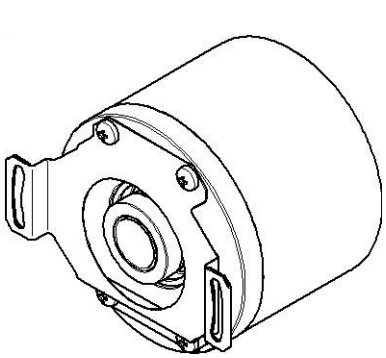
Dynapar brand



PH: 1-800-873-8731/847-662-2666 • FAX: 847-662-6633

DANAHER CONTROLS
1675 Delany Road Gurnee IL 60031
http://www.dynapar-encoders.com

Absolute Shaft Encoders
AI 25 SSI
Installation instructions

For ACURO AI2512133X22X01 And AI2512133X22X02

Rytec Special

- Cover rated IP67, bearings rated IP64
- Cable rated 600V / 105°C
- Outer cable diameter: 8mm +/-0.3mm
- Customer specific wiring
- Numeric wire markers
- 12mm Hubshaft

Art. No.: 2-565-276
Edition.: 3020904Ste

AI2512133X22X01 (10 meter cable)
G0566884, Rytec # 0-014-1021
AI2512133X22X02 (15 meter cable)
G0566883, Rytec # 0-014-1022

1. Preface

These installation instruductions are provided for the connection and starting procedure of your Hubshaft encoder.
You will get further information from the Acuro datasheet, on request or on download from our Internet site.
www.dynapar-encoders.com

2. Safety

Authorised persons

The encoder should only be assembled and dismantled by a qualifed electrician, as the unit contains sensitive electronic circuits.

Risk of injury due to rotating shafts

Hair and items of clothing may become caught up in rotating shafts.

➔ Prior to commencing all works, disconnect all power supplies and ensure that the working environment is Safe!

Risk of destruction due to static electricity

The CMOS modules contained in the encoder are very sensitive to high voltages such as can arise due to friction of the clothing.

➔ Do not touch plug contacts or electronic composants!

Risk of destruction due to mechanical overload

Rigid mounting will give rise to constraining fortes which will permanently overload the bearings.

➔ Never restrict the freedom of movement of the encoder! Use only the enclosed sheet steel springs or a suitable coupling to secure the unit!

Risk of destruction due to mechanical shock

Violent shoocs, e.g. due to hammer blows, can lead to the destruction of the optical sensing system and the ball bearings.

➔ Never use forte! Assembly is simple provided that correct procedure is followed.

Risk of destruction due to overloading

➔ The unit may only be operated within the limits specified in the technical data.

Fields of application: industrial processes and controls.

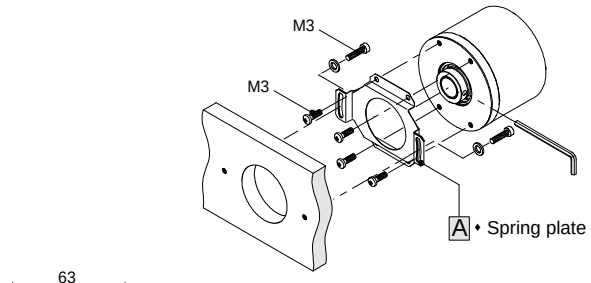
Overvoltage at the connecting terminals must be limited to overvoltage-class-II values (SELV).

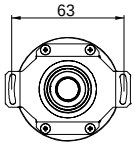
The connecting cable is not for dragline mounting, only for fix mounting.

This encoder is a supply part destined for mounting to an appliance (motor, machine).It is not provided for customer sale.

Manufacturers integrating this encoder to their facilities are responsible as well for compliance with CE guidelines as for the CE mark.

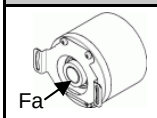
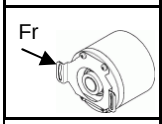
3. Assembly





◆ **Spring plate, hub shaft** ◆

4. Mechanical data •

	Fa < 20N	Bore = 12 mm >100,000 h @ 6000 RPM
	Fr < 40N	Bore = 12 mm >100,000 h @ 6000 RPM
	-Short term	= 12 000 RPM
	-Continuous duty	= 10 000 RPM
	-40 ... +100 °C	
- Vibration - Shock	**100 m/s² (10 ... 500 Hz)** **1 000 m/s² (6 ms)**	

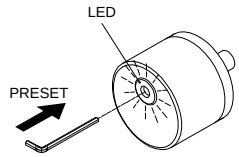
6. Cable Connection

Marker	Color	Signal
33	brown	10 to 30 VDC
34	white	COM
35	gray	Data
36	pink	$\overline{\text{Data}}$
37	black	$\overline{\text{Clock}}$
38	blue	Clock
	green	No Connection
	yellow	No Connection

6.2 Explanation of terms •

Power	$+U_B$ =	10 to 30 VDC
	0 V =	COM
LSB	=	Least Significant Bit
MSB	=	Most Significant Bit
S0, S1, ...	=	Data bits for resolution per turn
M0, M1, ...	=	Data bits for number of turns

7. Malfunction •



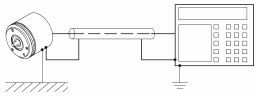
LED	Encoder
Green / Red	O.K. / Error

The operational state of the encoder is displayed by a green LED. The occurrence of a malfunction will be indicated by a red LED.

Preset

Press the Preset button with a blunt item to set the absolute position without a time delay to the preset value. Behaviour is dynamic, i.e. the preset command is independent of how long the button is held down and is effective once the button is pressed. The LED however signals the actuation of the button by a continuous red and green light while the button is pressed.

5. Electrical data •

	Multiturn
U_{in} =	10 ... 30VDC
I_{max} (only Encoder) =	100 mA
I_{max} (incl. Output) = Fuse	200 mA
- Cable length	max. 100 m 
ESD 	

8. Ordering data •

Code 1: Model	Code 2: Bits	Code 3: Mounting	Code 4: Shaft Size	Code 5: Protocol	Code 6: Electrical	Code 7: Connector
AI25	□□□□	□	□	□	□	□□□
AI25 Size 25 Acuro Absolute Encoder	**Multi-Turn** **1213** 12 Bit Multi-Turn, 13 Bit Single-Turn	**3** Hubshaft w/tether 63mm BC	cover rated IP67, bearings rated IP64 **X** 12mm Hubshaft	**2** SSI Gray	**2** 10-30 VDC	**X01** 10m radial cable **X02** 15m radial cable

SSI Data Format

Bits	T1 - T12	T13 - T21	T22	T23	T24	T25	T26	T27	T28	T29
1213	M11 - M0	S12 - S4	S3	S2	S1	S0	0	M11	M10	M9

S9, S8 Data Bits for resolution per turn.
M11, M10 Data Bits for number of turns.
T1, T2 SSI Clock number

S9 - S0 Data Bits S9, S8, S7, S6, S5, S4, S3 Etc.
M11- M0 Turn Data Bits M11, M10, M9, M8, Etc.