Encoders

BDG – FXX58-PS/SS Series – SSI

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
PS = Shaft with flat, synchro flange (IP67)
SS = Shaft with flat, synchro flange

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

BDG – FXX58-PS/SS Series – SSI

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	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 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.	dd = SS: 8000 U/min dd = PS: 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

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: 12 mm ee = 08: 20 mm
Shaft load axial max.	dd = SS: 120 N dd = PS: 100 N
Shaft load radial max.	D = 6: 125 N D = 10: 220 N dd = PS: 110 N
Starting torque typ.	dd = SS: ca. 1 Ncm bei Raumtemperaturdd = PS: ca. 4 Ncm bei Raumtemperatur

Remarks

Interface details SSI:

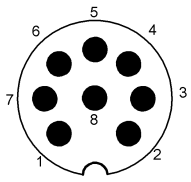
Clock input: via optocoupler
Clock frequency: 100 kHz to 500 kHz,
up to 2 MHz on request
Data output: RS485/RS422 compatible
Output code: Gray or binary
SSI output: angle/position value
Parity bit: optional (even/odd)
Error bit: optional
turn-on time: <1.5 s
Configuration inputs
Positive count direction:
(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 Diagramm

M12x1-male, 8-pin, A-coded



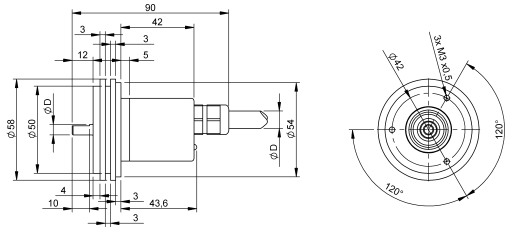
Wiring diagramm

R1 (RS485/SSI)

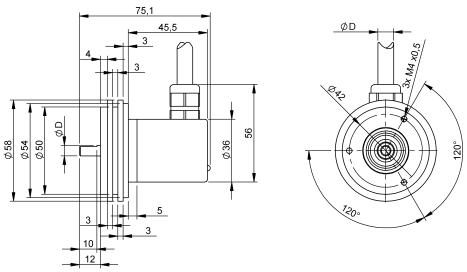
SSI, RS485	R1	
Signal	Pin	Color
GND	1	WH
+UB	2	BN
CLK+	3	GN
CLK-	4	YE
DATA+	5	GY
DATA-	6	PK
PRESET	7	BU
DIR	8	RD
Shield	housing	housing

Product View

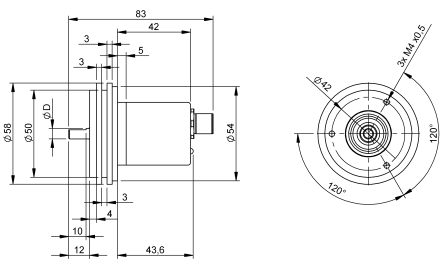
Cable outlet axial



Cable outlet radial



Connector outlet axial



Connector outlet radial