SHAFT SERVO MOUNT 
ROTARY PULSE GENERATOR
HIGH PRECISION SHAFT ENCODER

ZSD Series

- High Precision Accuracy
- NPN Open Collector Output
- 6.33 mm (0.25") Shaft Diameter
- Quadrature Outputs with Indexing

The ZSD Series encoder is ideal for applications requiring a miniature, high precision, low cost encoder, designed with all metal construction for years of trouble-free operation.

The NPN Open Collector outputs are each current limited to 20 mA. The outputs are standard quadrature with index, available in 100 or 1000 pulses per shaft revolution. The quadrature separation is typically 90 electrical degrees. Output A leads output B for clockwise rotation of the encoder shaft.

OPEN COLLECTOR OUTPUT WIRING
The ZSD 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 (30 Vdc maximum) different than the encoder supply voltage. 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.

SPECIFICATIONS

ELECTRICAL
Supply Voltage: 4.75 to 28 Vdc, 100 mA maximum
Outputs: NPN open collector outputs, 20 mA maximum
Maximum Frequency: 200 KHz
Symmetry: 180° (±18°) electrical

MECHANICAL
Maximum Speed: 8000 RPM
Shaft Size: 6.33 mm (0.25")
Radial Shaft Load: 2.25 kg (5 lbs)
Axial Shaft Load: 2.25 kg (5 lbs)
Starting Torque: 2.82 N-mm (0.4 oz-in)
Moment of Inertia: 4.8 gm-cm² (6.7 x 10⁻⁶ oz-in-sce²)
Electrical Connection: 914.4 mm (36") long 24 AWG shielded, braided cable
Weight: 85 g (3 oz)

ENVIRONMENTAL
Operating Temperature: -20 to 85°C (-4 to 121°F)
Humidity: 98% RH non-condensing
Vibration: 10 g @ 58 to 500 Hz
Shock: 80 g @ 11 msec duration
Sealing: IP64

FUNCTION WIRE COLOR
+Vdc Red
Common Black
Data A White
Data B Green
Index Z Orange

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

MODEL NO. DESCRIPTION
AU-ZSD0100A 100 ppr servo mount rotary encoder
AU-ZSD1000A 1000 ppr servo mount rotary encoder
AU-RPGFC001 Flexible shaft coupling, 25 mm (1") long, 0.250 to 0.250"
AU-RPGFC002 Flexible shaft coupling, 25 mm (1") long, 0.250 to 0.375"
AU-RPGFC005 Flexible shaft coupling, 25 mm (1") long, 0.250 - 6 mm

Ordering Examples: AU-ZSD1000A, 1000 ppr shaft mount encoder.
AU-RPGFC001, flexible shaft coupling, 0.250 to 0.250".