



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
D = Absolute digital, unidirectional

g Interface
S = SSI

hh Interface details
RB = Binary code increasing
RG = Gray code increasing

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

ll Shielded cable
00 = no cable
AF = PVC gray, 4x2x0.14 mm²

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

nn connector
00 = no connector
S8 = M12 connector 8-pin A coded

oo Wire assignments (connector / cable)
R1 = RS485/SSI 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.	6000 U/min
Switch-on delay max.	1.5 s

Remarks

Interface details SSI:

Clock input: via optocoupler
 Clock frequency: 100 kHz to 500 kHz,
 up to 2 MHz on request
 Data output: RS485/RS422 compatible
 Output code: Gray or binary
 SSI output: angle/position value
 Parity bit: optional (even/odd)
 Error bit: optional
 turn-on time: <1.5 s
 Configuration inputs
 Positive count direction:
 (view on shaft)
 DIR = GND: cw
 DIR = +UB: ccw
 Zero setting: Set: Preset = +UB for 2 s
 Deactivated: Preset = GND
 LED behavior:
 At startup / bootup: - red glow (<2.3 s)
 Error: - constant red glow (>2.3 s)
 Normal operating condition: - constant green glow
 No supply applied: - no glow
 For more information about MTTF and B10d see MTTF / B10d Certificate

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	SSI
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Material

Housing material	Stainless
Material flange	Aluminium

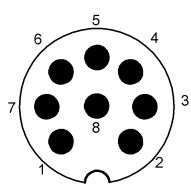
Mechanical data

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

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 Diagram

M12x1-male, 8-pin, A-coded



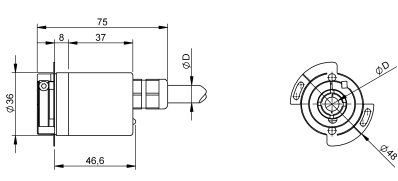
Wiring diagramm

R1 (RS485/SSI)

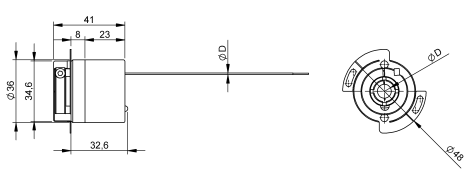
SSI, RS485	R1	
Signal	Pin	Color
GND	1	WH
+UB	2	BN
CLK+	3	GN
CLK-	4	YE
DATA+	5	GY
DATA-	6	PK
PRESET	7	BU
DIR	8	RD
Shield	housing	housing

Product View

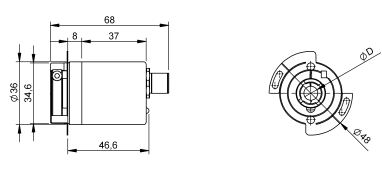
Cable outlet axial



Cable outlet radial



Connector outlet axial



Connector outlet radial

