SERVO DUTY

SERIES AD25

HENGSTLER

Single- / Multi- Turn Absolute Encoder

Key Features

- Special Conical Shaft for Concentric Motor Mounting
- Up to 22 Bits of Single-turn 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: ± 0.01° mechanical (36 arc-sec.)
- Repeatability: ± 0.002° 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

<table>
<thead>
<tr>
<th>PIN</th>
<th>1b</th>
<th>2b</th>
<th>3b</th>
<th>4b</th>
<th>5b</th>
<th>6b</th>
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</thead>
<tbody>
<tr>
<td>Name</td>
<td>Power Supply (U&lt;sub&gt;i&lt;/sub&gt;)</td>
<td>Clock</td>
<td>B -</td>
<td>0 V (U&lt;sub&gt;i&lt;/sub&gt;)</td>
<td>A -</td>
<td>Data</td>
</tr>
<tr>
<td>Color</td>
<td>Gray/Pink</td>
<td>White</td>
<td>Red</td>
<td>White/Green</td>
<td>Yellow</td>
<td>Black</td>
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<table>
<thead>
<tr>
<th>PIN</th>
<th>1a</th>
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<th>3a</th>
<th>4a</th>
<th>5a</th>
<th>6a</th>
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<tbody>
<tr>
<td>Name</td>
<td>Data</td>
<td>A +</td>
<td>0 V -Sen</td>
<td>B +</td>
<td>Clock</td>
<td>U&lt;sub&gt;i&lt;/sub&gt; Sensor</td>
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<tr>
<td>Color</td>
<td>Violet</td>
<td>Green</td>
<td>Brown/Green</td>
<td>Blue</td>
<td>Brown</td>
<td>Blue/Red</td>
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</tbody>
</table>

U<sub>i</sub> = power Supply
Sensor is connected to Power Supply and 0 V (U<sub>i</sub>)
Shield connected to case
HENGSTLER
SERIES AD25

Ordering Information
To order, complete the model number with code numbers from the table below:

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<td>0013</td>
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<tr>
<td>0022</td>
<td>22 Bit</td>
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<td>10mm Hub Shaft</td>
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<td>Single-Turn</td>
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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)

Code 4: Shaft Size

Dimensions (mm)

Code 4: Shaft Size

10mm (10:1 taper) Shaft

PCB-Connector (12p)

12 pin PCB connector
manufacture Berg, type Minitek

Worldwide Brands: NorthStar™ • Dynapar™ • Hengstler™ • Harowe™

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