WACHENDORFF
The Encoder Experts

Online Data sheet

Encoder WDGA 58E PROFINET-IO (cov)

www.wachendorff-automation.com/wdga58epnb

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

IndustrieROBUST

Encoder WDGA 58E absolute PROFINET-IO, with EnDra®- Technology

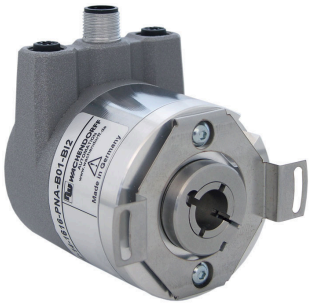

Illustration similar

- EnDra®: maintenance-free and environmentally friendly
- PROFINET-IO, Single-turn/Multi-turn
- Compact design with buscover
- Single-turn/Multi-turn (max. 16 bit/43 bit)
- Forward-looking technology
- 2 colour-duo LED´s as indicator for operating condition and bus status and 2 L/A LED´s
- High shaft load up to 80 N [8.157 kp] radial, 50 N [5.098 kp] axial
- Device Profile switchable, Class 3, 4

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Mechanical Data	
Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing material	die cast aluminum, powder coated
Intermediate piece	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10019
- 1. Spring plate compensation	axial: ±1.2 mm [0.0472"], radial: ±0.2 mm [0.0079"]
- Max. operating speed	6000 rpm up to max. protection rating +80 °C
Flange diameter	Ø 58 mm [Ø 2.283"]

Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm [2.266 in-ozf] at ambient temperature
Fixing	permanently attached clambing ring

Shaft	Ø 6 mm [Ø 0.236"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 6.35 mm [Ø 1/4"] Order No: 2Z
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 7 mm [Ø 0.276"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 8 mm [Ø 0.315"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp], 5.098 kp

Shaft	Ø 10 mm [Ø 0.394"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 12 mm [Ø 0.472"]
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 12.7 mm [Ø 1/2"] Order No. 3Z
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]

Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 14 mm [Ø 0.551"]
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 15 mm [Ø 0.591"]
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	9.5 mm [0.374"]
Insertion depth max.	14 mm [0.551"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 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	6000 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 6000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data	
Power supply/Current consumption	10 VDC up to 32 VDC: typ. 125 mA
Power consumption	typ. 3 W
Operating principle	magnetic

Sensor data	
Single-turn technology	innovativ hall sensor technology
Single-turn resolution	up to 65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (≤ 12 bit)
Single-turn repeat accuracy	± 0.0878° (≤ 12 bit)
Internal cycle time	50 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	43 bit

Integrated web server:	
Configurable	IP address Subnet mask Gateway address
Readable	Encoder parameters
Update	Firmware

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)	200 m/s^2 (10 Hz up to 1000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s^2 (6 ms)
Electrial Safety:	according DIN VDE 0160
Turn on time:	<1,5 s

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

Interface	
Interface:	**Industrial Ethernet**
Protocol:	PROFINET-IO (CC-C)
Device Profile:	V4.2, Class 3, 4
Data Transfer:	100BASE-TX
Cycle time:	250 µs, applicable for up to 125 µs
Function:	Multiturn
Code:	binary, CW default, programable
Programmable Parameter:	steps per revolution counts of revolution preset scale counting direction MRPD MRP LLDP IRT
Diagnostics: (LED)	Traffic and connection management: L/A1: Port 1 L/A2: Port 2
Status LED:	STAT, MOD: status of encoder and bus

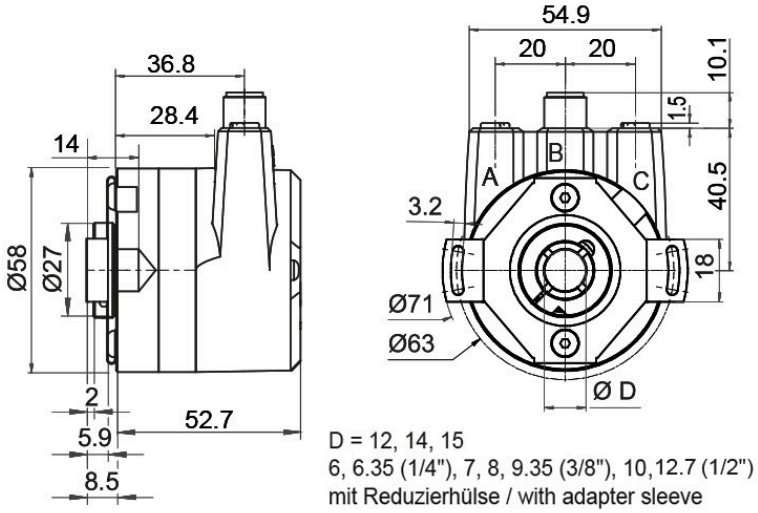
General Data	
Weight	approx. 410 g [14.462 oz]
Connections	bus cover
Protection rating (EN 60529)	IP65 all around
Operating temperature	-40 °C up to +85 °C [-40 °F up to 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

More Information

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

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

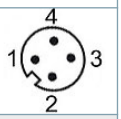
WDGA 58E PROFINET-IO, BI2, bus cover with 3x M12x1



Description

BI2 Bus cover with 3x M12x1

Assignments	
	BI2
	
Female connector (Port1)	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Assignments	
	BI2
	
connector (Power)	M12x1, 4-pin, A-coded
(+) Vcc	1
n. c.	2
GND	3
n. c.	4

Assignments	
	BI2
	
Female connector (Port2)	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Options

Low-friction bearings	Order key
The encoder WDGA 58E PROFINET-IO (cov) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to approx. ≤ 0.6 Ncm [0.85 in-ozf] at ambient temperature and the protection class at the shaft input to IP50.	**AAC**

Example Order No.	Type		Your encoder
WDGA 58E	WDGA 58E		WDGA 58E
	Shaft	**Order key**	
12	Ø 6 mm [Ø 0.236"] with adapter sleeve	06	
	Ø 6.35 mm [Ø 1/4"] Order No: 2Z with adapter sleeve	2Z	
	Ø 7 mm [Ø 0.276"] with adapter sleeve	07	
	Ø 8 mm [Ø 0.315"] with adapter sleeve	08	
	Ø 9.525 mm [Ø 3/8"] Order No: 4Z with adapter sleeve	4Z	
	Ø 10 mm [Ø 0.394"] with adapter sleeve	10	
	Ø 12 mm [Ø 0.472"]	12	
	Ø 12.7 mm [Ø 1/2"] Order No. 3Z with adapter sleeve	3Z	
	Ø 14 mm [Ø 0.551"]	14	
	Ø 15 mm [Ø 0.591"]	15	
	Single-turn Resolution	**Order key**	
16	Single-turn 1 up to 16 bit, e. g. 12 bit = 12	16	
	Multi-turn Resolution	**Order key**	
43	Multi-turn 0 up to 43 bit, e. G. 43 bit = 43	43	
	Data protocol	**Order key**	
PN	PROFINET-IO (with bus cover)	PN	PN
	Software	**Order key**	
W	up to date release	W	W
	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**	
	Connection cover:		
BI2	Bus cover with 3x M12x1	BI2	BI2
	Options	**Order key**	
	Low-friction bearings	AAC	
	Without option	Empty	

Example Order No.	WDGA 58E	12	16	43	PN	W	B	0	1	BI2	
	WDGA 58E				PN	W	B	0	1	BI2	

Your encoder

For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
https://www.wachendorff-automation.com/contact-en/wachendorff-world-wide/

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