



Online Data sheet

Encoder WDGA 58F EtherNet/IP

www.wachendorff-automation.com/wdga58feip

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 58F absolute EtherNet/IP, with bus cover and with EnDra®- Technology, 'extremely' compact



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 technology
- 2 colour-duo LED's as indicator for operating condition and bus status and 2 L/A LED's
- Classes: Position Sensor, DLR

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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 6 mm [Ø 0.236"]
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	60 N [6.118 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 8 mm [Ø 0.315"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	60 N [6.118 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	60 N [6.118 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]

Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	60 N [6.118 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	8000 rpm
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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. 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)
Electrical 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:	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

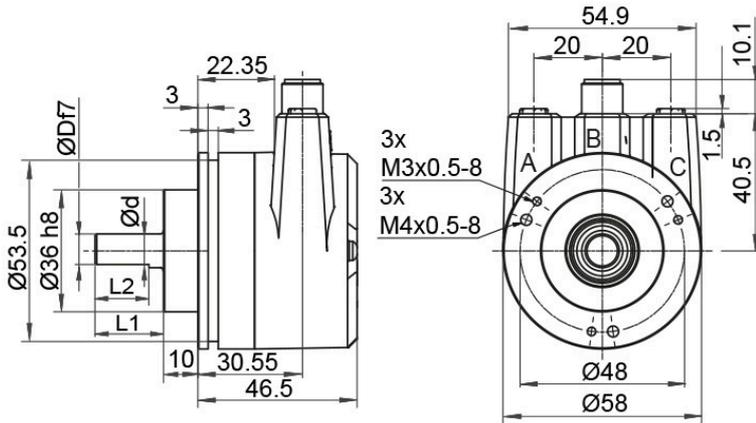
General Data

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 58F, EtherNet/IP, BI2, bus cover with 3x M12x1



- D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
- D = 8, L1 = 20, d = 7.5, L2 = 15 shaft with flat
- D = 10, L1 = 20 shaft with out flat
- D = 3/8", L1 = 20, d = 8.3, L2 = 10 shaft with flat

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

The encoder WDGA 58F 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.

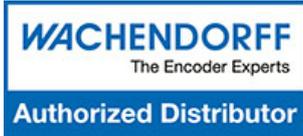
Order key

AAC

Example Order No.	Type	Your encoder	
WDGA 58F	WDGA 58F	WDGA 58F	
	Shaft	Order key	
10	∅ 6 mm [∅ 0.236"]	06	
	∅ 8 mm [∅ 0.315"]	08	
	∅ 10 mm [∅ 0.394"]	10	
	∅ 9.525 mm [∅ 3/8"] Order No: 4Z	4Z	
	Single-turn Resolution	Order key	
12	Single-turn resolution 1 up to 16 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
18	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
EP	EtherNet/IP™ (with bus cover)	EP	EP
	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 58F	10	12	18	EP	U	B	0	1	BI2	
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WDGA 58F					EP	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/>

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