Dual Channel Rotary Position Sensor

Quantum 360 Dual Channel 5V 150ºC Rotary Position Sensor

The Quantum 360 Dual Channel Rotary Position Sensor is a 5V programmable instrument from our Quantum TMR range. Offering the latest advancements in Tunneling Magnetoresistance sensing, the dual channel sensor is capable of measuring through large sections of non-ferrous materials with an update rate of 5kHz.

As a solid-state device, this dual output rotary position sensor is ideal for harsh applications and provides advantages unavailable from alternative rotary sensing technologies. Boasting advanced accuracies of ±0.5% of reading, the sensor features integrated CPU processing for a ratiometric analog VDC output. With an IP rating of IP67, the industry-leading sensor is robust with a high operating temperature capability of 150° Celsius (302°F).

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

Sealed electronics rated IP67.

Supplied with flying lead.

Key Features

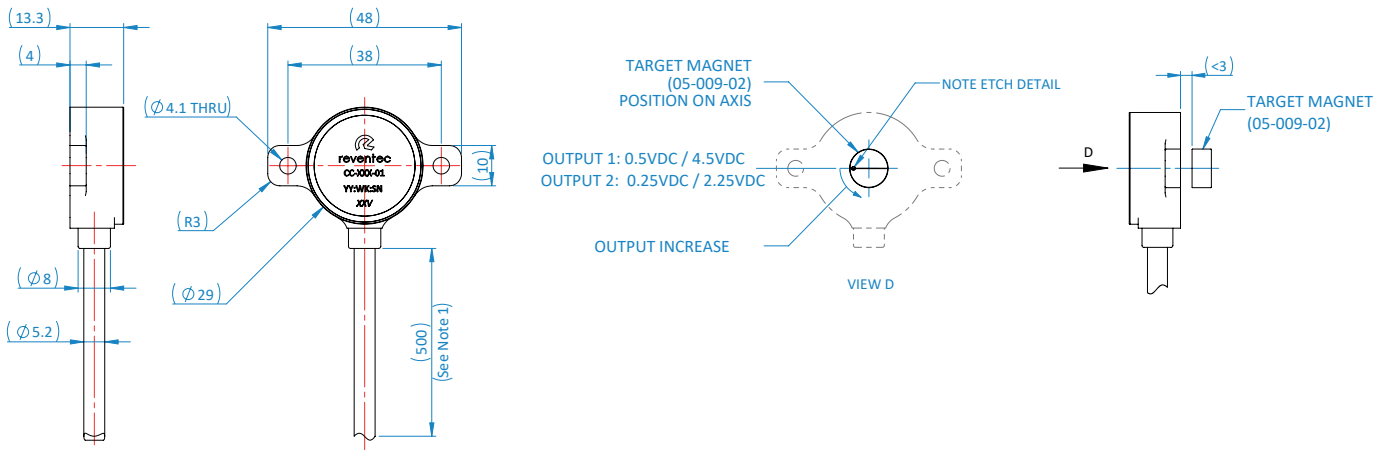
- Solid-state, non-contact alternative to potentiometers
- Rapid response rate of 5kHz
- Extremely accurate; ±0.5% of reading
- Configurable dual output for reliability and redundancy
- 0 - 359 degrees of measurement sensing range
- 12bit analog VDC output resolution
- Accurate position sensing over a wide temperature range -40ºC to +150ºC
- IP67 rated

Benefits

- Avoids wear and degradation as seen in potentiometers.
- Capable of measuring through up to 10mm of non-ferrous material.*
- Provides real-time measurement of components movement.
- Full customisation for specialist projects available.

*Subject to target

Example Sensor Dimensions



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Measurement

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

Electrical

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

Analogue Output

Type	Voltage
Channel 1Output Range	0.5 VDC to 4.5 VDC (Configurable) Ratiometric
Channel 2 Output Range	0.25 VDC to 2.25 VDC (Configurable) Ratiometric
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	-40ºC to +150ºC

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 (+)	● Red	Flying lead
Ground Channel 1 (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
Supply Channel 2 (+)	● Blue	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.

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