

KOSTALize

your power

KOSTAL Single-turn Encoder Bus/Analogue

Electronic Solutions by KOSTAL

KOSTAL Electronic Solutions offers more than E²MS. As a specialist for control and power electronics, KOSTAL creates custom solutions for your complex requirements – made in Germany.

The KOSTAL single-turn absolute encoder is the perfect choice for precision and reliability in a wide range of applications and industries.

Fast & precise: The single-turn absolute encoder provides instant and precise information about the current position without requiring referencing or initialisation.

Resistant & robust: The KOSTAL encoder is robust and resistant to environmental influences such as vibrations, shocks and electromagnetic interference, making it ideal for use in demanding environments.

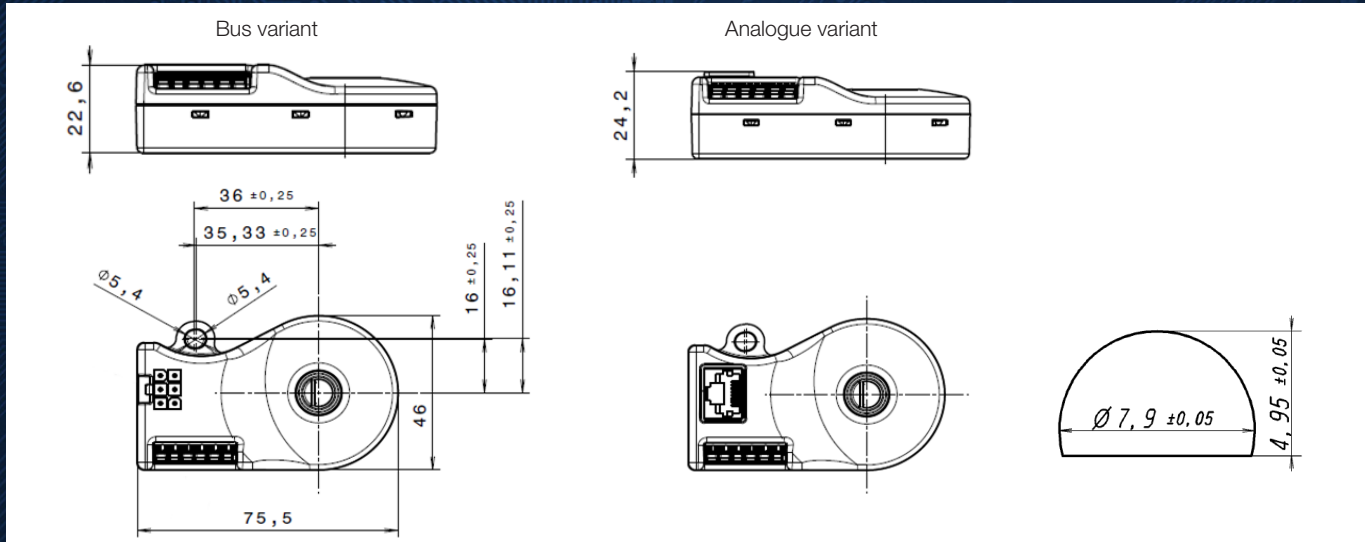
Consistent & reliable: Thanks to a high resolution, the single-turn encoder is able to precisely detect fine position steps for accurate control and measurement.

Wide range of features

- ⊕ No data loss, even if the power supply is interrupted
- ⊕ Fast response time
- ⊕ Configurable: Possible to adjust various parameters
- ⊕ Low maintenance costs thanks to long-term reliability
- ⊕ Versatile application options, e.g. in conveyor and storage technology, automation technology, industrial robotics, industrial doors, roller doors, barrier control and much more.
- ⊕ Reliable resistive measuring method with integrated error detection
- ⊕ Position changes are also registered in the de-energised state
- ⊕ TÜV-certified functional safety, therefore suitable for use in safety-related applications
- ⊕ Clamping area for further switching elements (e.g. for a safety chain) saves separate cable routing
- ⊕ Downward compatibility with the first encoder generation without manual adjustment
- ⊕ Multiple encoders on one RS-485 bus thanks to configurable RS-485 address

The KOSTAL single-turn encoder can be specified and **labelled** according to **individual customer requirements**.

Technical data



| KOSTAL single-turn absolute encoder | | Bus variant | Analogue variant |
|-------------------------------------|--|--|-----------------------|
| Electrical data | Angle detection range | 360° (single-turn) | |
| | Physical resolution | 0.0879°/step (12-bit = 4096 steps over 360°) | |
| | Nominal number of cycles | 1 000 000 cycles | |
| | Maximum rotational speed | 160°/s | |
| | Maximum current consumption | < 50 mA | |
| | Time until ready for operation | < 50 ms | |
| | Temperature range: 5 V to 11 V | -20 to +80 °C | |
| | Temperature range: 11 V to 24 | -20 to +70 °C | |
| | Protection class | IP20 | |
| | Safety level | Performance Level C Cat. 2 according to EN 13849-1 | |
| | Safety level of software | Class B (EN 60730-1 / EN 60335-1) | |
| | MTTF | 109.9 years | 108.8 years |
| | DC | ≥ 90.0% | |
| | CCF | 68 (according to point method EN ISO 13849-1 Annex F) | |
| | Classification of emitted interference | Group 1 Class B device according to EN 61326-1 / EN 55011:2016 | |
| | Classification of immunity | Intended for use in industrial electromagnetic environment (Table 2 from EN 61326-1) | |
| | Connection | Mate-N-Lok (compatible) | RJ45 |
| Operating mode | digital via protocol only | digital via protocol, redundant analogue | |
| RS45 operation | Input voltage for RS-485 operation (Uv) | 5 to 24 V | |
| | Value range for RS-485 operation | 0...8191 for 0...360° | |
| | Update rate for RS-485 operation | 312.5 Hz | |
| | Detected angle change for RS-485 operation | ≤ 0.1° | |
| Analogue operation | Input voltage for analogue operation (Uv): | - | 12.5 to 24 V |
| | Value range for Analog1 | - | 1...10 V for 0...360° |
| | Value range for Analog2 | - | 10...1 V for 0...360° |
| | Update rate for analogue operation | - | 100 Hz |
| | Detected angle change for analogue operation | - | ≤ 0.85° |

KOSTAL Industrie Elektrik GmbH & Co. KG
Lange Eck 11, 58099 Hagen

KOSTAL Electronic Solutions
+49 2331 8040 – 170

info-electronics@kostal.com

www.kostal-electronic-solutions.com

KOSTAL Electronic Solutions:
Your partner for customised control
and power electronics.
www.kostal-electronic-solutions.com