Absolute Rotary Mining Encoder - Explosion Proof Stainless Steel enclosure
Shaft or Hollow shaft

Type EXME - SSI

Main Features

- Approval:
  CE 0539 Ex I M2 Ex d I/II T6
- Heavy-duty industrial model
- Interface: Synchronous-serial (RS 422)
- Max. 8192 steps per revolution (13 Bit)
- Max. 16384 revolutions (14 Bit)
- Code: Gray or Binary

Applications

- Sensing of
- Angles
- Distances
- Tracks
- Inclinations
- Differences between two or more axes

Mechanical Structure

- Ex-proof, flameproof enclosure
- Flange and housing of Aluminum
- Shaft of stainless steel
- Precision ball bearings with sealing or cover rings
- Code disc made of unbreakable and durable plastic

Electrical Features

- Temperature insensitive IR-opto-receiver-ASIC with integrated signal conditioning
- Only one IR-transmitter-diode per opto-ASIC
- Highly integrated circuit in SMD -technology
- Polarity inversion protection
- Over-voltage-peak protection

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Technical data

Electrical data

Clock input	via opto-coupler	
Data output	Line-driver according to RS 422	
Clock frequency	100 kHz - 2 MHz	
Step frequency LSB	max. 800 kHz (valid code)	
Accuracy of division	± ½ LSB (12 bit), ± 2 LSB (16 bit)	
Supply voltage	10-30 V DC (absolute limits) *	
Turn on time	< 1 s	
Power consumption	max. 1 W	
Electrical lifetime	> 10^5 h	
EMC	emitted interference: EN 61000-6-4	
	noise immunity: EN 61000-6-2	
Connection	connection cap – screw terminals	

* Supply voltage according to EN 50 178 (safety extra-low voltage)

Mechanical Data

Housing	Aluminum	
Max. shaft loading	Axial 50 N, radial 50 N	
Inertia of rotor	≤ 35 gcm^2	
Friction torque	IP65	≤ 0.05 Nm at 25°C
	IP67	≤ 0.2 Nm at 25°C
RPM max.	IP65	3,000 RPM
	IP54	6,000 RPM
	IP67	1,200 RPM
Shock (EN 60068-2-27)	≤ 100 g (halfsine, 11 ms)	
Vibration (EN 60068-2-6)	≤ 10 g (10 Hz ... 2,000 Hz)	
Weight (standard version)	Approx. 1200 g	
Flange	**Clamp (C)**	
Shaft diameter	10 mm	
Shaft length	20 mm	

Environmental Conditions

Operating temperature	- 40 .. + 70°C
Storage temperature	- 40 .. + 85 °C
Humidity	98 % (without liquid state)
Protection class (EN 60529)	IP 65 (others on request)

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Note:
For ambient temperatures below –10°C and above +60°C use field wiring suitable for both minimum and maximum ambient temperature.

Ex-Protection

SCANCON encoders type series EXME are classified according to Ex I M2 Ex d I/IIC T6

Ex	I	M2	Ex	d	I/II	C	T6

T6: Temperature Class T6: Maximum surface temperature: + 85°C

C: Explosion Sub-Group C: I Methane (CH_4), II Hydrogen (H_2), Acetylene (C_2H_2), carbon disulfide (CS_2)

I/II: Explosion Group for mining / II Surface

d: Method of protection: flameproof enclosure

Ex: Device in compliance with EN6007-9-0:2006 and 60079-1:2007

M2: Equipment-Category M2 for mining

I: Equipment-Group I: for all applications for mining

Ex: Explosion-Proof enclosure Device

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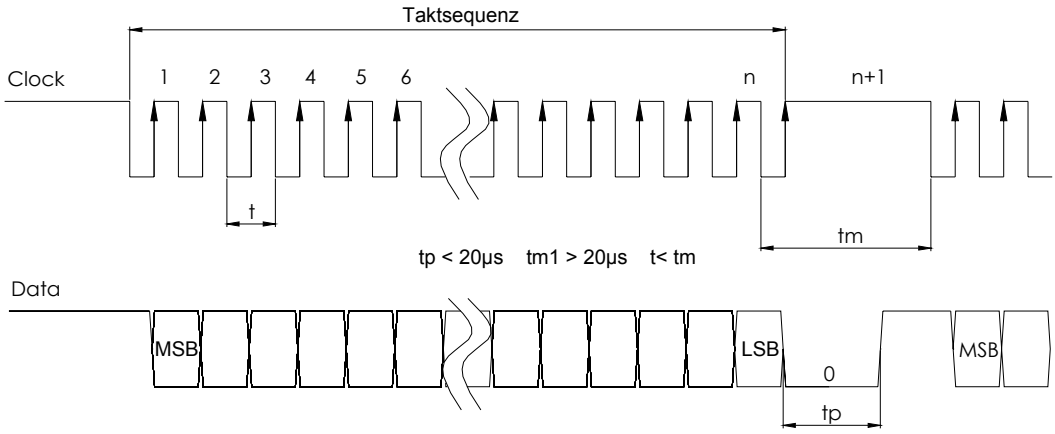
Interface

Synchronous Serial Interface (SSI)

Driver	Driver meets EIA standard RS 422; transmission rates up to 10 MBit/s
Transfer	Transfer distance up to 1,200 m
Transmission	Balanced transmission provides high noise immunity
Pair lines	Shielded and twisted pair lines are essential to attain extremely high noise immunity
Interface	For a detailed description of the synchronous-serial interface (SSI) refer to introduction section.
Optional	Built-in RS 422 interface for bus mode (strobe-function). Up to 32 encoders (AWC) can be used on the same data line !

Single Shift



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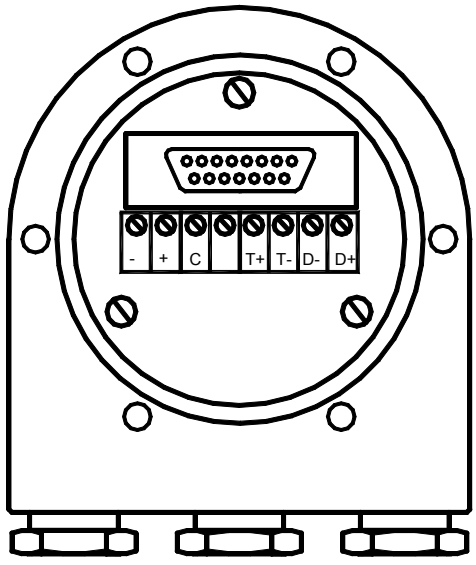
Installation

Signal lines and power supply are connected via screw terminals in the connection cap. The connection cap can be opened for installation by removing the six cap screws.
The cable gland is suitable for cable diameters from 6.5 up to 8 mm.

Follow the instructions in the installation manual carefully, otherwise the ATEX-certification will repealed!



Assignment of the 8pin screw terminal:

Terminal	Description
1 (left)	0 V
2	10 – 30 V
3	Complement
4	N.C.
5	Clock +
6	Clock -
7	Data -
8 (right)	Data +

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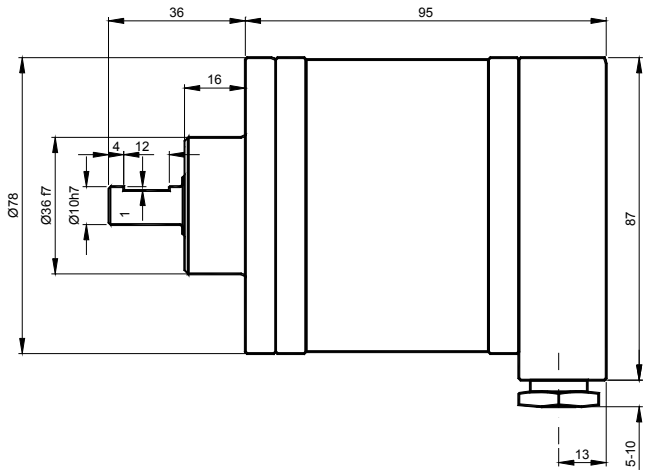
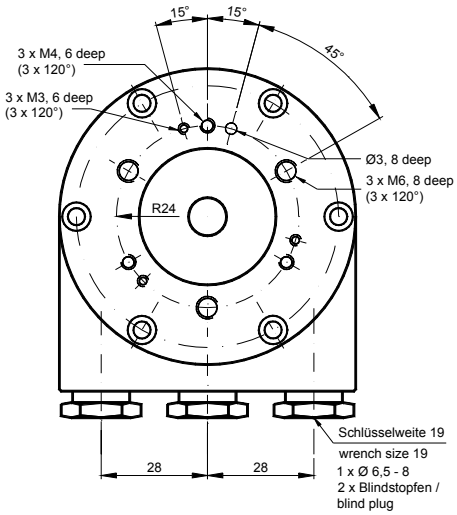
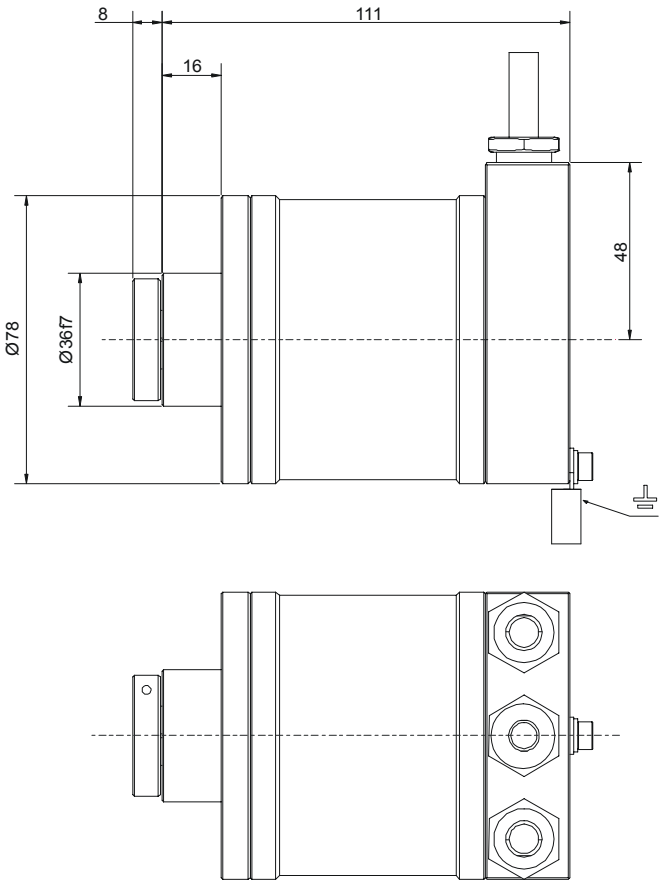
Mechanical Drawings

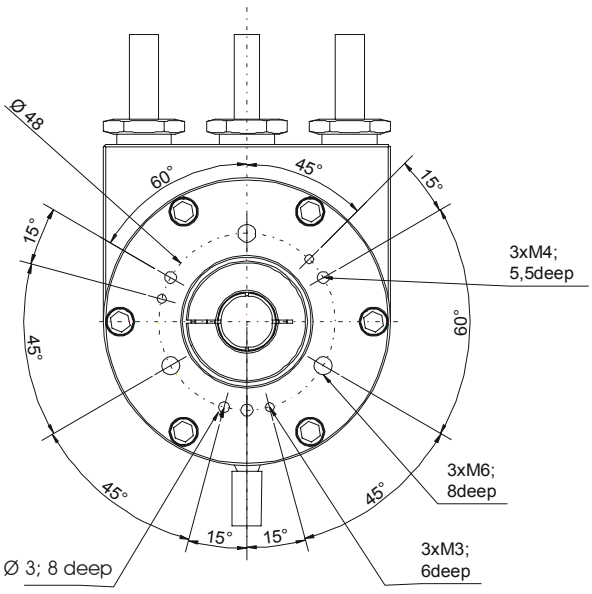
Clamp flange (C) Shaft





Hollow Shaft





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Models/Ordering Description

Description	Type key												
Ex-Proof Optocode	**EXME-**	_ _	_ _	_ -	_ _	_ _ -	_ -	_ _ -	_ _ -	_ _ -	_ _ -	_ -	_ _
Interface	SSI	**SL**											
Version			**00**										
Code	Gray			**G**									
	Binary			B									
Revolutions (Bits)	Singleturn				**00**								
	Multiturn (4096 revolutions)				**12**								
	Multiturn (16384 revolutions)				14								
Steps per Revolution	4096					12							
(Bits)	8192					**13**							
Shaft or	Solid Shaft						**A**						
Hollow Shaft	Hollow Shaft						H						
Material	Stainless Steel							VA					
Shaft diameter	10 mm								**10**				
Shaft length	20 mm								**20**				
Hollow shaft diameter	14 mm									**14**			
Deep	35 mm									**35**			
P Rating	IP66										66		
	IP67										67		
Flange	Clamping Flange											**C**	
Connection	-Connection Cap Field Bus – radial cable outlets												
	2 x Ø 8-9.5 mm / 1 x Ø 6.5 - 8 mm												**FS**
	-Connection Cap Field Bus – radial cable outlets												**FA**
	-2 x M20 x 1,5 for commercial cable glands												**FA00**
	-2 x Scancon cable gland for protecting Hydraulic Hose												
	Cable Ø6,5 mm to Ø8 mm												**FA08**
	Cable Ø8 mm to Ø10 mm												**FA10**
	Cable Ø10 mm to 11,5 mm												**FA12**

Standard = bold, further models on request

Accessories and Documentation

Description		Type
Shaft coupling	Drilling: 10 mm	**GS 10**

We do not assume responsibility for technical inaccuracies or omissions. Specifications are subject to change without notice.