

ROTACOD

Absolute multi turn encoders

Series

EM58 • EM58S • EMC58



- Compact multi turn encoder
- Precise and fast optical sensing
- Resolution up to 8192 cpr and 16384 turns
- Additional incremental track with 1024 PPR
- High degree of protection, IP67



EM58 • EM58S • EMC58

ENVIRONMENTAL SPECIFICATIONS

Shock:	100 g, 6 ms
Vibrations:	10 g, 5-2000 Hz
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)
Option:	• Operating temperature range: -40°C +100°C (-40°F +212°F)

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, M23 plug or cable 2 m (6.56 ft), MIL 32 pin inline plug
Weight:	~ 250 g (8,8 oz)
Option:	• additional cable

ELECTRICAL SPECIFICATIONS

Resolution:	single turn = 1024, 4096, 8192 cpr multi turn = 4096, 16384 turns
Accuracy:	± 0,02°
Output circuits:	SSI (RS422), Bit parallel Push-Pull, NPN
Output code:	Gray, Binary
Counting frequency:	SSI: 150 kHz, Bit Parallel: 30 kHz
Power supply:	+7,5Vdc ÷ 34Vdc
Power consumption:	SSI: 1 W Bit parallel: 1,7 W
Protection:	against inversion of polarity, short-circuit
EMC:	electro-magnetic immunity, according to EN 61000-4-2 EN 61000-4-4
Optoelectronic life:	> 100.000 h
Functions:	• counting direction (input) • Zero setting/Preset (input)

MATERIALS

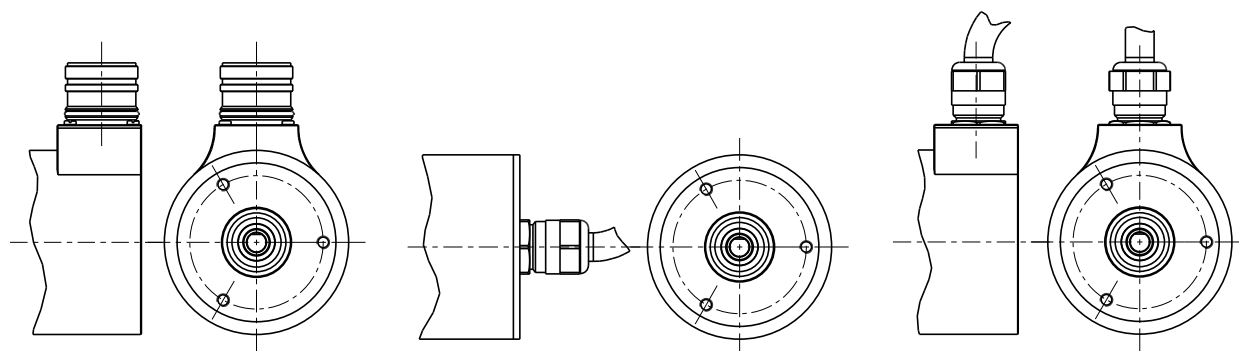
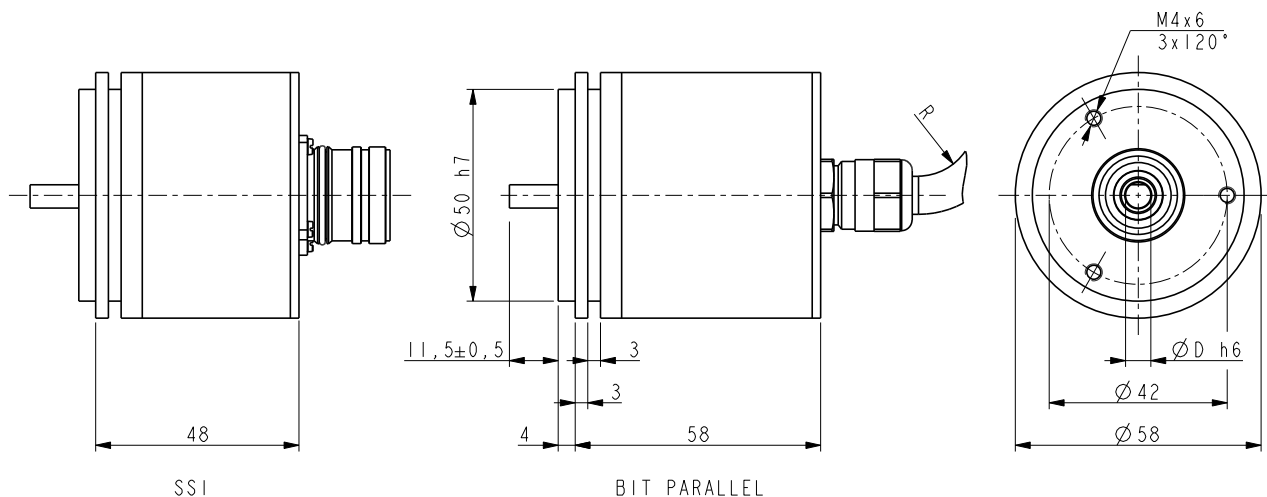
Flange:	anticorrosive, UNI EN AW-6082
Housing:	anticorrosive, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel, non magnetic, UNI EN 4305

PREFERENTIAL MODELS

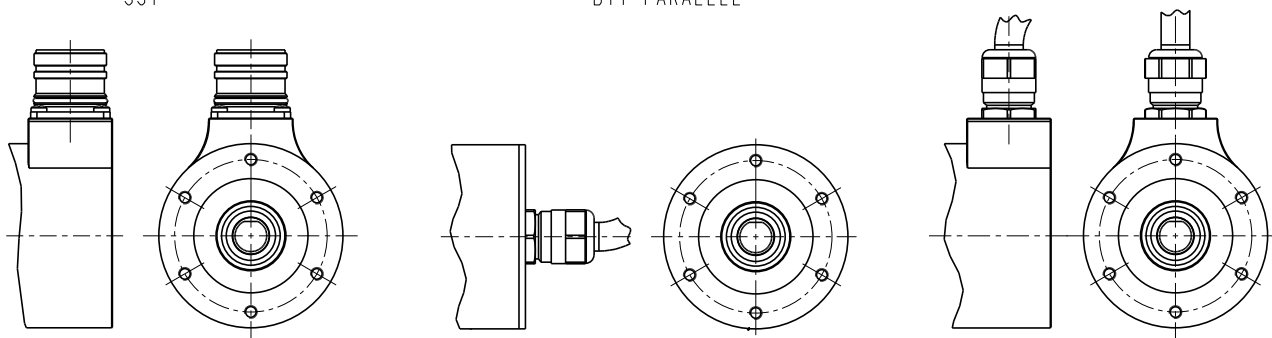
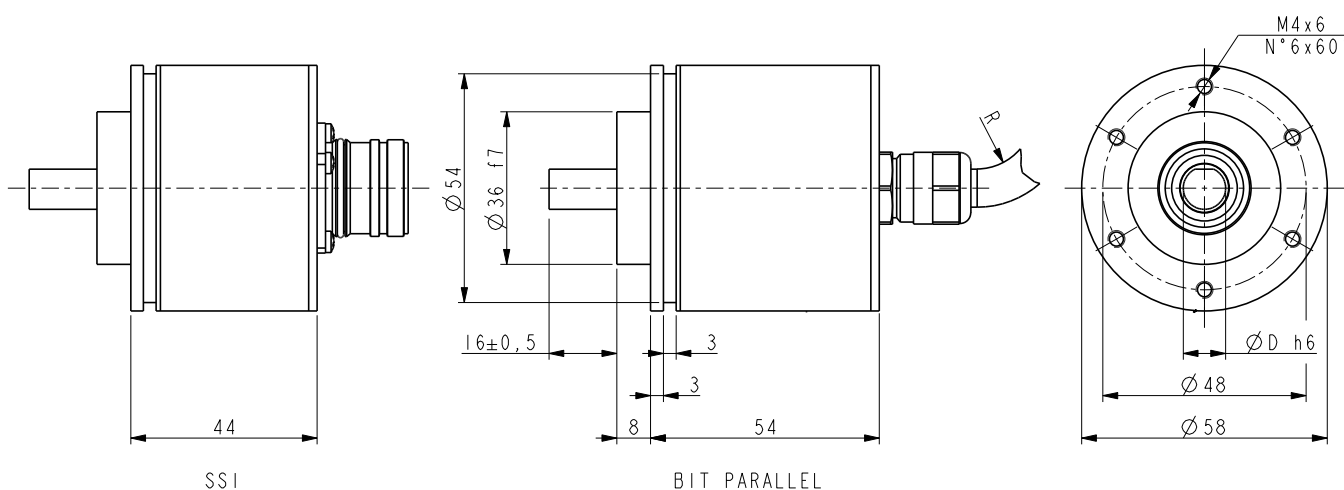
EM5812/4096GS-6-RM2	SSI, 24 Bit
EM58S12/4096GS-10-RM2	SSI, 24 Bit

ACCESSORIES

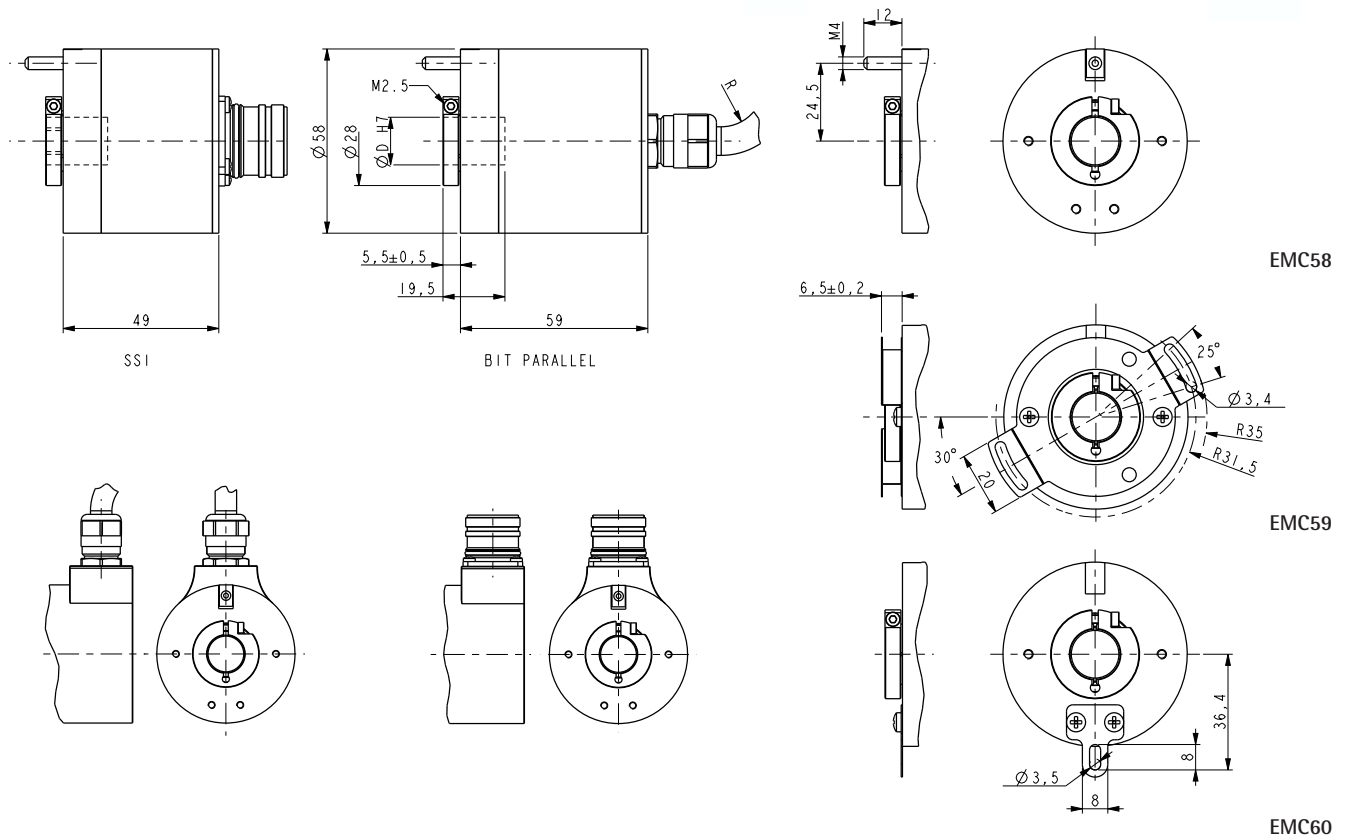
EPFL121H:	M23 12 pin connector
EM12F8:	M12 8 pin mating connector
EM12F12:	M12 12 pin mating connector
E32MLS:	32 pin MIL mating connector
PAN/PGF:	flexible couplings
BR1:	reducing sleeves
EC-CR12F-S28-T12-xx:	cordset xx m, M23 connector
EC-M12F8-LK-M8-xx:	cordset xx m, M12 8 pin connector
EC-M12F12-LK-T12-xx:	cordset xx m, M12 12 pin conn.
LKM-386:	fixing clamps



EM58



EM58S



Order code - Bit parallel output

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

<p>(a) RESOLUTION 10 = 1024 cpr 12 = 4096 cpr 13 = 8192 cpr</p> <p>(b) REVOLUTIONS 4096 = 4096 turns 16384 = 16384 turns</p>	<p>(c) OUTPUT BY = Binary, Push-Pull GY = Gray, Push-Pull BN = Binary, NPN GN = Gray, NPN</p>	<p>(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)</p>	<p>(e) OPERATING TEMPERATURE RANGE - = -25°C +85°C (-13°F +185°F) K = -40°C +100°C (-40°F +212°F)</p> <p>(f) CONNECTION POSITION - = axial R = radial</p>	<p>(g) CONNECTIONS L2 = cable output 2 m (standard) L5 = cable output 5 m L10 = cable output 10 m V1 = 1 m cable + MIL inline plug</p> <p>(h) CUSTOM VERSION</p>
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Order code - SSI output

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

<p>(a) RESOLUTION 10 = 1024 cpr 12 = 4096 cpr 13 = 8192 cpr</p> <p>(b) REVOLUTIONS 4096 = 4096 turns 16384 = 16384 turns (16384 only with SSI LSB aligned)</p>	<p>(c) OUTPUT BS = Binary, SSI tree format BA = Binary, SSI LSB aligned GS = Gray, SSI tree format GA = Gray, SSI LSB aligned G5 = Gray, SSI tree format + 1024 PPR AB /AB Push-Pull</p>	<p>(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)</p>	<p>(e) OPERATING TEMP. RANGE - = -25°C +85°C (-13°F +185°F) K = -40°C +100°C (-40°F +212°F)</p> <p>(f) CONNECTION POSITION - = axial R = radial</p>	<p>(g) CONNECTIONS L2 = cable output 2 m (standard) L5 = cable output 5 m L10 = cable output 10 m M2 = M23 plug M = M12 8 pin plug M1 = M12 12 pin plug (only with output G5)</p> <p>(h) CUSTOM VERSION</p>
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