

Incremental encoders

Solid shaft with EURO flange B10

100...5000 pulses per revolution

EIL580 - EURO flange B10 - OptoPulse®



EIL580 with EURO flange B10

Features

- Size ø58 mm
- Precise optical sensing
- Output signal level TTL or HTL
- EURO flange B10
- Connection axial, radial or tangential
- Pulses per revolution up to 5000
- High protection up to IP 67
- High resistance to shock and vibrations

Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 8...30 VDC 4.75...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes (HTL) Yes (TTL, max. 1 s and 1 signal)
Consumption w/o load	≤ 70 mA
Pulses per revolution	100...5000
Phase shift	$90^\circ \pm 10^\circ$
Scan ratio	40...60 %
Reference signal	Zero pulse, width $90^\circ \pm 10\%$
Sensing method	Optical
Output frequency	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)
Output signals	A+, B+, R+, A-, B-, R-
Output stages	TTL/RS422 HTL/push-pull
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL 508 / CSA 22.2

Technical data - mechanical design

Size (flange)	ø115 mm
Shaft type	ø11 x 30 mm solid shaft with woodruff key
Admitted shaft load	≤ 40 N axial ≤ 80 N radial
Protection DIN EN 60529	IP 65 (without shaft seal), IP 67 (with shaft seal)
Operating speed	≤ 6000 rpm (+20 °C, IP 67) ≤ 12000 rpm (+20 °C, IP 65)
Starting torque	≤ 0.015 Nm (+20 °C, IP 65) ≤ 0.02 Nm (+20 °C, IP 67)
Materials	Housing: aluminium die-cast Flange: aluminium Solid shaft: stainless steel
Operating temperature	-40...+85 °C
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 300 g, 6 ms
Connection	Flange connector M12, 8-pin Flange connector M23, 12-pin Cable
Weight approx.	485 g

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Part number

EURO flange B10

EIL580-S 1 B1A

Pulse number - see table

Voltage supply / output stages

- E 5 VDC, TTL/RS422, 6 channel
- H 8...30 VDC, TTL/RS422, 6 channel
- N 8...30 VDC, HTL/push-pull, 6 channel
- Q 4.75...30 VDC, HTL/push-pull, 6 channel

Connection

- R Cable radial, 1 m
- L Cable radial, 2 m
- F Flange connector M23, 12-pin, radial, male, ccw
- B Flange connector M12, 8-pin, radial, male, ccw
- T Cable axial, 1 m
- U Cable axial, 2 m
- D Flange connector M23, 12-pin, axial, male, ccw
- A Flange connector M12, 8-pin, axial, male, ccw
- P Cable tangential, 1 m
- Q Cable tangential, 2 m

Protection

- 5 IP 65
- 7 IP 67

Specification solid shaft

B1 ø11 x 30 mm, with woodruff key

Flange

1 EURO flange B10

Pulse number

100	300	720	1250	2500
120	360	800	1440	3000
150	400	900	1500	3600
200	500	1000	1800	4000
250	512	1024	2000	4096
256	600	1200	2048	5000

Accessories

Mounting accessories

K 35	Spring washer coupling for solid shaft ø6...12 mm
K 50	Spring washer coupling for solid shaft ø11...16 mm
K 60	Spring washer coupling for solid shaft ø11...22 mm

Incremental encoders

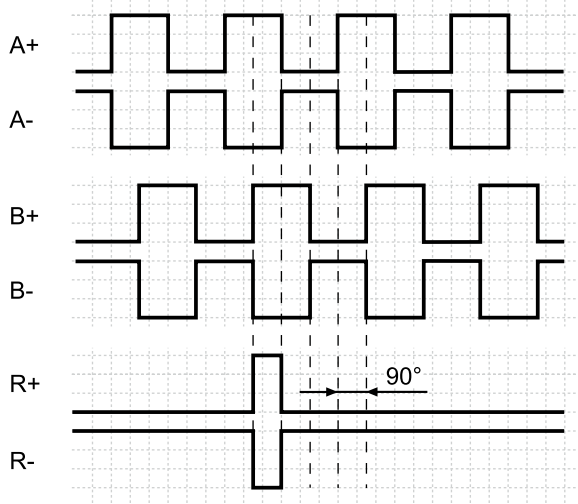
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Output signals

Clockwise rotating direction when looking at flange.



Trigger level

Outputs	TTL/RS422
Output level High	$\geq 2.5 \text{ V}$
Output level Low	$\leq 0.5 \text{ V}$
Load	$\leq 20 \text{ mA}$

Outputs	HTL/Push-pull
Output level High	$\geq U_B - 3 \text{ V}$
Output level Low	$\leq 1.5 \text{ V}$
Load	$\leq 20 \text{ mA}$

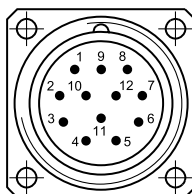
Terminal assignment

Flange connector M23, 12-pin / cable

Pin	Core color	Assignment
1	pink	B-
2	—	—
3	blue	R+
4	red	R-
5	green	A+
6	yellow	A-
7	—	—
8	grey	B+
9	—	—
10	white	GND
11	—	—
12	brown	UB

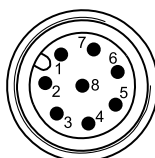
Screen: Connected to housing

Cable data: PVC, [4x2x0.14 mm²], bending radius >32.5 mm, outer diameter 6.5 mm



Flange connector M12, 8-pin

Pin	Assignment
1	GND
2	UB
3	A+
4	A-
5	B+
6	B-
7	R+
8	R-



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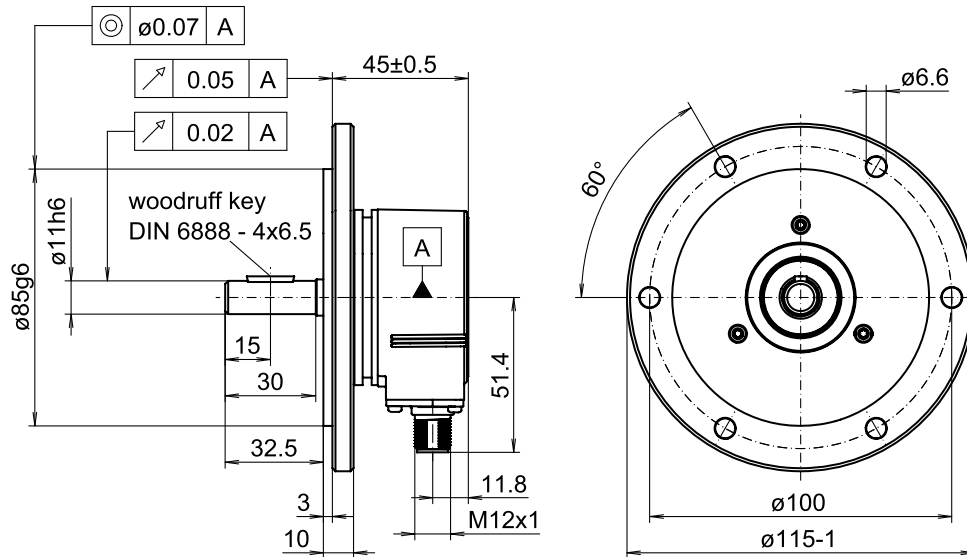
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Dimensions

EURO flange B10, flange connector M12, radial



EURO flange B10, flange connector M23, radial

