

Online Data Sheet

Encoder WDGA 58A CAN SAE J1939

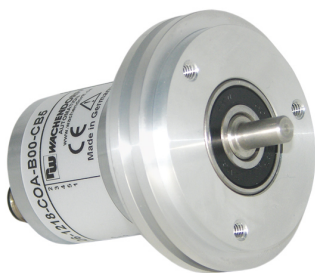
www.wachendorff-automation.com/wdga58asaej1939

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 58A absolute CAN SAE J1939 magnetic, with EnDra® Technologie



**EnDra®
Technologie**

SAE J1939

- EnDra® Technologie: maintenance-free and environmentally friendly
- CAN SAE J1939 protocol
- Single-/Multiturn (14 bit / 18 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/wdga58asaej1939

Mechanical Data

| Housing | |
|-----------------|--|
| Flange | synchro flange |
| Flange material | aluminium |
| Housing cap | steel case chrome-plated, magnetic shielding |
| Housing | Ø 58 mm |
| Cam mounting | pitch 65 mm |

| Shaft(s) | |
|-----------------|--------------------------------------|
| Shaft material | stainless steel |
| Starting torque | approx. 1 Ncm at ambient temperature |

| | |
|---------------------------------------|----------|
| Shaft | Ø 6 mm |
| Shaft length | L: 12 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 |

| Bearings | |
|----------------------|---|
| Bearings type | 2 precision ball bearings |
| Nominal service life | 1 x 10 ⁹ revs. at 100 % rated shaft load 1 x 10 ¹⁰ revs. at 40 % rated shaft load 1 x 10 ¹¹ revs. at 20 % rated shaft load |
| Max. operating speed | 8000 rpm |

Machinery Directive: basic data safety integrity level

| | |
|-----------------------------|--|
| MTTF _d | 1000 a |
| Mission time (TM) | 20 a |
| Nominal service life (L10h) | 1 x 10 ¹¹ revs. at 20 % rated shaft load and 8000 rpm |
| Diagnostic coverage (DC) | 0 % |

Electrical Data

| | |
|----------------------------------|---------------------------------|
| Power supply/Current consumption | 10 VDC up to 32 VDC: max. 50 mA |
| Power consumption | max. 0.5 W |

Sensor data

| | |
|----------------------------|---|
| Singleturn technology | innovative hall sensor technology |
| Singleturn resolution | 16.384 steps/360° (14 bit) |
| Singleturn accuracy | < ±0.35° |
| Singleturn repeat accuracy | < ±0.20° |
| Intern cycle time | 600 µs |
| Multiturn technology | patented EnDra® technology no battery, no gear. |
| Multiturn resolution | up to 262,144 revolutions (18 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 |
| Vibration: (DIN EN 60068-2-6) | 50 m/s ² (10 Hz up to 2000 Hz) |
| Shock: (DIN EN 60068-2-27) | 1000 m/s ² (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 |

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

General Data

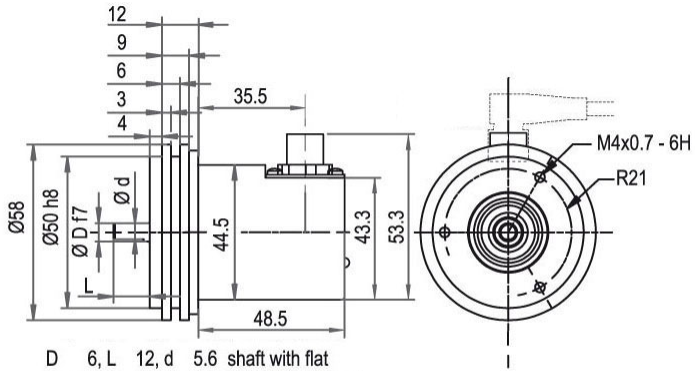
| | |
|------------------------------|----------------------------|
| Weight | approx. 224 g |
| Connections | connector outlet |
| Protection rating (EN 60529) | IP67, shaft sealed to IP65 |
| Operating temperature | -40 °C up to +85 °C |
| Storage temperature | -40 °C up to +100 °C |

More Information

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

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

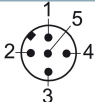
Connector, M12x1, radial, CC5, 5-pin



D = 6, L = 12, d = 5.6 shaft with flat
 D = 10, L = 20, d = 10 shaft without flat *
 *option full IP67 version: D= \varnothing 10 mm)
 D = 10, L = 20, d = 9 shaft with flat

Description

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

| Assignments | |
|----------------------|--|
| | CC5  |
| (+) Vcc | 2 |
| GND | 3 |
| CANHigh | 4 |
| CANLow | 5 |
| CANGND shield | 1 |

Options**Shafts sealed to IP67 (shaft with flat: Ø 10 mm only)****Order key**

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

AAS

Max. RPM: 3500 min⁻¹

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

Starting-torque: approx. 4 Ncm at ambient temperature

| Example Order No. | Type | Your encoder | |
|-------------------|---|------------------|--|
| WDGA 58A | WDGA 58A | WDGA 58A | |
| | Shaft | Order key | |
| 10 | ∅ 6 mm | 06 | |
| | ∅ 10 mm | 10 | |
| | Singleturn Resolution | Order key | |
| 14 | Singleturn resolution 14 Bit: (standard) max. 14 Bit possible | 14 | |
| | Multiturn Resolution | Order key | |
| 18 | Multiturn 18 Bit (standard) max. 32 Bit possible No Multiturn = 00 | 18 | |
| | Data protocol | Order key | |
| CJ | CAN SAE J1939 | CJ | |
| | Software | Order key | |
| A | up to date release | A | |
| | Code | Order key | |
| B | binary | B | |
| | Power supply | Order key | |
| 0 | 10 V up to 32 V (standard) | 0 | |
| | Galvanic isolation | Order key | |
| 0 | no | 0 | |
| | Electrical connections | Order key | |
| CB5 | Connector: | | |
| | sensor-connector, M12x1, 5-pin, axial, IP67, shield connected to encoder housing | CB5 | |
| | sensor-connector, M12x1, 5-pin, radial, IP67, shield connected to encoder housing | CC5 | |
| | Options | Order key | |
| | Without option | Empty | |
| | Shafts sealed to IP67 (shaft with flat: ∅ 10 mm only) | AAS | |

| | | | | | | | | | | | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|--|
| Example Order No. | WDGA 58A | 10 | 14 | 18 | CJ | A | B | 0 | 0 | CB5 | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|--|

| | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--------------------------|
| WDGA 58A | | | | | | | | | | | Example Order No. |
|----------|--|--|--|--|--|--|--|--|--|--|--------------------------|



For further information please contact our local distributor.
Here you find a list of our distributors worldwide.
http://www.wachendorff-automation.com/distributors_worldwide.html



Wachendorff Automation GmbH & Co. KG
Industriestrasse 7 • D-65366 Geisenheim

Phone: +49 67 22 / 99 65 25
Fax: +49 67 22 / 99 65 70
E-Mail: wdg@wachendorff.de
www.wachendorff-automation.de

