

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



CANopen



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 IBEU10ATEX1172 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)

TECHNICAL DATASHEET
EX Heavy Duty Absolute AX 65 - CANopen
**TECHNICAL DATA
Mechanical (continued)**

Nominal speed	1500 rpm
Starting torque typ.	≤ 4,5 Ncm
Moment of inertia	Approx. 25 gcm ²
Vibration resistance (DIN EN 60068-2-6:2008)	300m/s ² (50 ... 2000Hz)
Shock resistance (DIN EN 60068-2-27:2010)	2000m/s ² (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**

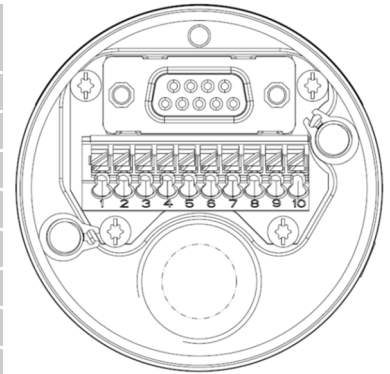
Supply voltage	DC 10 - 30V
Current w/o load max.	100 mA
Recommended external fuse	T 0,2 A
Power consumption	Max. 1 W
Resolution singleturn	12 Bit
Resolution multiturn	12 Bit, 16 Bit
Output code	Binary
Profile/ Protocol	CANopen according to DS 301 with profile DSP 406
Programmable	Resolution, Preset, 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°

TECHNICAL DATASHEET

EX Heavy Duty Absolute AX 65 - CANopen

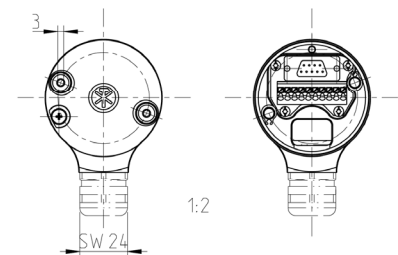
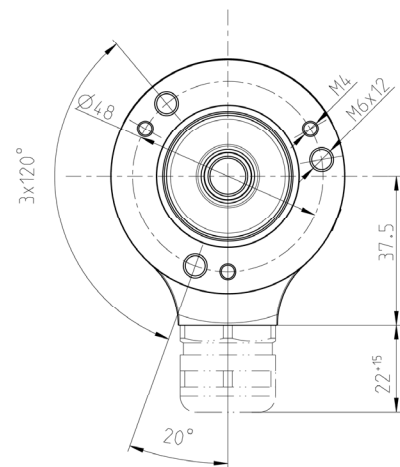
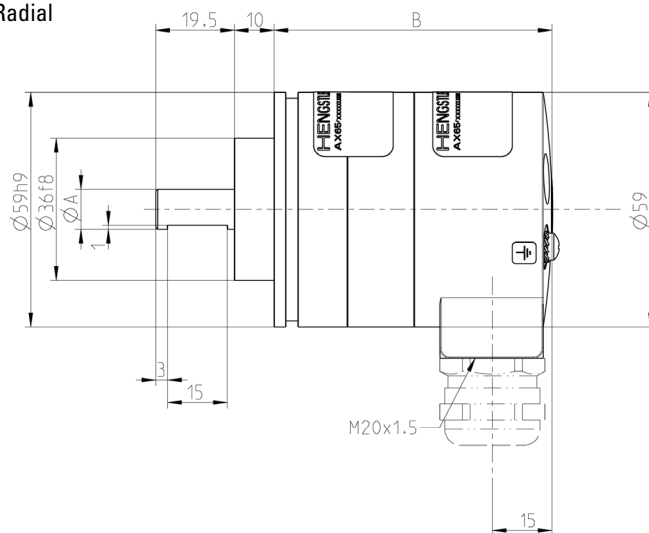
ELECTRICAL CONNECTIONS CANopen

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	Elektrische Schnittstelle Electrical Interface	B
L.72	10f8	SSI	70
		Canopen	70

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

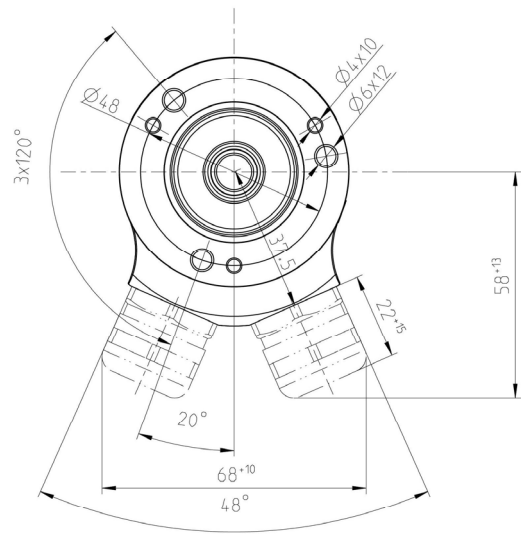
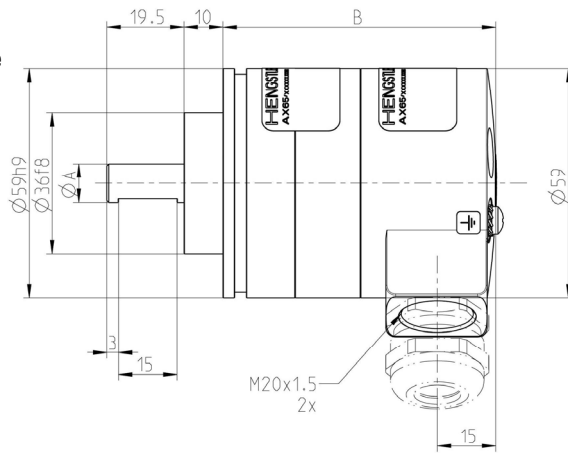
Dimensions in mm

TECHNICAL DATASHEET

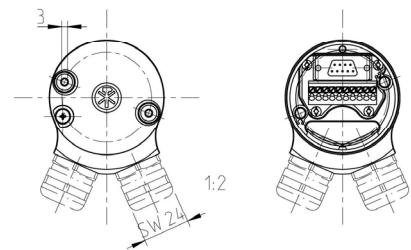
EX Heavy Duty Absolute AX 65 - CANopen

DIMENSIONED DRAWINGS (continued)

Connection:
Radial double



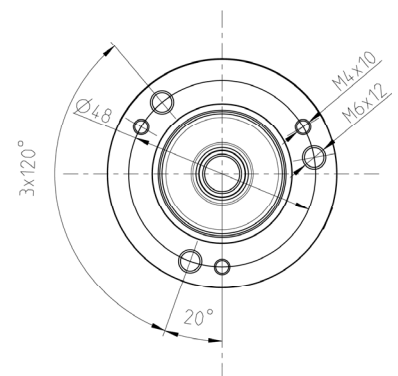
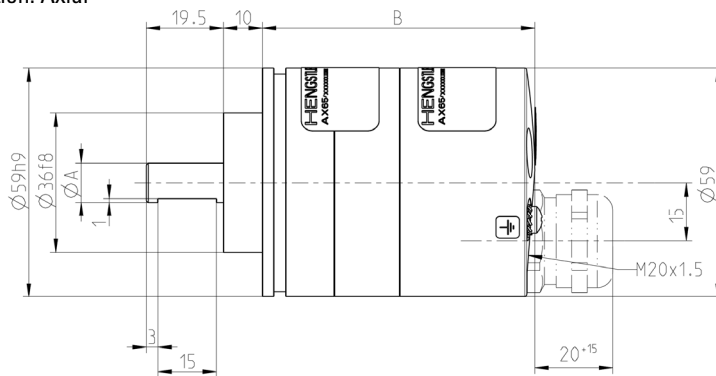
Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	ØA	Elektrische Schnittstelle Electrical Interface	B
L.72	10f8	SSI	70
		Canopen	70



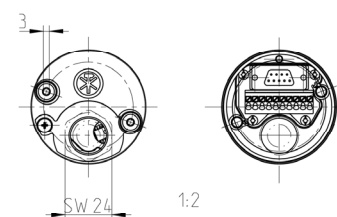
Empfohlene Gewindelaenge der Kabelverschraubungen: 14mm
Recommended thread length of cable glands: 14mm

Dimensions in mm

Connection: Axial



Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	ØA	Elektrische Schnittstelle Electrical Interface	B
L.72	10f8	SSI	70
		Canopen	70



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

Dimensions in mm

TECHNICAL DATASHEET

EX Heavy Duty Absolute AX 65 - CANopen

ORDERING INFORMATION
CANopen

Type	Resolution	Supply voltage	Flange, Protection, Shaft	Interface	Connection
<input type="checkbox"/> / <input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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	0L 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