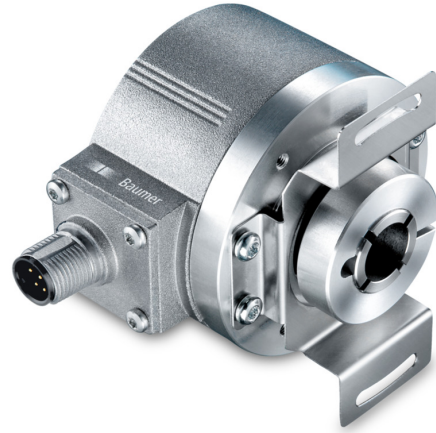


# EIL580-T

With through hollow shaft  
 100...5000 pulses per revolution

## Overview

- Size ø58 mm
- Precise optical sensing
- Output signal level TTL or HTL
- Through hollow shaft, ø8...15 mm
- Connection radial or tangential
- Pulses per revolution up to 5000
- High protection up to IP 67
- High resistance to shock and vibrations



## Technical data

### Technical data - electrical ratings

Voltage supply	5 VDC ±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 ° ±10°
Duty cycle	40...60 %
Reference signal	Zero pulse, width 90° ±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	EN 61000-6-2
Emitted interference	EN 61000-6-3
Approval	UL 508 / CSA 22.2

### Technical data - mechanical design

Size (flange)	ø58 mm
Shaft type	ø8...15 mm (through hollow shaft) ø9.52 mm (through hollow shaft) ø12.7 mm (through hollow shaft)
Protection EN 60529	IP 65 (without shaft seal) IP 67 (with shaft seal)
Operating speed	≤3000 rpm (+20 °C, IP 67) ≤6000 rpm (+20 °C, IP 65)
Starting torque	≤0.025 Nm (+20 °C, IP 65) ≤0.03 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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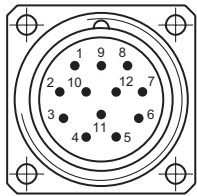
## Terminal assignment

### 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)

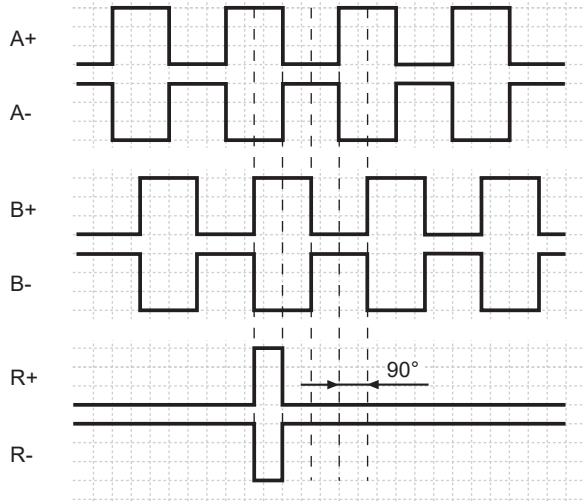
### Flange connector M12, 8-pin

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

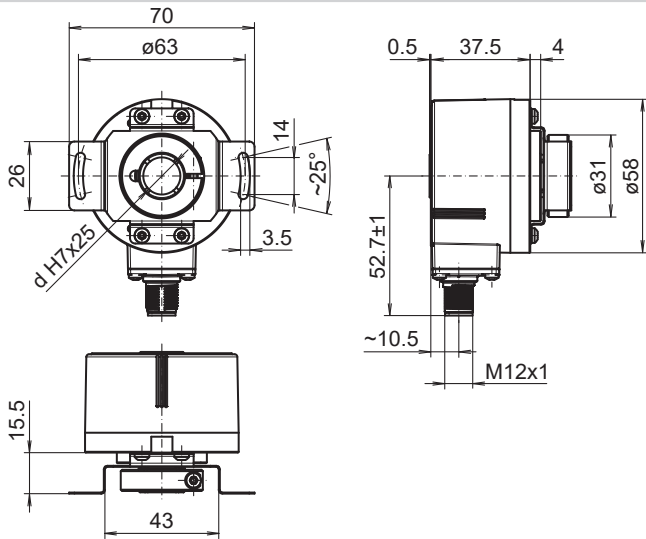
Outputs	TTL/RS422
Output level High	≥2.5 V
Output level Low	≤0.5 V
Load	≤20 mA

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

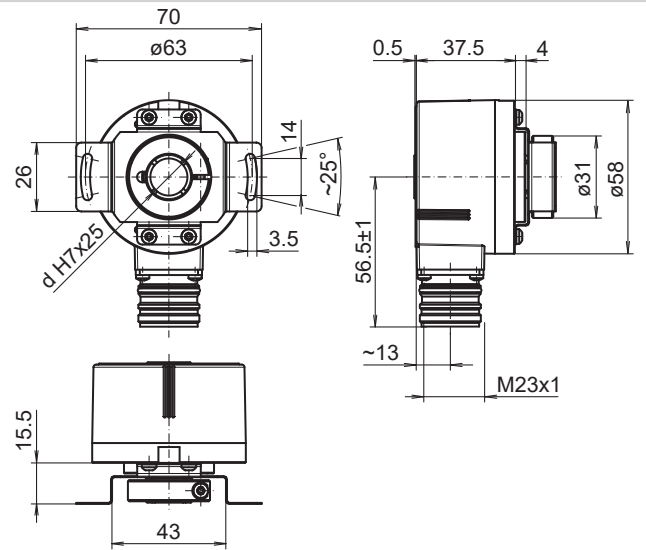
# EIL580-T

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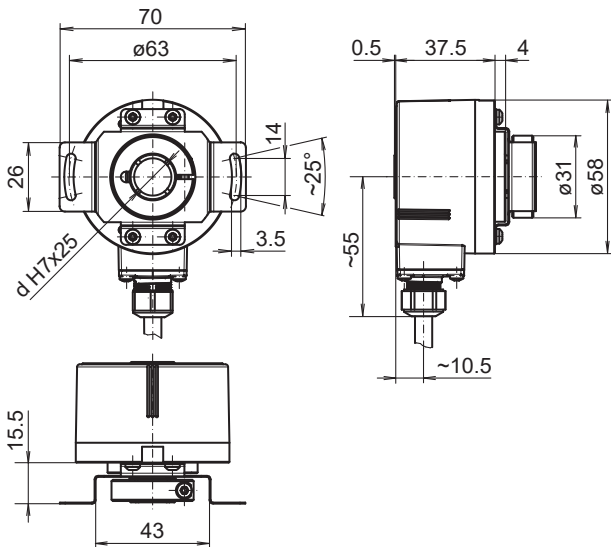
## Dimensions



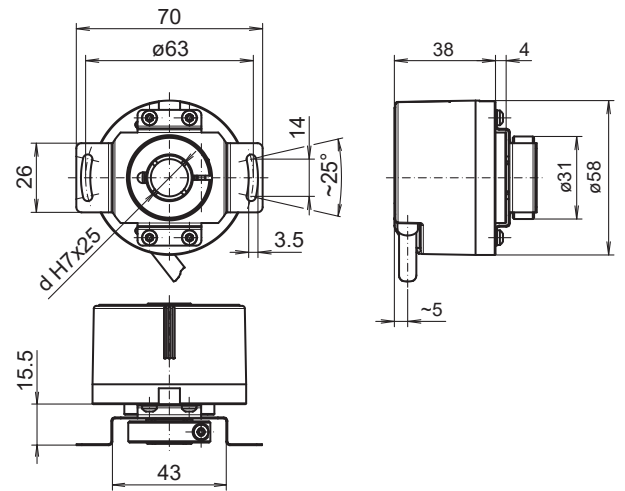
Clamping ring at A-side: Through hollow shaft, flange connector M12 radial



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



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

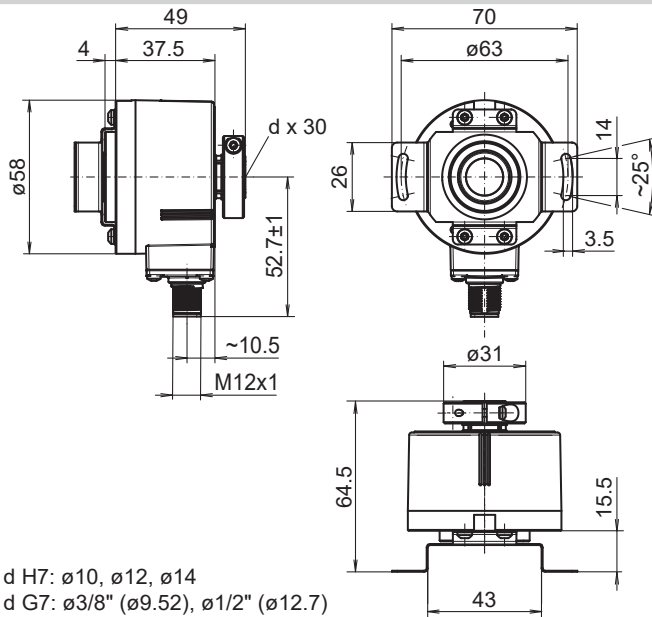


Clamping ring at A-side: Through hollow shaft, cable tangential

# EIL580-T

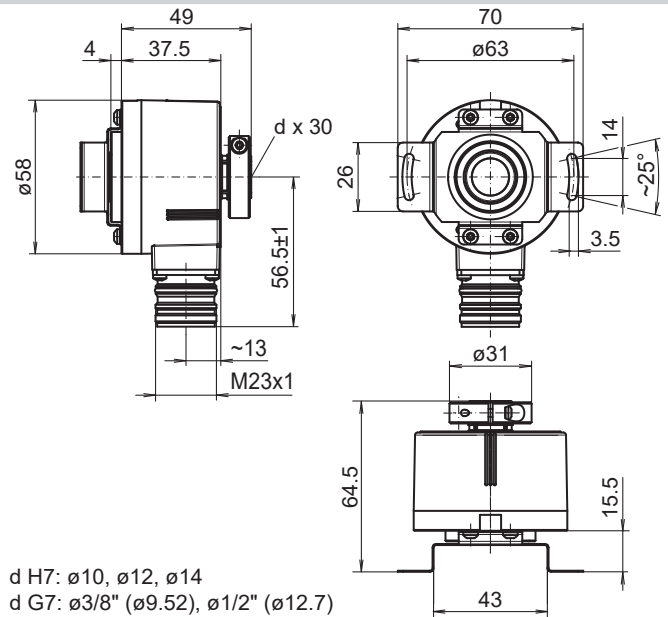
With through hollow shaft  
100...5000 pulses per revolution

## Dimensions



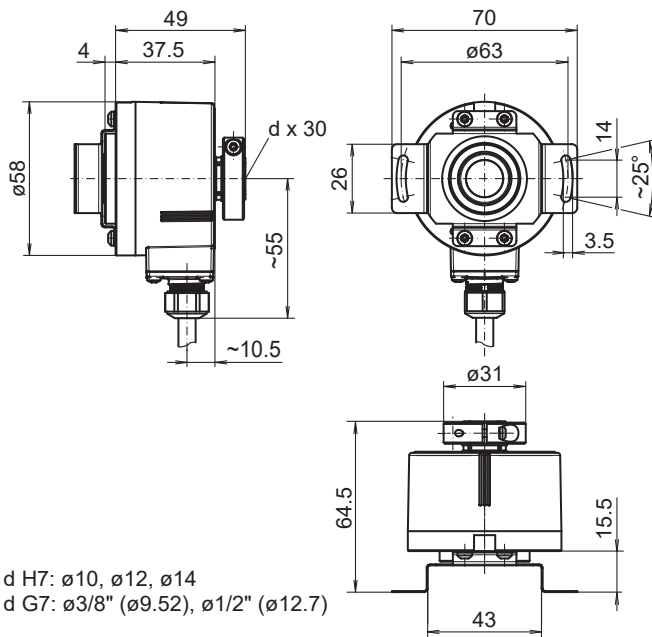
d H7:  $\varnothing 10$ ,  $\varnothing 12$ ,  $\varnothing 14$   
d G7:  $\varnothing 3/8$ " ( $\varnothing 9.52$ ),  $\varnothing 1/2$ " ( $\varnothing 12.7$ )

Clamping ring at B-side: Through hollow shaft, flange connector M12 radial



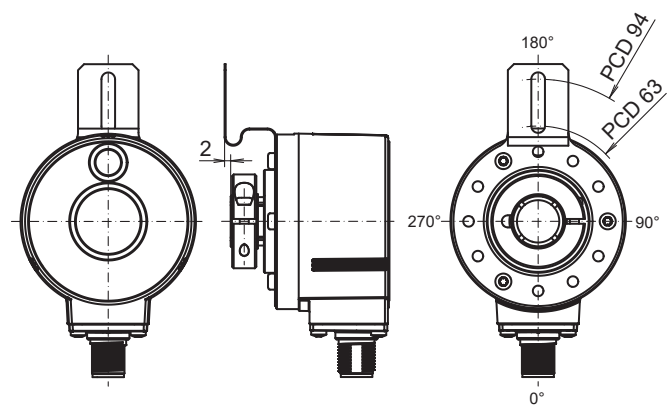
d H7:  $\varnothing 10$ ,  $\varnothing 12$ ,  $\varnothing 14$   
d G7:  $\varnothing 3/8$ " ( $\varnothing 9.52$ ),  $\varnothing 1/2$ " ( $\varnothing 12.7$ )

Clamping ring at B-side: Through hollow shaft, flange connector M23 radial



d H7:  $\varnothing 10$ ,  $\varnothing 12$ ,  $\varnothing 14$   
d G7:  $\varnothing 3/8$ " ( $\varnothing 9.52$ ),  $\varnothing 1/2$ " ( $\varnothing 12.7$ )

Clamping ring at B-side: Through hollow shaft, cable radial

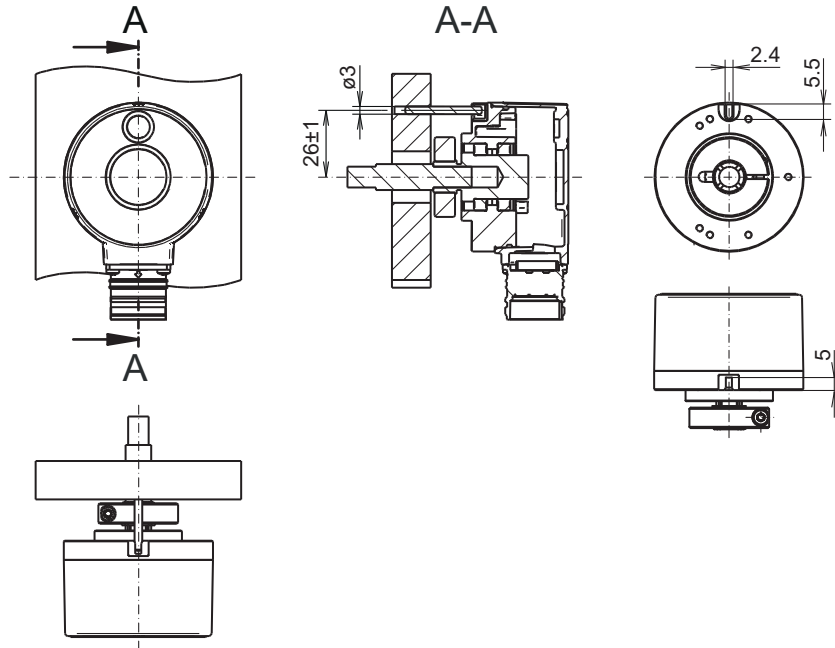


Flange version M: Mounting position torque support

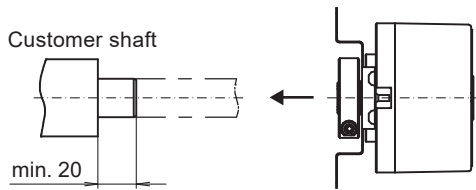
# EIL580-T

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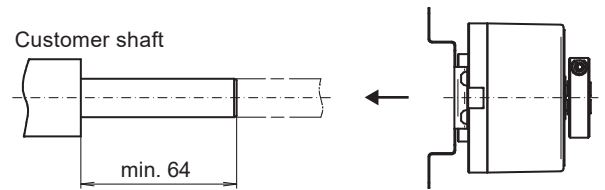
## Dimensions



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



Clamping ring at A-side: Through hollow shaft



Clamping ring at B-side: Through hollow shaft

# EIL580-T

 With through hollow shaft  
 100...5000 pulses per revolution

**Ordering reference**

	EIL580	-	T	#	##	.	#	##	#	.	####	.	A
<b>Product</b>	EIL580												
<b>Shaft type</b>													
Through hollow shaft			T										
<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>Through hollow shaft</b>													
ø8 mm, clamping ring, A-side													O8
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
ø3/8" (ø9.52 mm), clamping ring, B-side													V3
ø10 mm, clamping ring, B-side													B0
ø12 mm, clamping ring, B-side													B2
ø1/2" (ø12.7 mm), clamping ring, B-side													V4
ø14 mm, clamping ring, B-side													B4
<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 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-T

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## Ordering reference

	EIL580	-	T	#	##	.	#	##	#	.	####	.	A
<b>Pulse number</b>													
100													100
120													120
150													150
200													200
250													250
256													256
300													300
360													360
400													400
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

## 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)
11155325	Rigid mounting plate, 1-arm (mounting kit 099)
11106627	Fan cover clip 8 mm
11094674	Clamping ring 12/31/ 8 M3 8.8
11094675	Clamping ring 17/31/ 8 M3 8.8
11123483	Clamping ring 16/31/ 8 M3 8.8
11116921	Insulating sleeve ø10 mm/ø12 mm/25 mm long
11116923	Insulating sleeve ø12 mm/ø14 mm/25 mm long