

NEW!

ARS3 PRO

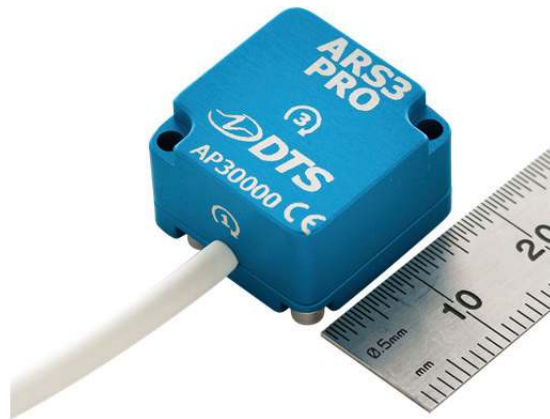
High Performance, Triaxial Angular Rate Sensor

APPLICATIONS

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

PRODUCTS

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



Low mass and lightweight, the 3-axis ARS3 PRO is the highest shock and vibration tolerant angular rate sensor available for dynamic testing.



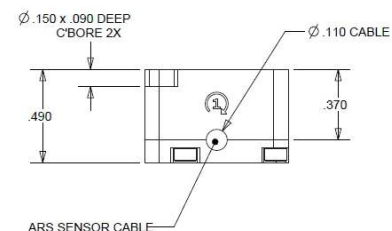
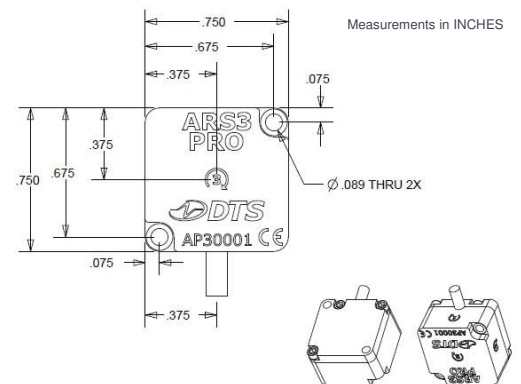
Package size:
0.75 x 0.75 x 0.49"
(19 x 19 x 12.5 mm)

Features

- Ultra-small, low mass 3-axis package
- Reliable; accurate in high shock and vibration environments
- Standard range options: ± 300 , 1500, 8k, 18k, 50k deg/sec
Multiple bandwidth options available; DC response
- 5.0–14.0 VDC excitation
- Shunt check; 3000 Ω equivalent bridge resistance
- Dallas ID standard, user-specified connector options
- IP67 rated for dust protection and immersion in water. The sealed enclosure is also ideal for PMHS work.
- Factory repair of channels available
- ISO 17025 (A2LA Accredited) calibration services available, NIST traceable
- Meets latest US Government dynamic performance requirements

The ARS3 PRO is an ultra-small, triaxial gyroscope designed to accurately measure high rates of angular velocity even in excessive shock and vibration environments. Packaged in a rugged aluminum enclosure, the ARS3 PRO is the smallest, high-rate angular rate sensor available with 3 separate sensing elements oriented in the X, Y and Z planes for full pitch, roll and yaw measurements.

Unparalleled performance and reliability make the ARS3 PRO the sensor of choice worldwide for automotive safety crash testing, aerospace, in-dummy instrumentation, biomechanics and blast testing.



Only need a single axis?
Check out the DTS ARS PRO

Need 6 degrees of freedom?
DTS 6DX PRO is the smallest,
most reliable sensor available
for high shock environments



SERVICES

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

WORLDWIDE SUPPORT

HELP CENTER (24/7/365 Access)
DTS Technical Centers
Global Sales Partners

HEADQUARTERS

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Specifications

MODEL	RANGE	BANDWIDTH	NOISE	APPLICATION NOTES
ARS3 PRO-300	±300 deg/sec range 5.2 rad/sec	0-300 Hz	<0.6% of full scale over rated bandwidth	<ul style="list-style-type: none"> Lower rate dynamic measurements Vehicle handling, NVH SAE J211/ISO 6487 CFC 180 measurements
		0-2000 Hz		<ul style="list-style-type: none"> Low rate measurements requiring higher bandwidth
ARS3 PRO-1500	±1500 deg/sec range 26.2 rad/sec	0-2000 Hz	<0.15% of full scale over rated bandwidth	<ul style="list-style-type: none"> Medium range dynamic measurements NHTSA-specified for FMVSS 202a rear impact test SAE J211/ISO 6487 CFC 1000 measurements
		0-600 Hz	<0.15% of full scale over rated bandwidth	<ul style="list-style-type: none"> High rate dynamic studies Whole body motion during impact Vehicle crash, sled testing SAE J211/ISO 6487 CFC 180 measurements
ARS3 PRO-8K	±8000 deg/sec range 139.6 rad/sec	0-600 Hz	<0.20% of full scale over rated bandwidth	<ul style="list-style-type: none"> High rate measurements requiring higher bandwidth
		0-2000 Hz	<0.30% of full scale over rated bandwidth	<ul style="list-style-type: none"> High range measurements and highest bandwidth Test dummies, headform impacts SAE J211/ISO 6487 CFC 1000 measurements
		0-2000 Hz	<0.35% of full scale over rated bandwidth	<ul style="list-style-type: none"> High rate dynamic measurements Biomechanics tests requiring high rate measurements SAE J211/ISO 6487 CFC 1000 measurements
ARS3 PRO-18K	±18000 deg/sec range 314.2 rad/sec	0-2000 Hz	<0.35% of full scale over rated bandwidth	<ul style="list-style-type: none"> High rate dynamic measurements Biomechanics tests requiring high rate measurements SAE J211/ISO 6487 CFC 1000 measurements
MODEL	RANGE	BANDWIDTH*	NOISE	APPLICATION NOTES
ARS3 PRO-50k	±50000 deg/sec range 872.7 rad/sec	0-2000 Hz	<0.15% of full scale over rated bandwidth	<ul style="list-style-type: none"> Extreme environments, heavy-duty mounting SAE J211/ISO 6487 CFC 1000 measurements

CFC = Channel Frequency Class

PHYSICAL

Dimensions: 19 x 19 x 12.5 mm (0.75 x 0.75 x 0.49")
Enclosure: Anodized aluminum
Weight: 10 g (0.35 oz)

ENVIRONMENTAL

Operating Temp.: -40 to +85°C (-40 to +185°F)
Acceleration: 10000 g, 0.5 ms (survival only)
IP Rating: IP67, short-term immersion OK

ELECTRICAL

Excitation: 5.0-14.0 VDC
Output not proportional to excitation
Current: 4 mA nominal per axis
Signal Voltages: Centered 2.4 V above -Excitation
Zero Output: ±200 mV
Full Scale Output: ±2 V nominal
Shunt Check: 3000 Ω equivalent bridge resistance

PERFORMANCE

Cross Axis Sensitivity: <1.0%
Non-Linearity: <0.5% full scale
Influence of Linear
Acceleration: <0.1 deg/sec/g typical
Thermal Drift: -40 to +85C
Zero: ±1 deg/sec (±5 deg/sec for 18k & 50k)
Sensitivity: ±2% (±5% for 1500 & 8k)

CALIBRATION

Calibration Supplied: NIST traceable
ISO 17025: ISO 17025 (A2LA Accredited) available
Service Options: Factory or on-site, Service Contracts available

CONNECTORS

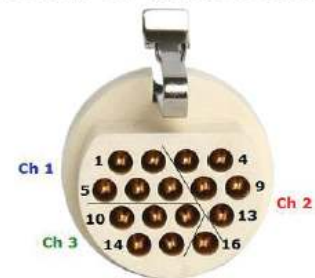
Type: Standard: one triax 16-pin Omnetics connector with Dallas ID (23 ft). Optional: Adapter cable with pigtailed or connectors of choice (2 ft).

OPTIONAL ACCESSORIES

Adaptor Cables: A triaxial cable assembly with a variety of connector options is available to connect the ARS3 PRO to DTS and other DAS solutions



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



Specifications subject to change without notice.
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