



## 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, with EnDra® Technology



Illustration similar

**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	
Flange	clamping flange
Flange material	Aluminum, anodized natur
Housing material	steel case chrome-plated, magnetic shielding
Flange diameter	Ø 58 mm [Ø 2.283"]
Shaft(s)	
Shaft material	stainless steel
Starting torque	approx. 1 Ncm [1.416 in-ozf] at ambient temperature
Shaft	Ø 10 mm [Ø 0.394"]
Shaft length	L: 18 mm [0.709"]
Max. Permissible shaft loading radial	100 N [10.197 kp]
Max. Permissible shaft loading axial	100 N [10.197 kp]
Bearings	
Bearings type	2 precision ball bearings
Nominal 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
Nominal 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, no gear.
Multi-turn resolution	up to 32 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)
Electrical Safety:	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>
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
Byte 3:	PDU time MSB
Byte 4:	Preset LSB
Byte 5, 6:	Preset
Byte 7:	Preset MSB

#### General Data

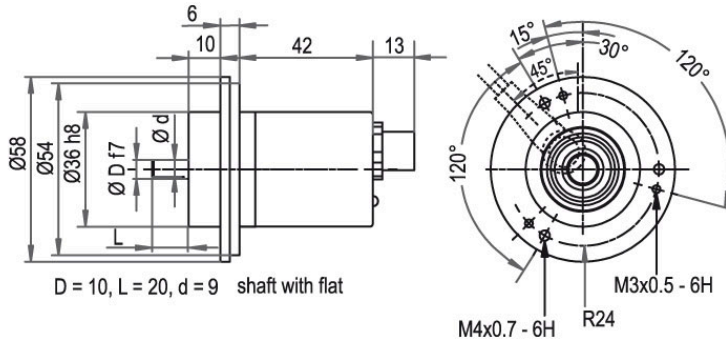
Weight	approx. 200 g [7.055 oz]
Connections	connector outlet
Protection rating (EN 60529)	IP67+IP69K all around
Operating temperature	-40 °C up to +85 °C [-40 °F up to 185 °F]
Storage temperature	-40 °C up to +100 °C [-40 °F up to 212 °F]

#### More Information

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

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

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



**Description**

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

Assignments	
	<p><b>CB5</b></p> <p>1 5 2 4 3</p>
<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	
	<p><b>CC5</b></p>
<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**

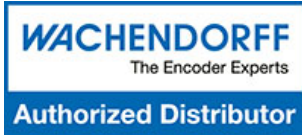
The encoder WDGA 58S CAN SAE J1939 is also available with fixed 120 Ohm terminating resistor. **AEO**

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Example Order No.	Type	Your encoder	
WDGA 58S	WDGA 58S	WDGA 58S	
<b>Shaft</b>			
10	Ø 10 mm [Ø 0.394"]	Order key	10
<b>Single-turn Resolution</b>			
14	Single-turn resolution 1 bit up to 16 bit, recommended min. 6 bit (e. G. 14 bit)	Order key	14
<b>Multi-turn Resolution</b>			
18	Multi-turn up to 32 bit (e. G. 18 bit) (Single-turn + Multi-turn max. 32 bit) No Multi-turn: 00	Order key	18
<b>Data protocol</b>			
CJ	CAN SAE J1939	Order key	CJ
<b>Software</b>			
A	up to date release	Order key	A
<b>Code</b>			
B	binary	Order key	B
<b>Power supply</b>			
0	4.75 V up to 32 V (standard)	Order key	0
<b>Galvanic isolation</b>			
0	no	Order key	0
<b>Electrical connections</b>			
CB5	<b>Connector:</b>	Order key	
	sensor-connector, M12x1, 5-pin, axial, shield connected to encoder housing	Order key	CB5
	sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing	Order key	CC5
<b>Options</b>			
	Without option	Order key	Empty
	120 Ohm terminating resistor	Order key	AEO

<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/contact-en/wachendorff-world-wide/>

# WACHENDORFF

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