



# 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, 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 %
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 <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:

**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.)

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#### General Data

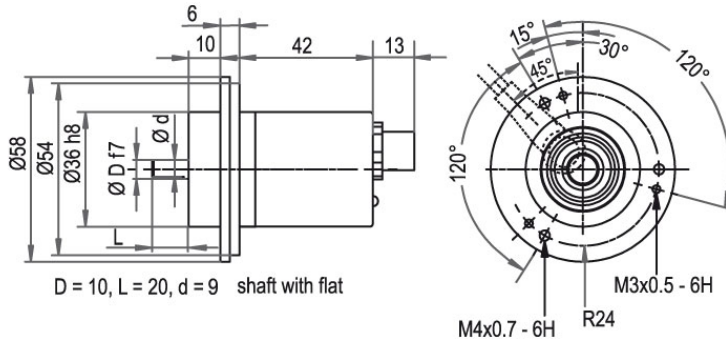
Weight	approx. 200 g
Connections	connector outlet
Protection rating (EN 60529)	IP67+IP69K all around
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

#### More Information

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

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

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

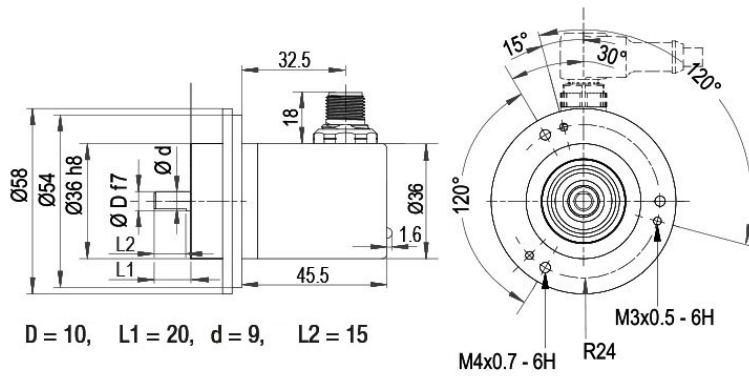


**Description**

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

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

**Connector, M12x1 CC5, 5-pin, radial**



**Description**

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

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

## Options

### 120 Ohm terminating resistor

### Order key

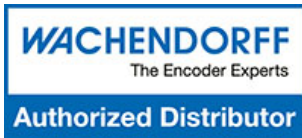
The encoder WDGA 58S CANopen is also available with fixed 120 Ohm terminating resistor.

**AEO**

Example Order No.	Type	Your encoder	
WDGA 58S	WDGA 58S	WDGA 58S	
<b>Shaft</b>			
10	Ø 10 mm	10	
<b>Single-turn Resolution</b>			
12	Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit)	12	
<b>Multi-turn Resolution</b>			
18	Multi-turn resolution: (examples) 18 bit = 18 43 bit = 43 no Multiturn = 00	18	
<b>Data protocol</b>			
CO	CANopen	CO	CO
<b>Software</b>			
A	up to date release	A	A
<b>Code</b>			
B	binary	B	B
<b>Power supply</b>			
0	4.75 V up to 32 V (standard)	0	0
<b>Galvanic isolation</b>			
0	no	0	0
<b>Electrical connections</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>			
	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/>

# WACHENDORFF

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