



# Online Data Sheet

## Encoder WDG 58D Universal IE (cov)

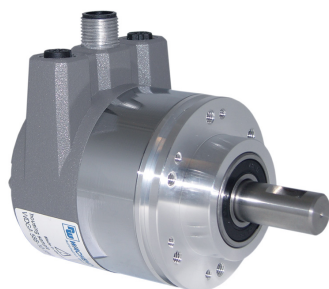
[www.wachendorff-automation.com/wdga58duie](http://www.wachendorff-automation.com/wdga58duie)

### 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 Universal IE magnetic, with bus cover and with EnDra®- Technology



**EnDra®**  
Technologie

**Universal-IE**  
Industrial Ethernet

**Heavy duty**

- EnDra®: maintenance-free and environmentally friendly
- Universal IE Single-turn/Multi-turn
- Compact design with bus cover
- Single-turn/Multi-turn (max. 16 bit/43 bit)
- Forward-looking
- 2 colour-duo LED's as indicator for operating condition and bus status and 2 L/A LED's
- High shaft load up to 400 N radial, 400 N axial

[www.wachendorff-automation.com/wdga58duie](http://www.wachendorff-automation.com/wdga58duie)

## Mechanical Data

Housing	
Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Connection cover	die cast aluminum, powder coated
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	500 N
Max. Permissible shaft loading axial	500 N

Bearings	
Bearings type	3 precision ball bearings
Nominal service life	2 x 10 <sup>8</sup> revs. at 100 % rated shaft load 3.5 x 10 <sup>9</sup> revs. at 40 % rated shaft load 2.5 x 10 <sup>10</sup> revs. at 20 % rated shaft load
Max. operating speed	8000 rpm

## Machinery Directive: basic data safety integrity level

MTTF <sub>d</sub>	300 a
Mission time (TM)	20 a
Nominal service life (L10h)	2.5 x 10 <sup>10</sup> 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. 125 mA
Power consumption	typ. 3 W

## 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.
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Multi-turn resolution	43 bit
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## Environmental data

### Environmental data:

ESD (DIN EN 61000-4-2):	8 kV
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Burst (DIN EN 61000-4-4):	2 kV
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includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
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Vibration: (DIN EN 60068-2-6)	200 m/s <sup>2</sup> (10 Hz up to 1000 Hz)
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Shock: (DIN EN 60068-2-27)	5000 m/s <sup>2</sup> (6 ms)
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Design:	according DIN VDE 0160
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Turn on time:	<1,5 s
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## Interface

Interface:	Universal Industrial Ethernet
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Protocol:	selectable (PROFINET-IO, EtherCAT)
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Data Transfer:	100BASE-TX
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Function:	Multiturn
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Code:	binary, CW default, programable
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Programmable Parameter:	steps per revolution counts of revolution preset scale counting direction
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Diagnostics: (LED)	Traffic and connection management: L/A1: Port 1 L/A2: Port 2
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Status LED:	STAT, MOD: status of encoder and bus
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## General Data

Weight	approx. 700 g
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Connections	bus cover
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Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
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Operating temperature	-40 °C up to +85 °C
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Storage temperature	-40 °C up to +100 °C
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## More Information

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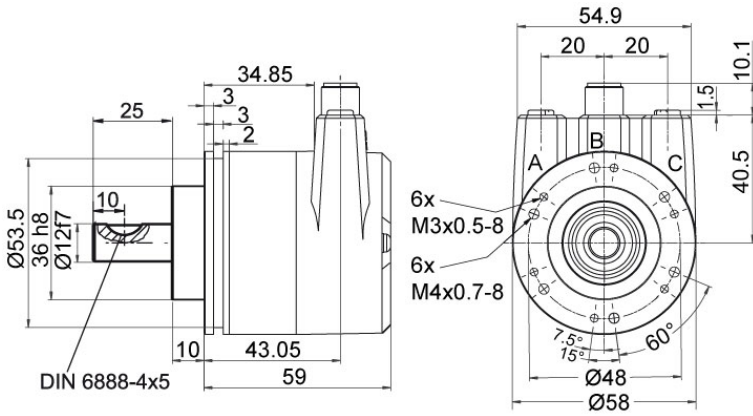
General technical data and safety instructions  
<http://www.wachendorff-automation.com/gtd>

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


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
**WDGA 58D, Universal IE, BI2, bus cover with 3x M12x1**




**Description**

**BI2** Bus cover with 3x M12x1

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

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

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

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
	<b>Shaft</b>	<b>Order key</b>	
12	Ø 12 mm	12	
	<b>Single-turn Resolution</b>	<b>Order key</b>	
16	Single-turn resolution 16 bit	16	
	<b>Multi-turn Resolution</b>	<b>Order key</b>	
43	Multi-turn 43 bit	43	
	<b>Data protocol</b>	<b>Order key</b>	
IE	Universal IE (with bus cover)	IE	
	<b>Software</b>	<b>Order key</b>	
U	up to date release	U	
	<b>Code</b>	<b>Order key</b>	
B	binary	B	
	<b>Power supply</b>	<b>Order key</b>	
0	10 V up to 32 V (standard)	0	
	<b>Galvanic isolation</b>	<b>Order key</b>	
1	yes	1	
	<b>Electrical connections</b>	<b>Order key</b>	
BI2	<b>Connection cover:</b>		
	Bus cover with 3x M12x1	BI2	

<b>Example Order No.</b>	WDGA 58D	12	16	43	IE	U	B	0	1	BI2
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WDGA 58D											<b>Example Order No.</b>
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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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