

Incremental Encoders

Standard
Sine wave output, highly interpolable, optical

Sendix 5814 / 5834 (Shaft / Hollow shaft)

SinCos



The incremental encoders Sendix 5814 and 5834 with SinCos interface are particularly suited for applications in the field of drive technology.

Thanks to their high signal quality, they are optimally suited for further interpolation.



| | | | | | | | | | | |
|--------------|-----------------------|------------------------------------|-----------------------------|--------------------------|-----------------------------|----------------------|-----------------------------|--------|----------------|---------------------------------------|
| | | | | | | | | | | |
| Safety-Lock™ | High rotational speed | Temperature range -40°... +90°C | High protection level IP | High shaft load capacity | Shock / vibration resistant | Magnetic field proof | Reverse polarity protection | SinCos | Optical sensor | Seawater-resistant version on request |

Powerful

- With incremental SinCos tracks
- Very high signal quality
- Suited for motor feedback applications

Flexible

- Shaft and hollow shaft versions
- Cable and connector variants
- Various mounting options available

| | | | | | | | |
|----------------------|---------------|---|------------------|------------------|------------------|------------------|------------------|
| Order code | 8.5814 | . | <u>1</u> | <u>2</u> | <u>XX</u> | . | <u>XXXX</u> |
| Shaft version | Type | | <small>a</small> | <small>b</small> | <small>c</small> | <small>d</small> | <small>e</small> |

If for each parameter of an encoder the underlined preferred option is selected, then the delivery time will be 10 working days for a maximum of 10 pieces.
Qts. up to 50 pcs. of these types generally have a delivery time of 15 working days.



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| <p>a Flange <u>1 = clamping flange, IP65, ø 58 mm [2.28"]</u></p> <p>b Shaft (ø x L) <u>2 = 10 x 20 mm [0.39 x 0.79"], with flat</u></p> | <p>c Output circuit / Power supply 1 = SinCos / 5 V DC <u>2 = SinCos / 10 ... 30 V DC</u></p> | <p>d Type of connection 1 = axial cable, 1 m [3.28'] PVC <u>2 = radial cable, 1 m [3.28'] PVC</u> 5 = M12 connector, 8 pin, axial 6 = M12 connector, 8 pin, radial</p> | <p>e Pulse rate 1024, <u>2048</u></p> <p><i>optional on request</i> - seawater-resistant - special cable length</p> |
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| Order code | 8.5834 | . | <u>X</u> | <u>X</u> | <u>X</u> | <u>X</u> | . | <u>XXXX</u> |
| Hollow shaft | Type | | <small>a</small> | <small>b</small> | <small>c</small> | <small>d</small> | <small>e</small> | |

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| <p>a Flange 1 = with spring element long, IP65 <u>5 = with stator coupling, IP65, ø 63 mm [2.48"]</u></p> <p>b Hollow shaft 3 = ø 10 mm [0.39"] K = ø 10 mm [0.39"], tapered shaft <u>4 = ø 12 mm [0.47"]</u> 5 = ø 14 mm [0.55"] 6 = ø 15 mm [0.59"] 8 = ø 3/8" 9 = ø 1/2"</p> | <p>c Output circuit / Power supply 1 = SinCos / 5 V DC <u>2 = SinCos / 10 ... 30 V DC</u></p> | <p>d Type of connection 2 = radial cable, 1 m [3.28'] PVC <u>E = tangential cable, 1 m [3.28'] PVC</u> 6 = M12 connector, 8 pin, radial</p> | <p>e Pulse rate 1024, <u>2048</u></p> <p><i>optional on request</i> - seawater-resistant - special cable length</p> |
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| Connection technology | | Order-No. |
|--------------------------------------------|---------------------------------------------------------------|-----------------------------|
| Connector, self-assembly (straight) | M12 female connector with coupling nut | 05.CMB 8181-0 |
| Cordset, pre-assembled | M12 female connector with coupling nut, 2 m [6.56'] PVC cable | 05.00.6041.8211.002M |

Further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories
Additional connectors can be found in the connection technology section or in the connection technology area of our website at: www.kuebler.com/connection_technology

Technical data

| Mechanical characteristics | | |
|-----------------------------------------------|--------------------------------------------------|-----------------------------------------------------------------|
| Max. speed | IP65 | 12 000 min ⁻¹ , 5 000 min ⁻¹ (continuous) |
| | IP67 | 8 000 min ⁻¹ , 2 000 min ⁻¹ (continuous) |
| Starting torque – at 20°C [68°F] | IP65 | < 0.01 Nm |
| | IP67 | < 0.05 Nm |
| Moment of inertia | shaft | 4.0 x 10 ⁻⁶ kgm ² |
| | hollow shaft | 7.0 x 10 ⁻⁶ kgm ² |
| Load capacity of shaft | radial | 80 N |
| | axial | 40 N |
| Weight | approx. 0.45 kg [15.85 oz] | |
| Protection acc. to EN 60529 | | |
| | housing side | IP67 |
| | shaft side | IP65, opt. IP67 |
| Working temperature range | -40°C ... +90°C [-40°F ... +194°F] ¹⁾ | |
| Materials | shaft / hollow shaft | stainless steel |
| | flange | aluminium |
| | housing | zinc die-cast housing |
| | cable | PVC |
| Shock resistance acc. EN 60068-2-27 | 2500 m/s ² , 6 ms | |
| Vibration resistance acc. EN 60068-2-6 | 100 m/s ² , 55 ... 2000 Hz | |

| Electrical characteristics | | |
|-------------------------------------------------------------|-------------------------------|------------|
| Power supply | 5 V DC ± 5% or 10 ... 30 V DC | |
| Current consumption (no load) | 5 V DC | max. 70 mA |
| | 10 ... 30 V DC | max. 45 mA |
| Reverse polarity protection of the power supply (+V) | yes | |
| UL approval | File 224618 | |
| CE compliant acc. to | EMC guideline 2004/108/EC | |
| RoHS compliant acc. to | guideline 2011/65/EU | |

| SinCos interface | |
|----------------------------|---------------------------|
| Max. frequency -3dB | 400 kHz |
| Signal level | 1 V _{pp} (± 10%) |
| Short circuit proof | yes ²⁾ |
| Pulse rate | 1024 / 2048 ppr |

Terminal assignment

| Output circuit | Type of connection | Cable (isolate unused wires individually before initial start-up) | | | | | | | |
|----------------|--------------------|-------------------------------------------------------------------|---------|---------|-----|----|----|-----------|--------|
| | | 1, 2 | 1, 2, E | Signal: | 0 V | +V | A | \bar{A} | B |
| | | Cable colour: | WH | BN | GN | YE | GY | PK | shield |

| Output circuit | Type of connection | M12 connector, 8-pin | | | | | | | |
|----------------|--------------------|----------------------|------|---------|-----|----|---|-----------|------------------|
| | | 1, 2 | 5, 6 | Signal: | 0 V | +V | A | \bar{A} | B |
| | | Pin: | 1 | 2 | 3 | 4 | 5 | 6 | PH ³⁾ |

- +V: Encoder power supply +V DC
- 0 V: Encoder power supply ground GND (0 V)
- A, \bar{A} : Cosine signal
- B, \bar{B} : Sine signal
- PH \perp : Plug connector housing (Shield)

Top view of mating side, male contact base



M12 connector, 8-pin

1) Cable version: -30°C ... +90°C [-22°F ... +194°F] fixed installation
2) Short circuit to 0V or to output, one channel at a time, supply voltage correctly applied
3) PH = shield is attached to connector housing

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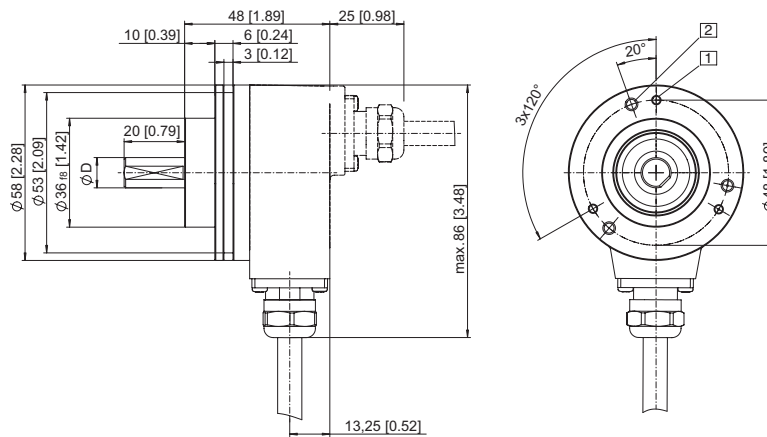
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Dimensions shaft version

Dimensions in mm [inch]

Clamping flange, \varnothing 58 [2.28]
Flange type 1 with shaft type 2
 (Drawing with cable)

- 1 3 x M3, 6 [0.24] deep
- 2 3 x M4, 8 [0.32] deep
- D = 10 ^{H7} [0.39]

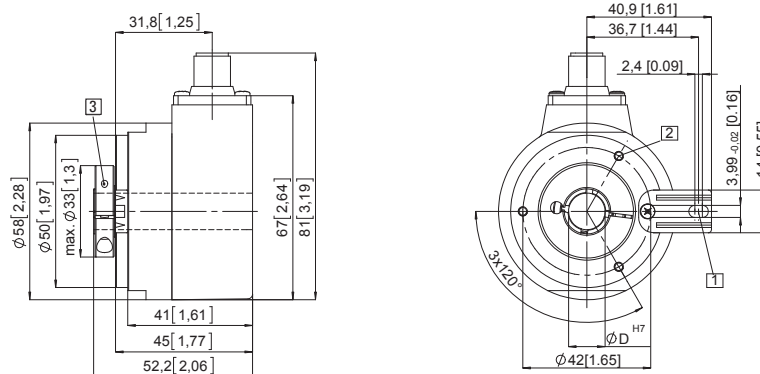


Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element long
Flange type 1
 (drawing with M12 connector)

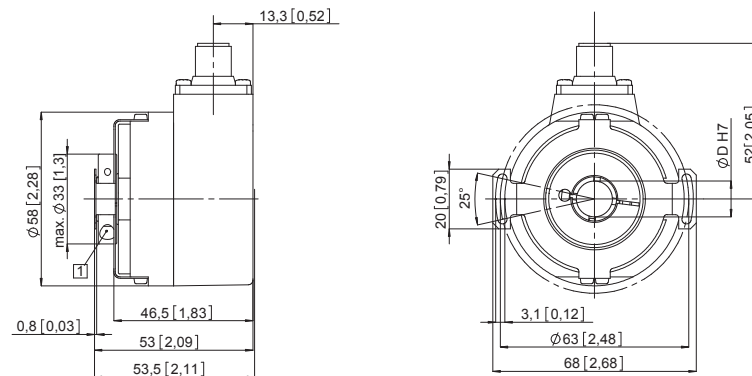
- 1 Torque stop slot, Recommendation: Cylindrical pin DIN 7, \varnothing 4 [0.16]
- 2 3 x M3, 5.5 [0.22] deep
- 3 Recommended torque for the clamping ring 0.6 Nm



Flange with stator coupling, \varnothing 63 [2.48]
and hollow shaft

Flange type 5
 (Drawing with M12 connector)

- 1 Recommended torque for the clamping ring 0.6 Nm



Flange with stator coupling, \varnothing 63 [2.48]
and tapered shaft

Flange type 5
 (Drawing with tangential cable outlet)

- 1 for (4x) M3 screw
- 2 Status LED
- 3 SET button

