

Incremental encoders

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

5...5000 pulses per revolution

X 700 - incremental



X 700 with EX-proof housing

Features

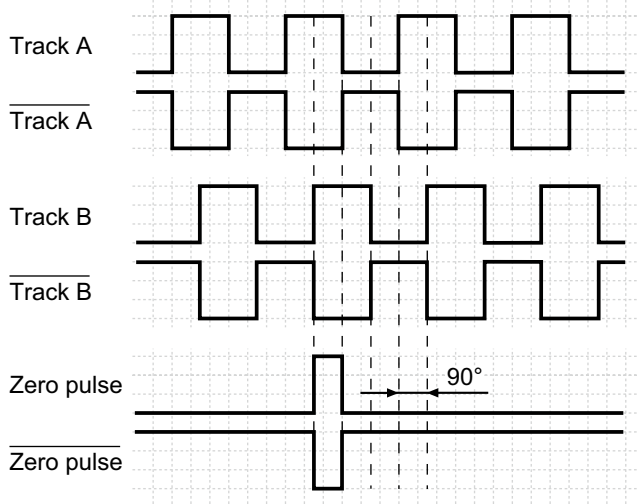
- Encoder incremental / ATEX
- Optical sensing method
- Max. 5000 pulses per revolution
- Clamping flange with solid shaft $\varnothing 10$ mm
- Explosion protection per Ex II 2D/2G (ATEX)
- Device class 2 / zone 1 (gas), zone 21 (dust)
- Material stainless steel

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

Output signals

Clockwise rotating direction when looking at flange.



Optional: other reference impulse.

Technical data - mechanical design

Size (flange)	$\varnothing 70$ mm
Shaft type	$\varnothing 10$ 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

Incremental encoders

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

5...5000 pulses per revolution

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

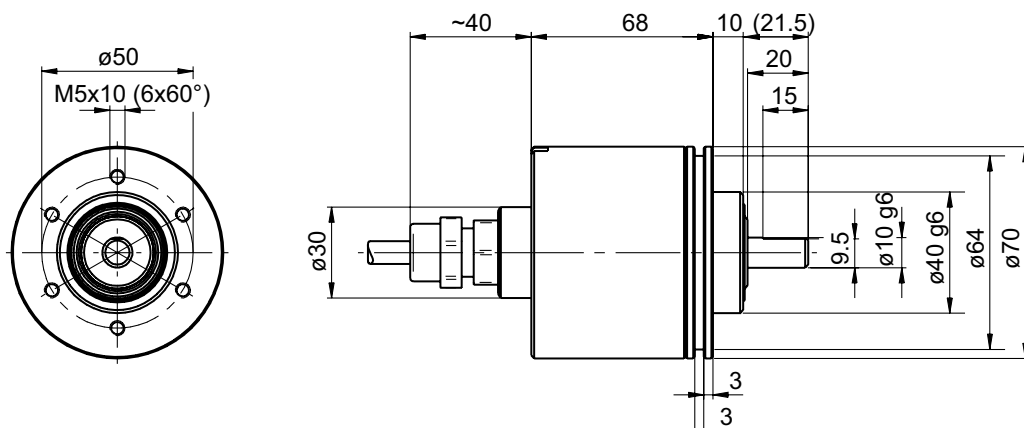
Part number (pulse number)

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



Incremental encoders

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

5...5000 pulses per revolution

X 700 - incremental

Checklist for EX protection data collection

For the design of explosion-proof encoders of the IX700 or AX700 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: _____

Clerck/Technician: _____

Email: _____

Responsibility:

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

Equipment group:			Please select
Classification according to ATEX 2021/34/EU	Equipment group I	Mining M2	
	Equipment group II	Explosive Atmosphere	
Classification according to IEC 60079	Equipment group I	Mining M2	
	Equipment group II	Gas hazardous areas	
	Equipment group III	Dust hazardous areas	

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

X 700 - Incremental			
Ambient temperature range	Temperature class	max. surface temperature on the housing	Enter value
-20°C bis +55°C	T6	+85°C	
-20°C bis +105°C	T4	+135°C	
dust: -20°C bis +45°C	T70		

X 700 - Absolute			
Ambient temperature range	Temperature class	max. surface temperature on the housing	Enter value
-20°C bis +65°C	T6	+85°C	
-20°C bis +115°C	T4	+135°C	
Dust: -20°C bis +55°C	T70		

Mechanical load			Enter values
Numbers of revolutions:	RMP	max. 3000 rpm	
Axial shaft load:	(N)		
Radial shaft load:	(N)		
Environmental influences (salt, alkalis, etc.):			

Date:	Stamp:
Signature:	

Internal information (to be filled in by Baumer)

Baumer order number:

Baumer production order number