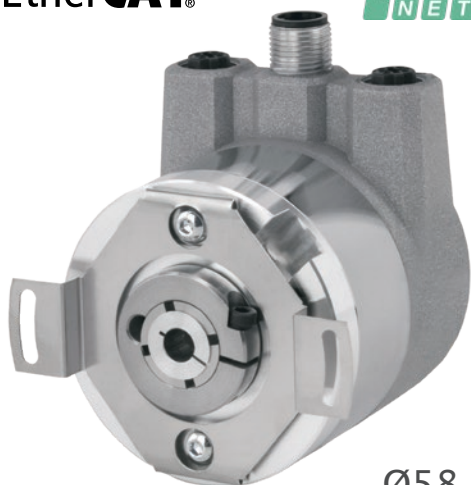


MODEL A58HE – ETHERNET ABSOLUTE ENCODER

EtherCAT®

PROFINET®



Ø58 mm

FEATURES

- Single/Multi-Turn Absolute Encoder (16 Bit ST / 43 Bit MT)
- Available in two industrial Ethernet protocols:
 - EtherCAT with CoE, FoE, EoE – device profile: CiA DS-406 V4.0.2, Class 3
 - 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
- Color LEDs for operating condition, bus status, link activity
- Compact design with bus cover
- 58 mm (2.28”) diameter package

COMMON APPLICATIONS

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

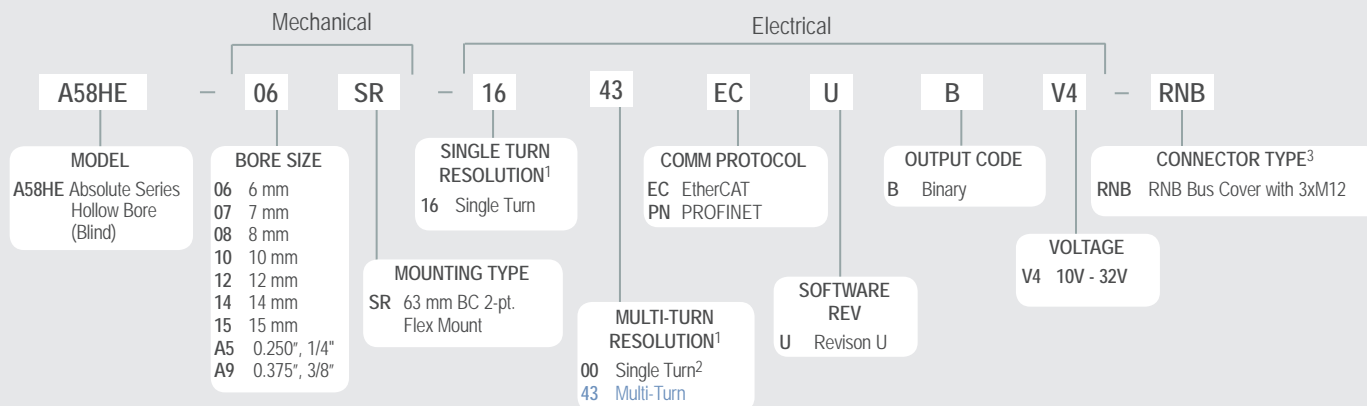
EPC Absolute Encoder with Ethernet connectivity

The Model A58HE is an EtherCAT or PROFINET-ready, multi-turn absolute encoder designed for harsh factory and plant environments. 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 Model A58HE plugs directly into your network with minimal provisioning for rapid deployment, facilitating data exchange among myriad networked devices. The Model A58HE 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 A58HE and other applications has no influence on the control loop. The Model A58HE 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.

MODEL A58HE ORDERING GUIDE

Blue type indicates price adder options.



- NOTES:
- Customer configures at setup.
 - Single turn encoders cannot be configured for multi-turn resolution.
 - For mating connectors, cables, and cordsets see [Accessories](#) at [encoder.com](#).

EtherCAT (Ethernet for Control and Automation Technology) is a registered trademark and patented technology, licensed by Beckhoff Automation GmbH, Germany.
PROFINET is a registered trademark and patented technology, licensed by PI (PROFIBUS & PROFINET International).

MODEL A58HE SPECIFICATIONS

Electrical

Power Supply10 VDC up to 32 VDC
 Current Consumptiontyp. 125 mA
 Power Consumption.....typ. 3 W

Sensor Specification

Internal Cycle Time ..50 μ s
 Resolution
 Single Turn up to 65,536 steps/360° (16 bit)
 Multi-Turn 43 bit
 Accuracy
 Single Turn $\pm 0.0878^\circ$ (≤ 12 bit)
 Single Turn, Repeat
 Accuracy..... $\pm 0.0878^\circ$ (≤ 12 bit)
 Technology
 Single Turn Innovative Hall-sensor technology
 Multi-Turn Patented energy-harvesting technology, no battery and no gears
 Turn on time < 1.5 s

Interface

Interface.....Industrial Ethernet
 Protocol.....EtherCAT or PROFINET-IO (CC-C)
 Device Profile.....EtherCAT: CiA DS-406 V4.0.2, Class 3;
 PROFINET: V4.1, Class 3, 4
 Data Transfer.....100BASE-TX

Cycle time.....EtherCAT: up to 50 μ s
 PROFINET: 250 μ s, applicable for up to 125 μ s
 Code Binary, CW default, programmable
 Programmable
 Parameters..... Steps per revolution; counts of revolution; preset; scale; counting direction
 EtherCAT: 2x 8 cam switches; DC-Mode
 PROFINET: MRPD; MRP; LLDP; IRT
 Diagnostic LED Traffic and connection management:
 L/A1: Port 1 (IN) L/A2: Port 2 (OUT)
 Status LED STAT, MOD: status of encoder and bus

Mechanical

Flange.....Blind hollow bore
 Flange Material Aluminum
 Shaft Material Stainless steel
 Shaft Length 17 mm
 Insertion depth
 min 10 mm
 max 19 mm
 Housing Cap Steel case chrome-plated, magnetic shielding
 Connection Cover Die cast aluminum, powder coated
 Weight.....14.462 oz / 410 g approx
 Shaft Rotation Bi-directional
 Max Radial Shaft Load 80 N (17.9 lb)
 Max Axial Shaft Load..... 50 N (11.2 lb)

Starting Torque Approximately 1.6 Ncm (2.226 oz-in) at ambient temperature.
 Max Shaft Speed..... 6000 RPM

Bearings

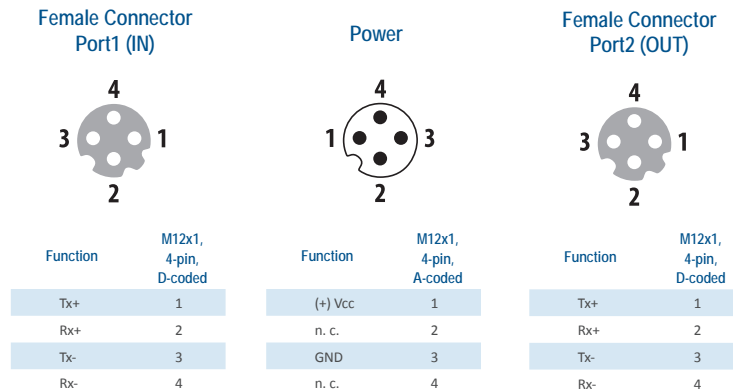
Type.....2 precision ball bearings
 Nominal Service Life 1×10^9 revs. at 100% rated shaft load
 1×10^{10} revs. at 40% rated shaft load
 1×10^{11} revs. at 20% rated shaft load

Environmental

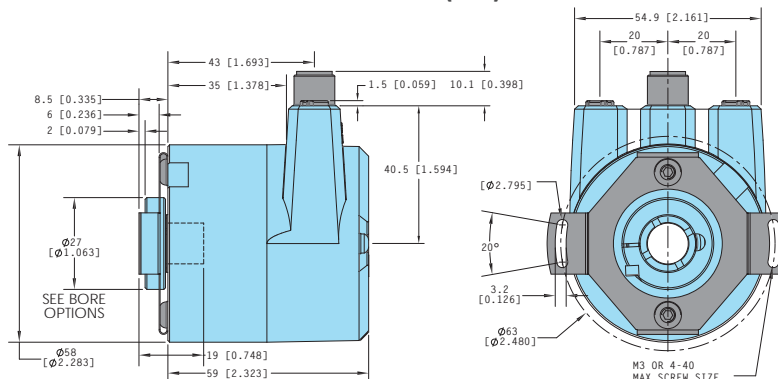
Operating Temp -40° to 85° C
 Storage Temp -40° to 100° C
 Sealing.....IP65 tested per EN 60529
 ESD 8 kV tested per EN 61000-4-2
 Burst 2 kV tested per 61000-4-4
 EMC EN 61000-6-2; EN 61000-6-3
 Vibration..... 200 m/s² (10 Hz up to 1000 Hz)
 (20.3 g [10Hz up to 1000 Hz]) tested per EN 60068-2-6
 Shock..... 5000 m/s² (6 ms)
 509.8 g (6 ms) tested per EN 60068-2-27
 Design.....According to DIN VDE 0160

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.



MODEL A58HE 63 MM 2 PT. FLEX MOUNT (SR)



Primary dimensions are in mm, secondary dimensions SI units [inches] in brackets for reference only.

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