



Online Data Sheet

Encoder WDGA 58D EtherCAT (cov)

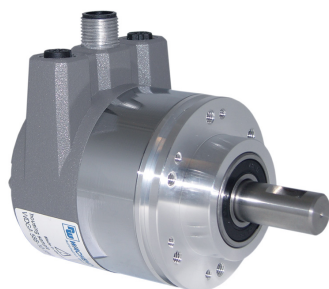
www.wachendorff-automation.com/wdga58decb

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 58D absolute EtherCAT magnetic, with bus cover and with EnDra®- Technology



EtherCAT®
Conformance tested

EnDra®
Technologie

Heavy duty

- EnDra®: maintenance-free and environmentally friendly
- EtherCAT Single-turn/Multi-turn
- Compact design with bus cover
- Single-turn/Multi-turn (max. 16 bit/43 bit)
- Forward-looking
- 2 colour-duo LED's as indicator for operating condition and bus status and 2 L/A LED's
- High shaft load up to 400 N radial, 400 N axial
- CoE, FoE, EoE

www.wachendorff-automation.com/wdga58decb

Mechanical Data

| Housing | |
|------------------|--|
| Flange | clamping flange |
| Flange material | aluminum |
| Housing cap | steel case chrome-plated, magnetic shielding |
| Connection cover | die cast aluminum, powder coated |
| Housing | Ø 58 mm |

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

| | |
|---------------------------------------|----------|
| Shaft | Ø 12 mm |
| Shaft length | L: 25 mm |
| Max. Permissible shaft loading radial | 500 N |
| Max. Permissible shaft loading axial | 500 N |

| Bearings | |
|----------------------|--|
| Bearings type | 3 precision ball bearings |
| Nominal service life | 2 x 10 ⁸ revs. at 100 % rated shaft load 3.5 x 10 ⁹ revs. at 40 % rated shaft load 2.5 x 10 ¹⁰ 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 |
| Nominal service life (L10h) | 2.5 x 10 ¹⁰ 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 |

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. |
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| | |
|-----------------------|--------|
| Multi-turn resolution | 43 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) | 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: | Industrial Ethernet |
|------------|---------------------|
|------------|---------------------|

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|-----------|----------|
| Protocol: | EtherCAT |
|-----------|----------|

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|-----------------|----------------------------|
| Device Profile: | CiA DS-406 V4.0.2, Class 3 |
|-----------------|----------------------------|

| | |
|----------------|------------|
| Data Transfer: | 100BASE-TX |
|----------------|------------|

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|-------------|-------------|
| Cycle time: | up to 50 µs |
|-------------|-------------|

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|-----------|-----------|
| Function: | Multiturn |
|-----------|-----------|

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|-------|----------------------------------|
| Code: | binary, CW default, programmable |
|-------|----------------------------------|

| | |
|-------------------------|---|
| Programmable Parameter: | steps per revolution counts of revolution preset scale counting direction 2x 8 cam switches DC-Mode |
|-------------------------|---|

| | |
|--------------------|---|
| Diagnostics: (LED) | Traffic and connection management: L/A1: Port 1 (IN) L/A2: Port 2 (OUT) |
|--------------------|---|

| | |
|-------------|--------------------------------------|
| Status LED: | STAT, MOD: status of encoder and bus |
|-------------|--------------------------------------|

General Data

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|--------|---------------|
| Weight | approx. 700 g |
|--------|---------------|

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|-------------|-----------|
| Connections | bus cover |
|-------------|-----------|

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|------------------------------|--|
| Protection rating (EN 60529) | Housing: IP65, IP67; shaft sealed: IP65 |
|------------------------------|--|

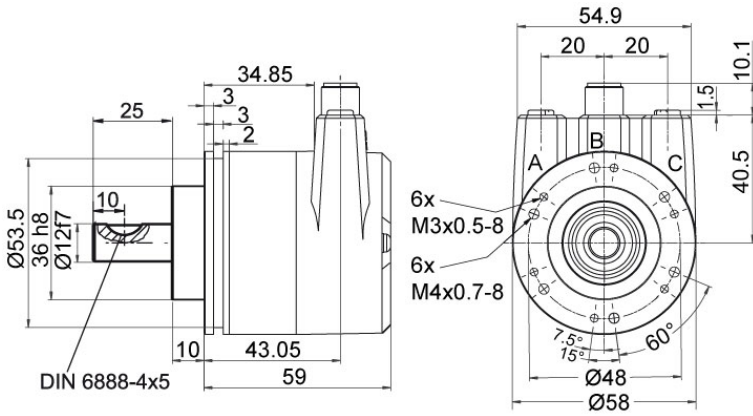
| | |
|-----------------------|----------------------|
| Operating temperature | -40 °C up to +85 °C |
| Storage temperature | -40 °C up to +100 °C |

More Information

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


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


WDGA 58D, EtherCAT, BI2, bus cover with 3x M12x1




Description

BI2 Bus cover with 3x M12x1

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

| Example Order No. | Type | Your encoder |
|-------------------|--|------------------|
| WDGA 58D | WDGA 58D | WDGA 58D |
| | Shaft | Order key |
| 12 | Ø 12 mm | 12 |
| | Single-turn Resolution | Order key |
| 13 | Single-turn resolution 1 up to 16 bit, e. g. 12 bit = 12 | 12 |
| | Multi-turn Resolution | Order key |
| 12 | Multi-turn 18 bit: e. G. 18 bit = 18 e. G. 39 bit = 39 | 18 |
| | Data protocol | Order key |
| EC | EtherCAT (with bus cover) | EC |
| | 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 58D | 12 | 13 | 12 | EC | U | B | 0 | 1 | BI2 |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|

| | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--------------------------|
| WDGA 58D | | | | | | | | | | | 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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