



Online Data Sheet

Encoder WDGA 58E PROFIBUS-DP (con)

www.wachendorff-automation.com/wdga58epbs

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 58E absolute PROFIBUS-DP magnetic, with EnDra®- Technology



EnDra®
Technologie

PROFI
BUS

PIV CERTIFIED
PROFIBUS • PROFINET

- EnDra®: maintenance-free and environmentally friendly
- PROFIBUS-DP, Single-turn/Multi-turn
- 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 80 N radial, 50 N axial
- Device Profile switchable, Class 1, 2, 3, 4

www.wachendorff-automation.com/wdga58epbs

Mechanical Data

Housing

Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10019
- 1. Spring plate compensation	axial: ±1.2 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +80 °C
Housing	Ø 58 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature, approx. 2.226 in-ozf at ambient temperature
Fixing	permanently attached clamping ring

Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 6.35 mm, Ø 1/4"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp

Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N

Max. Permissible shaft loading axial	50 N
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Shaft	Ø 8 mm
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Advice	with adapter sleeve
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Shaft length	L: 17 mm
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Insertion depth min.	10 mm
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Insertion depth max.	19 mm
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Max. Permissible shaft loading radial	80 N
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Max. Permissible shaft loading axial	50 N
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Shaft	Ø 9.525 mm, Ø 3/8"
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Advice	with adapter sleeve
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Shaft length	L: 17 mm, L: 0.669 in
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Insertion depth min.	10 mm, 0.394 in
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Insertion depth max.	19 mm, 0.748 in
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Max. Permissible shaft loading radial	80 N, 8.158 kp
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Max. Permissible shaft loading axial	50 N, 5.099 kp
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Shaft	Ø 10 mm
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Advice	with adapter sleeve
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Shaft length	L: 17 mm
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Insertion depth min.	10 mm
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Insertion depth max.	19 mm
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Max. Permissible shaft loading radial	80 N
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Max. Permissible shaft loading axial	50 N
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Shaft	Ø 12 mm
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Shaft length	L: 17 mm
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Insertion depth min.	10 mm
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Insertion depth max.	19 mm
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Max. Permissible shaft loading radial	80 N
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Max. Permissible shaft loading axial	50 N
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Shaft	Ø 14 mm
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Shaft length	L: 17 mm
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Insertion depth min.	10 mm
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Insertion depth max.	19 mm
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Max. Permissible shaft loading radial	80 N
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Max. Permissible shaft loading axial	50 N
Shaft	Ø 15 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Bearings

Bearings type	2 precision ball bearings
Nominal 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	6000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 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 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:	adjustable via software
Termination resistor:	non-existent
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
Status bus:	DUO-LED

General Data

Weight	approx. 410 g, approx. 14.462 oz
Connections	connector outlet
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

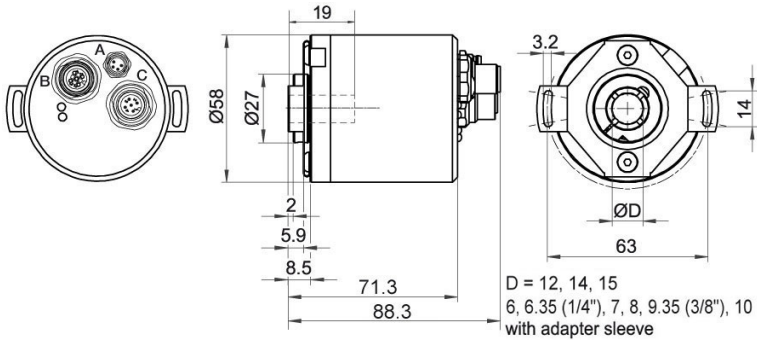
More Information

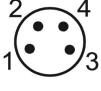
General technical data and safety instructions


<http://www.wachendorff-automation.com/gtd>


Options

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

WDGA 58E PROFIBUS-DP with 1x M8, 2x M12, axial DB4

Description
DB4 axial, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin,

Assignments	
	
connector (A)	M8x1, 4-pin
(+) Vcc	1
n. c.	2
GND	3
GND	4

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

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

Example Order No.	Type	Your encoder	
WDGA 58E	WDGA 58E	WDGA 58E	
	Shaft	Order key	
12	∅ 6 mm with adapter sleeve	06	
	∅ 6.35 mm ∅ 1/4" with adapter sleeve	2Z	
	∅ 7 mm with adapter sleeve	07	
	∅ 8 mm with adapter sleeve	08	
	∅ 9.525 mm ∅ 3/8" with adapter sleeve	4Z	
	∅ 10 mm with adapter sleeve	10	
	∅ 12 mm	12	
	∅ 14 mm	14	
	∅ 15 mm	15	
	Single-turn Resolution	Order key	
12	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
18	Multi-turn up to 39 bit, e. G. 18 bit = 18	18	
	Data protocol	Order key	
DP	PROFIBUS-DP (without 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	
DB4	Connector:		
	connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	DB4	

Example Order No.	WDGA 58E	12	12	18	DP	A	B	0	1	DB4
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WDGA 58E											Example Order No.
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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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