



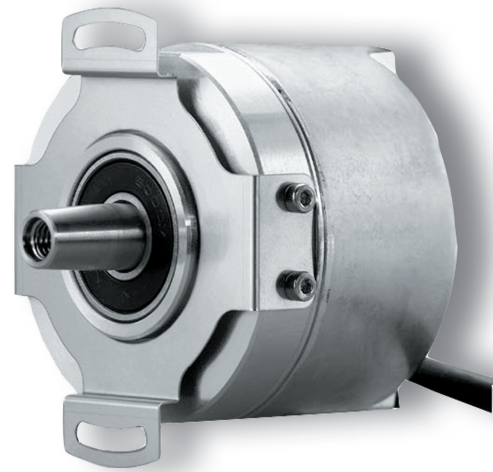
SERIES AD25

HENGSTLER

Single- / Multi- Turn Absolute Encoder

Key Features

- Special Conical Shaft for Concentric Motor Mounting
- Up to 22 Bits of Singleturn Absolute Positioning for Smooth Low Speed Motor Performance
- Integrated On-Board Diagnostics to Monitor Encoder Health



SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS:

Code: Absolute, Optical

Resolution Single-turn: 13 and 22 Bit

Resolution Multi-turn: 12 Bit

Absolute Accuracy: $\pm 0.01^\circ$ mechanical (36 arc-sec.)

Repeatability: $\pm 0.002^\circ$ mechanical (7.2 arc-sec.)

ELECTRICAL:

Interface: BiSS, SSI

Input Power: 5 VDC, +10% / -5%

Current Consumption w/o Load: 100 mA (ST), 150 mA (MT)

Output Code: Gray, Binary

SSI Interface:

Resolution: 2048

Format: A, B Quadrature, 1 Vpp Sine wave

Number of lines: 4 unidirectional (2 for clock; 2 for data)

Electrical Interface: RS 422

Transmission Speed: 70 kHz to 2 MHz per SSI definition

ELECTRICAL (Cont.):

BiSS Interface:

Signals: Clock unidirectional (from master to encoder); Data unidirectional (from encoder to master)

Electrical Interface: RS 422

Number of lines: 4 unidirectional (2 for clock and 2 for data)

Transmission Speed: 70 kHz – 10 MHz

Transmission Security: 1 start bit, 1 stop bit, 6 Bit CRC

Diagnostic Functions: possible failure modes are constantly checked with the following functions:

LED Current Sensing: Pollution, condensation, over temperature

Single-Step Check: Disk pollution or damage, condensation, mechanical overload

Temperature Monitoring: Warning message if the user defined limits have been reached/exceeded

Noise Immunity: Tested to EN61326-1

Electrical Immunity: Tested to EN61326-1

MECHANICAL:

Diameter: 2.28", Length: 1.85"

Shaft Size:

Tapered Solid Shaft: 10 mm diameter; Cone 1:10

Tapered Hub Shaft: 10 mm diameter; Cone 1:10

Shaft Loading: 5 lb. axial, 20 lb. radial

Shaft Speed: 10,000 RPM (continuous), 12,000 RPM (peak-ST only)

Starting Torque: < 1.4 in-oz.

Housing Material: Stainless Steel

Shaft Material: Stainless Steel

Disc Material: Glass

Weight: 6.2 oz.

ENVIRONMENTAL:

Operating Temperature: -15 °C ...+120°C

Storage Temperature: -25 °C ...+85 °C

Shock: 100 G for 6 msec duration

Vibration: 10 G (10 to 2000 Hz)

Humidity: Up to 75%, (no condensation allowed)

Enclosure Rating: IP40

CONNECTIONS

PIN	1b	2b	3b	4b	5b	6b
Name	Power Supply (U_p)	Clock	B -	0 V (U_n)	A -	Data
Color	Gray/Pink	White	Red	White/Green	Yellow	Black
PIN	1a	2a	3a	4a	5a	6a
Name	Data	A +	0 V -Sen	B +	Clock	U_p Sensor
Color	Violet	Green	Brown/Green	Blue	Brown	Blue/Red

U_p = power Supply

Sensor is connected to Power Supply and 0 V (U_n)

Shield connected to case

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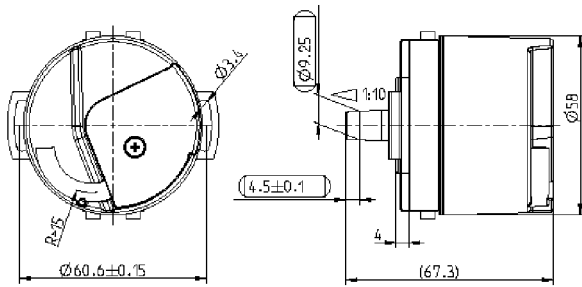
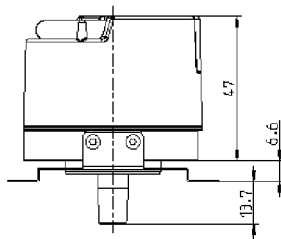
Ordering Information

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
AD25	☐ ☐ ☐ ☐	☐	☐	☐	☐	☐
AD25 Size25 Acuro Absolute Encoder	Single-Turn 0013 13 Bit 0022 22 Bit Multi-Turn 1213 12 Bit Multi-Turn, 13 Bit Single-Turn 1222 12 Bit Multi-Turn, 22 Bit Single-Turn	4 Spring Tether	Y 10mm Shaft (10:1 Taper) Z 10mm Hub Shaft (10:1 Taper)	Available when Code 2 is 0022 or 1222 A BiSS-B (BI) L BiSS-B (+SinCos 1Vpp) (BC) M BiSS-C (BE) N BiSS-C (+SinCos 1Vpp) (BV) Available when Code 2 is 0013 or 1213 F SSI Gray (+SinCos 1Vpp) (SC)	0 5 VDC	M Drive cable, 1 foot (30 cm)

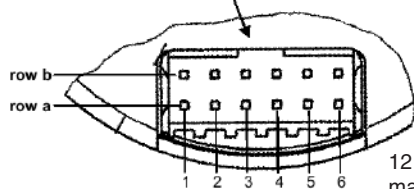
Dimensions (mm)

Code 4: Shaft Size

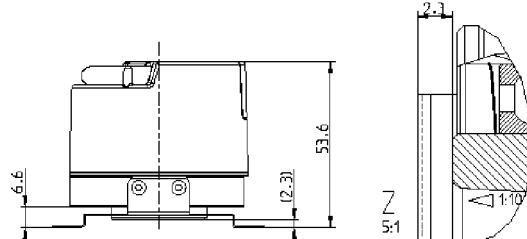


10mm (10:1 taper) Shaft

PCB-Connector (12p)



12 pin PCB connector
manufacture Berg, type Minitex



Z
10mm Hub Shaft

