

TECHNICAL DATASHEET

EX Heavy Duty Absolute AX 65 - SSI



- 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
- 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 IBEU10ATEX1172 X that the AX65 meets the requirements of safety and health according to EN 60079-0:2014-06, EN 60079-1:2015-04 and EN 60079-31:2014-12.

Additionally the encoder is certified according the IECEx standards IEC 60079-0:2011, ed. 6; IEC 60079-1:2014-6, ed. 7 and IEC 60079-31:2013, ed. 2. 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

Dust: Ex II 2D Ex tb IIIC T135 °C

Mining: Ex I M2 Ex db I

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	3000 rpm, 6000 rpm (short term <1sec)
Nominal speed	1500 rpm
Starting torque typ.	≤ 4,5 Ncm

Specifications subject to change without notice.

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**TECHNICAL DATA
Mechanical (continued)**

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 -40°C ... +60°C Ex tb IIIC T135°C / Ex db I
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.	200 mA
Recommended external fuse	T 0,2 A
Power consumption	max. 2 W
Resolution singleturn	12 Bit
Resolution multiturn	12 Bit, 13 Bit, 16 Bit
Output code	Gray or Binary
Drives	Clock and Data / RS422
Absolute accuracy	±1°
Repeatability	±0,2°
Control inputs ²	Preset, Direction

¹ 13 Bit on request

**RECOMMENDED DATA TRANSFER
RATE for SSI**

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

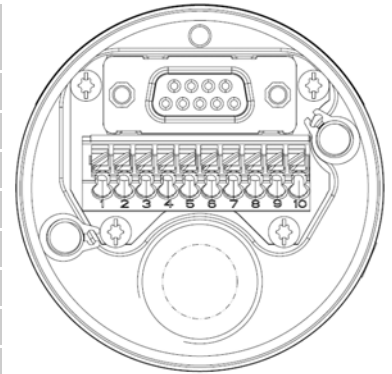
Specifications subject to change without notice.

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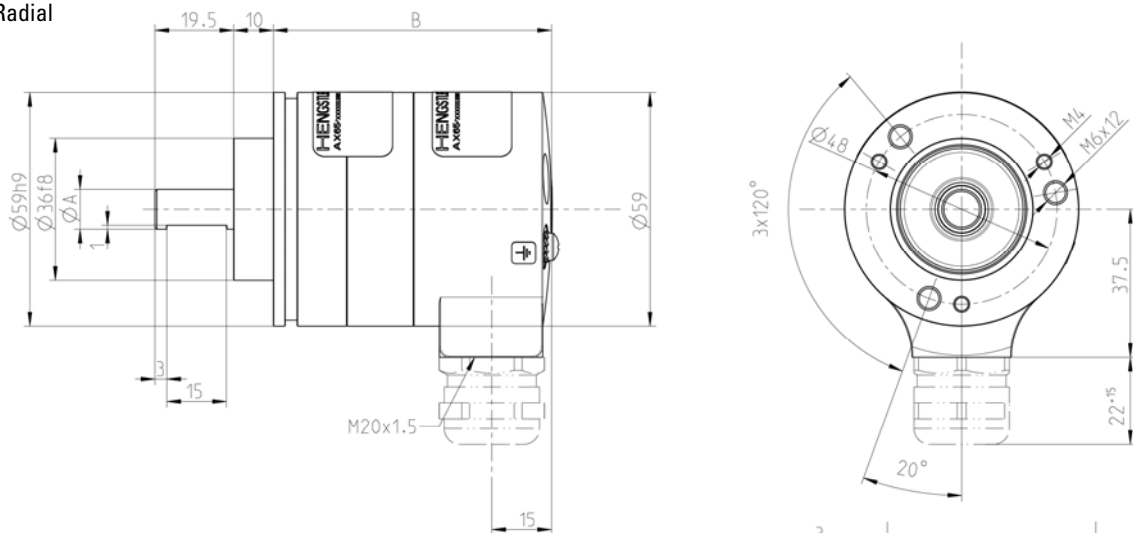
ELECTRICAL CONNECTIONS SSI

Color / printed numbers	Terminal block	Signal
white / 1	1	U in 10...30V DC
brown / 2	2	0V (GND Power supply)
green / 3	3	Clock
yellow / 4	4	Clock
grey / 5	5	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



DIMENSIONED DRAWINGS

Connection: Radial



Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	Ø A	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

Specifications subject to change without notice.

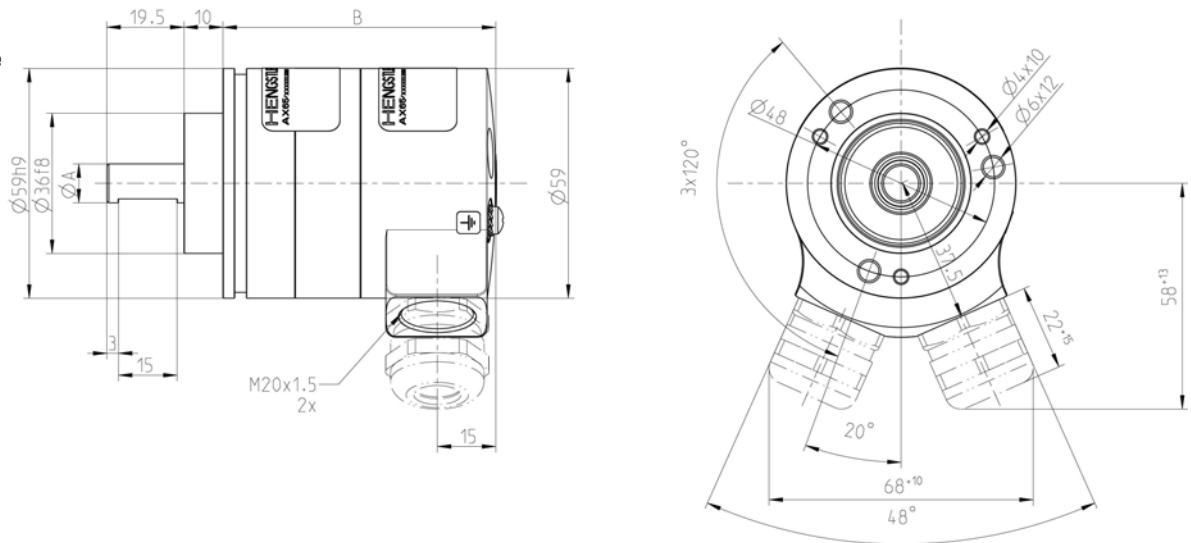
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DIMENSIONED DRAWINGS (continued)

Connection:
Radial double

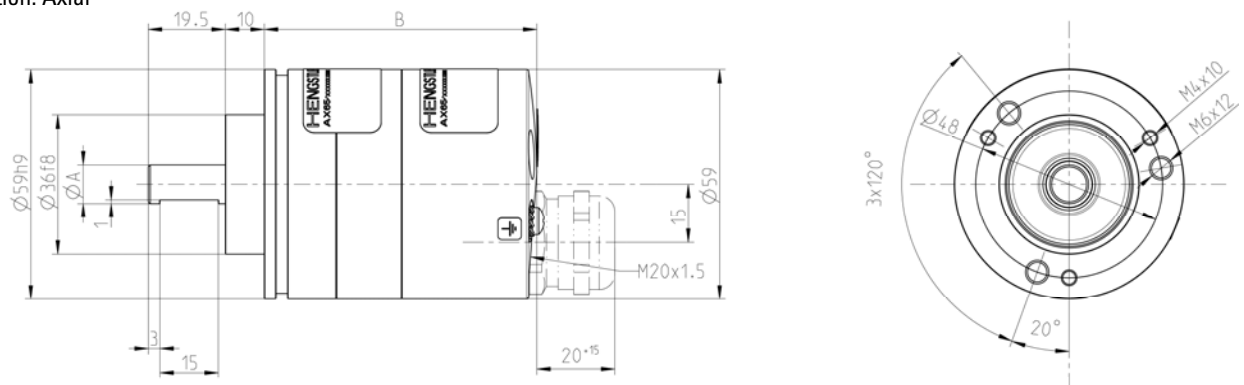


Montage/Schutzart/Wellen-Code Mounting/Protection/Shaft-Code	Ø A	Elektrische Schnittstelle Electrical Interface	B
L.72	10f8	SSI	70
		Canopen	70

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	Ø A	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

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ORDERING INFORMATION SSI

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 1312 12 Bit ST + 13 Bit MT 1612 12 Bit ST + 16 Bit MT	E DC 10 - 30 V	L.72 Synchro clamping, IP66/ IP67, 10 mm	SG SSI Gray SB SSI Binary	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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