

Dual Channel Rotary Position Sensor

Quantum 360 Dual Channel Rotary Position Sensor with Blade Shaft

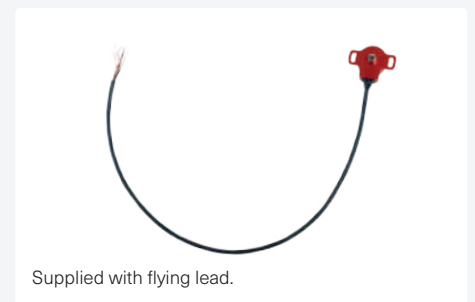
The Dual Channel Rotary Position Sensor with integrated blade shaft is a 5V programmable instrument from the Quantum TMR range. Featuring advanced Tunneling Magnetoresistance technology, the sensor has accuracies of $\pm 0.5\%$ across the entire -40°C to $+150^{\circ}\text{C}$ operating temperature range.

With an ingress protection rating of IP67, this robust sensor with integral blade shaft delivers the same real-time reliability available from TMR technology whilst offering simple installation compared to its separate magnet target counterparts. This versatile instrument is an ideal drop in replacement for potentiometers. The dual channel device features integrated CPU processing for a ratiometric analog VDC output and a configurable rotary sensing range of 0-359 degrees.

This lightweight device is well-suited to Automotive, Motorsport, Industrial, Off-Highway, Defence and UAV applications.



Sealed electronics rated IP67.



Supplied with flying lead.

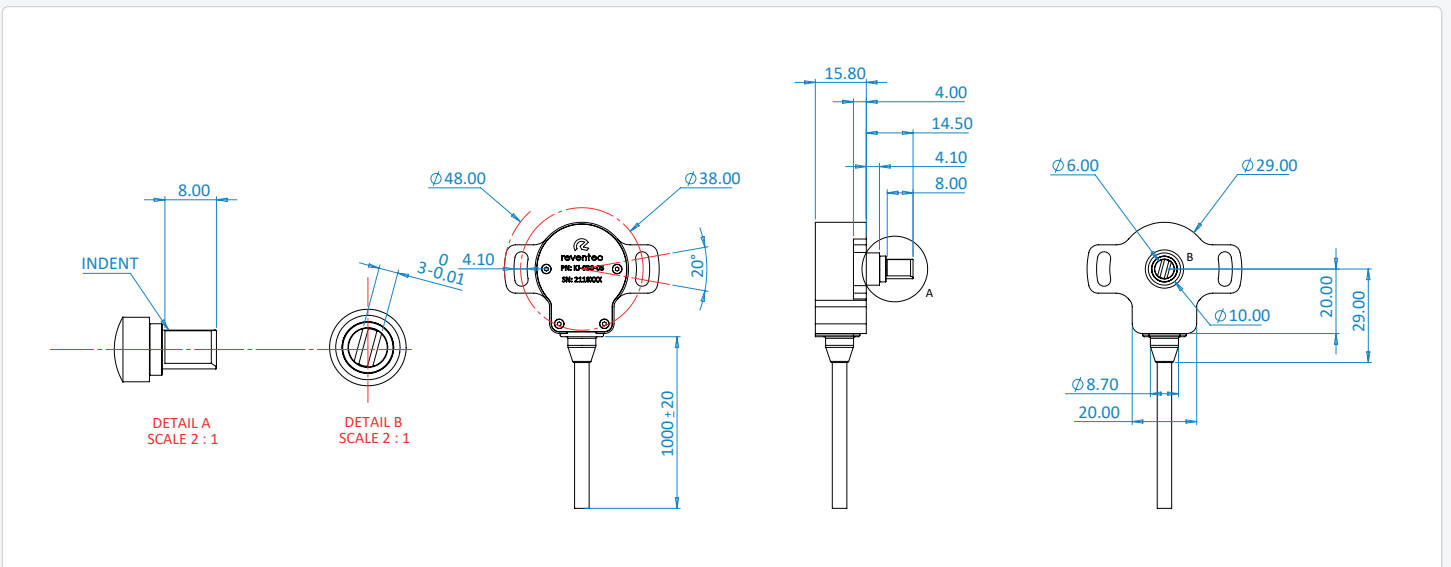
Key Features

- Rapid response rate of 5kHz
- Extremely accurate; $\pm 0.5\%$ of reading
- Configurable output for reliability and redundancy
- 0 - 359 degrees of measurement sensing range
- 12bit analog VDC output resolution
- Accurate position sensing over a wide temperature range -40°C to $+150^{\circ}\text{C}$
- IP67 rated

Benefits

- Provides real-time measurement of components movement.
- Full customisation for specialist projects available.

Example Sensor Dimensions



Measurement

Type	Angular Displacement
Typical Accuracy	±0.5% of reading
Measurement Rate	5kHz
Measurement Range	0-359 degrees (Configurable)

Electrical

Supply Voltage	+5 VDC ± 0.25VDC regulated
Typical Operating Current	<25mA per channel at +5 VDC

Analog Output

Type	Voltage
Channel 1 Output Range	0.50 VDC to 4.50 VDC (Configurable)
Channel 2 Output Range	0.25 VDC to 2.25 VDC (Configurable)
Resolution	12 bit
Stability	±0.1% over full temperature range

Environmental

Environmental Protection	IP67
Vibration	Designed to meet: 10Hz to 2000Hz sine sweep @10G (24hrs per each axis)
Shock	Designed to meet: 50G half sine wave for 11ms, 10 times each axis
Operating Temperature Range	-40°C to +150°C

Mechanical

Construction Material	Anodised Aluminium
Mass	From 45g

Wiring Specification

Harness	Flying lead Custom connector on request
Sleeve Elastomer	RW-200E
Boot Elastomer	Viton FEP
Wire Type	Flying lead - 500mm, Type 55, 26 AWG

Wiring Definition

Description	Wire Colour	PIN Out
Supply Channel 1 & 2 (+)	● Red	Flying lead
Ground Channel 1 & 2 (GND)	● Black	Flying lead
Signal Channel 1 (0.5-4.5VDC)	● Yellow	Flying lead
Signal Channel 2 (0.25-2.25VDC)	● Orange	Flying lead
Tx Comms 1 (Configuration only)	○ White	Flying lead
Rx Comms 1 (Configuration only)	● Green	Flying lead
Tx Comms 2 (Configuration only)	● Grey	Flying lead
Rx Comms 2 (Configuration only)	● Violet	Flying lead

Configuration Interface

Type	Part number HO-050-5 See Accessories.
GUI	Available on request

Specifications may be subject to change without prior notice.