

Incremental encoders

Standard optical	Sendix 5000 / 5020 (shaft / hollow shaft)	Push-Pull / RS422 / Open collector
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Due to their sturdy bearing construction in Safety-Lock™ Design, the Sendix 5000 and 5020 offer high resistance against vibration and installation errors.

The rugged housing, high protection level of up to IP67, as well as the wide temperature range of -40°C up to +85°C, make this product range the perfect encoder for all applications.

NEW: 24one delivery service



Incremental encoders



Robust performance

- Increased resistance against vibrations and tolerance of installation errors, elimination of machine downtime and repairs thanks to sturdy bearing construction in "Safety-Lock™ Design".
- Ensures highest safety against field breakdowns and is thus suitable also for outside use thanks to its resistant die-cast housing and protection up to IP67.
- Undetachable clamping ring on hollow shaft encoders.
- Wide temperature range, -40°C ... +85°C.

NEW:

- Higher shock resistance.
- Higher vibration resistance.
- IP66 and IP67 protection level in one version.

Many variants

- Suitable connection variant for every specific case: cable connection, M12, M23, MIL and Sub-D connector.
- Reliable mounting in a wide variety of installation situations: comprehensive and proven fixing possibilities.
- Compatible with all US and European standards.
- Max. 5000 pulses per revolution.

NEW:

- Double number of standard pulse numbers.
- Variants with connector fitted in the cable – for error-free electrical connection to your control.
- Additional connector variants (M12 / 5-pin, Sub-D).
- Additional standard cable lengths.

Technology in detail

Robust Safety-Lock™ bearing structure



Cables with fitted connector



Undetachable clamping ring

Slotted clamping ring + slotted shaft



Tangential cable outlet



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Standard optical	Sendix 5000 / 5020 (shaft / hollow shaft)	Push-Pull / RS422 / Open collector
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Order code	8.5000	. XXXXX . XXXX	Our 24one free of cost delivery service applies to all encoders configured with the <u>underlined preferential options</u> . 24one = manufacturing in 24 hours.	24ONE
Shaft version	Type	a b c d e	For orders placed on working days before 9 AM CET, the product will be ready for dispatch on that same day. 24one is limited to 20 pieces per delivery. Larger quantities have a regular delivery time of 10 to 15 working days.	

a Flange

- 5 = synchro flange, IP66/IP67 ø 50.8 mm [2"]
 - 6 = synchro flange, IP65 ø 50.8 mm [2"]
 - 7 = clamping flange, IP66/IP67 ø 58 mm [2.28"]
 - 8 = clamping flange, IP65 ø 58 mm [2.28"]
 - A = synchro flange, IP66/IP67 ø 58 mm [2.28"]⁴⁾
 - B = synchro flange, IP65 ø 58 mm [2.28"]⁴⁾
 - C = square flange, IP66/IP67 □ 63.5 mm [2.5"]
 - D = square flange, IP65 □ 63.5 mm [2.5"]
 - G = Euroflansch, IP66/IP67 ø 115 mm [4.53"]²⁾
-
- 1 = servo flange, IP66/IP67 ø 50.8 mm [2"]¹⁾
 - 2 = servo flange, IP65 ø 50.8 mm [2"]¹⁾
 - 3 = square flange, IP66/IP67 □ 50.8 mm [2"]¹⁾
 - 4 = square flange, IP65 □ 50.8 mm [2"]¹⁾
 - E = servo flange, IP66/IP67 ø 63.5 mm [2.5"]¹⁾
 - F = servo flange, IP65 ø 63.5 mm [2.5"]¹⁾

b Shaft (ø x L), with flat

- 1 = ø 6 x 10 mm [0.24 x 0.39"]
 - 2 = ø 1/4 x 5/8" (6.35 x 15.875 mm)
 - 6 = ø 8 x 15 mm [0.32 x 0.59"]
 - 3 = ø 10 x 20 mm [0.39 x 0.79"]
 - 4 = ø 3/8 x 5/8" (9.5 x 15.875 mm)
 - B = ø 11 x 33 mm [0.43 x 1.30"], with feather key shaft slot³⁾
 - 5 = ø 12 x 20 mm [0.47 x 0.79"]
-
- 7 = ø 1/4 x 7/8"¹⁾
 - 8 = ø 3/8 x 7/8"¹⁾

c Output circuit / power supply

- 4 = RS422 (with inverted signal) / 5 V DC
 - 1 = RS422 (with inverted signal) / 5 ... 30 V DC
 - 2 = Push-Pull (7272 compatible with inverted signal) / 5 ... 30 V DC
 - 5 = Push-Pull (with inverted signal) / 10 ... 30 V DC
 - 7 = Push-Pull (without inverted signal) / 10 ... 30 V DC
-
- 3 = Open collector (with inverted signal) / 5 ... 30 V DC¹⁾
 - 8 = Push-Pull (7272 with inverted signal), without capacitor / 5 ... 30 V DC^{1) 4)}

d Type of connection – cable

- 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 *)

Type of connection – connector

- P = axial M12 connector, 5-pin⁵⁾
 - R = radial M12 connector, 5-pin⁵⁾
 - 3 = axial M12 connector, 8-pin
 - 4 = radial M12 connector, 8-pin
 - 7 = axial M12 connector, 12-pin
 - 8 = radial M23 connector, 12-pin
 - Y = radial MIL connector, 10-pin
 - W = radial MIL connector, 7-pin
-
- 9 = radial MIL connector, 6-pin¹⁾

Type of connection – connector with cable

- L = radial cable with M12 connector, 8-pin, special length PVC *)
- M = radial cable with M23 connector, 12-pin, special length PVC *)
- N = radial cable with Sub-D connector, 9-pin, special length PVC *)

*) Available special lengths (connection types A, B, L, N, M):
0.3, 0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20 m [0.98, 1.64, 3.28, 6.56, 9.84, 13.12, 16.40, 19.69, 26.25, 32.80, 39.37, 49.21, 65.62']
order code expansion .XXXX = length in dm
ex.: 8.5000.814A.1024.0030 (for cable length 3 m)

e Pulse rate

- 1, 2, 4, 5, 10, 12, 14, 20, 25, 28, 30, 32, 36, 50, 60, 64, 80, 100, 120, 125, 150, 180, 200, 240, 250, 256, 300, 342, 360, 375, 400, 500, 512, 600, 625, 720, 800, 900, 1000, 1024, 1200, 1250, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 4000, 4096, 5000
- (e.g. 100 pulses => 0100)

Optional on request

- other pulse rates
- Ex 2/22
- surface protection salt spray

Mounting accessory for shaft encoders		Order no.
Coupling	bellows coupling ø 19 mm [0.75"] for shaft 6 mm [0.24"]	8.0000.1102.0606
	bellows coupling ø 19 mm [0.75"] for shaft 10 mm [0.39"]	8.0000.1102.1010

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

1) US version.
2) Only in conjunction with shaft type B.
3) Only in conjunction with flange type G.
4) Attention: no CE types!
5) Only in conjunction with output circuit 7.

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Standard optical	Sendix 5000 / 5020 (shaft / hollow shaft)	Push-Pull / RS422 / Open collector
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Order code Hollow shaft	8.5020 Type	. X X X X . XXXX a b c d e	Our 24one free of cost delivery service applies to all encoders configured with the <u>underlined preferential options</u> . 24one = manufacturing in 24 hours. For orders placed on working days before 9 AM CET, the product will be ready for dispatch on that same day. 24one is limited to 20 pieces per delivery. Larger quantities have a regular delivery time of 10 to 15 working days.	24ONE
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a Flange 1 = with spring element, long, IP66/IP67 2 = with spring element, long, IP65 3 = with fastening arm, long, IP66/IP67 4 = with fastening arm, long, IP65 7 = with stator coupling, IP66/IP67 ø 65 mm [2.56"] 8 = with stator coupling, IP65 ø 65 mm [2.56"] C = with stator coupling, IP66/IP67 ø 63 mm [2.48"] D = with stator coupling, IP65 ø 63 mm [2.48"] 5 = with stator coupling, IP66/IP67 ø 57.2 mm [2.25"] ¹⁾ 6 = with stator coupling, IP65 ø 57.2 mm [2.25"] ¹⁾ b Hollow shaft 1 = ø 6 mm [0.24"] 2 = ø 1/4" 9 = ø 8 mm [0.32"] 4 = ø 3/8" 3 = ø 10 mm [0.39"] 5 = ø 12 mm [0.47"] 6 = ø 1/2" A = ø 14 mm [0.55"] 8 = ø 15 mm [0.59"] 7 = ø 5/8" c Output circuit / power supply 4 = RS422 (with inverted signal) / 5 V DC 1 = RS422 (with inverted signal) / 5 ... 30 V DC 2 = Push-Pull (7272 compatible with inverted signal) / 5 ... 30 V DC 5 = Push-Pull (with inverted signal) / 10 ... 30 V DC 7 = Push-Pull (without inverted signal) / 10 ... 30 V DC 3 = Open collector (with inverted signal) / 5 ... 30 V DC ¹⁾ 8 = Push-Pull (7272 with inverted signal), without capacitor / 5 ... 30 V DC ^{1) 2)}	d Type of connection – cable 1 = radial cable, 1 m [3.28'] PVC A = radial cable, special length PVC *) E = tangential cable, 1 m [3.28'] PVC F = tangential cable, special length PVC *) Type of connection – connector R = radial M12 connector, 5-pin ²⁾ 2 = radial M12 connector, 8-pin 4 = radial M23 connector, 12-pin 6 = radial MIL connector, 7-pin 7 = radial MIL connector, 10-pin Type of connection – connector with cable H = tangential cable, 0.3 m [0.98'] PVC, incl. M12 connector, 8-pin for central fastening L = tangential cable with M12 connector, 8-pin, special length PVC *) M = tangential cable with M23 connector, 12-pin, special length PVC *) N = tangential cable with Sub-D connector, 9-pin, special length PVC *) *) Available special lengths (connection types A, F, L, N, M): 0.3, 0.5, 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20 m [0.98, 1.64, 3.28, 6.56, 9.84, 13.12, 16.40, 19.69, 26.25, 32.80, 39.37, 49.21, 65.62'] order code expansion .XXXX = length in dm ex.: 8.5020.234A.1024.0030 (for cable length 3 m) e Pulse rate 1, 2, 4, 5, 10, 12, 14, 20, 25, 28, 30, 32, 36, 50, 60, 64, 80, 100, 120, 125, 150, 180, 200, 240, 250, 256, 300, 342, 360, 375, 400, 500, 512, 600, 625, 720, 800, 900, 1000, 1024, 1200, 1250, 1500, 1800, 2000, 2048, 2500, 3000, 3600, 4000, 4096, 5000 (e.g. 100 pulses => 0100) Optional on request - other pulse rates - Ex 2/22 (not for type of connection E, F, H, L, N, M) - surface protection salt spray tested
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Mounting accessory for hollow shaft encoders		Order no.
Cylindrical pin, long for torque stops with fixing thread		8.0010.4700.0000
Isolation / adapter inserts for hollow shaft encoders order code 8.5020.X8XX.XXXX Thermal and electrical isolation of the encoders (Temperature range -40 ... +115°C [-40°F ... +239°F]) Isolation inserts prevent currents from passing through the encoder bearings. These currents can occur when using inverter controlled three-phase or AC vector motors and considerably shorten the service life of the encoder bearings. In addition the encoder is thermally isolated as the plastic does not transfer the heat to the encoder.		D1 Isolation insert 6 mm [0.24"] 8.0010.4021.0000 8 mm [0.32"] 8.0010.4020.0000 10 mm [0.39"] 8.0010.4023.0000 12 mm [0.47"] 8.0010.4025.0000 1/4" 8.0010.4022.0000 3/8" 8.0010.4024.0000 1/2" 8.0010.4026.0000

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

1) US version.
2) Attention: no CE types!

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Connection technology		Order no.
Connector, self-assembly (straight)	M12 female connector with coupling nut	05.CMB 8181-0
	M23 female connector with coupling nut	8.0000.5012.0000
	MIL female connector with coupling nut, 10-pin	8.0000.5062.0000
Cordset, pre-assembled	M12 female connector with coupling nut, 2 m [6.56'] PVC cable	05.00.6041.8211.002M
	M23 female connector with coupling nut, 2 m [6.56'] PVC cabl	8.0000.6901.0002

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			
Maximum speed	IP65	12000 min ⁻¹	Weight approx. 0.4 kg [14.11 oz]
		6000 min ⁻¹ (continuous)	
	IP66/IP67	6000 min ⁻¹ 3000 min ⁻¹ (continuous)	
Mass moment of inertia	shaft version	approx. 1.8 x 10 ⁻⁶ kgm ²	Protection acc. to EN 60529 without shaft seal IP65 with shaft seal IP66/IP67
	hollow shaft version	approx. 6 x 10 ⁻⁶ kgm ²	
Starting torque at 20°C [68°F]	IP65	< 0.01 Nm	Working temperature range -40°C ¹⁾ ... +85°C [-40°F ¹⁾ ... +185°F]
	IP66/IP67	< 0.05 Nm	
Shaft load capacity	radial	100 N	Material shaft stainless steel
	axial	50 N	
			Shock resistance acc. to EN 60068-2-27 3000 m/s ² , 6 ms ²⁾
			Vibration resistance acc. to EN 60068-2-6 300 m/s ² , 10 ... 2000 Hz ³⁾

Electrical characteristics						
Output circuit	RS422 (TTL compatible)	RS422 (TTL compatible)	Push-Pull	Push-Pull (7272 compatible)	Push-Pull (7272, without capacitor)	Open collector (7273)
Order code	1	4	5, 7	2	8	3
Power supply	5 ... 30 V DC	5 V DC (±5 %)	10 ... 30 V DC	5 ... 30 V DC	5 ... 30 V DC	5 ... 30 V DC
Power consumption (no load)	typ. 40 mA max. 90 mA	typ. 40 mA max. 90 mA	typ. 50 mA max. 100 mA	typ. 50 mA max. 100 mA	typ. 50 mA max. 100 mA	100 mA
Permissible load / channel	max. +/- 20 mA	max. +/- 20 mA	max. +/- 20 mA	max. +/- 20 mA	max. +/- 20 mA	+/- 20 mA sink at 30 V DC
Pulse frequency	max. 300 kHz	max. 300 kHz	max. 300 kHz	max. 300 kHz ⁴⁾	max. 300 kHz	max. 300 kHz
Signal level	HIGH	min. 2.5 V	min. +V - 1.0 V	min. +V - 2.0 V	min. +V - 2.0 V	
	LOW	max. 0.5 V	max. 0.5 V	max. 0.5 V	max. 0.5 V	
Rising edge time t_r	max. 200 ns	max. 200 ns	max. 1 µs	max. 1 µs	max. 1 µs	
Falling edge time t_f	max. 200 ns	max. 200 ns	max. 1 µs	max. 1 µs	max. 1 µs	
Short circuit proof outputs ⁵⁾	yes ⁶⁾	yes ⁶⁾	yes	yes	yes ⁶⁾	yes
Reverse polarity protection of the power supply	yes	no	yes	no	no	no
UL approval	file 224618					
CE compliant acc. to	EMC guideline 2004/108/EC RoHS guideline 2011/65/EU					

1) With connector: -40°C [-40°F], cable fixed: -30°C [-22°F], cable moved: -20°C [-4°F].

2) For MIL connectors: 2500 m/s²

3) For MIL connectors: 100 m/s²

4) Max. recommended cable length 30 m [98.43'].

5) If power supply correctly applied.

6) Only one channel allowed to be shorted-out:
at +V= 5 V DC, short-circuit to channel, 0 V, or +V is permitted.
at +V= 5 ... 30 V DC, short-circuit to channel or 0 V is permitted.

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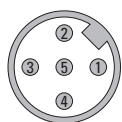
Terminal assignment

Output circuit	Type of connection	Cable (isolate unused wires individually before initial start-up)												
1, 2, 3, 4, 5, 8	5000: 1, 2, A, B	Signal:	0 V	+V	0 Vsens	+Vsens	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$	
	5020: 1, A, E, F	Cable colour:	WH	BN	GY PK	RD BU	GN	YE	GY	PK	BU	RD	shield	
Output circuit	Type of connection	M12 connector, 5-polig												
1, 2, 3, 4, 7, 8	5000: P, R	Signal:	0 V	+V	A	B	0	$\perp$						
	5020: R	Pin:	1	2	3	4	5	PH ¹⁾						
Output circuit	Type of connection	M12 connector, 8-pin												
1, 2, 3, 4, 5, 8	5000: 3, 4, L	Signal:	0 V	+V	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$			
	5020: 2, H ²⁾ , L	Pin:	1	2	3	4	5	6	7	8	PH ¹⁾			
Output circuit	Type of connection	M23 connector, 12-pin												
1, 2, 3, 4, 5, 8	5000: 7, 8, M	Signal:	0 V	+V	0 Vsens	+Vsens	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$	
	5020: 4, M	Pin:	10	12	11	2	5	6	8	1	3	4	PH ¹⁾	
Output circuit	Type of connection	MIL connector, 10-pin												
1, 2, 3, 4, 5, 8	5000: Y	Signal:	0 V	+V	+Vsens	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$		
	5020: 7	Pin:	F	D	E	A	G	B	H	C	I	J		
Output circuit	Type of connection	MIL connector, 7-pin												
1, 3, 4, 7, 8	5000: W	Signal:	0 V	+V	+Vsens	A	B	0	$\perp$					
	5020: 6	Pin:	F	D	E	A	B	C	G					
Output circuit	Type of connection	MIL connector, 6-pin												
1, 3, 4, 7, 8	5000: 9	Signal:	0 V	+V	A	B	0	$\perp$						
		Pin:	A	B	E	D	C							
Output circuit	Type of connection	Sub-D connector, 9-pin												
1, 2, 3, 4, 5, 8	5000: N	Signal:	0 V	+V	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	$\perp$			
	5020: N	Pin:	9	5	1	6	2	7	3	8	PH ¹⁾			

+V: Encoder power supply +V DC
 0 V: Encoder power supply ground GND (0 V)
 0 Vsens / +Vsens: Using the sensor outputs of the encoder, the voltage present can be measured and if necessary increased accordingly.

A, $\bar{A}$: Incremental output channel A
 B, $\bar{B}$: Incremental output channel B
 0, $\bar{0}$: Reference signal
 PH $\perp$: Plug connector housing (shield)

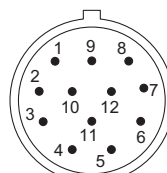
Top view of mating side, male contact base



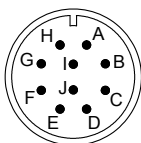
M12 connector, 5-pin



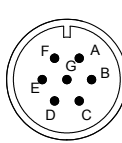
M12 connector, 8-pin



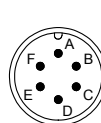
M23 connector, 12-pin



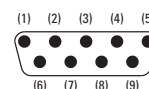
MIL connector, 10-pin



MIL connector, 7-pin



MIL connector, 6-pin



Sub-D connector, 9-pin

1) PH = shield is attached to connector housing.
 2) With type of connection H shield is not attached to connector housing.

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Standard optical

Sendix 5000 / 5020 (shaft / hollow shaft)

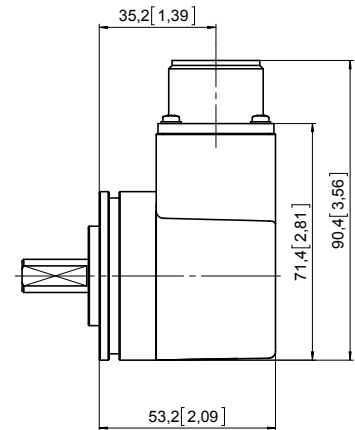
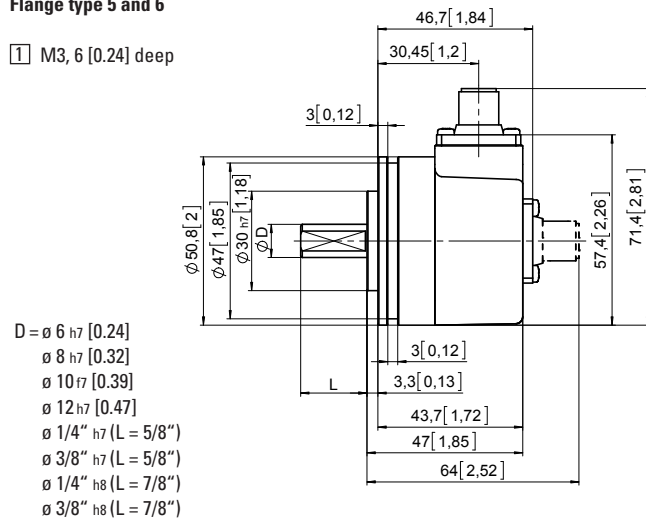
Push-Pull / RS422 / Open collector

Dimensions shaft version

Dimensions in mm [inch]

Synchro flange, Ø 50.8 [2] Flange type 5 and 6

1 M3, 6 [0.24] deep

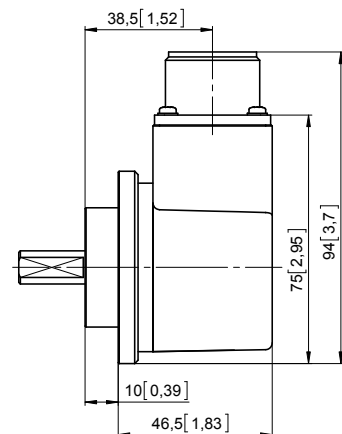
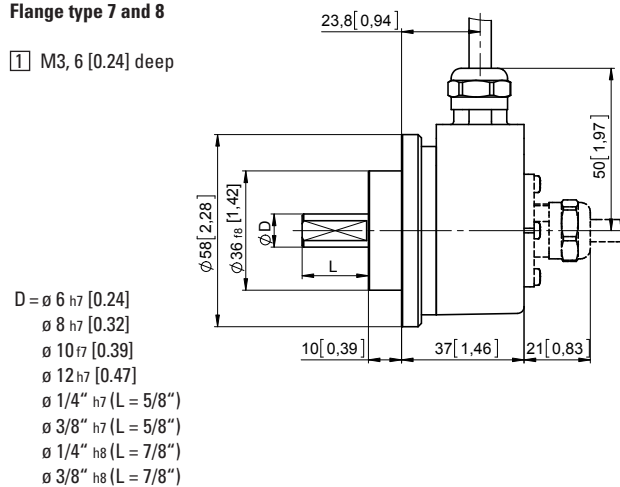


MIL-connector version

Clamping flange, Ø 58 [2.28]

Flange type 7 and 8

1 M3, 6 [0.24] deep

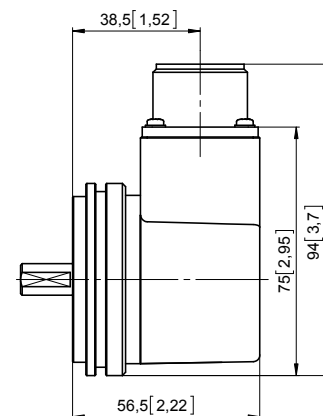
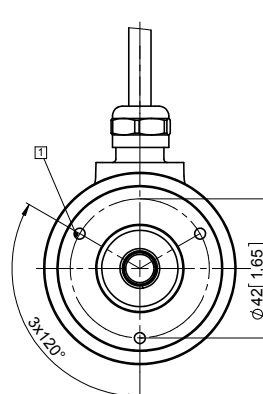
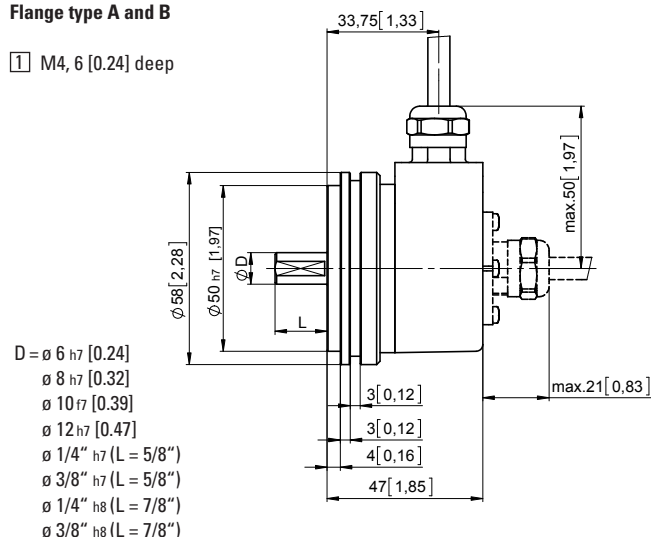


MIL-connector version

Synchro flange, Ø 58 [2.28]

Flange type A and B

1 M4, 6 [0.24] deep



MIL-connector version

Incremental encoders

Standard optical

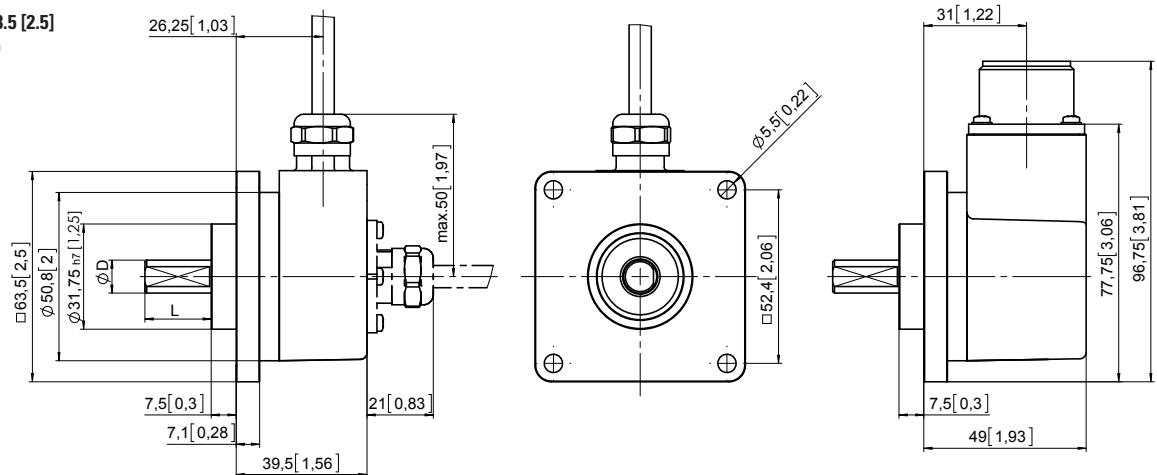
Sendix 5000 / 5020 (shaft / hollow shaft)

Push-Pull / RS422 / Open collector

Dimensions shaft version

Dimensions in mm [inch]

Square flange, □ 63.5 [2.5]
Flange type C and D



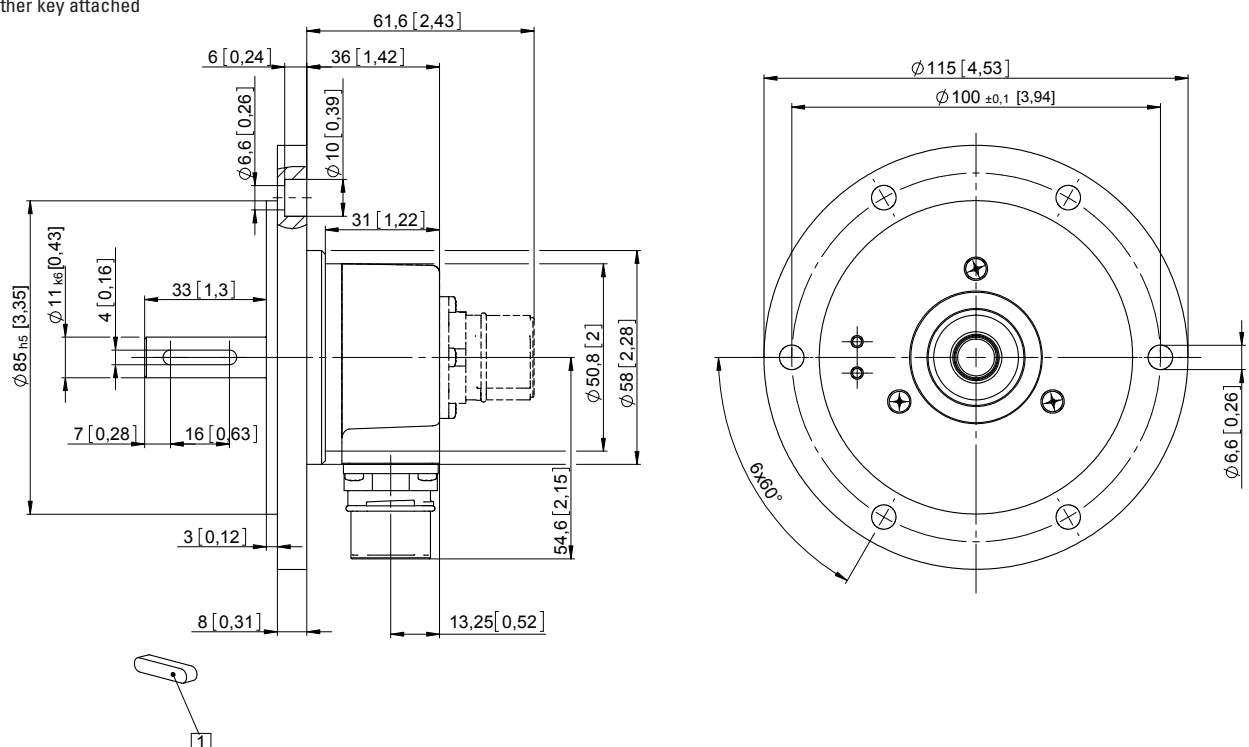
MIL-connector version

Incremental encoders

Euro flange, ø 115 [4.53]

Flange type G

1 Feather key attached



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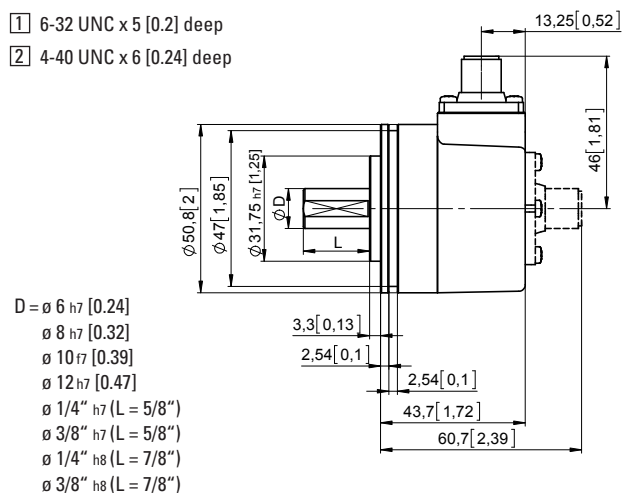
Dimensions shaft version

Dimensions in mm [inch]

Servo flange, $\varnothing 50.8$ [2]

Flange type 1 and 2

- 1 6-32 UNC x 5 [0.2] deep
- 2 4-40 UNC x 6 [0.24] deep

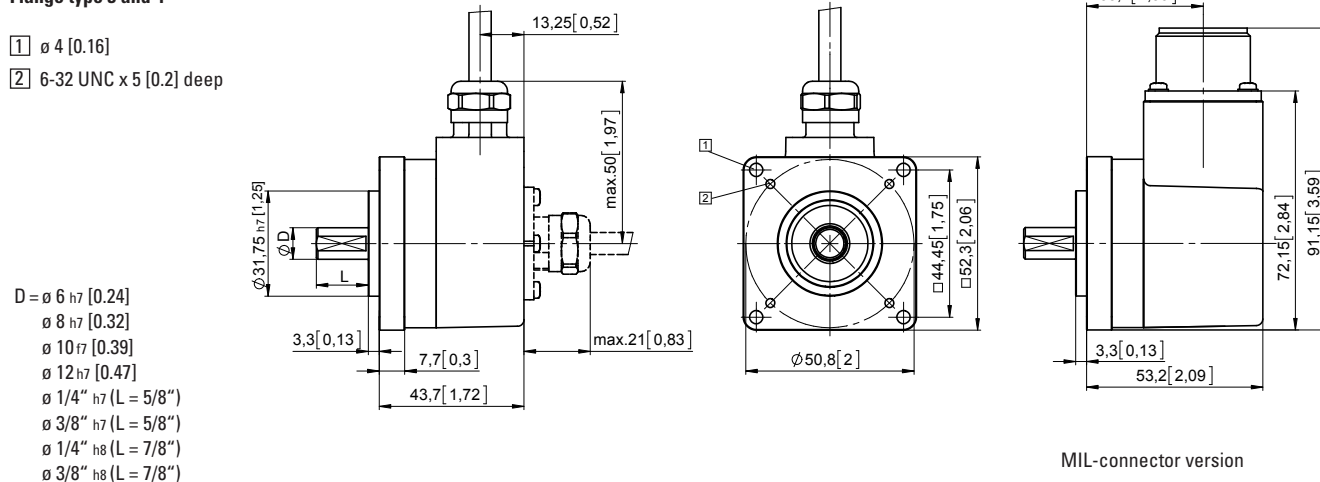


- D = $\varnothing 6$ h7 [0.24]
 $\varnothing 8$ h7 [0.32]
 $\varnothing 10$ f7 [0.39]
 $\varnothing 12$ h7 [0.47]
 $\varnothing 1/4$ h7 (L = 5/8")
 $\varnothing 3/8$ h7 (L = 5/8")
 $\varnothing 1/4$ h8 (L = 7/8")
 $\varnothing 3/8$ h8 (L = 7/8")

Square flange, $\square 50.8$ [2]

Flange type 3 and 4

- 1 $\varnothing 4$ [0.16]
- 2 6-32 UNC x 5 [0.2] deep

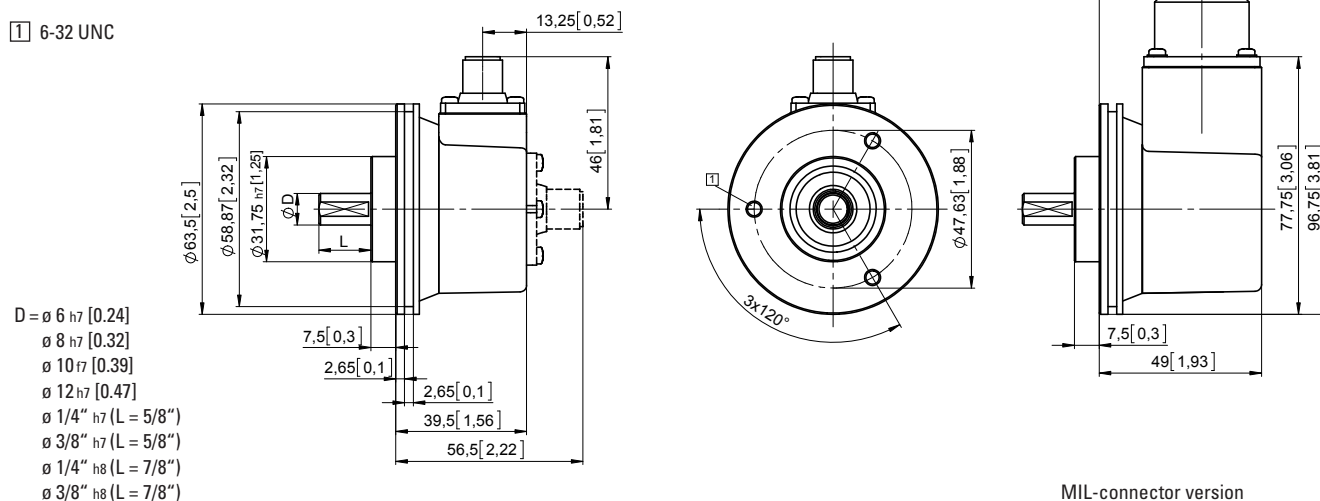


- D = $\varnothing 6$ h7 [0.24]
 $\varnothing 8$ h7 [0.32]
 $\varnothing 10$ f7 [0.39]
 $\varnothing 12$ h7 [0.47]
 $\varnothing 1/4$ h7 (L = 5/8")
 $\varnothing 3/8$ h7 (L = 5/8")
 $\varnothing 1/4$ h8 (L = 7/8")
 $\varnothing 3/8$ h8 (L = 7/8")

Servo flange, $\varnothing 63.5$ [2.5]

Flange type E and F

- 1 6-32 UNC



- D = $\varnothing 6$ h7 [0.24]
 $\varnothing 8$ h7 [0.32]
 $\varnothing 10$ f7 [0.39]
 $\varnothing 12$ h7 [0.47]
 $\varnothing 1/4$ h7 (L = 5/8")
 $\varnothing 3/8$ h7 (L = 5/8")
 $\varnothing 1/4$ h8 (L = 7/8")
 $\varnothing 3/8$ h8 (L = 7/8")

Incremental encoders

**Standard
optical**

Sendix 5000 / 5020 (shaft / hollow shaft)

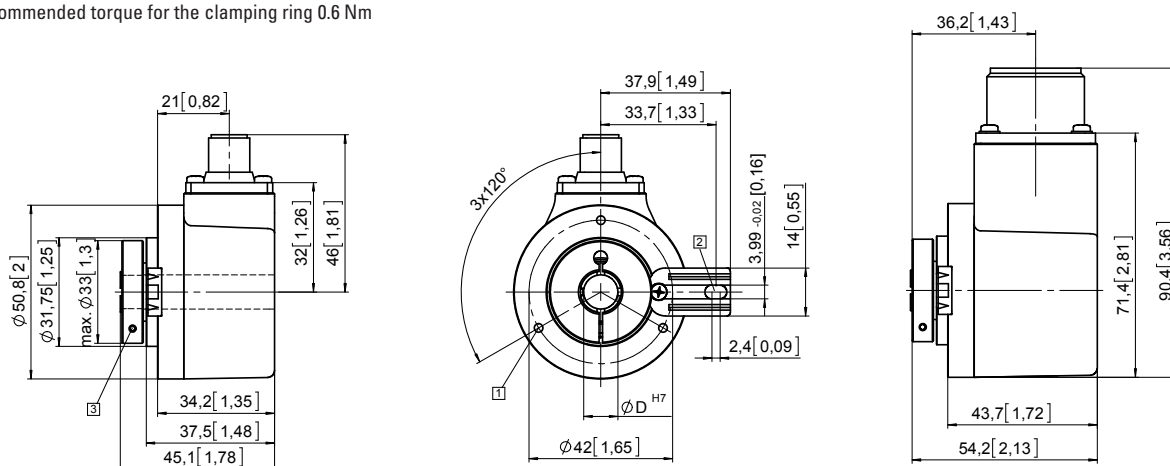
Push-Pull / RS422 / Open collector

Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element, long Flange type 1 and 2

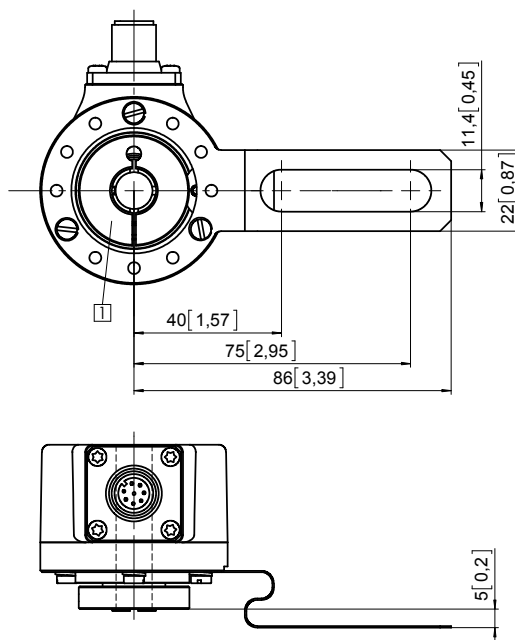
- 1 M3, 6 [0.24] deep
- 2 Torque stop slot,
recommendation: cylindrical pin DIN7, 4 [0.16]
- 3 Recommended torque for the clamping ring 0.6 Nm



MIL-connector version

Flange with fastening arm, long Flange type 3 and 4

- 1 Recommended torque for the clamping ring 0.6 Nm



Incremental encoders

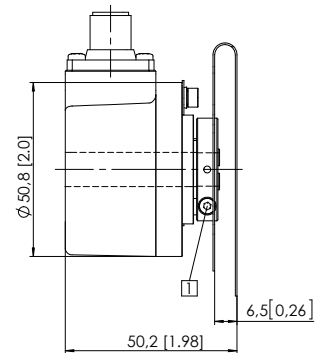
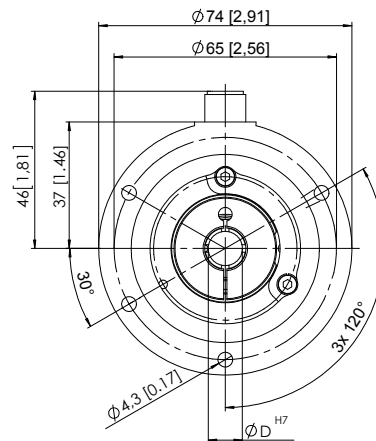
Standard optical	Sendix 5000 / 5020 (shaft / hollow shaft)	Push-Pull / RS422 / Open collector
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Dimensions hollow shaft version

Dimensions in mm [inch]

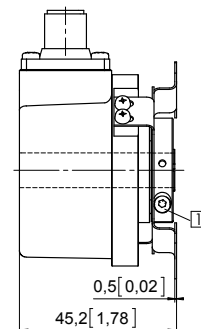
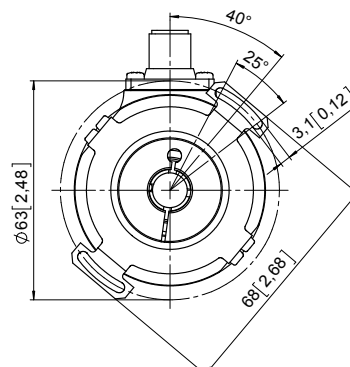
Flange with stator coupling, $\varnothing$ 65 [2.56]
Flange type 7 and 8

1 Recommended torque for the clamping ring 0.6 Nm



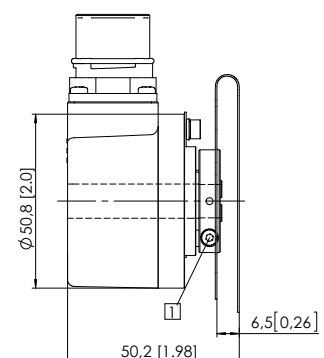
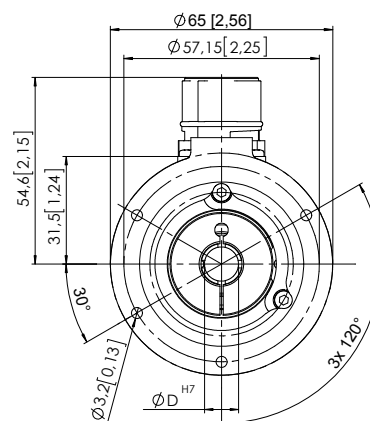
Flange with stator coupling, $\varnothing$ 63 [2.48]
Flange type C and D

1 Recommended torque for the clamping ring 0.6 Nm



Flange with stator coupling, $\varnothing$ 57.2 [2.25]
Flange type 5 and 6

1 Recommended torque for the clamping ring 0.6 Nm



Incremental encoders

Standard optical	Sendix 5000 / 5020 (shaft / hollow shaft)	Push-Pull / RS422 / Open collector
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Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element, long and tangential cable outlet

Type of connection E, F and H

- 1 M3, 6 [0.24] deep
- 2 Torque stop slot, recommendation: cylindrical pin DIN7, 4 [0.16]
- 3 Recommended torque for the clamping ring 0.6 Nm

