

# ROTACOD

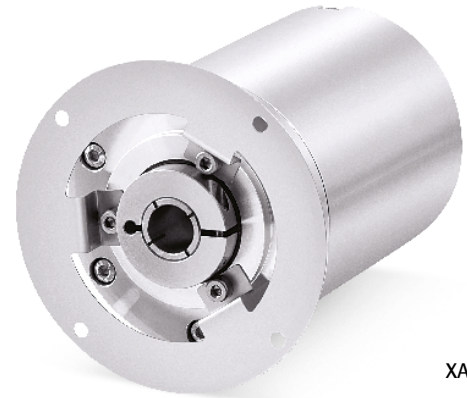
ATEX absolute multi-turn encoder

Series

**XAC77**



- Absolute single & multiturn encoders
- ATEX II 2G Ex d IIC T6 Gb, II 2D Ex tb IIIC T85°C Db certification
- Installation in zones 1, 2, 21 and 22
- Point-to-point fieldbus communication
- SSI or Bit parallel output
- Fully programmable analogue output (V/I)



XAC77

## ENVIRONMENTAL SPECIFICATIONS

Shock:	100 g, 6 ms
Vibrations:	10 g, 10-2000 Hz
Protection:	IP65
Environmental temperature max.:	40°C max.
Encoder operating temperature range:	-25°C +85°C (-13°F +185°F)
Storage temperature range:	-25°C +85°C (-13°F +185°F) (98% R.H. without condensation)

## MECHANICAL SPECIFICATIONS

Protection mode:	ATEX II 2G Ex d IIC T6 Gb, II 2D Ex tb IIIC T85°C Db
Dimensions:	see drawing
Shaft diameter:	Ø 14 mm
Shaft loading (axial, radial):	60 N max.
Shaft rotational speed:	6000 rpm max.
Starting torque (at 20°C):	< 5 Ncm
Bearings life:	400x10 <sup>6</sup> rev. min. (10 <sup>9</sup> rev. min. with shaft loading of 20 N max.)
Electrical connections:	cable output 3 m (9.8 ft) (max. 8 m for Ethernet versions)
Weight:	~ 1 kg (35,2 oz)
Option:	• additional cable

## ELECTRICAL SPECIFICATIONS

Resolution:	SSI, Bit Parallel: 8192 cpr max. or 8192 cpr x 4096 turns max. Analogue output: 12 bit or 13 x 14 bit Profibus, CANopen, DeviceNet: 262144 cpr or 65536 cpr x 16384 turns Profinet, EtherCAT, Powerlink, Ethernet/IP, Modbus TCP/IP: 262144 cpr or 65536 cpr x 16384 turns
Accuracy:	± 0,04°
Output circuits:	SSI (RS422), Bit Parallel NPN, Push Pull gray or binary coded Profibus-DP, CANopen, DeviceNet Profinet, EtherCAT, Powerlink, Ethernet/IP, Modbus TCP/IP 0-5V, 0-10V, -5/+5V, -10/+10V 4-20mA, 0-20mA, 0-24mA
Counting frequency:	> 150 kHz
Power supply:	+10Vdc +30Vdc
Power consumption:	2,2 W max.
Protection:	against inversion of polarity and short circuit
EMC:	electro-magnetic immunity, according to: EN 61000-4-2 EN 61000-4-4
Functions:	• Counting direction (input) • Zero setting / Preset (input) <i>Profibus, CANopen, DeviceNet functions refer to HM58 FB series</i> <i>Analogue functions refer to EM58 PA series</i> <i>Profinet, EtherCAT, Powerlink, Ethernet/IP, Modbus refer to relevant user manual</i>
Optoelectronic life:	100.000 hrs min.

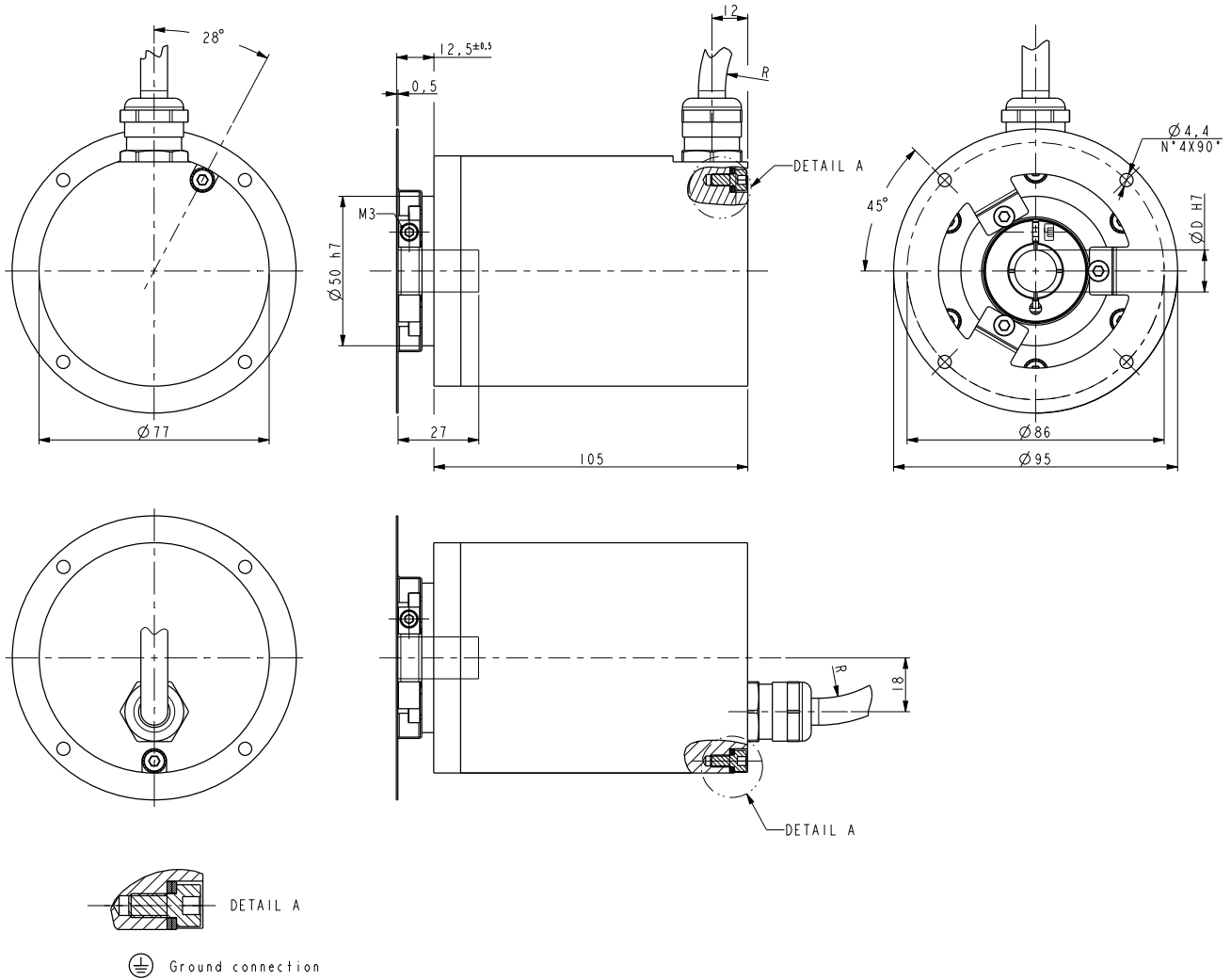
## MATERIALS

Flange:	anticorodal, EN AW-6082 (UNI EN 573)
Housing:	anticorodal, EN AW-6082 (UNI EN 573)
Bearings:	ABEC 5
Shaft:	1.4305 (UNI EN 10088-1)

## ACCESSORIES

LKM-1758:	Ø 10 mm solid shaft extension
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XAC77

Order code - SSI and Bit Parallel

XAC77	XX Ⓐ	/	XXXXX Ⓑ	X Ⓒ	XX Ⓓ	-	XX Ⓔ	-	X Ⓕ	XX Ⓖ	/Sxxx Ⓗ
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Ⓐ RESOLUTION

12 = 4096 cpr  
13 = 8192 cpr

Ⓑ REVOLUTIONS

1 = single turn  
4096 = 4096 turns  
16384 = 16384 turns

Ⓒ OUTPUT CODE

B = Binary  
G = Gray

Ⓓ OUTPUT CIRCUITS

N = NPN o.c.  
Y = Push-Pull  
R = SSI, tree format  
B = SSI, LSB aligned

Ⓔ SHAFT DIAMETER

14 = 14 mm

Ⓕ CONNECTION POSITION

- = axial  
R = radial

Ⓖ CABLE LENGTH

L3 = cable output 3 m  
L5 = cable output 5 m  
L7 = cable output 7 m  
L10 = cable output 10 m

Ⓗ CUSTOM VERSION

## Order code - Profinet, EtherCAT, Powerlink, Ethernet/IP, Modbus

XAC77	XX/XXXXX a	XX b	-	XX c	-	X d	XX e	/Sxxx f
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<b>a RESOLUTION</b> 18/1 = 262144 cpr single turn 16/16384 = 65536 cpr x 16384 turns	<b>c SHAFT DIAMETER</b> 14 = 14 mm	<b>e CABLE LENGTH</b> L3 = cable output 3 m (min. length) L5 = cable output 5 m L8 = cable output 8 m (max. length)
<b>b OUTPUT</b> PT = Profinet IO EC = EtherCAT PL = Ethernet Powerlink V2.0 EP = Ethernet/IP MT = Modbus TCP/IP	<b>d CONNECTION POSITION</b> - = axial R = radial	<b>f CUSTOM VERSION</b>

## Order code - Profibus, CANopen, DeviceNet

XAC77	XX/XXXXX a	XX b	-	XX c	-	X d	XX e	/Sxxx /AABT f
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<b>a RESOLUTION</b> 18/1 = 262144 cpr single turn 16/16384 = 65536 cpr x 16384 turns	<b>c SHAFT DIAMETER</b> 14 = 14 mm	<b>e CABLE LENGTH</b> L3 = cable output 3 m L5 = cable output 5 m L7 = cable output 7 m L10 = cable output 10 m
<b>b OUTPUT</b> PB = Profibus-DP V1 CB = CANopen DS301, DS406 FD = DeviceNet ( <i>/AABT selection is mandatory</i> )	<b>d CONNECTION POSITION</b> - = axial R = radial	<b>f CUSTOM VERSION or FACTORY SETTING</b>
<b>AA: address</b> 00h ÷ 7Dh = addr. 00 ÷ 125 for PB output (default = 7D)* 01h ÷ 7Fh = addr. 01 ÷ 127 for CB output (default = 01)* 00h ÷ 3Fh = addr. 00 ÷ 63 for FD output **	<b>B: baud rate</b> A = 20 Kb/s (only CB) B = 50 Kb/s (only CB) C = 100 Kb/s (only CB) D = 125 Kb/s (CB and FD) E = 250 Kb/s (CB and FD) F = 500 Kb/s (CB and FD) (default) G = 800 Kb/s (only CB) H = 1000 Kb/s (only CB) Z = 00 (only PB)	<b>T: bus termination</b> 0 = Termination deactivated 1 = Termination activated
* For PB and CB: address and baud rate are pre-programmed according to /AAB factory setting ** For FD: address and baud rate are hardware fixed according to /AAB factory setting		

## Order code - Analogue output (programmable)

XAC77	XX/XXXXX a	XX b	-	XX c	-	X d	XX e	/Sxxx /Pxxx f
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<b>a RESOLUTION</b> 12/1 = 12 bit single turn 12/16384 = 12 x 14 bit	<b>c SHAFT DIAMETER</b> 14 = 14 mm	<b>e CABLE LENGTH</b> L3 = cable output 3 m L5 = cable output 5 m L7 = cable output 7 m L10 = cable output 10 m
<b>b OUTPUT</b> PA = Programmable analogue	<b>d CONNECTION POSITION</b> - = axial R = radial	<b>f</b> /Sxxx: Custom version /Pxxx: Factory programmed encoder on customer request

Document release	Date	Description
1.1	14.04.2021	Analogue output, order code review - Custom version