

QuantumSS™

TMR Speed Sensors

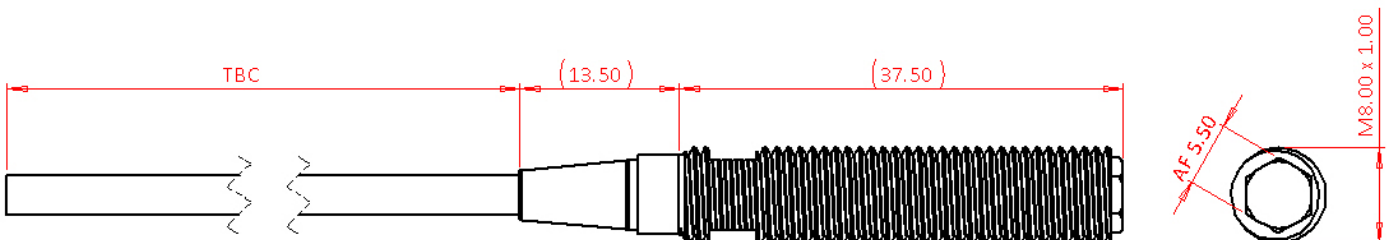


The QuantumSS™ speed sensor uses the latest in TMR (Tunnelling Magnetoresistance) technology. This gives the sensor the unique ability to measure shaft speed across much larger air gaps when compared to conventional “Hall-Effect” technology. It also has the novel functionality of being able to measure through non-ferrous materials up to 20mm*.

The QuantumSS™ is highly adaptable and can be used in either active or passive configuration; utilising either an embedded shaft magnet (active) or a ferrous trigger wheel (passive). Standard motorsport measurement applications include; wheel speed sensing, gearbox, drive shaft speed and turbo speed sensing.

- Solid-state, Non-contact Speed Sensing
- High Resolution Mode Available Offering two pulses per resolution
- Extremely High Detection Accuracy
- Exceptionally Wide Frequency Range (0-500 kHz)
- Extended Operating Temperature Range of 125°C
- Thermally Stable Across Operating Temperature.
- Customer Specified Mechanical Design.
- Additional Measurement of Shaft Direction (Clockwise/Anti-Clockwise)

Example M8 Speed Sensor Dimensions



DIMENSIONS IN MM
GENERAL TOLERANCE: +/-0.1

*Application Specific



Measurement

Type	Speed Sensing
Frequency Response	0 to 500 kHz
Measurement Output	Open Drain FET or TTL logic

Electrical

Supply Voltage	+5VDC to +30VDC
Typical Operating Current	<5mA at +12VDC
Supply Overvoltage Protection	+45 VDC continuous
Supply Reverse Polarity Protection	-45 VDC continuous
Open Drain Output Tolerance	+50VDC
Open Drain Sink Current	20mA
TTL Output Voltage	0VDC low, +4.6VDC high
TTL Output Impedance	1kOhm low, 2kOhm high
TTL Output Protection	+5.6VDC Transient Suppressor

Mechanical

Sensor	M8 x 1.0 Thread (Or Customer Specific)
Mass	From only 20g
Materials	Anodised Aluminium/ Electroless Nickel Alloy / Stainless Steel / Brass / Titanium
Size	See Dimensions for M8 x 1.0 Thread Variant (Custom Variants Available)

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	-40°C to +125°C

Electrical Connector

Connector Options	Flying lead. Custom (Contact Us)
Sleeve Elastomer	To customer specification; Typically DR-25 or RW-200E
Boot Elastomer	Viton FEP
Wire Type	4 core, Type 55, 26 AWG or 28AWG

Wiring Definition

Description	Wire Colour
Supply (+)	Red
Ground (GND)	Black
Speed Output (TTL or O/Drain)	Yellow
Direction (0V clockwise, 5V anti-clockwise)	Orange

Specifications may be subject to change without prior notice

Product Code: QuantumSS | Document: QSS-DS-PRINT-US | Version 1

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