

Incremental encoders

With blind or through hollow shaft

Increments per turn 100...5000

EIL580 - hollow shaft



EIL580 with blind hollow shaft

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	\leq 70 mA
Resolution (steps/turn)	100...5000
Phase shift	90° \pm 10°
Scan ratio	40...60 %
Reference signal	Zero pulse, width 90° \pm 10 %
Sensing method	Optical
Output frequency	\leq 300 kHz (TTL) \leq 160 kHz (HTL)
Output circuit	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

Features

- Precise optical sensing technique with latest technology
- Electric interface TTL and HTL
- Blind or through hollow shaft
- High protection max. IP 67
- High resistance to shock and vibrations
- Wide range voltage supply 4.75...30 VDC
- Increments per turn max. 5000

Technical data - mechanical design

Dimensions (flange)	\varnothing 58 mm
Motor shaft tolerance	0.2 mm axial 0.03 mm radial
Protection DIN EN 60529	IP 65 (without shaft seal), IP 67 (with shaft seal)
Starting torque	\leq 0.02 Nm (+20 °C, IP 65) \leq 0.025 Nm (+20 °C, IP 67)
Materials	Housing: aluminium die-cast Flange: aluminium die-cast
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 250 g, 6 ms
Connection	Flange connector M12, 8-pin Flange connector M23, 12-pin Cable
Weight approx.	300 g

EIL580 - blind hollow shaft

Shaft type	\varnothing 8...15 mm (blind hollow shaft)
Operating speed	\leq 6000 rpm (+20 °C, IP 67) \leq 8000 rpm (+20 °C, IP 65)

EIL580 - through hollow shaft

Shaft type	\varnothing 8...15 mm (through hollow shaft)
Operating speed	\leq 3000 rpm (+20 °C, IP 67) \leq 6000 rpm (+20 °C, IP 65)

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EIL580 - hollow shaft

Part number

Blind hollow shaft

EIL580- **B** **A**

Operating temperature
A -40...+85 °C

See part number (pulses)

Voltage supply / output circuit

- 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, pin terminals, ccw**
- B Flange connector M12, 8-pin, radial, pin terminals, ccw

Protection

- 5 IP 65**
- 7 IP 67

Specification hollow shaft

- 08 ø8 mm, clamping ring at A side
- U3 ø3/8" (9,52 mm), clamping ring at A side
- 10 ø10 mm, clamping ring at A side**
- 12 ø12 mm, clamping ring at A side**
- U4 ø1/2" (12.7 mm), clamping ring at A side
- 14 ø14 mm, clamping ring at A side**
- 15 ø15 mm, clamping ring at A side**

Flange

- N Without stator coupling
- T With stator coupling ø63 mm**
- P Pin torque support 3 mm, axial/radial

Shaft type

- B Blind hollow shaft**

Printed in **bold** = standard items (up to the quantity of 10 will be supplied within 5 working days).

Part number (pulses)

00100	00300	00720	01250	02500
00120	00360	00800	01440	03000
00150	00400	00900	01500	03600
00200	00500	01000	01800	04000
00250	00512	01024	02000	04096
00256	00600	01200	02048	05000

Stock items

EIL580-BT12.5FE.01024.A	EIL580-BT12.5FE.02048.A
EIL580-BT12.5FN.01024.A	EIL580-BT12.5FN.02048.A
EIL580-BT14.5FE.01024.A	EIL580-BT14.5FE.02048.A
EIL580-BT14.5FN.01024.A	EIL580-BT14.5FN.02048.A

Numerous stock items in single quantity will be supplied within 24 hours respectively one day ex works.

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Part number

Through hollow shaft

EIL580- T A

Operating temperature

A -40...+85 °C

See part number (pulses)

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Accessories

Connectors and cables

10127844	Connector M12, 8-pin, A-coded, straight, 2 m cable
10129332	Connector M12, 8-pin, A-coded, straight, 5 m cable
10129333	Connector M12, 8-pin, A-coded, straight, 10 m cable
11053961	Connector M12, 8-pin, A-coded, angular, 2 m cable
11053962	Connector M12, 8-pin, A-coded, angular, 5 m cable
10170054	Connector M12, 8-pin, A-coded, angular, 10 m cable
10164705	Connector S2BG12, M23, 12-pin
11095302	Connector S2BG12, M23, 12-pin, 1 m cable
11100408	Connector S2BG12, M23, 12-pin, 2 m cable
11100430	Connector S2BG12, M23, 12-pin, 5 m cable
11100431	Connector S2BG12, M23, 12-pin, 10 m cable

Mounting accessories

11066081	Mounting kit 003
11066083	Mounting kit 006
11073119	Mounting kit 021
11067367	Mounting kit 028
11100198	Mounting kit 046
11094674	Clamping ring 12/31/ 8 M3 8.8
11094675	Clamping ring 17/31/ 8 M3 8.8

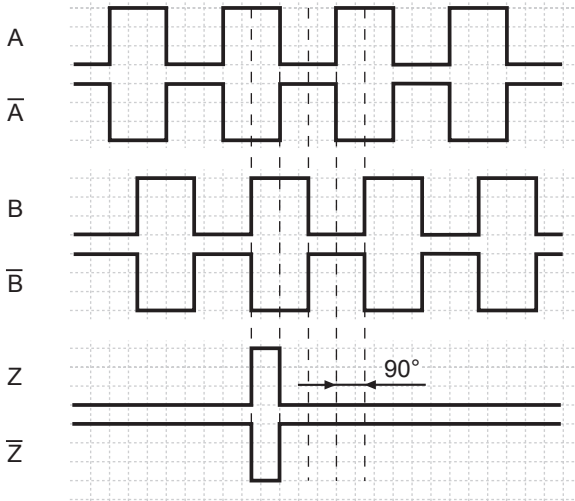
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Output signals

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	$\leq 20 \text{ mA}$

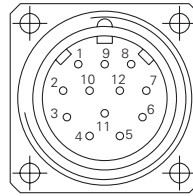
Terminal assignment

Flange connector M23, 12-pin / cable

Pin	Core color	Assignment
1	pink	Signal B inv.
2	–	–
3	blue	Signal Z (zero pulse)
4	red	Signal Z inv. (zero pulse inv.)
5	green	Signal A
6	yellow	Signal A inv.
7	–	–
8	grey	Signal B
9	–	–
10	white	GND
11	–	–
12	brown	UB

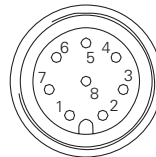
Screen: Connected to housing

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	Signal A
4	Signal A inv.
5	Signal B
6	Signal B inv.
7	Signal Z (zero pulse)
8	Signal Z inv. (zero pulse inv.)



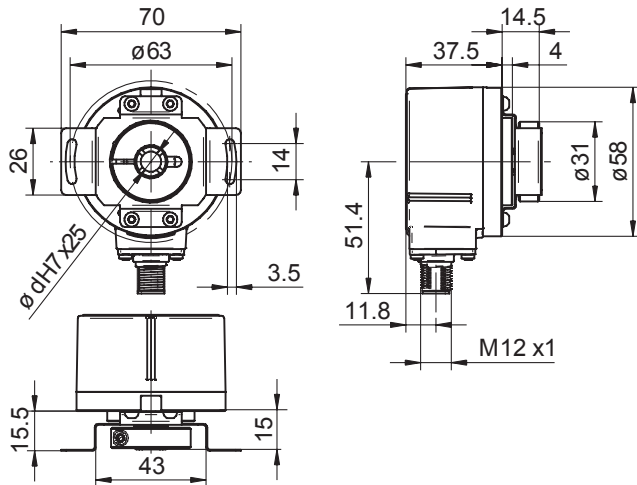
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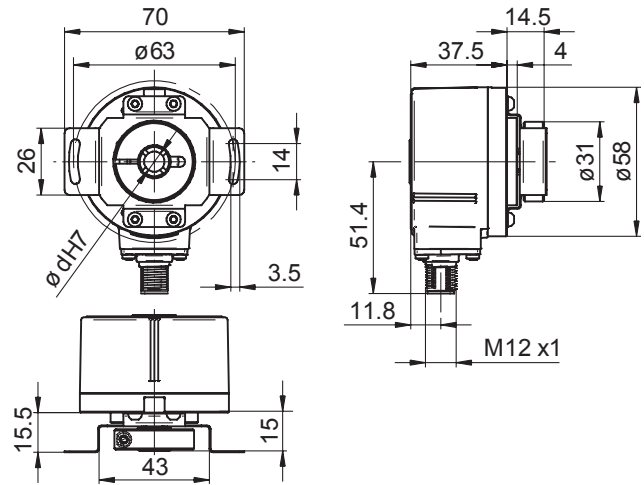
EIL580 - hollow shaft

Dimensions

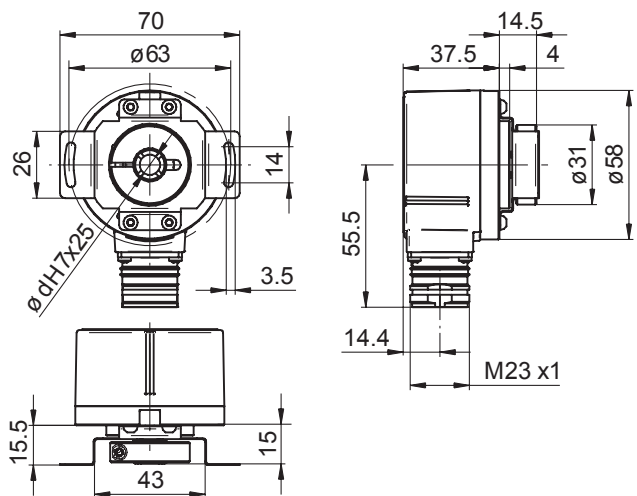
EIL580 - blind hollow shaft, flange connector M12



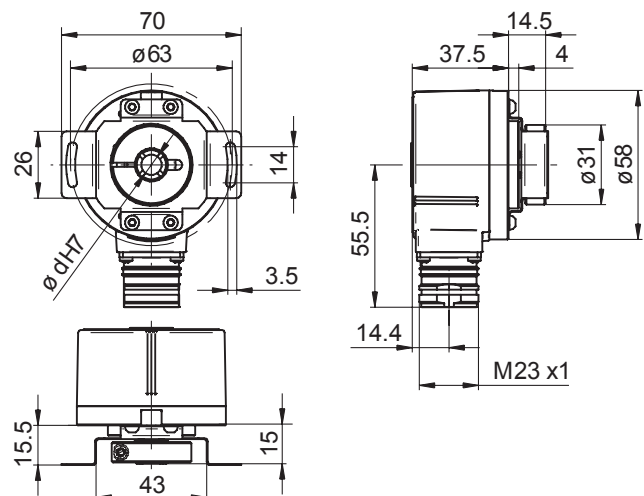
EIL580 - through hollow shaft, flange connector M12



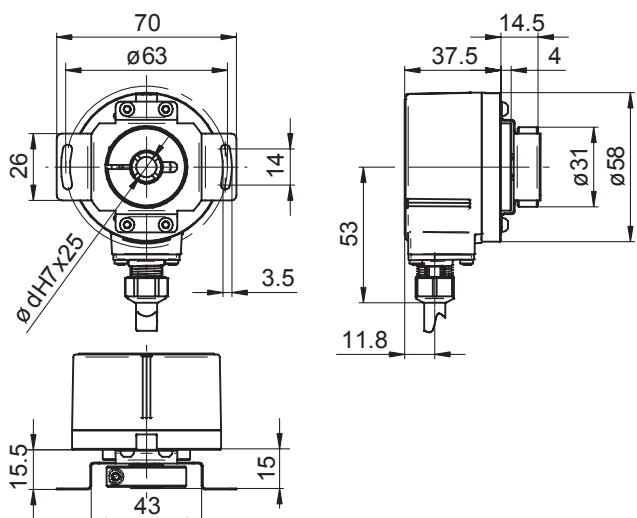
EIL580 - blind hollow shaft, flange connector M23



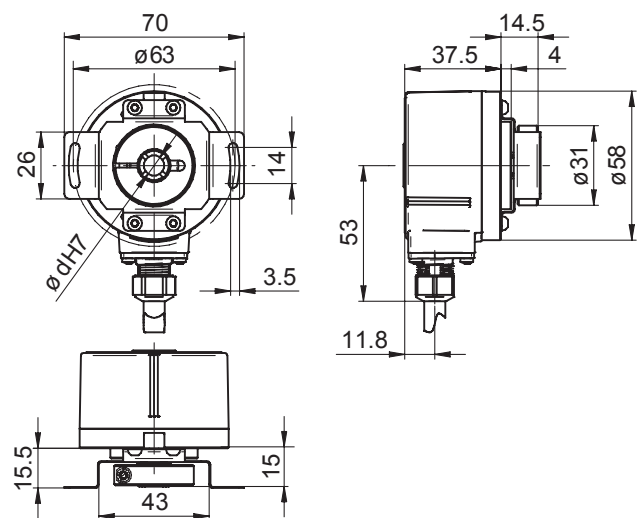
EIL580 - through hollow shaft, flange connector M23



EIL580 - blind hollow shaft, cable



EIL580 - through hollow shaft, cable

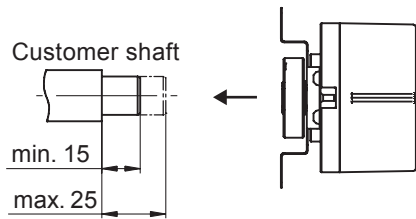


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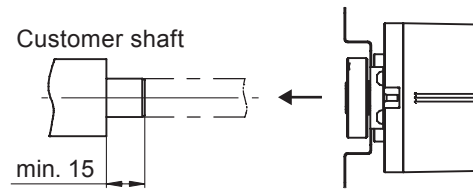
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EIL580 - through hollow shaft



EIL580 - Pin torque support, axial/radial

