High Resolution Wheel Pulse Transducer

Model WPT

- Easy installation
- Up to 1024 ppr
- IP67 option
- Circular connector on stator
- Sealed, corrosion resistant metal housing
- Lightweight and compact
- Used for
  - Precision speed measurement
  - Vehicle brake testing
  - Distance measurement
  - Map validation

Description

The *Wheel Pulse Transducer (WPT)* is a rotation sensor mounted outboard of a vehicle wheel. The rotation sensor is used to measure rotational velocity, angular position, and direction of rotation. The assembly consists of an encoder in rugged housing, a wheel adapter plate, stator restraint, and cable. The assembly is mounted directly on the customer's wheel via lug nut collet extensions. The output signals generated by the sensor can be use to determine wheel speed, acceleration, distance, and vehicle speed.

The *WPT* is very rugged and has been designed to accept contacting rotary seals. Units ordered with these seals are waterproof, with an IP67 rating. For higher speeds in dry conditions, order units without the contacting rotary seals.
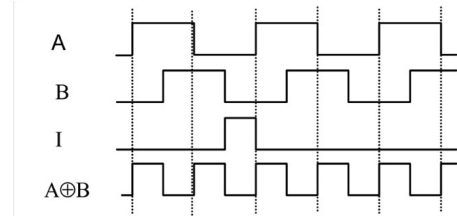
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Encoder Output Options

Rotation sensor choices E256, E360, E500, & E512:

Four optical encoder resolutions are offered, see the table below. Each of these encoder choices have four outputs, shown graphically below. Outputs A and B are in quadrature, meaning they are 90° out of phase. Output I is an index pulse. Output A⊕B is the exclusive OR of A and B, which doubles the basic resolution of the encoder. The outputs, 0 to 5 volt pulses, can drive TTL loads. The encoders have metal code wheels and rugged electronics, which are designed to tolerate shock and vibration.

Encoder choices	Outputs:Pulses per revolution			
	A	B	I	A⊕B
E256	256	256	1	512
E360	360	360	1	720
E500	500	500	1	1000
E512	512	512	1	1024

ENCODER OUTPUTS

Signal Conditioning Options

Michigan Scientific Corporation also manufacturers encoder signal conditioners, which can be used to convert the digital pulses of the *WPT* sensor encoder to other signal formats. The *EC-LV* and *EC-SC* are small enclosures that can be added in-line with the stator cable and do not require any additional programming. The *EC-LV* converts digital pulses to linear voltages and the *EC-SC* converts digital pulses to digital sine and cosine waves.