



Online Data sheet

Encoder WDGA 58E Universal IE (cov)

www.wachendorff-automation.com/wdga58euie

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 Universal IE, with EnDra® - Technology

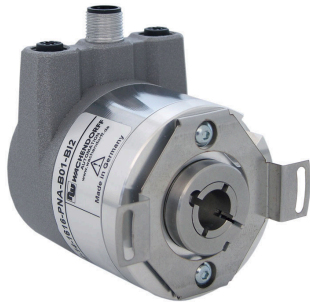


Illustration similar

EnDra®
Technologie

Universal-IE
— Industrial Ethernet —

- EnDra®: maintenance-free and environmentally friendly
- Universal IE, 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

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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	$\varnothing 58$ mm [$\varnothing 2.283$ "]

Shaft(s)

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

Shaft	$\varnothing 6$ mm [$\varnothing 0.236$ "]
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	$\varnothing 6.35$ mm [$\varnothing 1/4$ "] 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	$\varnothing 7$ mm [$\varnothing 0.276$ "]
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	$\varnothing 8$ mm [$\varnothing 0.315$ "]
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	$\varnothing 9.525$ mm [$\varnothing 3/8$ "] 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]

Shaft	$\varnothing 10$ mm [$\varnothing 0.394$ "]
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	$\varnothing 12$ mm [$\varnothing 0.472$ "]
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	$\varnothing 12.7$ mm [$\varnothing 1/2$ "] 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
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. 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	Selectable: PROFINET-IO, EtherNet/IP, EtherCAT 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)
Electrical Safety:	according DIN VDE 0160
Turn on time:	<1,5 s

Duty information

Customs tariff number:	90318020
Country of origin:	Germany

Interface

Interface:	Universal Industrial Ethernet
Protocol:	selectable (PROFINET-IO, EtherCAT, EtherNET/IP)
Data Transfer:	100BASE-TX
Function:	Multiturn
Code:	binary, CW default, programmable
Features, physical layer, cycle times, functions, parameters, objects and characteristics	Details can be found at the respective products with the individual interface.
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

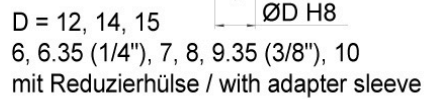
Weight	approx. 410 g [14.462 oz]
Connections	bus cover
Protection rating (EN 60529)	IP65 all around
Operating temperature	-40 °C up to +85 °C [-40 °F up to 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

More Information

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

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

WDGA 58E Universal IE, 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	
	
Female connector (Port2)	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Options

Low-friction bearings

The encoder WDGA 58E Universal IE (cov) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to approx. $\leq 0.6 \text{ Ncm}$ [0.85 in-ozf] at ambient temperature and the protection class at the shaft input to IP50.

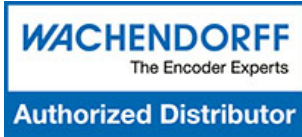
Order key

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 resolution 16 bit	16	
	Multi-turn Resolution	Order key	
43	Multi-turn 43 bit	43	
	Data protocol	Order key	
IE	Universal IE (with bus cover)	IE	IE
	Software	Order key	
U	up to date release	U	U
	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	
BI2	Connection cover:		BI2
	Bus cover with 3x M12x1	BI2	
	Options	Order key	
	Low-friction bearings	AAC	
	Without option	Empty	

Example Order No.	WDGA 58E	12	16	43	IE	U	B	0	1	BI2	
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WDGA 58E				IE	U	B	0	1	BI2		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/contact-en/wachendorff-world-wide/>

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

