



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
58 = 58 mm

dd Shaft form, flange
PA = Shaft with flat, trim ring (IP67)
SA = Shaft with flat, trim ring

ee Shaft diameter
06 = 6 mm
10 = 10 mm

f Interface category
N = Absolute digital, bidirectional

g Interface
H = CANopen
J = SAE J1939
V = CANopen with terminating resistor 120 Ω
W = SAE J1939 with terminating resistor 120 Ω

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 mm²

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 ⁹ revs. at 100 % rated shaft load 1x 10 ¹⁰ revs. at 40 % rated shaft load 1x 10 ¹¹ revs. at 20 % rated shaft load
Multi turn technology	Wiegand wire
Operating voltage U _B	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.	dd = SA: 8000 U/min dd = PA: 3500 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	Clamping flange
Housing diameter	36 mm
Shaft length	ee = 06: 12 mm ee = 10: 20 mm
Shaft load axial max.	dd = SA: 120 N dd = PA: 100 N
Shaft load radial max.	D = 6: 125 N D = 10: 220 N dd = PA: 110 N
Starting torque typ.	dd = SA: ca. 1 Ncm bei Raumtemperatur dd = PA: ca. 4 Ncm bei Raumtemperatur

Remarks

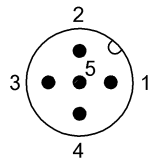
Interface details SAE J1939:

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



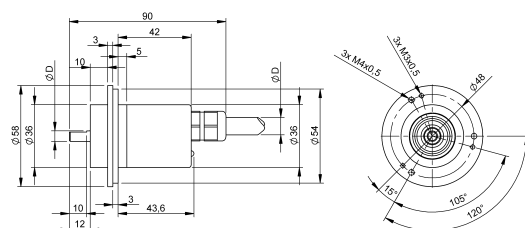
Wiring diagramm

J1 (CAN/SAE J1939)

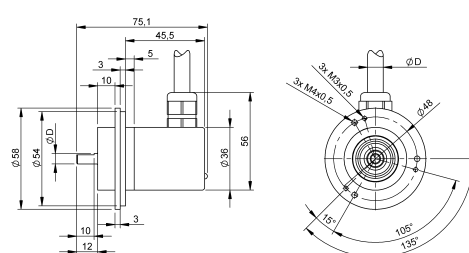
CAN/SAE J1939	J1	
Signal	Pin	Color
+UB	2	BN
GND	3	WH
CANHigh	4	GN
CANlow	5	YE
CANGND/Shield	1	housing

Product View

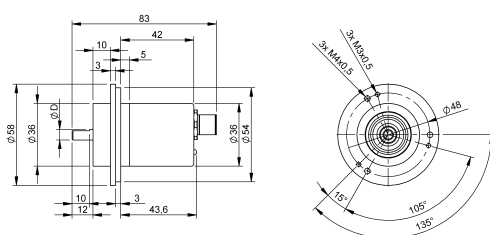
Cable outlet axial



Cable outlet radial



Connector outlet axial



Connector outlet radial

