

SERIES AD25

ACURO™ brand

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

Supply Voltage: 5 VDC, +10% / -5%

Current Consumption (w/o output current):

Single-turn: £ 45 mA (at 5V)

Multi-turn: £ 85 mA (at 5V)

Absolute Accuracy: ± 0.01° mechanical (36 arc-sec.)

Repeatability: ± 0.002° mechanical (7.2 arc-sec.)

Connection: 1 ft. Cable (30 cm)

Incremental Signals (SSI models only)

Resolution: 2048

Format: A, B Quadrature, 1 Vpp Sine wave

SSI Interface

Resolution:

Single-turn: 13 Bits

Multi-turn resolution: 12 Bits

Interface:

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

BiSS Interface

Resolution:

Single-turn resolution: 22 Bits

Multi-turn resolution: 12 Bits

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

For further information on the BiSS interface please consult: <http://www.biss-ic.de/>

MECHANICAL

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

Weight: 6.2 oz.

Diameter: 2.28"

Length: 1.85"

ENVIRONMENTAL

Operating Temperature: -15 to +120° C

Storage Temperature: -25 to +85° C (due to packaging)

Enclosure Rating: IP40

Shock: 100 g's for 6 msec duration

Vibration: 10 g's (10 to 2000 Hz)

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