

SERIES AX65

HENGSTLER

Explosion Proof Absolute Multi-Turn Encoder

Key Features

- Explosion Proof Absolute
- 12 bit of Singleturn, 12 or 16 bit of True Multiturn Absolute Positioning
- ATEX and IECEx certification for Mining, Gas and Dust
- Extreme corrosion resistance: high grade stainless steel housing
- Protection class up IP66/ IP67
- CANopen or SSI Communications



Ex II 2G Ex db IIC T4
Ex II 2D Ex tb IIIC T135 °C
Ex I M2 Ex db I

SPECIFICATIONS

STANDARD OPERATING CHARACTERISTICS:

Code: Absolute, Magnetic
Resolution Single-turn: 12 Bit
Resolution Multi-turn: 12 Bit, 13Bit (SSI Only), 16 Bit
Absolute Accuracy: $\pm 1^\circ$
Repeatability: $\pm 0.2^\circ$

ELECTRICAL:

Interface: CANopen, SSI
Input Power: DC 10 -30V
Current w/o Load: 200 mA, typ.
Recommended External Fuse: T 0.2 A
Power Consumption: Max.2 W
Noise Immunity: Tested to EN61326-1
Electrical Immunity: Tested to EN61326-1
Termination (without cable gland):
Terminal box with 1 x M20x1, 5 screw thread, axial or radial
Terminal box with 2 x M20x1, 5 screw thread, radial
Mating Connector: Cable Exit

Interface: CANopen
Output Code: Binary
Protocol: CANopen according to DS 301 with profile DSP 406
Programmable: Resolution, Preset, Offset, Direction
Parametrization: Speed, Acceleration, Limit values, Operating time
Bus Termination Resistor: Set via DIP switches

Interface: CANopen (Cont.)

Updating of Values: Every millisecond (adjustable), on request
Basic Identifier (11 Bit): Set via DIP switches or Software
Frequency Response (Baud Rate): Set via DIP switches in the range of 10 to 1.000 Kbit/s (standard setting EX-Works: 250 Kbit/s)
Max. Speed: at +60 °C Ambient temperature: 700 rpm, 6000 rpm (short term <1sec), at +40 °C Ambient temperature: 2200 rpm, 6000 rpm (short term <1sec)

Interface: SSI

Output Code: Gray or Binary
Drives: Clock and Data /RS422
Control Inputs 2: Preset, Direction
Max. Speed: 3000 rpm (6000 rpm short term <1sec)

SSI RECOMMENDED DATA TRANSFER RATE

The max. data transfer rate depends on the cable length. For Clock / Clock and Data / Data please use twisted pairs. Use shielded cable.

Cable Length	Frequency
<25m	< 800 kHz
<50m	< 400 kHz
<100m	< 300 kHz
<200m	< 200 kHz
<400m	< 100 kHz

MECHANICAL

Shaft Diameter: 10 mm (Solid shaft)
Shaft Material: Stainless Steel
Maximum Shaft Load Axial: 300 N axial
Maximum Shaft Load Radial: 300 N radial
Starting Torque: ≤ 4.5 Ncm typ.
Nominal Speed: 1500 rpm
Moment of inertia: approx.25 gcm²
Housing Material: Stainless Steel
Weight: 2.86 lbs. (1300g) approx. without cable

ENVIRONMENTAL

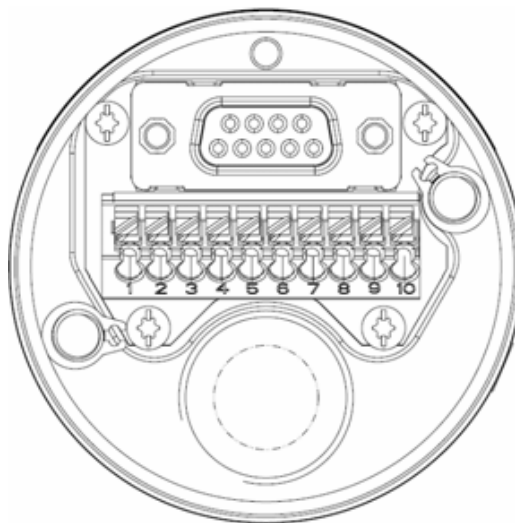
Standard Ambient Temperature:
-40 °C ...+60 °C Ex db IIC T4
-40 °C ...+60 °C Ex tb IIIC T135 °C /Ex db I
Storage Temperature: -20 °C ...+85 °C
Shock (DIN EN 60068-2-27:2010):
2000m/s² (3ms)
Vibration (DIN EN 60068-2-6:2008): 300m/s² (50 ... 2000Hz)
Humidity: Up to 75%, (no condensation allowed)
Enclosure Rating: IP66/67 (housing & Shaft)

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WIRING - CANopen

Color / Printed Numbers	Terminal Block	Signal
White / 1	1	U in 10...30V DC
Brown / 2	2	0V(GND Power supply)
Green / 3	3	CAN in -
Yellow / 4	4	CAN in +
Grey / 5	5	CAN out -
Pink / 6	6	CAN out +
Blue / 7	7	GND in
Red / 8	8	GND out
	9	Not connected
	10	PE
Screen	Cable Screen Connected to Housing	
Terminal screw	For Additional Connection of an Earth Conductor	



WIRING - SSI

Color / Printed Numbers	Terminal Block	Signal
White / 1	1	U in 10...30V DC
Brown / 2	2	0V(GND Power supply)
Green / 3	3	$\overline{\text{Clock}}$
Yellow / 4	4	Clock
Grey / 5	5	$\overline{\text{Data}}$
Pink / 6	6	Data
Blue / 7	7	Direction
Red / 8	8	Preset (set to zero)
	9	Not connected
	10	PE
Screen	Cable Screen Connected to Housing	
Terminal screw	For Additional Connection of an Earth Conductor	

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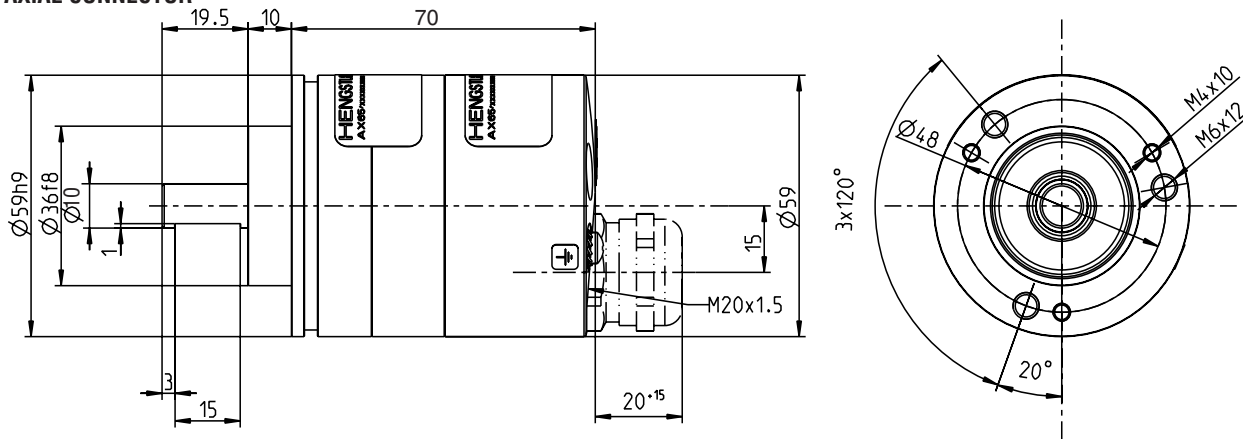
Ordering Information

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

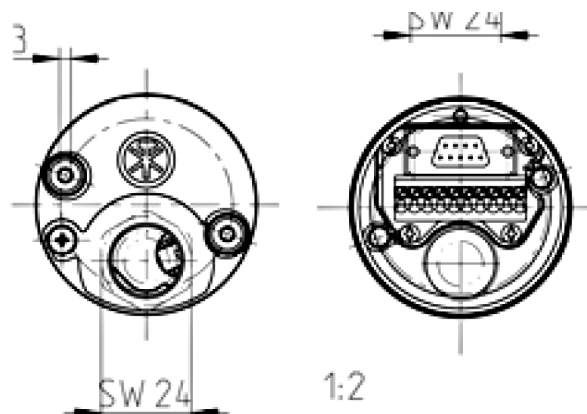
Code 1: Model	Code 2: Resolution	Code 3: Supply Voltage	Code 4: Flange, Protection, Shaft	Code 5: Interface	Code 6: Connection
Ordering Information					
AX65	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Series AX65 Hazardous Duty Absolute Encoder	0012 12 Bit ST 1212 12 Bit ST +12 Bit MT 1612 12 Bit ST +16 Bit MT Available when Code 5 is SG or SB 1312 12 Bit ST +13 Bit MT	E 10-30VDC	L.72 Synchro-Clamping, IP66/ IP67, 10mm	SB SSI-Binary SG SSI-Gray OL CANopen	0 1 x M20x1.5 screw thread, axial 1 1 x M20x1.5 screw; thread, radial 2 2 x M20x1.5 screw; thread, radial

DIMENSIONS mm

AXIAL CONNECTOR



Recommended thread length of cable gland: 14mm

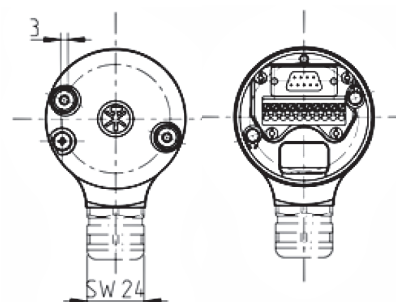
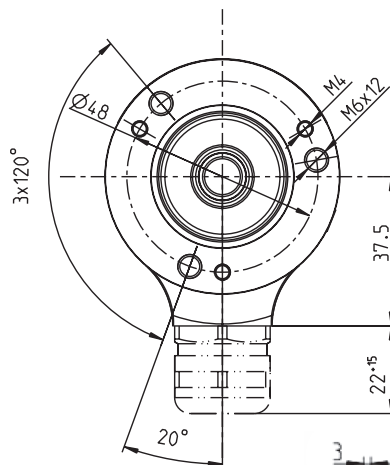
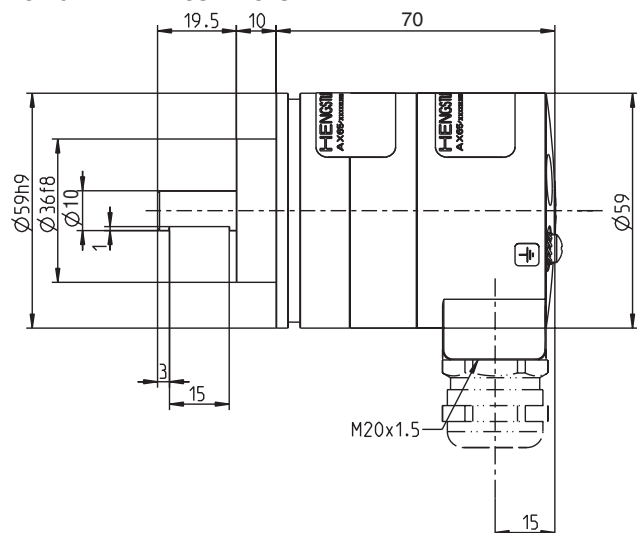


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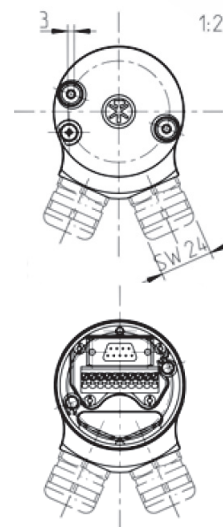
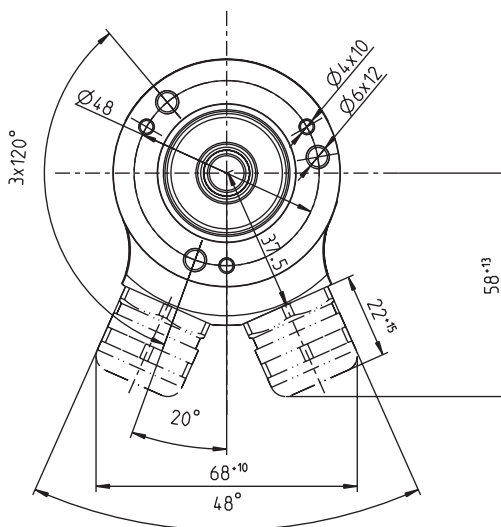
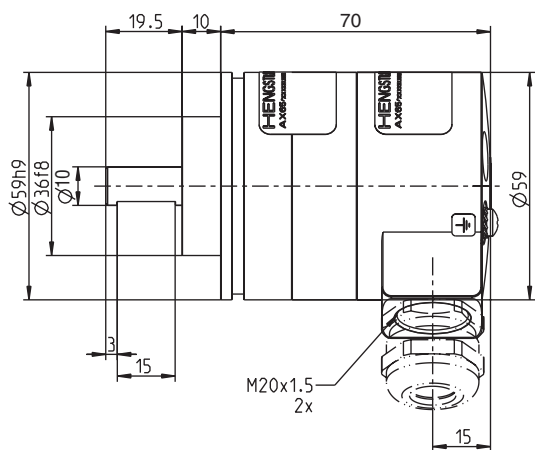
DIMENSIONS mm

SINGLE RADIAL CONNECTOR



Recommended thread length of cable gland: 14mm

DUAL RADIAL CONNECTOR



Recommended thread length of cable gland: 14mm



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