

ROTAPULS ROTACOD

Absolute multi turn encoders with RS485 Modbus interface

Series

EM58 • EM58S • EMC58



- Compact optical multi turn encoder
- Modbus RTU RS485 protocol
- Resolution up to 4096 cpr and 16384 turns
- Programmable via RS485
- High degree of protection, IP67



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ENVIRONMENTAL SPECIFICATIONS

Shock:	100 g, 6 ms (acc. to MIL STD 202F)
Vibrations:	10 g, 5-2000 Hz (acc. to MIL STD 202F)
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)
Protection:	IP67, IP65 shaft side

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Solid shaft:	Ø 6, 8, 9.52, 10, 12 mm
Hollow shaft:	Ø 14, 15 mm
Reducing sleeves BR1-xx from Ø15mm:	to 6, 8, 9.52, 10, 11, 12 mm
Shaft loading (axial and radial):	100 N max.
Shaft rotational speed:	12000 rpm, 9000 rpm continuous operation
Moment of inertia:	~ 95 gcm ²
Bearing life:	400x10 ⁶ rev. min. (10 ⁹ rev. min. with shaft loading of 20 N max.)
Weight:	~ 0,3 kg (10,6 oz)
Electrical connections:	M12 connector or cable 2 m
Option:	• additional cable

ELECTRICAL SPECIFICATIONS

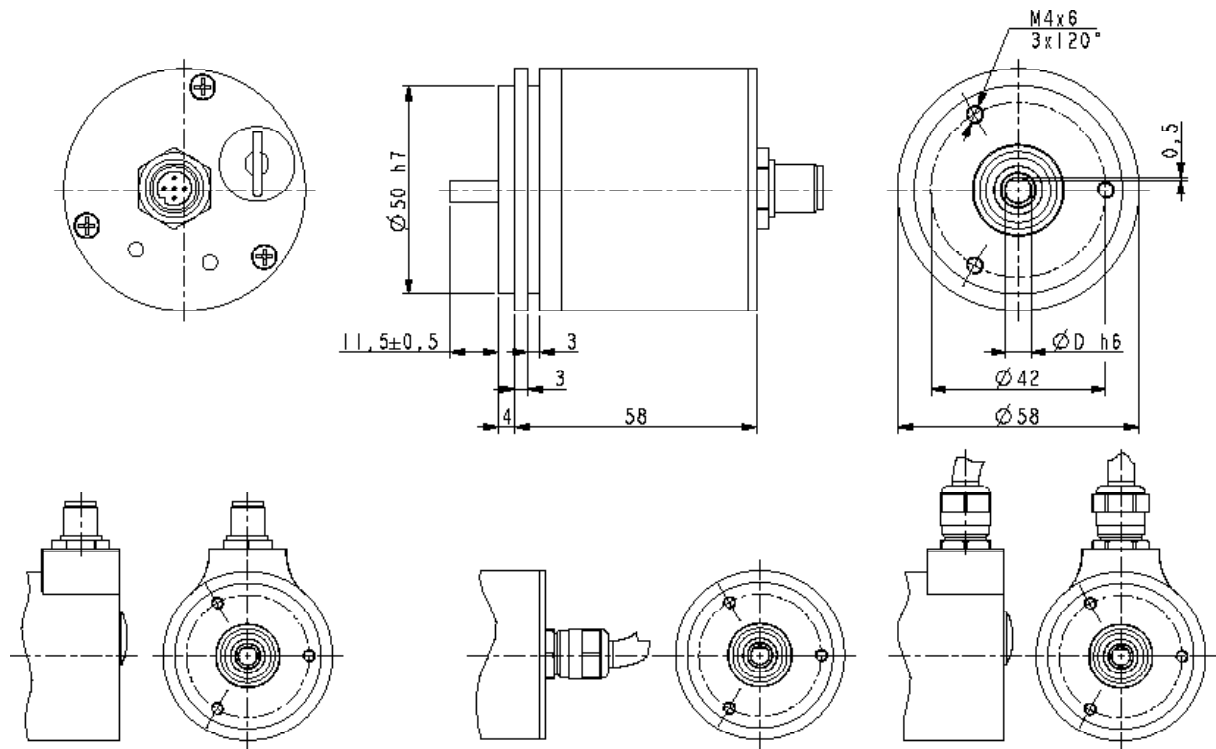
Resolution:	single turn = 4096 cpr multi turn = 4096, 16384 turns
Output code:	according to: Modbus RTU specifications
Power supply:	+7,5Vdc ÷ 34Vdc
Power consumption:	1,7 W
Output circuits:	RS485
Counting frequency:	> 150 kHz
Accuracy:	± 0,02°
Protection:	against inversion of polarity, shortcut
EMC:	according to: EN-61000-4-2/A1 EN-61000-4-4
Optoelectronic life:	> 100.000 h
Functions:	• Counting direction • Zero setting/Preset • Resolution • Total resolution • Reset to default parameters • Firmware update • Saving parameters

MATERIALS

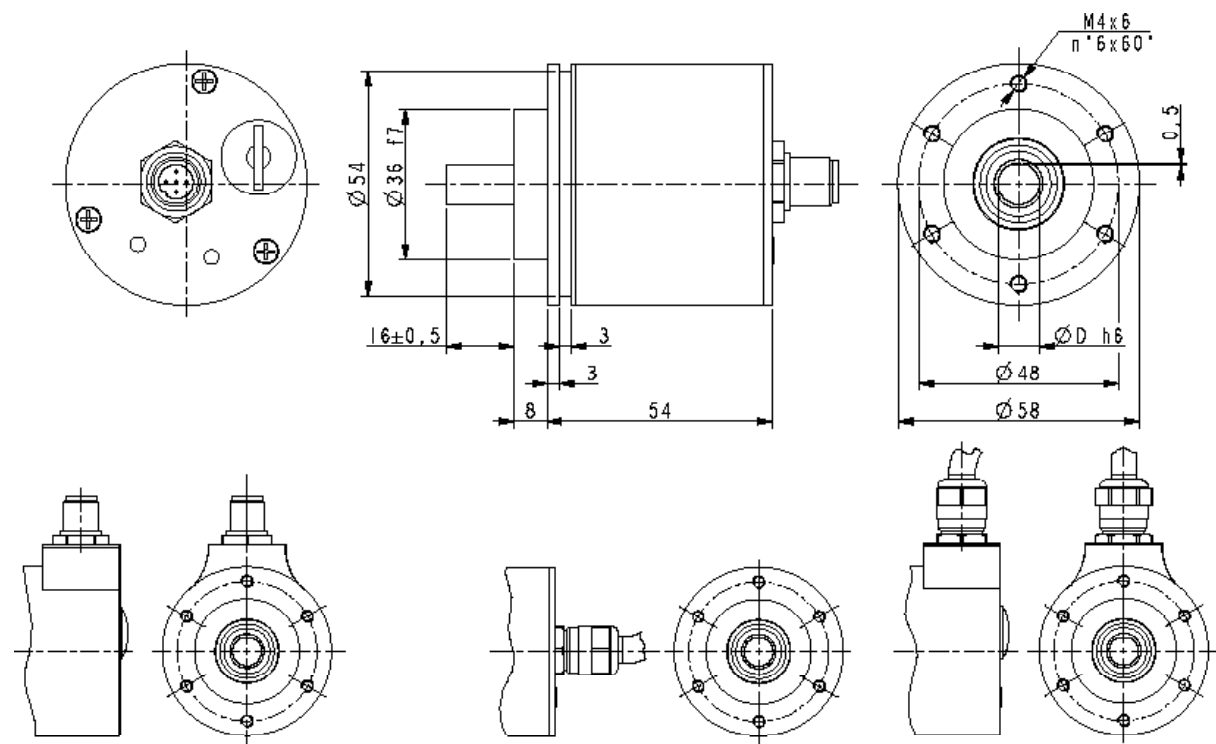
Flange:	non corroding, UNI EN AW-6082
Housing:	non corroding, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel, non magnetic, UNI EN 4305

ACCESSORIES

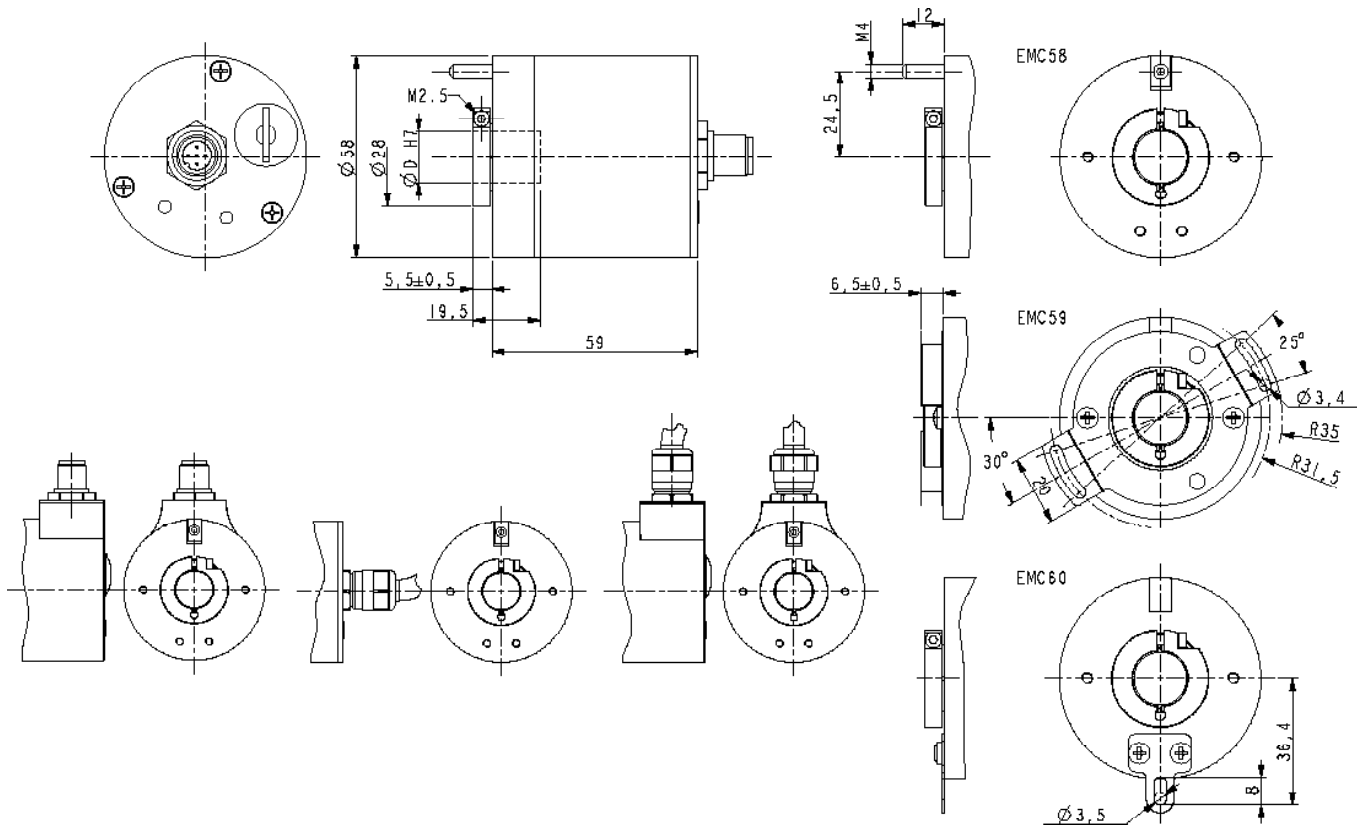
PAN/PGF:	flexible couplings
BR1:	reducing sleeves
E-M12FC:	5 pin M12 mating connector
EC-M12FC-LK-CB-xx:	pre-assembled cable xx m
LKM-386:	fixing clamps



EM58



EM58S



EMC58 – EMC59 – EMC60

Order code

Additional code
(optional)

EM58 EM58S EMC58 EMC59 EMC60	XX (a)	/	XXXXX (b)	XX (c)	-	XX (d)	-	X (e)	XXX (f)	/Sxxx (g)
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(a) RESOLUTION 12 = 4096 cpr	(c) OUTPUT MB = Modbus RTU	(d) SHAFT DIAMETER 6 = 6 mm 8 = 8 mm P9 = 9.52mm / 3/8" 10 = 10 mm 12 = 12 mm 14 = 14 mm (EMCxx) 15 = 15 mm (EMCxx)	(e) CONNECTION POSITION - = axial R = radial	(f) CONNECTIONS L2 = cable output 2 m L5 = cable output 5 m Lx = cable output x m M = M12, 5 pin connector
(b) REVOLUTIONS 4096 = 4096 turns 16384 = 16384 turns				(g) CUSTOM VERSION