



Online Data sheet

Encoder WDGA 58B CANopen galv. isolation

www.wachendorff-automation.com/wdga58bcangalv

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 CANopen galv. isolation, magnetic, with EnDra®- Technology



EnDra®
Technologie

CANopen®

- EnDra®: maintenance-free and environmentally friendly
- CANopen, Single-turn/Multi-turn
- Galvanic isolation
- Communication Profile according to CiA 301
- Device Profile for encoder CiA 406 V3.2 class C2
- Single-turn/Multi-turn (16 bit/43 bit)
- Forward-looking technology with 32 Bit processor
- 2-colour-LED as indicator for operating condition and error message appropriate CiA 303-3
- High shaft load up to 220 N radial, 120 N axial

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| 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 |

| | |
|-----------------------|---|
| Nominale 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 |

| 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 and no gear. |
| Multi-turn resolution | up to 32 bit with high precision value up to 43 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 ² (10 Hz up to 2000 Hz) |
| Shock: (DIN EN 60068-2-27) | 5000 m/s ² (6 ms) |
| Design: | according DIN VDE 0160 |
| Turn on time: | <1,5 s |

| Duty information | |
|------------------------|----------|
| Customs tariff number: | 90318020 |
| Country of origin: | Germany |

| Interface | |
|-------------------|--|
| Interface: | CAN |
| Protocol: | CANopen <ul style="list-style-type: none"> • Communication profil CiA 301 • Device Profile for encoder CiA 406 V3.2 class C2 |

| | |
|--------------------------------------|--|
| Node number: | 1 up to 127 (default 127) |
| Baud rate: | 50 kBaud up to 1 MBaud with automatic bit rate detection. |
| Advice: | The standard settings as well as any customization in the software can be changed via LSS (CiA 305) and the SDO protocol, e. g. PDOs, Scaling, Heartbeat, Node-ID, Baud rate, etc. |
| Programmable CAN transmission modes: | <p>Synchronous mode: when a synchronisation telegram (SYNC) is received from another bus node, PDOs are transmitted independently.</p> <p>Asynchronous mode: a PDO message is triggered by an internal event. (e.g. change of measured valued, internal timer, etc.)</p> |

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

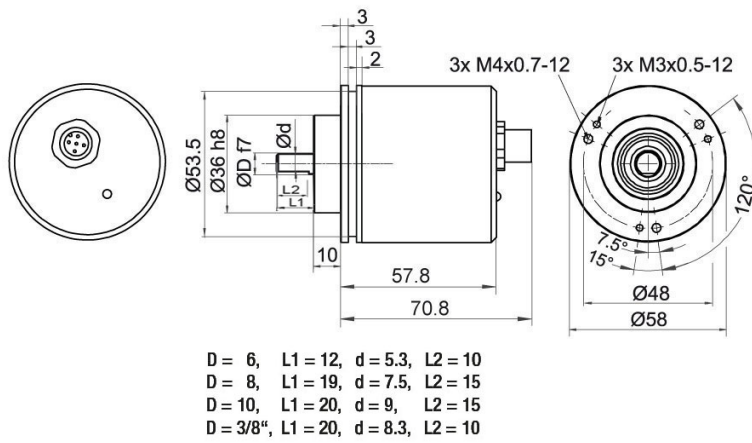
General technical data and safety instructions

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

Options

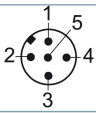
<http://www.wachendorff-automation.com/acc>

WDGA 58B CANopen, galv. isolation, with M12x1, axial CB5, 5-pin

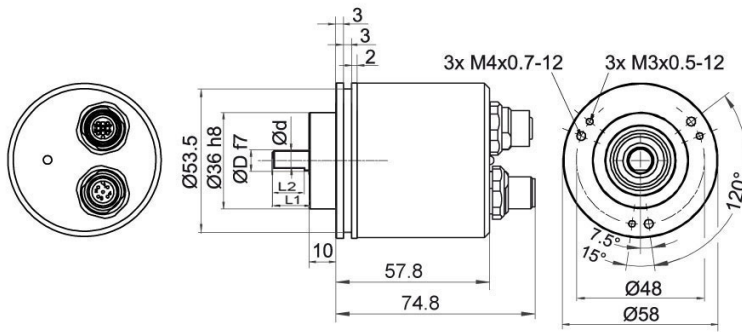


Description

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

| Assignments | |
|----------------------|---|
| | <p style="text-align: center;">CB5</p>  |
| (+) Vcc | 2 |
| GND | 3 |
| CANHigh | 4 |
| CANLow | 5 |
| CANGND shield | 1 |

WDGA 58B CANopen, 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

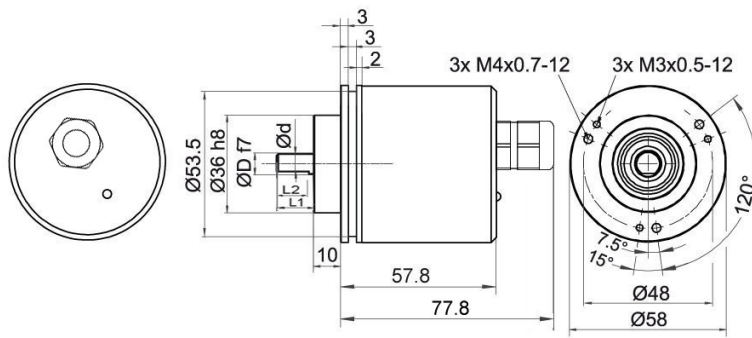
Description

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

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

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

WDGA 58B CANopen, galv. isolation, cable connection, L2 axial with 2 m cable



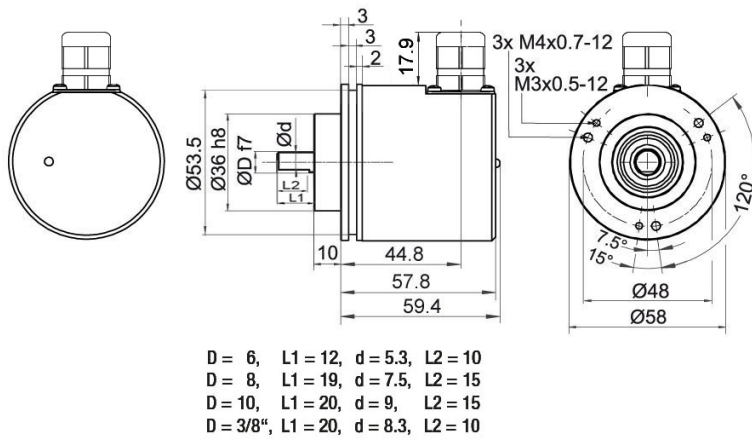
D = 6, L1 = 12, d = 5.3, L2 = 10
 D = 8, L1 = 19, d = 7.5, L2 = 15
 D = 10, L1 = 20, d = 9, L2 = 15
 D = 3/8", L1 = 20, d = 8.3, L2 = 10

Description

L2 axial, shield connected to encoder housing

| Assignments | |
|----------------------|-----------|
| | L2 |
| (+) Vcc | BN |
| GND | WH |
| CANHigh | GN |
| CANLow | YE |
| CANGND shield | shield |

WDGA 58B CANopen, galv. isolation, cable connection, L3 radial with 2 m cable



Description

L3 radial, shield connected to encoder housing

| Assignments | |
|----------------------|-----------|
| | L3 |
| (+) Vcc | BN |
| GND | WH |
| CANHigh | GN |
| CANLow | YE |
| CANGND shield | shield |

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

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

AAO

Max. RPM: 3500 min⁻¹

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

Starting-torque: approx. 4 Ncm at ambient temperature

120 Ohm terminating resistor**Order key**

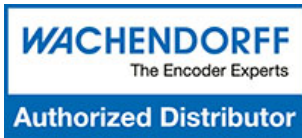
The encoder WDGA 58B CANopen galv. is also available with fixed 120 Ohm terminating resistor.

AEO

| Example Order No. | Type | Your encoder |
|--|--|------------------|
| WDGA 58B | WDGA 58B | WDGA 58B |
| | Shaft | Order key |
| 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 |
| | Single-turn Resolution | Order key |
| 12 | Single-turn resolution 1 bit up to 16 bit: (e. G. 12 bit) | 12 |
| | Multi-turn Resolution | Order key |
| 18 | Multi-turn resolution: (examples) 18 bit = 18 43 bit = 43 no Multiturn = 00 | 18 |
| | Data protocol | Order key |
| CO | CANopen (galv. isolation) | CO |
| | 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 |
| 1 | yes | 1 |
| | Electrical connections | Order key |
| CB5 | Cable: | |
| | axial, shield connected to encoder housing, with 2 m cable | L2 |
| | radial, shield connected to encoder housing, with 2 m cable | L3 |
| | Connector: | |
| | 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 | |
| | Options | Order key |
| | 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 | CO | A | B | 0 | 1 | CB5 |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|

| | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--------------------------|
| WDGA 58B | | | | | | | | | | | 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/contact-sales-en/>

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