



# 11206AC Angular Rate Sensor

## SPECIFICATIONS

- Rugged Uniaxial Angular Rate Gyro
- Silicon MEMS Gyro, DC Response
- $\pm 50^\circ/\text{sec}$  to  $\pm 180^\circ/\text{sec}$  Range
- Interchangeable Sensors, Identical Calibrations
- $\pm 0.5\%$  Typical Accuracy from  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$
- 8.5 to 36Vdc Excitation Voltage

## FEATURES AND BENEFITS

### IdentiCal™ Interchangeable Sensor

IdentiCal™ Interchangeable Sensors eliminate the management of calibration data and allow convenient Interchangeability of individual sensors. With standardized sensitivity and offset, there is no need to enter new parameters for each unit. Perfect for high volume use.

### Rugged for Harsh Environment

The 11206AC is robust to perform well in harsh environments. The 6061-T6 case with electroless nickel finish plus a PTFE cable with a shield bonded to the case provide improved resistance to EMI, lightning, or other disturbances.

### High Accuracy and Linearity over Wide Temperature Range

The output of the 11206AC is directly proportional to the rotational rate about its axis. The DC-coupled output is fully scaled, referenced, and temperature compensated. When used in demanding temperature environments, gain compensation makes the 11206AC one of the most accurate angular rate gyros available.

The TE Connectivity model 11206AC Angular Rate Sensor is a rugged uniaxial analog gyroscope capable of accurately measuring angular rate under severe environmental conditions. The sensor is packaged in a tough, compact housing with fully encapsulated and protected electronics and a shielded 22 AWG cable. Its cubical form allows mounting with the sensing axis oriented in any direction.

The model 11206AC Gyroscope Sensor provides enhanced accuracy and durability features to meet the challenges of harsh installations. In addition to its robust construction, increased precision is achieved through enhanced offset and gain compensation over full operating temperature range

Each angular rate sensor has been accurately tested and compensated over the full  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$  temperature range and has a nominal full scale output swing of  $\pm 2.25\text{V}$ . The zero rate output level is nominally +2.5 Volts.

## PERFORMANCE SPECIFICATIONS

All values are typical at +24°C and 8.5Vdc excitation for L000 option or 12Vdc excitation for L001 option unless otherwise stated.  
TE Connectivity reserves the right to update and change these specifications without notice.

## Parameters

**DYNAMIC**

Dash Number	-R050	-R180
Range (deg/sec)	±50	±180
Sensitivity (mV/deg/sec)	25.0 ±1%	10.0 ±1%
Frequency Response (Hz)	0-50	0-50
Non-Linearity (%FSO)	±0.1	±0.1
Alignment (deg)	±1.5	±1.5
Influence of Linear Acceleration (°/sec/g)	0.2	0.2
Shock Limit (g)	±1500	±1500
Noise Density (°/sec/√Hz)	0.05	0.05

**Notes**

See Ordering Info

IdentiCal, see note 1 below  
Upper cutoff -3dB  
BFSL  
Deviation from ideal axes  
Affects offset  
0.5msec pulse

**ELECTRICAL**

Zero Acceleration Output (V)	2.50 ±0.10
Excitation Voltage (Vdc)	8.5 to 36 for L000 option 12 to 36 for L001 option
Excitation Current (mA)	10
Rejection Ratio (dB)	>120
Full Scale Output Voltage (Vpk)	0.25 to 4.75
Insulation Resistance (MΩ)	>100
Output Impedance (Ω)	100
Turn On Time (msec)	<100
Ground Isolation	Isolated from Mounting Surface

No load, quiescent  
DC  
I<sub>out</sub> = 1mA, cap load <1000pF  
@100Vdc

**ENVIRONMENTAL**

Thermal Zero Shift (°/sec)	±3.0 typical (±6.0 max)	-40 to +85°C
Thermal Sensitivity Shift (%)	±1.0	-40 to +85°C
Operating Temperature (°C)	-40 to +85	
Humidity (Active Element & Electronics)	Hermetically Solder Seal	
Humidity (Housing)	Epoxy Sealed, IP65	
Electromagnetic Compatibility	EN 61000-6-2: Immunity for Industrial Environments EN 61000-6-4: Emission Standard for Industrial Environments	

**PHYSICAL**

Case Material	Electroless Nickel Plated 6061-T6 Aluminum
Cable	4x, #22 AWG Conductors, PTFE Insulated, Tin Plated Shield, PTFE Jacket
Weight (cable not included)	38 grams
Mounting	2x M3-0.5 Machine Screws
Mounting Torque	5 lbf-in (0.56 N-m)

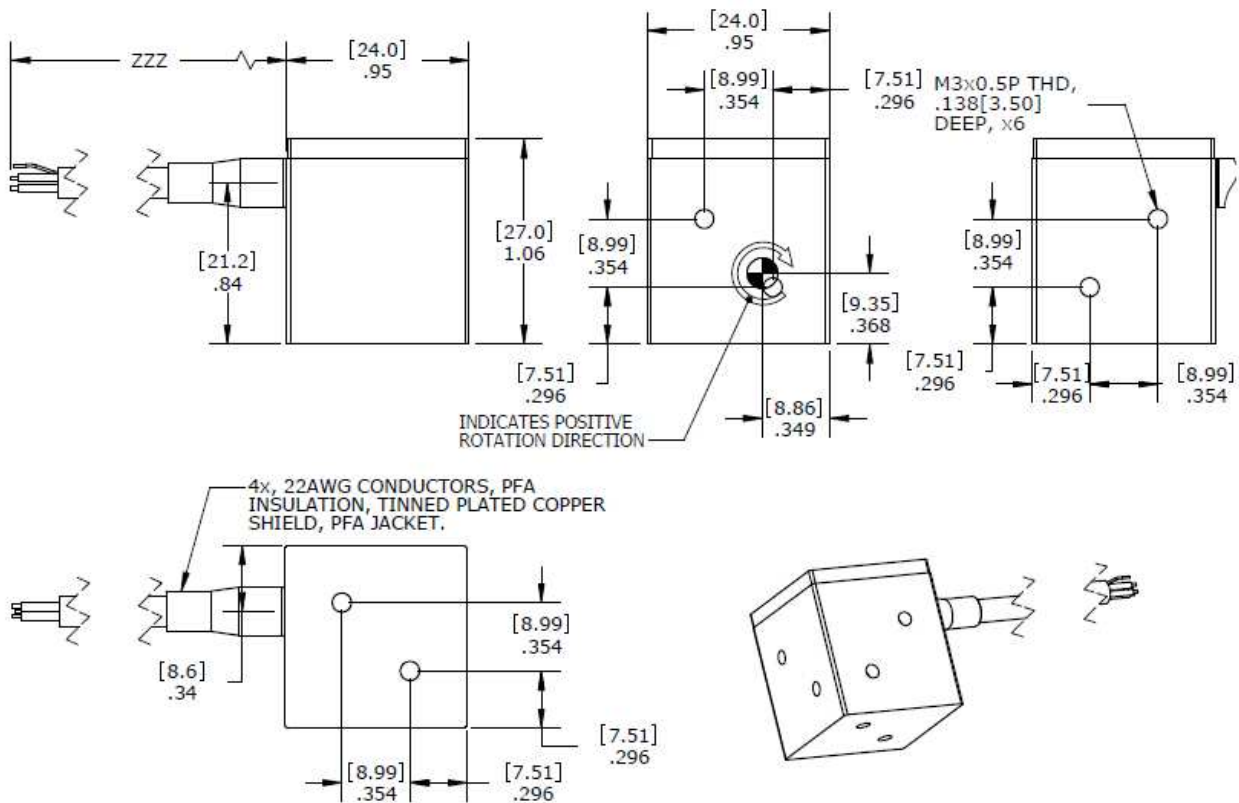
Note 1 IdentiCal are interchangeable, all units have same range and sensitivity



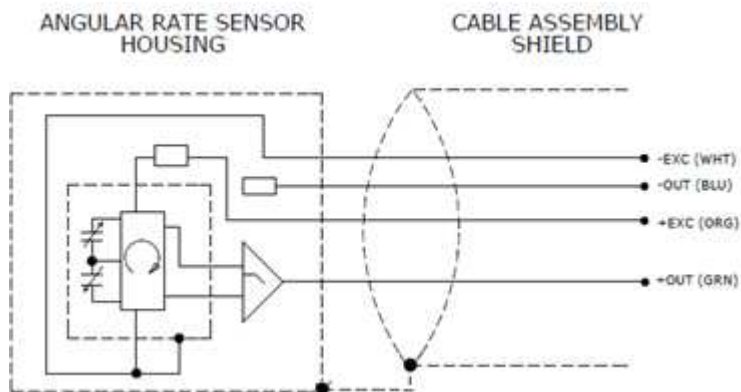
<b>Calibration supplied:</b>	CS-ARLIN	NIST Traceable Calibration with Sensitivity and Offset
<b>Optional accessories:</b>	34170B	Adaptor Plate for Flange Mounting

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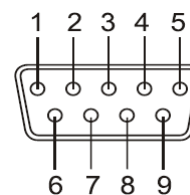
## DIMENSIONS



## SCHEMATIC



### Option D: DB9 Male Connector



Pin 1: +OUTPUT SIGNAL

Pin 2: -OUTPUT SIGNAL

Pin 3: NOT USED

Pin 4: NOT USED

Pin 5: NOT USED

Pin 6: NOT USED

Pin 7: NOT USED

Pin 8: +EXCITATION VOLTAGE

Pin 9: -EXCITATION VOLTAGE (GND)

### ORDERING INFORMATION

11206AC	RXXX	BYYY	TZZA	L000
<b>Range</b> R050 = $\pm 50$ deg/sec R180 = $\pm 180$ deg/sec				
<b>Bandwidth</b> B050 = 0 to 50Hz (standard option) BYYY = Contact factory for wider bandwidth option				
<b>Cable Length</b> T004 = 4ft cable (standard option) TZZZ = Contact factory for custom length (ZZZ in feet)				
<b>Cable Termination</b> A = None, flying leads D = 9-pin DB9 male connector				
<b>Dielectric Rating</b> L000 = 2kV fast transient (standard option) L001 = 4kV fast transient				

Example; 11206AC-R180-B050-T004A-L000

Model 11206AC,  $\pm 180$ deg/sec range, 0-50Hz bandwidth, 4ft cable length, flying leads, 2kV dielectric rating

神州融安科技（北京）有限公司

电话：010-62127688、82057633

地址：北京市海淀区花园路2号牡丹科技楼B座三层B308室

网址：www.ronganchina.cn

#### NORTH AMERICA

Measurement Specialties, Inc.,  
a TE Connectivity Company  
Phone +1-800-522-6752  
Email: [customercare.akrn@te.com](mailto:customercare.akrn@te.com)

#### EUROPE

MEAS France SAS  
a TE Connectivity Company  
Phone: +49-800-440-5100  
Email: [customercare.tlse@te.com](mailto:customercare.tlse@te.com)

#### ASIA

Measurement Specialties (China), Ltd.,  
a TE Connectivity Company  
Phone: +86-400-820-6015  
Email: [customercare.shzn@te.com](mailto:customercare.shzn@te.com)

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