



## Online Data sheet

### Encoder WDGA 58D EtherNet/IP

[www.wachendorff-automation.com/wdga58deip](http://www.wachendorff-automation.com/wdga58deip)

#### 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 EtherNet/IP, with bus cover and with EnDra®- Technology



Illustration similar

**EnDra®**  
Technologie

**EtherNet/IP®**

**ODVA®**

- EnDra®: maintenance-free and environmentally friendly
- EtherNet/IP™ 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: radial and axial 500 N [50.984 kp]
- Classes: Position Sensor, DLR

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**Heavy duty**

Mechanical Data	
Flange	clamping flange
Flange material	aluminum
Housing material	die cast aluminum, powder coated
Intermediate piece	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 12 mm [Ø 0.472"]
Shaft length	L: 25 mm [0.984"]
Max. Permissible shaft loading radial	500 N [50.984 kp]
Max. Permissible shaft loading axial	500 N [50.984 kp]

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
Operating principle	magnetic

Sensor data	
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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 <sup>2</sup> (10 Hz up to 1000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s <sup>2</sup> (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	
<b>Interface:</b>	<b>Industrial Ethernet</b>
Protocol:	EtherNet/IP™ Conformance tested according to Version CT-18, Specification Vol 2, Ed 1.29, CIP Specification Vol 1, Ed 3.31
Classes:	Position Sensor, DLR

Data Transfer:	100BASE-TX
Cycle time:	1 ms
Function:	Multiturn
Code:	binary, CW default, programmable
Adjustable parameters:	Number of steps per revolution Number of revolution Scalin Direction of rotation CAMs Gear Ratio Preset Resolution Unit Speed IP address Position Position Limit Warning messages ("Frequency Exceeded" and "Position Limits Exceeded")
Objects (CIP Objects):	Identity Object Message Router Assembly Object Connection Manager Position Sensor Object Qos Object TCP/IP Interface Object EtherNet Link Object
EtherNet/IP Features:	DLR (Device Level Ring) possible Qos (Quality of Service) possible ACD (Address Conflict Detection) Multicast- and Unicast- capability
Diagnostics: (LED)	Traffic and connection management: L/A1: Port 1 L/A2: Port 2
Status LED:	STAT, MOD: status of encoder and bus

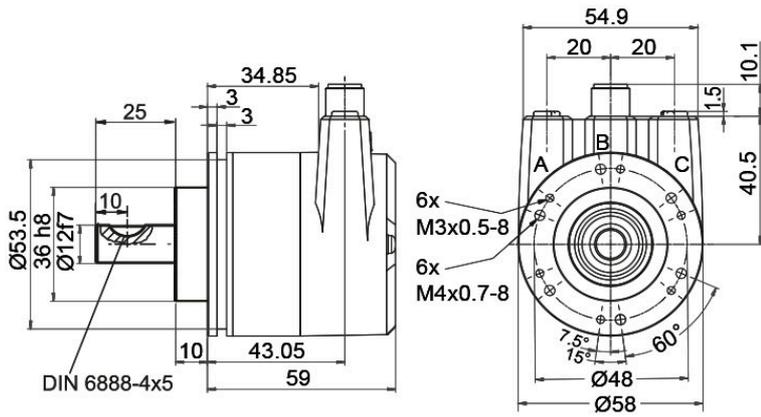
#### General Data

Weight	approx. 700 g [24.691 oz]
Connections	bus cover
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 58D, EtherNet/IP, 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

**Options****Low-friction bearings****Order key**

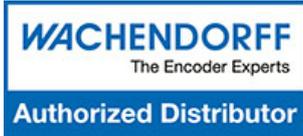
The encoder WDGA 58D EtherNet/IP is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.

**AAC**

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
	<b>Shaft</b>	<b>Order key</b>	
12	Ø 12 mm [Ø 0.472"]	12	
	<b>Single-turn Resolution</b>	<b>Order key</b>	
12	Single-turn resolution 1 up to 16 bit, e. g. 12 bit = 12	12	
	<b>Multi-turn Resolution</b>	<b>Order key</b>	
18	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	<b>Data protocol</b>	<b>Order key</b>	
EP	EtherNet/IP™ (with bus cover)	EP	EP
	<b>Software</b>	<b>Order key</b>	
U	up to date release	U	U
	<b>Code</b>	<b>Order key</b>	
B	binary	B	B
	<b>Power supply</b>	<b>Order key</b>	
0	10 V up to 32 V (standard)	0	0
	<b>Galvanic isolation</b>	<b>Order key</b>	
1	yes	1	1
	<b>Electrical connections</b>	<b>Order key</b>	
BI2	<b>Connection cover:</b>		BI2
	Bus cover with 3x M12x1	BI2	
	<b>Options</b>	<b>Order key</b>	
	Low-friction bearings	AAC	
	Without option	Empty	

<b>Example Order No.</b>	WDGA 58D	12	12	18	EP	U	B	0	1	BI2	
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WDGA 58D					EP	U	B	0	1	BI2		<b>Your encoder</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/>

# WACHENDORFF

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

Phone: +49 67 22 / 99 65 25  
E-Mail: [wdg@wachendorff.de](mailto:wdg@wachendorff.de)  
[www.wachendorff-automation.de](http://www.wachendorff-automation.de)

