FEATURES

Single turn/multi-turn absolute encoder (16 Bit ST / 43 Bit MT)
Available in three industrial ethernet protocols:
- EtherCAT® with CoE, FoE, EoE – device profile: CiA DS-406 V4.0.2, Class 3
- EtherNet/IP™ position sensor, DLR
- PROFINET® I-O (CC-C) – device profile: switchable V4.1, Class 3, 4

Maintenance-free and environmentally friendly magnetic design
Energy harvesting magnetic multi-turn technology
No gears or batteries
Low TCO and easy provisioning with internal web server
Shaft loads up to 400 N
Color LEDs for operating condition, bus status, link activity
Compact design with bus cover
MP housing option is the most compact ethernet model available
58 mm (2.28") diameter package

The Model A58SE is an EtherCAT®, EtherNet/IP™, or PROFINET® protocol, multi-turn absolute encoder designed for heavy duty industrial applications. It is particularly suited to applications where Ethernet-based connectivity is required, and the encoder must retain position information after power-off events. Easily designed into a wide variety of system applications, the A58SE plugs directly into your network with minimal provisioning for rapid deployment, facilitating data exchange among myriad networked devices. The Model A58SE retains absolute position information even after a power loss, facilitating speedy system recovery at start-up without the need for system re-homing.

Ready for Industry 4.0 and for the Industrial Internet of Things (IIoT), data exchange between the Model A58SE and other applications has no influence on the control loop. The Model A58SE is non-reactive and can work independently from the PLC or master, transferring data through network gateways to other automation networks and sites, and up to the cloud for analysis.

COMMON APPLICATIONS

Robotics, Telescopes, Antennas, Medical Scanners, Wind Turbines, Elevators, Lifts, Motors, Automatic Guided Vehicles, Rotary and X/Y Positioning Tables

MODEL A58SE ORDERING GUIDE

Blue type indicates price adder options. Not all configuration combinations may be available. Contact Customer Service for details.

### Mechanical

<table>
<thead>
<tr>
<th>MODEL</th>
<th>SHAFT SIZE</th>
<th>SINGLE TURN RESOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A58SE</td>
<td>06 6 mm</td>
<td>16 Single turn</td>
</tr>
<tr>
<td></td>
<td>08 8 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10 10 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12 12 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A9 0.375&quot;, 3/8&quot;</td>
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</table>

### Electrical

<table>
<thead>
<tr>
<th>COMMUNICATION PROTOCOL</th>
<th>OUTPUT CODE</th>
<th>SOFTWARE REV</th>
<th>VOLTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>EtherCAT®</td>
<td>B Binary</td>
<td>U Revision U (EtherCAT &amp; EtherNet/IP)</td>
<td>V4 10V to 32V</td>
</tr>
<tr>
<td>EtherNet/IP™</td>
<td></td>
<td>W Revision W (PROFINET only)</td>
<td></td>
</tr>
<tr>
<td>PROFINET®</td>
<td></td>
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</tr>
</tbody>
</table>

### MOUNTING TYPE

- MH Clamping flange
- MK Synchro flange
- MM Clamping flange, heavy duty
- MP Clamping flange, compact

### MULTI-TURN RESOLUTION

<table>
<thead>
<tr>
<th>SINGLE TURN</th>
<th>MULTI-TURN</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>43</td>
<td>00</td>
</tr>
</tbody>
</table>

### NOTES:

1. The 12 mm shaft is the only shaft option available with the MM, and is not available with any other mount.
2. Additional lead times required.
3. Single turn encoders cannot be configured for multi-turn resolution.
5. For mating connectors, cables, and cordsets see encoder.com/encoder-accessories

EtherCAT®, EtherNet/IP™, and PROFINET® are trademarks of their respective owners.
MODEL A58SE - ETHERNET ABSOLUTE ENCODER

MODEL A58SE SPECIFICATIONS

Electrical
- Power Supply: 10 VDC up to 32 VDC
- Current Consumption: typ. 125 mA
- Power Consumption: typ. 3 W

Sensor Specification
- Internal Cycle Time: 50 µs
- Resolution
  - Single Turn: Up to 65,536 steps/360° (16 bit)
  - Multi-Turn: 43 bit
- Accuracy
  - Single Turn: ± 0.0878° (≤ 12 bit)
  - Single Turn, Repeat Accuracy: ± 0.0878° (≤ 12 bit)

Technological
- Single Turn: Die cast aluminum, powder coated
- Multi-Turn: Synchro, Clamping, Clamping Heavy Duty, Clamping Compact

电气
- 电源：10 VDC至32 VDC
- 电流消耗：典型125 mA
- 功率消耗：典型3 W

传感器规范
- 内部循环时间：50 µs
- 分辨率
  - 单圈：至65,536步/360°（16位）
  - 多圈：43位
- 准确度
  - 单圈：±0.0878°（≤12位）
  - 单圈重复准确性：±0.0878°（≤12位）

技术
- 单圈：压铸铝，粉末涂层
- 多圈：同步，夹紧，夹紧重负荷

Mechanical
- Flange Material: Stainless steel
- Shaft Material: 6 mm and 8 mm
- Housing Cap: Die cast aluminum, powder coated
- Connection Cover: Die cast aluminum, powder coated

- Flange: Synchronous, Clamping, Clamping Heavy Duty, Clamping Compact
- Shaft Material: Stainless steel
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Interface
- Interface: Industrial Ethernet
- Protocol: EtherCAT, EtherCAT/IP, PROFINET-IO (CC-C)

接口
- 接口：工业以太网
- 协议：EtherCAT，EtherCAT/IP，PROFINET-IO（CC-C）

Data Transfer
- 100BASE-TX
- Cycle time: 50 µs
- PROFINET: up to 250 µs

数据传输
- 100BASE-TX
- 周期时间：50 µs
- PROFINET：至250 µs

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机械
- 轴承类型：2精密球轴承
- 轴承：8 kN
- 轴承：400 N（89.9 lb）

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NETWORK BUS CONNECTOR PINOUT

Bus cover with 3x M12x1. For EPC-supplied mating cables, wiring table is provided with cable. Trim back and insulate unused wires.

Female Connector

<table>
<thead>
<tr>
<th>Port 1 (IN)</th>
<th>Power</th>
<th>Port 2 (OUT)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Function</th>
<th>M12x1, 4-pin, D-coded</th>
<th>Function</th>
<th>M12x1, 4-pin, A-coded</th>
<th>Function</th>
<th>M12x1, 4-pin, D-coded</th>
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</thead>
<tbody>
<tr>
<td>Tx+</td>
<td>1</td>
<td>(+) Vcc</td>
<td>1</td>
<td>Tx+</td>
<td>1</td>
</tr>
<tr>
<td>Rx+</td>
<td>2</td>
<td>n. c.</td>
<td>2</td>
<td>Rx+</td>
<td>2</td>
</tr>
<tr>
<td>Tx-</td>
<td>3</td>
<td>GND</td>
<td>3</td>
<td>Tx-</td>
<td>3</td>
</tr>
<tr>
<td>Rx-</td>
<td>4</td>
<td>n. c.</td>
<td>4</td>
<td>Rx-</td>
<td>4</td>
</tr>
</tbody>
</table>

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See encoder.com for more information.
Primary dimensions are in mm, secondary dimensions SI units [inches] in brackets for reference only.