



Online Data Sheet

Encoder WDGA 58D EtherCAT (cov)

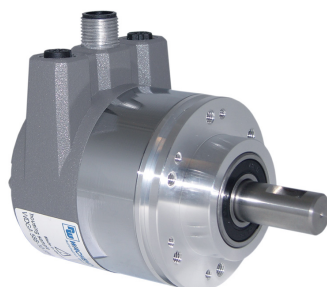
www.wachendorff-automation.com/wdga58decb

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 EtherCAT magnetic, with bus cover and with EnDra® - Technology



EtherCAT®
Conformance tested

EnDra®
Technologie

Heavy duty

- EnDra®: maintenance-free and environmentally friendly
- EtherCAT 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
- CoE, FoE, EoE

www.wachendorff-automation.com/wdga58decb

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	400 N
Max. Permissible shaft loading axial	400 N

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

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

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

Environmental data

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)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

Interface

Interface:	Industrial Ethernet
Protocol:	EtherCAT
Device Profile:	CiA DS-406 V4.0.2, Class 3
Data Transfer:	100BASE-TX
Cycle time:	up to 50 µs
Function:	Multiturn
Code:	binary, CW default, programmable
Programmable Parameter:	steps per revolution counts of revolution preset scale counting direction 2x 8 cam switches DC-Mode
Diagnostics: (LED)	Traffic and connection management: L/A1: Port 1 (IN) L/A2: Port 2 (OUT)
Status LED:	STAT, MOD: status of encoder and bus

General Data

Weight	approx. 700 g
Connections	bus cover
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65

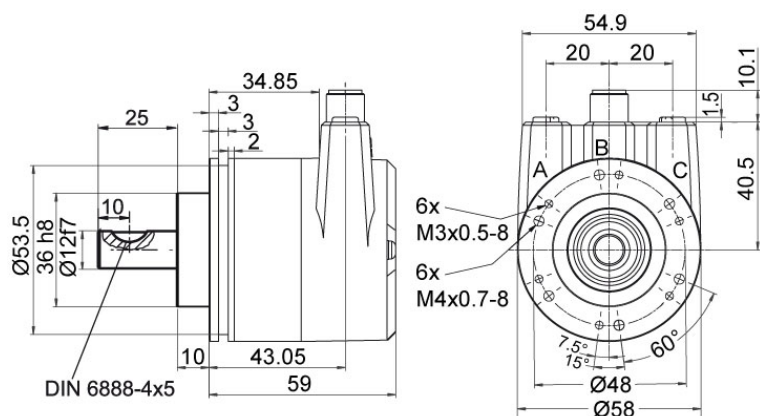
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

More Information

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

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

WDGA 58D, EtherCAT, BI2, bus cover with 3x M12x1



Description

BI2 Bus cover with 3x M12x1

Assignments	
	BI2
Female connector (Port1) IN	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) OUT	M12x1, 4-pin, D-coded
Tx+	1
Rx+	2
Tx-	3
Rx-	4

Example Order No.	Type	Your encoder	
WDGA 58D	WDGA 58D	WDGA 58D	
	Shaft	Order key	
12	Ø 12 mm	12	
	Single-turn Resolution	Order key	
13	Single-turn resolution 1 up to 16 bit, e. g. 12 bit = 12	12	
	Multi-turn Resolution	Order key	
12	Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39	18	
	Data protocol	Order key	
EC	EtherCAT (with bus cover)	EC	
	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	
BI2	Connection cover:		
	Bus cover with 3x M12x1	BI2	

Example Order No.	WDGA 58D	12	13	12	EC	U	B	0	1	BI2
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WDGA 58D										Example Order No.
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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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