



Online Data Sheet

Encoder WDGA 36A CAN SAE J1939

www.wachendorff-automation.com/wdga36asaej1939

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 36A absolute CAN SAE J1939 magnetic, with EnDra® Technology



EnDra®
Technologie

SAE J1939

- EnDra® Technologie: 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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Mechanical Data

Housing

| | |
|-----------------|--|
| Flange | synchro flange |
| Flange material | aluminum |
| Housing cap | steel case chrome-plated, magnetic shielding |
| Housing | Ø 36 mm |

Shaft(s)

| | |
|-----------------|--|
| Shaft material | stainless steel |
| Starting torque | approx. 0.3 Ncm at ambient temperature |

| | |
|---------------------------------------|------------|
| Shaft | Ø 6 mm |
| Shaft length | L: 11.5 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |

| | |
|---------------------------------------|----------|
| Shaft | Ø 8 mm |
| Shaft length | L: 18 mm |
| Max. Permissible shaft loading radial | 50 N |
| Max. Permissible shaft loading axial | 50 N |

Bearings

| | |
|----------------------|--|
| Bearings type | 2 precision ball bearings |
| Nominal service life | 1.4 x 10 ⁸ revs. at 100 % rated shaft load 2 x 10 ⁹ revs. at 40 % rated shaft load 1.7 x 10 ¹⁰ revs. at 20 % rated shaft load |
| Max. operating speed | 12000 rpm |

Machinery Directive: basic data safety integrity level

| | |
|-----------------------------|---|
| MTTF _d | 1000 a |
| Mission time (TM) | 20 a |
| Nominal service life (L10h) | 1.7 x 10 ¹⁰ revs. at 20 % rated shaft load and 12000 rpm |
| Diagnostic coverage (DC) | 0 % |

Electrical Data

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

Sensor data

| | |
|-----------------------------|---|
| 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 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 |

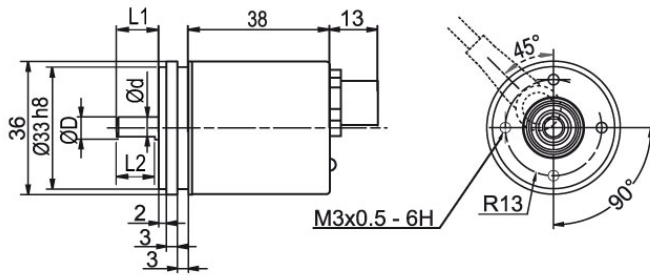
General Data

| | |
|------------------------------|--|
| Weight | approx. 112 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 |

More Information

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

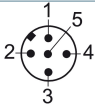
Options
<http://www.wachendorff-automation.com/acc>

Connector, M12x1, axial, CB5, 5-pin


D = 6.7 L1 = 11.5 d = 5.3 L2 = 10
 D = 8.7 L1 = 18 d = 7 L2 = 14

Description

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

| Assignments | |
|----------------------|--|
| | CB5  |
| (+) Vcc | 2 |
| GND | 3 |
| CANHigh | 4 |
| CANLow | 5 |
| CANGND shield | 1 |

| Example Order No. | Type | Your encoder |
|-------------------|---|------------------|
| WDGA 36A | WDGA 36A | WDGA 36A |
| | Shaft | Order key |
| 06 | ∅ 6 mm | 06 |
| | ∅ 8 mm | 08 |
| | Single-turn Resolution | Order key |
| 14 | Single-turn resolution 1 bit up to 16 bit: (e. G. 14 bit) | 14 |
| | Multi-turn Resolution | Order key |
| 18 | Multi-turn up to 32 bit (e. G. 18 bit) (Single-turn + Multi-turn max. 32 bit) No Multi-turn: 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 |

| | | | | | | | | | | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|
| Example Order No. | WDGA 36A | 06 | 14 | 18 | CJ | A | B | 0 | 0 | CB5 |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|

| | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--------------------------|
| WDGA 36A | | | | | | | | | | Example Order No. |
|----------|--|--|--|--|--|--|--|--|--|--------------------------|



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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