

# ARS

## High Performance 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
- Ride & handling
- Sports & safety equipment

### PRODUCTS

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



Small and lightweight, the single axis ARS is only 7.6. x 10.2 x 14.0 mm. The optional DTS mounting block easily creates a triax package.

### Features

- Ultra small and lightweight single axis package
- Standard range options: 300, 1500, 8000 and 12000 deg/sec  
Special order options: up to 50k deg/sec
- Standard frequency response options: 0 to 1650 Hz (DC response)
- High shock resistance: 2000 g
- Flexible mounting options available for triax and six degree of freedom packages
- Optional Dallas ID and/or user-specified connector
- Re-calibration services available, NIST traceable
- Rated for IP67—dust protection and immersion in water

The ARS angular rate sensor (gyro) is another intelligent design from DTS. These incredibly small and lightweight sensors are available in multiple range and bandwidth options—making the ARS ideal for a variety of testing requirements. The ARS come in standard range options up to 12000 deg/sec and 1650 Hz bandwidth with true DC response. Special order options with ranges up to 50k deg/sec are also available.

High shock rating and flexible packaging options make the ARS the sensor of choice for automotive, aerospace and industrial testing applications worldwide.

A six degree of freedom package can also be created by mounting three Endevco 7264 or MSI 64 accelerometers on the triax block.



Advanced Measurement Solutions  
[www.dtsweb.com](http://www.dtsweb.com)

## 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	RANGE*	BANDWIDTH**	NOISE	APPLICATIONS
ARS-300	±300 deg/sec range 5.2 rad/sec	0-100 Hz, DC Response	<0.15% RMS full scale	Ideal for non-impact testing such as vehicle handling & braking
ARS-1500	±1500 deg/sec range 26.2 rad/sec	0-1000 Hz, DC Response	<0.15% RMS full scale	Meets requirements for FMVSS 202a—rear impact test standard
ARS-8K	±8000 deg/sec range 139.6 rad/sec	0-300 Hz, DC Response 0-600 Hz option available	<0.15% RMS full scale	Ideal for vehicle body measurements in impact & rollover testing
ARS-12K	±12000 deg/sec range 209.4 rad/sec	0-1650 Hz, DC Response	<0.25% RMS full scale	Designed for high rate dummy impact & vehicle component testing
	* Optional ranges up to 50K deg/sec available. Additional lead time.	**Indicates flat response in this frequency range. Other bandwidths available. Additional lead time.		

PHYSICAL	
Size:	7.6 x 10.2 x 14.7 mm (0.3 x 0.4 x 0.58")
Weight:	<3 g (<0.105 oz)
Enclosure:	Anodized aluminum
Triax Block Weight:	9.8 g (.346 oz)

ENVIRONMENTAL	
Operating Temp.:	-40 to +85°C (-40 to +185°F)
Humidity:	99%, non-condensing
Shock:	2000 g, any direction

CABLE	
Type:	Four conductor, 30 AWG Overall shield isolated from enclosure
Length:	25 ft (8.3 m) standard
Termination:	Pigtail termination standard
Color Code:	
Black:	-Excitation
Red:	+Excitation
Green:	+Signal
White:	-Signal

CONNECTORS	
Type:	LEMO typical, options available on request
Dallas ID:	Installed in connector
Options:	
C:	Add connector
CID:	Add connector and Dallas ID

ELECTRICAL	
Excitation:	4.95-14.00 VDC Output not proportional to excitation
Current:	6 mA nominal
Zero Output:	±200 mV
Full Scale Output:	±2 V nominal

PERFORMANCE	
Cross Axis Sensitivity:	<1.0%
Linearity:	<0.5% full scale
Influence of Linear Acceleration:	0.2 deg/sec/g
Drift:	0.1 deg/sec/sec



DC response is a key feature that has made the ARS a favorite for test professionals around the world.

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Specifications subject to change without notice.