

True Position Zero Speed (TPZS) Sensor

O 030 350 010 XXX

The True Position/Zero Speed sensor incorporates a DHE (Differential Hall Effect) sensor, with additional signal conditioning to allow for thermal compensation and zero speed operation.

The sensor gives an output when subjected to a changing magnetic field. The field is set up by a magnet inside the sensor body and changes when ferromagnetic teeth are passed beneath the sensor (no magnets are required in the target). The sensor responds to changes in magnetic field strength by corresponding to tooth frequencies down to 0Hz.

EXAMPLE APPLICATIONS

- Gearbox shaft position when vehicle is stationary

ELECTRICAL

- Supply voltage: 9.5 V to 12.5 V unregulated
- Supply current: <20 mA
- Open collector output
- Output current 35 mA maximum
- Frequency response 0 Hz to 12 kHz
- Reverse polarity protection
- Output polarity (referring to the target wheel direction and sensor orientation shown on the outline drawing) - the output of the sensor will fall when the sensor is over the centre of a gap and rise when the sensor is over the centre of a tooth
- Positive duty cycle 35 % to 65 %
- Duty cycle optimised for wheel direction shown on drawing (but sensor will operate in both directions)

CABLE AND CONNECTION

- 26AWG un-screened cable
- Any length is available on request
- Viton sleeving
- Various automotive and military standard connectors are available, or can be left unterminated
- Typical Connection:

WIRE COLOUR	ID / PIN N ^o	SIGNAL
Red	A / 1	Supply
Green	B / 2	Ground
White	C / 3	Signal
Yellow	-	<i>DO NOT CONNECT</i>
Blue	-	



MECHANICAL

- Air gap 0.4mm ±0.05mm
- Body diameter 10mm minimum
- Weight less than 50g (including cable)
- Aluminium alloy body, hard anodised and dyed black
- Integrated cable boss for strain relief to the sensor body
- Trigger wheel geometry (wheel to be supplied by customer)

Pitch	5mm ±0.05mm
Tooth width	3mm min
Tooth depth	5mm (or 3mm if through slot)
Gaps to have parallel sides (not teeth)	

ENVIRONMENTAL

- Vibration 50 to 2500 Hz @ 40 g, 8 hrs per axis
- Resistant to standard motorsport fluids
- Maximum humidity 100 %
- Operating temperature 20 °C to 150 °C
- Sensor will be calibrated and tested using Motion Applied standard test wheel unless otherwise specified

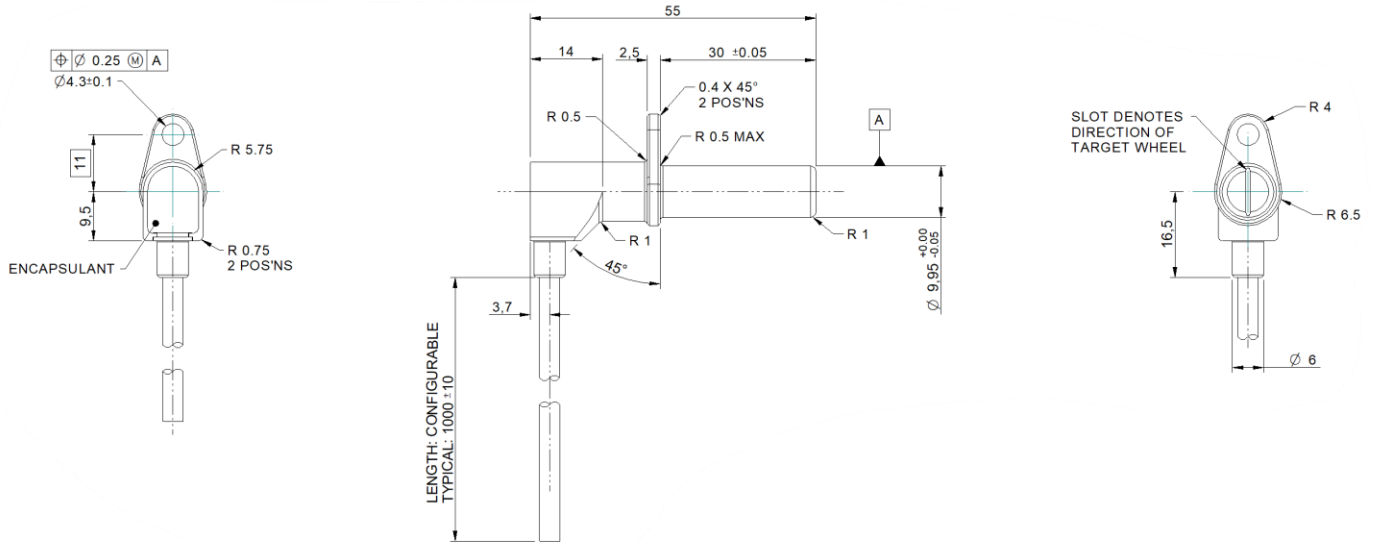
Get in touch

Email: sales@motionapplied.com

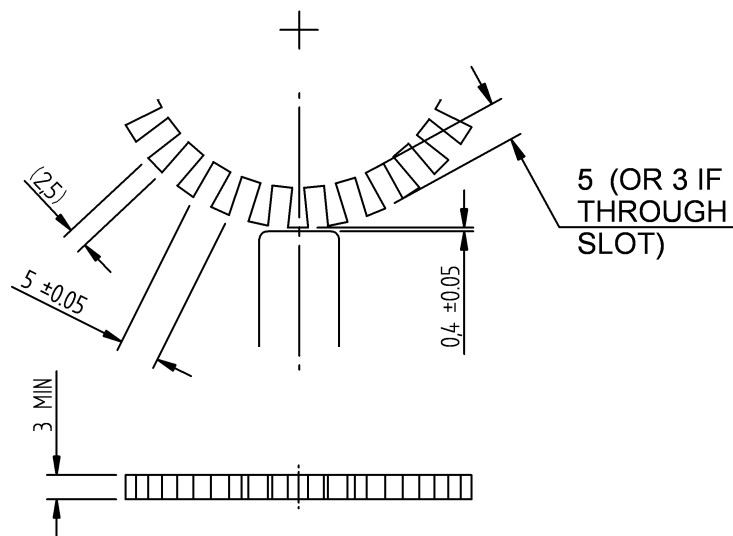
Website: www.motionapplied.com

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Example TPZS Sensor Dimensions



Dimensional requirements of trigger wheel

Get in touch

Email: sales@motionapplied.com

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