

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) |

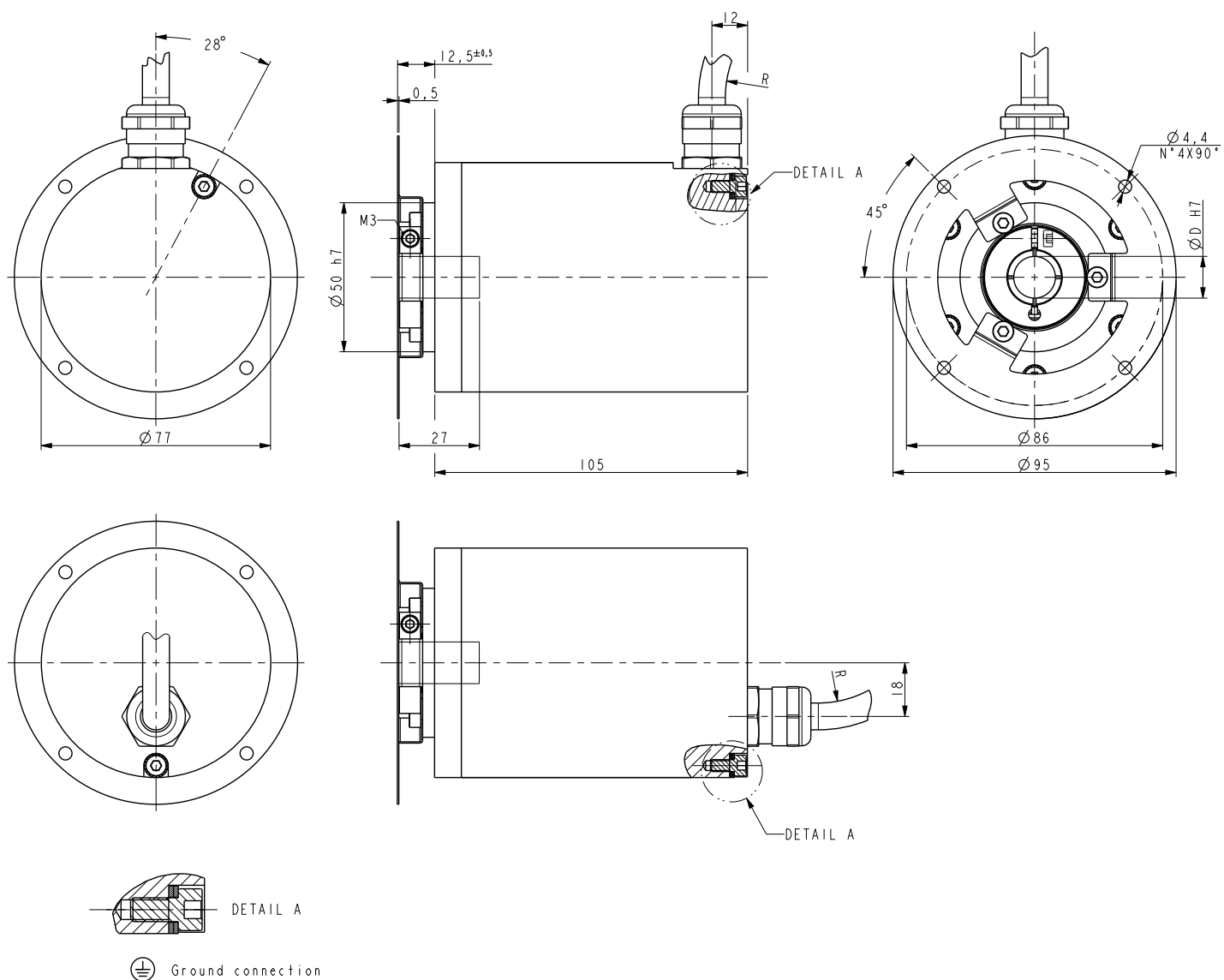
| MECHANICAL SPECIFICATIONS | |
|--------------------------------|---|
| Protection mode: | ATEX II 2G Ex d IIC T6 Gb, II 2D Ex tb IIIC T85°C Db |
| Dimensions: | see drawing |
| Shaft diameter: | Ø 14 mm |
| Shaft loading (axial, radial): | 60 N max. |
| Shaft rotational speed: | 6000 rpm max. |
| Starting torque (at 20°C): | < 5 Ncm |
| Bearings life: | 400x10 ⁶ rev. min. (10 ⁹ 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: | <ul style="list-style-type: none"> • 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 |



XAC77

Order code - SSI and Bit Parallel

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|-------|-----------|---|--------------|----------|-----------|---|-----------|---|----------|-----------|--------------|
| XAC77 | XX (a) | / | XXXXX (b) | X (c) | XX (d) | - | XX (e) | - | X (f) | XX (g) | /Sxxx (h) |
|-------|-----------|---|--------------|----------|-----------|---|-----------|---|----------|-----------|--------------|

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|---|---|---|
| <p>(a) RESOLUTION 12 = 4096 cpr 13 = 8192 cpr</p> <p>(b) REVOLUTIONS 1 = single turn 4096 = 4096 turns 16384 = 16384 turns</p> <p>(c) OUTPUT CODE B = Binary G = Gray</p> | <p>(d) OUTPUT CIRCUITS N = NPN o.c. Y = Push-Pull R = SSI, tree format B = SSI, LSB aligned</p> <p>(e) SHAFT DIAMETER 14 = 14 mm</p> | <p>(f) CONNECTION POSITION - = axial R = radial</p> <p>(g) CABLE LENGTH L3 = cable output 3 m L7 = cable output 7 m Lx = cable output x m (3 m min.)</p> |
|---|---|---|

(h) CUSTOM VERSION

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

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|-------|---------------|---------|---|---------|---|--------|---------|------------|
| XAC77 | XX/XXXXX Ⓐ | XX Ⓑ | - | XX Ⓒ | - | X Ⓓ | XX Ⓔ | /Sxxx Ⓕ |
|-------|---------------|---------|---|---------|---|--------|---------|------------|

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|--|---|---|
| Ⓐ RESOLUTION 18/1 = 262144 cpr single turn 16/16384 = 65536 cpr x 16384 turns | Ⓒ SHAFT DIAMETER 14 = 14 mm | Ⓔ CABLE LENGTH L3 = cable output 3 m Lx = cable output x m (3 m min., 8 m max.) L8 = cable output 8 m |
| Ⓑ OUTPUT PT = Profinet IO EC = EtherCAT PL = Ethernet Powerlink V2.0 EP = Ethernet/IP MT = Modbus TCP/IP | Ⓓ CONNECTION POSITION - = axial R = radial | Ⓕ CUSTOM VERSION |

Order code - Profibus, CANopen, DeviceNet

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|-------|---------------|---------|---|---------|---|--------|---------|---------------------|
| XAC77 | XX/XXXXX Ⓐ | XX Ⓑ | - | XX Ⓒ | - | X Ⓓ | XX Ⓔ | /Sxxx /AABT Ⓕ |
|-------|---------------|---------|---|---------|---|--------|---------|---------------------|

| | | |
|--|---|---|
| Ⓐ RESOLUTION 18/1 = 262144 cpr single turn 16/16384 = 65536 cpr x 16384 turns | Ⓒ SHAFT DIAMETER 14 = 14 mm | Ⓔ CABLE LENGTH L3 = cable output 3 m L7 = cable output 7 m Lx = cable output x m (3 m min.) |
| Ⓑ OUTPUT PB = Profibus-DP V1 CB = CANopen DS301, DS406 FD = DeviceNet (<i>/AABT selection is mandatory</i>) | Ⓓ CONNECTION POSITION - = axial R = radial | Ⓕ CUSTOM VERSION or FACTORY SETTING |
| AA: address 00h ÷ 7Dh = addr. 00 ÷ 125 for PB output ⁽¹⁾ 01h ÷ 7Fh = addr. 01 ÷ 127 for CB output ⁽²⁾ 00h ÷ 3Fh = addr. 00 ÷ 63 for FD output <small>⁽¹⁾ order code 7Eh (dec 126) allows software setting of device addr. ⁽²⁾ order code 00h (dec 0) allows software setting of device addr.</small> | B: baud rate 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) G = 800 Kb/s (only CB) H = 1000 Kb/s (only CB) Z = 00 (for PB and CB programmable Baud rate) | |

Order code - Analogue output (programmable)

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|-------|---------------|---------|---|---------|---|--------|---------|------------|
| XAC77 | XX/XXXXX Ⓐ | XX Ⓑ | - | XX Ⓒ | - | X Ⓓ | XX Ⓔ | /Sxxx Ⓕ |
|-------|---------------|---------|---|---------|---|--------|---------|------------|

| | | |
|--|---|---|
| Ⓐ RESOLUTION 12/1 = 12 bit single turn 12/16384 = 12 x 14 bit | Ⓒ SHAFT DIAMETER 14 = 14 mm | Ⓔ CABLE LENGTH L3 = cable output 3 m L7 = cable output 7 m Lx = cable output x m (3 m min.) |
| Ⓑ OUTPUT PA = Programmable analogue | Ⓓ CONNECTION POSITION - = axial R = radial | Ⓕ CUSTOM VERSION |