



Online Data Sheet

Encoder WDGA 58B CANopen LIFT galv. isolation

www.wachendorff-automation.com/wdga58bcanliftgalv

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 58B absolute CANopen LIFT galv. isolation, magnetic, with EnDra®- Technology


EnDra®
Technologie

CANopen LIFT

- EnDra® maintenance-free and environmentally friendly
- CANopen LIFT, Single-turn/Multi-turn
- Communication Profile according to CiA 301
- Application Profile CANopen Lift CiA 417
- Single-turn/Multi-turn (16 bit / 32 bit)
- Future-oriented technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate CiA 303-3
- High shaft load up to 220 N radial, 120 N axial

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Mechanical Data

Housing

Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature, approx. 1.416 in-ozf at ambient temperature

Shaft	Ø 6 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 8 mm
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 9.525 mm, Ø 3/8"
Advice	Attention: No option AAS = full IP67 version
Shaft length	L: 20 mm, L: 0.787 in
Max. Permissible shaft loading radial	220 N, 22.434 kp
Max. Permissible shaft loading axial	120 N, 12.237 kp

Bearings

Bearings type	2 precision ball bearings
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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

Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA
Power consumption	max. 1 W

Sensor data

Single-turn technology	innovative hall sensor technology
Single-turn resolution	65,536 steps/360° (16 bit)
Single-turn accuracy	± 0.0878° (≤ 12 bit)
Single-turn repeat accuracy	± 0.0878° (≤ 12 bit)
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 32 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 DIN EN 61326-1
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 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:	CAN
Protocol:	CANopen • Communication profile CiA 301 • Application Profile CANopen LIFT CiA 417 V2.0 • Up to three virtual devices <i>car position unit (configurable)</i>
Node number:	1 up to 127 (default 4)

Baud rate:	50 kBaud up to 1 MBaud with automatic bit rate detection.
Advice:	The standard settings as well as any customization in the software can be changed via LSS (CiA 305) and the SDO protocol, e. g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate, etc.
Programmable CAN transmission modes:	Synchronous mode: when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently. Asynchronous mode: a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.)

General Data

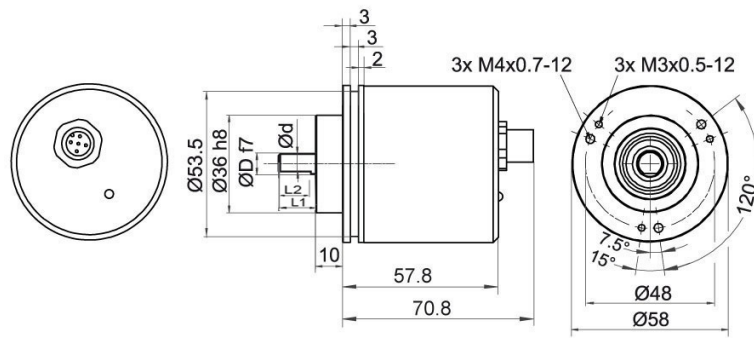
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65 (SE9: max. IP40)
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

More Information

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

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

WDGA 58B CANopen LIFT, galv. isolation, with M12x1, axial CB5, 5-pin



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, 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

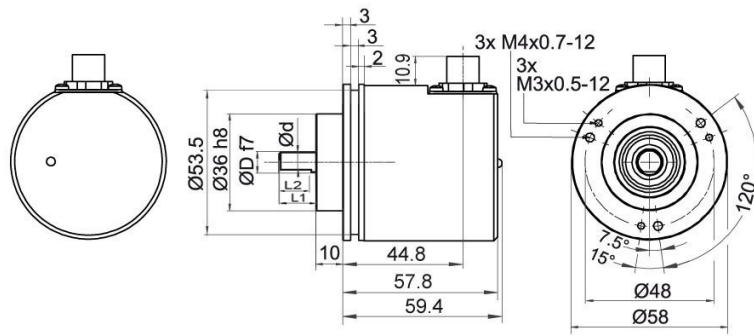
* Option full IP67 version: (only D = Ø 10 mm)
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

Description

CB5 axial, 5-pin, shield connected to encoder housing

Assignments	
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

WDGA 58B CANopen LIFT, galv. isolation, with M12x1, CC5, radial, 5-pin



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, 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

* Option full IP67 version: (only D = Ø 10 mm)

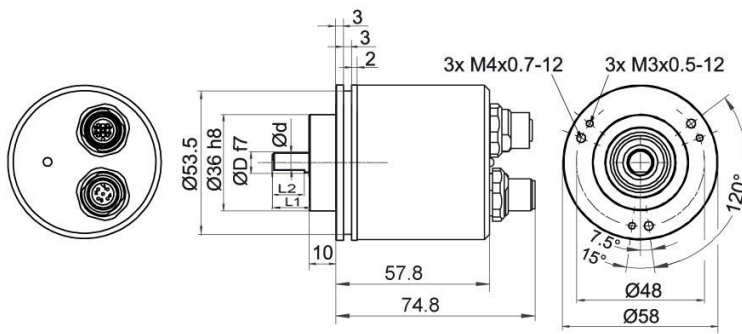
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

Description

CC5 radial, 5-pin, shield connected to encoder housing

Assignments	
	CC5
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

WDGA 58B CANopen LIFT, galv. isolation, with 2x M12x1, axial DB5



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, 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

* Option full IP67 version: (only D = Ø 10 mm)
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

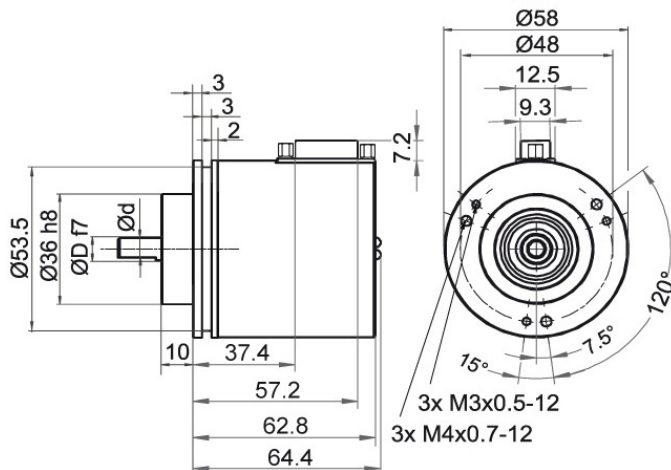
Description

DB5 axial, 5-pin, shield connected to encoder housing

Assignments	
Female connector	M12x1, 5-pin
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Assignments	
Connector	M12x1, 5-pin
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

WDGA 58B CANopen LIFT, galv. isolation, with D-SUB, radial, 9-pin (IP40)



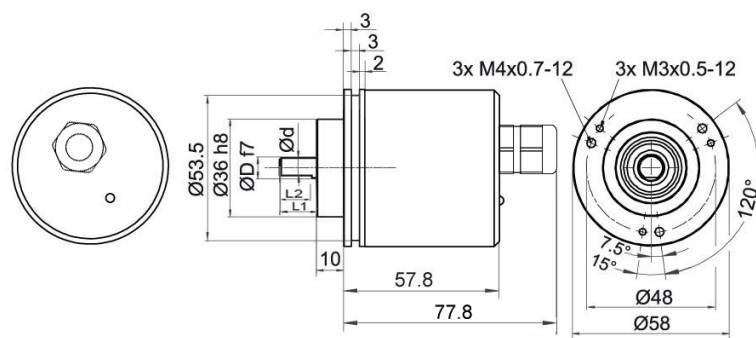
D = 6, L = 12, d = 5.3 shaft with flat
D = 8, L = 20, d = 7.5 shaft with flat
D = 10, L = 20, d = 10 shaft with out flat
D = 3/8", L = 20, d = 8.3 shaft with flat

Description

SE9 radial, 9-pin, shield connected to encoder housing (IP40)

Assignments	
	SE9
Connector	D-SUB
(+) Vcc	9
GND	6
CANHigh	7
CANLow	2
CANGND shield	3
n. c.	1, 4, 5, 8

WDGA 58B CANopen LIFT, galv. isolation, cable connection, L2 axial with 2 m cable



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, 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

* Option full IP67 version: (only D = Ø 10 mm)

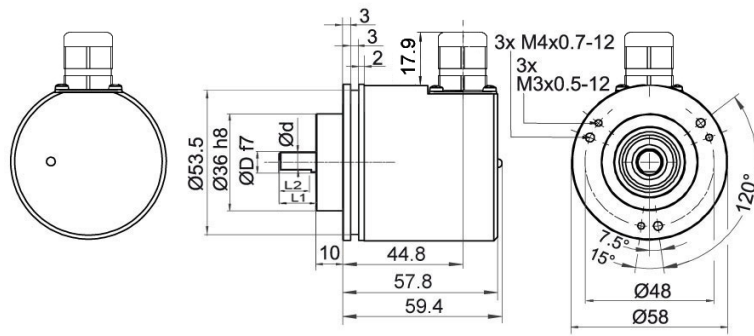
D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

Description

L2 axial, shield connected to encoder housing

Assignments	
	L2
(+) Vcc	BN
GND	WH
CANHigh	GN
CANLow	YE
CANGND shield	shield

WDGA 58B CANopen LIFT, galv. getrennt, Kabel, L3 radial mit 2 m Kabel



D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
D = 8, L1 = 19, 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

* Option full IP67 version: (only D = Ø 10 mm)

D = 10, L1 = 20, d = 9, L2 = 15 shaft with flat

Description

L3 radial, shield connected to encoder housing

Assignments	
	L3
(+) Vcc	BN
GND	WH
CANHigh	GN
CANLow	YE
CANGND shield	shield

Options

Shafts sealed to IP67, only with 10 mm shaft with flat

Order key

The encoder WDG 58B CANopen LIFT galv. isolation can be supplied in a full IP67 version. **AAS**

Max. RPM: 3500 min⁻¹

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

120 Ohm terminating resistor

Order key

The encoder WDGA 58B CANopen LIFT galv. is also available with fixed 120 Ohm terminating resistor.

AEO

Example Order No.	Type	Your encoder	
WDGA 58B	WDGA 58B	WDGA 58B	
	Shaft	Order key	
06	Ø 6 mm Attention: No option AAS = full IP67 version	06	
	Ø 8 mm Attention: No option AAS = full IP67 version	08	
	Ø 10 mm	10	
	Ø 9.525 mm Ø 3/8" Attention: No option AAS = full IP67 version	4Z	
	Single-turn Resolution	Order key	
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	12	
	Multi-turn Resolution	Order key	
18	Multi-turn resolution 1 bit up to 32 bit: (e. G. 18 bit) (Single-turn + Multi-turn max. 32 bit)	18	
	Data protocol	Order key	
CL	CANopen LIFT (galv. isolation)	CL	
	Software	Order key	
A	up to date release	A	
	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	
CB5	Cable:		
	axial, shield connected to encoder housing, with 2 m cable, IP67	L2	
	radial, shield connected to encoder housing, with 2 m cable, IP67	L3	
	Connector:		
	sensor-connector, M12x1, 5-pin, axial, IP67, shield connected to encoder housing	CB5	
	sensor-connector, M12x1, 5-pin, radial, IP67, shield connected to encoder housing	CC5	
	sensor-connector/female connector, 2x M12x1, 5-pin, axial, IP67, shield connected to encoder housing	DB5	
	connector, D-SUB, 9-pin, radial, IP40, shield connected to encoder housing (IP40)	SE9	
	Options	Order key	
	Without option	Empty	
	Shafts sealed to IP67, only with 10 mm shaft with flat	AAS	
	120 Ohm terminating resistor	AEO	

Example Order No.	WDGA 58B	06	12	18	CL	A	B	0	1	CB5	
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WDGA 58B											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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