WACHENDORFF
The Encoder Experts

Online Data sheet

Encoder WDGA 58B Universal IE (cov)

www.wachendorff-automation.com/wdga58buie

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 58B absolute Universal IE, with bus cover and with EnDra®- Technology

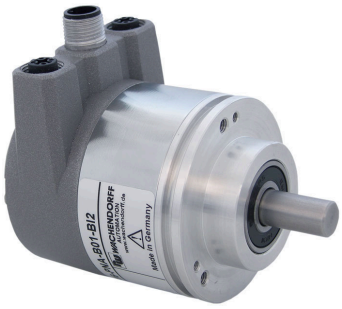

Illustration similar

EnDra® Technologie

Universal-IE Industrial Ethernet

- EnDra®: maintenance-free and environmentally friendly
- Universal IE, Single-turn/Multi-turn
- Compact design with 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
- High shaft load up to 220 N [22.433 kp] radial, 120 N [12.236 kp] axial

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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"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 12 mm [0.472"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]
Shaft	Ø 8 mm [Ø 0.315"]
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 19 mm [0.748"]
Max. Permissible shaft loading radial	125 N [12.746 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]
Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4Z
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 kp]
Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 20 mm [0.787"]
Max. Permissible shaft loading radial	220 N [22.433 kp]
Max. Permissible shaft loading axial	120 N [12.236 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	8000 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 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	Selectable: PROFINET-IO, EtherNet/IP, EtherCAT IP addres 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/s² (10 Hz up to 1000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s² (6 ms)
Electrial Safety:	according DIN VDE 0160
Turn on time:	<1,5 s

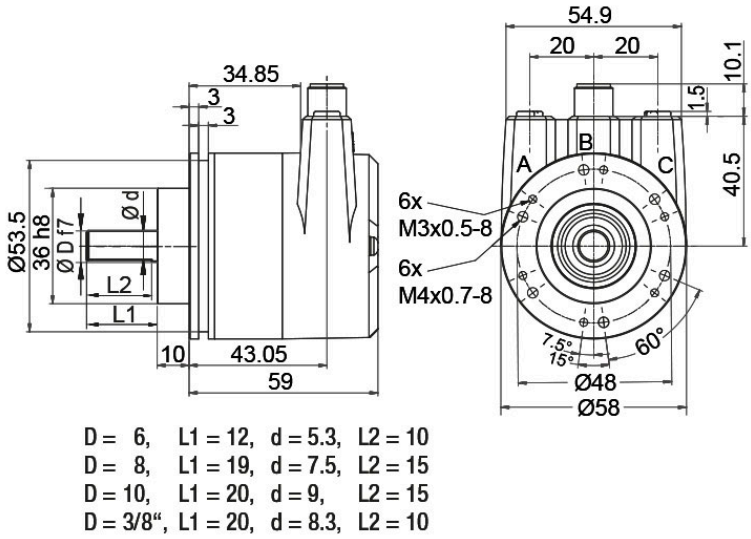
Duty information	
Customs tariff number:	90318020
Country of origin:	Germany

Interface	
Interface:	**Universal Industrial Ethernet**
Protocol:	selectable (PROFINET-IO, EtherCAT, EtherNET/IP)
Data Transfer:	100BASE-TX
Function:	Multiturn
Code:	binary, CW default, programable
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. 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 58B, Universal IE, BI2, bus cover with 3x M12x1

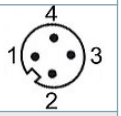


D = 6, L1 = 12, d = 5.3, L2 = 10
D = 8, L1 = 19, d = 7.5, L2 = 15
D = 10, L1 = 20, d = 9, L2 = 15
D = 3/8“, L1 = 20, d = 8.3, L2 = 10

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

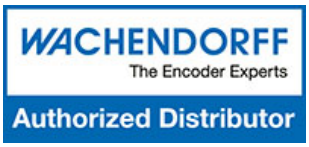
Low-friction bearings	Order key
The encoder WDGA 58B Universal IE (cov) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to ≤ 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.	**AAC**

Shafts sealed to IP67, only with Ø 9.525 mm [Ø 3/8"], Ø 10 mm [Ø 0.394"] shaft	Order key
The encoder WDGA 58B Universal IE (cov) can be supplied in a full IP67 version. Max. RPM: 3500 min'-1 Permitted Shaft-Loading: axial 100 N; radial 110 N Starting-torque: approx. 4 Ncm at ambient temperature	**AAO**

Example Order No.	Type		Your encoder
WDGA 58B	WDGA 58B		WDGA 58B
	Shaft	**Order key**	
10	Ø 6 mm [Ø 0.236"] Attention: No option AAO = full IP67 version	06	
	Ø 8 mm [Ø 0.315"] Attention: No option AAO = full IP67 version	08	
	Ø 9.525 mm [Ø 3/8"] Order No: 4Z	4Z	
	Ø 10 mm [Ø 0.394"]	10	
	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	
	Software	**Order key**	
U	up to date release	U	
	Code	**Order key**	
B	binary	B	
	Power supply	**Order key**	
0	10 V up to 32 V (standard)	0	
	Galvanic isolation	**Order key**	
1	yes	1	
	Electrical connections	**Order key**	
	Connection cover:		
BI2	Bus cover with 3x M12x1	BI2	
	Options	**Order key**	
	Without option	Empty	
	Low-friction bearings	AAC	
	Shafts sealed to IP67, only with Ø 9.525 mm [Ø 3/8"], Ø 10 mm [Ø 0.394"] shaft	AAO	

Example Order No.	WDGA 58B	10	16	43	IE	U	B	0	1	BI2	

	WDGA 58B											Example Order No.



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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