 g	±300 deg/sec	Vehicle
2K-1500	±2000 g	±1500 deg/sec	Vehicle
2K-8K	±2000 g	±8000 deg/sec	ATD
2K-18K	±2000 g	±18000 deg/sec	ATD

The 6DX G2 features three linear accelerometers and three angular rate sensors conveniently packaged in a compact, high-shock enclosure. Designed for dynamic testing with tight space constraints, the 6DX G2 sensor mounts directly to the compact SLICE6 data acquisition system (DAS), completely eliminating sensor cabling. Originally developed as part of the in-dummy DAS solution for the U.S. Army WIAMan underbody blast manikin, the 6DX G2 is also ideal for PMHS testing, structural and blast testing, as well as other ATDs including THOR.



A built-in Nano-Strip connector on the SLICE6 data acquisition module features six sensor inputs which directly connect the SLICE6 DAS to the 6DX G2 sensor, eliminating all sensor cabling.



# Specifications

PHYSICAL	
Size:	24 x 24 x 9.5 mm (0.98 x 0.98 x 0.39")
Mass:	14 g (0.42 oz.) without cables
Enclosure:	Anodized aluminum
Mounting Holes:	Thru-holes for two M2.5 bolts
ENVIRONMENTAL	
Operating Temp.:	-40 to +85°C (-40 to +185°F)
Humidity:	99%, non-condensing, sealed
Shock:	2000 g, any direction
IP Rating:	IP51
SENSORS: ACCELEROMETER	
Range Options:	Triaxial, ±2000 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

CONNECTORS	
Type:	36 pin Nano-Strip. Connects directly to SLICE6.
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 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  
 On-site Calibration & Training  
 Application Support  
 Software Integration  
 OEM/Embedded Applications

## WORLDWIDE SUPPORT

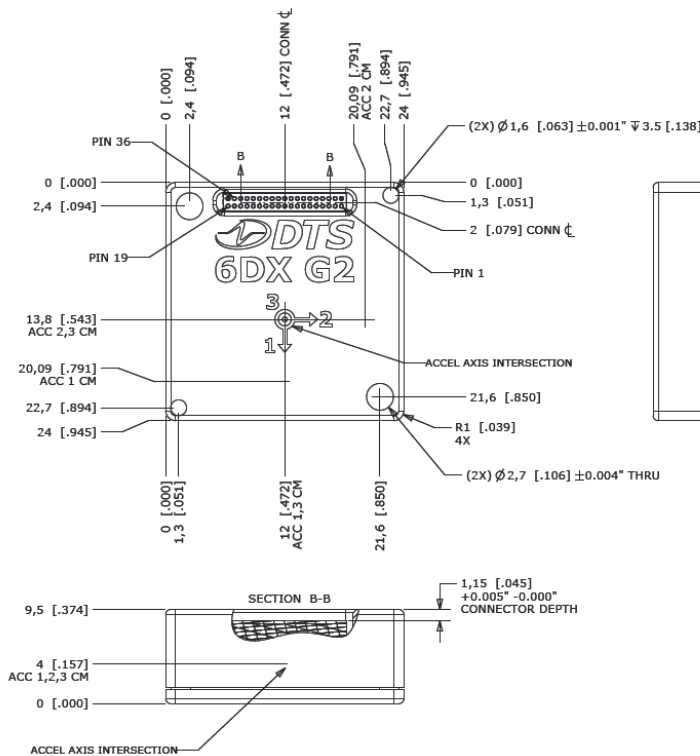
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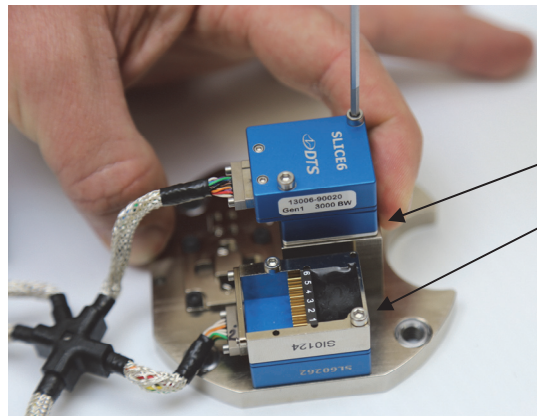


### PIN ASSIGNMENTS

Pin	Signal
1	+EXCIT-ARS-1
2	+SIG-ARS-1
3	+SIG-ARS-1
4	-SIG-ARS-1
5	-SIG-ARS-1
6	+EXCIT-ACCEL-1
7	+SIG-ACCEL-1
8	-SIG-ACCEL-1
9	-SIG-ACCEL-1
10	+ID-ARS-1
11	-ID-ARS-1,2,3
12	+ID-ACCEL-1
13	-ID-ACCEL-1,2,3
14	+EXCIT-ARS-2
15	+SIG-ARS-2
16	-SIG-ARS-2
17	-SIG-ARS-2
18	+EXCIT-ACCEL-2
19	-
20	+SIG-ACCEL-2
21	-SIG-ACCEL-2
22	-EXCIT-ACCEL-2
23	+ID-ARS-2
24	+ID-ACCEL-2
25	+EXCIT-ARS-3
26	+SIG-ARS-3
27	-SIG-ARS-3
28	-SIG-ARS-3
29	+EXCIT-ACCEL-3
30	+SIG-ACCEL-3
31	-SIG-ACCEL-3
32	-EXCIT-ACCEL-3
33	+ID-ARS-3
34	+ID-ACCEL-3
35	TEMP-10C
36	Earth (GND)

### NOTES:

1. ACC CM = INDIVIDUAL ACCELEROMETER AXIS CENTER OF MASS
2. 6DXG2 MASS CG IS CENTER OF VOLUME
3. MOUNT USING (2X) M2.5 SCREWS
4. TORQUE TO 1.2 N-M CLEAN AND DRY
5. CONNECTOR: OMNETICS P/N A79046-001
6. MASS: 14 GRAMS ± 3 GRAMS



6DX G2 mounted directly to the SLICE6 DAS, shown as part of the THOR in-dummy DAS solution, along with the SLICE6 Sensor Interface Module for cabled sensors.

SLICE6 reduces in-dummy cabling and connectors by up to 75%.



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