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The Encoder Experts



Online Data sheet

# Encoder WDGA 50V IO-Link

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IndustrieROBUST

# Encoder WDGA 50V absolute IO-Link, with EnDra®-Technology




*Illustration similar*

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
- Monitoring the power supply
- Cam switches for Position and Velocity with hysterese

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| **Mechanical Data** | |
|---|---|
| Flange | screw flange |
| Tightening torque nut | max. 8 Nm |
| Flange material | stainless steel, V2A, incl. nut M20 x 1.5 |
| Housing material | stainless steel, V2A |
| Flange diameter | Ø 50 mm [Ø 1.969"] |

| **Shaft(s)** | |
|---|---|
| Shaft material | stainless steel, V2A |
| Starting torque | approx. 1.2 Ncm [1.699 in-ozf] at ambient temperature |
| Shaft | Ø 6 mm [Ø 0.236"] |
| Shaft length | L: 13 mm [0.512"] |
| Max. Permissible shaft loading radial | 30 N [3.059 kp] |
| Max. Permissible shaft loading axial | 45 N [4.589 kp] |

| **Bearings** | |
|---|---|
| Bearings type | 2 precision ball bearings |
| Nominale service life | 1 x 10'9 revs. at 100 % rated shaft load<br>1 x 10'10 revs. at 40 % rated shaft load<br>1 x 10'11 revs. at 20 % rated shaft load |
| Max. operating speed | 6000 rpm |

| **Machinery Directive: basic data safety integrity level** | |
|---|---|
| $MTTF_d$ | 2200 a |
| Mission time (TM) | 25 a |
| Nominale 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 | 18 VDC up to 30 VDC: typ. 30 mA |
| Power consumption | max. 0.6 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): | 8 kV |
| Burst (DIN EN 61000-4-4): | 2 kV |
| includes EMC: | DIN EN 61000-6-2<br>DIN EN 61000-6-3 |
| Vibration:<br>(DIN EN 60068-2-6) | 50 $m/s^2$ (10 Hz up to 2000 Hz) |
| Shock:<br>(DIN EN 60068-2-27) | 1000 $m/s^2$ (6 ms) |
| Electrial Safety: | according DIN EN 61010-1 (VDE 0411-1) / IEC 61010-1 / UL 61010-1 / CSA C22.0 No 61010-1-12 |

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

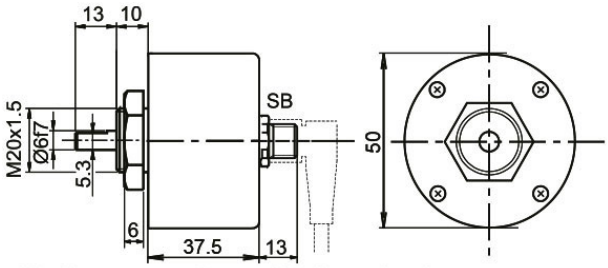
| **Interface** | |
|---|---|
| **Interface:** | **IO-Link Version: V1.1.4** |
| Smart Sensor Profile (SSP): | • 2.8 Adjustable Switching Sensor, multi channel<br>• 4.2.1 Measuring and Switching Sensor, high resolution, 1 channel<br>• 4.2.2 Measuring and Switching Sensor, high resolution, 2 channel |
| Baud rate: | COM 3<br>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** | |
|---|---|
| Weight | approx. 470 g [16.578 oz] |
| Connections | connector outlet |
| Protection rating (EN 60529) | IP67 all around |
| Operating temperature | -40 °C up to +85 °C<br>[-40 °F up to 185 °F] |

| | |
|---|---|
| Storage temperature | -40 °C up to +100 °C<br>[-40 °F up to 212 °F] |

| **More Information** |
|---|
| General technical data and safety instructions<br>**http://www.wachendorff-automation.com/gtd** |
| Options<br>**http://www.wachendorff-automation.com/acc** |

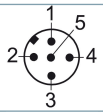
## Connector, M12x1 IB5 axial, 5-pin




Alle Abmessungen in mm / All dimensions in mm

### Description

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

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

| Example Order No. | Type | | Your encoder |
|---|---|---|---|
| WDGA 50V | WDGA 50V | | WDGA 50V |
| | | | |
| | **Shaft** | **Order key** | |
| 06 | Ø 6 mm [Ø 0.236"] | 06 | |
| | | | |
| | **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)<br>6 bit = 6<br>43 bit = 43 | 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 | |
| | | | |

| Example Order No. | WDGA 50V | 06 | 16 | 43 | IL | A | B | 3 | 0 | IB5 |
|---|---|---|---|---|---|---|---|---|---|---|

| | WDGA 50V | | | | | | | | | | 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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