

Incremental encoders

Standard stainless steel, optical	Sendix 5006 / 5026 (shaft / hollow shaft)	Push-pull / RS422
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The incremental Sendix encoders 5006 / 5026 in stainless steel offers optimum material resistance and thus virtually unlimited durability.

The high-grade seals, the IP66/IP67 level of protection as well as the wide temperature range additionally ensure impermeability and ruggedness.



Safety-Lock™	High rotational speed	Temperature range -40°... +85°C	High protection level IP	High shaft load capacity	Shock / vibration resistant	Magnetic field proof	Short-circuit proof	Reverse polarity protection	Optical sensor

Durable and sealed

- Protection rating IP66/IP67.
- Rugged stainless steel housing.
- Wide temperature range -40 ... +85°C.
- Sturdy bearing construction in Safety Lock™ Design for resistance against vibration and installation errors.

Flexible in use

- Compatible with all common US and european standards.
- Power supply 5 ... 30 V DC, various interface options, max. 5000 pulses per revolution.
- Compact dimensions: outer diameter 50 mm, installation depth max. 47 mm.

Order code **8.5006** . **XXXX** 4 . **XXXX**
Shaft version Type a b c d e

- | | | |
|---|--|---|
| <p>a Flange
 7 = clamping flange ø 58 mm [2.28"]
 A = synchro flange ø 58 mm [2.28"]
 C = square flange □ 63.5 mm [2.5"]</p> <p>b Shaft (ø x L), with flat
 1 = ø 6 x 10 mm [0.24 x 0.39"]
 3 = ø 10 x 20 mm [0.39 x 0.79"]
 8 = ø 3/8" x 7/8"</p> | <p>c Output circuit / power supply
 2 = push-pull (7272 compatible with inverted signal) / 5 ... 30 V DC
 5 = push-pull (with inverted signal) / 10 ... 30 V DC
 4 = RS422 (with inverted signal) / 5 V DC</p> <p>d Type of connection
 4 = radial M12 connector, 8-pin</p> <p>e Pulse rate
 1, 5, 10, 12, 36, 100, 200, 250, 256, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 2000, 2048, 2500, 3600, 4096, 5000
 (e.g. 100 pulses => 0100)</p> | <p><i>Optional on request</i>
 - other pulse rates
 - Ex 2/22
 - seawater resistant (stainless steel V4A)</p> <p><i>Stainless steel V4A as standard types (deliverable as from 1 unit)</i>
 V4A 8.5006.73X4.XXXX-V4A
 1.4404</p> |
|---|--|---|

Order code **8.5026** . **XXXX** 2 . **XXXX**
Hollow shaft Type a b c d e

- | | | |
|--|---|---|
| <p>a Flange
 1 = with spring element, long
 C = with stator coupling, ø 63 mm</p> <p>b Through hollow shaft
 2 = ø 1/4"
 4 = ø 3/8"
 3 = ø 10 mm [0.39"]
 5 = ø 12 mm [0.47"]
 6 = ø 1/2"
 8 = ø 15 mm [0.59"]</p> | <p>c Output circuit / power supply
 2 = push-pull (7272 compatible, with inverted signal) / 5 ... 30 V DC
 5 = push-pull (with inverted signal) / 10 ... 30 V DC
 4 = RS422 (with inverted signal) / 5 V DC</p> <p>d Type of connection
 2 = radial M12 connector, 8-pin</p> <p>e Pulse rate
 1, 5, 10, 12, 36, 100, 200, 250, 256, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 2000, 2048, 2500, 3600, 4096, 5000
 (e.g. 100 pulses => 0100)</p> | <p><i>Optional on request</i>
 - other pulse rates
 - Ex 2/22
 - seawater resistant (stainless steel V4A)</p> <p><i>Stainless steel V4A as standard types (deliverable as from 1 unit)</i>
 V4A 8.5026.18X2.XXXX-V4A
 1.4404</p> |
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Mounting accessory for hollow shaft encoders	Dimensions in mm [inch]	Order no.
Isolation / adapter inserts for hollow shaft encoders		
<p>Thermal and electrical isolation of the encoders (Temperature range -40 ... +115°C [-40°F ... +239°F])</p> <p>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.</p>	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	



Tip:
By using these adapter inserts you can achieve six different hollow shaft diameters, all on the basis of the encoder 8.5026.X8X2.XXXX.

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

Electrical characteristics				
Output circuit	RS422 (TTL compatible)	Push-pull	Push-pull (7272 compatible)	
Power supply	5 V DC (±5 %)	10 ... 30 V DC	5 ... 30 V DC	
Current consumption with inverted signal (no load)	typ. 40 mA max. 90 mA	typ. 50 mA max. 100 mA	typ. 50 mA max. 100 mA	
Permissible load / channel	max. +/- 20 mA	max. +/- 20 mA	max. +/- 20 mA	
Pulse frequency	max. 300 kHz	max. 300 kHz	max. 300 kHz	
Signal level	HIGH min. 2.5 V LOW max. 0.5 V	min +V - 1.0 V max. 0.5 V	min. +V - 2.0 V max. 0.5 V	
Rising edge time t_r	max. 200 ns	max. 1 µs	max. 1 µs	
Falling edge time t_f	max. 200 ns	max. 1 µs	max. 1 µs	
Short circuit proof outputs ¹⁾	yes ²⁾	yes	yes	
Reverse polarity protection of the power supply	no	yes	no	
UL approval	file no. E224618			
CE compliant acc. to	EMC guideline 2014/30/EU RoHS guideline 2011/65/EU			

Mechanical characteristics				
Maximum speed ³⁾	6000 min ⁻¹		Working temperature	-40°C ... +85°C [-40°F ... +185°F]
Mass moment of inertia	approx. 1.8 x 10 ⁻⁶ kgm ²		Material	housing, flange, shaft stainless steel, 1.4305 (V2A) connector stainless steel
Starting torque – at 20°C [68°F]	< 0.05 Nm		Shock resistance acc. to EN 60068-2-27	2500 m/s ² , 6 ms
Weight	approx. 0.4 kg [14.11 oz]		Vibration resistance acc. to EN 60068-2-6	100 m/s ² , 10 ... 2000 Hz
Load capacity of shaft	radial 80 N axial 40 N			
Protection acc. to EN 60529	IP66 / IP67			

1) If power supply correctly applied.
2) 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.
3) For continuous operation max. 3000 min⁻¹.

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Terminal assignment

Output circuit	Type of connection	M12 connector, 8-pin									
2, 4, 5	5006: 4	Signal:	0 V	+V	A	\bar{A}	B	\bar{B}	0	$\bar{0}$	\pm
	5026: 2	Pin:	1	2	3	4	5	6	7	8	PH 1)

Top view of mating side, male contact base



M12 connector, 8-pin

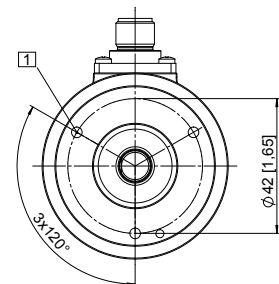
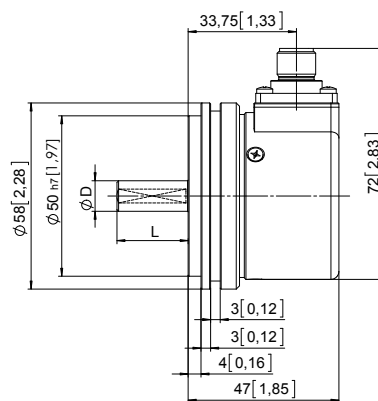
- +V: Encoder power supply +V DC
- 0 V: Encoder power supply ground GND (0 V)
- A, \bar{A} : Incremental output channel A
- B, \bar{B} : Incremental output channel B
- 0, $\bar{0}$: Reference signal
- PH \pm : Plug connector housing (shield)

Dimensions shaft version

Dimensions in mm [inch]

Synchro flange, \varnothing 58 [2.28] Flange type A

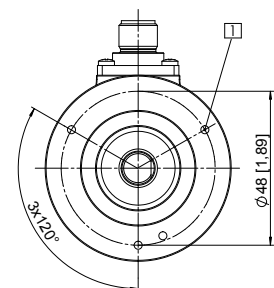
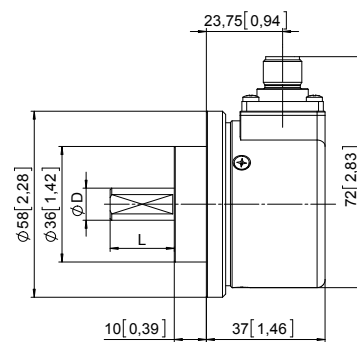
1) 3 x M4, 6 [0.24] deep



D	Fit	L
6 [0.24]	h7	10 [0.39]
10 [0.39]	f7	20 [0.79]
3/8"	h8	7/8"

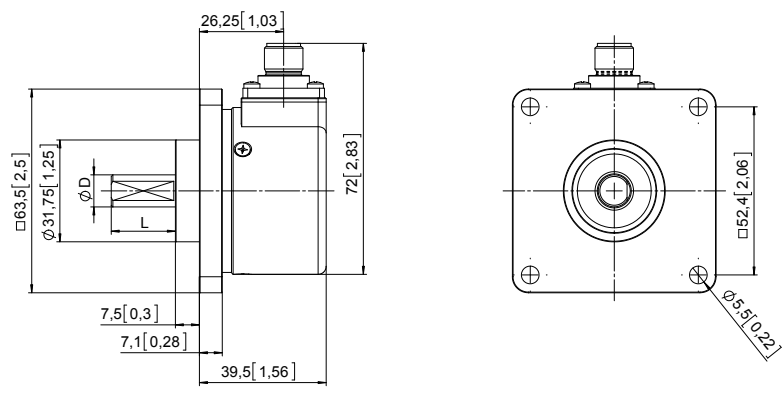
Clamping flange, \varnothing 58 [2.28] Flange type 7

1) 3 x M3, 5.5 [0.22] deep



D	Fit	L
6 [0.24]	h7	10 [0.39]
10 [0.39]	f7	20 [0.79]
3/8"	h8	7/8"

Square flange, \square 63.5 [2.5] Flange type C



D	Fit	L
6 [0.24]	h7	10 [0.39]
10 [0.39]	f7	20 [0.79]
3/8"	h8	7/8"

1) PH = shield is attached to connector housing.

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stainless steel, optical**

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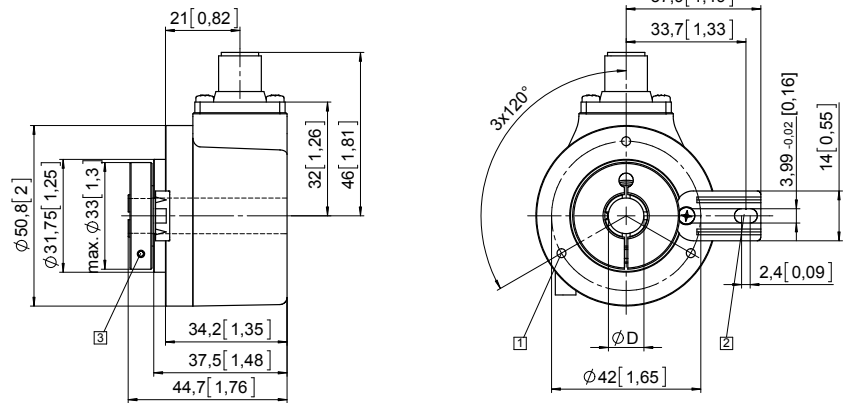
Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element, long Flange type 1

- 1 3 x M3, 6 [0.24] deep
- 2 Slot spring element, recommendation: cylindrical pin DIN 7, $\varnothing 4$ [0.16]
- 3 Recommended torque for the clamping ring 0.6 Nm

D	Fit
10 [0.39]	H7
12 [0.47]	H7
15 [0.99]	H7
1/4"	H7
3/8"	H7
1/2"	H7



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

- 1 Recommended torque for the clamping ring 0.6 Nm

D	Fit
10 [0.39]	H7
12 [0.47]	H7
15 [0.99]	H7
1/4"	H7
3/8"	H7
1/2"	H7

