



Online Data Sheet

Encoder WDG 58E Universal IE (cov)

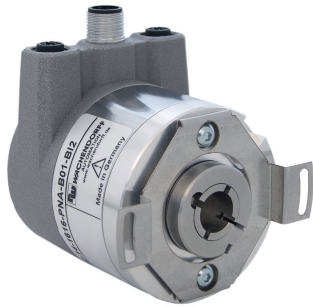
www.wachendorff-automation.com/wdga58euie

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 58E absolute Universal IE magnetic, with EnDra®- Technology



EnDra®
 Technologie

Universal-IE
 — Industrial Ethernet —

- EnDra®: maintenance-free and environmentally friendly
- Universal IE, Single-turn/Multi-turn
- Compact design with buscover
- 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
- High shaft load up to 80 N radial, 50 N axial

www.wachendorff-automation.com/wdga58euie

| Mechanical Data | |
|---------------------------------------|---|
| Housing | |
| Flange | hollow shaft (blind-bored) |
| Flange material | aluminum |
| Housing cap | steel case chrome-plated, magnetic shielding |
| Connection cover | die cast aluminum, powder coated |
| Torque supports | incl. 1 torque support WDGDS10019 |
| - 1. Spring plate compensation | axial: ±1.2 mm, radial: ±0.2 mm |
| - Max. operating speed | 6000 rpm up to max. protection rating +80 °C |
| Housing | Ø 58 mm |
| Shaft(s) | |
| Shaft material | stainless steel |
| Starting torque | approx. 1.6 Ncm at ambient temperature, approx. 2.226 in-ozf at ambient temperature |
| Fixing | permanently attached clamping ring |
| Shaft | Ø 6 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 6.35 mm, Ø 1/4" |
| Advice | with adapter sleeve |
| Shaft length | L: 17 mm, L: 0.669 in |
| Insertion depth min. | 10 mm, 0.394 in |
| Insertion depth max. | 19 mm, 0.748 in |
| Max. Permissible shaft loading radial | 80 N, 8.158 kp |
| Max. Permissible shaft loading axial | 50 N, 5.099 kp |
| Shaft | Ø 7 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |

| | |
|---------------------------------------|-----------------------|
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 8 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 9.525 mm, Ø 3/8" |
| Advice | with adapter sleeve |
| Shaft length | L: 17 mm, L: 0.669 in |
| Insertion depth min. | 10 mm, 0.394 in |
| Insertion depth max. | 19 mm, 0.748 in |
| Max. Permissible shaft loading radial | 80 N, 8.158 kp |
| Max. Permissible shaft loading axial | 50 N, 5.099 kp |
| Shaft | Ø 10 mm |
| Advice | with adapter sleeve |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 12 mm |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 14 mm |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |

| | |
|---------------------------------------|----------|
| Max. Permissible shaft loading axial | 50 N |
| Shaft | Ø 15 mm |
| Shaft length | L: 17 mm |
| Insertion depth min. | 10 mm |
| Insertion depth max. | 19 mm |
| Max. Permissible shaft loading radial | 80 N |
| Max. Permissible shaft loading axial | 50 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 | 6000 rpm |

Machinery Directive: basic data safety integrity level

| | |
|-----------------------------|--|
| MTTF _d | 300 a |
| Mission time (TM) | 20 a |
| Nominal service life (L10h) | 1 x 10 ¹¹ revs. at 20 % rated shaft load and 6000 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 |

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

| | |
|----------------------------------|--|
| 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) |
| Design: | according DIN VDE 0160 |

| | |
|---------------|--------|
| Turn on time: | <1,5 s |
|---------------|--------|

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

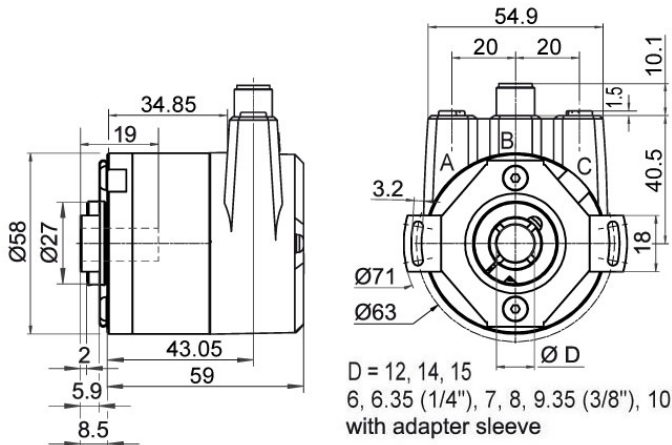
| | |
|------------------------------|--|
| Weight | approx. 410 g, approx. 14.462 oz |
| Connections | bus cover |
| Protection rating (EN 60529) | IP65 all around |
| Operating temperature | -40 °C up to +85 °C, -40 °F up to +176 °F |
| Storage temperature | -40 °C up to +100 °C, -40 °F up to +212 °F |

More Information

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


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

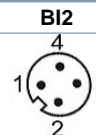
WDGA 58E Universal IE, BI2, bus cover with 3x M12x1




Description

BI2 Bus cover with 3x M12x1

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

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

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

| Example Order No. | Type | Your encoder |
|-------------------|---------------------------------------|------------------|
| WDGA 58E | WDGA 58E | WDGA 58E |
| | Shaft | Order key |
| 12 | ∅ 6 mm with adapter sleeve | 06 |
| | ∅ 6.35 mm ∅ 1/4" with adapter sleeve | 2Z |
| | ∅ 7 mm with adapter sleeve | 07 |
| | ∅ 8 mm with adapter sleeve | 08 |
| | ∅ 9.525 mm ∅ 3/8" with adapter sleeve | 4Z |
| | ∅ 10 mm with adapter sleeve | 10 |
| | ∅ 12 mm | 12 |
| | ∅ 14 mm | 14 |
| | ∅ 15 mm | 15 |
| | 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 |

| | | | | | | | | | | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|
| Example Order No. | WDGA 58E | 12 | 16 | 43 | IE | U | B | 0 | 1 | BI2 |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|

| | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--------------------------|
| WDGA 58E | | | | | | | | | | 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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