



Online Data sheet

Encoder WDGA 58D IO-Link

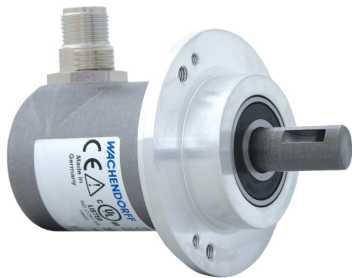
www.wachendorff-automation.com/wdga58d-io-link

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 IO-Link, with EnDra®-Technology



EnDra®
Technologie

IO-Link

- EnDra®: maintenance-free and environmentally friendly
- IO-Link, Single-turn and Multi-turn
- Device Profile for encoder Smart Sensor Profile (SSP)
- Single-turn/Multi-turn (16 bit / 43 bit)
- Forward-looking technology with 32 Bit processor
- LED as indicator for operating condition and Error message
- Monitoring the power supply
- Cam switches for position and velocity with hysteresis
- High shaft load up to 500 N radial, 500 N axial

www.wachendorff-automation.com/wdga58d-io-link

Mechanical Data

| Housing | |
|-----------------|-----------------|
| Flange | clamping flange |
| Flange material | aluminum |
| Housing cap | stainless steel |
| Housing | Ø 58 mm |
| Cam mounting | pitch 69 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 | 1300 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 | 18 VDC up to 30 VDC: typ. 20 mA |
| Power consumption | max. 0.5 W |
| Operating principle | magnetic |

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 | 250 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): | 4 kV |
| Burst (DIN EN 61000-4-4): | 2 kV |
| includes EMC: | DIN EN 61000-6-2 DIN EN 61326-2-3 DIN EN 61131-9 |
| Vibration: (DIN EN 60068-2-6) | 300 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 s |

Duty information

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

Interface

| Interface: | IO-Link |
|-----------------------------|--|
| Smart Sensor Profile (SSP): | <ul style="list-style-type: none"> • 2.8 Adjustable Switching Sensor, multi channel • 4.2.1 Measuring and Switching Sensor, high resolution, 1 channel • 4.2.2 Measuring and Switching Sensor, high resolution, 2 channel |

| | |
|------------|-----------------------|
| Baud rate: | COM 3 230.4 kBit/s |
|------------|-----------------------|

| | |
|---------|---|
| Advice: | The standard settings and customer-specific adjustments in the parameterisation can be set using ISDUs, e.g. scaling, direction of rotation, etc. |
|---------|---|

General Data

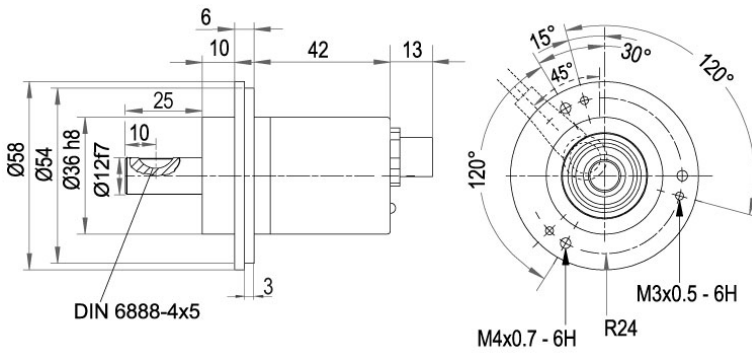
| | |
|------------------------------|--|
| Connections | connector outlet |
| Protection rating (EN 60529) | Housing: IP65, IP67; shaft sealed: IP65 |
| Operating temperature | -40 °C up to +85 °C |
| Storage temperature | -40 °C up to +100 °C |

More Information

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

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

Connector, M12x1 IB5, 5-pin

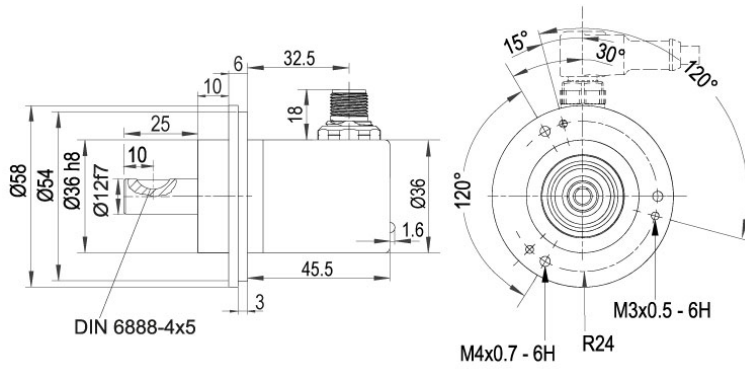


Description

IB5 axial, 5-pin, shield connected to encoder housing

| Assignments | |
|--------------|----------------|
| | IB5 |
| L+ | 1 |
| L- | 3 |
| C/Q | 4 |
| I | 2 |
| n. c. | 5 |

Connector, M12x1 IC5, 5-pin



Description

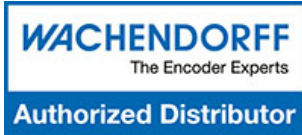
IC5 radial, 5-pin, shield connected to encoder housing

| Assignments | |
|--------------|----------------|
| | IC5 |
| L+ | 1 |
| L- | 3 |
| C/Q | 4 |
| I | 2 |
| n. c. | 5 |

| 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 | |
| 16 | Single-turn resolution 1 bit up to 16 bit: (e. G. 6 bit) | 16 | |
| | Multi-turn Resolution | Order key | |
| 43 | Multi-turn resolution: (examples) 6 bit = 6 43 bit = 43 no Multiturn = 00 | 16 | |
| | Data protocol | Order key | |
| IL | IO-Link | IL | |
| | Software | Order key | |
| A | up to date release | A | |
| | Code | Order key | |
| B | binary | B | |
| | Power supply | Order key | |
| 3 | 18 V up to 30 V (standard) | 3 | |
| | Galvanic isolation | Order key | |
| 0 | no | 0 | |
| | Electrical connections | Order key | |
| IB5 | Connector: | | |
| | sensor-connector, M12x1, 5-pin, axial, shield connected to encoder housing | IB5 | |
| | sensor-connector, M12x1, 5-pin, radial, shield connected to encoder housing | IC5 | |

| | | | | | | | | | | |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|
| Example Order No. | WDGA 58D | 12 | 16 | 43 | IL | A | B | 3 | 0 | IB5 |
|--------------------------|----------|----|----|----|----|---|---|---|---|-----|

| | | | | | | | | | | | |
|----------|--|--|--|--|--|--|--|--|--|--|--------------------------|
| 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/contact-sales-en/>

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