FLANGE MOUNT ROTARY PULSE GENERATOR
HEAVY-DUTY PRECISION ENCODERS

ZDH Series

- High Precision Accuracy
- NPN Open Collector Output
- 9.5 mm (0.375”) Shaft Diameter
- Quadrature Outputs with Indexing
- NEMA 4, 13 (IP66)

The ZDH Series of sensors are heavy-duty, extremely rugged, reliable, yet compact encoders designed for harsh factory and plant floor environments. These encoders are flange mount and conform to NEMA 4, and 13 (IP66) standards.

Applications
Typical applications include motion control feedback, machine control, process control, elevator controls, conveyors, textile equipment, robotics and food processing.

SPECIFICATIONS

ELECTRICAL
Supply Voltage: 4.75 to 28 Vdc, 100 mA maximum with no output load
Outputs: NPN open collector transistor, 100 mA maximum current
Maximum Frequency: Up to 1 MHz
Index: NPN open collector transistor. Positive pulse once per revolution, centered over output channel A
Input Ripple: 100 mV peak to peak at 0 to 100 KHz
Noise Immunity: Tested to BS EN61000-4-2; IEC801-3; BS EN61000-4-4; DDENV 50141; DDENV 50204; BS EN55022; BS EN50081-2
Symmetry: 1 to 6000 CPR: 180° (±18°) electrical at 100 KHz output
6001 to 20,480 CPR: 180° (±36°) electrical
Quad Phasing: 1 to 6000 CPR: 90° (±22.5°) electrical
6001 to 20,480 CPR: 90° (±36°) electrical
Min Edge Separation: 1 to 6000 CPR: 67.5° electrical at 100 KHz output
6001 to 20,480 CPR: 54° electrical
>20,480 CPR: 50° electrical
Rise Time: Less than 1 microsecond
Accuracy:
200 to 1999 CPR: 0.017° mechanical (1.0 arc minutes)
2000 to 3000 CPR: 0.01° mechanical (0.6 arc minutes)

MECHANICAL
Maximum Mechanical Speed: 8000 RPM
Shaft Diameter: 9.5 mm (0.375")
Radial/Axial Shaft Load: 80 lbs. maximum rated load of 20 to 40 lbs. for bearing life of 1.5 x 109 revolutions
Starting Torque: 21.18 N-m (3.0 oz-in.)
Moment Of Inertia: 3.66 x 10-3 N-mm-sec² (5.2 x 10-4 oz-in-sec²)
Connector Type: 7-pin MS type (MIL-C-5015)
Housing: Black non-corrosive finish

Mounting: 2.0° flange mount
Weight: 311.8 g (11 oz)

ENVIRONMENTAL CONDITIONS
Operating Temperature: 0 to 70°C (32 to 158°F)
Storage Temperature: -25 to 85°C (-13 to 185°F)
Humidity: 98% RH non-condensing
Shock: 75 g @ 11 msec duration
Sealing: NEMA 4, 13 (IP66) with shaft seal
Open Collector Output Wiring

The ZDH Series of sensors have open collector outputs. An open collector output brings the uncommitted collector of the encoder switching device to the external world. Because the collector element is not associated with the sensor supply voltage, the sensor output collector may be “pulled up” to external voltages different than the encoder supply voltage (40 Vdc maximum).

NPN open collector outputs are current sinking devices. An output signal will not be generated unless a pull-up resistor is connected from the open-collector to the positive side of an external supply. The same supply can be used for powering the unit and for the pull-up resistor.

To Order Visit omega.com/zdh_series for Pricing and Details

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<tr>
<th>MODEL NUMBER</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>AU-ZDH0100H</td>
<td>100 ppr, 51 mm (2”) flange mount rotary pulse encoder</td>
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<tr>
<td>AU-ZDH1000H</td>
<td>1000 ppr, 51 mm (2”) flange mount rotary pulse encoder</td>
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ACCESSORIES

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<tr>
<th>MODEL NO.</th>
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<tbody>
<tr>
<td>AU-CCBRPG00</td>
<td>7-pin MS connector</td>
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<tr>
<td>AU-CCBRPG02</td>
<td>7-pin MS connector with 3.05 m (10’) long 24 AWG conductor with drain</td>
</tr>
<tr>
<td>AU-CCBRPG03</td>
<td>7-pin MS connector with 6.1 m (20’) long 24 AWG conductor with drain</td>
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<tr>
<td>AU-RPGFC002</td>
<td>Flexible shaft coupling, 25 mm (1”) long, 0.250 - 0.375”</td>
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<tr>
<td>AU-RPGFC003</td>
<td>Flexible shaft coupling, 25 mm (1”) long, 0.375 - 0.375”</td>
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<tr>
<td>AU-RPGFC004</td>
<td>Flexible shaft coupling, 25 mm (1”) long, 0.375 - 0.500”</td>
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<tr>
<td>AU-RPGFC006</td>
<td>Flexible shaft coupling, 25 mm (1”) long, 0.375” - 6 mm</td>
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Ordering Example: AU-ZDH0100H, 2” flange mount rotary pulse generator, AU-RPGFC003, flexible shaft coupling, 0.375-0.375”, and AU-CCBRPG006, 7-pin MS connector.