

# RH-P240Q Quadrature Programmable Wheeled Encoder

## DESCRIPTION

The RH-P wheeled encoder, also known as a Pulse Position Indicator (PPI), 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 is determined by setting switches. It is ideally suited for linear measuring applications when used with an optional pair of 12" or 30cm circumference measuring wheels that allow it to ride directly on the conveyor belt, tracking the conveyor independently of conveyor roller diameters. Accessories are available for mounting either above or below the conveyor belt/roller.

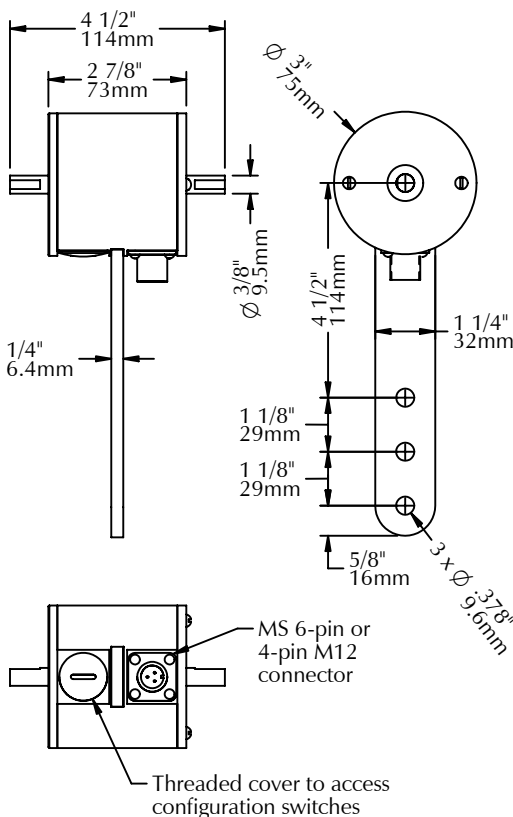


## FEATURES

- Programmable Pulses/Revolution
- Quadrature (A and B) outputs
- ESD / Short Circuit / Reverse Voltage Protected
- See the model R22 for a smaller wheeled encoder

\* CE marking requires Photocraft cable, and surge protection option if cable exceeds 100' (30m) or leaves the building.

## DIMENSIONS



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## SPECIFICATIONS

### Electrical

**Supply Voltages (+vdc):** (specify when ordering)

5 ± 5% vdc or 8 to 30 vdc

**Current:** 50 ma max (no load)

100 ma max (line driver)

**Operating Temperature:** -25° to +85° C

**Output Circuit:** (specify when ordering)

Output voltage level is approximately the same as the input voltage level.

**Single Ended:**

— NPN open collector (30vdc/50mA max)

— Push/Pull (50mA max source/sink)

**Differential Line Driver:**

— 7272 line driver (output same as input volts)

— RS422 line driver (regulated 5vdc output)

### Outputs

**Quadrature Outputs:** Two outputs, A and B, have the selected number of 50/50 duty cycle, square wave pulses per revolution based on the configuration switch settings. A leads B by 90° for clockwise rotation when viewed from shaft end farthest from connector. Both outputs are "Low" when initially powered.

### Electrical Connections

#### Single Ended Outputs:

MS 6-pin 4-pin M12		Wire
Pin No.	Pin No.	Color
A	3	Common
B	1	+vdc
D	4	Output A
E	2	Output B
C, F	-	not used

#### Differential Line Driver Outputs:

MS 6-pin	Pin No.	Function	Wire Color
A		Common	Black
B		+vdc	Red
C		Output +A	White
D		Output -A	Blue
E		Output +B	Green
F		Output -B	Brown

### Mechanical

**Weight:** 1.3 lbs (600 gm)

**Shaft Loading:** Radial: 25 lb. (11.3 kg.) max

Axial: 10 lbs. (6.8 kg.) max

**Bearing Life:** 70 x 1,000,000/rpm = hours

**Materials:**

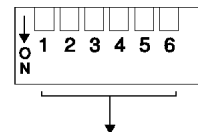
— Case: Aluminum, anodized

— Shaft: 303 Stainless steel

— Switch cover: Plastic

**Maximum Operating Speed:** 3,000 rpm

### Configuration Switches



#### Pulses per Revolution Selection

1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
1	□	□	□	□	□	6	■	■	■	■	■	24	□	□	□	□	□
2	■	□	□	□	□	8	■	■	■	■	■	30	■	■	■	■	■
3	■	■	□	□	□	10	□	□	□	□	□	40	□	□	□	□	□
3 1/2	■	■	■	□	□	12	■	■	■	■	■	60	■	■	■	■	■
4	□	■	■	■	■	15	□	□	□	□	□	120	□	□	□	□	□
5	■	■	■	■	■	20	■	■	■	■	■						

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

**Accessories:** See our website for cables, measuring wheels, and mounting brackets for above and under a conveyor.

## MODEL NUMBER

Model Number	Program Name	Supply Voltage	Output Circuit	Modification Number	Accessories
RH	P240Q	5 = 5vdc, 8-30 = 8-30vdc	leave blank for push/pull, C = NPN open collector, DL = RS422 line driver, DH = 7272 line driver	6 pin MS style connector is standard. M131 = 4-pin 12mm connector. Call or see our website for other modifications.	leave blank for no accessories. Call or see our website for more information.

Example: RH-P240Q/8-30 - model RH, P240Q program, 8-30vdc, push/pull output, 6-pin MS style connector