The WM-H10 shaft-operated Rotary Position Sensor is a solid-state, Hall-effect sensor offering two independent and electrically isolated outputs in a compact housing with integrated connector.

The full range electrical output can be set to correspond to maximum rotations from 15° to 360°, providing a dual linear output voltage proportional to the absolute position of the 6mm, D-profiled shaft, in either direction from a reference angle. The integral magnet arrangement ensures a consistent sensor-magnet separation, avoiding errors associated with air-gap fluctuations.

The two independent measuring circuits, each with its own +5Vdc power supply connection, enable the use of algorithms that compare the signals for error checking. By utilising the first output signal as the source of rotational motion detection and the second signal for diagnostic purposes, comparing the positional data from both outputs, signal veracity can be determined, meaning high-performing, safety-critical applications can easily be addressed. Further integrity is provided as the outputs enter pre-defined states in the event of connection errors to the sensor.

The robust mechanical design offers exceptional levels of performance with respect to water and dust, shock, vibration and temperature, meaning the sensor is ideal for use in hostile, on- and off-highway vehicle environments.

Connection to the WM-H10 is via the industry-standard, Packard Electric ‘Metri-Pack’ 150 series of connectors, which offer high-reliability performance across all operating conditions.

- Non-contacting Hall-effect technology
- Measurement angle 15-360°
- Dual output – electrically isolated Hall-sensing elements
- Independent 5V supply
- 6mm D-profiled shaft
- Fail-safe outputs
- Environmentally robust
- Packard Electric ‘Metri-Pack’ 150 series connector
## SPECIFICATIONS

### SUPPLY
- **SUPPLY VOLTAGE**: 5Vdc ± 0.5Vdc
- **SUPPLY CURRENT**: 10mA per channel
- **SHORT-CIRCUIT PROTECTION**:
  - OUTPUT TO GND: Indefinite
  - OUTPUT TO SUPPLY: Indefinite
- **SUPPLY REVERSE POLARITY PROTECTION**: Up to -12Vdc
- **OVER-VOLTAGE PROTECTION**: Up to 24Vdc

### OUTPUT
- **MEASUREMENT RANGE**: 15-360° in 1° increments
- **OUTPUT VOLTAGE**: 10-90% ±2% of Vsupply over measurement range
- **MONOTONIC RANGE**: 5%/0.25V to 95%/4.75V nominal
- **LINEARITY**: ±2%
- **OUTPUT CORRELATION**: ±2%
- **LOAD RESISTANCE**: 10kΩ min. to GND

### MECHANICAL
- **ANGLE**: 360° continuous
- **WEIGHT**: <70g

### ENVIRONMENTAL
- **OPERATING TEMPERATURE RANGE**: -40°C to +85°C (SAE J1455)
- **STORAGE TEMPERATURE RANGE**: -40°C to +105°C
- **FLAMMABILITY**: Per FMVSS-302 regulations
- **HUMIDITY**: 120 hours at 95% humidity (+27°C to +75°C)
- **SALT FOG**: ASTM B-117 96 hour exposure
- **SEALING**: IP68 and IP69K (Electronics with GT Series connector) IP6x (Rotor)
- **VIBRATION**: Random broadband 5-500Hz, 4.0g
- **SHOCK**: 1m drop onto concrete (SAE J1455)
- **LIFE**: 10 million cycles at 1Hz
- **MTTF**: >1000 years
- **ELECTROMAGNETIC INTERFERENCE**: SAE J1113