

# DTS 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



Small and lightweight, the DTS ARS is high shock rated and available in a variety of sensor ranges and bandwidths. An optional DTS mounting block easily creates a triax package.

The DTS ARS is another intelligent design from DTS. These incredibly small and lightweight angular rate sensors are available in multiple range and bandwidth options. The next-generation DTS ARS HG features a  $\pm 50k$  deg/sec range and reinforced mounting points designed to withstand extreme high impact test environments. High shock rating and flexible packaging options make the DTS ARS the sensor of choice for automotive, aerospace, biomechanics and blast testing applications worldwide.

Available in 3 models: ARS, ARS PRO and ARS HG

### Features

- Ultra-small and lightweight single-axis package
- Standard range options:  $\pm 300$ , 1500, 8k, 12k, 18k, 50k deg/sec  
Variety of bandwidth options, all with DC response
- High shock resistance
- Optional Dallas ID and/or user-specified connector
- ISO 17025 (A2LA Accredited) calibration services available, NIST traceable
- Rated for IP67—dust protection and immersion in water



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




### PRODUCTS

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



Advanced Measurement Solutions  
www.dtsweb.com

## Specifications

DTS ARS	MODEL	RANGE	BANDWIDTH*	NOISE	APPLICATIONS
 Actual size	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 <u>or</u> 0-600 Hz DC Response	<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
DTS ARS PRO	MODEL	RANGE	BANDWIDTH*	NOISE	APPLICATIONS
 Actual size	ARS PRO-18K	±18000 deg/sec range 314.2 rad/sec	0-300 Hz <u>or</u> 0-2000 Hz DC Response	1.5 deg/sec/√Hz	Improved accuracy in high shock impact environments
DTS ARS HG	MODEL	RANGE	BANDWIDTH*	NOISE	APPLICATIONS
 Actual size	ARS HG-50K	±50000 deg/sec range 872.7 rad/sec	0-2000 Hz DC Response	1.5 deg/sec/√Hz	Features reinforced mounting points to withstand high impact environments like blast testing

\*Indicates flat response in this frequency range. Other bandwidths available—additional lead time required.

PHYSICAL	
ARS/ARS PRO Size:	7.6 x 10.2 x 14.6 mm (0.3 x 0.4 x 0.6")
Weight:	-3 g (0.11 oz)
ARS HG Size:	7.6 x 16.5 x 14.6 mm (0.3 x 0.7 x 0.6")
Weight:	-3.5 g (0.12 oz)
Enclosure:	Anodized aluminum
Triax Block Weight:	-9.8 g (0.346 oz)
ENVIRONMENTAL	
Operating Temp.:	-40 to +85°C (-40 to +185°F)
Humidity:	99% RH non-condensing
ARS/ARS PRO Shock:	2000 g, any direction
ARS HG Shock:	10000 g, any direction
IP Rating:	IP67
CONNECTORS	
Type:	LEMO typical, options available on request
Dallas ID:	Installed in connector
Options:	
C:	Add connector
CID:	Add connector and Dallas ID

CABLE	
Type:	Four conductor, 30 AWG Overall shield isolated from enclosure
Length:	25 ft (7.6 m) standard
Termination:	Pigtail termination standard
Color Code:	
Black:	-Excitation
Red:	+Excitation
Green:	+Signal
White:	-Signal
ELECTRICAL	
Excitation:	4.9-14.0 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

Authorized DTS Representative:

## SERVICES

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

## TECH CENTERS

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



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Specifications subject to change without notice.