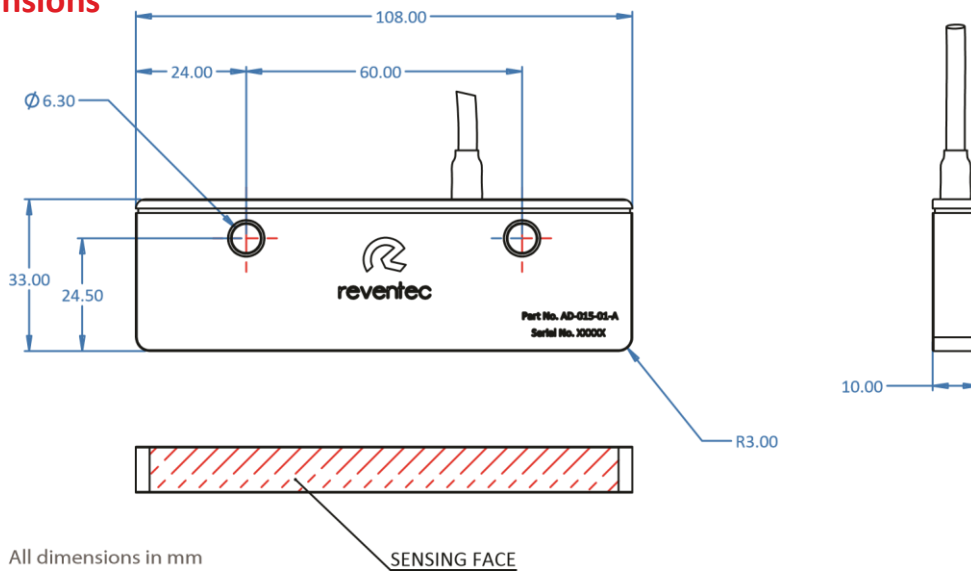# Quantum100™
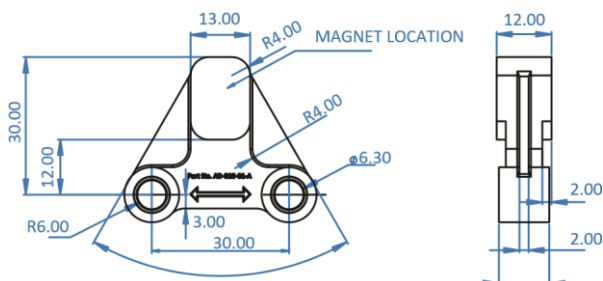## 100mm Linear TMR Position Sensors

Sensor

Typical Target

The Quantum100™ sensor is a robust, lightweight linear position sensor with a 100mm measurement range. The non-contact TMR sensor provides extremely accurate position measurement in harsh environmental applications. Standard motorsport measurement applications include: hydraulic piston travel, suspension component monitoring, steering position and throttle position sensing. The sensor outputs its measurement via a digital CAN output or analogue voltage output.

Sensor Dimensions

108.00
24.00
60.00
Ø 6.30
33.00
24.50
10.00
R3.00
Part No. AD-015-01-A
Serial No. XXXXX

All dimensions in mm

SENSING FACE

Typical Target Dimensions

13.00
R4.00
MAGNET LOCATION
12.00
R4.00
30.00
12.00
ø6.30
R6.00
3.00
30.00
2.00
2.00

Mechanical Configuration
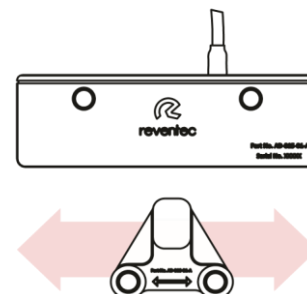
Measurement

Type	Angular and Linear Displacement
Typical Accuracy	±0.5% of measurement
Measurement Rate	5kHz
Measurement Range	±50mm linear

Electrical

Supply Voltage	+6VDC to +40VDC
Typical Operating Current	<12mA at +12VDC
Overvoltage Protection	+45 VDC continuous
Reverse Polarity Protection	-45 VDC continuous

Analogue Output

Type	Voltage
Voltage Output Range	0-5V or 0-10V
Typical Output Calibration	+0.5V to +4.5V (Fully Configurable)
Resolution	12 bit
Output Temperature Stability	±0.1% over full temperature range

Dimensions

Sensor	Customer Specific

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
Remote Sensing Head Operating Temperature	-40°C to +150°C
Processing Electronics Operating Temperature	-40°C to +125°C

Configuration Interface

Type	RS-232 via FTDI USB cable. See accessories
GUI	Available on request

CAN Output

Type	CAN 2.0A
Baud Rate	500kbit/sec or 1MegB/s
Message Output Rate	1kHz, 100Hz or 10Hz
Message Format	Please contact us for more detail.

Mechanical

Construction Material	Anodised Aluminium, Stainless-Steel, Titanium, PEEK or a combination
Mass	From 15g

Wiring Specification

Connector Options	Flying lead. Deutsch ASL 5 Way Connector Deutsch ASX 5 Way Connector Custom (Contact Us)
Sleeve Elastomer	To customer specification; Typically DR-25 or RW-200E
Boot Elastomer	Viton FEP
Wire Type	5 core, Type 55, 26 AWG or 28AWG

Typical Wiring Definition

Description	Wire Colour	Pin Out
Supply (+)	Red	1
Ground (GND)	Black	2
Signal (0.25-4.75V)	Yellow	3
Tx Comms (Transmit)	White	4
Rx Comms (Receive)	Green	5

Accessories

USB calibration cable	P/N: 07-003-01

Specifications may be subject to change without prior notice