



BDG abbcc-ddee-fghhi-jjkk-llmm-nnoo

**BDG**  
Encoders

**a Principle**  
F = absolute

**bb Version**  
BF = Steel mag. shielded axial (36)  
BP = Steel mag. shielded radial (36)

**cc Flange size**  
36 = 36 mm

**dd Shaft form, flange**  
BS = Blind hole, trim ring (clamping ring, symm. spring clamp with slot)

**ee Shaft diameter**  
08 = 8 mm  
10 = 10 mm  
12 = 12 mm  
14 = 14 mm  
15 = 15 mm

**f Interface category**  
N = Absolute digital, bidirectional

**g Interface**  
H = CANopen  
J = SAE J1939  
V = CANopen with terminating resistor 120  $\Omega$   
W = SAE J1939 with terminating resistor 120  $\Omega$

**hh Interface details**  
CA = CANopen, v1  
DA = SAE J1939, v1

**i Supply voltage**  
2 = 4.75...32 VDC

**jj Resolution single turn**  
1 - 16 = 1 - 16 bits

**kk Resolution multi turn**  
0 - 43 = 0 - 43 bits (depending on interface)

**ll Shielded cable**  
00 = no cable  
AH = PVC gray, 2x2x0.25 mm<sup>2</sup>

**mm Cable length**  
00 = no cable  
20 = 2 m  
50 = 5 m  
A0 = 10 m

**nn connector**  
00 = no connector  
S5 = M12 connector 5-pin A coded

**oo Wire assignments (connector / cable)**  
J1 = CAN/SAE J1939 for M12 connector and shielded cable

## Basic features

Approval/Conformity	CE
	cULus
	WEEE
	UKCA
Measuring principle	absolute measuring system

## Display/Operation

Function indicator	LED red/green
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## Electrical connection

Connection	Cable or connector
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## Electrical data

Mean life expectancy	1x 10 <sup>9</sup> revs. at 100 % rated shaft load
	1x 10 <sup>10</sup> revs. at 40 % rated shaft load
	1x 10 <sup>11</sup> revs. at 20 % rated shaft load
Multi turn technology	Wiegand wire
Operating voltage U <sub>B</sub>	4,75 ... 32 VDC
Single turn accuracy	± 0.0878° (≤ 12 bits)
Single turn repeat accuracy	± 0.0878° (≤ 12 bits)
Single turn technology	Hall sensor
Speed max.	6000 U/min
Switch-on delay max.	1.5 s

## Environmental conditions

Ambient temperature	-40...85 °C
IP rating	Housing: IP65, IP67 Shaft entrance: IP65
Storage temperature	-40...100°C

## Functional safety

Diagnostic coverage	0 %
MTTF (40 °C)	1000 a
Mission Time	20 a

## Interface

Interface	CAN
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## Material

Housing material	Stainless
Material flange	Aluminium

## Mechanical data

Bearings type	2x precision ball bearings
Flange type	End hollow shaft
Housing diameter	36 mm
Shaft load axial max.	50 N
Shaft load radial max.	80 N
Starting torque typ.	ca. 1,6 Ncm bei Raumtemperatur

## Remarks

Interface details SAE J1939:

Count direction: (view on shaft) ccw

ECU address: 0x 0A

Process data identifier: 0x18FF000A

PGN: 0xFF00

Process Data Mapping: Byte 0-3 32 Bit Position Value

Byte 4 8 Bit Error Register

The setting of the PDU timer and Position Preset can be done via configuration PGN 0xEF00 (Prop. A).

PDU - Time: 50 ms (default)

Configuration PGN: 0x EF 00 (Prop. A)

Byte 0: 0x 01

Byte 1: 0x FF

Byte 2: PDU time LSB

Byte 3: PDU time MSB

Byte 4: Preset LSB

Byte 5, 6: Preset

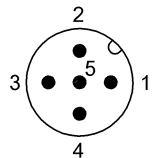
Byte 7: Preset MSB

For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

Connector Diagramm

M12x1-male, 5-pin, A-coded



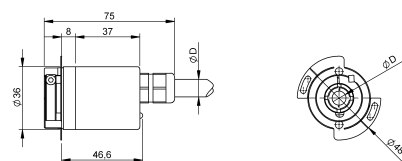
Wiring diagramm

J1 (CAN/SAE J1939)

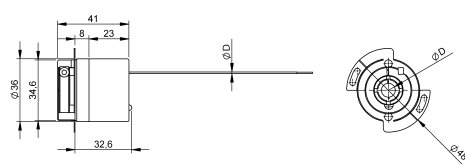
CAN/SAE J1939	J1	
Signal	Pin	Color
+UB	2	BN
GND	3	WH
CANHigh	4	GN
CANlow	5	YE
CANGND/Shield	1	housing

Product View

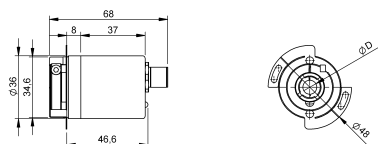
Cable outlet axial



Cable outlet radial



Connector outlet axial



Connector outlet radial

