

## HP38 Non-Contact Rotary Position Sensor



- OEM driven solution with minimum order quantities
- Compact bare bones non-contact rotary encoder
  - Body only 0.69" (17.5mm) tall
- Patented true non-contact position sensing
  - 0.5" (12mm) gap between sensor and application
  - 0.10" (2.5mm) center alignment
  - 30° planar tilt
- Totally sealed IP69K (connector dependent)
- LED indicators for power and output feedback
- Outputs: Quadrature, SSI, Analog, & J1939 Can Bus

### ELECTRICAL

<b>Outputs</b>	<b>B-PPR-SEPP</b> : Incremental 13 bit Quadrature w/ Single Ended Output   ABZ 6 to 36 VDC IN / 6-36 VDC OUT	
	<b>B - 1939</b> : J1939 13 bit @ 512 positions	
	<b>B-PWM</b> : PWM absolute position	
	<b>B-SSI1</b> : SSI absolute position @ 512 positions	
	<b>V1</b> : Voltage Out / 5 VDC IN, 0-5 VDC OUT (code V3 for 2x redundant output)	
	<b>V2</b> : Voltage Out / 6-36 VDC IN, 0-5 VDC OUT	
	<b>Input Power</b>	6 to 36 VDC at approx 60 mA max, not including output loads
	<b>Electrical Protection</b>	Over-voltage, reverse-voltage, output short-circuit protected
	<b>LED Indicators</b>	Power and output channels
	<b>Connections</b>	M8, M12 Pigtail, Terminal Block, Flying Lead Cable, or Deutsch (4 or 6 pin)
<b>Resolution</b>	0.3°	
<b>Repeatability</b>	0.30%	
<b>Nonlinearity</b>	< 1%	

### MECHANICAL

\* Non-contact tolerances rated using MAG-RING 1/4x20 magnet accessory.

<b>Housing Diameter</b>	38mm
<b>Housing Material</b>	Black Delrin (standard)
<b>Housing Height</b>	1.19" (30.226mm) body
<b>Mounting</b>	32mm (.884) spacing w/ 4mm diameter screws
<b>Weight</b>	1.3 oz
<b>Magnet / sensor gap*</b>	Standard 0.5" (12mm)(Max w/ custom mag assembly up to 1" [30mm])
<b>Rated planar tilt / axial gap*</b>	Planar 30°(Max 45°) / Axial 0.1" (2.5mm)(Max 0.16" [4mm])
<b>Speed</b>	3000 RPM max

### ENVIRONMENTAL

<b>Operating Temperature</b>	-30° to +80° C
<b>Storage Temperature</b>	-40° to +90° C
<b>Humidity</b>	100%
<b>Shock</b>	400g/6ms (MIL STD 202)
<b>Vibration</b>	5 to 3000 Hz, 20g (MIL STD 202)
<b>Protection Class</b>	IP69K (connection dependent)

	Code 1: Housing Style	Code 2: MagElec	Code 3: Connection	Code 4: Modifiers
ORDER TABLE	<b>HP38</b> HP38 material black Delrin connector orientation SIDEEXIT For REAREXIT connector on HP38 add code 33 to end of P/N.	<b>B-____-SEPP</b> 13 bit single ended quadrature - ABZ	<b>TRM</b> Pluggable Terminal block	<b>32</b> Side Exit (housing wall)
		<b>B-1939</b> 13 bit J1939 @512 positions	<b>M8</b> M8 male	<b>33</b> Back Exit (epoxy side)
		<b>B-SSI1</b> Absolute position SSI @512 positions	<b>M12P</b> M12 male on 18' pigtail	<b>71</b> Roller
	*More outputs and connection options available, contact Joral if desired configuration is not listed	<b>B-PWM</b> PWM absolute position	<b>CXX</b> Flying lead cable (enter XX as inches)	<b>72</b> Spindle
		<b>V1</b> 5 VDC IN, 0-5 VDC OUT	<b>SCXX</b> Shielded cable (enter XX as inches)	
		<b>V2</b> 6-36 VDC IN, 0-5 VDC OUT	<b>DE4</b> DT04-4 pin male Deutsch	
			<b>DE6</b> DT04-6 pin male Deutsch	

### SPECIAL PART NUMBER INFORMATION

#### Code 1: Housing Style

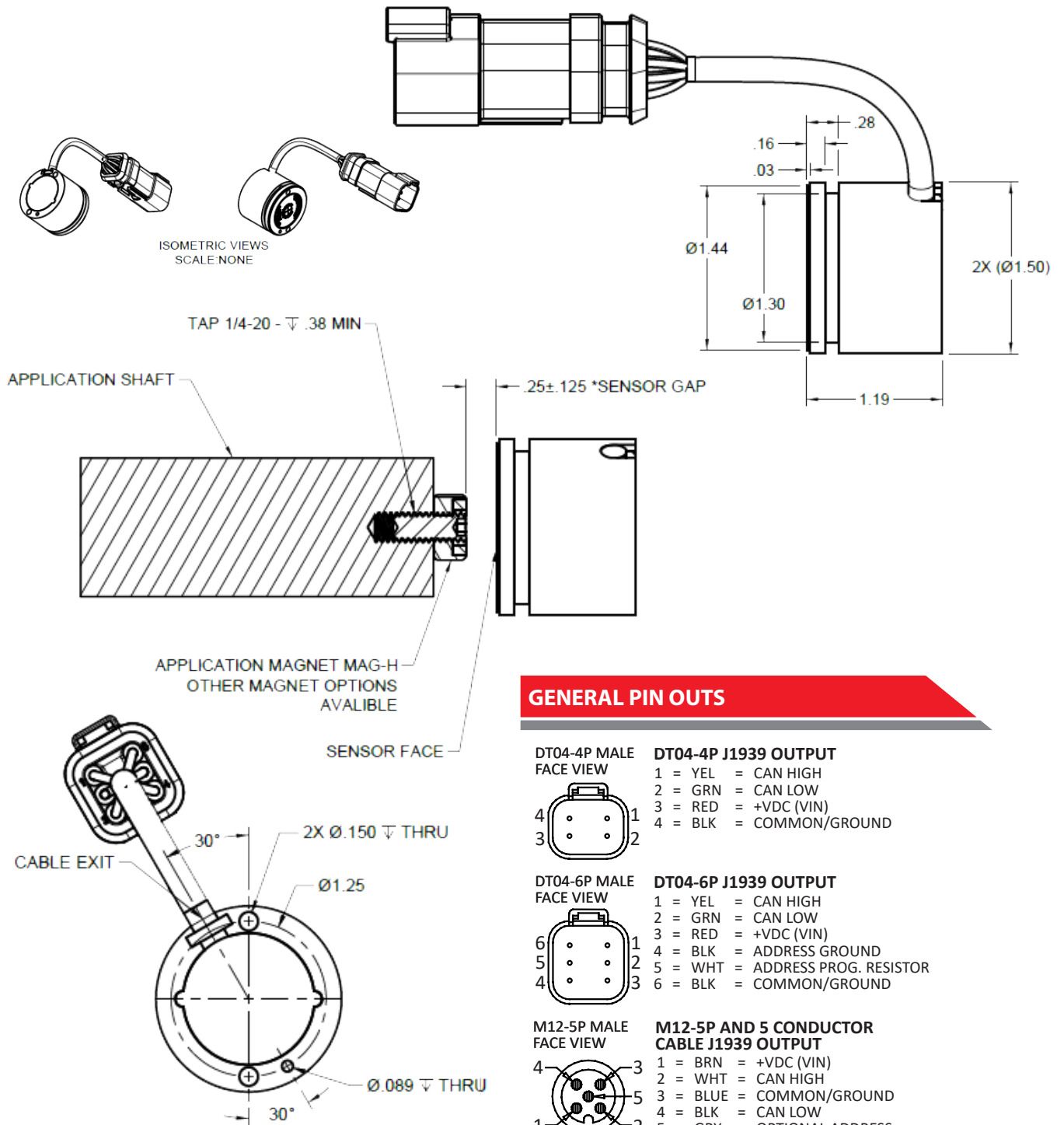
- **Modifier 33** - For REAR EXIT connector orientation on HP38 add 33 to end of Joral P/N
- **HP38** - Standard connector orientation SIDE EXIT. For REAR EXIT add modifier 33 to end of Joral P/N.

#### Code 2: MagElec

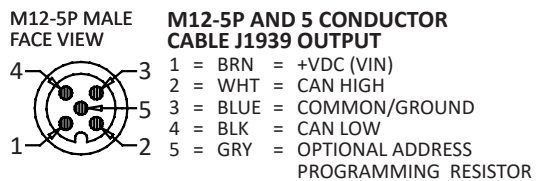
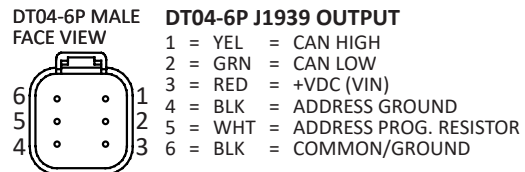
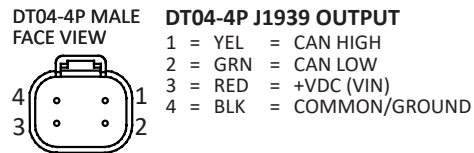
<b>(B-____-SEPP)</b> <ul style="list-style-type: none"> <li>• Enter quadrature PPR in place of ____</li> <li>• B = 10 bit PPR</li> <li>• <b>Available 10 bit PPR:</b> 0032, 0064, 0128, 0256</li> </ul>	<b>B-1939</b> <ul style="list-style-type: none"> <li>• 10 bit J1939 output is 512 positions</li> <li>• B = 10 bit</li> </ul>	<b>V1, V2, I1</b> (Analog MagElec P/N Guide) <ul style="list-style-type: none"> <li>• First select MagElec code (<b>V1, V2, or I1</b>) then Angle Range (<b>A1-A2</b>), Voltage Range (<b>V1-V2</b>) and Signal Direction (Clockwise [<b>CW</b>] or Counterclockwise [<b>CCW</b>])</li> <li>• <b>Formula Example:</b> (MagElec)-(A1-A2)-(V1-V2)-(CW or CCW)</li> <li>• <b>Exact Part Number Examples:</b>                HP38-<b>V1-0-360-.5-4.5-CW-C72</b>                HP38-<b>V2-180-270-0-5-CCW-DE4</b>                HP38-<b>I1-0-180-4-20-CW-M12</b> </li> </ul>
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#### Code 3: Connections

- **All Outputs, All Connections** - Standard connection orientation SIDE EXIT. For REAR EXIT connector HP38 add 33 to end of Joral HP38 P/N
- **J1939 Output** Addressing via varying value resistor in connection requires at least five conductors (M12, DE6, and Cable connections are resistor addressing compatible)
- **All Outputs - DE4 and DE6** Deutsch connectors add \$20 to HP38 list



**GENERAL PIN OUTS**



*Dimensions informative only  
For most recent dimensions please consult factory*