



# Online Data Sheet

## Encoder WDGA 58S CAN SAE J1939

[www.wachendorff-automation.com/wdga58ssaej1939](http://www.wachendorff-automation.com/wdga58ssaej1939)

### 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 CAN SAE J1939 magnetic, with EnDra® Technology



**EnDra®  
Technologie**

**SAE J1939**

- Resistance to salt mist (IEC 60068-2-11) succeeded
- Protection: IP67 + IP69k (high pressure / steam cleaning)
- EnDra® Technology: maintenance-free and environmentally friendly
- CAN SAE J1939 protocol
- Single-turn/Multi-turn (16 bit / 32 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition

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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
Nominale 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
<b>Machinery Directive: basic data safety integrity level</b>	
MTTF <sub>d</sub>	1000 a
Mission time (TM)	20 a
Nominale 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	10 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	< ±0.35°

Single-turn repeat accuracy	< ±0.20°
Internal cycle time	600 µs
Multi-turn technology	patented EnDra® technology no battery, 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
Vibration: (DIN EN 60068-2-6)	300 m/s <sup>2</sup> (10 Hz up to 2000 Hz)
Shock: (DIN EN 60068-2-27)	1000 m/s <sup>2</sup> (6 ms)
Design:	according DIN VDE 0160
Turn on time:	<1,5 s

## Interface

Interface:	CAN
CAN physical layer:	ISO 11898 (High Speed CAN)
Protocol:	ISO 11898 (High Speed CAN)
Baud rate:	Auto-Baud-Detection
Standard Preset configuration:	(other configurations on request)
Direction of counting:	(View from shaft end) ccw
ECU-adress:	0x 0A
Process data Identifier:	0x18FF000A
PGN:	0xFF00
Process data mapping:	Byte 0-3 32 Bit Position Value Byte 4 8 Bit Error Register PDU timer and Position Preset can be adjusted by PGN configuration 0xEF00 (Prop. A)
PDU - Time:	50 ms (default)
Configuration - PGN:	0x EF 00 (Prop.A)
Byte 0:	0x 01
Byte 1:	0x FF
Byte 2:	PDU time LSB

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Byte 3:	PDU time MSB
Byte 4:	Preset LSB
Byte 5, 6:	Preset
Byte 7:	Preset MSB

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#### General Data

Weight	approx. 200 g
Connections	connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C
Storage temperature	-40 °C up to +100 °C

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#### More Information

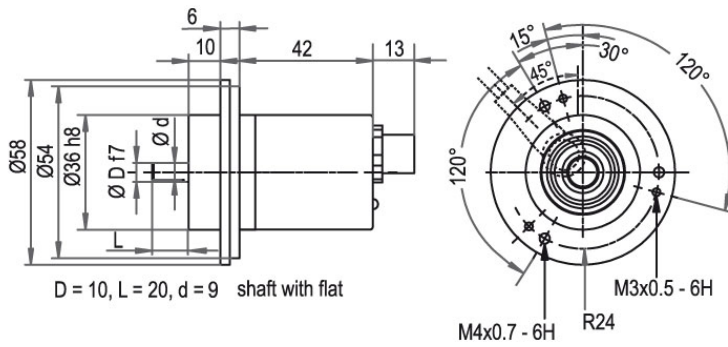
General technical data and safety instructions  
<http://www.wachendorff-automation.com/gtd>

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

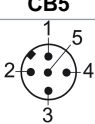
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**Connector, M12x1, axial, CB5, 5-pin**



**Description**

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

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

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>
14	Single-turn resolution 1 bit up to 16 bit: (e. G. 14 bit)	14
	<b>Multi-turn Resolution</b>	<b>Order key</b>
18	Multi-turn up to 32 bit (e. G. 18 bit) (Single-turn + Multi-turn max. 32 bit) No Multi-turn: 00	18
	<b>Data protocol</b>	<b>Order key</b>
CJ	CAN SAE J1939	CJ
	<b>Software</b>	<b>Order key</b>
A	up to date release	A
	<b>Code</b>	<b>Order key</b>
B	binary	B
	<b>Power supply</b>	<b>Order key</b>
0	10 V up to 32 V (standard)	0
	<b>Galvanic isolation</b>	<b>Order key</b>
0	no	0
	<b>Electrical connections</b>	<b>Order key</b>
CB5	<b>Connector:</b>	CB5
	sensor-connector, M12x1, 5-pin, axial, IP67, shield connected to encoder housing	

<b>Example Order No.</b>	WDGA 58S	10	14	18	CJ	A	B	0	0	CB5
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WDGA 58S										<b>Example Order No.</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/>



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