



## Online Data sheet

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

[www.wachendorff-automation.com/wdga58dpbb](http://www.wachendorff-automation.com/wdga58dpbb)

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#### 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 58D absolute PROFIBUS-DP, with bus cover and with EnDra®- Technology



Illustration similar

**EnDra®**  
Technologie

**PROFI**  
**BUS**

**PIV** CERTIFIED  
PROFIBUS • PROFINET

**Heavy duty**

- 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: radial and axial 500 N [50.984 kp];
- Device Profile switchable, Class 3, 4

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Mechanical Data	
Flange	clamping flange
Flange material	aluminum
Housing material	zinc-plated
Intermediate piece	steel case chrome-plated, magnetic shielding
Flange diameter	Ø 58 mm [Ø 2.283"]
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature
Shaft	Ø 12 mm [Ø 0.472"]
Shaft length	L: 25 mm [0.984"]
Max. Permissible shaft loading radial	500 N [50.984 kp]
Max. Permissible shaft loading axial	500 N [50.984 kp]
Bearings	
Bearings type	3 precision ball bearings
Nominal service life	2 x 10 <sup>8</sup> revs. at 100 % rated shaft load 3.5 x 10 <sup>9</sup> revs. at 40 % rated shaft load 2.5 x 10 <sup>10</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)	2.5 x 10 <sup>10</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
Operating principle	magnetic

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	
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 bis 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s <sup>2</sup> (6 ms)
Electrical Safety:	according DIN VDE 0160
Turn on time:	<1,5 s
Duty information	
Customs tariff number:	90318020
Country of origin:	Germany
Interface	
Interface:	<b>PROFIBUS-DP</b>
Protocol:	PROFIBUS-DPV2
Device Profile:	Class 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	by switsches in buscover
Code:	binary, CW default, programable

Programmable Parameter:	steps per Revolution counts of revolution Preset Scale Counting direction
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Diagnostics:	Position and parameter errors EnDra®-diagnosis
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Status encoder	DUO-LED in bus cover
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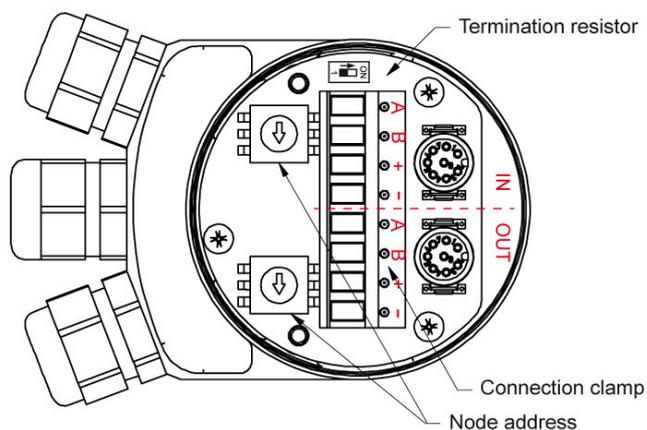
Status Bus	DUO-LED in bus cover
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**Termination resistors:**



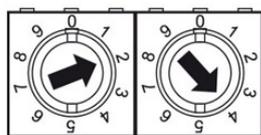
ON = last node  
OFF = node X

**View in bus cover:**



Cable clamping value: Ø 4 mm - 9.5 mm

**Node address:**



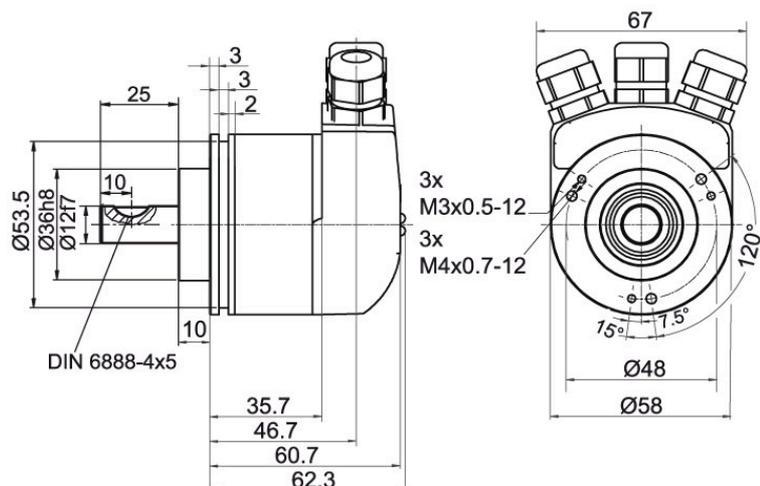
By switches  
EG.: adress 24

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General Data	
Weight	approx. 700 g [24.691 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 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

More Information	
General technical data and safety instructions <a href="http://www.wachendorff-automation.com/gtd">http://www.wachendorff-automation.com/gtd</a>	
Options <a href="http://www.wachendorff-automation.com/acc">http://www.wachendorff-automation.com/acc</a>	

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



**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

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**Options****Low-friction bearings****Order key**

The encoder WDGA 58D PROFIBUS-DP (cov) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.

**AAC**

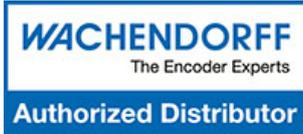
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Example Order No.	Type	Your encoder
WDGA 58D	WDGA 58D	WDGA 58D
	<b>Shaft</b>	<b>Order key</b>
12	Ø 12 mm [Ø 0.472"]	12
	<b>Single-turn Resolution</b>	<b>Order key</b>
12	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12
	<b>Multi-turn Resolution</b>	<b>Order key</b>
18	Multi-turn up to 39 bit, e. G. 18 bit = 18	18
	<b>Data protocol</b>	<b>Order key</b>
DP	PROFIBUS-DP (with bus cover)	DP
	<b>Software</b>	<b>Order key</b>
A	up to date release	A
	<b>Code</b>	<b>Order key</b>
B	binary	B
	<b>Power supply</b>	<b>Order key</b>
0	10 V up to 32 V (standard)	0
	<b>Galvanic isolation</b>	<b>Order key</b>
1	yes	1
	<b>Electrical connections</b>	<b>Order key</b>
BP1	<b>Intermediate piece:</b>	
	Bus cover with connection clamps (PG cable glands)	BP1
	Bus cover with 3x M12x1	BP2
	<b>Options</b>	<b>Order key</b>
	Low-friction bearings	AAC

<b>Example Order No.</b>	WDGA 58D	12	12	18	DP	A	B	0	1	BP1	
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WDGA 58D											<b>Example Order No.</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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**WACHENDORFF**

Wachendorff Automation GmbH & Co. KG  
Industriestrasse 7 • 65366 Geisenheim  
Germany

Phone: +49 67 22 / 99 65 25  
E-Mail: [wdg@wachendorff.de](mailto:wdg@wachendorff.de)  
[www.wachendorff-automation.de](http://www.wachendorff-automation.de)

