

# Absolute Encoders - Singleturn

**Standard**  
ATEX/IECEX – Zone 1/21, optical

Sendix 7058 (Shaft)

PROFIBUS DP



The Sendix 7058 absolute singleturn encoders offer Ex protection in a compact 70 mm seawater resistant housing, with a Profibus interface and optical sensor technology.

These shock and vibration-resistant encoders operate flexibly with a resolution of up to 16 bits; they are also available with axial and radial cable outlets.



## Compact and Safe

- Can be used even when space is tight
- Minimal installation depth, diameter 70 mm
- Compact cable outlet axial or radial
- Can be operated in marine environments – housing and flange manufactured from seawater-resistant aluminium
- Remains sealed even in harsh everyday use and ensures highest safety against field breakdowns (IP67 protection)

## Explosion protection

- “Flameproof-enclosure” version
- ATEX with EC type examination certificate
- IECEx with Certificate of Conformity (CoC)

**Order code** 8.7058 . 1 X 3 X . 31 11 . XXXX  
**Shaft version** Type

**a** Flange  
1 = clamping-synchronous flange, IP67,  $\varnothing$  70 mm [2.76"]

**b** Shaft ( $\varnothing \times L$ )  
2 = 10 x 20 mm [0.39 x 0.79"], with flat  
1 = 12 x 25 mm [0.47 x 0.98"], with keyway for 4 x 4 mm [0.16 x 0.16"] key

**c** Interface / Power supply  
3 = PROFIBUS DP V0 / 10 ... 30 V DC

**d** Type of connection  
1 = axial cable, 2 m [6.56'] PUR  
2 = radial cable, 2 m [6.56'] PUR  
A = axial cable, length > 2 m [6.56']  
B = radial cable, length > 2 m [6.56'] preferred length see **f**, e. g.: 0100 = 10 m [32.81']

**e** Fieldbus profile  
31 = PROFIBUS DP V0 encoder profile Class 2

**f** Cable length in dm<sup>1)</sup>  
0050 = 5 m [16.40']  
0100 = 10 m [32.81']  
0150 = 15 m [49.21']

optional on request  
- special cable length

## Mounting accessory for shaft encoders

Order No.

### Coupling

Bellows coupling  $\varnothing$  19 mm [0.75"] for shaft 10 mm [0.39"]

8.0000.1101.1010

Further accessories can be found in the accessories section or in the accessories area of our website at: [www.kuebler.com/accessories](http://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](http://www.kuebler.com/connection_technology)

1) Not applicable with connection types 1 and 2

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## Technical data

Explosion protection ATEX	
<b>EC type-examination certificate</b>	PTB09 ATEX 1106 X
<b>Category (gas)</b>	II 2 G Ex d IIC T4 - T6 Gb
<b>Category (dust)</b>	II 2D Ex tb IIIC T135°C - T85°C Db IP6x
<b>Directive 94/9/EC</b>	EN 60079-0: 2009; EN 60079-1: 2007; EN 60079-31: 2009

Explosion protection IECEx	
<b>Certificate of Conformity (CoC)</b>	IECEX PTB 13.0026 X
<b>Category (gas)</b>	Ex d IIC T4 - T6 Gb
<b>Category (dust)</b>	Ex tb IIIC T135°C - T85°C Db IP6x
<b>IECEX</b>	IEC 60079-0:2007; IEC 60079-1:2007; IEC 60079-31:2008

Mechanical characteristics	
<b>Max. speed</b>	continuous 6 000 min <sup>-1</sup>
<b>Starting torque – at 20°C [68°F]</b>	< 0.05 Nm
<b>Moment of inertia</b>	4.0 x 10 <sup>-6</sup> kgm <sup>2</sup>
<b>Load capacity of shaft</b>	radial 80 N axial 40 N
<b>Weight</b>	approx. 1.3 kg [45.86 oz]
<b>Protection acc. to EN 60529</b>	IP67
<b>Working temperature range</b>	-40°C ... +60°C [-40 ... +140°F]
<b>Material</b>	shaft stainless steel flange / housing seawater-resistant Al, type AlSiMgMn (EN AW-6082) (stainless steel on request) cable PUR
<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> , 55 ... 2000 Hz

Electrical characteristics	
<b>Power supply</b>	10 ... 30 V DC
<b>Current consumption (no load)</b>	max. 110 mA
<b>Reverse polarity protection for power supply (+V)</b>	yes
<b>CE compliant acc. to</b>	EMC guideline 2004/108/EC ATEX guideline 94/9/EC
<b>RoHS compliant acc. to</b>	guideline 2011/65/EU

Interface characteristics PROFIBUS DP	
<b>Resolution Singleturn</b>	1 ... 65536 (16 bit), scalable
<b>Default value</b>	8192 (13 bit)
<b>Code</b>	Binary
<b>Interface</b>	Specification according to PROFIBUS DP 2.0 / Standard (DIN 19245 Part 3) / RS485 galvanically isolated
<b>Protocol</b>	Profibus Encoder Profile V1.1 Class1 and Class 2 with manufacturer-specific add-ons
<b>Baud rate</b>	maximum 12 Mbit/s
<b>Device address</b>	software controlled setting of the device address via the SSA-service with a CLASS 2-Master. Default address: 125
<b>Termination</b>	active termination can only be switched on externally

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### Profibus Encoder-Profile V1.1

The PROFIBUS DP device profile describes the functionality of the communication and the manufacturer-specific component within the PROFIBUS Fieldbus system. The Encoder Profile applies to encoders and defines the individual objects independently of the manufacturer. In addition, the profile makes provision for additional extended functions specific to the manufacturer. The use of PROFIBUS compatible devices ensures that the systems of today are ready to meet the demands of the future.

#### The following parameters can be programmed

- Direction of rotation
- Scaling – number of steps per revolution
- Preset value
- Diagnostics mode

#### The following functionality is integrated

- Galvanic isolation of the Bus stage with DC/DC converter
- Line Driver acc. to RS485 max. 12 MB
- Full Class 1 and Class 2 functionality
- Speed value

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## Terminal assignment

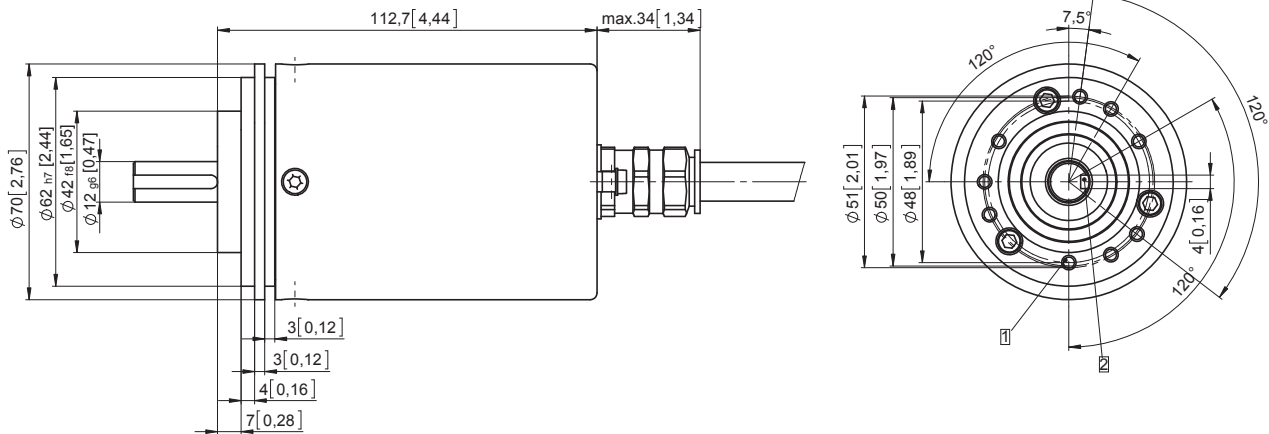
Interface	Type of connection	Cable (isolate unused wires individually before initial start-up)								
		Signal:	0 V	+V	PB_A IN	PB_B IN	BUS_GND	BUS_VDC	PB_A OUT	PB_B OUT
3	1, 2, A, B	Cable marking:	1	2	4	5	6	7	8	9

## Dimensions

Dimensions in mm [inch]

### Clamping-synchronous flange, $\varnothing$ 70 [2.76] Shaft type 1 with axial cable outlet

- 1 6 x M4, 10 [0.39] deep
- 2 Keyway for DIN 6885-A-4x4x25 key



### Clamping-synchronous flange, $\varnothing$ 70 [2.76] Shaft type 2 with radial cable outlet

- 1 6 x M4, 10 [0.39] deep

