



Online Data Sheet

엠플루트 CANopen LIFT통신 마그네틱 로터리 엔코더 WDGA 58E 시리즈 - 갈바닉 절연 타입 (Galvanic isolation)

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



EnDra®
Technologie

CANopen LIFT

1. **CANopen LIFT** 프로토콜 절대형 로터리 엔코더 - 중공축 타입
- 통신 프로파일 **CiA301**
- 어플리케이션 프로파일 **CANopen Lift CiA 417**

2. **EnDra®** 기술을 활용한 멀티턴 분해능
- 최대 **39bit** 대응
- 위치 기억을 위한 배터리, 기어 불필요

3. 갈바닉 절연 타입(**Galvanic isolation**)
- 노이즈내성, 전기적 쇼크내성, 과전류 방지

4. **IP67**의 보호 기능 - 방수/방진 로터리 엔코더
- **Shaft sealing - IP65 **IP67**선택 가능

Mechanical Data

Housing

Flange	hollow shaft (blind-bored)
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Torque supports	incl. 1 torque support WDGDS10019
- 1. Spring plate compensation	axial: ±1.2 mm, radial: ±0.2 mm
- Max. operating speed	6000 rpm up to max. protection rating +80 °C
Housing	Ø 58 mm

Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm at ambient temperature, approx. 2.226 in-ozf at ambient temperature
Fixing	permanently attached clamping ring

Shaft	Ø 6 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 6.35 mm, Ø 1/4"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp

Shaft	Ø 7 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 8 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 9.525 mm, Ø 3/8"
Advice	with adapter sleeve
Shaft length	L: 17 mm, L: 0.669 in
Insertion depth min.	10 mm, 0.394 in
Insertion depth max.	19 mm, 0.748 in
Max. Permissible shaft loading radial	80 N, 8.158 kp
Max. Permissible shaft loading axial	50 N, 5.099 kp

Shaft	Ø 10 mm
Advice	with adapter sleeve
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 12 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 N

Shaft	Ø 14 mm
Shaft length	L: 17 mm
Insertion depth min.	10 mm
Insertion depth max.	19 mm
Max. Permissible shaft loading radial	80 N
Max. Permissible shaft loading axial	50 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	6000 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	16,384 steps/360° (14 bit)
Single-turn accuracy	< ±0.35°
Single-turn repeat accuracy	< ±0.20°
Internal cycle time	≤ 600 µs
Multi-turn technology	patented EnDra® technology no battery and no gear.
Multi-turn resolution	up to 262,144 revolution (18 bit) with high precision value up to 39 bit.

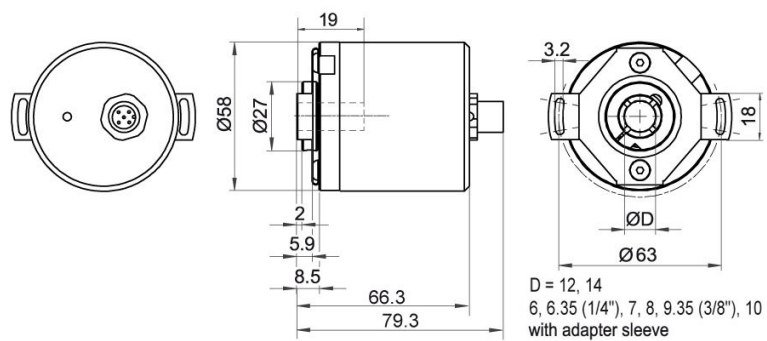
Environmental data	
ESD (DIN EN 61000-4-2):	8 kV
Burst (DIN EN 61000-4-4):	2 kV
includes EMC:	DIN EN 61000-6-2 DIN EN 61000-6-3
Vibration: (DIN EN 60068-2-6)	50 m/s ² (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s ² (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

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 value, internal timer, etc.)

General Data	
Weight	approx. 410 g, approx. 14.462 oz
Connections	connector outlet
Protection rating (EN 60529)	IP67, shaft sealed to IP65
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 58E CANopen LIFT galv. isolation, with M12x1, axial CB5, 5-pin



Description

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

Assignments	
	CB5
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Technical drawing of the 1000 Series Adapter Sleeve showing three views: top, side, and front. The top view shows a circular flange with two handles and a central hole. The side view shows the profile of the sleeve with dimensions for height and thickness. The front view shows the internal structure with a central hole and four mounting points. Dimensions are given in millimeters and inches.

Dimensions (mm):

- Top View: Ø58 (outer diameter), Ø27 (inner diameter), 19 (width), 10.9 (width), 3.2 (height), 18 (height), ØD (central hole diameter), Ø63 (outer diameter).
- Side View: 58 (height), 2 (thickness), 5.9 (thickness), 8.5 (thickness), 53.3 (length), 66.3 (length), 67.9 (length).
- Front View: 3.2 (height), 18 (height), ØD (central hole diameter), Ø63 (outer diameter).

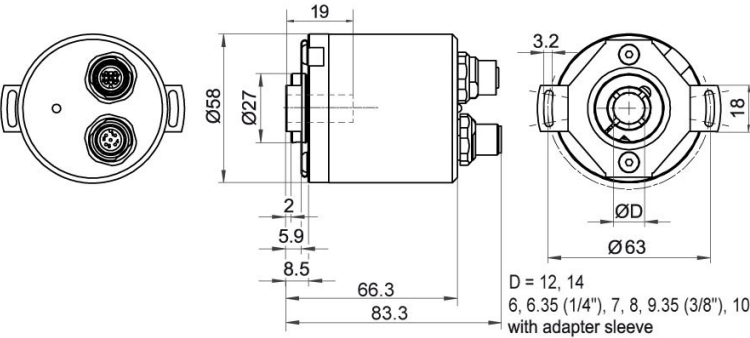
Dimensions (inches):

- Top View: 2.3 (width), 0.43 (width), 0.75 (width), 0.75 (width), 0.5 (height), 0.7 (height), ØD (central hole diameter), 2.5 (outer diameter).
- Side View: 2.3 (height), 0.08 (thickness), 0.23 (thickness), 0.33 (thickness), 2.1 (length), 2.6 (length), 2.7 (length).
- Front View: 0.13 (height), 0.7 (height), ØD (central hole diameter), 2.5 (outer diameter).

D = 12, 14
6, 6.35 (1/4"), 7, 8, 9, 9.35 (3/8"), 10
with adapter sleeve

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

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

WDGA 58E CANopen LIFT galv. isolation, with 2x M12x1, axial DB5, 5-pin**Description**

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

Assignments	
	DB5
Female connector	M12x1, 5-pin
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Assignments	
	DB5
Connector	M12x1, 5-pin
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

Options

120 Ohm terminating resistor

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

Order key

AEO

Example Order No.	Type	Your encoder	
WDGA 58E	WDGA 58E	WDGA 58E	
	Shaft	Order key	
12	Ø 6 mm with adapter sleeve	06	
	Ø 6.35 mm Ø 1/4" with adapter sleeve	2Z	
	Ø 7 mm with adapter sleeve	07	
	Ø 8 mm with adapter sleeve	08	
	Ø 9.525 mm Ø 3/8" with adapter sleeve	4Z	
	Ø 10 mm with adapter sleeve	10	
	Ø 12 mm	12	
	Ø 14 mm	14	
	Single-turn Resolution	Order key	
12	Single-turn resolution 1 bit up to 14 bit: (e. G. 12 bit)	12	
	Multi-turn Resolution	Order key	
18	Multi-turn resolution 18 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	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	
	Options	Order key	
	Without option	Empty	
	120 Ohm terminating resistor	AEO	

Example Order No.	WDGA 58E	12	12	18	CL	A	B	0	1	CB5	
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WDGA 58E											Example Order No.
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For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
http://www.wachendorff-automation.com/distributors_worldwide.html

CREKEN

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