



# Online Data sheet

## Encoder WDGA 58B SAEJ1939 galv. isolation

[www.wachendorff-automation.com/wdga58bsaej1939galv](http://www.wachendorff-automation.com/wdga58bsaej1939galv)

### 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 58B absolute CAN SAE J1939 galv. isolation, magnetic, with EnDra®- Technology



**EnDra®**  
Technologie

**SAE J1939**

- EnDra® Technology:
- CAN SAE J1939 protocol
- Galvanic isolation
- Single-turn/Multi-turn (16 bit / 32 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition
- High shaft load up to 220 N radial, 120 N axial

[www.wachendorff-automation.com/wdga58bsaej1939galv](http://www.wachendorff-automation.com/wdga58bsaej1939galv)

## Mechanical Data

### Housing

Flange	clamping flange
Flange material	aluminum
Housing cap	steel case chrome-plated, magnetic shielding
Housing	Ø 58 mm

### Shaft(s)

Shaft material	stainless steel
Starting torque	approx. 1 Ncm at ambient temperature, approx. 1.416 in-ozf at ambient temperature

Shaft	Ø 6 mm
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 12 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 8 mm
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 19 mm
Max. Permissible shaft loading radial	125 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 10 mm
Shaft length	L: 20 mm
Max. Permissible shaft loading radial	220 N
Max. Permissible shaft loading axial	120 N

Shaft	Ø 9.525 mm, Ø 3/8"
Advice	Attention: No option AAO = full IP67 version
Shaft length	L: 20 mm, L: 0.787 in
Max. Permissible shaft loading radial	220 N, 22.434 kp
Max. Permissible shaft loading axial	120 N, 12.237 kp

### Bearings

Bearings type	2 precision ball bearings
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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	8000 rpm

## Electrical Data

Power supply/Current consumption	10 VDC up to 32 VDC: typ. 100 mA
Power consumption	max. 1 W

## 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)	50 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>
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

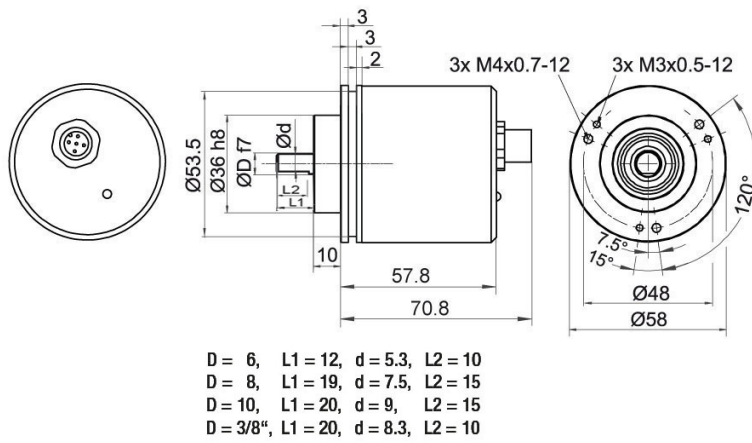
Connections	cable or connector outlet
Protection rating (EN 60529)	Housing: IP65, IP67; shaft sealed: IP65
Operating temperature	-40 °C up to +85 °C, -40 °F up to +176 °F
Storage temperature	-40 °C up to +100 °C, -40 °F up to +212 °F

#### More Information

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

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

**WDGA 58B CAN SAE J1939, galv. isolation, with M12x1, axial CB5, 5-pin**

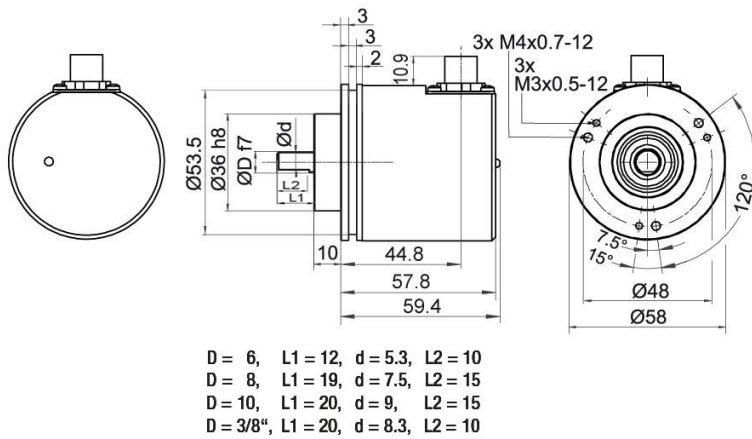


**Description**

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

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

**WDGA 58B CAN SAE J1939, galv. isolation, with M12x1, CC5, radial, 5-pin**

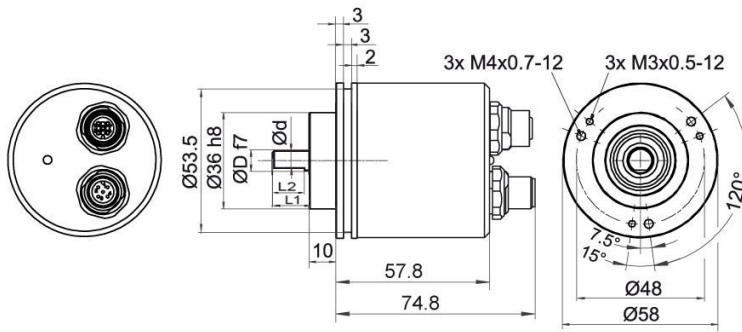


## Description

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

Assignments	
	<p style="text-align: center;"><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

**WDGA 58B CAN SAE J1939, galv. isolation, with 2x M12x1, axial DB5**



- D = 6, L1 = 12, d = 5.3, L2 = 10
- D = 8, L1 = 19, d = 7.5, L2 = 15
- D = 10, L1 = 20, d = 9, L2 = 15
- D = 3/8", L1 = 20, d = 8.3, L2 = 10

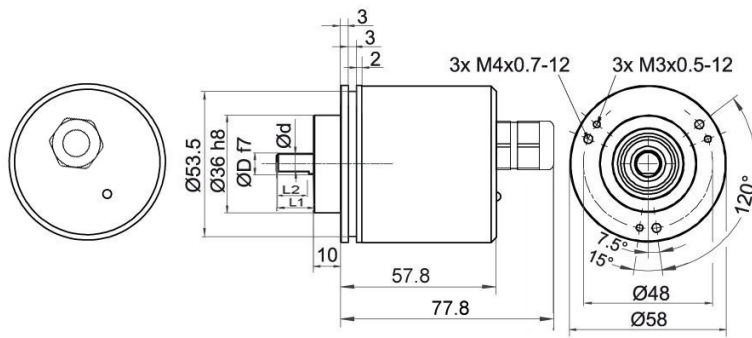
**Description**

**DB5** axial, 5-pin, shield connected to encoder housing

Assignments	
<b>Female connector</b>	M12x1, 5-pin
<b>(+) Vcc</b>	2
<b>GND</b>	3
<b>CANHigh</b>	4
<b>CANLow</b>	5
<b>CANGND shield</b>	1

Assignments	
<b>Connector</b>	M12x1, 5-pin
<b>(+) Vcc</b>	2
<b>GND</b>	3
<b>CANHigh</b>	4
<b>CANLow</b>	5
<b>CANGND shield</b>	1

**WDGA 58B CAN SAE J1939, galv. isolation, cable connection, L2 axial with 2 m cable**



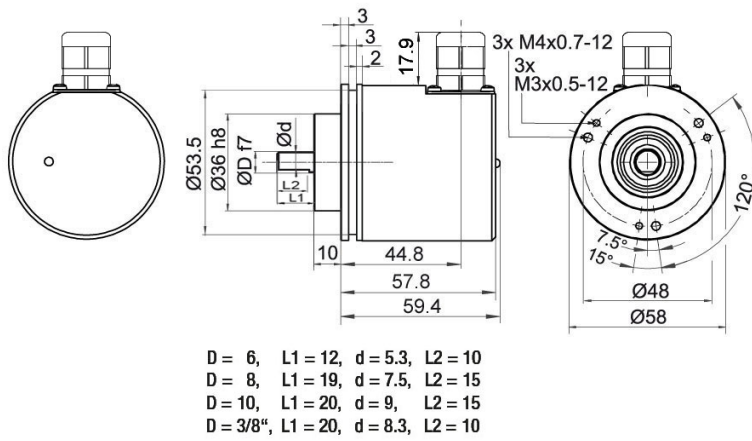
D = 6, L1 = 12, d = 5.3, L2 = 10  
 D = 8, L1 = 19, d = 7.5, L2 = 15  
 D = 10, L1 = 20, d = 9, L2 = 15  
 D = 3/8", L1 = 20, d = 8.3, L2 = 10

**Description**

**L2** axial, shield connected to encoder housing

Assignments	
	<b>L2</b>
<b>(+) Vcc</b>	BN
<b>GND</b>	WH
<b>CANHigh</b>	GN
<b>CANLow</b>	YE
<b>CANGND shield</b>	shield

**WDGA 58B CAN SAE J1939, galv. isolation, cable connection, L3 radial with 2 m cable**



**Description**

**L3** radial, shield connected to encoder housing

Assignments	
	<b>L3</b>
<b>(+) Vcc</b>	BN
<b>GND</b>	WH
<b>CANHigh</b>	GN
<b>CANLow</b>	YE
<b>CANGND shield</b>	shield



**Options****Shafts sealed to IP67, only with shaft Ø 10 mm****Order key**

The encoder WDG 58B CAN SAE J1939 galv. isolation can be supplied in a full IP67 version.

**AAO**

Max. RPM: 3500 min<sup>-1</sup>

Permitted Shaft-Loading: axial 100 N; radial 110 N

Starting-torque: approx. 4 Ncm at ambient temperature

**120 Ohm terminating resistor****Order key**

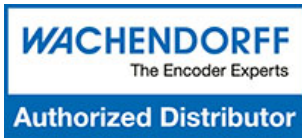
The encoder WDGA 58B CAN SAE J1939 galv. is also available with fixed 120 Ohm terminating resistor.

**AEO**

Example Order No.	Type	Your encoder
WDGA 58B	WDGA 58B	WDGA 58B
	<b>Shaft</b>	<b>Order key</b>
06	Ø 6 mm Attention: No option AAO = full IP67 version	06
	Ø 8 mm Attention: No option AAO = full IP67 version	08
	Ø 10 mm	10
	Ø 9.525 mm Ø 3/8" Attention: No option AAO = full IP67 version	4Z
	<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 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 (galv. isolation)	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>
1	yes	1
	<b>Electrical connections</b>	<b>Order key</b>
CB5	<b>Cable:</b>	
	axial, shield connected to encoder housing, with 2 m cable	L2
	radial, shield connected to encoder housing, with 2 m cable	L3
	<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	
sensor-connector/female connector, 2x M12x1, 5-pin, axial, shield connected to encoder housing	DB5	
	<b>Options</b>	<b>Order key</b>
	Without option	Empty
	Shafts sealed to IP67, only with shaft Ø 10 mm	AAO
	120 Ohm terminating resistor	AEO

Example Order No.	WDGA 58B	06	12	18	CJ	A	B	0	1	CB5	
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WDGA 58B											Example Order No.
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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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