

DESCRIPTION

The RH-P encoder, also known as a Pulse Position Indicator (PPI), converts shaft rotation into square wave output pulses and is ideally suited for linear measuring applications when used with measuring wheels. The number of pulses per each revolution of the shaft is determined by setting configuration switches. A direction output indicates the shaft rotation direction, clockwise (CW) or counter-clockwise (CCW), as viewed from the shaft end farthest from the connector. For conveyor applications, accessories are available for mounting either above or below the conveyor belt/roller.

FEATURES

Programmable Pulses per revolution

Programmable Direction Indicator

"Anti-Jitter" circuit

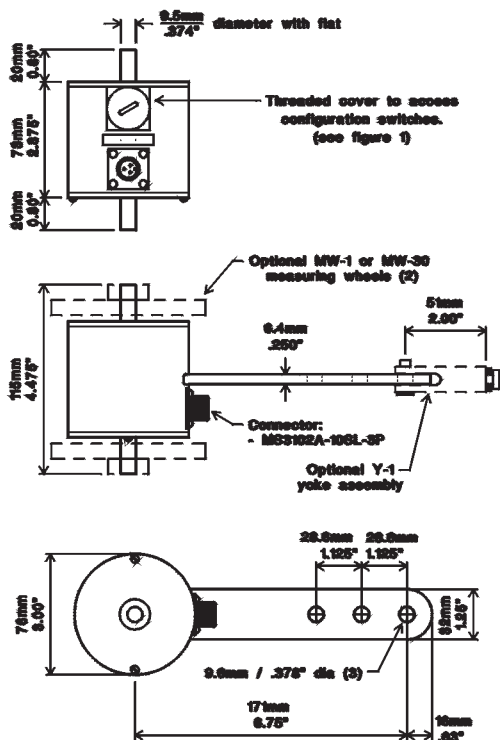
ESD Protection

Short Circuit / Reverse Voltage Protected



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

DIMENSIONS



Electrical

Configuration (specify voltage and output circuit type when ordering):

Model	Supply/V _{IN} (vdc)	Output Circuit
RH-P144AJB/5	5±5%	source/sink
RH-P144AJB/8-30	8-30	source/sink
RH-P144AJB/5C	5±5%	open collector
RH-P144AJB/8-30C	8-30	open collector

Output circuit: (See figure 2)

- **Source/Sink**
Combined sourcing/sinking output (Push/Pull 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: -25° to +85° C

Maximum operating speed: 2,500 rpm

Outputs

Pulses per Revolution: Selectable by setting switches 2 to 6 (figure 1). Output is "low" when power is initially applied.

- Output Waveform:** 50/50 squarewave
- **Pulse On-Off Ratio:** 50% ± 10%
 - **Pulse Interval Jitter:** ±10%
 - **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)

Anti-jitter: The anti-jitter feature increases the pulse output hysteresis to 1/2 of a pulse width, eliminating the effects of mechanical vibration and the possible dither that results in false output pulses. For example, a 10 pulse per revolution output would have 18° hysteresis (i.e. 360° ÷ 10 × 1/2).

Direction output: Indicates the direction of rotation by setting switch 1 (figure 1), and is updated at each 1/280th of a revolution. This output is "low" when power is initially applied.

Direction output hysteresis: .07 approx.

SPECIFICATIONS

Mechanical

Weight: 1.3 lb. (600 gm) without accessories

Shaft Loading: Radial: 25 lb. (11.3 kg.) max.
Axial: 10 lb. (6.8 kg.) max.

Bearing Life (L₁₀): 70 x 10⁶/RPM = hours

Materials:

- Case: 1/4 Aluminum, anodized
- Shaft: 303 Stainless steel

Electrical Connections

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

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

Mating connector: MS3106A-14S-6S

Accessories

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

See our web site for measuring wheels and other accessories.

Configuration Switches

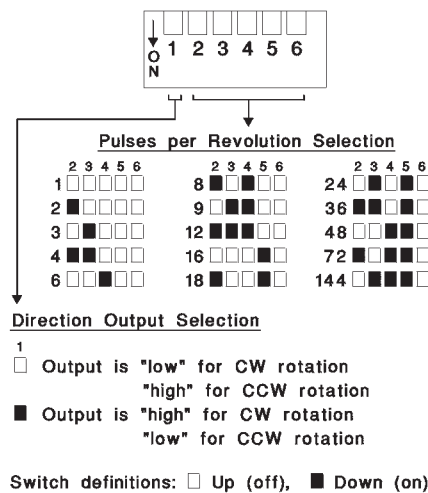
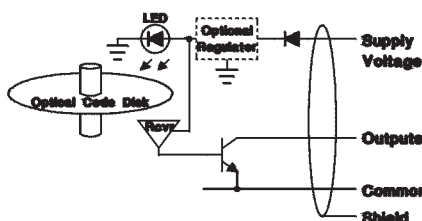


Figure 1 - Configuration Switches

NPN Open Collector Output (Current Sinking)



Push-Pull Output (Current Sourcing/Sinking)

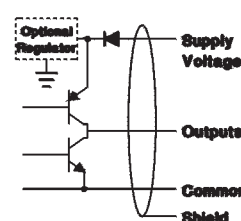


Figure 2 - Output Circuits

OVER 30 YEARS OF MATERIAL HANDLING AND INDUSTRIAL EXPERIENCE

HOTOCRAFT INC

602 E. North Street Elburn, IL 60119, USA
 630-365-7148 Fax: 630-365-7149
 www.photocraftencoders.com