



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
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.	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	SSI
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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 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

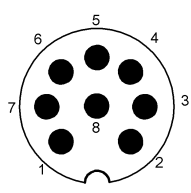
No supply applied: - no glow

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

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



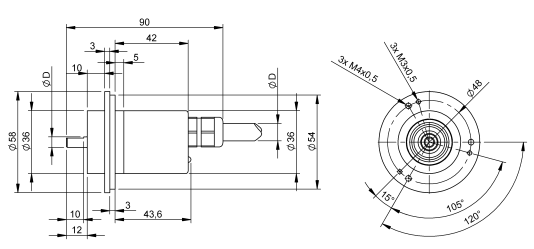
Wiring diagramm

R1 (RS485/SSI)

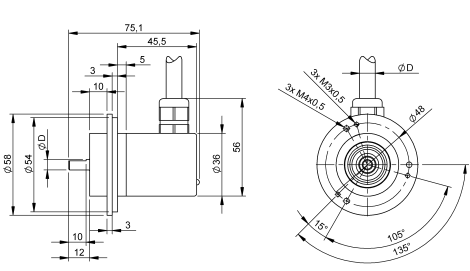
SSI, RS485	R1	
Signal	Pin	Color
GND	1	WH
+UB	2	BN
CLK+	3	GN
CLK-	4	YE
DATA+	5	GY
DATA-	6	PK
PRESET	7	BU
DIR	8	RD
Shield	housing	housing

Product View

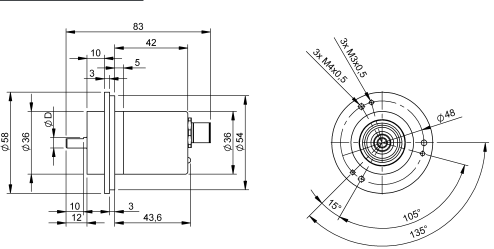
Cable outlet axial



Cable outlet radial



Connector outlet axial



Connector outlet radial

