

Incremental encoders

**Standard
stainless steel, optical**

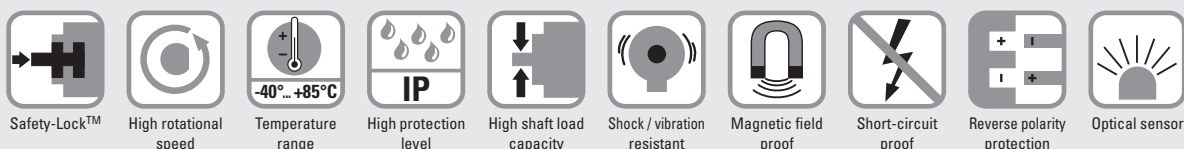
Sendix 5006 / 5026 (shaft / hollow shaft)

Push-Pull / RS422



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.



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 . XXXX4 . XXXX
Shaft version Type

- | | | |
|---|---|---|
| <p>a Flange</p> <p>7 = clamping flange \varnothing 58 mm [2.28"]</p> <p>A = synchro flange \varnothing 58 mm [2.28"]</p> <p>C = square flange \square 63.5 mm [2.5"]</p> <p>b Shaft ($\varnothing \times L$), with flat</p> <p>1 = \varnothing 6 x 10 mm [0.24 x 0.39"]</p> <p>3 = \varnothing 10 x 20 mm [0.39 x 0.79"]</p> <p>8 = \varnothing 3/8" x 7/8"</p> | <p>c Output circuit / power supply</p> <p>2 = Push-Pull (7272 compatible with inverted signal) / 5 ... 30 V DC</p> <p>5 = Push-Pull (with inverted signal) / 10 ... 30 V DC</p> <p>4 = RS422 (with inverted signal) / 5 V DC</p> <p>d Type of connection</p> <p>4 = radial M12 connector, 8-pin</p> | <p>e Pulse rate</p> <p>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></p> <p>- other pulse rates</p> <p>- Ex 2/22</p> |
|---|---|---|

Order code 8.5026 . XXXX2 . XXXX
Hollow shaft Type

- | | | |
|---|--|---|
| <p>a Flange</p> <p>1 = with spring element, long</p> <p>C = with stator coupling, \varnothing 63 mm</p> <p>b Hollow shaft</p> <p>2 = \varnothing 1/4"</p> <p>4 = \varnothing 3/8"</p> <p>3 = \varnothing 10 mm [0.39"]</p> <p>5 = \varnothing 12 mm [0.47"]</p> <p>6 = \varnothing 1/2"</p> <p>8 = \varnothing 15 mm [0.59"]</p> | <p>c Output circuit / power supply</p> <p>2 = Push-Pull (7272 compatible, with inverted signal) / 5 ... 30 V DC</p> <p>5 = Push-Pull (with inverted signal) / 10 ... 30 V DC</p> <p>4 = RS422 (with inverted signal) / 5 V DC</p> <p>d Type of connection</p> <p>2 = radial M12 connector, 8-pin</p> | <p>e Pulse rate</p> <p>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></p> <p>- other pulse rates</p> <p>- Ex 2/22</p> |
|---|--|---|

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Mounting accessory for hollow shaft encoders		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]) 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>	<p>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.</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

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 224618		
CE compliant acc. to	EMC guideline 2014/30/EU RoHS guideline 2011/65/EU		

Mechanical characteristics		Working temperature	
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	$\bar{0}$
	5026: 2	Pin:	1	2	3	4	5	6	7	8
										PH ¹⁾

+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)

Top view of mating side, male contact base



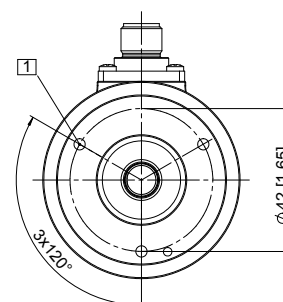
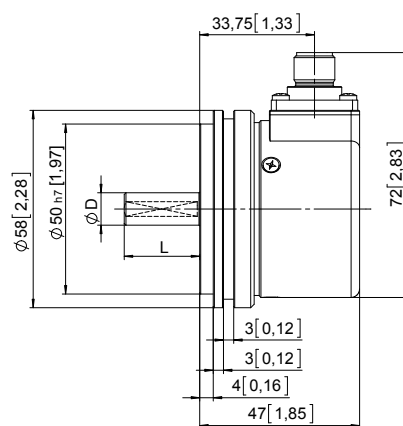
M12 connector, 8-pin

Dimensions shaft version

Dimensions in mm [inch]

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

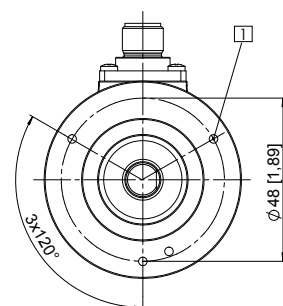
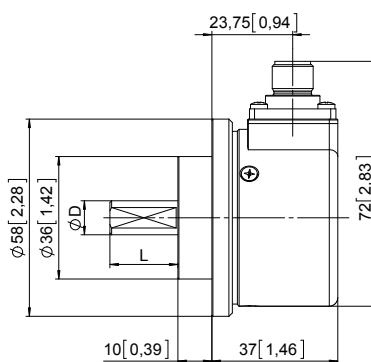
1 3 x M4, 6 [0.24] deep



D = \varnothing 6 h7 [0.24]
 \varnothing 10 f7 [0.39]
 \varnothing 3/8" h8

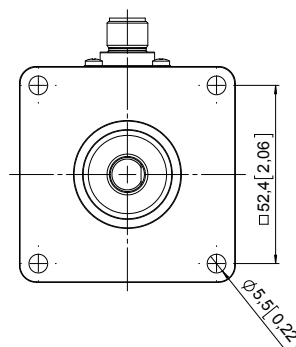
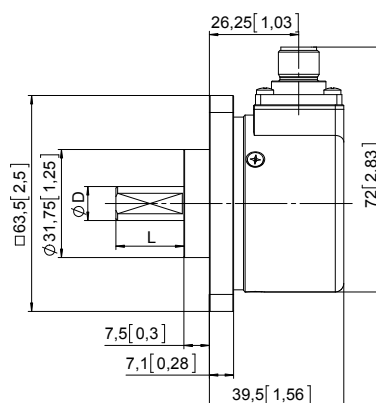
Clamping flange, \varnothing 58 [2.28] Flange type 7

1 3 x M3, 5.5 [0.22] deep



D = \varnothing 6 h7 [0.24]
 \varnothing 10 f7 [0.39]
 \varnothing 3/8" h8

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



D = \varnothing 6 h7 [0.24]
 \varnothing 10 f7 [0.39]
 \varnothing 3/8" h8

1) PH = shield is attached to connector housing.

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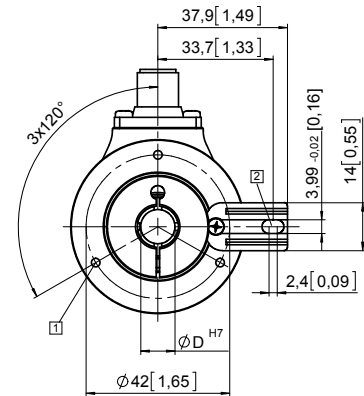
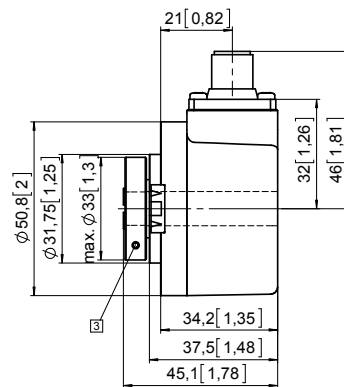
Push-Pull / RS422

Dimensions hollow shaft version

Dimensions in mm [inch]

Flange with spring element, long Flange type 1

- 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



Flange with stator coupling, ø 63 [2.48] Flange type C

- 1 Recommended torque for the clamping ring 0.6 Nm

