

## Gyro 3 Axis

Designed to provide high performance operation under harsh operating conditions, the tri-axis gyro accurately measures angular motion in a compact, lightweight, robust package.

### In Detail

#### Application

- Precision chassis development.

#### Electrical

- Supply voltage 8 to 16V unregulated
- Reverse Polarity protection
- Supply current 140mA @ 12V
- Start-up supply current 225mA (0-500ms)
- Full scalerate  $\pm 300^\circ/\text{s}^1$  or  $\pm 75^\circ/\text{s}^1$
- Output scale factor:

$$300^\circ/\text{s} = 6.67\text{mV}/^\circ/\text{s nominal}$$

$$75^\circ/\text{s} = 26.67\text{mV}/^\circ/\text{s nominal}$$

- Scale factor variation  $\pm 0.75\%$
- Scale factor variation over operating temperature range  $\pm 1.5\%$
- Scale factor rate non-linearity  $\pm 0.2\%$  FS
- Offset at zero angular velocity 2.50V nominal
- Offset variation  $\pm 20\text{mV}$  ( $300^\circ/\text{s} = \pm 3^\circ/\text{s}$  &  $75^\circ/\text{s} = 0.75^\circ/\text{s}$ )
- Offset variation over temperature range  $\pm 30\text{mV}$  ( $300^\circ/\text{s} = \pm 4.5^\circ/\text{s}$  &  $75^\circ/\text{s} = 1.1^\circ/\text{s}$ )
- 8 pole 60Hz Butterworth filter<sup>2/3</sup>
- Noise  $< 175 \mu\text{V}/\sqrt{\text{Hz}}$

- Output impedance 50 Ohms
- PT1000 temperature output

Clockwise rotation about the axis identified in the drawing, will increase the output voltage, as shown in the outline drawing.

<sup>1</sup> Combinations of both scale rates can be requested.

<sup>2</sup> Two pole filter available upon request<sup>3</sup>.

<sup>3</sup> -3dB point adjustable up to 90Hz.

## Cable and Connection Definition

26 AWG un-screened cable

Cable length is shown on the order details but any length is available on request

Various automotive and military standard connectors are available

Connections:

<b>Red wire</b>	<b>Pin 1</b>	<b>Supply</b>
<b>White wire</b>	<b>Pin 2</b>	<b>Signal A</b>
<b>Yellow wire</b>	<b>Pin 3</b>	<b>Signal B</b>
<b>Orange wire</b>	<b>Pin 4</b>	<b>Signal C</b>
<b>Green wire</b>	<b>Pin 5</b>	<b>Power Ground</b>
<b>Blue wire</b>	<b>Pin 6</b>	<b>Signal Ground</b>

## Mechanical

- Weight less than TBAg (including cable)

## Environmental

- Vibration 20Hz to 2kHz @ 8.5g rms
- Shock ½ sine approx, 95g, 1ms
- Resistant to standard motorsport fluids
- Maximum humidity 100%
- Operating temperature 0 to +105°C
- Aluminium alloy body and lid, hard anodised and dyed black
- DR25 jacketed cable

## Images/Diagrams

### 3 Axis Gyro

#### Ordercodes

Description	Ordercode
3-Axis Gyro ( $\pm 300^\circ/s$ )	O 030 375 001 007
3 Axis Gyro ( $\pm 75^\circ/s$ )	O 030 375 001 008