



Online Data Sheet

엠펬루트 CAN 통신 마그네틱 로터리 엔코더

WDGA 58E 시리즈

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 CANopen

www.wachendorff-automation.com/wdga58ecan

IndustrieROBUST

Encoder WDGA 58E absolute CANopen magnetic, with EnDra®-Technology



EnDra®
Technologie

CANopen®

1. **CANopen** 프로토콜 절대형 로터리 엔코더 - 중공축 타입
- 통신 프로파일 **CiA301**
- 디바이스 프로파일 **CiA406 V3.2 class C2**

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

3. **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	Aluminum die cast, powder coated; Integrated magnetic shielding
Torque supports	incl. 1 torque support WDGDS10001
- 1. Spring pl compensation	axial: ±0.8 mm [0.0315"], radial: ±0.2 mm [0.0079"]
- Max. operating sp	6000 rpm up to max. protection rating +60 °C
- 2. Cylinder pin 4	needs accessories WDGDS10005
- Compensat	axial: ±0.5 mm [0.0197"], radial: ±1.5 mm [0.0591"], Max. operating speed: 3000 rpm
Housing	Ø 58 mm [Ø 2.283"]
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1.6 Ncm [2.266 in-ozf] at ambient temperature
Fixing	permanently attached clamping ring
Shaft	Ø 6 mm [Ø 0.236"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 6.35 mm [Ø 1/4"] Order No: 2
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 7 mm [Ø 0.276"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]

Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 8 mm [Ø 0.315"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 9.525 mm [Ø 3/8"] Order No: 4
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 10 mm [Ø 0.394"]
Advice	with adapter sleeve
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 12 mm [Ø 0.472"]
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 14 mm [Ø 0.551"]
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]

Max. Permissible shaft loading radial	80 N [8.157 kp]
Max. Permissible shaft loading axial	50 N [5.098 kp]
Shaft	Ø 15 mm [Ø 0.591"]
Shaft length	L: 12 mm [0.472"]
Insertion depth min.	11 mm [0.433"]
Insertion depth max.	15 mm [0.591"]
Max. Permissible shaft loading radial	80 N [8.157 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	6000 rpm

Machinery Directive: basic data safety integrity level

MTTF _d	1000 a
Mission time (TM)	20 a
Nominal service life (L10h)	1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 rpm
Diagnostic coverage (DC)	0 %

Electrical Data

Power supply/Current consumption	4,75 VDC up to 32 VDC: typ. 50 mA
Power consumption	max. 0.5 W
Operating principle	magnetic

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 with high precision value up to 43 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 DIN EN 61326-1
Vibration: (DIN EN 60068-2-6)	300 m/s ² (10 Hz up to 2000 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:	CAN
Protocol:	CANopen - Communication profil CiA 301 - Device Profile for encoder CiA 406 V3.2 class C2
Node number:	1 up to 127 (default 127)
Baud rate:	10 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

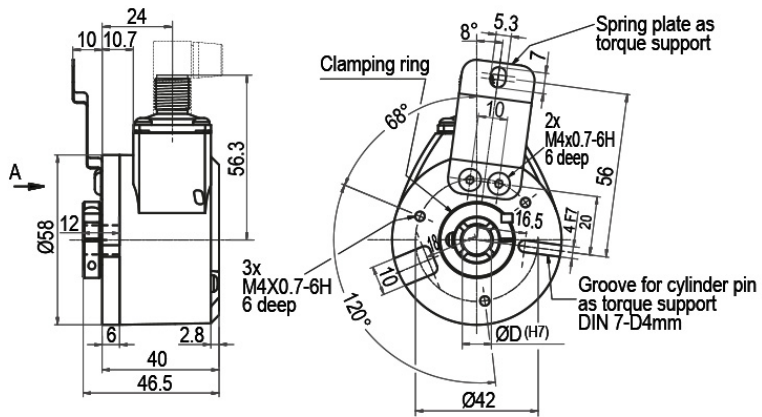
Weight	approx. 220 g [7.76 oz]
Connections	cable or connector, radial
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C [-40 °F up to 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

More Information

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

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

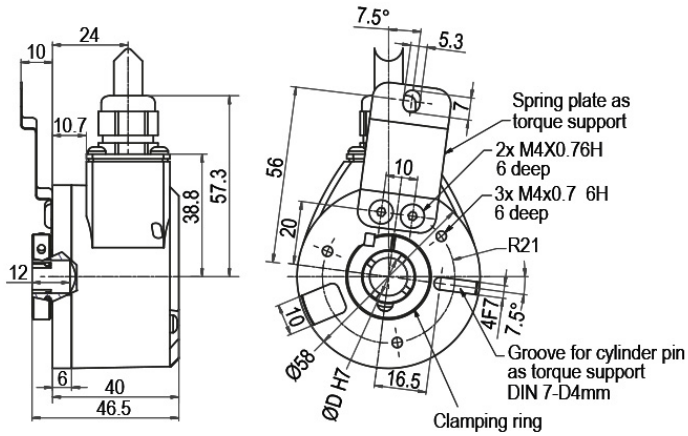
Connector, M12x1 CC5, 5-pin



Description

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

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

Cable connection, L3 radial with 2 m cable

Description

L3 radial, shield connected to encoder housing

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

Options

120 Ohm terminating resistor	Order key
The encoder WDGA 58E CANopen is also available with fixed 120 Ohm terminating resistor.	AEO

Example Order No.	Type	Your encoder
WDGA 58E	WDGA 58E	WDGA 58E
	Shaft	Order key
06	Ø 6 mm [Ø 0.236"] with adapter sleeve	06
	Ø 6.35 mm [Ø 1/4"] Order No: 2Z with adapter sleeve	2Z
	Ø 7 mm [Ø 0.276"] with adapter sleeve	07
	Ø 8 mm [Ø 0.315"] with adapter sleeve	08
	Ø 9.525 mm [Ø 3/8"] Order No: 4Z with adapter sleeve	4Z
	Ø 10 mm [Ø 0.394"] with adapter sleeve	10
	Ø 12 mm [Ø 0.472"]	12
	Ø 14 mm [Ø 0.551"]	14
	Ø 15 mm [Ø 0.591"]	15
	Single-turn Resolution	Order key
12	Single-turn resolution 1 bit up to 16 bit, recommended min. 6 bit (e. G. 12 bit)	12
	Multi-turn Resolution	Order key
18	Multi-turn resolution: (examples) 18 bit = 18 43 bit = 43 no Multiturn = 00	18
	Data protocol	Order key
CO	CANopen	CO
	Software	Order key
A	up to date release	A
	Code	Order key
B	binary	B
	Power supply	Order key
0	4.75 V up to 32 V (standard)	0
	Galvanic isolation	Order key
0	no	0
	Electrical connections	Order key
CC5	Cable: radial, shield connected to encoder housing, with 2 m cable	L3
	Connector: sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing	CC5
	Options	Order key
	Without option	Empty
	120 Ohm terminating resistor	AEO

Example Order No.	WDGA 58E	06	12	18	CO	A	B	0	0	CC5	
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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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