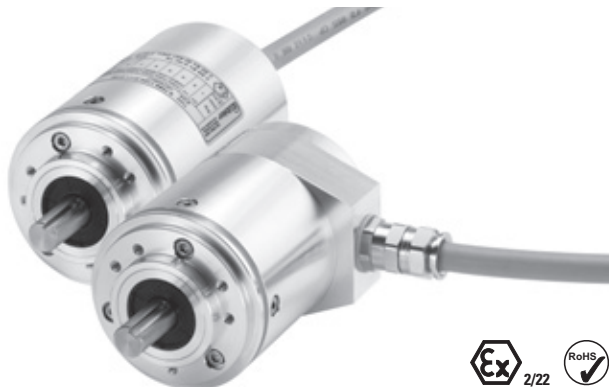


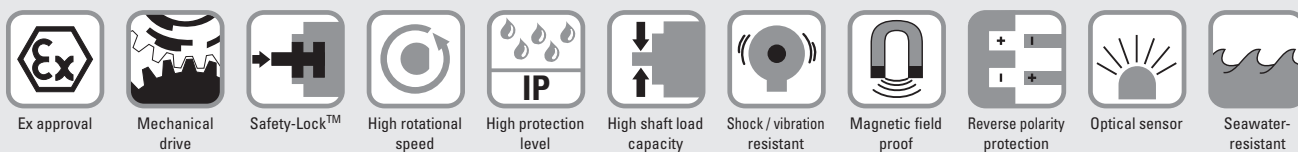
Absolute Encoders – Multiturn

ATEX, optical	Sendix 7068 (Shaft)	CANopen
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The Sendix 7068 absolute multiturn encoders offer Ex protection in a compact 70 mm seawater resistant housing, with a CANopen interface and optical sensor technology.

These shock and vibration-resistant encoders operate flexibly with a resolution of up to 28 bits; they are also available with axial and radial cable outlets



Safe

- “Flameproof-enclosure” version: approved for zone 1, 2 and 21, 22
- Zone 1, 2 and 21, 22:
- 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

Compact

- Can be used even when space is tight
- Minimal installation depth, diameter 70 mm
- Compact cable outlet axial or radial

Order code Shaft version

8.7068	.1X2X	.2111	.XXXX
Type	a b c d	e	f 1)

a Flange

1 = clamping-synchronous flange ø 70 mm, IP67

b Shaft (ø x L)

1 = 12 x 25 mm, with keyway for 4 x 4 mm key
 2 = 10 x 20 mm, with flat

c Interface / Power supply

2 = CANopen DS301 V4.02 / 10 ... 30 V DC

d Type of connection

1 = axial cable (2 m PUR)
 2 = radial cable (2 m PUR)
 A = axial cable (length > 2 m)
 B = radial cable (length > 2 m)
 (preferred lengths, see f, e.g.: 0100 = 10 m)

e Fieldbus profile

21 = CANopen encoder profile DS406 V3.2

f Cable length in dm ¹⁾

0050 = 5 m
 0100 = 10 m
 0150 = 15 m

optional on request
 - special cable length

Mounting accessory for shaft encoders

Coupling

Bellows coupling ø 19 mm for shaft 10 mm

8.0000.1101.1010

Programming set

including:

- Interface converter USB-CAN
- Connection cable from interface converter to encoder
- Power supply 90 ... 250 V AC
- DVD with Ezturn® software

Minimum System Requirements:
 Operating system: Windows XP SP3 or higher
 Win7 in preparation
 Processor: 1 GHz
 RAM: 512 MB
 Required disk space: 500 MB

8.0010.9000.0015

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.

1) Not applicable with connection types 1 and 2

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Explosion protection	
EC type-examination certificate	PTB09 ATEX 1106 X
Category (gas)	II 2G Ex d IIC T6
Category (dust)	II 2D Ex tD A21 IP6X T85°C
Directive 94/9 EC	EN 60079-0; DIN EN 60079-1 EN 61241-0; DIN EN 61241-1

Mechanical characteristics	
Max. speed	6 000 min ⁻¹ continuous
Starting torque	< 0.05 Nm
Rotor moment of inertia	4.0 x 10 ⁻⁶ kgm ²
Load capacity of shaft	radial 80 N axial 40 N
Weight	approx. 0.6 kg
Protection EN 60 529	IP67
Working temperature range	-40°C ... +60°C
Materials	shaft stainless steel flange / housing seawater-resistant Al, type AISiMgMn (EN AW-6082) or stainless steel cable PUR
Shock resistance acc. EN 60068-2-27	2500 m/s ² , 6 ms
Vibration resistance acc. EN 60068-2-6	100 m/s ² , 55 ... 2000 Hz

General electrical characteristics	
Power supply	10 ... 30 V DC
Current consumption (w/o output load)	max. 100 mA
Reverse polarity protection for power supply (U_B)	yes
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

Interface characteristics CANopen	
Resolution Singleturn	1 ... 65536 (16 bit), scalable 1 ... 65536 Default value: 8192 (13 bit)
Total resolution	28 bit (scalable 1 ... 2 ²⁸ steps), Default: 25 bit
Code	Binary
Interface	CAN High-Speed according to ISO 11898, Basic- and Full-CAN, CAN Specification 2.0 B
Protocol	CANopen Profile DS406 V3.2 with manufacturer-specific add-ons
Baud rate	10 ... 1000 kbit/s (Software configurable)
Node address	1 ... 127 (Software configurable)
Switchable termination	Software configurable

General information about CANopen

The CANopen encoders support the latest CANopen communication profile according to DS301 V4.02 .

In addition, device-specific profiles like the encoder profile DS406 V3.2 are available.

The following operating modes may be selected: Polled Mode, Cyclic Mode, Sync Mode and a High Resolution Sync Protocol. Moreover, scale factors, preset values, limit switch values and many other additional parameters can be programmed via the CAN-Bus. When switching the device on, all parameters are loaded from an EEPROM, where they were saved previously to protect them against power-failure.

As output values **position, speed, acceleration** as well as the **working area status** may be combined freely as PDO (PDO mapping)

CANopen Communication Profile DS301 V4.02

Among others, the following functionality is integrated:

Class C2 functionality

- NMT Slave
- Heartbeat Protocol
- High Resolution Sync Protocol
- Identity Object
- Error Behaviour Object
- Variable PDO Mapping self-start programmable (Power on to operational), 3 Sending PDO's
- Node address, baud rate and CANbus Programmable termination

CANopen Encoder Profile DS406 V3.2

The following parameters can be programmed:

- Event mode
- Units for speed selectable (Steps/Sec or RPM)
- Factor for speed calculation (e.g. measuring wheel circumference)
Integration time for speed value of 1...32
- 2 work areas with 2 upper and lower limits and the corresponding output states
- Variable PDO mapping of position, speed, acceleration, working area status
- Extended failure management for position sensing with integrated temperature control
- User interface with visual display of bus and failure status - 3 LED's
- Optional - 32 CAMs programmable
- Customer-specific memory - 16 Bytes

Terminal assignment

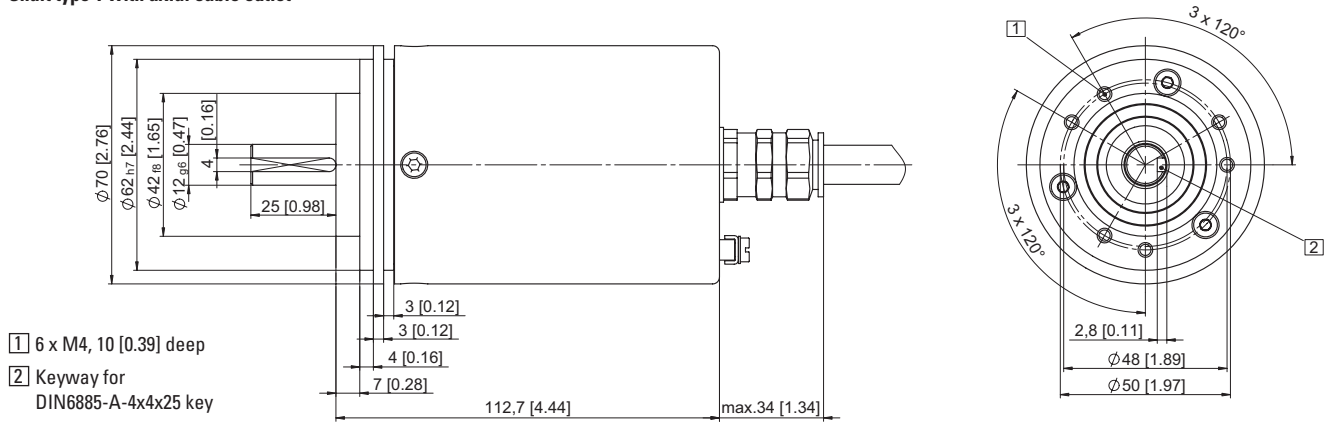
Signal	0 V	+V	CAN High	CAN Low	CAN GND	CAN High	CAN Low	CAN GND
Cable marking	1	2	4	5	6	7	8	9

Absolute Encoders – Multiturn

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Dimensions

Shaft type 1 with axial cable outlet



Shaft type 2 with radial cable outlet

