



Series AI25™

Absolute Encoder With DeviceNet Interface

ACURO with DeviceNet Interface

DESCRIPTION

The Dynapar brand ACURO Absolute Encoder offers a modern full-feature design equipped with DeviceNet interface.

The ACURO AI25 optical absolute industrial encoder is available in a single-turn or multi-turn version. The multi-turn design is based on a reliable high-speed gear with optical scanning and the latest generation of OptoASIC technology.

The mechanical concept is based on a double ball bearing design, which is available as a solid-shaft or hollow-shaft version in common shaft diameters.

APPLICATIONS:

Ideal for applications requiring digital feedback to be sent over an industrial bus network

- Elevators
- Machine Tool
- Assembly
- Positioning

INDUSTRIES

Manufacturing, Assembly, Material Handling and any other where precise, repeatable bidirectional position measurement is required.

FEATURES/BENEFITS

- Compact design to save valuable space
- Up to 14 Bit single-turn resolution
- 4096 revolutions of multi-turn resolution
- Short installation depth
- Safety through self-diagnostics
- Solid shaft and hollow shaft versions
- -40°C to +85°C Operating temperature
- Low power consumption
- Fast delivery of any model variant
- Additional field-bus and point-to-point interfaces available



ACURO with DeviceNet Interface

Series AI25

Absolute Encoder With DeviceNet Interface

SPECIFICATIONS*

STANDARD OPERATING CHARACTERISTICS	ELECTRICAL	MECHANICAL
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	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	All Types Maximum shaft speed: 10,000 RPM (continuous), 12,000 RPM (peak) Starting torque: < 1.4 in-oz Bearing life: 1 x 10 ¹⁰ revolutions at 35% full rated shaft load 1 x 10 ⁹ revolutions at 75% full rated shaft load 1 x 10 ⁸ revolutions at 100% full rated shaft load Weight (approx.): 350 g ST, 400 g MT Shafted Types Flange configurations: Square, Clamp, Servo Shaft diameter: 6 mm (Servo Mount), 10 mm (Clamping Mount), 3/8" (Square Flange Mount) Maximum shaft load: 6 mm shaft: 13 lb axial, 24 lb radial 10 mm shaft: 24 lb axial, 35 lb radial 3/8" Shaft: 24 lb axial, 35 lb radial Hubshaft Types Flange configuration: Hubshaft with flexible tether Accepted Mating Shaft Diameter (min./max.): 6mm (5.984/5.996); 10mm (9.980/9.995); 12 mm (11.976/11.994); 3/8" (.3742/.3748); 1/2" (.4991/.4997) Allowable Mating Shaft Movement (hubshaft only): +/- 1.5 mm axial, +/- 0.2 mm radial
ENVIRONMENTAL		
Operating Temperature: -40 to 85° C Storage Temperature: -40 to 100° C Enclosure Rating: IP64 or IP67 Shock: 1,000 m/s ² (6 ms) Vibration: 100 m/s ² (10 to 2,000 Hz)		

* Specifications are for base models with standard features only unless otherwise noted. Specifications subject to change without notice in accordance with our DBS policy of continuous improvement. All product and brand names are trademarks of their respective owners. All rights reserved.

Dynapar™ brand ACURO™ and AI25™ are trademarks of Danaher Industrial Controls Group. All rights reserved. © 2005 DICG Corp.

Dynapar Brand AI25 DN Data Sheet (8/05)

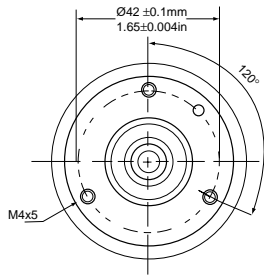
Code 1: Model	Code 2: Bits	Code 3: Mounting	Code 4: Shaft Size	Code 5: Protocol	Code 6: Electrical	Code 7: Connector
AI25	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AI25 Size25 Acuro Absolute Encoder	Single-Turn 0010 10 Bit 0012 12 Bit 0013 13 Bit 0014 14 Bit	Available when Code 4 is 0 or A 0 Servo*	w/o shaft seal (IP64) 0 6 mm 1 3/8" 2 10 mm 3 3/8" Hub Shaft 4 12 mm Hubshaft 5 1/2" Hubshaft 6 10 mm Hub Shaft	9 Devicenet	2 10-30 VDC	F Bus Cover 1 M12, 5-Pole Connector G Bus Cover 2 Strain Relief Exits and 1 M12, 5-Pole Connector (for Tico display). Internal T-coupler included L Bus Cover 2 Strain Relief Exits. Internal T-coupler included
	Multi-Turn 1212 12 Bit Multi-Turn, 12 Bit Single-Turn 1213 12 Bit Multi-Turn, 13 Bit Single-Turn 1214 12 Bit Multi-Turn, 14 Bit Single-Turn	Available when Code 4 is 2 or C 1 Clamping*				
		Available when Code 4 is 1 or B 2 Square flange**				
		Available when Code 4 is 3, 4, 5 or 6 3 Hubshaft w/tether† * 58mm Dia. ** 2.5" Square † 63mm BC				



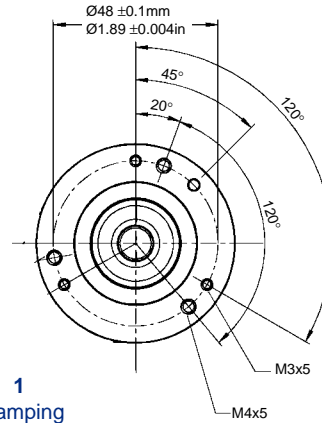
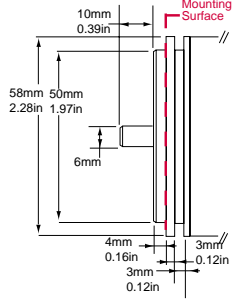
Customer Service +1 800.873.8731 • Technical Support +1 800.234.8731
 www.feedbackdevices.com • www.danaherindustrialcontrols.com

Absolute Encoder With DeviceNet Interface

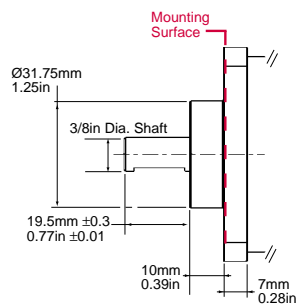
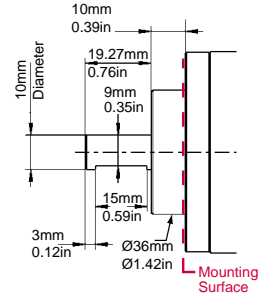
Code 3: Mounting



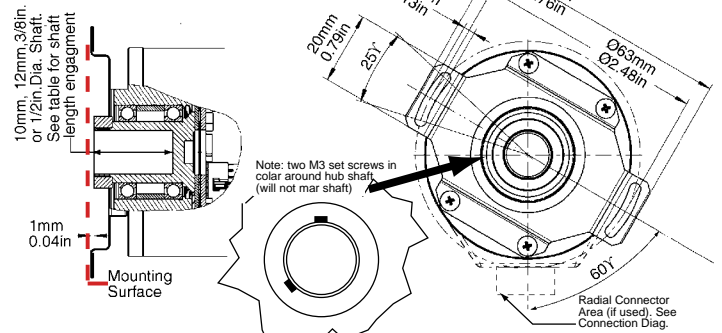
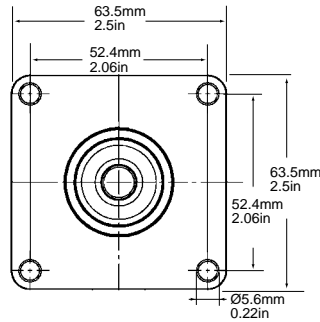
0
Servo



1
Clamping



2
Square Flange

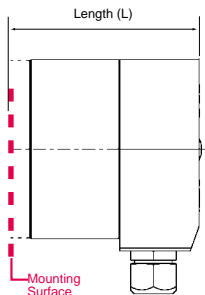


3
Hubshaft w/Tether

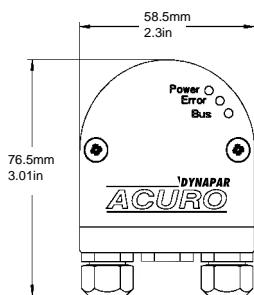
Hubshaft Shaft Engagement

Hub Shaft Diameter	Min. Shaft Length	Max. Shaft Length
10mm, 3/8"	15mm (0.59")	20mm (0.79")
12mm, 1/2"	18mm (0.71")	20mm (0.79")

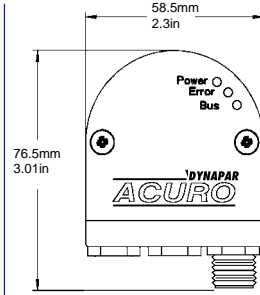
Code 7: Connector



L
2 Strain Relief Exits



F
1 M12, 5-Pole Connector



G
2 Strain Relief Exits
1 M12, 5-Pole 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

Headquarters: 1675 Delany Road • Gurnee, IL 60031-1282 • USA
Phone: +1 847.662.2666 • Fax: +1 847.662.6633

Satellite Locations:
North America: North Carolina, South Carolina, Connecticut, Massachusetts, New York, Canada, British Virgin Islands • Europe: United Kingdom, Italy, France, Germany, Spain, Slovakia • Latin America: Brazil • Asia: China, Japan, Korea, Singapore

Customer Service:
Tel.: +1.800.873.8731
Fax: +1.847.662.4150
dynapar.custserv@dancon.com

Technical Support
Tel.: +1.800.234.8731
Fax: +1.847.782.5277
dynapar.techsupport@dancon.com

Worldwide Brands:

Dynapar™

Eagle Signal™

Harowe™

Hengstler™

NorthStar™

Veeder-Root™



**A division of
Danaher, a
Fortune 500
company with
offices in 30
countries around
the world.**

More Available. With factories around the world, global sales and applications support, and an expansive network of distributors, we stay close to our customers - shortening lead times and fostering responsiveness. Three-day lead time is standard, with same-day shipments available on many of our products.

More Selection. We have a broad selection of controllers to meet application requirements in a variety of industries. User-configurable, accurate and flexible, with low, mid, or high level performance ranges, our controller products meet your system and budgetary requirements.

More Reliable. Our experience with more than 25,000 customers has taught us to design controllers that are reliable and durable, with quality standards that meet six sigma requirements.

For additional information or a full-line catalog, contact DICG Customer Service or visit our web site.

* Specifications are for base models with standard features only unless otherwise noted. Specifications subject to change without notice in accordance with our DBS policy of continuous improvement. All product and brand names are trademarks of their respective owners. All rights reserved.

Dynapar™ brand, ACURO™ and AI25™ are trademarks of Danaher Industrial Controls Group. All rights reserved.

© 2005 DICG Corp.

Headquarters: 1675 Delany Road • Gurnee, IL 60031-1282 • USA
Phone: +1 847.662.2666 • Fax: +1 847.662.6633

Dynapar Brand AI25 DN Data Sheet (8/05)

Satellite Locations:
North America: North Carolina, South Carolina, Connecticut, Massachusetts, New York, Canada, British Virgin Islands • Europe: United Kingdom, Italy, France, Germany, Spain, Slovakia • Latin America: Brazil • Asia: China, Japan, Korea, Singapore

Customer Service:
Tel.: +1.800.873.8731
Fax: +1.847.662.4150
dynapar.custserv@dancon.com

Technical Support
Tel.: +1.800.234.8731
Fax: +1.847.782.5277
dynapar.techsupport@dancon.com



www.feedbackdevices.com • www.danaherindustrialcontrols.com

Factory Automation Worldwide Brands: *Dynapar™* • *Eagle Signal™* • *Harowe™* • *Hengstler™* • *NorthStar™* • *Veeder-Root™*