

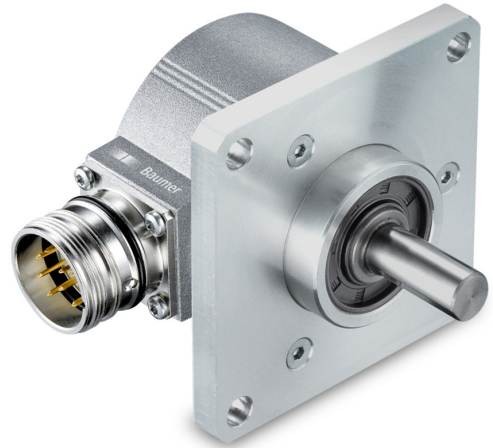
## EIL580-SQ

Solid shaft with square flange

100...5000 pulses per revolution

### Overview

- Size  $\varnothing 58$  mm
- Precise optical sensing
- Output signal level TTL or HTL
- Square flange 2.5" (63.5 mm)
- 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

#### 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 $90^\circ \pm 10^\circ$
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)	2.5 x 2.5" (63.5 x 63.5 mm)
Shaft type	$\varnothing 10$ x 20 mm, solid shaft with flat $\varnothing 3/8$ " x $4/5$ " ( $\varnothing 9.525$ x 20.32 mm), solid shaft with flat

#### Technical data - mechanical design

Admitted shaft load	$\leq 40$ N axial $\leq 80$ N radial
Flange	Square flange 2.5" (63.5 mm)
Protection EN 60529	IP 65 (without shaft seal) IP 67 (with shaft seal)
Operating speed	$\leq 6000$ rpm (+20 °C, IP 67) $\leq 12000$ rpm (+20 °C, IP 65)
Starting torque	$\leq 0.015$ Nm (+20 °C, IP 65) $\leq 0.02$ Nm (+20 °C, IP 67)
Material	Housing: aluminium die-cast Flange: aluminium Solid shaft: stainless steel
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 300 g, 6 ms
Connection	Flange connector M12, 8-pin Flange connector M23, 12-pin Cable
Weight approx.	370 g

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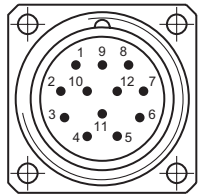
## Terminal assignment

### 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 6.5 mm



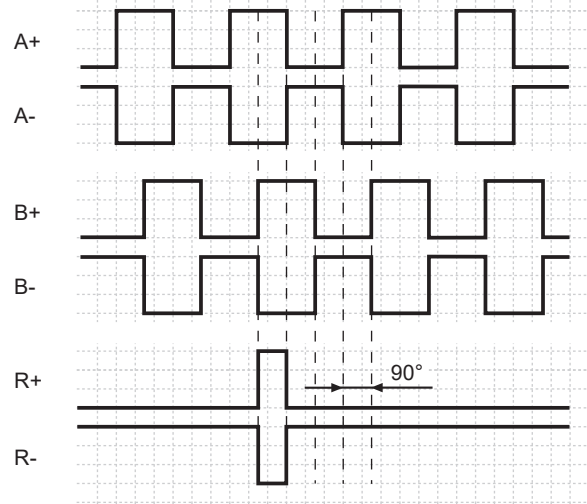
### Flange connector M12, 8-pin

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



## Output signals

Clockwise rotating direction when looking at flange.



## Trigger level

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

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

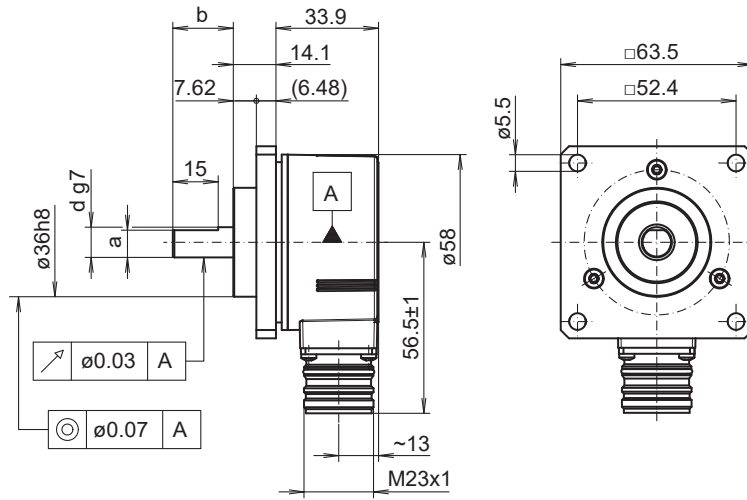
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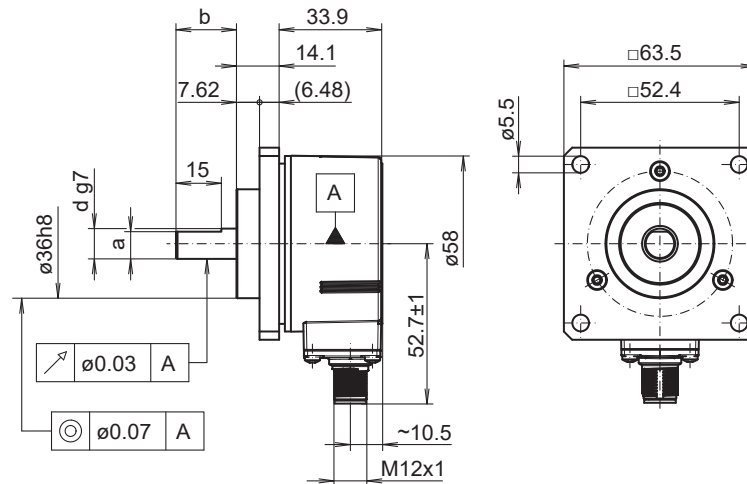
## Dimensions

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



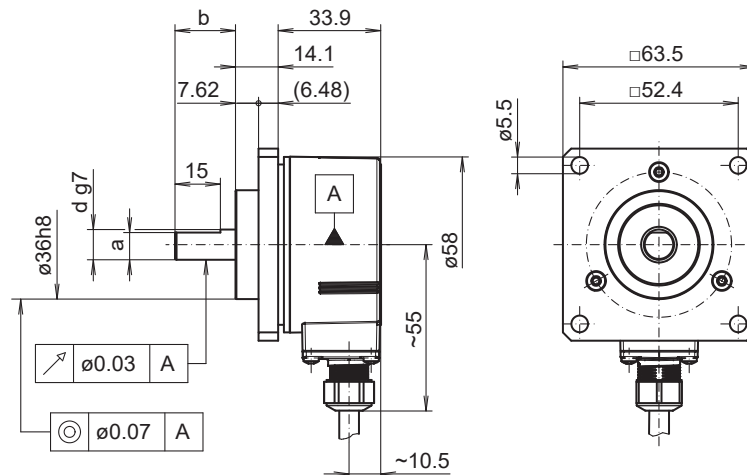
Square flange, flange connector M23, radial

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



Square flange, flange connector M12, radial

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



Square flange, cable radial

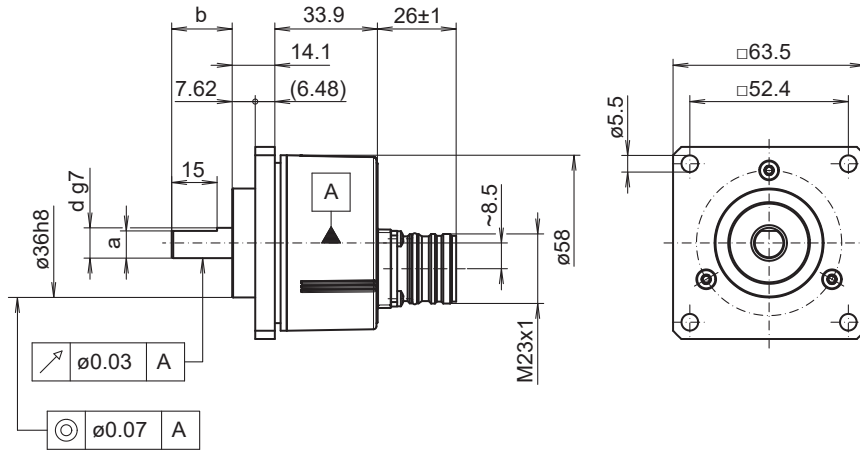
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Solid shaft with square flange

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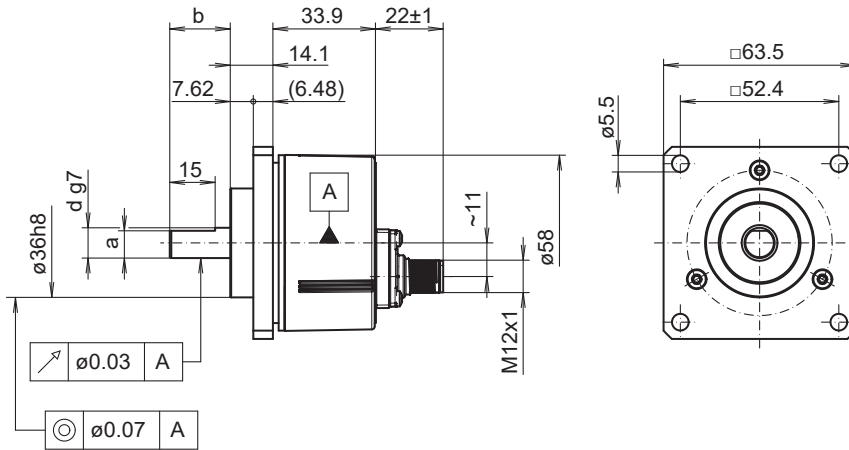
## Dimensions

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



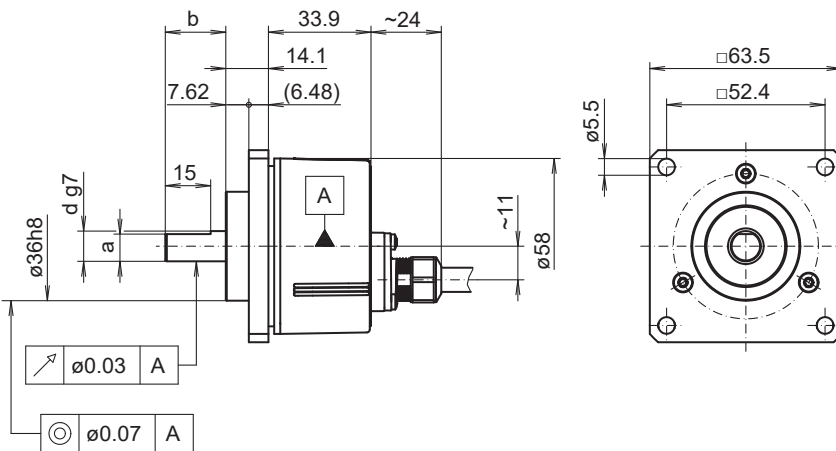
Square flange, flange connector M23, axial

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



Square flange, flange connector M12, axial

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



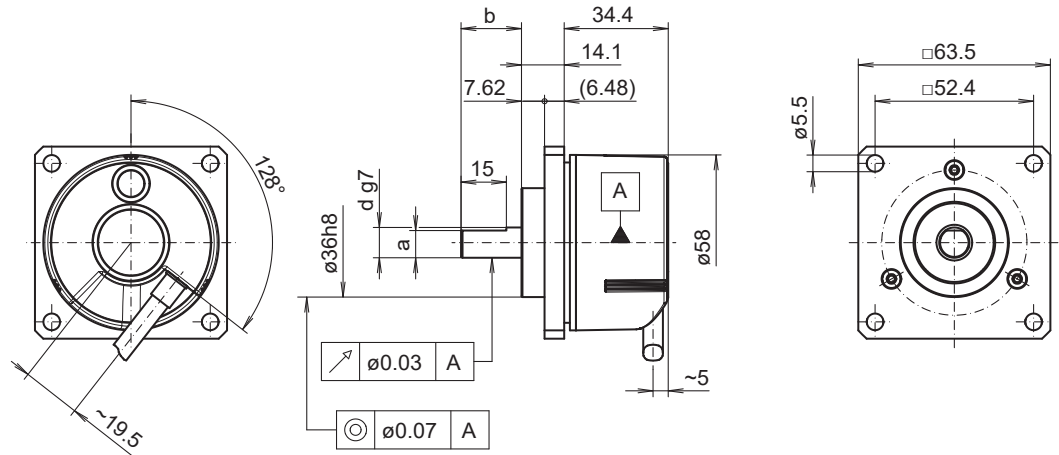
Square flange, cable axial

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## Dimensions

d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20



Square flange, cable tangential

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Solid shaft with square flange

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**Ordering reference**

	EIL580	-	S	Q	##	.	#	##	#	.	####	.	A
<b>Product</b>	EIL580												
<b>Shaft type</b>													
Solid shaft			S										
<b>Flange (shaft)</b>													
Square flange 2.5 (63.5 mm), centering collar Ø1.417 x 0.3 (Ø36 x 7.62 mm), square mounting 4 x Ø5.5 / 52.4 x 52.4 mm				Q									
<b>Shaft</b>													
Ø3/8 x 4/5 (Ø9.525 x 20.32 mm), with flat													U3
Ø10 x 20 mm, with flat													10
<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

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**Ordering reference**

	EIL580	-	S	Q	##	.	#	##	#	.	####	.	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
<b>Operating temperature</b>													
-40...+85 °C													A

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### Accessories

#### Mounting accessories

11065915	Coupling CPS25 (L=19, D1=04 / D2=10)
11065918	Coupling CPS25 (L=19, D1=07 / D2=10)
11065920	Coupling CPS25 (L=19, D1=08 / D2=10)
11065921	Coupling CPS25 (L=19, D1=09 / D2=10)
11065922	Coupling CPS25 (L=19, D1=10 / D2=06)
11065923	Coupling CPS25 (L=19, D1=10 / D2=10)
11065924	Coupling CPS25 (L=19, D1=10 / D2=11)
11065925	Coupling CPS25 (L=19, D1=10 / D2=12)
10141132	Spring washer coupling (D1=6 / D2=10)
10141133	Spring washer coupling (D1=10 / D2=10)
11034138	Spring washer coupling (D1=10 / D2=16)
11034140	Spring washer coupling (D1=10 / D2=14)
11034141	Spring washer coupling (D1=10 / D2=12)
11050507	Bellows coupling (D1=06 / D2=10)
11101781	Double loops coupling (D1=10 / D2=10)