



ACURO™



ACURO with Interbus Interface

DESCRIPTION

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

Series AI25™

Absolute Encoder With Interbus Interface

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 12 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



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Series AI25

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SPECIFICATIONS*

STANDARD OPERATING CHARACTERISTICS

Single-turn Resolution: 10, 12 Bit
Multi-turn Resolution: 12 bit (only available with 12 bit ST resolution)
Linearity: +/- 1/2 LSB
Absolute Accuracy: ± 0.01° mechanical (36 arc-sec.)
Repeatability: ± 0.002° mechanical (7.2 arc-sec.)
Code format: 32 Bit Binary

ENVIRONMENTAL

Operating Temperature: -40 to 85° C
Storage Temperature: -40 to 100° C
Enclosure Rating: IP64 or IP67
Shock: 1,000 m/s² (6 ms)
Vibration: 100 m/s² (10 to 2,000 Hz)

ELECTRICAL

Connection: Bus Cover with spring terminal clamps; cable with connector
Supply voltage: 10-30 VDC
Intrinsic current consumption: 220 mA (ST), 250 mA (MT)
Baud Rate: 500 kBaud according to ENCOM
Interface: Interbus, ENCOM Profile K3 (parameterizable)
Programmable: Direction, scaling factor, preset, offset

MECHANICAL

All Types
Maximum shaft speed: 10,000 RPM (continuous), 12,000 RPM (peak)
Starting torque: < 1.4 in-oz
Bearing life:
 1 x 10¹⁰ revolutions at 35% full rated shaft load
 1 x 10⁹ revolutions at 75% full rated shaft load
 1 x 10⁸ 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

* 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.

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 Dynapar Brand AI25 IB Data Sheet (8/05)

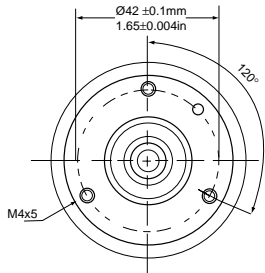
Code 1: Model	Code 2: Bits	Code 3: Mounting	Code 4: Shaft Size	Code 5: Protocol	Code 6: Electrical	Code 7: Connector
AI25	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AI25 Size25 Acuro Absolute Encoder	Single-Turn	Available when Code 4 is 0 or A	w/o shaft seal (IP64)	5 Interbus K3	2 10-30 VDC	E Bus Cover 3 Strain Relief Exits. Internal T-coupler included G Bus Cover 2 Strain Relief Exits and 1 M12, 5-Pole Connector (for Tico display). Internal T-coupler included H Double Conin. Internal T-coupler included
	0010 10 Bit	0 Servo*	0 6 mm			
	0012 12 Bit	Available when Code 4 is 2 or C	1 3/8"			
Multi-Turn	1212 12 Bit Multi-Turn, 12 Bit Single-Turn	Available when Code 4 is 1 or B	2 10 mm			
		1 Clamping*	3 3/8" Hub Shaft			
		Available when Code 4 is 3, 4, 5 or 6	4 12 mm Hubshaft			
		2 Square flange**	5 1/2" Hubshaft			
		3 Hubshaft w/tether†	6 10 mm Hub Shaft			
		* 58mm Dia.	w/ shaft seal (IP67)			
		** 2.5" Square	A 6 mm			
		† 63mm BC	B 3/8"			
			C 10 mm			

ACURO with Interbus Interface

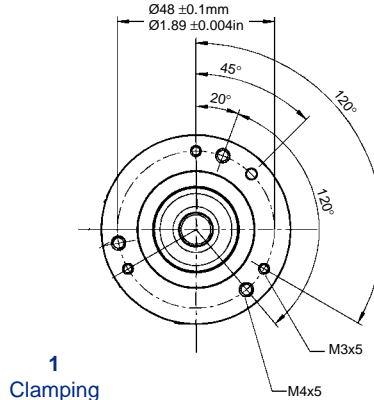
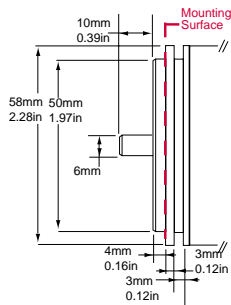
Series AI25

Absolute Encoder With Interbus Interface

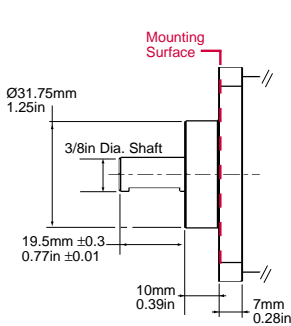
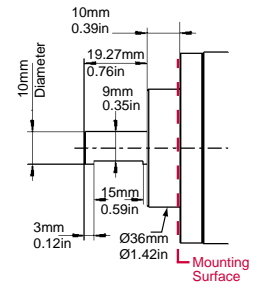
Code 3: Mounting



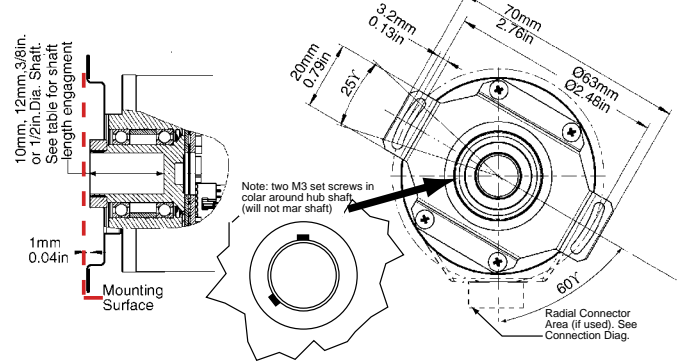
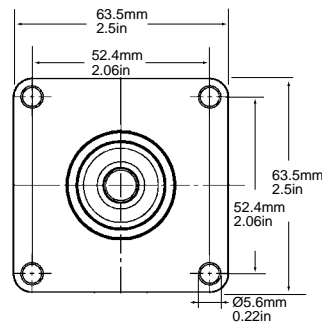
0
Servo



1
Clamping



2
Square Flange

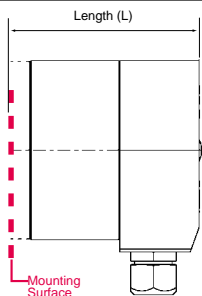


3
Hubshaft w/Tether

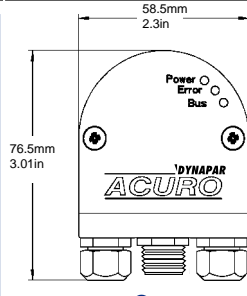
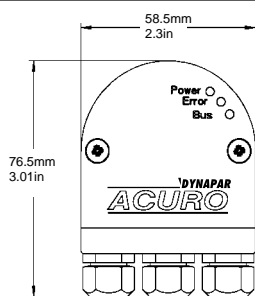
HUBSHAFT SHAFT ENGAGEMENT

HubShaft 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")

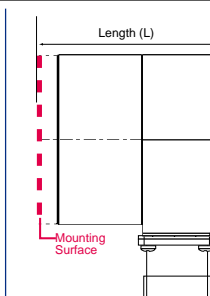
Code 7: Connector



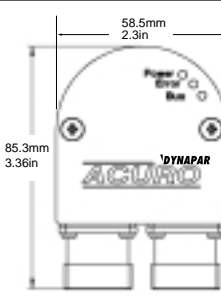
E
3 Strain Relief Exits



G
2 Strain Relief Exits
1 M12, 5-pole Connector*
*M12, 5-pole Connector used to interface Hengstler Tico 731 LCD display



H
Double Conin



Length (L) Mounting Surface to Rear For connector types E, and H

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

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Worldwide Brands:

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Eagle Signal™

Harowe™

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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.

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