

# RH-P64AJ

## Programmable Wheeled Encoder

### DESCRIPTION

The RH-P encoder, also known as a Pulse Position Indicator (PPI) or Tach, is typically used to measure linear movement on a conveyor system. The number of pulses per revolution is determined by setting configuration switches. It is typically fitted with a pair of 12" circumference measuring wheels, model MW-1-B, or 30cm circumference wheels, model MW-30-B, that allow it to ride directly on the conveyor belt, tracking the conveyor independent of conveyor roller diameters. The RH-P also includes the Anti-Jitter feature that eliminates extraneous pulses generated if the conveyor stops on a pulse edge.

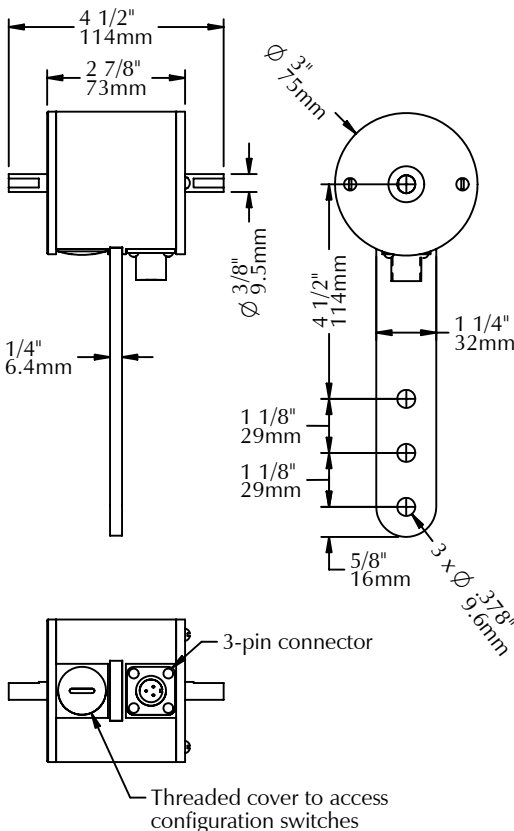
### FEATURES

- Programmable Pulses/Revolution
- ESD / Short Circuit / Reverse Voltage Protected
- Exclusive "Anti-Jitter" Circuit for Conveyor Applications
- 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



### SPECIFICATIONS

#### Mechanical

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

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

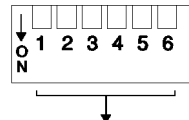
**Bearing Life:** 70 x 1,000,000/rpm = hours

**Materials:**

- Case: Aluminum, anodized
- Shaft: 303 Stainless steel
- Switch cover: Plastic

**Maximum Operating Speed:** 2,500 rpm

#### Configuration Switches



**Switch definitions:**  
☐ Up (off)  
☒ Down (on)

| Pulses per Revolution Selection |    |    |    |    |    |
|---------------------------------|----|----|----|----|----|
| 1                               | 2  | 3  | 4  | 5  | 6  |
| 1                               | 2  | 3  | 4  | 5  | 6  |
| 2                               | 3  | 4  | 5  | 6  | 1  |
| 3                               | 4  | 5  | 6  | 1  | 2  |
| 4                               | 5  | 6  | 1  | 2  | 3  |
| 5                               | 6  | 1  | 2  | 3  | 4  |
| 6                               | 1  | 2  | 3  | 4  | 5  |
| 7                               | 8  | 9  | 10 | 11 | 12 |
| 8                               | 9  | 10 | 11 | 12 | 7  |
| 9                               | 10 | 11 | 12 | 7  | 8  |
| 10                              | 11 | 12 | 7  | 8  | 9  |
| 11                              | 12 | 7  | 8  | 9  | 10 |
| 12                              | 7  | 8  | 9  | 10 | 11 |
| 13                              | 14 | 15 | 16 | 17 | 18 |
| 14                              | 15 | 16 | 17 | 18 | 13 |
| 15                              | 16 | 17 | 18 | 13 | 14 |
| 16                              | 17 | 18 | 13 | 14 | 15 |
| 17                              | 18 | 13 | 14 | 15 | 16 |
| 18                              | 13 | 14 | 15 | 16 | 17 |
| 19                              | 20 | 21 | 22 | 23 | 24 |
| 20                              | 21 | 22 | 23 | 24 | 19 |
| 21                              | 22 | 23 | 24 | 19 | 20 |
| 22                              | 23 | 24 | 19 | 20 | 21 |
| 23                              | 24 | 19 | 20 | 21 | 22 |
| 24                              | 19 | 20 | 21 | 22 | 23 |
| 25                              | 26 | 27 | 28 | 29 | 30 |
| 26                              | 27 | 28 | 29 | 30 | 25 |
| 27                              | 28 | 29 | 30 | 25 | 26 |
| 28                              | 29 | 30 | 25 | 26 | 27 |
| 29                              | 30 | 25 | 26 | 27 | 28 |
| 30                              | 25 | 26 | 27 | 28 | 29 |
| 31                              | 32 | 33 | 34 | 35 | 36 |
| 32                              | 33 | 34 | 35 | 36 | 31 |
| 33                              | 34 | 35 | 36 | 31 | 32 |
| 34                              | 35 | 36 | 31 | 32 | 33 |
| 35                              | 36 | 31 | 32 | 33 | 34 |
| 36                              | 31 | 32 | 33 | 34 | 35 |
| 37                              | 38 | 39 | 40 | 41 | 42 |
| 38                              | 39 | 40 | 41 | 42 | 37 |
| 39                              | 40 | 41 | 42 | 37 | 38 |
| 40                              | 41 | 42 | 37 | 38 | 39 |
| 41                              | 42 | 37 | 38 | 39 | 40 |
| 42                              | 37 | 38 | 39 | 40 | 41 |
| 43                              | 44 | 45 | 46 | 47 | 48 |
| 44                              | 45 | 46 | 47 | 48 | 43 |
| 45                              | 46 | 47 | 48 | 43 | 44 |
| 46                              | 47 | 48 | 43 | 44 | 45 |
| 47                              | 48 | 43 | 44 | 45 | 46 |
| 48                              | 43 | 44 | 45 | 46 | 47 |
| 49                              | 50 | 51 | 52 | 53 | 54 |
| 50                              | 51 | 52 | 53 | 54 | 49 |
| 51                              | 52 | 53 | 54 | 49 | 50 |
| 52                              | 53 | 54 | 49 | 50 | 51 |
| 53                              | 54 | 49 | 50 | 51 | 52 |
| 54                              | 49 | 50 | 51 | 52 | 53 |
| 55                              | 56 | 57 | 58 | 59 | 60 |
| 56                              | 57 | 58 | 59 | 60 | 55 |
| 57                              | 58 | 59 | 60 | 55 | 56 |
| 58                              | 59 | 60 | 55 | 56 | 57 |
| 59                              | 60 | 55 | 56 | 57 | 58 |
| 60                              | 55 | 56 | 57 | 58 | 59 |
| 61                              | 62 | 63 | 64 | 65 | 66 |
| 62                              | 63 | 64 | 65 | 66 | 61 |
| 63                              | 64 | 65 | 66 | 61 | 62 |
| 64                              | 65 | 66 | 61 | 62 | 63 |
| 65                              | 66 | 61 | 62 | 63 | 64 |
| 66                              | 61 | 62 | 63 | 64 | 65 |

#### 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:**

- 7273 open collector (30vdc/50mA max)
- 7272 Push/Pull (50mA max source/sink)

**Differential Line Driver:**

- 7272 line driver (output same as input volts)
- RS422 line driver (regulated 5vdc output)

#### Outputs

**Pulses per Revolution:** Selectable by setting switches 1 to 6 (see configuration switches).  
Output is "low" when initially powered.

**Anti-Jitter:** Increases pulse output hysteresis to 1/2 of a pulse width eliminating the effects of mechanical vibration and the possible dither that results in false pulses.

#### Electrical Connections

**Single Ended Outputs:**

| MS 3-pin | 4-pin M12 | Wire           |
|----------|-----------|----------------|
| Pin No.  | Pin No.   | Function Color |
| A        | 1         | +vdc Red       |
| B        | 4         | Output A White |
| C        | 3         | Common Black   |
| -        | 2         | not used -     |

**Differential Line Driver Outputs:**

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

### MODEL NUMBER

|                     |                                                                                                                       |                                                 |                                                                                                                         |                                                                                                                                                           |                                                                                                   |
|---------------------|-----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>RH</b>           | <b>P64AJ</b>                                                                                                          |                                                 |                                                                                                                         |                                                                                                                                                           |                                                                                                   |
| <b>Model Number</b> | <b>Program Name</b><br>Call or see our website for information about other available programs for this encoder model. | <b>Supply Voltage:</b> 5 = 5vdc, 8-30 = 8-30vdc | <b>Output Circuit:</b> leave blank for push/pull, C = NPN open collector, DL = RS422 line driver, DH = 7272 line driver | <b>Modification Number:</b><br>3 or 6 pin MS style connector is standard. M131 = 4-pin 12mm connector<br>Call or see our website for other modifications. | <b>Accessories:</b> leave blank for no accessories. Call or see our website for more information. |

Example: RH-P64AJ/8-30 - model RH, P64AJ program, 8-30vdc, push/pull output, 3-pin MS style connector



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