

Online Data Sheet

Encoder WDGA 58B PROFIBUS-DP (cov)

www.wachendorff-automation.com/wdga58bpbb

Wachendorff Automation

... systems and encoders

- Complete systems
- Industrial rugged encoders to suit your application
- Standard range and customer versions
- Maximum permissible loads
- 48-hour express production
- Made in Germany
- Worldwide distributor network

Encoder WDGA 58B absolute PROFIBUS-DP magnetic, with bus cover and with EnDra® - Technology


EnDra®
Technologie

PROFI
BUS
PIV CERTIFIED
PROFIBUS • PROFINET

- EnDra®: maintenance-free and environmentally friendly
- PROFIBUS-DP, Single-turn/Multi-turn
- Compact design with bus cover
- Single-turn/Multi-turn (max. 14 bit/39 bit)
- Forward-looking technology with 32 Bit processor
- 2 colour-duo LED's as indicator for operating condition and bus status
- High shaft load up to 220 N radial, 120 N axial
- Device Profile switchable, Class 1, 2, 3, 4

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Mechanical Data	
Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Connection cover	zinc-plated
Housing	Ø 58 mm
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature, approx. 1.416 in-ozf at ambient temperature
Shaft	Ø 6 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 8 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N
Shaft	Ø 9.525 mm, Ø 3/8"
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 20 mm, L: 0.787 in
Max. Permissible shaft loading radial	220 N, 22.434 kp
Max. Permissible shaft loading axial	120 N, 12.237 kp

Bearings	
Bearings type	2 precision ball bearings
Nominale service life	1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

Machinery Directive: basic data safety integrity level	
MTTF _d	300 a
Mission time (TM)	20 a
Nominale service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA (24 VDC)
Power consumption	max. 2.5 W

Sensor data	
Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolutions (18 bit)

Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface	
Interface:	PROFIBUS-DP

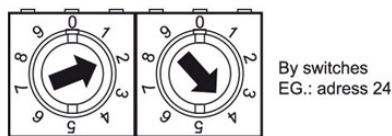
Protocol:	PROFIBUS-DPV0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programmable
Programmable Parameter:	steps per Revolution counts of revolution Preset Scale Counting direction
Diagnostics:	Position and parameter errors EnDra®-diagnosis
Status encoder	DUO-LED in bus cover
Status Bus	DUO-LED in bus cover

Termination resistors:

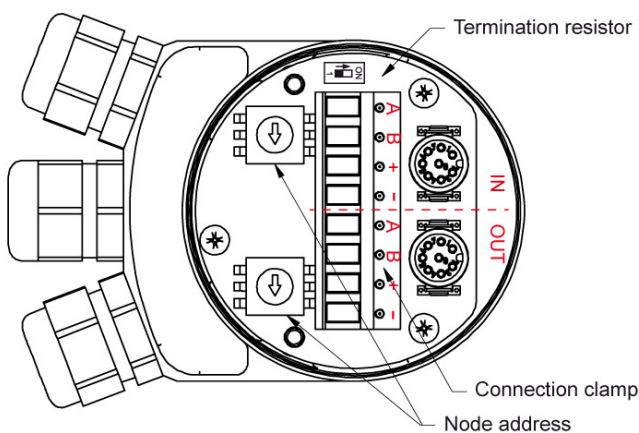


ON = last node
OFF = node X

Node adress:



View in bus cover:



Cable clamping value: Ø 4 mm - 9.5 mm

General Data

Weight	approx. 700 g, approx. 24.7 oz
Connections	bus cover

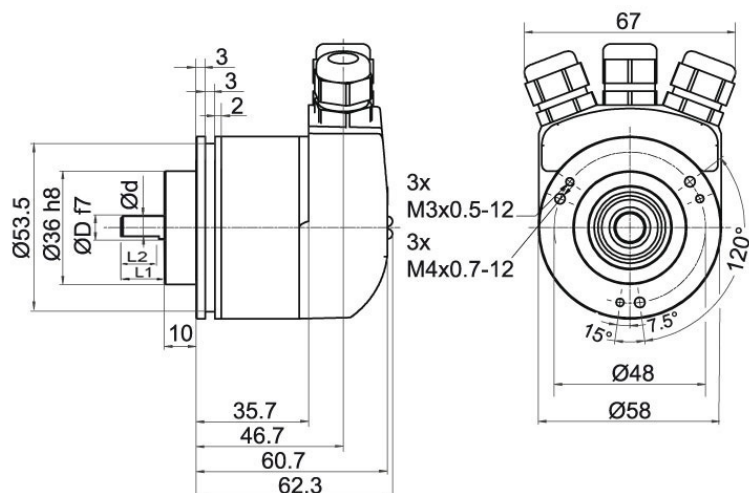
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

General technical data and safety instructions
<http://www.wachendorff-automation.com/gtd>

Options
<http://www.wachendorff-automation.com/acc>

WDGA 58B PROFIBUS-DP, BP1, bus cover with 3x PG cable glands



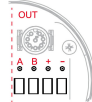
D = 6,	L1 = 12,	d = 5.3,	L2 = 10	shaft with flat
D = 8,	L1 = 19,	d = 7.5,	L2 = 15	shaft with flat
D = 10,	L1 = 20			shaft with out flat*
D = 3/8",	L1 = 20,	d = 8.3,	L2 = 10	shaft with flat

* Option full IP67 version: (only D = Ø 10 mm)
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

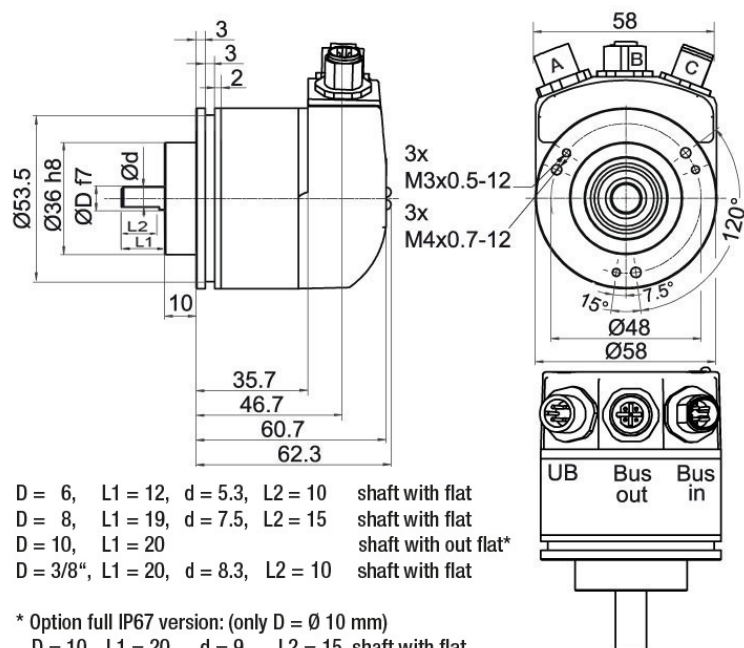
Description

BP1 Bus cover with connection clamps (PG cable glands)

Assignments	
	BP1
	
A	1
B	2
(+) Vcc	3
GND	4

Assignments	
	BP1
	
A	5
B	6
(+) Vcc	7
GND	8

WDGA 58B, PROFIBUS-DP, BP2, bus cover with 3x M12x1



Description

BP2 Bus cover with 3x M12x1

Assignments	
	BP2
connector (A)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BP2
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Assignments	
	BP2
connector (C)	M12x1, 5-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4
n. c.	5

Options

Shafts sealed to IP67, only with 10 mm shaft with flat

Order key

The encoder WDGA 58B PROFIBUS-DP (cov) can be supplied in a full IP67 version.

AAS

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

Example Order No.	Type	Your encoder	
WDGA 58B	WDGA 58B	WDGA 58B	
	Shaft	Order key	
10	Ø 6 mm Attention: No option AAS = full IP67 version	06	
	Ø 8 mm Attention: No option AAS = full IP67 version	08	
	Ø 10 mm	10	
	Ø 9.525 mm Ø 3/8" Attention: No option AAS = full IP67 version	4Z	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (with bus cover)	DP	
	Software	Order key	
A	up to date release	A	
	Code	Order key	
B	binary	B	
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	Order key	
1	yes	1	
	Electrical connections	Order key	
BP1	Connection cover:		
	Bus cover with connection clamps (PG cable glands)	BP1	
	Bus cover with 3x M12x1	BP2	
	Options	Order key	
	Without option	Empty	
	Shafts sealed to IP67, only with 10 mm shaft with flat	AAS	

Example Order No.	WDGA 58B	10	13	12	DP	A	B	0	1	BP1	
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WDGA 58B											Example Order No.
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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
http://www.wachendorff-automation.com/distributors_worldwide.html



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