

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.



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 . 1 2 XX . XXXX
Shaft version Type a b c d e

a Flange
1 = clamping flange, ø 58 mm [2.28"]

b Shaft (ø x L)
2 = 10 x 20 mm [0.39 x 0.79"], with flat

c Output circuit / supply voltage
1 = SinCos / 5 V DC
2 = SinCos / 10 ... 30 V DC

d Type of connection
1 = axial cable, 1 m [3.28'] PVC
A = axial cable, special length PVC *)
2 = radial cable, 1 m [3.28'] PVC
B = radial cable, special length PVC *)
5 = axial M12 connector, 8-pin
6 = radial M12 connector, 8-pin
*) Available special lengths (connection types A, B):
2, 3, 5, 8, 10, 15 m [6.56, 9.84, 16.40, 26.25, 32.80, 49.21']
order code expansion .XXXX = length in dm
ex.: 8.5814.122A.2048.0030 (for cable length 3 m)

e Pulse rate
1024, 2048

Optional on request
- Ex 2/22 ¹⁾
- surface protection salt spray tested

Order code 8.5834 . XXXX . XXXX
Hollow shaft Type a b c d e

a Flange
1 = with spring element, long
5 = with stator coupling, ø 63 mm [2.48"]

b Through hollow shaft
3 = ø 10 mm [0.39"]
4 = ø 12 mm [0.47"]
5 = ø 14 mm [0.55"]
6 = ø 15 mm [0.59"]
8 = ø 3/8"
9 = ø 1/2"
Tapered shaft
K = ø 10 mm [0.39"]

c Output circuit / supply voltage
1 = SinCos / 5 V DC
2 = SinCos / 10 ... 30 V DC

d Type of connection
2 = radial cable, 1 m [3.28'] PVC
B = radial cable, special length PVC *)
E = tangential cable, 1 m [3.28'] PVC
F = tangential cable, special length PVC *)
6 = radial M12 connector, 8-pin

*) Available special lengths (connection types B, F):
2, 3, 5, 8, 10, 15 m [6.56, 9.84, 16.40, 26.25, 32.80, 49.21']
order code expansion .XXXX = length in dm
ex.: 8.5834.142B.2048.0030 (for cable length 3 m)

e Pulse rate
1024, 2048

Optional on request
- Ex 2/22
(not for type of connection E, F) ¹⁾
- surface protection salt spray tested

1) For the cable connection type, cable material PUR.

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Cables and connectors			Order no.
Preassembled cables	M12 female connector with coupling nut, 8-pin, A coded, straight single ended 2 m [6.56'] PVC cable		05.00.6041.8211.002M
Connectors	M12 female connector with coupling nut, 8-pin, A coded, straight (metal)		05.CMB 8181-0

Further Kübler accessories can be found at: kuebler.com/accessories
Further Kübler cables and connectors can be found at: kuebler.com/connection-technology

Technical data

Mechanical characteristics		
Maximum speed	12000 min ⁻¹ , 5000 min ⁻¹ (continuous)	
Starting torque – at 20 °C [68 °F]	< 0.01 Nm	
Mass 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	IP65	
Working temperature range	-40 °C ... +90 °C [-40 °F ... +194 °F] ¹⁾	
Materials	shaft / hollow shaft	stainless steel
	flange	aluminum
	housing	zinc die-cast
	cable	PVC (PUR for Ex 2/22)
Shock resistance acc. to EN 60068-2-27	2500 m/s ² , 6 ms	
Vibration resistance acc. to EN 60068-2-6	100 m/s ² , 55 ... 2000 Hz	

Electrical characteristics		
Supply voltage	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 supply voltage	yes	

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

Approvals		
UL compliant in accordance with	File no. E224618	
CE compliant in accordance with	EMC Directive	2014/30/EU
	RoHS Directive	2011/65/EU
	ATEX Directive	2014/34/EU (for Ex 2/22 variants)

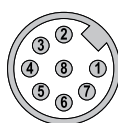
Terminal assignment

Output circuit	Type of connection	Cable (isolate unused cores individually before initial start-up)							
1, 2	1, 2, A, B, E, F	Signal:	0 V	+V	A	\bar{A}	B	\bar{B}	\perp
		Core color:	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	\bar{B}	\perp
		Pin:	1	2	3	4	5	6	PH ³⁾

+V: Supply voltage encoder +V DC
0 V: Supply voltage encoder 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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Dimensions shaft version

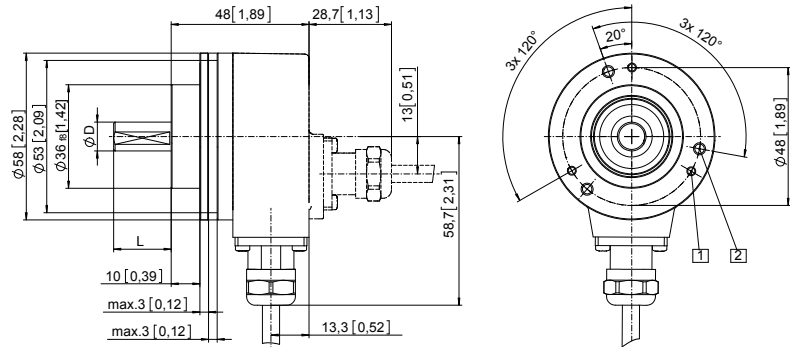
Dimensions in mm [inch]

Clamping flange, ø 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	Fit	L
10 [0.39]	f7	20 [0.79]

Dimensions hollow shaft version

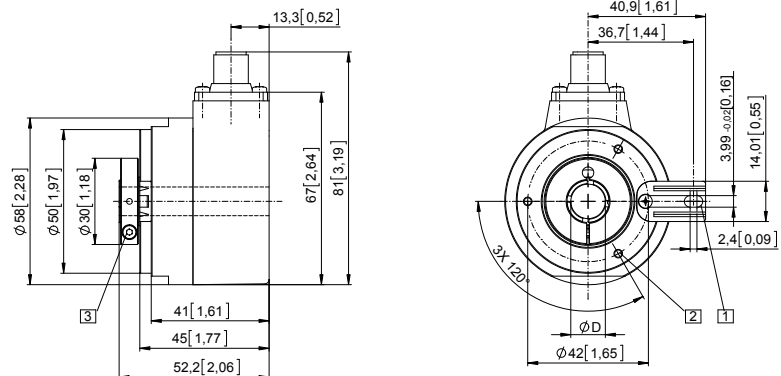
Dimensions in mm [inch]

Flange with spring element, long

Flange type 1

(drawing with M12 connector)

- 1 Slot spring element, recommendation: torque pin DIN 7, ø 4 [0.16]
- 2 3 x M3, 5.5 [0.22] deep
- 3 Recommended torque for the clamping ring 0.6 Nm



D	Fit
10 [0.39]	H7
12 [0.47]	H7
14 [0.55]	H7
15 [0.59]	H7
3/8"	H7
1/2"	H7

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Dimensions hollow shaft version

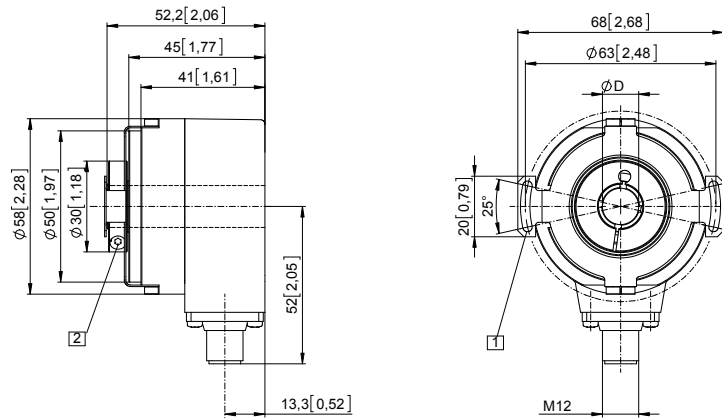
Dimensions in mm [inch]

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

Flange type 5

(drawing with M12 connector)

- 1 For (4x) M3 screw
- 2 Recommended torque for the clamping ring 0.6 Nm



D	Fit
10 [0.39]	H7
12 [0.47]	H7
14 [0.55]	H7
15 [0.59]	H7
3/8"	H7
1/2"	H7

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 Recommended torque for central screw M5 (SW 4) 3.0 ^{+0.5} Nm (tapered shaft)

