



Online Data sheet

Encoder WDGA 58F Universal IE (cov)

www.wachendorff-automation.com/wdga58fuie

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 58F absolute Universal IE, with bus cover and with EnDra®- Technology, 'extremely' compact



Illustration similar

EnDra®
Technologie

Universal-IE
— Industrial Ethernet —

- EnDra®: maintenance-free and environmentally friendly
- Universal IE, Single-turn/Multi-turn
- Compact design with bus cover
- Single-turn/Multi-turn (max. 16 bit/43 bit)
- Forward-looking technology
- 2 colour-duo LED's as indicator for operating condition and bus status and 2 L/A LED's

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| Mechanical Data | |
|---------------------------------------|---|
| Flange | clamping flange |
| Flange material | aluminum |
| Housing material | die cast aluminum, powder coated |
| Intermediate piece | 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 6 mm [Ø 0.236"] |
| Shaft length | L: 12 mm [0.472"] |
| Max. Permissible shaft loading radial | 60 N [6.118 kp] |
| Max. Permissible shaft loading axial | 50 N [5.098 kp] |
| Shaft | Ø 8 mm [Ø 0.315"] |
| Shaft length | L: 20 mm [0.787"] |
| Max. Permissible shaft loading radial | 60 N [6.118 kp] |
| Max. Permissible shaft loading axial | 50 N [5.098 kp] |
| Shaft | Ø 10 mm [Ø 0.394"] |
| Shaft length | L: 20 mm [0.787"] |
| Max. Permissible shaft loading radial | 60 N [6.118 kp] |
| Max. Permissible shaft loading axial | 50 N [5.098 kp] |
| Shaft | Ø 9.525 mm [Ø 3/8"] Order No: 4Z |
| Shaft length | L: 20 mm [0.787"] |
| Max. Permissible shaft loading radial | 60 N [6.118 kp] |
| Max. Permissible shaft loading axial | 50 N [5.098 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 |
|--|--|
| Machinery Directive: basic data safety integrity level | |
| MTTF _d | 300 a |
| Mission time (TM) | 20 a |
| Nominale 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: typ. 125 mA |
| Power consumption | typ. 3 W |
| Operating principle | magnetic |

| Sensor data | |
|-----------------------------|--|
| Single-turn technology | innovativ hall sensor technology |
| Single-turn resolution | up to 65,536 steps/360° (16 bit) |
| Single-turn accuracy | ± 0.0878° (12 bit) |
| Single-turn repeat accuracy | ± 0.0878° (12 bit) |
| Internal cycle time | 50 µs |
| Multi-turn technology | patented EnDra® technology no battery and no gear. |
| Multi-turn resolution | 43 bit |

| Integrated web server: | |
|------------------------|--|
| Configurable | Selectable: PROFINET-IO, EtherNet/IP, EtherCAT IP address Subnet mask Gateway address |
| Readable | Encoder parameters |
| Update | Firmware |

| 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) | 200 m/s ² (10 Hz up to 1000 Hz) |
| Shock: (DIN EN 60068-2-27) | 5000 m/s ² (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

| | |
|---|--|
| Interface: | Universal Industrial Ethernet |
| Protocol: | selectable (PROFINET-IO, EtherCAT, EtherNET/IP) |
| Data Transfer: | 100BASE-TX |
| Function: | Multiturn |
| Code: | binary, CW default, programable |
| Features, physical layer, cycle times, functions, parameters, objects and characteristics | Details can be found at the respective products with the individual interface. |
| Diagnostics: (LED) | Traffic and connection management: L/A1: Port 1 L/A2: Port 2 |
| Status LED: | STAT, MOD: status of encoder and bus |

General Data

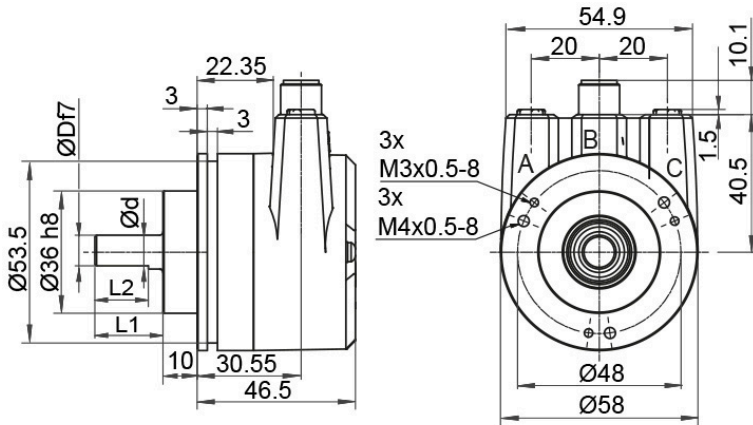
| | |
|------------------------------|---|
| Weight | approx. 700 g [24.691 oz] |
| Connections | bus cover |
| Protection rating (EN 60529) | Housing: IP65, IP67; shaft sealed: IP65 |
| Operating temperature | -40 °C up to +85 °C [-40 °F up to 185 °F] |
| Storage temperature | -40 °C up to +100 °C [-40 °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>

WDGA 58F, Universal IE, BI2, bus cover with 3x M12x1



- D = 6, L1 = 12, d = 5.3, L2 = 10 shaft with flat
- D = 8, L1 = 20, d = 7.5, L2 = 15 shaft with flat
- D = 10, L1 = 20 shaft with out flat
- D = 3/8", L1 = 20, d = 8.3, L2 = 10 shaft with flat

Description

BI2 Bus cover with 3x M12x1

| Assignments | |
|---------------------------------|-----------------------|
| | BI2 |
| Female connector (Port1) | M12x1, 4-pin, D-coded |
| Tx+ | 1 |
| Rx+ | 2 |
| Tx- | 3 |
| Rx- | 4 |

| Assignments | |
|--------------------------|-----------------------|
| | BI2 |
| connector (Power) | M12x1, 4-pin, A-coded |
| (+) Vcc | 1 |
| n. c. | 2 |
| GND | 3 |
| n. c. | 4 |

| Assignments | |
|---------------------------------|-----------------------|
| | BI2 |
| Female connector (Port2) | M12x1, 4-pin, D-coded |
| Tx+ | 1 |
| Rx+ | 2 |
| Tx- | 3 |
| Rx- | 4 |

Options**Low-friction bearings****Order key**

The encoder WDGA 58F Universal IE (cov) is also available as a particularly smooth-running low-friction encoder. The starting torque is thereby changed to 0.5 Ncm [0.708 in-ozf] and the protection class at the shaft input to IP50.

AAC

| Example Order No. | Type | Your encoder | |
|-------------------|----------------------------------|------------------|--|
| WDGA 58F | WDGA 58F | WDGA 58F | |
| | Shaft | Order key | |
| 10 | ∅ 6 mm [∅ 0.236"] | 06 | |
| | ∅ 8 mm [∅ 0.315"] | 08 | |
| | ∅ 10 mm [∅ 0.394"] | 10 | |
| | ∅ 9.525 mm [∅ 3/8"] Order No: 4Z | 4Z | |
| | Single-turn Resolution | Order key | |
| 16 | Single-turn resolution 16 bit | 16 | |
| | Multi-turn Resolution | Order key | |
| 43 | Multi-turn 43 bit | 43 | |
| | Data protocol | Order key | |
| IE | Universal IE (with bus cover) | IE | |
| | Software | Order key | |
| U | up to date release | U | |
| | 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 | |
| BI2 | Connection cover: | | |
| | Bus cover with 3x M12x1 | BI2 | |
| | Options | Order key | |
| | Without option | Empty | |
| | Low-friction bearings | AAC | |

| | | | | | | | | | | | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|--|
| Example Order No. | WDGA 58F | 10 | 16 | 43 | IE | U | B | 0 | 1 | BI2 | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|--|

| | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--------------------------|
| WDGA 58F | | | | | | | | | | | 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-en/wachendorff-world-wide/>

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