

DESCRIPTION

The RH-P encoder, also known as a Pulse Position Indicator (PPI), is ideally suited for material handling sortation applications. It converts shaft rotation into quadrature square wave output pulses to provide an accurate and reliable means of digitizing position, rate, or length of travel. The number of pulses per each revolution of the shaft are selectable by setting configuration switches. For conveyor applications, accessories are available for mounting either above or below the conveyor belt/roller.

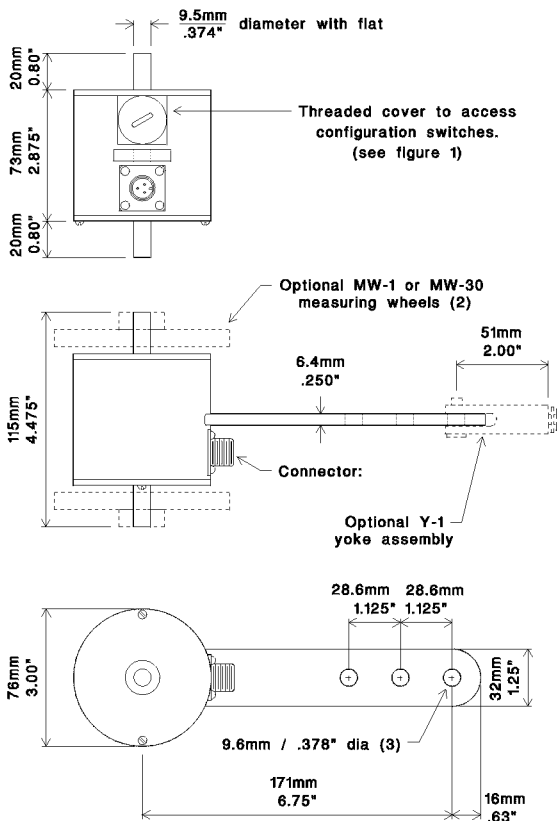
FEATURES

- Programmable Pulses per Revolution
- **Enhanced "Anti-Jitter"**
- A and B Outputs (quadrature)
- **NEW** ESD Protection
- **NEW** Short Circuit / Reverse Voltage Protected



* Requires surge protection option if cable exceeds 100' / 30m or leaves the building.

DIMENSIONS



Electrical

Configuration:

Model	Supply/V _{IN} (vdc)	Output Circuit
RH-P300AJQ/5	5±5%	push/pull
RH-P300AJQ/8-30	8-30	push/pull
RH-P300AJQ/5C	5±5%	open collector
RH-P300AJQ/8-30C	8-30	open collector

Output Circuit: (See figure 2)

- Push/Pull
- Combined sourcing/sinking output
- Open collector
- NPN Open collector sinking output (V_{CC}=30 vdc maximum)

Supply Current: 50ma maximum (no load)

Output Current (I_O): 50ma max source/sink

Operating temperature: 0° to 70° C

Maximum operating speed: 3,000 rpm
1500 rpm for 300 ppr output

Outputs

Quadrature Outputs: Two outputs, A and B, have the selected number of pulses per revolution by setting switches 1 to 4 (see figure 1). A leads B by 90° for clockwise rotation when viewed from shaft end farthest from connector.

Output Waveform: 50/50 squarewave

- **Pulse On-Off Ratio:** 50% ± 10%
- **Pulse Interval Jitter:** ±10%
- **Quadrature Deviation:** 30° (max)
(A leads B by 1.1msec max for 300 pulses per revolution)
- **Pulse rise time:** 2 μsec (max)
- **Pulse fall time:** 5 μsec (max)
- **Voltage (high):** V_{in}-2.5 vdc (min)
- **Voltage (low):** 1.5 vdc (max)

(600 rpm, V_{IN}=24vdc, 10ma < I_O < 50ma, 25°C)

Enhanced Anti-Jitter: Increases pulse output hysteresis to 43% of a revolution. That is, the encoder generates pulses as long as it continues to rotate in one direction. If the direction reverses then pulse output ceases until the encoder returns to its original direction of rotation and to its position before reversing. If the reverse direction exceeds 43% of a revolution then the encoder resets itself.

Electrical Connections

Pin No.	Function	Wire Color
A	Common	Black
B	Supply voltage	Red
C	not used	—
D	Output A	White
E	Output B	Green
F	not used	—
—	Case Ground	Plain/Shield

Connector: MS3102A-14S-6P (6-pin)

Mating Connector: MS3106A-14S-6S

Mechanical

Weight: 1.3 lb (600 gm) without accessories

Bearing Loading: 30 lb. Radial/axial (max)

Materials:

- Case: 1/4" Aluminum, anodized
- Shaft: 303 Stainless steel
- Switch window: Acrylic

Accessories

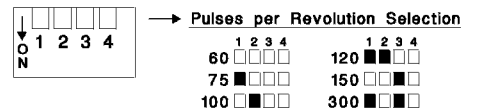
Measuring Wheels: Cast aluminum and .38" (9.6mm) wide urethane tire with high coefficient of friction. Circumferences:
— MW-1-B: 12.00 ± .01 inch
— MW-30-B: 30.00 ± .025 cm

Yoke Assembly (Y-1): Aluminum yoke, steel clevis pin and 1/4-28 mounting bolt. Allows the encoder to pivot freely when fastened to a rigid beam.

Under-belt Mounting Assembly (MB-UB1): a counter-weight assembly that facilitates mounting the RH encoder under the conveyor belt (or roller).

Cable Assembly (C6-4-10 cf): 10 ft (3m) of 4 conductor, shielded cable with mating connector is included at no extra cost.

Configuration Switches



Switch definitions: □ Up (off), ■ Down (on)

Figure 1 - Configuration Switches

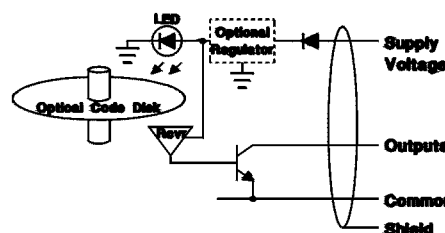


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NPN Open Collector Output (Current Sinking)



Push-Pull Output (Current Sourcing/Sinking)

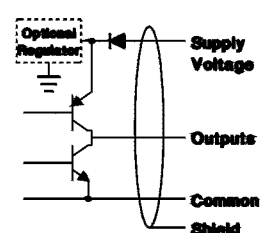


Figure 2 - Output Circuits