

# Incremental Encoders

**Stainless steel, optical**

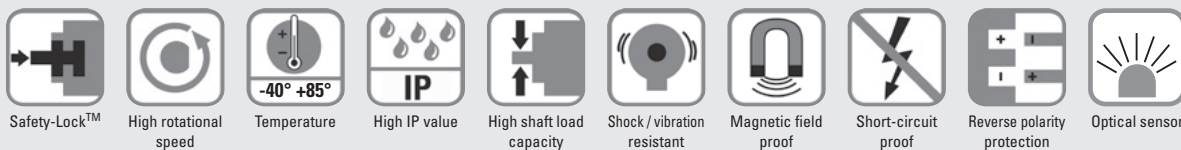
**Sendix 5006 (Shaft)**

**Push-Pull / RS422**



The Sendix incremental 5006 in stainless-steel offers optimum material resistance and thus virtually unlimited durability.

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



### Durable and sealed

- Protection rating IP67
- Rugged stainless-steel housing
- Viton seals
- 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,
- Supply voltage 5 ... 30 V DC, various interface options, max. 5000 PPR
- Compact dimensions:  
Outer diameter 50 mm, installation depth max. 47 mm

### Order code Shaft version

**8.5006** . **XXX4** . **XXXX**  
Type                      a b c d                      e

- |  |  |   |
|--|--|---|
| <p><b>a</b> Flange<br/>7 = clamping flange, metric <math>\varnothing</math> 58 mm<br/>A = synchro flange, metric <math>\varnothing</math> 58 mm<br/>C = square flange 63.5 mm [2.5"]</p>                                       | <p><b>c</b> Output circuit / Power supply<br/>2 = Push-Pull (7272 with inverted signal) / 5 ... 30 V<br/>4 = RS422 (with inverted signal) / 5 V<br/>5 = Push-Pull (with inverted signal) / 10 ... 30 V</p> | <p><b>e</b> Pulse rate<br/>360, 512, 1000, 1024, 2000, 2048, 2500, 3600, 4096, 5000<br/>(e.g. 100 pulses =&gt; 0100)<br/>Other pulse rates on request</p> |
| <p><b>b</b> Shaft (<math>\varnothing \times L</math>), with flat<br/>1 = <math>\varnothing</math> 6 mm x 10 mm<br/>3 = <math>\varnothing</math> 10 mm x 20 mm<br/>8 = <math>\varnothing</math> 9,5 x 22,2 mm (7/8" x 3/8")</p> | <p><b>d</b> Type of connection<br/>4 = M12 connector, 8-pin, radial</p>  |   |

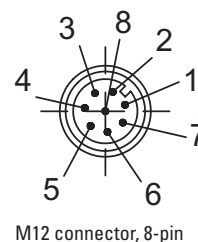
### Mechanical characteristics

<b>Speed</b> <sup>1)</sup>	max. 6000 min <sup>-1</sup>
<b>Rotor moment of inertia</b>	approx. $1.8 \times 10^{-6}$ kgm <sup>2</sup>
<b>Starting torque</b>	< 0.05 Nm
<b>Weight</b>	ca. 0.4 kg
<b>Load capacity of shaft</b>	radial 80 N axial 40 N
<b>Protection acc. to EN 60 529</b>	IP67
<b>EX approval for hazardous areas</b>	optional Zone 2 and 22
<b>Working temperature</b>	-40°C ... +85°C
<b>Materials</b>	housing, flange, shaft stainless steel, 1.4305 connector stainless steel seals Viton
<b>Shock resistance acc. to EN 60068-2-27</b>	2500 m/s <sup>2</sup> , 6 ms
<b>Vibration resistance acc. to EN 60068-2-6</b>	100 m/s <sup>2</sup> , 10...2000 Hz

### Terminal assignment

Signal:	0 V GND	+U <sub>B</sub>	A	$\bar{A}$	B	$\bar{B}$	0	$\bar{0}$	shield
M12 connector, eurofast, 8-pin, Pin	1	2	3	4	5	6	7	8	PH <sup>2)</sup>

### Top view of mating side, male contact base



1) For continuous operation max. 3000 min<sup>-1</sup>  
2) PH = Shield is attached to connector housing

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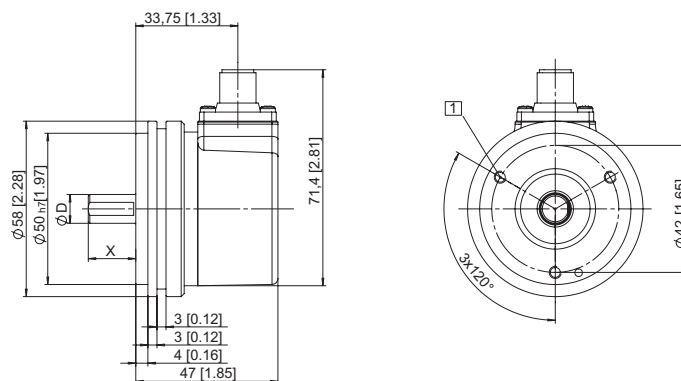
<b>Stainless steel, optical</b>	<b>Sendix 5006 (Shaft)</b>	<b>Push-Pull / RS422</b>
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Electrical characteristics			
Output circuit	RS422 (TTL-compatible)	Push-Pull	Push-Pull (7272)
Supply voltage	5 V ±5%	10 ... 30 V DC	5 ... 30 V DC
Current consumption 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 low	min. 2.5 V max. 0.5 V	min. U <sub>B</sub> - 1 V max. 0.5 V
Rise time t <sub>r</sub>	max. 200 ns	max. 1 μs	max. 1 μs
Fall time t <sub>f</sub>	max. 200 ns	max. 1 μs	max. 1 μs
Short circuit proof outputs <sup>1)</sup>	yes <sup>2)</sup>	yes	yes
Reverse connection of the supply voltage	no	yes	no
UL-certified	File 224618		
CE compliant acc. to	EN 61000-6-2, EN 61000-6-4 and EN 61000-6-3		
RoHS compliant acc. to	EU guideline 2002/95/EG		

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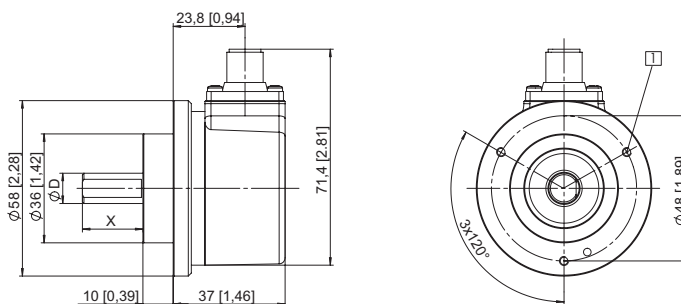
## Dimensions

**Synchro flange, ø 58 mm**  
**Flange type A**



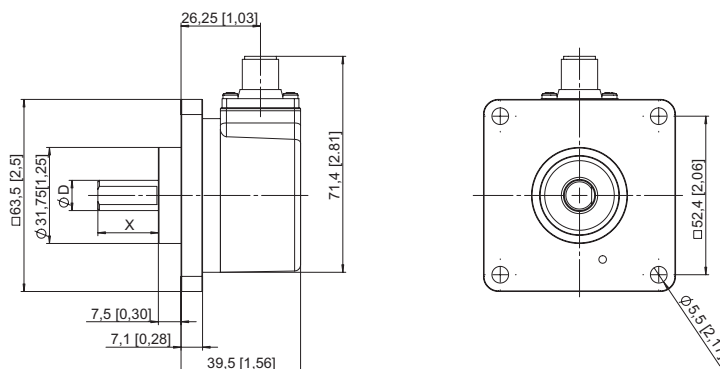
1) 3 x M3, 6 [0.24] deep

**Clamping flange, ø 58 mm**  
**Flange type 7**



1) M3, 5,5 [0.21] deep

**Square flange, □ 63.5 mm [2.5"]**  
**Flange type C**



1) If supply voltage correctly applied  
 2) Only one channel allowed to be shorted-out:  
 If U<sub>B</sub> = 5 V, short-circuit to channel, 0 V, or +U<sub>B</sub> is permitted.  
 If U<sub>B</sub> = 5 - 30 V, short-circuit to channel or 0 V is permitted.