

# SERIES AI25 DeviceNet

ACURO

## Absolute Encoder

### Key Features

- Up to 14 Bit of Singleturn and 12 Bits of True Multiturn Absolute Positioning
- Onboard Diagnostics
- DeviceNet Interface



## SPECIFICATIONS

### STANDARD OPERATING CHARACTERISTICS

**Single-turn Resolution:** 10, 12, 13, 14 Bit  
**Multi-turn Resolution:** 12 bit  
**Linearity:** +/- 1/2 LSB  
**Absolute Accuracy:** ± 0.01° mechanical (36 arc-sec.)  
**Repeatability:** ± 0.002° mechanical (7.2 arc-sec.)  
**Code format:** Binary  
 Electrical  
**Connection:** Bus Cover with spring terminal clamps  
**Supply voltage:** 10-30 VDC  
**Intrinsic current consumption:** 200 mA (ST), 220 mA (MT)  
**Baud Rate:** 125, 250, 500 kBaud  
**Interface:** CAN Highspeed according to ISO/DIS 11898, CAN Specification 2.0 B (11 and 29 bit identifier)  
**Protocol:** According to DeviceNet V2.0  
**Transfer mode:**  
 Poll mode  
 Bit strobe (time-synchronous for all devices)  
 Change of State (automatic after change of values)  
 Cyclic, with adjustable cycle timer

### MECHANICAL

**Shaft diameter:**  
 Shaft: 6 mm (Servo Mount), 10 mm (Clamping Mount), 3/8" (Square Flange Mount)  
 Hubshaft: 10mm, 12 mm, 3/8", 1/2"  
**Maximum shaft load:**  
 6 mm shaft: 13 lb axial, 24 lb radial  
 10 mm shaft: 24 lb axial, 35 lb radial  
**Maximum shaft speed:** 10,000 RPM (continuous), 12,000 RPM (peak)  
**Starting torque:** < 1.4 in-oz  
**Body Diameter:** 58 mm, nominal  
**Weight (approx.):** 350 g ST, 400 g MT  
**Shaft tolerance (hubshaft only):** +/- 1.5 mm axial, +/- 0.2 mm radial  
**Flange configurations:** Square, Clamp, Servo, Hubshaft with flexible tether  
**Bearing life:**  
 1 x 10<sup>10</sup> revolutions at 35% full rated shaft load  
 1 x 10<sup>9</sup> revolutions at 75% full rated shaft load  
 1 x 10<sup>8</sup> revolutions at 100% full rated shaft load

### ENVIRONMENTAL

**Operating Temperature:** -40 to 85° C  
**Storage Temperature:** -40 to 100° C  
**Enclosure Rating:** IP64 or IP67  
**Shock:** 1,000 m/s<sup>2</sup> (6 ms)  
**Vibration:** 100 m/s<sup>2</sup> (10 to 2,000 Hz)



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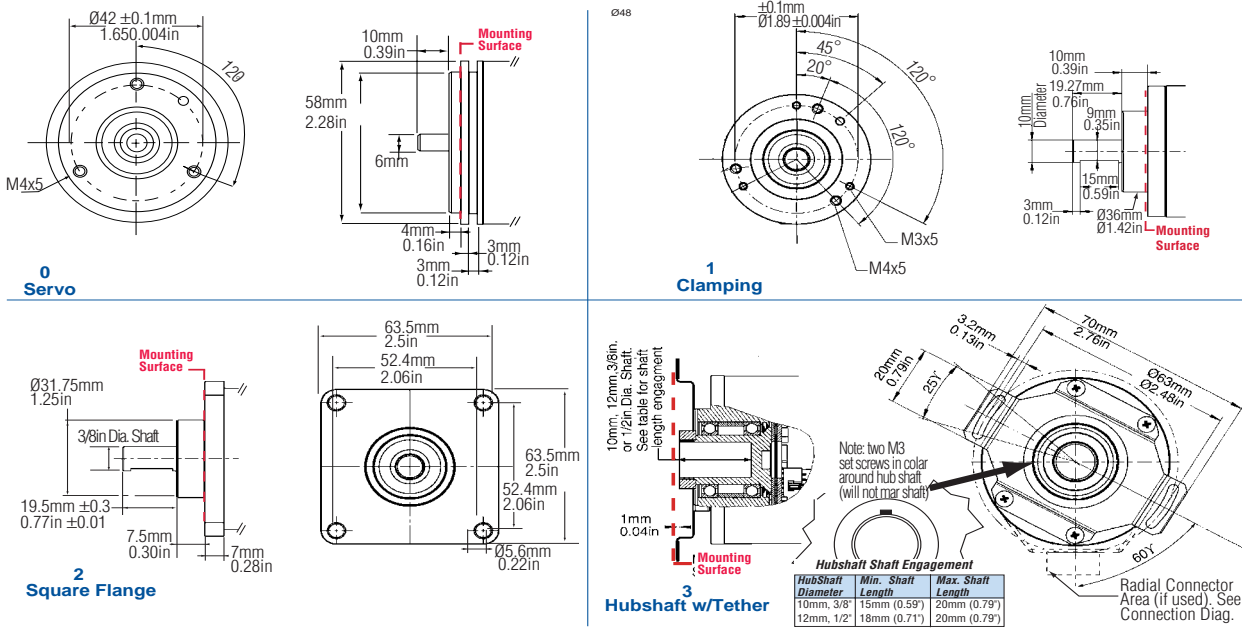
**Ordering Information**

To order, complete the model number with code numbers from the table below:

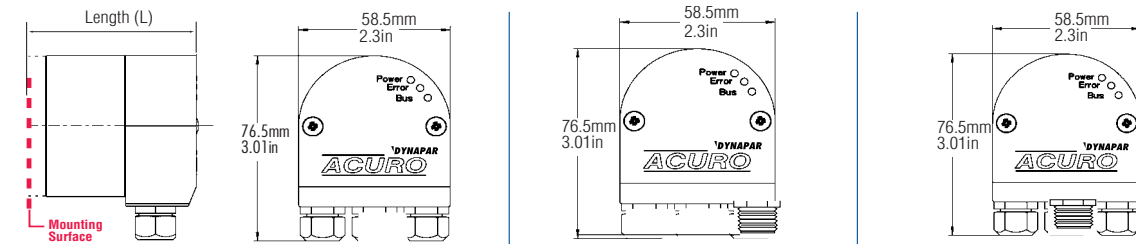
Code 1: Model	Code 2: Bits	Code 3 :Mounting	Code 4: Shaft Size	Code 5: Protocol	Code 6: Electrical	Code 7: Connector
<b>AI25</b>	□□□□	□	□	□	□	□
<b>AI25</b> Size25 Acuro Absolute Encoder	<b>Single-Turn</b> <b>0010</b> 10 Bit <b>0012</b> 12 Bit <b>0013</b> 13 Bit <b>0014</b> 14 Bit <b>Multi-Turn</b> <b>1212</b> 12 Bit Multi-Turn, 12 Bit Single-Turn <b>1213</b> 12 Bit Multi-Turn, 13 Bit Single-Turn <b>1214</b> 12 Bit Multi-Turn, 14 Bit Single-Turn	Available when Code 4 is 0 or A <b>0</b> Servo* Available when Code 4 is 2 or C <b>1</b> Clamping* Available when Code 4 is 1 or B <b>2</b> Square flange** Available when Code 4 is 3, 4, 5 or 6 <b>3</b> Hubshaft w/tether†	<b>w/o shaft seal (IP64)</b> <b>0</b> 6 mm <b>1</b> 3/8" <b>2</b> 10 mm <b>3</b> 3/8" Hub Shaft <b>4</b> 12 mm Hubshaft <b>5</b> 1/2" Hubshaft <b>6</b> 10 mm Hub Shaft <b>w/ shaft seal (IP67)</b> <b>A</b> 6 mm <b>B</b> 3/8" <b>C</b> 10 mm	<b>9</b> Devicenet	<b>2</b> 10-30 VDC	<b>F</b> Bus Cover 1 M12, 5-Pole Connector <b>G</b> Bus Cover 2 Strain Relief Exits and 1 M12, 5-Pole Connector (for Tico display). Internal T-coupler included <b>L</b> Bus Cover 2 Strain Relief Exits. Internal T-coupler included

**DIMENSIONS**

Code 3: Mounting



Code 7: Connector



Length (L) Mounting Surface to Rear For connector types L, F and G

Mount (Code 3)	Single-Turn	Multi-Turn
(0) Servo	63.3/2.49	72.3/2.85
(1) Clamping	62.3/2.45	71.3/2.81
(2) Square Flng	64.8/2.55	73.8/2.91
(3) Hubshaft	72.2/2.84	81.2/3.2

\*M12, 5-Pole Connector used to interface Hengstler Tico 731 LCD display