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
SS = Shaft with flat, synchro flange

ee Shaft diameter
06 = 6 mm
08 = 8 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

Encoders
BDG – FXX36-PS/SS Series – SSI

BALLUFF

Basic features

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

Display/Operation

Function indicator	LED red/green

Electrical connection

Connection	Cable or connector

Electrical data

Mean life expectancy	1,4x 10'8 revs. at 100 % rated shaft load
	2x 10'9 revs. at 40 % rated shaft load
	1,7x 10'10 revs. at 20 % rated shaft load
Multi turn technology	Wiegand wire
Operating voltage Ub	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.	12000 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

Material

Housing material	Stainless
Material flange	Aluminium

Mechanical data

Bearings type	2x precision ball bearings
Flange type	Synchro flange
Housing diameter	36 mm
Shaft length	ee = 06: 11.5 mm
	ee = 08: 18 mm
Shaft load axial max.	50 N
Shaft load radial max.	D = 6: 80 N
	D = 8: 50 N
Starting torque typ.	ca. 0,3 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.

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Connector Diagramm

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

Internet   www.balluff.com