Incremental encoders

Ex approval Ex II 2D/2G (ATEX)

5...5000 pulses per revolution

X 700 - incremental

X 700 with EX-proof housing

Features

- **Encoder incremental / ATEX**
- **Optical sensing method**
- **Max. 5000 pulses per revolution**
- **Clamping flange with solid shaft ø10 mm**
- **Explosion protection per Ex II 2D/2G (ATEX)**
- **Device class 2 / zone 1 (gas), zone 21 (dust)**
- **Material stainless steel**

Technical data - electrical ratings

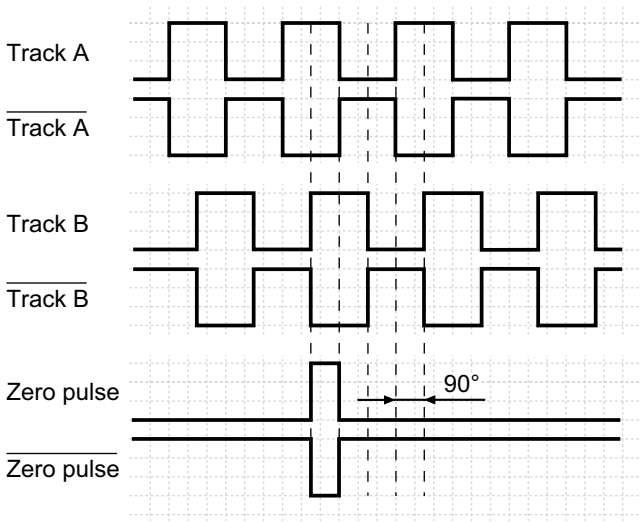
Voltage supply	4.75...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤50 mA
Pulses per revolution	5...5000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤300 kHz
Output signals	A 90° B, N + inverted
Output stages	Push-pull short-circuit proof
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4

Technical data - mechanical design

Size (flange)	ø70 mm
Shaft type	ø10 mm solid shaft (clamping flange)
Admitted shaft load	≤60 N axial ≤50 N radial
Flange	Clamping flange
Protection DIN EN 60529	IP 67
Operating speed	≤6000 rpm
Starting torque	≤0.04 Nm (+25 °C)
Materials	Housing: stainless steel Flange: stainless steel
Operating temperature	-20...+70 °C
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-27 Shock 300 g, 1 ms DIN EN 60068-2-27 Shock 100 g, 6 ms
Explosion protection	Ex II 2G Ex d IIC T4/T6 Ex II 2D
Connection	Cable 2 m (other length upon request)
Weight approx.	1300 g

Output signals

Clockwise rotating direction when looking at flange.



Optional: other reference impulse.

X 700 - incremental

Part number

X 700.I 1 | | | | |

Temperature class
- .T4 Max. ignition temperature >135...<200 °C
- Max. ignition temperature >85...<100 °C

Pulse number - see table

Connection
- 32 Cable 2 m, axial
- 34 Cable 5 m, axial

Voltage supply / signals
- 1 4.75...30 VDC / push-pull
- 2 5 VDC / RS422

Flange / Solid shaft
- 1 Clamping flange / ø10 mm, IP 67

Terminal assignment

Core no.	Core colour	Assignment
#1	white	GND
#2	brown	UB
#3	green	Track A
#4	yellow	Track B
#5	grey	Track N
#6	pink	Track A inv.
#7	blue	Track B inv.
#8	red	Track N inv.

Trigger level

Outputs	**Push-pull** short-circuit proof
Output level High	>UB -1.4 V (I = -20 mA)
Output level Low	<0.5 V (I = 20 mA)
Load High / Low	<20 mA

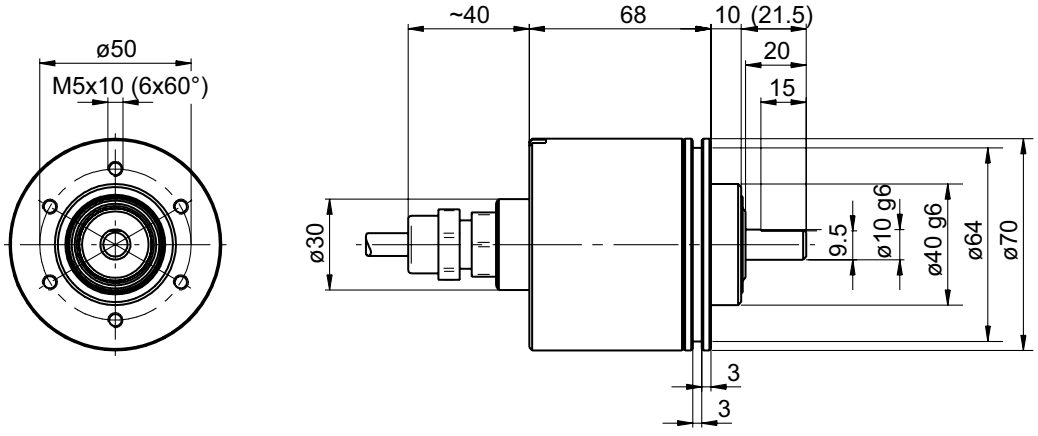
Pulse number

Part number (pulse number)

49	(5)	41	(100)	14	(400)	28	(2000)
36	(10)	57	(128)	15	(500)	34	(4096)
50	(25)	06	(200)	22	(1000)		
39	(50)	09	(250)	23	(1024)		
40	(60)	13	(360)	26	(1500)		

Other pulse numbers on request.
Example: part number 23 = 1024 pulses.

Dimensions



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Checklist for EX protection data collection

For the design of explosion-proof encoders of the X 700 series according to EU Directive 2014/34/EU, it is absolutely necessary to complete this checklist in order to be able to resolve all open questions regarding explosion protection and application conscientiously.

Company: _____

Address: _____

Department: _____ Phone-No.: _____

Clerk/Technician: _____

Email: _____ Fax: _____

Responsibility:
The operator is responsible for maintaining the performance limit of the devices (see datasheet)

Equipment group:			**Please select**
Equipment group I,	**M2**	Mining (underground /above-ground mining)	
Equipment group II,	**2G/2D**	all other areas	

Equipment Use / Field Application: (i.e.: paint line, process engineering, gas storage etc.)

_____

_____

Information on operating temperature and ambient temperature		**Enter values**
Expected operating temperature:		
Operating temperature:	Standard: -20...+70 °C, optional 100 °C	datasheet
Ambient temperature in the field:		

Mechanical load			**Enter values**
Numbers of Revolutions:	RMP	max. 3000 RMP	
Axial shaft load:	(N)		
Radial shaft load:	(N)		
Environmental influences (Salt, alkalis, etc.):			

Date:	**Stamp:**
Signature:	