

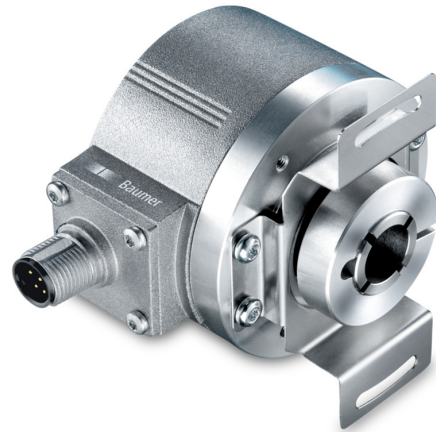
# EIL580-B - Option 6301

With blind hollow shaft

100...5000 pulses per revolution

## Overview

- Size  $\varnothing 58$  mm
- Precise optical sensing
- Output signal level TTL or HTL
- Blind hollow shaft,  $\varnothing 8...15$  mm
- Connection axial, radial or tangential
- Pulses per revolution up to 5000
- High protection up to IP 67
- High resistance to shock and vibrations
- Option 6301, hybrid ball bearings for protection against shaft currents



## Technical data

### 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
Pulses per revolution	100 ... 5000
Phase shift	$90^\circ \pm 10^\circ$
Duty cycle	40...60 %
Reference signal	Zero pulse, width $90^\circ \pm 10\%$
Sensing method	Optical
Output frequency	$\leq 300$ kHz (TTL) $\leq 160$ kHz (HTL)
Output signals	A+, B+, R+, A-, B-, R-
Output stages	TTL/RS422 HTL/push-pull
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	UL 508 / CSA 22.2

### Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 8...15$ mm (blind hollow shaft) $\varnothing 9.52$ mm (blind hollow shaft) $\varnothing 12.7$ mm (blind hollow shaft)
Protection EN 60529	IP 65 (without shaft seal) IP 67 (with shaft seal)
Operating speed	$\leq 6000$ rpm (+20 °C, IP 67) $\leq 8000$ rpm (+20 °C, IP 65)
Starting torque	$\leq 0.02$ Nm (+20 °C, IP 65) $\leq 0.025$ Nm (+20 °C, IP 67)
Material	Housing: aluminium die-cast Flange: aluminium
Operating temperature	-40...+85 °C
Relative humidity	90 % non-condensing
Resistance	EN 60068-2-6 Vibration 30 g, 10-2000 Hz 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

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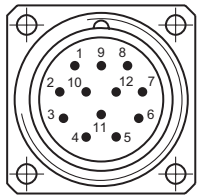
## Terminal assignment

### 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 mm<sup>2</sup>], bending radius >32.5 mm, outer diameter approx. 6.4 mm



Flange connector M23, pin contacts, 12-pin, counterclockwise (CCW)

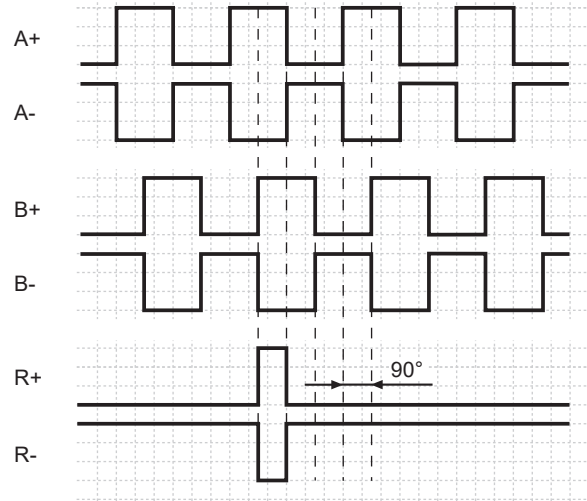
### Flange connector M12, 8-pin

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



## Output signals

Clockwise rotating direction when looking at flange.



## Trigger level

Outputs	TTL/RS422
Output level High	≥2.5 V
Output level Low	≤0.5 V
Load	≤20 mA

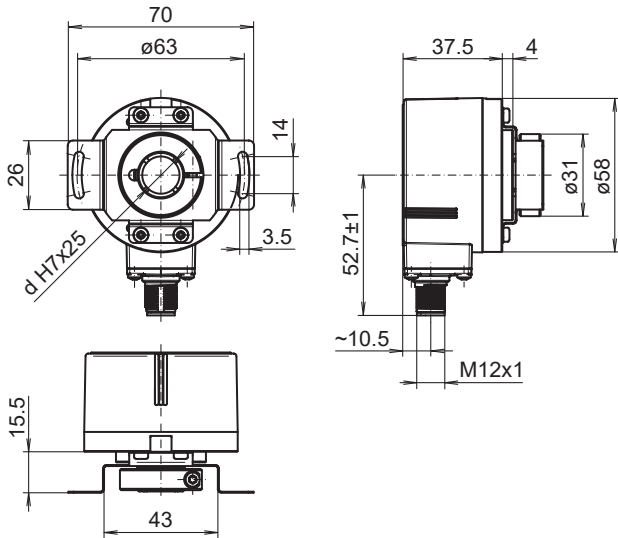
Outputs	HTL/Push-pull
Output level High	≥UB -3 V
Output level Low	≤1.5 V
Load	≤20 mA

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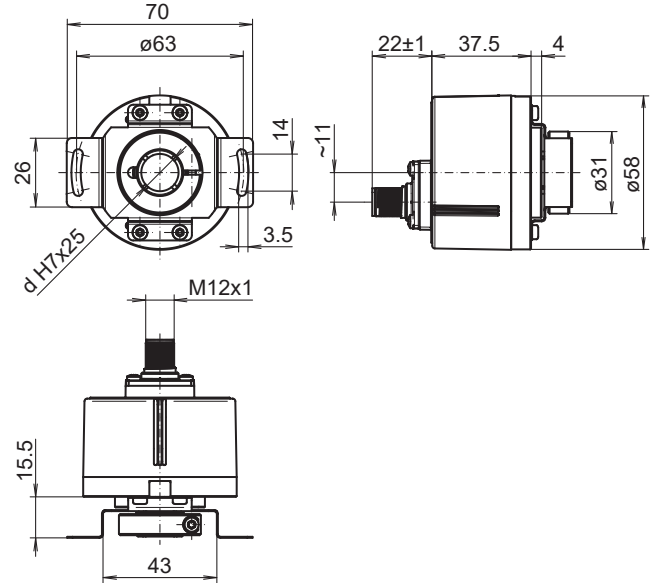
With blind hollow shaft

100...5000 pulses per revolution

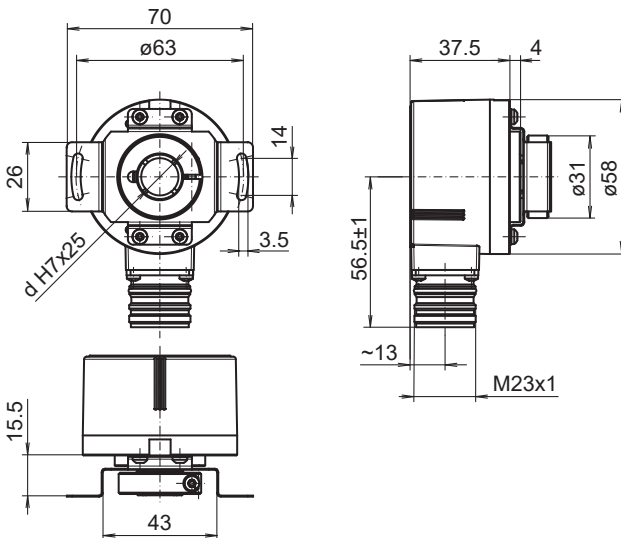
## Dimensions



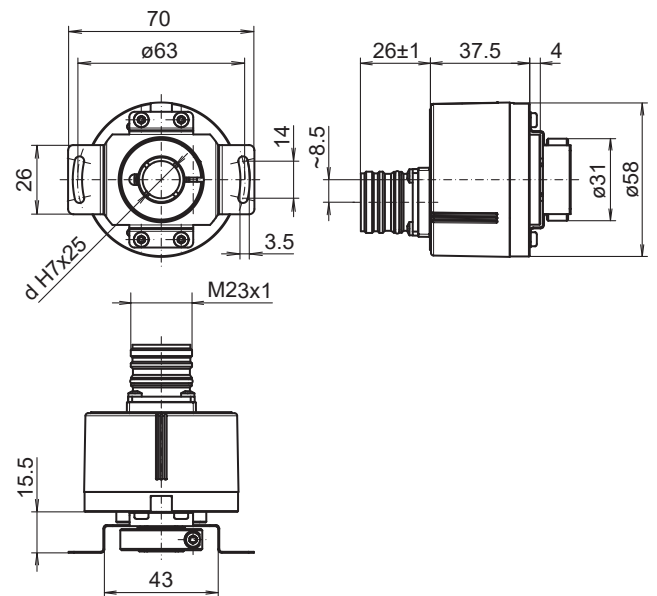
Clamping ring at A-side: Blind hollow shaft, flange connector M12 radial



Clamping ring at A-side: Blind hollow shaft, flange connector M12 axial



Clamping ring at A-side: Blind hollow shaft, flange connector M23 radial



Clamping ring at A-side: Blind hollow shaft, flange connector M23 axial

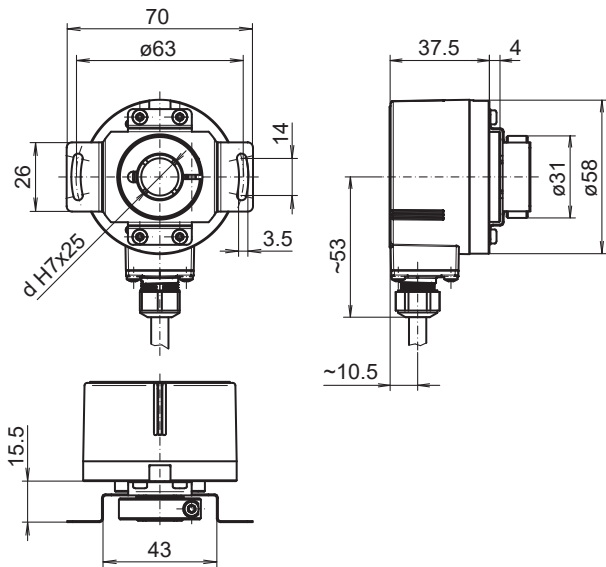
2023-04-19 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

# EIL580-B - Option 6301

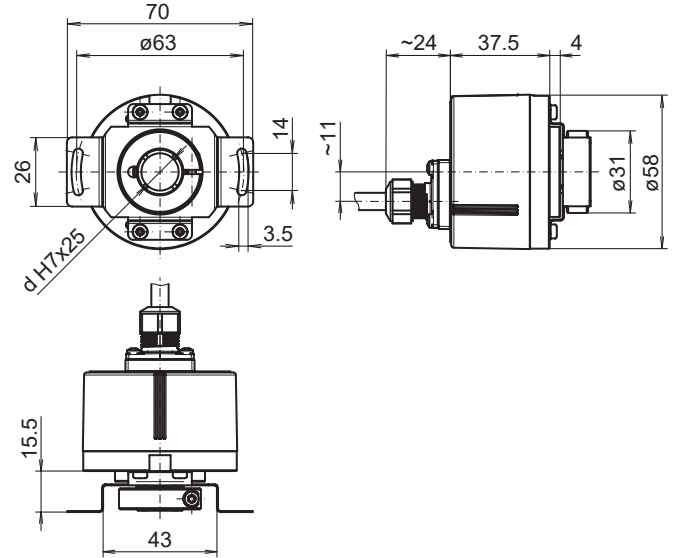
With blind hollow shaft

100...5000 pulses per revolution

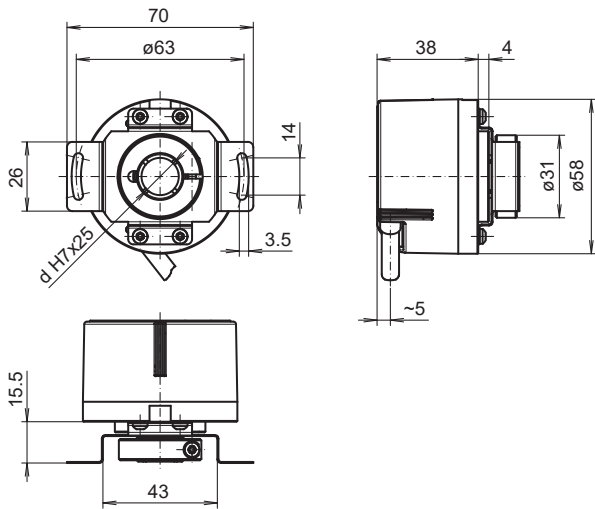
## Dimensions



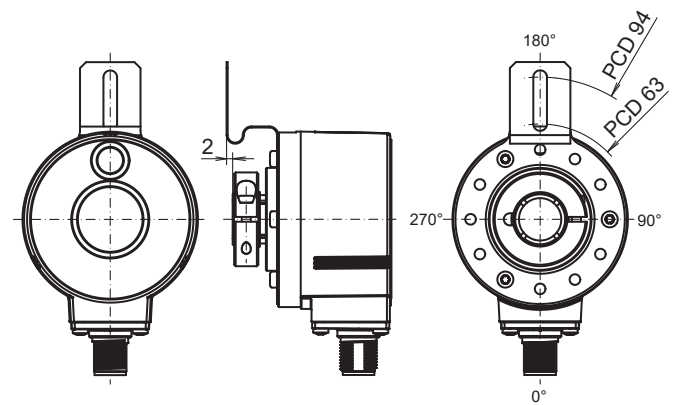
Clamping ring at A-side: Blind hollow shaft, cable radial



Clamping ring at A-side: Blind hollow shaft, cable axial



Clamping ring at A-side: Blind hollow shaft, cable tangential



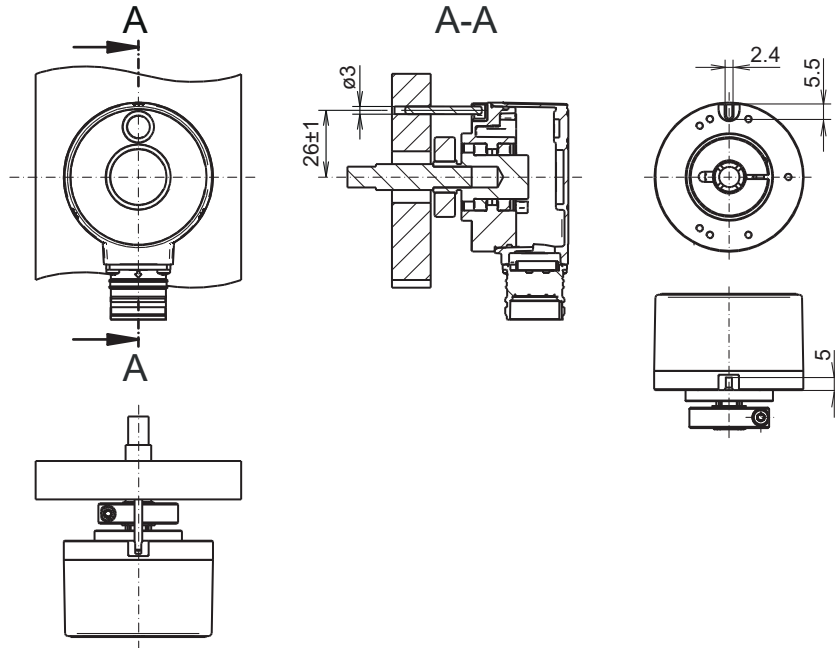
Flange version M: Mounting position torque support

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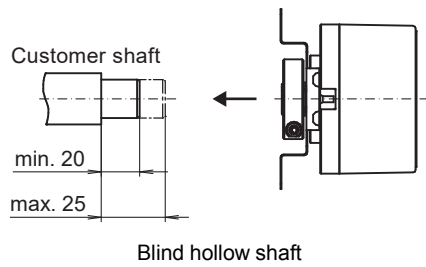
With blind hollow shaft

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## Dimensions



Flange version P: Pin torque support, axial, clamping ring at A-side



Blind hollow shaft

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**Ordering reference**

	EIL580	-	B	#	##	.	#	##	#	.	#####	.	A	/	6301
<b>Product</b>	EIL580														
<b>Shaft type</b>															
Blind hollow shaft													B		
<b>Flange (Hollow shaft)</b>															
Without stator coupling															N
With stator coupling, 1-armed, hole circle ø63...94 mm, M4, mounting position 180°															M
With stator coupling ø63 mm															T
Pin torque support 3 mm, axial/radial															P
<b>Blind hollow shaft</b>															
ø8 mm, clamping ring, A-side															08
ø3/8" (ø9.52 mm), clamping ring, A-side															U3
ø10 mm, clamping ring, A-side															10
ø12 mm, clamping ring, A-side															12
ø1/2" (ø12.7 mm), clamping ring, A-side															U4
ø14 mm, clamping ring, A-side															14
ø15 mm, clamping ring, A-side															15
<b>Protection class</b>															
IP 65															5
IP 67															7
<b>Connection</b>															
Cable radial, 1 m															R
Cable radial, 2 m															L
Flange socket radial, M23, 12-pin, male contacts, CCW															F
Flange socket radial, M12, 8-pin, male contacts, CCW															B
Cable axial, 1 m															T
Cable axial, 2 m															U
Flange socket axial, M23, 12-pin, male contacts, CCW															D
Flange socket axial, M12, 8-pin, male contacts, CCW															A
Cable tangential, 1 m															P
Cable tangential, 2 m															Q
<b>Voltage supply / output</b>															
5 VDC, TTL/RS422, 6 channel															E
8...30 VDC, TTL/RS422, 6 channel (Vout=5V)															H
8...30 VDC, HTL/push pull, 6 channel															N
4,75...30 VDC, HTL/push pull, 6 channel (Vout=Vin)															Q

# EIL580-B - Option 6301

With blind hollow shaft

100...5000 pulses per revolution

**Ordering reference**
**EIL580 - B # ## . # ## # . ##### . A / 6301**
**Pulses per revolution**

100	100
120	120
150	150
200	200
250	250
256	256
300	300
360	360
400	400
440	440
500	500
512	512
600	600
720	720
800	800
900	900
1000	1000
1024	1024
1200	1200
1250	1250
1440	1440
1500	1500
1800	1800
2000	2000
2048	2048
2500	2500
3000	3000
3600	3600
4000	4000
4096	4096
5000	5000

**Operating temperature**

-40...+85 °C

A

**Option Mechanics**

Hybrid ball bearings

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### Accessories

#### Mounting accessories

11066083	Torque arm, 1-arm (mounting kit 006)
11073119	Torque arm, 1-arm (mounting kit 021)
11067367	Torque arm, 1-arm (mounting kit 028)
11100198	Stator coupling, 2-armed (mounting kit 046)
11113210	Torque arm, 1-arm (mounting kit 047)
11124300	Torque arm, 1-arm (mounting kit 048)
11106627	Fan cover clip 8 mm
11094674	Clamping ring 12/31/ 8 M3 8.8
11094675	Clamping ring 17/31/ 8 M3 8.8
11116921	Insulating sleeve $\varnothing$ 10 mm/ $\varnothing$ 12 mm/25 mm long
11116923	Insulating sleeve $\varnothing$ 12 mm/ $\varnothing$ 14 mm/25 mm long