



Online Data sheet

Encoder WDGA 58B PROFIBUS-DP (con)

www.wachendorff-automation.com/wdga58bpbs

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, with EnDra® - Technology



Illustration similar

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 220 N [22.433 kp] radial, 120 N [12.236 kp] axial
- Device Profile switchable, Class 3, 4

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Mechanical Data	
Flange	clamping flange
Flange material	aluminum
Housing material	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 6 mm [Ø 0.236"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 8 mm [Ø 0.315"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 19 mm [0.748"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]

Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 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
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 ² (10 Hz bis 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Electrical Safety:	according DIN VDE 0160
Turn on time:	<1,5 s

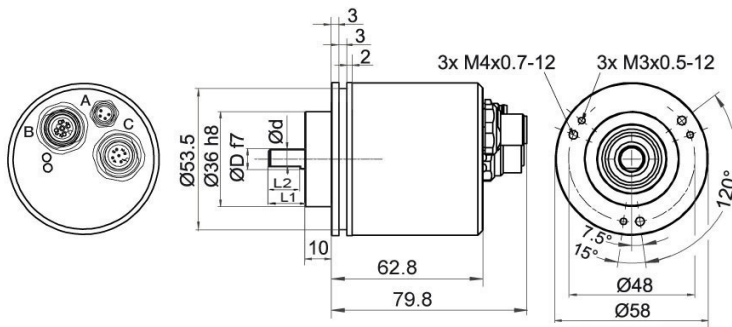
Duty information	
Customs tariff number:	90318020
Country of origin:	Germany

Interface	
Interface:	PROFIBUS-DP
Protocol:	PROFIBUS-DPV2
Device Profile:	Class 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	
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 185 °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 with 1x M8, 2x M12, axial DB4



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

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

Assignments	
	DB4
connector (A)	M8x1, 4-pin
(+) Vcc	1
n. c.	2
GND	3
GND	4

Assignments	
	DB4
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	
	DB4
connector (C)	M12x1, 4-pin, B-coded
BUS	IN
n. c.	1
A	2
n. c.	3
B	4

Options

Low-friction bearings

Order key

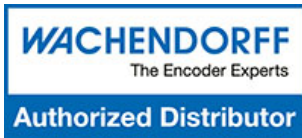
The encoder WDGA 58B PROFIBUS-DP (con) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to $\leq 0.5 \text{ Ncm}$ [0.708 in-ozf] and the protection class at the shaft input to IP50.

AAC

Example Order No.	Type	Your encoder	
WDGA 58B	WDGA 58B	WDGA 58B	
	Shaft	Order key	
10	Ø 6 mm [Ø 0.236"] Attention: No option AAO = full IP67 version	06	
	Ø 8 mm [Ø 0.315"] Attention: No option AAO = full IP67 version	08	
	Ø 10 mm [Ø 0.394"]	10	
	Ø 9.525 mm [Ø 3/8"] Order No: 4Z Attention: No option AAO = full IP67 version	4Z	
	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	DP
	Software	Order key	
A	up to date release	A	A
	Code	Order key	
B	binary	B	B
	Power supply	Order key	
0	10 V up to 32 V (standard)	0	0
	Galvanic isolation	Order key	
1	yes	1	1
	Electrical connections	Order key	
DB4	Connector:		DB4
	connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	DB4	
	Options	Order key	
	Low-friction bearings	AAC	
	Without option	Empty	

Example Order No.	WDGA 58B	10	12	18	DP	A	B	0	1	DB4	
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WDGA 58B				DP	A	B	0	1	DB4		Your encoder
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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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