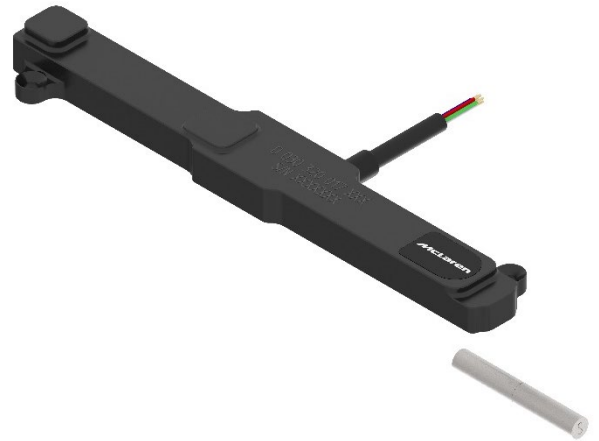


LONG STROKE POSITION SENSOR

The Long Stroke Position (LSP) sensor consists of a Hall effect array and a magnet. The output of the LSP sensor is a voltage which changes in direct proportion to the magnet position.

Dual channel sensors with independent supply, ground and output with separate internal components for full redundancy are available.



ELECTRICAL

- Supply voltage 8 to 16V
- Supply current 70mA (Typ) @ 12V per channel

MEASUREMENT SPECIFICATIONS

- Electrical stroke configurable
- Analogue and CAN outputs available
- Analogue output voltage typically clamped between 0.5V and 4.5V
- Independent non-linearity - Typ 0.5%FS^{1,2,3}
Max 1.0%FS^{1,2,3}
- Insulation resistance >100Mohm @ 500Vdc
- Thermal shift¹ <0.05%FS/K

PROGRAMMING

- Two point recalibration over CAN for compensation when the magnet is changed and/or rotated⁴

CABLE & CONNECTION DEFINITION

- 26AWG un-screened cable
- DR25 jacketed cable
- Cable length see order codes

- Connections

Single Channel Analogue Sensor

Red wire	Supply
White wire	Supply Ground
Orange wire	Signal
Green wire	Signal Ground
Blue wire	Do Not Connect – for recalibration
Yellow wire	Do Not Connect – for recalibration

Single Channel CAN Sensor

Red wire	Supply
White wire	Ground
Blue wire	CAN High
Yellow wire	CAN Low

MECHANICAL & ENVIRONMENTAL

- Weight <70g (including cable)
- Aluminium alloy body, hard anodised and dyed black
- Polyester cable boss for strain relief to the sensor body
- Resistant to standard motorsport fluids
- Maximum humidity 100%
- Operating temperature -40 to +125°C
- Compensated temperature range +20 to +125°C
- Vibration 50 to 2500Hz @ 40g 8hrs per axis

NOTES

- Care should be taken to ensure that the shaft/magnet is not placed near to strong magnetic fields as this could result in permanent damage to the sensor.
- Sensor should be kept clear of any stray magnetic fields and ferro-magnetic materials during operation.

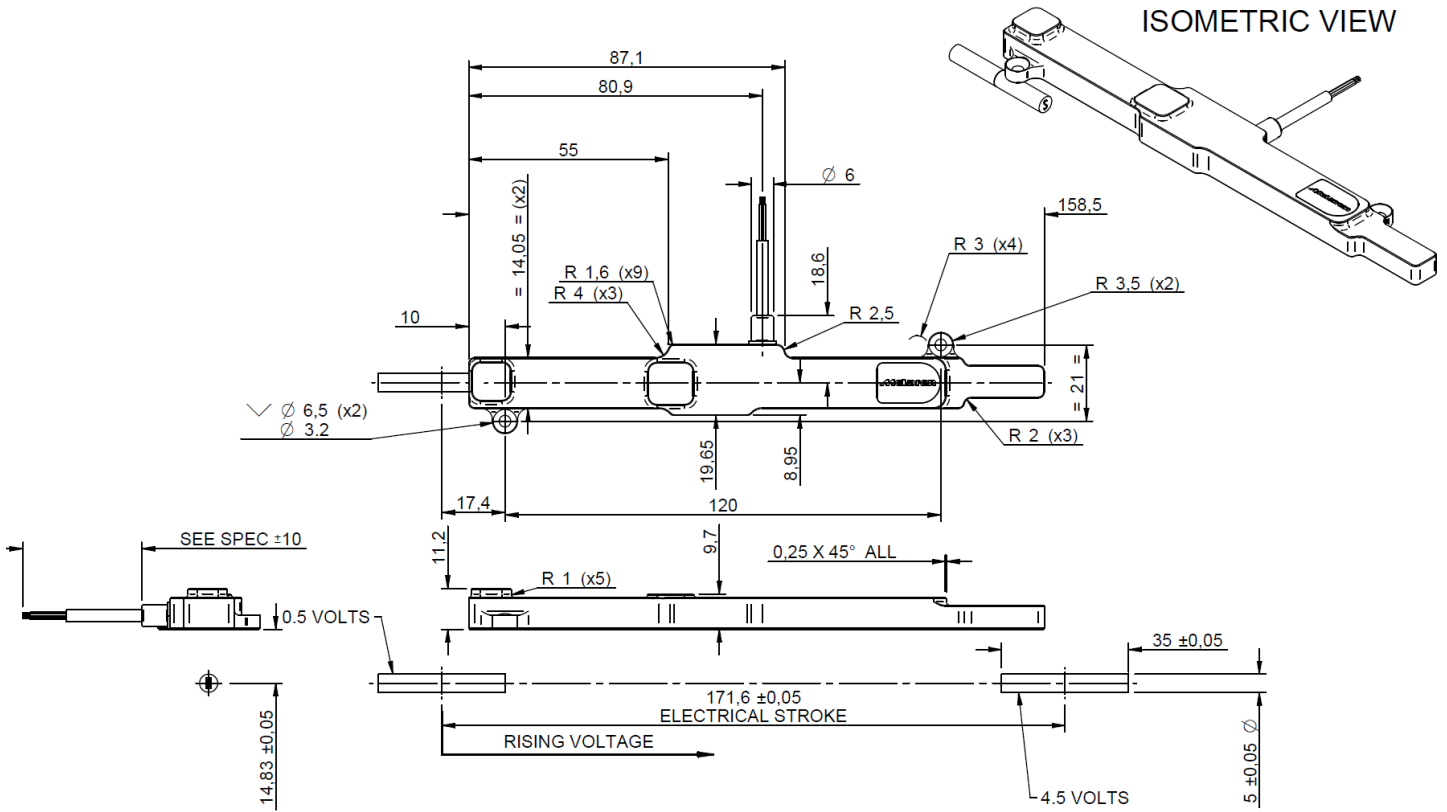
¹ Over compensated temperature range and with calibrated magnet in calibrated rotational position.

² If the magnet rotates from the initial set position (magnet position shown by laser engraved line along axis) during operation non-linearity 2.0% typ. and 2.5% hysteresis

³ If a different magnet of the same length is used that the sensor was not calibrated with and if this magnet is able to rotate during operation non-linearity 2.5% typ. and 3.0% hysteresis.

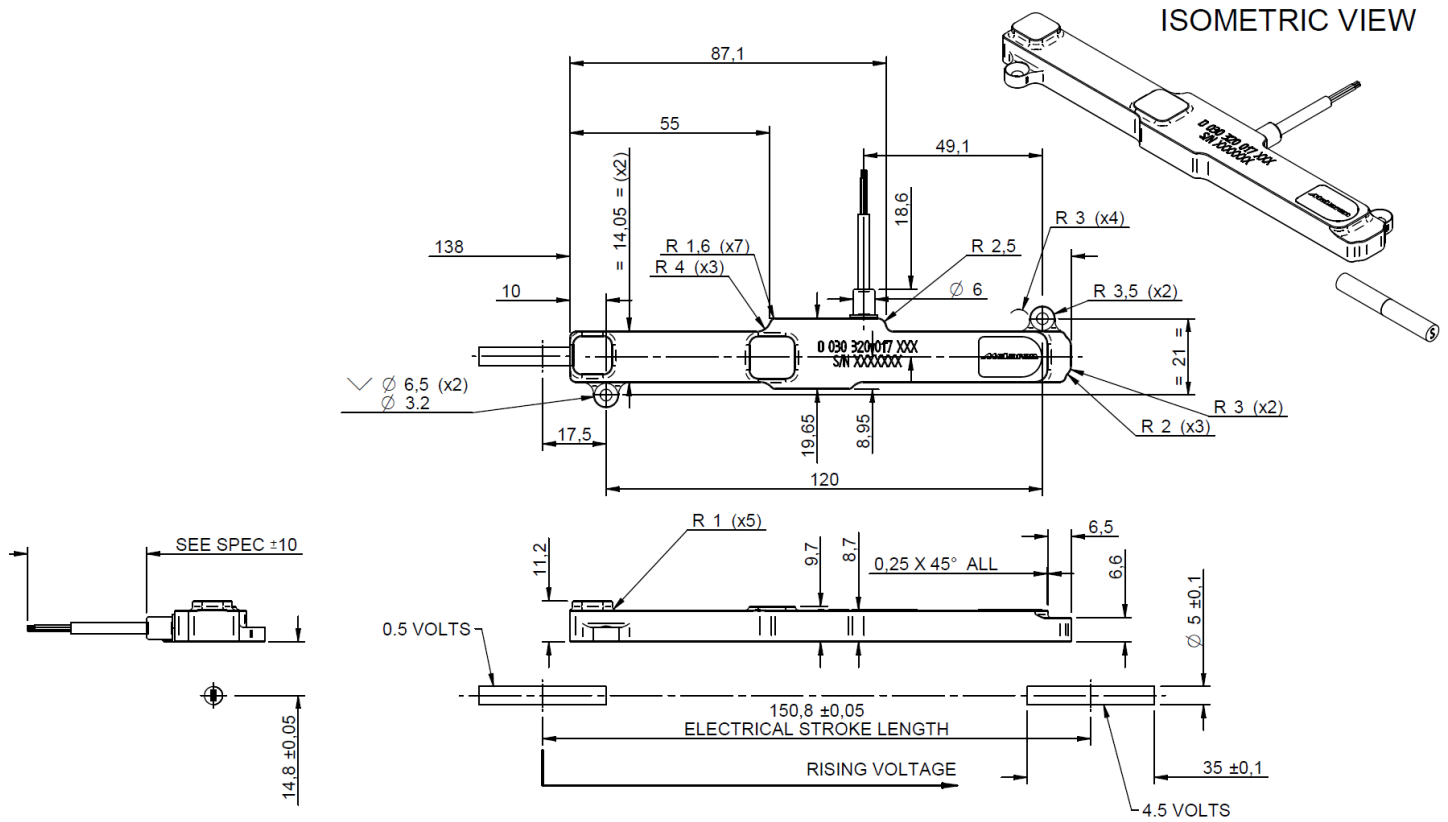
⁴ This has to be done at the extremities of the stroke range.

LONG STROKE POSITION SENSOR



Order Code	Model Description				
	Range	Channels	Output	Cable Length	CAD Model
O 030 320 017 002	171.6mm	Single	0.5-4.5V ±0.05V @ 25°C	1000mm Cable	D016 999 002 424

LONG STROKE POSITION SENSOR



Order Code	Model Description				
	Range	Channels	Output	Cable Length	CAD Model
O 030 320 017 003	150.8mm	Single	0.5-4.5V ±0.05V @ 25°C	1000mm Cable	D016 999 002 425

For alternative models, please contact McLaren Applied Limited at sales@mclaren.com