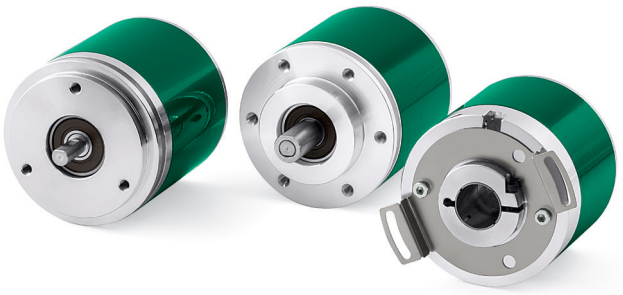
ROTACOD

Absolute single and multiturn encoders with RS485 Modbus interface

Series ESx58x MB • EMx58x MB

- Compact optical single and multiturn encoder
- Modbus RTU RS485 protocol
- Resolution: singleturn 4096 cpr
  and multiturn 4096 cpr x 16384 turns
- Freely programmable via RS485
- Diagnostic LEDs
- High degree of protection, IP67



ESx58x • EMx58x

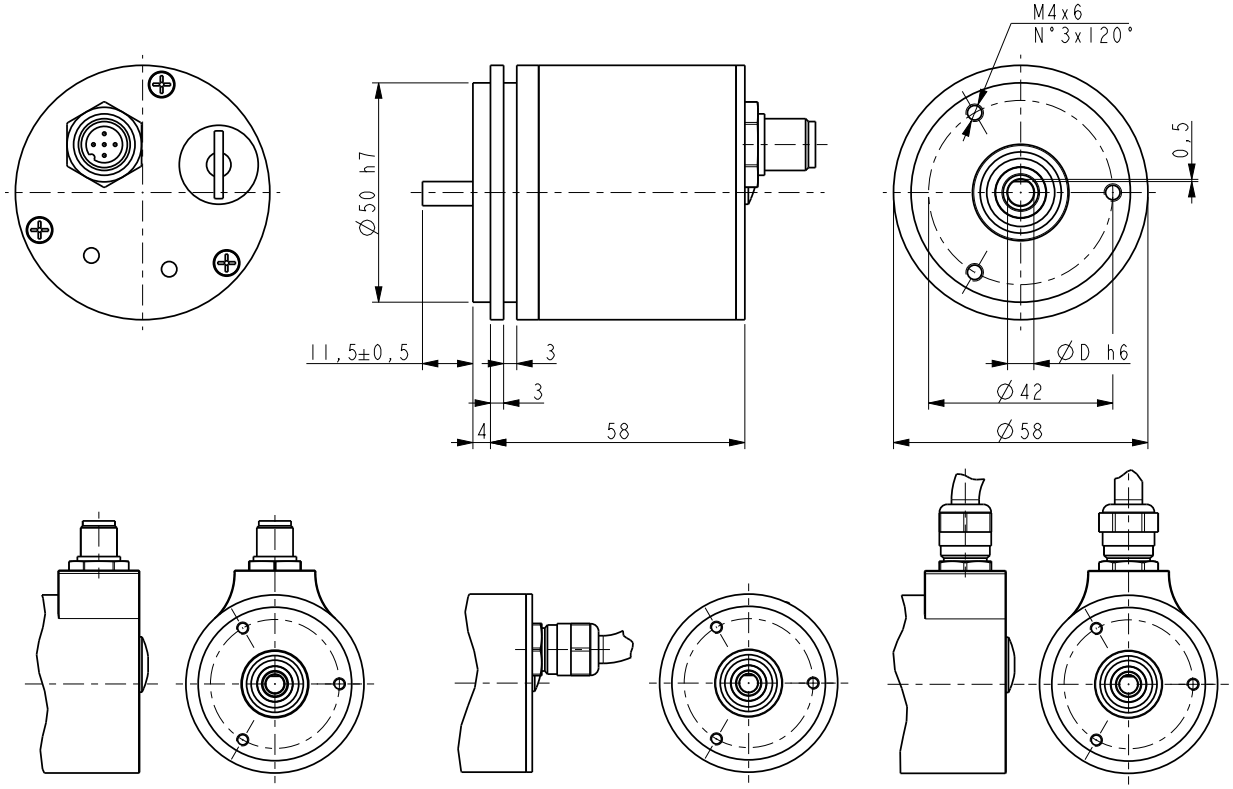
ENVIRONMENTAL SPECIFICATIONS	
Shock:	250 g, 6 ms acc. to CEI EN 60068-2-27
Vibrations:	10 g, 5-2000 Hz acc. to CEI EN 60068-2-6
Protection:	IP67, IP65 shaft side
Operating temperature range:	-25°C +85°C (-13°F +185°F)
Storage temperature range:	-40°C +100°C (-40°F +212°F) (98% R.H. without condensation)

MECHANICAL SPECIFICATIONS	
Dimensions:	see drawing
Shaft diameter:	Ø 6, 8, 9.52, 10, 12 mm
Hollow shaft diameter:	Ø 14, 15 mm
Reducing sleeves BR1-xx from Ø 15 mm to:	Ø 6, 8, 9.52, 10, 11, 12 mm
Shaft loading (axial, radial):	100 N max.
Shaft rotational speed:	12000 rpm, 9000 rpm continuous operation
Starting torque (at 20°C):	EM58: 0,15 Ncm (typ.) EM58S, EMCxx: 0,4 Ncm (typ.)
Bearings life:	400 x10^6 rev. min. (10^9 rev. min. with 20 N shaft loading max.)
Electrical connections:	M12 plug or cable output 2 m (6.56 ft)
Weight:	~ 300 g (10,6 oz)
Option:	• additional cable

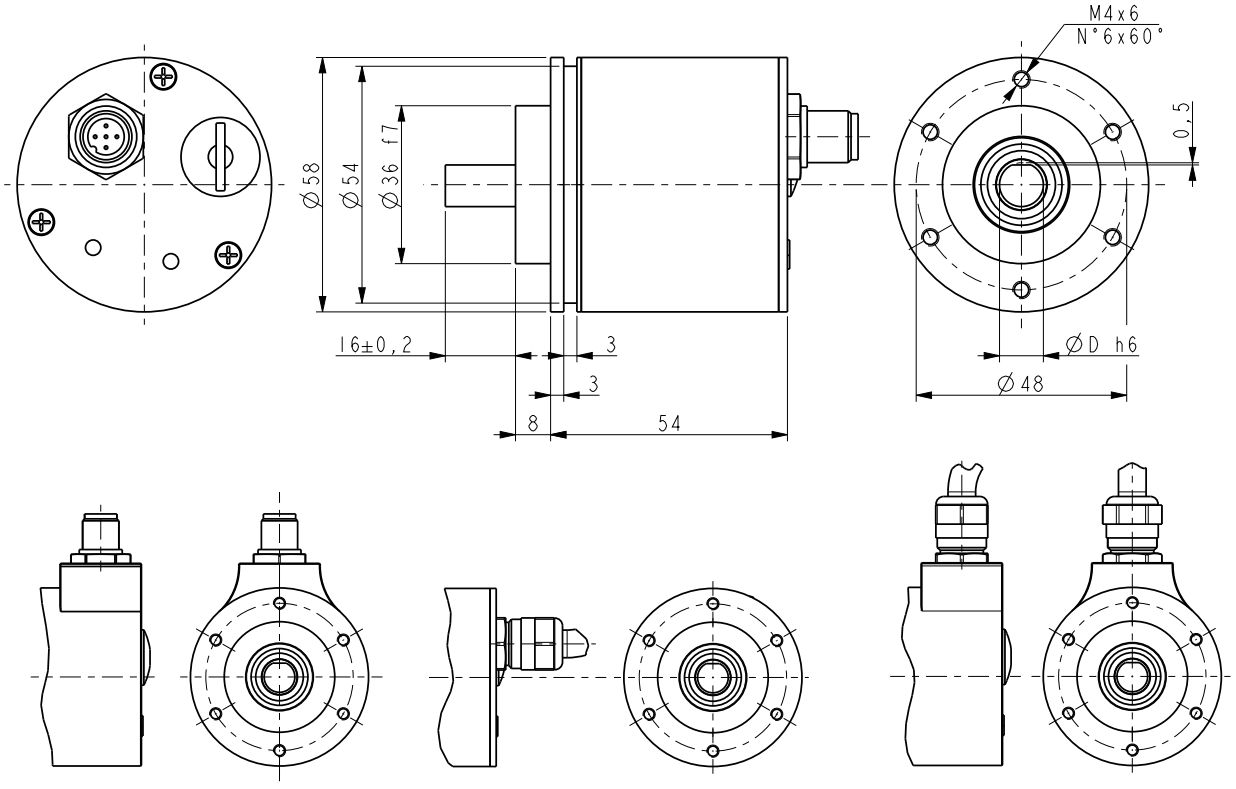
ELECTRICAL SPECIFICATIONS	
Resolution:	singleturn: 4096 cpr (12 bit) multiturn: 4096 cpr x 16384 turns
Output circuits:	Modbus RTU RS485
Output code:	according to: Modbus RTU specifications
Counting frequency:	> 150 kHz
Power supply:	+10Vdc +30Vdc
Power consumption:	1,7 W
Protection:	against inversion of polarity and short-circuit
EMC:	electro-magnetic immunity, according to: EN-61000-4-2 EN-61000-4-4
Functions:	• Counting direction • Zero setting/Preset • Resolution • Reset to default parameters • Firmware update • Saving parameters

MATERIALS	
Flange:	anticorodal, UNI EN AW-6082
Housing:	anticorodal, UNI EN AW-6082 or zamac die cast
Bearings:	ABEC 5
Shaft:	stainless steel, non magnetic, UNI EN 4305

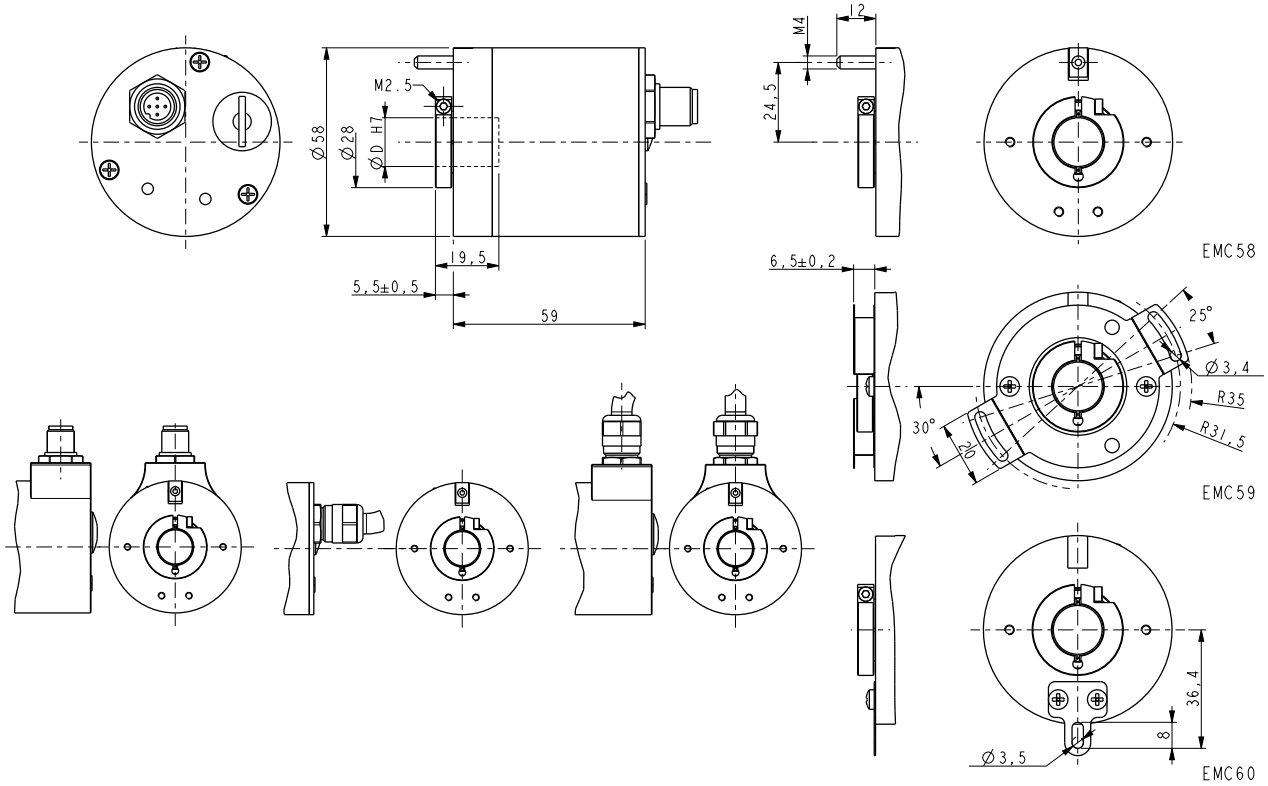
ACCESSORIES	
PAN/PGF:	flexible couplings
BR1:	reducing sleeves
E-M12FC:	5 pin M12 mating connector
EC-M12FC-LK-CB-xxx:	pre-assembled cable xx m
LKM-386:	fixing clamps


M4x6
N°3x120°
Ø50 h7
11,5±0,5
3
3
4
58
0,5
ØD h6
Ø42
Ø58

EM58


M4x6
N°6x60°
Ø58
Ø54
Ø36 f7
16±0,2
3
3
8
54
0,5
ØD h6
Ø48

EM58S



Order code

ES58 ES58S	ESC58 ESC59 ESC60	XX-XX ⓐ	-	XXX ⓑ	-	XX ⓒ	-	X ⓓ	X ⓔ	-	X ⓕ	XXXX ⓖ	/Sxxx ⓗ

ⓐ **RESOLUTION (BIT SINGLETURN-BIT MULTITURN)**
12-00 = 12 bit (4096 cpr x 1 turn)

ⓑ **INTERFACE / POWER SUPPLY**
MB2 = Modbus RTU, +10Vdc +30Vdc

ⓒ **SHAFT DIAMETER**
06 = 6 mm
08 = 8 mm
P9 = 9.52mm / 3/8"
10 = 10 mm
12 = 12 mm
14 = 14 mm (EMCxx)
15 = 15 mm (EMCxx)

ⓓ **PROTECTION**
P = IP67, IP65 shaft side

ⓔ **OPERATING TEMPERATURE RANGE**
T = -25°C +85°C (-13°F +185°F)
K = -40°C +100°C (-40°F +212°F)

ⓕ **CONNECTION POSITION**
A = axial
R = radial

ⓖ **CONNECTION TYPE & CABLE LENGTH**
L020 = cable output 2 m (standard)
Lxx0 = cable out. x m (max. length 10m)
L100 = cable output 10 m
M5 = M12, 5 pin plug

ⓗ **CUSTOM VERSION**

Order code

EM58 EM58S	EMC58 EMC59 EMC60	XX-XX ⓐ	-	XXX ⓑ	-	XX ⓒ	-	X ⓓ	X ⓔ	-	X ⓕ	XXXX ⓖ	/Sxxx ⓗ

ⓐ **RESOLUTION (BIT SINGLETURN-BIT MULTITURN)**
12-14 = 12 x 14 bit (4096 cpr x 16384 turns)

ⓑ **INTERFACE / POWER SUPPLY**
MB2 = Modbus RTU, +10Vdc +30Vdc

ⓒ **SHAFT DIAMETER**
06 = 6 mm
08 = 8 mm
P9 = 9.52mm / 3/8"
10 = 10 mm
12 = 12 mm
14 = 14 mm (EMCxx)
15 = 15 mm (EMCxx)

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ⓗ **CUSTOM VERSION**

Document release	Date	Description
1.0	9.02.2024	New order code