



# Online Data Sheet

## Encoder WDGA 58B PROFIBUS-DP (cov)

[www.wachendorff-automation.com/wdga58bpbb](http://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

[www.wachendorff-automation.com/wdga58bpb](http://www.wachendorff-automation.com/wdga58bpb)

## 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 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

## Bearings

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

## Machinery Directive: basic data safety integrity level

MTTF <sub>d</sub>	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 <sup>11</sup> 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 39 bit

## Environmental data

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 <sup>2</sup> (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s <sup>2</sup> (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

## Interface

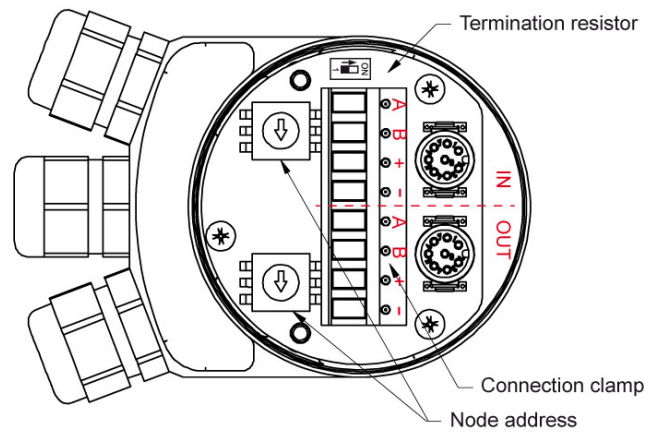
Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DP0/V2
Device Profile:	Class 1, 2, 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 Mbaud
Function:	Multiturn
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programable
Programmable Parameter:	steps per Revolution counts of revolution 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:**



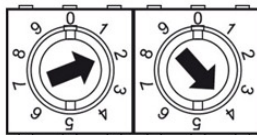
ON = last node  
OFF = node X

**View in bus cover:**



Cable clamping value: Ø 4 mm - 9.5 mm

**Node address:**



By switches  
EG.: adress 24

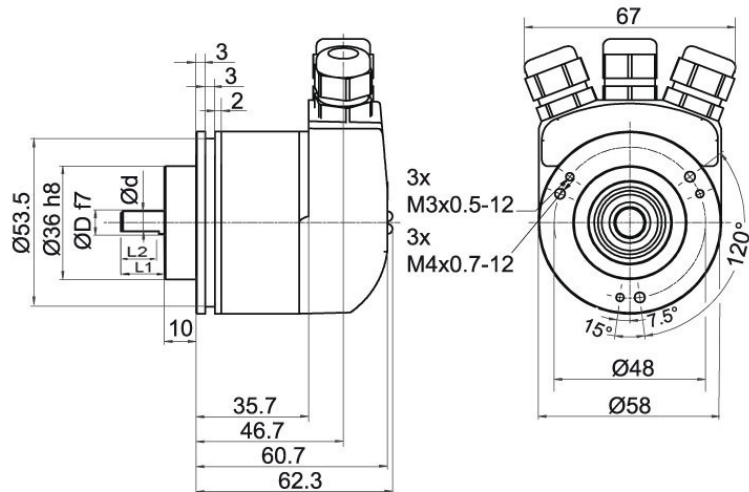
**General Data**

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**

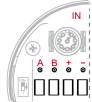


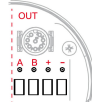
- D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
- D = 8, L1 = 19, d = 7.5, L2 = 15 shaft with flat
- D = 10, L1 = 20 shaft with out flat\*
- D = 3/8", L1 = 20, d = 8.3, L2 = 10 shaft with flat

\* Option full IP67 version: (only D =  $\varnothing$  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	
	
<b>A</b>	1
<b>B</b>	2
<b>(+) Vcc</b>	3
<b>GND</b>	4

Assignments	
BP1	
	
<b>A</b>	5
<b>B</b>	6
<b>(+) Vcc</b>	7
<b>GND</b>	8

## 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<sup>-1</sup>

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	
<b>Shaft</b>			
10	Ø 10 mm	10	10
<b>Single-turn Resolution</b>			
12	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	12
<b>Multi-turn Resolution</b>			
18	Multi-turn up to 39 bit, e. G. 18 bit = 18	18	18
<b>Data protocol</b>			
DP	PROFIBUS-DP (with bus cover)	DP	DP
<b>Software</b>			
A	up to date release	A	A
<b>Code</b>			
B	binary	B	B
<b>Power supply</b>			
0	10 V up to 32 V (standard)	0	0
<b>Galvanic isolation</b>			
1	yes	1	1
<b>Electrical connections</b>			
BP1	<b>Connection cover:</b>		BP1
	Bus cover with connection clamps (PG cable glands)	BP1	
<b>Options</b>			
	Shafts sealed to IP67, only with 10 mm shaft with flat	AAS	
	Without option	Empty	

<b>Example Order No.</b>	WDGA 58B	10	12	18	DP	A	B	0	1	BP1	
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WDGA 58B	10	12	18	DP	A	B	0	1	BP1		<b>Your encoder</b>
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For further information please contact our local distributor.  
Here you find a list of our distributors worldwide.  
<https://www.wachendorff-automation.com/>



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