



Online Data sheet

Encoder WDGA 58D PROFIBUS-DP (con)

www.wachendorff-automation.com/wdga58dpbs

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 EnDra®- Technology



EnDra®
Technologie

PROFI
BUS

PIV CERTIFIED
PROFIBUS • PROFINET

Heavy duty

- EnDra®: maintenance-free and environmentally friendly
- PROFIBUS-DP, Single-turn/Multi-turn
- Single-/Multiturn (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 400 N radial, 400 N axial
- Device Profile switchable, Class 3, 4

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Mechanical Data

Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature

Shaft	Ø 12 mm
Shaft length	L: 25 mm
Max. Permissible shaft loading radial	400 N
Max. Permissible shaft loading axial	400 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	8000 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 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)
Design:	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, programmable

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

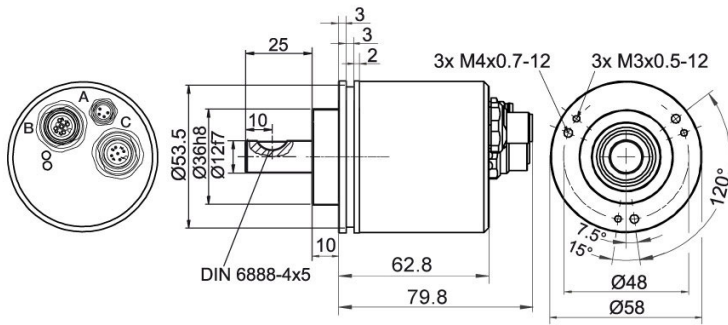
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

General technical data and safety instructions
<http://www.wachendorff-automation.com/gtd>

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

WDGA 58D PROFIBUS-DP with 1x M8x1, 2x M12x1, axial DB4



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

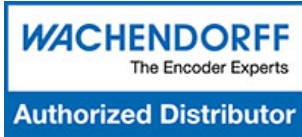
Assignments	
	DB4
Female connector (B)	M12x1, 5-pin, B-coded
BUS	OUT
5 V DP	1
A	2
GND DP	3
B	4
n. c.	5

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

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
Shaft			
12	Ø 12 mm	Order key	12
Single-turn Resolution			
12	Single-turn resolution 1 up to 14 bit, e. g. 12 bit = 12	Order key	12
Multi-turn Resolution			
18	Multi-turn up to 39 bit, e. G. 18 bit = 18	Order key	18
Data protocol			
DP	PROFIBUS-DP (without bus cover)	Order key	DP
Software			
A	up to date release	Order key	A
Code			
B	binary	Order key	B
Power supply			
0	10 V up to 32 V (standard)	Order key	0
Galvanic isolation			
1	yes	Order key	1
Electrical connections			
DB4	Connector:	Order key	
	connector, 1x M8, 4-pin; 1x M12, 5-pin; 1x M12, 4-pin, axial	Order key	DB4

Example Order No.	WDGA 58D	12	12	18	DP	A	B	0	1	DB4
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WDGA 58D											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/contact-sales-en/>

WACHENDORFF

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

Phone: +49 67 22 / 99 65 25
E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de

