

TRI-AXIS MEMS GYROSCOPE

VOLTAGE OUTPUT



These sensors provide three axes angular rate measurements in a single robust package. The sensors filter the data and output the measurement via three linear 0-5 volt outputs.

These units have been designed to provide high performance operation results under harsh operating conditions. There are three main models available:

1. 1 metre flying lead cable
2. 6 pin Deutsch Connector
3. 9 pin Deutsch Connector (with internal PT1000)

Electrical

Supply Voltage: 8-16VDC
Supply Current: 25mA Max.

Measurement Specifications

Angular Rate: $\pm 75^\circ/\text{s}$, $\pm 150^\circ/\text{s}$, $\pm 300^\circ/\text{s}$,
Range*: $\pm 900^\circ/\text{s}$
Output Sensitivity: $\pm 75^\circ/\text{s} = 0.041^\circ/\text{s}$
 $\pm 150^\circ/\text{s} = 0.083^\circ/\text{s}$
 $\pm 300^\circ/\text{s} = 0.167^\circ/\text{s}$
 $\pm 900^\circ/\text{s} = 0.500^\circ/\text{s}$
Bandwidth: 60Hz
Bias over temp.: $\pm 3^\circ/\text{s}$
Scale factor over temp.: $\pm 1.5\%$
Angular Random Walk: $0.28^\circ/\sqrt{\text{hr}}$
Output Voltage (per axis): $0.5 \pm 0.05\text{V}$ Full scale negative
 $2.5 \pm 0.05\text{V}$ Zero angular velocity
 $4.5 \pm 0.05\text{V}$ Full scale positive
Internal Sensor Temperature: PT1000 temperature output connection available

Mechanical

Weight: All models <80g
Housing Material: Aluminium body, hard anodised and dyed black.
Vibration: 50 to 2000Hz, 20g, any axis
Shock: 50g, any axis

*Only configurable during production (Combinations of different angular rate ranges can be requested)

Environmental

Maximum Humidity: 100%
Ambient Operating Temp.: 0°C to 105°C

Sensor is resistant to standard motorsport fluids

Voltage Output

Clockwise rotation about the axis identified in the drawing and on housing will increase the output voltage

Output Connections

Flying Lead *Image of housing shown above*
26 AWG, 1000mm unscreened cable, DR25 jacket.
Polyester cable boss for strain relief to the sensor body.

Connection Wire Colour

Supply +	Red
Supply -	Blue
Signal Ground	Green
X Axis Signal	Orange
Y Axis Signal	Yellow
Z Axis Signal	White

Optional two output wires for Internal Sensor Temperature (PT1000)

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6 Pin Deutsch Connector

Connector part number: ASX-002-06-S-N-HE

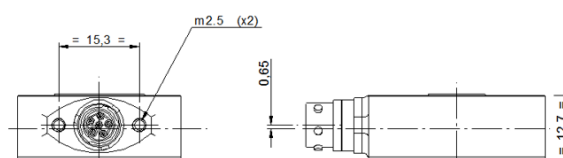
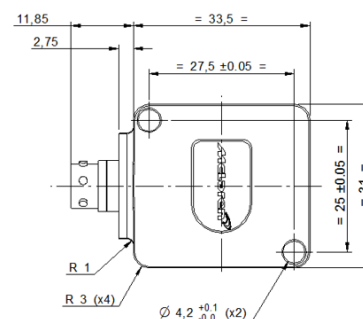


Pin Number

1
2
3
4
5
6

Pin Function

Supply+
Supply -
Z Axis Signal
Signal Ground
X Axis Signal
Y Axis Signal



Model Description

±150°/s, 6 Pin Deutsch Connector

±75°/s, 6 Pin Deutsch Connector

Order Code

O 030 375 001 012

O 030 375 001 013

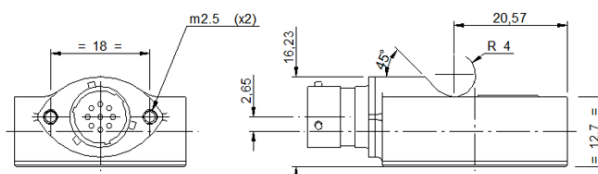
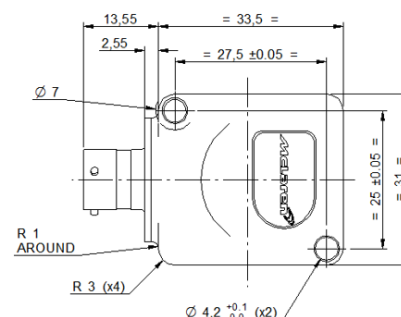
For alternative models please contact McLaren Applied Technologies

TRI-AXIS MEMS GYROSCOPE

VOLTAGE OUTPUT

9 Pin Deutsch Connector

Connector part number: ASD-D206-09-PN



Pin Number

1
2
3
4
5
6
7
8
9

Pin Function

Supply+
Supply -
Z Axis Signal
Signal Ground
PT1000
PT1000
X Axis Signal
Y Axis Signal
No Connection

Model Description

±300°/s, 9 Pin Deutsch Connector

Order Code

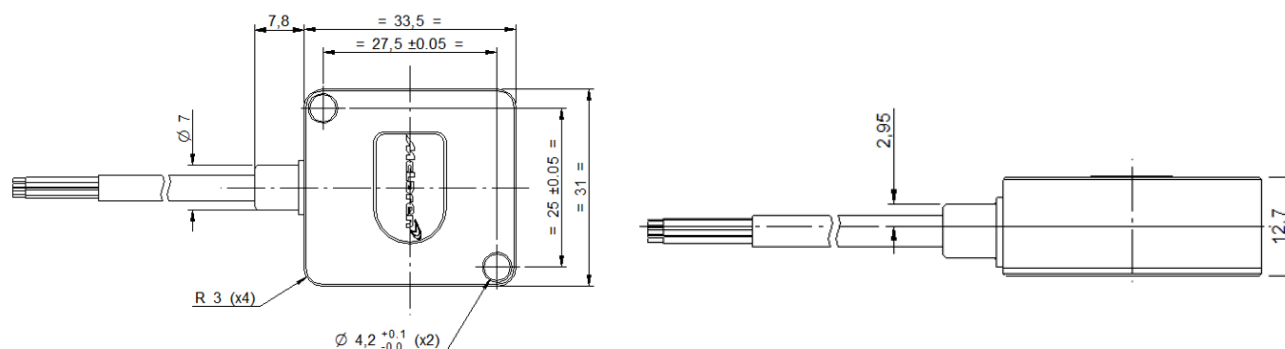
O 030 375 001 011

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TRI-AXIS MEMS GYROSCOPE

VOLTAGE OUTPUT

Flying Lead



Model Description

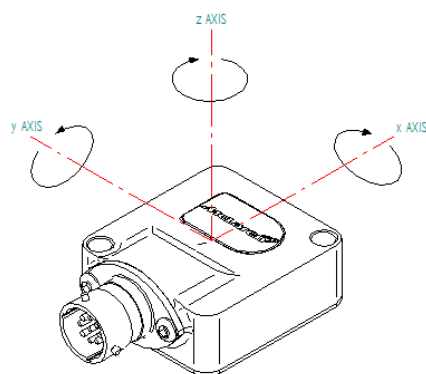
±300°/s, 6-Core Flying Lead (no PT1000)

Order Code

O 030 375 001 010

For alternative models please contact McLaren Applied Technologies

Housing Axis Rotation



THE ROTATIONS SHOWN ABOVE WILL PROVIDE
AN INCREASING VOLTAGE OUTPUT