TECHNICAL DATASHEET

EX Heavy Duty Absolute AX 65 - CANopen



- Extreme Robust Explosionproof absolute Multiturn Encoder
- ATEX and IECEx certification for Mining, Gas and Dust
- 300 N axial and radial load
- Extreme shock and vibration resistant: 200 g shock; 30 g vibration
- Most compact design of its class: 70 mm mounting depth; 59 mm diameter
- Different terminal boxes with cage clamp terminals
- Easy and fast field installation: access to DIP switches
- Protection class up IP66/ IP67
- Extreme corrosion resistance: high grade stainless steel housing (1.4404)
- Applications: Winch, enamelling production line, petro chemistry, bottling machines, mixers, silo works, mills, cranes, drilling equipment

EX-CLASSIFICATION

The robust absolute shaft encoder line ACURO-XR is available in explosion proof design with explosion proof enclosure "Ex d" under AX 65.
It has been assured with the EC-TYPE-Examination Certificate IBExU10ATEX1172 X that the AX65 meets the requirements of safety and health according to EN IEC 60079-0:2018; EN 60079-1:2014 and EN 60079-31:2014.
Additionally the encoder is certified according the IECEx standards IEC 60079-0:2017, Edition 7.0; IEC 60079-1:2014, 7th Edition and IEC 60079-31:2013, 2nd Edition. Assured according IECEx IBE 12.0017X certification.

Therefore it is approved in explosive areas,

Explosion protection classification

Gas: **Ex II 2G Ex db IIC T4 Gb**

Dust: **Ex II 2D Ex tb IIIC T135 °C Db**

Mining: **Ex I M2 Ex db I Mb**

The AX 65 comes with a stainless steel housing. So its suitable for offshore applications, applications under tough environmental conditions and food industry.

TECHNICAL DATA
mechanical

Housing diameter	59 mm
Shaft diameter	10 mm (Solid shaft)
Flange (Mounting of housing)	Synchro clamping flange
Protection class shaft input (EN 60529/ A1:2000-02)	IP66/ IP67
Protection class housing (EN 60529/ A1:2000-02)	IP66/ IP67
Shaft load axial / radial	max.: 300 N / 300 N
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)

Specifications subject to change without notice.

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TECHNICAL DATA Mechanical (continued)

Nominal speed	1500 rpm
Starting torque typ.	≤ 4,5 Ncm
Moment of inertia	Approx. 25 gcm²
Vibration resistance (DIN EN 60068-2-6:2008)	300m/s² (50 … 2000Hz)
Shock resistance (DIN EN 60068-2-27:2010)	2000m/s² (3ms)
Ambient temperature	-40°C ... +60°C Ex db IIC T4 Gb -40°C ... +60°C Ex tb IIIC T135°C Db / Ex db I Mb
Storage temperature [1]	-20°C ... +85°C
Material Housing	Stainless Steel (1.4404)
Weight	1300g approx. (without cable)
Connection [2]	Terminal box with 1 x M20x1,5 screw thread , axial or radial Terminal box with 2 x M20x1,5 screw thread, radial

[1] due to packing
[2] without cable gland

TECHNICAL DATA electrical

Supply voltage	DC 10 - 30V
Current w/o load max.	100 mA
Recommended external fuse	T 0,2 A
Power consumption	Max. 1 W
Resolution singleturn	12 Bit
Resolution multiturn	12 Bit, 16 Bit
Output code	Binary
Profile/ Protocol	CANopen according to DS 301 with profile DSP 406
Programmable	Resolution, Preset, Offset, Direction
Parametrization	Speed, Acceleration, Limit values, Operating time
Baud rate	Set via DIP switches in the range of 10 to 1.000 Kbit/s (standard setting EX-Works: 250 Kbit/s)
Bus termination resistor	Set via DIP switches
Updating of values	Every millisecond (adjustable), on request
Basic identifier (11 Bit)	Set via DIP switches or Software
Absolute accuracy	±1°
Repeatability	±0,2°

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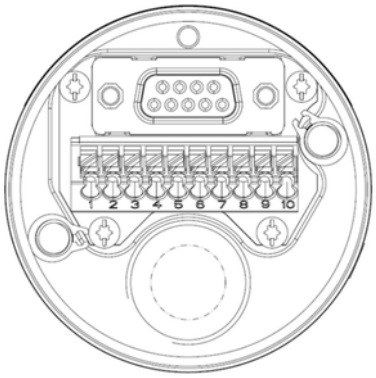
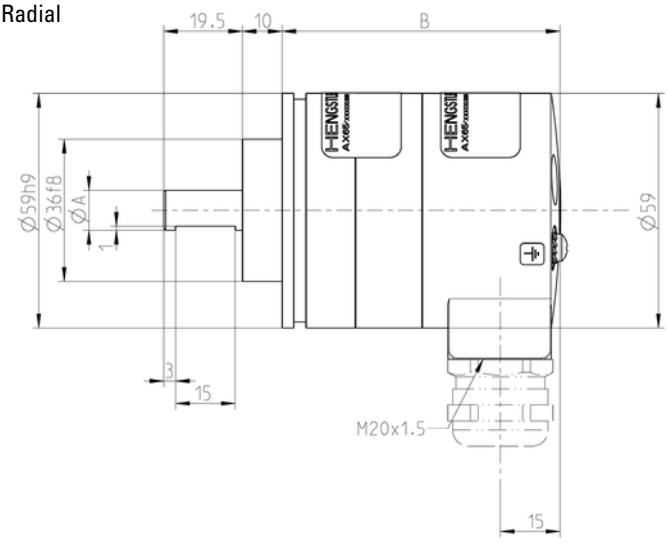
ELECTRICAL CONNECTIONS
CANopen

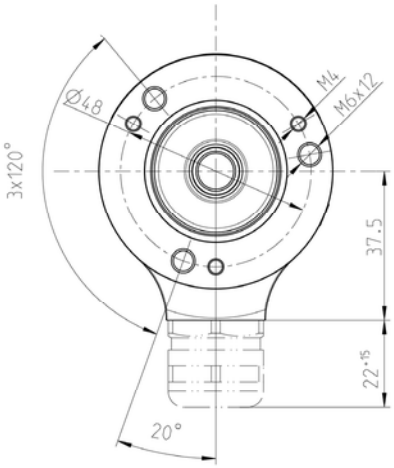
Color / printed numbers	Terminal block	Signal
white / 1	1	U in 10...30V DC
brown / 2	2	0V (GND Power supply)
green / 3	3	CAN in -
yellow / 4	4	CAN in +
grey / 5	5	CAN out -
pink / 6	6	CAN out +
blue / 7	7	GND in
red / 8	8	GND out
	9	Not connected
	10	PE
Screen		cable screen connected to housing
Terminal screw		for additional connection of an earth conductor

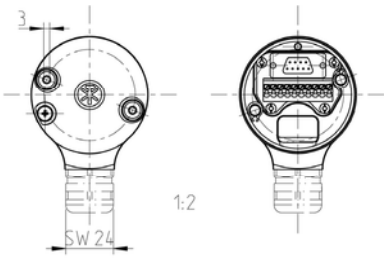


DIMENSIONED DRAWINGS

Connection: Radial







Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	ØA
L.72	10f8

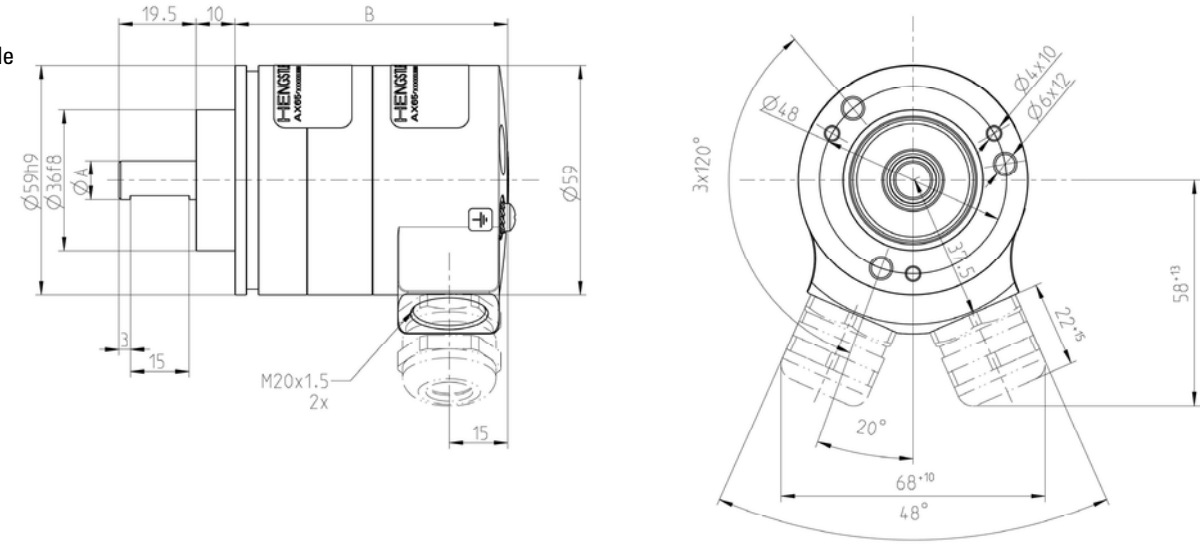
Elektrische Schnittstelle Electrical Interface	B
SSI	70
Canopen	70

Empfohlene Gewindelaenge der Kabelverschraubung: 14mm
Recommended thread length of cable gland: 14mm

Dimensions in mm

DIMENSIONED DRAWINGS (continued)

Connection:
Radial double



Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	ØA
L.72	10f8

Elektrische Schnittstelle Electrical Interface	B
SSI	70
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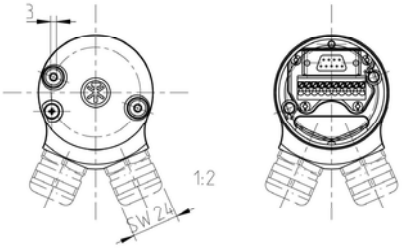
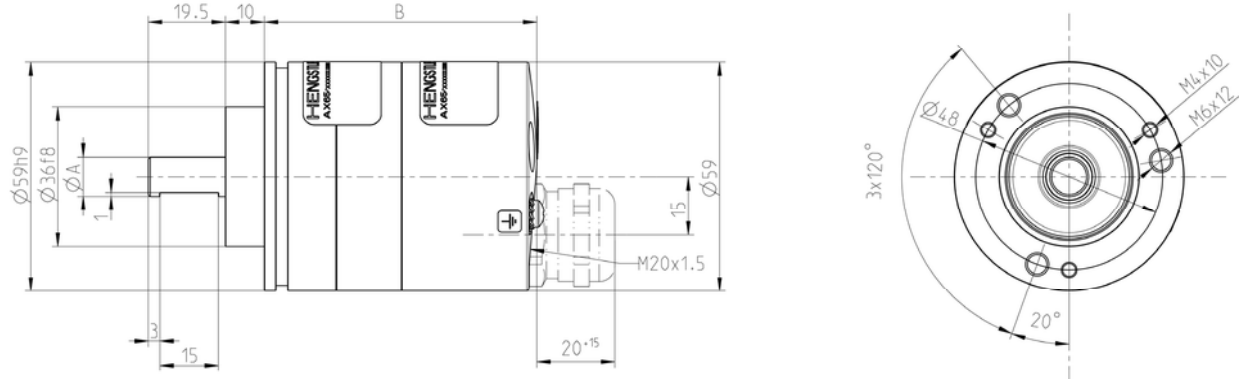


Empfohlene Gewindelaenge der Kabelverschraubungen: 14mm
Recommended thread length of cable glands: 14mm

Dimensions in mm

Connection: Axial



Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	ØA
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Elektrische Schnittstelle Electrical Interface	B
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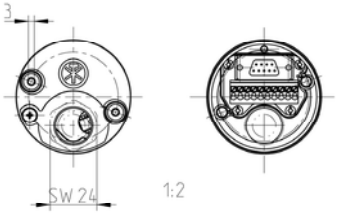

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ORDERING INFORMATION
CANopen

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Interface	Connection
[ ] /	[ ]	[ ]	[ ]	[ ]	[ ]
AX65	**0012** 12 Bit ST **1212** 12 Bit ST + 12 Bit MT **1612** 12 Bit ST + 16 Bit MT	**E** DC 10 - 30 V	**L.72** Synchro clamping, IP66/ IP67, 10 mm	**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

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