

- Compact through hollow shaft encoders
- M23, M12 connector or cable output
- Ø15 or Ø14 mm shaft, other diameters with reduction sleeves
- Universal output circuit PP/LD



C60 • C58 • C59

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:	IP64
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)
Options:	• Operating temperature range: -40°C +100°C (-40°F +212°F) • IP65 Protection (3000 rpm max, torque 1 Ncm)

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Hollow shaft diameter:	Ø 14, 15 mm
Shaft loading (axial, radial):	30 N max.
Shaft rotational speed:	6000 rpm max.
Starting torque at 20°C:	1 Ncm (typical)
Bearings life:	400 x 10 ⁶ rev. min. (10 ⁹ rev. min. with 20 N shaft loading max.)
Electrical connections:	M12, M23 plug or cable output 1 m (3.3 ft)
Weight:	~ 150 g (5,2 oz)
Option:	• additional cable

ELECTRICAL SPECIFICATIONS

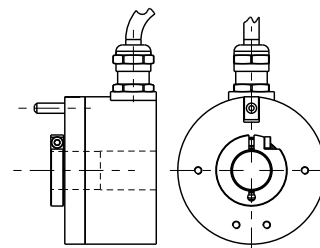
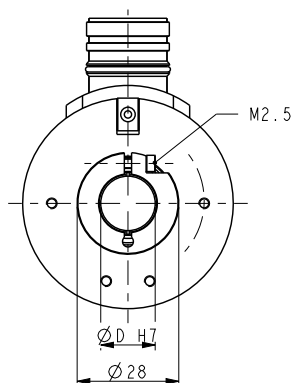
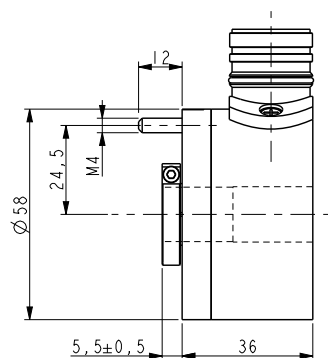
UB: Standard resolutions with unbreakable disk (PPR): (output circuits N, P, Y, L, H)	300-360-500-512-600-720-900-1000-1024-1200-1250 1440-1800-2000-2048-2500-3600-4096-5000
V: Sin/cos resolutions (PPR): (output circuit V)	1024-2048
OL: Other optical sensing low resolutions (PPR): (output circuits N, P, Y, L, H)	50-100-200-250-400
Counting frequency:	150 kHz max.
Output circuits:	Push-Pull, Line Driver, Universal circuit, Sine/cosine
Power supply:	+5V±5%, +10V +30V, +5V +30V
Consumption:	70 mA (typical)
Output current (per channel):	40 mA max.
Protection:	against inversion of polarity and short-circuit
EMC:	electro-magnetic immunity, according to: EN 61000-4-2 EN 61000-4-4

MATERIALS

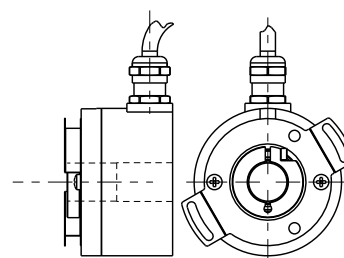
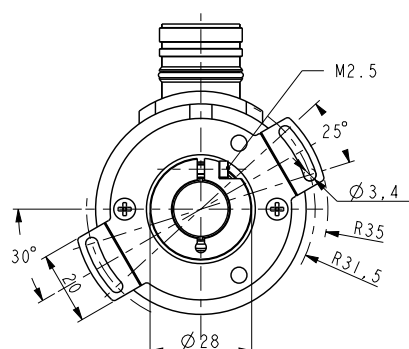
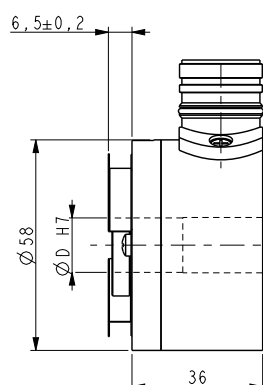
Flange:	anticorodal, UNI EN AW-6082
Housing:	zamac die cast
Bearings:	ABEC 5
Shaft:	stainless steel, non-magnetic - UNI EN 4305

ACCESSORIES

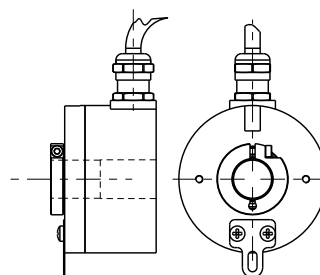
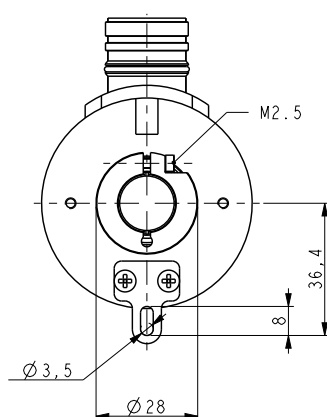
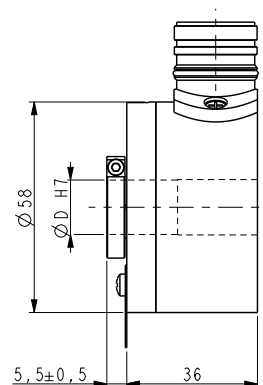
E-M12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-L050:	cordset 5 m with M12 connector
EC-M12F8-LK-M8-L100:	cordset 10 m with M12 connector
EPFL 121:	12 pin M23 mating connector
EC-C12F-LK-I8-L050:	cordset 5 meters, M23 connector
EC-C12F-LK-I8-L100:	cordset 10 meters, M23 connector
EDE 9S:	9 pin DSub mating connector
BR1-xx:	Reducing sleeves



C58



C59



C60

Order code

C58	-	XX	-	XXXX	-	XXX	-	XX	-	X	X	-	X	XXXX	/Sxxx
C59	-	(a)	-	(b)	-	(c)	-	(d)	-	(e)	(f)	-	(g)	(h)	(i)
C60	-	(a)	-	(b)	-	(c)	-	(d)	-	(e)	(f)	-	(g)	(h)	(i)

① OUTPUT CIRCUITS / SUPPLY VOLTAGE

Y2 = Push Pull, +10V ÷ +30V
 L1 = Line Driver (RS422), +5V ÷ +5%
 H4 = PP/LD universal circuit, +5V ÷ +30V
 L2 = Line Driver (RS422), +10V ÷ +30V
 V1 = 1 Vpp sine/cosine, +5V ÷ +5%

② RESOLUTION (PPR)

See electrical specifications

③ OUTPUT SIGNALS / CONNECTIONS

BNF = AB cable output
 BCU = AB, /AB cable output
 ZNF = AB0 cable output
 ZCU = AB0, /AB0 cable output
 BCZ = AB /AB, M23 12 pin plug
 ZCZ = AB0 /AB0, M23 12 pin plug
 ZCM = AB0 /AB0, M12 8 pin plug

④ SHAFT DIAMETER

14 = 14 mm
 15 = 15 mm

⑤ PROTECTION

S = IP64 (standard)
 P = IP65

⑥ OPERATING TEMPERATURE

T = -25°C +85°C (-13°F +185°F)
 (standard)
 K = -40°C +100°C (-40°F +212°F)

⑦ CONNECTION POSITION

R = radial

⑧ CABLE LENGTH
(not with BCZ, ZCZ, ZCM)

L010 = cable output 1 m (standard)
 L020 = cable output 2 m
 Lxxx = cable output x m (max. length 10m)
 Cxxx = x m cable with DSub 9 pin
 inline plug

⑨ CUSTOM VERSION

Document release	Date	Description
1.2	10.09.2025	Resolution subdivisions (UB, V and OL)
1.1	01.10.2024	Resolution update
1.0	October 2023	New order code