

## EIL580-S1

Solid shaft with EURO flange B10  
100...5000 pulses per revolution

### Overview

- 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

#### Technical data - electrical ratings

|                             |   |
|-----------------------------|---|
| Voltage supply              | 5 VDC ±5 %<br>8...30 VDC<br>4.75...30 VDC     |
| Reverse polarity protection | Yes   |
| Short-circuit proof         | Yes (HTL)<br>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)<br>≤160 kHz (HTL)              |
| Output signals              | A+, B+, R+, A-, B-, R-                        |
| Output stages               | TTL/RS422<br>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<br>≤80 N radial  |
| Protection DIN EN 60529 | IP 65 (without shaft seal)<br>IP 67 (with shaft seal)                              |
| Operating speed         | ≤6000 rpm (+20 °C, IP 67)<br>≤12000 rpm (+20 °C, IP 65)                            |
| Starting torque         | ≤0,015 Nm (+20 °C, IP 65)<br>≤0,02 Nm (+20 °C, IP 67)                              |
| Material                | Housing: aluminium die-cast<br>Flange: aluminium<br>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<br>DIN EN 60068-2-27 Shock 300 g, 6 ms |
| Connection              | Flange connector M12, 8-pin<br>Flange connector M23, 12-pin<br>Cable               |
| Weight approx.          | 485 g  |

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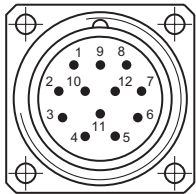
## Terminal assignment

### 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



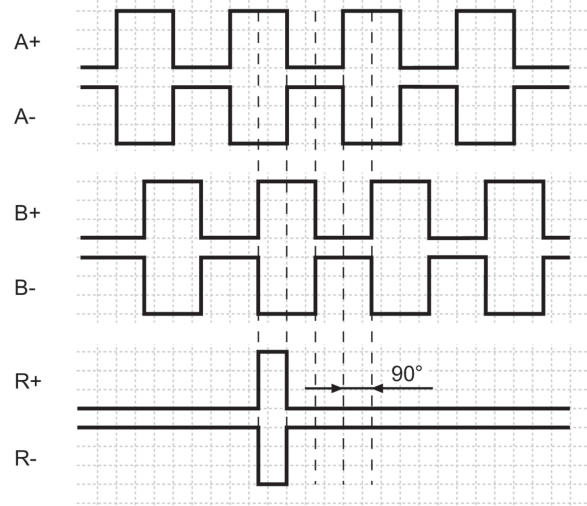
### Flange connector M12, 8-pin

| 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 | ≥2.5 V    |
| Output level Low  | ≤0.5 V    |
| Load              | ≤20 mA    |

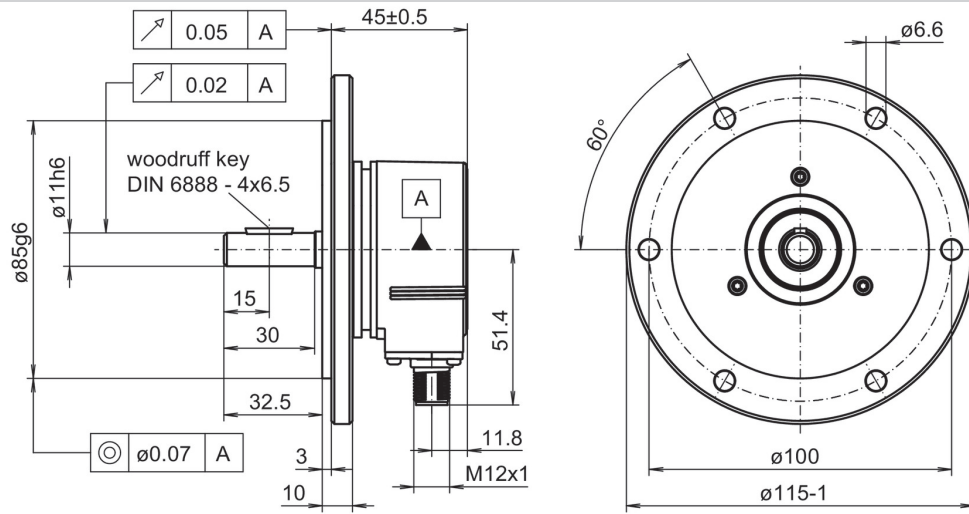
| Outputs           | HTL/Push-pull |
|-------------------|---------------|
| Output level High | ≥UB -3 V      |
| Output level Low  | ≤1.5 V        |
| Load              | ≤20 mA        |

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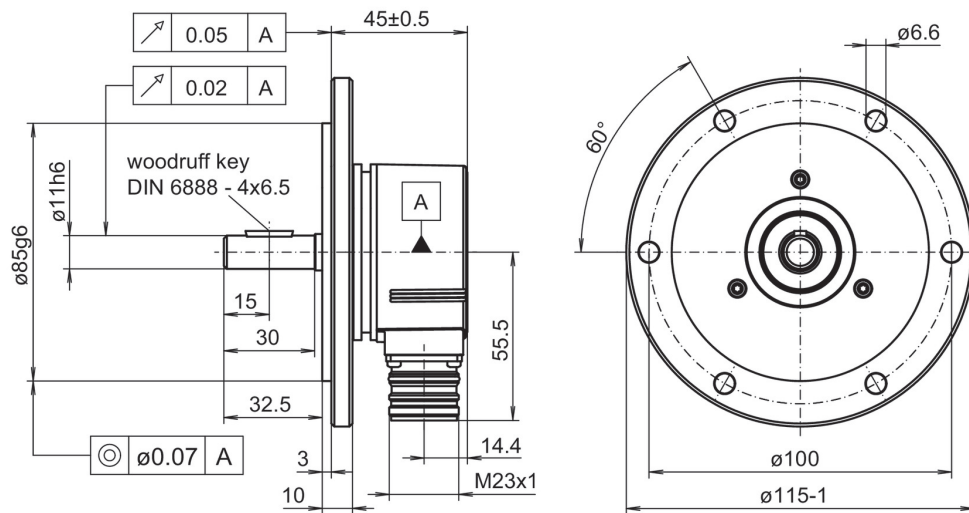
Solid shaft with EURO flange B10

100...5000 pulses per revolution

## Dimensions



EURO flange B10, flange connector M12, radial

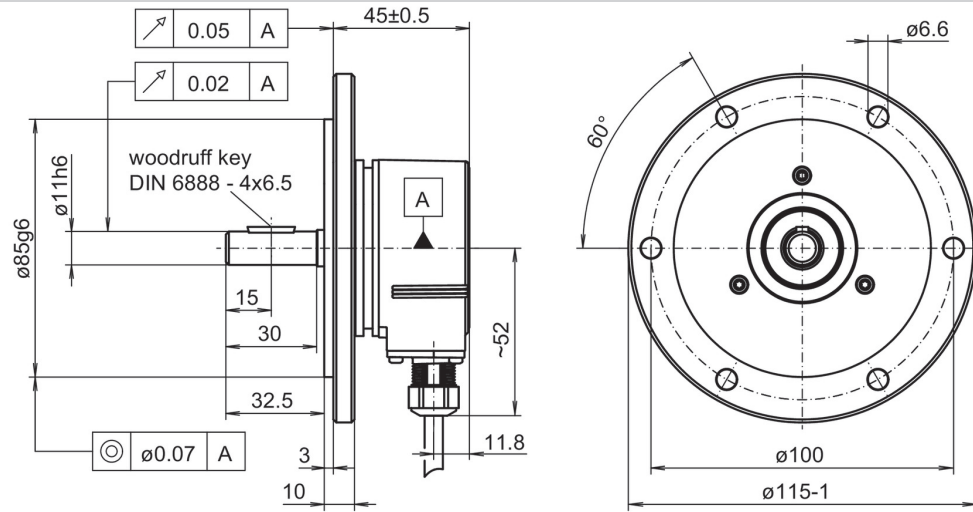


EURO flange B10, flange connector M23, radial

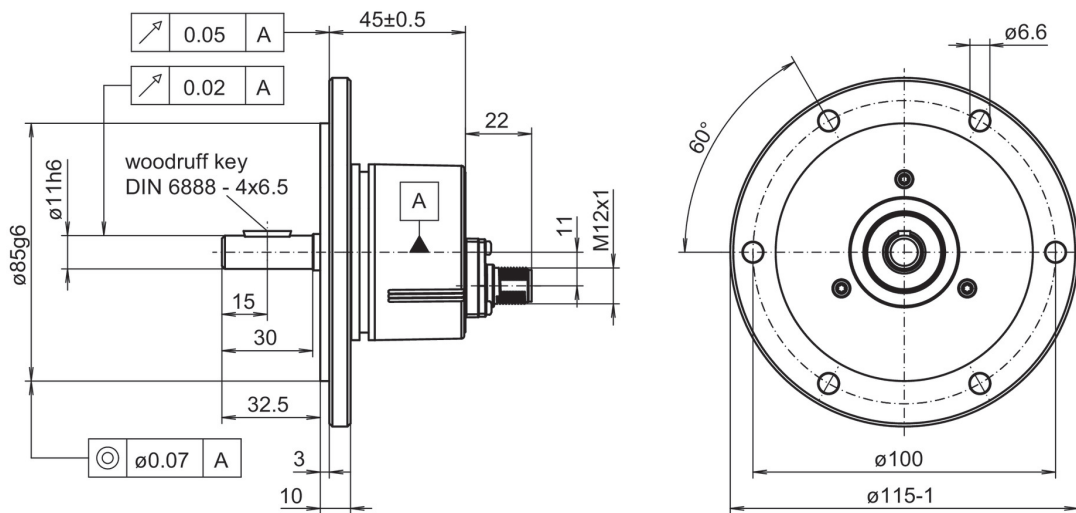
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## Dimensions



EURO flange B10, cable radial



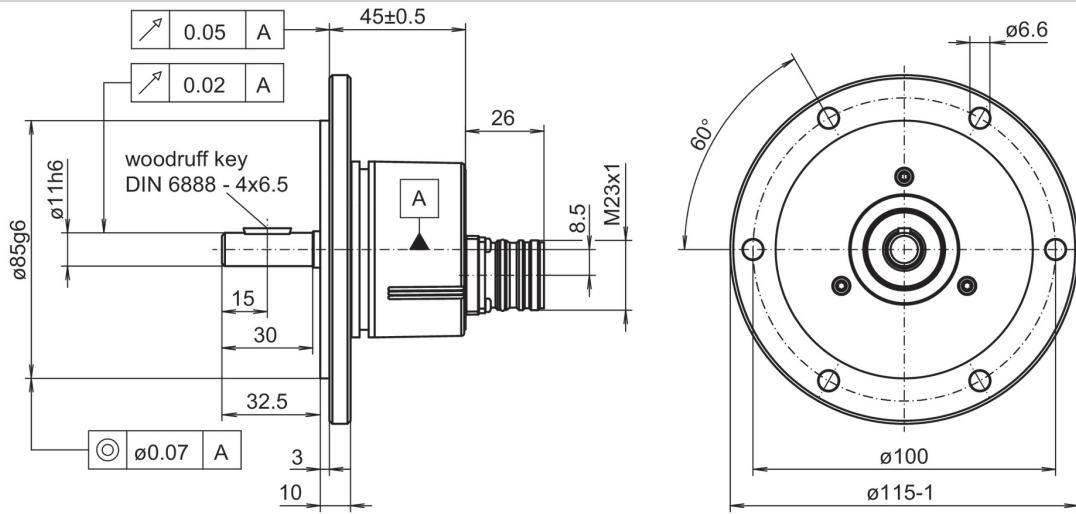
EURO flange B10, flange connector M12, axial

# EIL580-S1

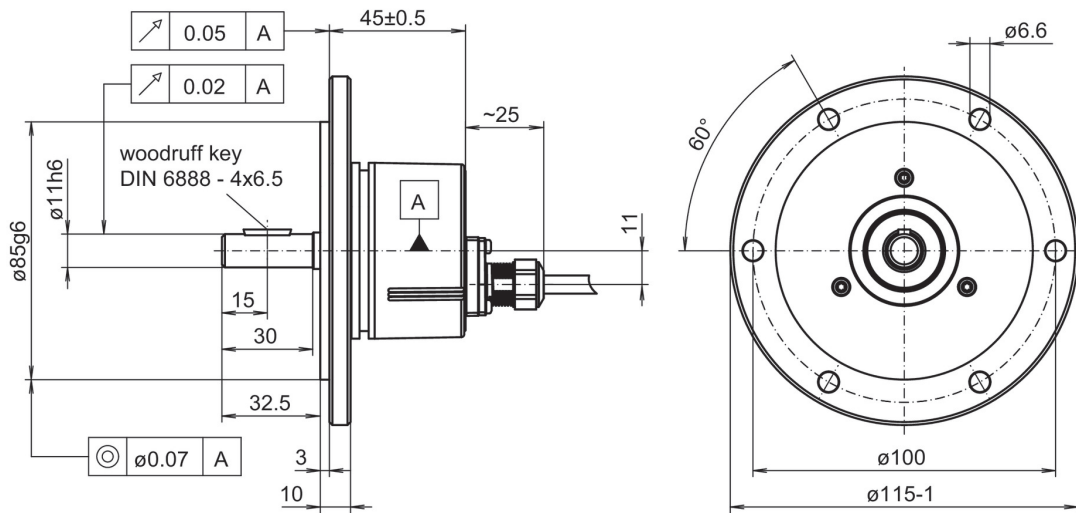
Solid shaft with EURO flange B10

100...5000 pulses per revolution

## Dimensions



EURO flange B10, flange connector M23, axial

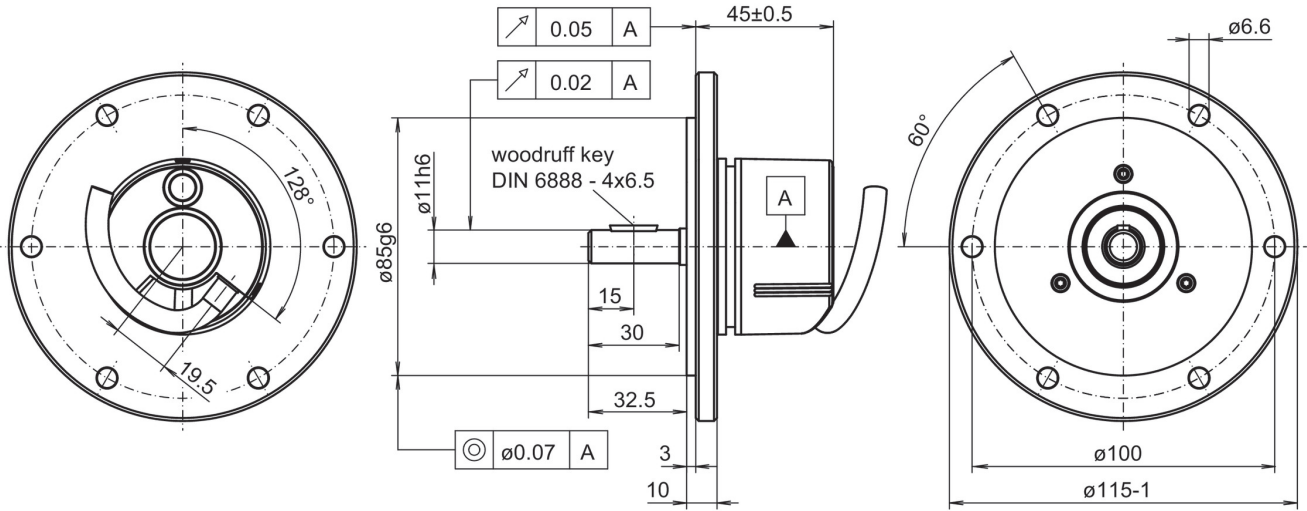


EURO flange B10, cable axial

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### Dimensions



EURO flange B10, cable tangential

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**Ordering reference**
**EIL580 - S 1 B1 . # ## # . ##### . A**
**Product**

EIL580

**Shaft type**

Solid shaft

S

**Flange (shaft)**

 Euro flange B10, centering collar Ø85 x 3 mm,  
 pitch circle diameter 100 mm - 6 x Ø6.6

1

**Shaft**

ø11 x 30 mm, with woodruff key 4 x 6.5

B1

**Protection class**

IP 65

5

IP 67

7

**Connection**

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

**Voltage supply / output**

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 1 B1 . # ## # . ##### . A**

### 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

## Accessories

### Mounting accessories

- Spring disk coupling K 35 (shaft ø6...12 mm)
- Spring disk coupling K 50 (shaft ø11...16 mm)
- Spring disk coupling K 60 (shaft ø11...22 mm)



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#### Connectors and cables

|          |   |
|----------|---|
| 10127844 | Connection cable 2 m shielded with female connector M12, 8-pin, straight (ESG 34FH0200G)  |
| 10129332 | Connection cable 5 m shielded with female connector M12, 8-pin, straight (ESG 34FH0500G)  |
| 10129333 | Connection cable 10 m shielded with female connector M12, 8-pin, straight (ESG 34FH1000G) |
| 11053961 | Connection cable 2 m shielded with female connector M12, 8-pin, angled (ESW 33FH0200G)    |
| 11053962 | Connection cable 5 m shielded with female connector M12, 8-pin, angled (ESW 33FH0500G)    |
| 10170054 | Connection cable 10 m shielded with female connector M12, 8-pin, angled (ESW 33FH1000G)   |
| 10164705 | Female connector M23, 12-pin, CW  |
| 11095302 | Female connector M23, 12-pin, CW, with cable 1 m  |
| 11100408 | Female connector M23, 12-pin, CW, with cable 2 m  |
| 11100430 | Female connector M23, 12-pin, CW, with cable 5 m  |
| 11100431 | Female connector M23, 12-pin, CW, with cable 10 m   |