



# Online Data Sheet

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

[www.wachendorff-automation.com/wdga58apbb](http://www.wachendorff-automation.com/wdga58apbb)

### 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 58A 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 3, 4

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## Mechanical Data

Housing	
Flange	synchro 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 AAO = 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 AAO = 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 AAO = 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 <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
Nominale 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

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)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

## Duty information

Customs tariff number:	90318020
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Country of origin: Germany

**Interface**

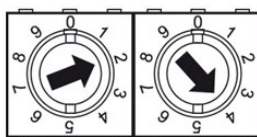
<b>Interface:</b>	<b>PROFIBUS-DP</b>
Protocol:	PROFIBUS-DPV2
Device Profile:	Class 3, 4
Line-Driver:	galvanic isolated
Baud rate:	max. 12 MBaud
Function:	Multiturn
Nodeaddressing:	by switches in buscover
Code:	binary, CW default, programmable
Programmable Parameter:	steps per Revolution counts of revolution 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:**



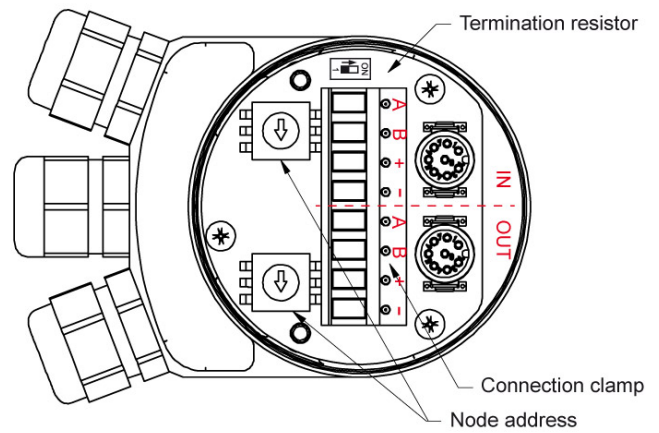
ON = last node  
OFF = node X

**Node address:**



By switches  
EG.: adress 24

**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>

Example Order No.	Type	Your encoder	
WDGA 58A	WDGA 58A	WDGA 58A	
<b>Shaft</b>		<b>Order key</b>	
06	Ø 6 mm Attention: No option AAO = full IP67 version	06	
	Ø 8 mm Attention: No option AAO = full IP67 version	08	
	Ø 10 mm	10	
	Ø 9.525 mm Ø 3/8" Attention: No option AAO = full IP67 version	4Z	
<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	DP
<b>Software</b>		<b>Order key</b>	
A	up to date release	A	A
<b>Code</b>		<b>Order key</b>	
B	binary	B	B
<b>Power supply</b>		<b>Order key</b>	
0	10 V up to 32 V (standard)	0	0
<b>Galvanic isolation</b>		<b>Order key</b>	
1	yes	1	1
<b>Electrical connections</b>		<b>Order key</b>	
<b>Options</b>		<b>Order key</b>	
	Without option	Empty	Empty

<b>Example Order No.</b>	WDGA 58A	06	12	18	DP	A	B	0	1		
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WDGA 58A				DP	A	B	0	1		Empty	<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/contact-sales-en/>



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