

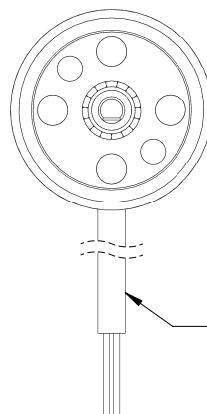
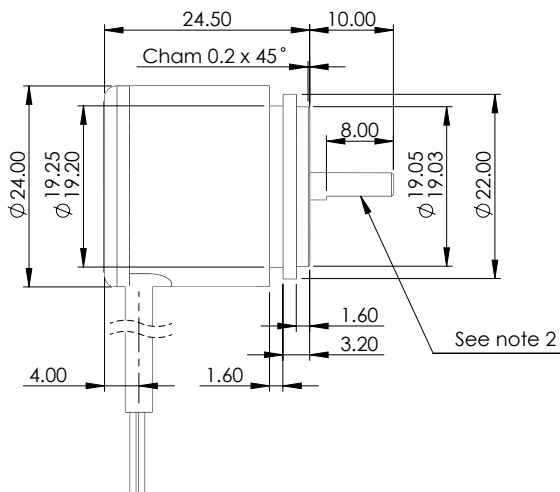
MHR0900 Magni-Hall® Rotary Position Sensors are interchangeable with synchro mount type potentiometers. The sensing circuit is fully encapsulated, sealed to IP68 & IP69K, making them ideal for measurement systems that experience severe shock and vibration. The 1/8th (Ø3.17mm) operating shaft is set between 'two' stainless steel, low-friction, ball-race bearings.

Key Features & Benefits

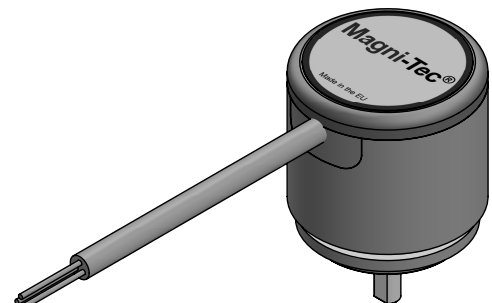
- Measurement range from 20° to 360°
- Servo mount
- Very compact with low mass
- Operating temperature 150°C (302°F)
- Suitable for high dither vibration and high duty-cycle applications
- Superior accuracy ($\pm 0.25\% \text{ FS}$)
- Both 5 Vdc and 8-30 Vdc operation
- Dual output option available



MHR0911 - Model dimensions and mounting

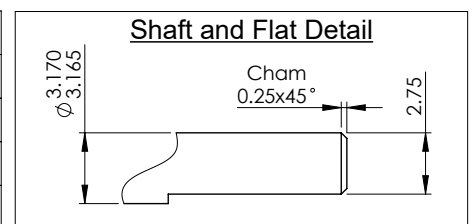


Raychem, 3 core
Type 55 - 26AWG
with FDR25 sleeve
Ø3.2 x 500(±10%) long

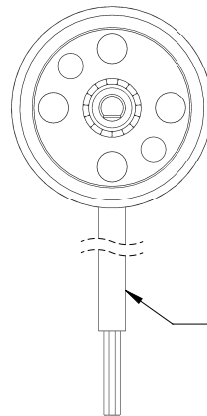
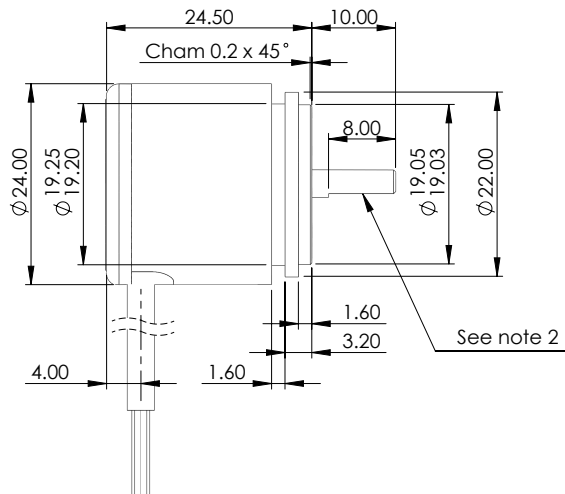


| Ordering Information | |
|------------------------------------|---|
| MHR0911 XV-XXX | |
| Output Direction (Viewed on shaft) | ↑ |
| C = Clockwise | ↑ |
| A = Anticlockwise | ↑ |
| Electrical angle in degrees | ↑ |

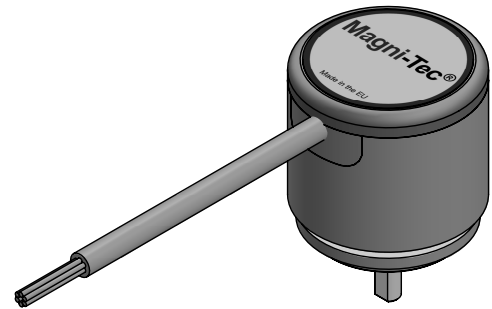
| Electrical Connection (see note 1) | |
|------------------------------------|-----------------------|
| Wire Colour | Function |
| Red | Supply Voltage (Vs) |
| White | Output Voltage (Vout) |
| Black | Ground |



MHR0921 - Model dimensions and mounting



Raychem, 6 core
Type 55 - 26AWG
with FDR25 sleeve
Ø3.2 x 500(±10%) long



Ordering Information

MHR0921 XV-XXX

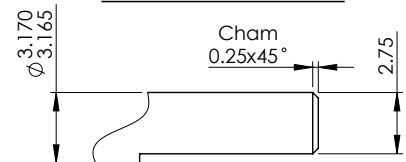
Output Direction (Viewed on shaft)
C = Clockwise
A = Anticlockwise
D = Chan 1 output anticlockwise
Chan 2 output clockwise

Electrical angle in degrees

Electrical Connection (see note 1)

| | Wire Colour | Function |
|--------|-------------|-----------------------|
| Chan 1 | Red | Supply Voltage (Vs) |
| | White | Output Voltage (Vout) |
| | Black | Ground |
| Chan 2 | Blue | Supply Voltage (Vs) |
| | Yellow | Output Voltage (Vout) |
| | Green | Ground |

Shaft and Flat Detail



MHR0900 - Electrical & mechanical specification

Input Specification

| | | | |
|-----------------------------|-------------------|---------------------|------|
| Supply voltage (Vs) | 5.0±10% regulated | 8 to 30 unregulated | V DC |
| Over voltage protection | Up to 50 | | V DC |
| Supply current | <15 | | mA |
| Reverse polarity protection | Up to -10 | | VDC |
| Power on settlement time | <100 | | mS |
| Input voltage rise time | 0.25 minimum | | V/mS |

Output Specification

| | | | |
|-----------------------|---|-------------|--------|
| Output type | Analogue | | |
| Output direction | Clockwise or Anticlockwise (specified at time of order) | | |
| Voltage output (Vout) | 0-Vs (+5v) | 0 - 5.0 | V DC |
| Line regulation | Ratiometric with Vs | <0.01% FS/V | |
| Monotonic range | Linear range - see note 6 | | |
| Load resistance | >10K | | Ohms |
| Output noise | <5 | | mV rms |

Performance Specification

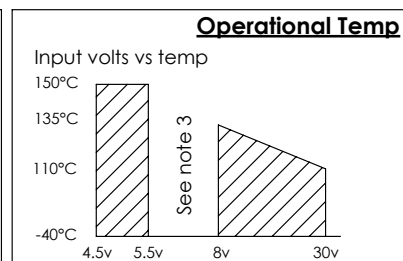
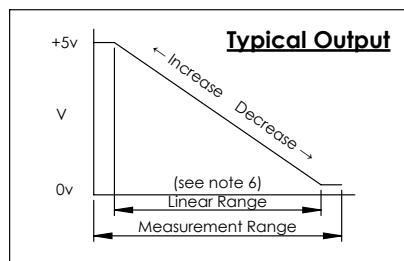
| | | | |
|----------------------------|-------------------------------|----------|------------------------|
| Measurement angle | 20 to 360 ±2 in 1° increments | | ° |
| Resolution | 0.025 | | % of measurement angle |
| Non-Linearity (see note 4) | <±0.25% | | FS |
| Phasing (see note 5) | <0.5% | | %FS |
| Temperature coefficient | <±0.003% | <±0.011% | FS/°C |
| Update rate | 500 Nom | | Hz |
| Max operating speed | 600 | | rpm |

General Specification

| | | | |
|-------------------------|--|---------------------|----------------------------|
| Weight | 23.0 | | grams |
| Protection/Sealing | Sensing circuit: IP68/IP69K | | |
| Life (Bearings) | > 500 million operations | | (dependant on environment) |
| Dither life | Contactless - no degradation due to shaft dither | | |
| Operational temperature | -40 to +150 | See de-rating graph | °C |
| Storage temperature | -55 to +150 | | °C |
| Materials | Case - Aluminium 6082 Module - Thermoplastic Shaft - Stainless steel 316 | | |

Notes:

1. Incorrect wiring may cause internal damage.
2. When shaft marking is facing cable exit, instrument is mid-travel (2.5v output).
3. Do not operate between 5.5V and 8V.
4. Non-linearity is calculated from Least Squares Best Fit method.
5. Phasing for the MHR0921 DV-XXX option is at mid-travel only.
6. Linear Range = Measurement Range x 0.995 Nom.



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