

# ROTAPULS

Incremental encoders

Series

I58 • I58S



- Standard encoder for general industrial application
- Pulse rates up to 10000 PPR (real)
- Servo or clamp flange mounting
- High operating temperature range (optional)
- Line Driver, HTL and sine/cosine output circuits



I58 • I58S

## ENVIRONMENTAL SPECIFICATIONS

Shock:	100 g, 6 ms
Vibrations:	10 g, 5-2000 Hz
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"> <li>• Operating temperature range: -40°C +100°C (-40°F +212°F)</li> <li>• IP65 Protection</li> </ul>

## 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 <sup>6</sup> rev. min. (10 <sup>9</sup> 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"> <li>• additional cable</li> <li>• DSub 9 pin inline plug</li> </ul>

## ELECTRICAL SPECIFICATIONS

Resolution (PPR): (output circuit N, P, Y, L, H)	2-4-5-8-10-12-15-16-20-24-25-30-35-36-40-50-60-64-70-80-90 100-120-127-142-150-160-180-200-216-230-236-240-250-254 256-267-270-300-314-360-375-400-410-435-471-500-512-600 635-720-750-800-900-1000-1024-1068-1200-1250-1270-1400 1440-1500-1800-2000-2048-2250-2400-2500-3000-3600-4000 4096-5000-6000-8192-9000-10000
Resolution (PPR): (output circuit V)	500-512-1000-1024-1250-2000-2048-2500
Counting frequency:	100 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
Optoelectronic life:	100.000 hrs min.
Option:	<ul style="list-style-type: none"> <li>• Counting frequency up to 300 kHz</li> <li>• Line Driver 24/5V</li> </ul>

## MATERIALS

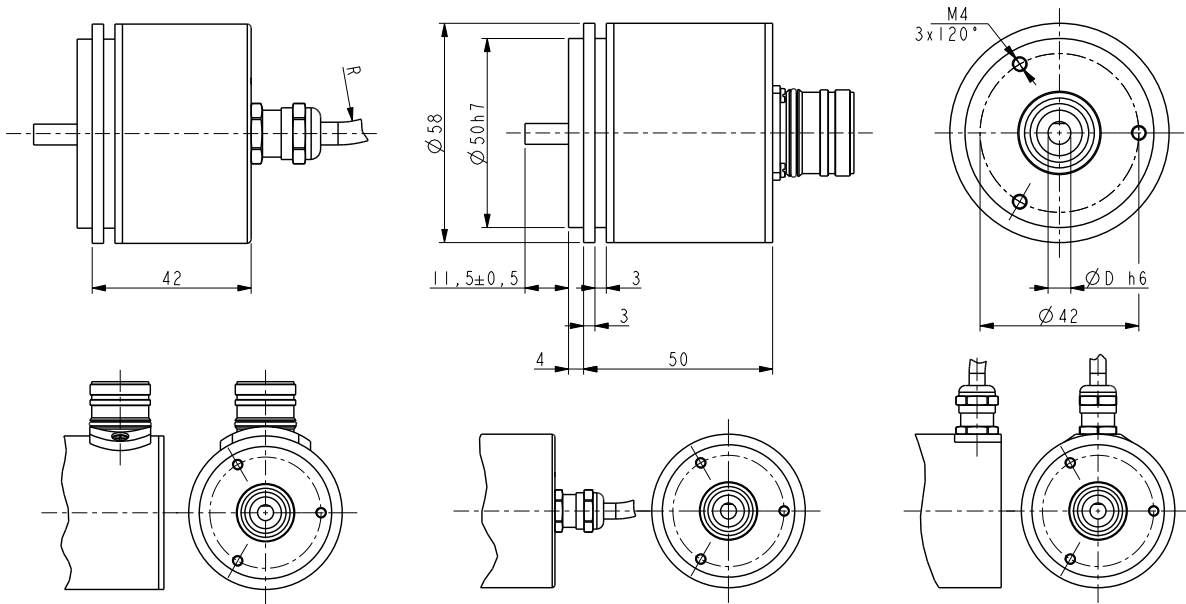
Flange:	anticorrosive, UNI EN AW-6082
Housing:	anticorrosive, UNI EN AW-6082
Bearings:	ABEC 5
Shaft:	stainless steel, non-magnetic - UNI EN 4305
Light source:	GaAl diodes

## PREFERENTIAL MODELS

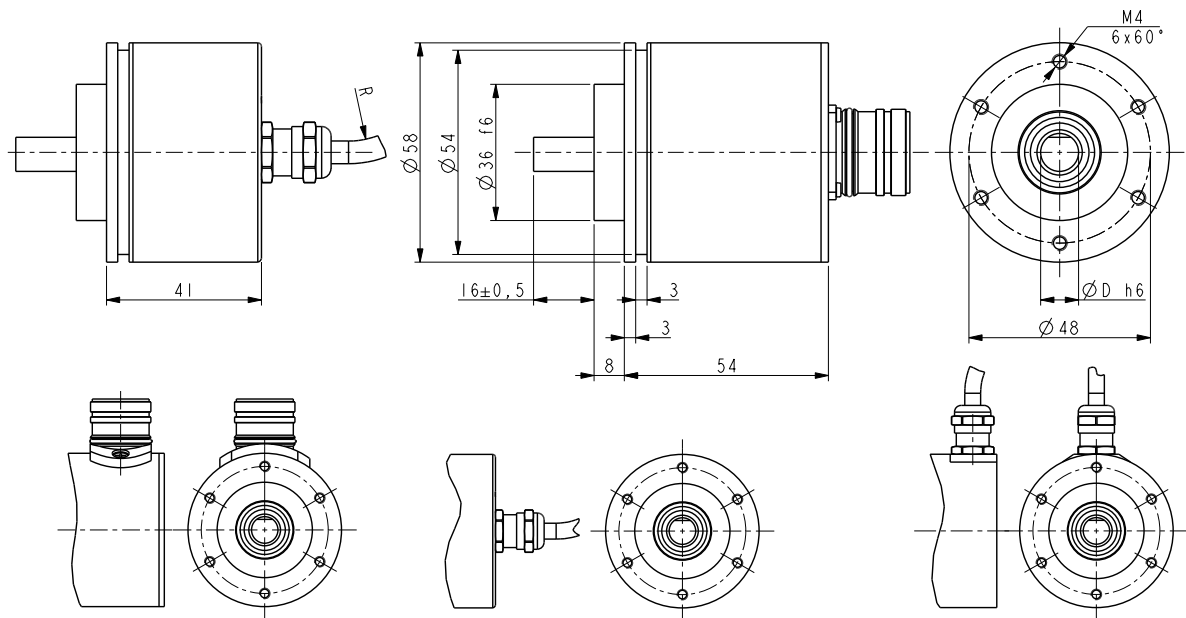
I58-H-500ZCU46RL2	I58-H-500ZCZ46R
I58-H-1000ZCU46RL2	I58-H-1000ZCZ46R
I58-H-1024ZCU46RL2	I58-H-1024ZCZ46R
I58-H-2048ZCU46RL2	I58-H-2048ZCZ46R
I58-H-2500ZCU46RL2	I58-H-2500ZCZ46R
I58-H-500ZCZ46	I58S-H-500ZCZ410R
I58-H-1000ZCZ46	I58S-H-1000ZCZ410R
I58-H-1024ZCZ46	I58S-H-1024ZCZ410R
I58-H-2048ZCZ46	I58S-H-2048ZCZ410R
I58-H-2500ZCZ46	I58S-H-2500ZCZ410R

## ACCESSORIES

EPFL 121:	12 pin M23 mating connector
EC-C12F-LK-I8-x:	cordset x meter, M23 connector
EDE 9S:	9 pin DSub mating connector
PAN/PGF:	flexible couplings
LKM-386:	fixing clamps



I58



I58S

Order code

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

(a) OUTPUT CIRCUITS

N = NPN o.c.  
 P = PNP o.c.  
 Y = Push Pull  
 L = Line Driver (RS422)  
 H = PP/LD universal circuit  
 V = 1 Vpp sine/cosine

(b) RESOLUTION (PPR)

See electrical specifications

(c) OUTPUT SIGNALS / CONNECTIONS

BNF = AB, cable output (except V output)  
 ZNF = ABO, cable output (except V 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

(d) SUPPLY VOLTAGE

1 = +5V±5% (L, V output circuit)  
 2 = +10V÷ +30V (N, P, Y output circuit)  
 4 = +5V÷ +30V (H output circuit)

(e) SHAFT DIAMETER

6 = 6 mm  
 8 = 8 mm  
 P9 = 9.52 mm - 3/8"  
 10 = 10 mm  
 12 = 12 mm

(f) CONNECTION POSITION

- = axial  
 R = radial

(g) PROTECTION

- = IP64 (standard)  
 P = IP65

(h) COUNTING FREQUENCY

- = 100 kHz (standard)  
 W = 300 kHz

(i) OPERATING TEMPERATURE

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

(j) CABLE LENGTH

- = cable output 1 m (standard)  
 L2 = cable output 2 m  
 Lx = cable output x m  
 CLx = x m cable with DSub 9 pin inline plug

(k) CUSTOM VERSION