

- Standard encoder for general industrial application
- Pulse rates up to 10000 PPR (real)
- Servo or clamp flange mounting
- High operating temperature range (optional)
- Unbreakable disk for standard resolutions
- High accuracy versions with precise optical sensing



I58 • I58S

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:	<ul style="list-style-type: none"> • Operating temperature range: -40°C +100°C (-40°F +212°F) • IP65 Protection

MECHANICAL SPECIFICATIONS

Dimensions:	see drawing
Shaft diameter:	Ø 6, 8, 9.52, 10, 12 mm
Shaft loading (axial, radial):	100 N max.
Shaft rotational speed:	typ. 6000 rpm / 12000 temporary
Starting torque at 20°C:	I58: 0,15 Ncm / I58S: 0,4 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:	~ 200 g (7 oz)
Options:	<ul style="list-style-type: none"> • additional cable • DSub 9 pin inline plug

ELECTRICAL SPECIFICATIONS

Standard resolution with magnetic sensing (PPR): <i>(output circuits N, P, Y, L, H)</i>	2-4-5-6-8-10-12-15-16-20-24-25-30-35-36-40-50-60-64-70 80-90-120-125-127-142-150-160-180-216-230-236-240-254 267-270-314-360-375-410-435-471-635-800-1068-1270 1400-2250 (other on request)
Standard resolution with unbreakable disk (PPR): <i>(output circuits N, P, Y, L, H)</i>	100-200-250-256-300-400-500-512-600-720-750-900-1000 1024-1200-1250-1440-1500-1800-2000-2048-2500-3000 3600-4000-4096-5000
High accuracy glass disk (PPR): <i>(output circuits N, P, Y, L, H)</i>	5K=5000, 6K=6000, 9K=9000, 10K=10000 4KB=4096, 8KB=8192
Resolution (PPR): <i>(only output circuit V)</i>	500-512-1000-1024-1250-2000-2048-2500
Counting frequency:	300 kHz max.
Output circuits:	NPN, PNP, Push-Pull, Line Driver, Universal circuit, Sine/cosine
Power supply:	+5V±5%, +10V +30V, +5V +30V (sine/cosine only +5V±5%)
Consumption:	70 mA (typical)
Output current (each channel):	40 mA max.
Protection:	against inversion of polarity and short-circuit (except L and V circuit)
EMC:	electro-magnetic immunity, according to: EN 61000-4-2 EN 61000-4-4
Option:	• Line Driver 24/5V

MATERIALS

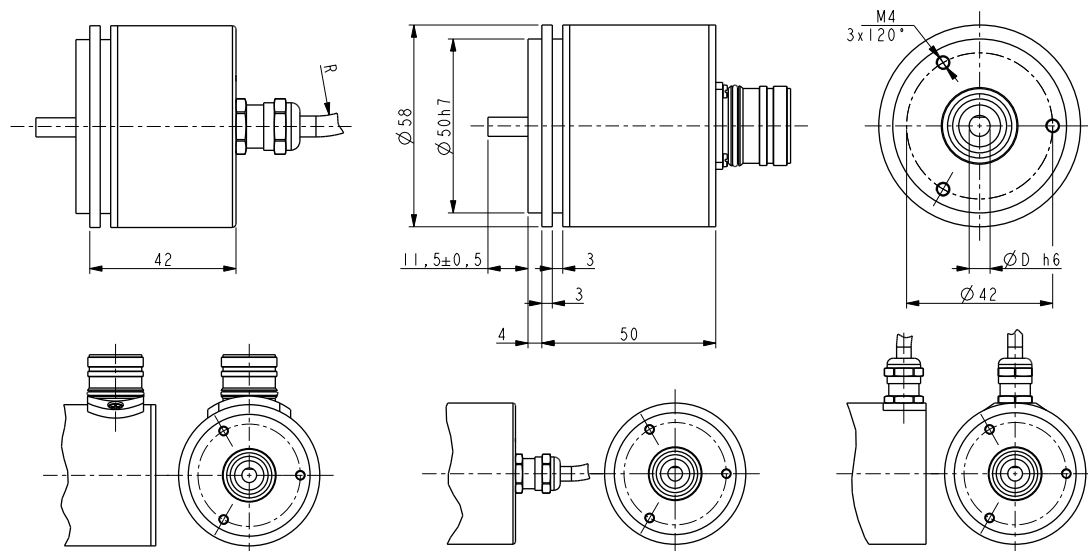
Flange:	anticorrosive, UNI EN AW-6082
Housing:	anticorrosive, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel, non-magnetic - UNI EN 4305

PREFERENTIAL MODELS

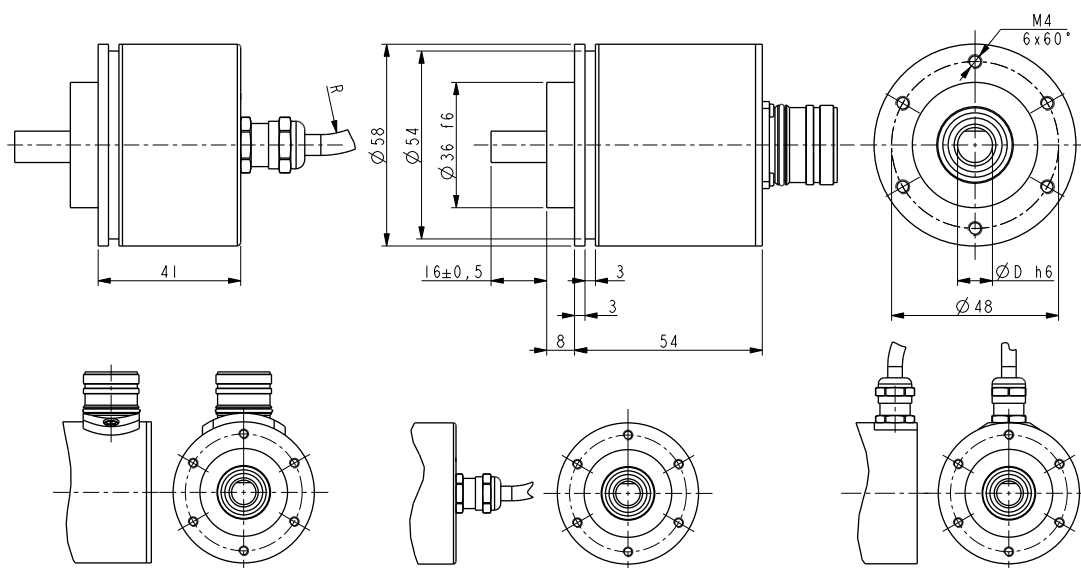
I58-H4-00500-ZCU-06-ST-RL020	I58-H4-00500-ZCZ-06-ST-R
I58-H4-01000-ZCU-06-ST-RL020	I58-H4-01000-ZCZ-06-ST-R
I58-H4-01024-ZCU-06-ST-RL020	I58-H4-01024-ZCZ-06-ST-R
I58-H4-02048-ZCU-06-ST-RL020	I58-H4-02048-ZCZ-06-ST-R
I58-H4-02500-ZCU-06-ST-RL020	I58-H4-02500-ZCZ-06-ST-R
I58-H4-00500-ZCZ-06-ST-A	I58S-H4-00500-ZCZ-10-ST-R
I58-H4-01000-ZCZ-06-ST-A	I58S-H4-01000-ZCZ-10-ST-R
I58-H4-01024-ZCZ-06-ST-A	I58S-H4-01024-ZCZ-10-ST-R
I58-H4-02048-ZCZ-06-ST-A	I58S-H4-02048-ZCZ-10-ST-R
I58-H4-02500-ZCZ-06-ST-A	I58S-H4-02500-ZCZ-10-ST-R

ACCESSORIES

E-M12F8:	M12 8 pin mating connector
EC-M12F8-LK-M8-050:	cordset 5 meters with M12 connector
EC-M12F8-LK-M8-100:	cordset 10 meters with M12 connector
EPFL 121:	12 pin M23 mating connector
EC-C12F-LK-I8-050:	cordset 5 meters, M23 connector
EC-C12F-LK-I8-100:	cordset 10 meters, M23 connector
EDE 9S:	9 pin DSub mating connector
PAN/PGF:	flexible couplings
LKM-386:	fixing clamps



I58



I58S

Order code

I58	-	XX	-	XXXXX	-	XXX	-	XX	-	X	X	-	X	XXXX	/Sxxx
I58S		(a)		(b)		(c)		(d)		(e)	(f)		(g)	(h)	(i)

<p>(a) OUTPUT CIRCUITS / POWER SUPPLY</p> <p>N2 = NPN o.c., +10V ÷ +30V P2 = PNP o.c., +10V ÷ +30V Y2 = Push Pull, +10V ÷ +30V L1 = Line Driver (RS422), +5V ± 5% H4 = PP/LD univ. circuit, +5V ÷ +30V V1 = 1 Vpp sine/cosine, +5V ± 5% L2 = Line Driver (RS422), +10V ÷ +30V</p> <p>(b) RESOLUTION (PPR) See electrical specifications</p>	<p>(c) OUTPUT SIGNALS / CONNECTIONS</p> <p>BNF = AB, cable output (except V1 output) ZNF = ABO, cable output (except V1 output) BCU = AB /AB, cable output ZCU = ABO /ABO, cable output BCZ = AB /AB, M23 12 pin plug ZCZ = ABO /ABO, M23 12 pin plug ZCM = ABO /ABO, M12 8 pin plug</p>	<p>(d) SHAFT DIAMETER</p> <p>06 = 6 mm 08 = 8 mm P9 = 9.52 mm - 3/8" 10 = 10 mm 12 = 12 mm</p> <p>(e) PROTECTION</p> <p>S = IP64 (standard) P = IP65</p> <p>(f) OPERATING TEMPERATURE</p> <p>T = -25° +85°C (-13°F +185°F) std. K = -40°C +100°C (-40°F +212°F)</p>	<p>(g) CONNECTION POSITION</p> <p>A = axial R = radial</p> <p>(h) CABLE LENGTH</p> <p>L010 = cable output 1 m (standard) L020 = cable output 2 m Lxx0 = cable output x m (max. length 10 m) Cxx0 = x m cable with DSub 9 pin inline plug</p> <p>(i) CUSTOM VERSION</p>
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Document release	Date	Description
1.1	December 2023	Accessories update
1.0	September 2023	New order code