



# Online Data Sheet

## Encoder WDGA 58S CANopen

[www.wachendorff-automation.com/wdga58scan](http://www.wachendorff-automation.com/wdga58scan)

### 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 58S absolute CANopen magnetic, with EnDra®-Technology


**EnDra®**  
Technologie

**CANopen®**

- Resistance to salt mist (IEC 60068-2-11) succeeded
- Protection: IP67 + IP69k (high pressure / steam cleaning)
- EnDra®: maintenance-free and environmentally friendly
- CANopen, Single-turn and Multi-turn Communication Profile according to CiA 301
- Device Profile for encoder CiA 406 V3.2 class C2
- Single-turn/Multi-turn (16 bit / 43 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate CiA 303-3

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**Salt mist IEC 60068-2-11**  
**High pressure / steam cleaning**

Mechanical Data	
<b>Housing</b>	
Flange	clamping flange
Flange material	Aluminum, anodized natur
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm
<b>Shaft(s)</b>	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature
Shaft	Ø 10 mm
Shaft length	L: 18 mm
Max. Permissible shaft loading radial	100 N
Max. Permissible shaft loading axial	100 N
<b>Bearings</b>	
Bearings type	2 precision ball bearings
Nomiale service life	1 x 10 <sup>9</sup> revs. at 100 % rated shaft load 1 x 10 <sup>10</sup> revs. at 40 % rated shaft load 1 x 10 <sup>11</sup> revs. at 20 % rated shaft load
Max. operating speed	3600 rpm
Machinery Directive: basic data safety integrity level	
MTTF <sub>d</sub>	1000 a
Mission time (TM)	20 a
Nomiale service life (L10h)	1 x 10 <sup>11</sup> revs. at 20 % rated shaft load and 3600 rpm
Diagnostic coverage (DC)	0 %
<b>Electrical Data</b>	
Power supply/Current consumption	4,75 VDC up to 32 VDC: typ. 50 mA
Power consumption	max. 0.5 W
<b>Sensor data</b>	
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 <sup>2</sup> (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	5000 m/s <sup>2</sup> (6 ms)
Design:	According DIN VDE 0160
Turn on time:	<1,5 s
Duty information	
Customs tariff number:	90318020
Country of origin:	Germany
Interface	
<b>Interface:</b>	<b>CAN</b>
Protocol:	CANopen <ul style="list-style-type: none"> <li>• Communication profil CiA 301</li> <li>• Device Profile for encoder CiA 406 V3.2 class C2</li> </ul>
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.

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Programmable CAN transmission modes:	<b>Synchronous mode:</b> when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently. <b>Asynchronous mode:</b> a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.)
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#### General Data

Weight	approx. 200 g
Connections	connector outlet
Protection rating (EN 60529)	IP67+IP69K all around
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

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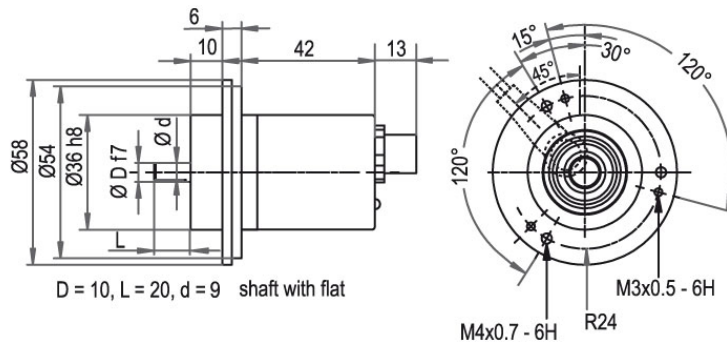
#### More Information

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

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

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## Connector, M12x1 CB5, 5-pin, axial

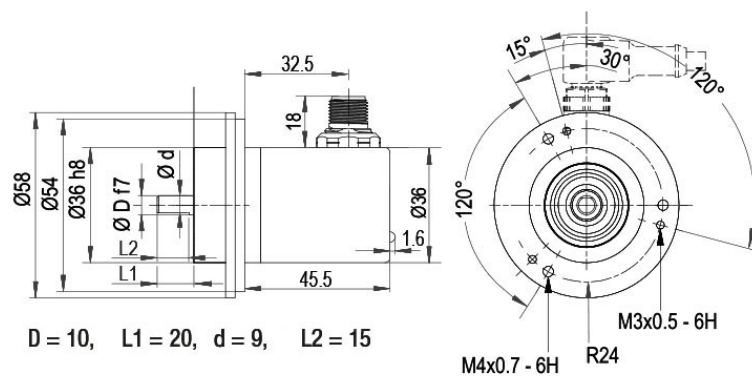


## Description

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

Assignments	
	<p><b>CB5</b></p>
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

# Connector, M12x1 CC5, 5-pin, radial



## Description

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

Assignments	
	<p><b>CC5</b></p>
(+) Vcc	2
GND	3
CANHigh	4
CANLow	5
CANGND shield	1

## Options

### 120 Ohm terminating resistor

### Order key

The encoder WDGA 58S CANopen is also available with fixed 120 Ohm terminating resistor.

**AEO**

Example Order No.	Type	Your encoder	
WDGA 58S	WDGA 58S	WDGA 58S	
	<b>Shaft</b>	<b>Order key</b>	
10	Ø 10 mm	10	
	<b>Single-turn Resolution</b>	<b>Order key</b>	
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	12	
	<b>Multi-turn Resolution</b>	<b>Order key</b>	
18	Multi-turn resolution: (examples) 18 bit = 18 43 bit = 43 no Multiturn = 00	18	
	<b>Data protocol</b>	<b>Order key</b>	
CO	CANopen	CO	CO
	<b>Software</b>	<b>Order key</b>	
A	up to date release	A	A
	<b>Code</b>	<b>Order key</b>	
B	binary	B	B
	<b>Power supply</b>	<b>Order key</b>	
0	4.75 V up to 32 V (standard)	0	0
	<b>Galvanic isolation</b>	<b>Order key</b>	
0	no	0	0
	<b>Electrical connections</b>	<b>Order key</b>	
CB5	<b>Connector:</b>		
	sensor-connector, M12x1, 5-pin, axial, shield connected to encoder housing	CB5	
	sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing	CC5	
	<b>Options</b>	<b>Order key</b>	
	120 Ohm terminating resistor	AEO	
	Without option	Empty	

<b>Example Order No.</b>	WDGA 58S	10	12	18	CO	A	B	0	0	CB5	
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WDGA 58S				CO	A	B	0	0			<b>Your encoder</b>
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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/contact-sales-en/>



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