EDS/EDM35

Safe absolute position with HIPERFACE DSL® for demanding servo applications
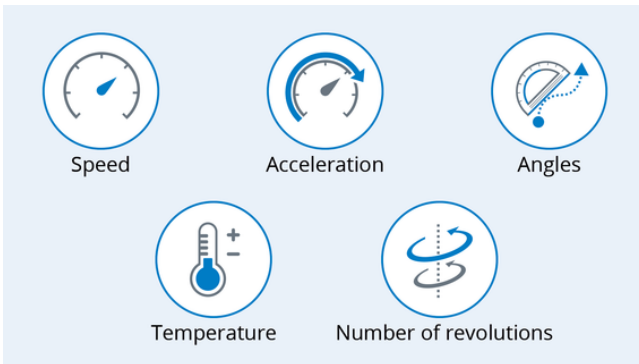
SICK
Sensor Intelligence.

Advantages

High device performance and reliability for more machine availability

The EDS/EDM35 motor feedback system comes with a powerful optical and especially compact scanning system. It is characterized by its high resolution and accuracy, which enables it to meet even stringent requirements on device performance. Thanks to the safety functions of the motor feedback system, such as safely-limited speed (SLS) and safe singleturn absolute position, no reference run is required. This increases the machine availability. EDS/EDM35 is therefore a good choice when implementing safe servo drives.

The motor feedback system reliably detects the numerous parameters of a servo motor such as speed, position, acceleration and temperature and saves them in a mission time histogram.

Motor feedback systems with HIPERFACE DSL from SICK have a standardized mechanical interface. This allows you to use a variety of motor feedback systems for the same motor.

With the EDS/EDM35, performance and reliability combine to create a powerful team: The device allows safety functions to be integrated into servo drives. This increases the process accuracy and reliability.

# Condition monitoring for high machine availability

The EDM35 motor feedback system, the Telematic Data Collector gateway system, and the Monitoring Box application software prevent unplanned machine downtimes. Together, these devices and software detect deviations from the normal operation of the servo motors, for example when vibrations have damaged a ball bearing or created an imbalance in the servo motor. This allows predictive maintenance and thereby increases the machine availability.

Monitor the condition of machines
Application solutions from SICK acquire data on the condition of machines such as temperature, pressure, movement, fill level and vibration precisely and in real time. Measures to rectify potential faults can therefore be taken early and proactively. Predictive maintenance of machines enables higher machine productivity and therefore better plant availability.
<a href=https://www.sick.com/machine-condition-monitoring target="_blank">Find out more
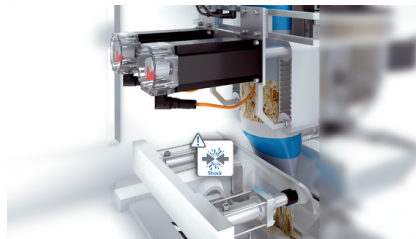
Predictive motor monitoring on a VFFS machine
The cutting and separation of the tube bags after the sealing process causes mechanical shocks that act on the ball bearing in the servo motor of the packaging machine. The motor feedback system measures these vibrations. If they reach a threshold, an alert is triggered. This makes it possible to plan the maintenance of the servo motor and avoid unplanned machine downtimes.
Erfahren Sie mehr
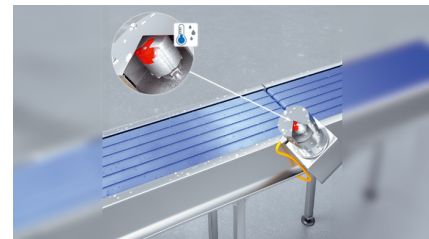
Reliable control of the server motor in hygienic environments
The motor feedback system has an integrated air humidity sensor. This enables the motor to indicate when a seal needs to be replaced.
Erfahren Sie mehr

The EDS/EDM35-0ZF0A024A product variant can also measure vibrations and air humidity. This makes it easy to monitor the condition of your servo motors, which increases their availability and consequently the throughput of your systems.
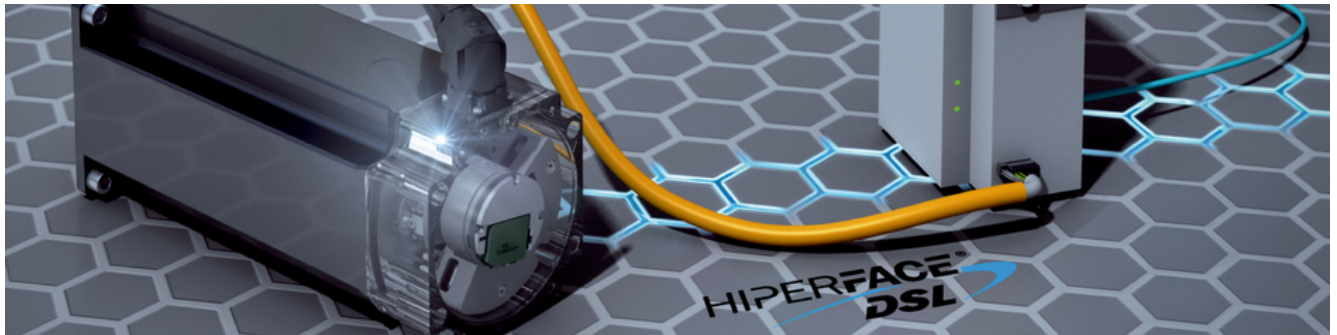
## Powerful, especially reliable HIPERFACE DSL communication interface

Data is transmitted from the EDS/EDM35 into the motion system via the digital HIPERFACE DSL motor feedback protocol. This reliable communication interface also makes the motor feedback system suitable for integration into safety applications. Even safe motion applications can be easily solved in this way. Only one cable is needed for data transmission. This reduces the connection costs, energy consumption, and space requirements of the devices.

For strict requirements: The HIPERFACE DSL® transmits process data with high resolution and accuracy.

For safety applications: The communication interface of the EDS/EDM35 satisfies safety integrity level 3.
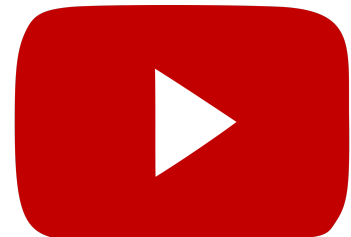
For diagnostics in real time: Thanks to the digital interface, large amounts of data can be permanently analyzed via condition monitoring.

With the digital HIPERFACE DSL one cable technology, it is possible to achieve a high controller performance for servo drives – at a very high safety level.
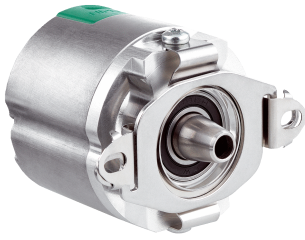
Technical data overview

Type	For integration
Model	Absolute Singleturn / Absolute Multiturn (depending on type)
Communication interface	HIPERFACE DSL®
Resolution per revolution	20 bit / 24 bit (depending on type)
Safety system	– / ✔ (depending on type)
Mechanical interface	Tapered shaft
Connection type	Male connector, 4-pin Female connector, 8-pin Male connector, 8-pin
Available memory area	8,192 Byte
Measurement principle	Optical / Acceleration sensor (depending on type)
Measuring range	± 50 g
Bandwidth	10 kHz / max. 7 kHz (depending on type)
Resolution	13 bit

Product description

The digital HIPERFACE DSL® interface has played a significant role in shaping drive technology over recent years. EDS/EDM35 motor feedback systems come with HIPERFACE DSL® and ensure outstanding performance for high-precision servo drives used in safety applications. Fitted with a standardized mechanical interface, they are highly flexible, particularly when used in conjunction with EES/EEM37 motor feedback systems. EDS/EDM35 systems have a newly developed optical scanning system with dual-channel scanning and are highly resistant to shocks and vibrations. Features such as safe singleturn absolute positioning and electronic type labels EDS/EDM35 make them the ideal solution for a wide range of applications, for example in the packaging and machine tool industries.

At a glance

- Optical motor feedback system with HIPERFACE DSL®
- Up to 24-bit resolution per revolution and 4,096 revolutions with the multiturn system
- Certified according to SIL2 and PL d
- Condition monitoring and mission time histogram; temperature, speed, and revolution data are stored throughout the service life of the device
- Predictive maintenance with vibration and moisture measurement

Your benefits

- A single model with different performance levels allows system suppliers to implement a variety of applications using only one type of encoder
- EDS/EDM35 motor feedback systems are ideal for use in high-precision, dynamic applications
- The 13-bit safe absolute singleturn resolution meets the requirements of tomorrow's safety servo drives

Fields of application

- Packaging industry
- Machine tools

Type code

Other models and accessories ➜ www.sick.com/EDS_EDM35

Type
| S | Singleturn |
| M | Multiturn |

Version
| 0 | Standard |
| 2 | SIL2 |

Connection type
K	Integrated in the motor cable, 1 temperature sensor access
V	Male connector, 8-pin, compatible with sHub®
Z	Identical to connection type K + integrated air humidity and vibration measurement

Resolution
| 2 | 0 | 20 bit/rotation |
| 2 | 4 | 24 bit/rotation |

| E | D | | 3 | 5 | - | | | F | 0 | A | 0 | | | A |
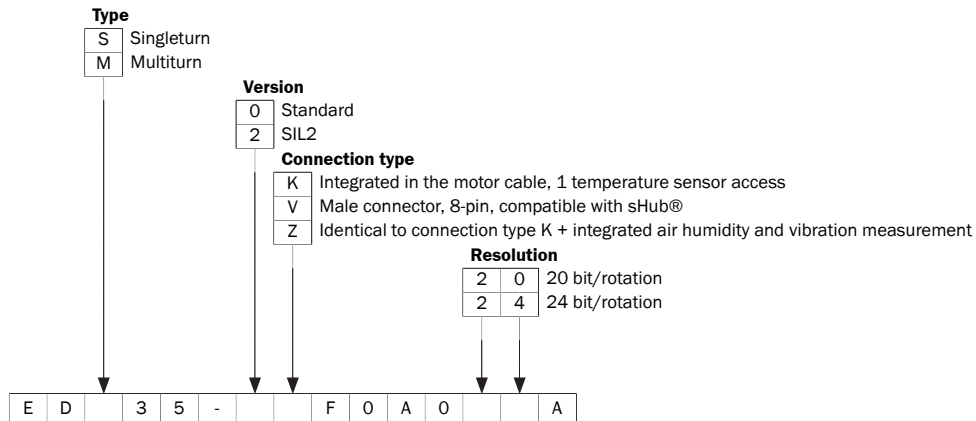
Ordering information

Other models and accessories ➜ www.sick.com/EDS_EDM35

- **Communication interface:** HIPERFACE DSL®
- **Model:** Absolute Singleturn
- **Type:** for integration
- **Resolution per revolution:** 20 bit
- **Mechanical design:** tapered shaft
- **Connection type:** male connector, 4-pin
- **Operating temperature range:** –40 °C ... +115 °C (Given typical thermal connection between motor flange and encoder stator coupling. The max. internal sensor temperature may not exceed 125 °C.)

Safety system	Type	Part no.
✓	EDS35-2KF0A020A	1090710
	EDS35-2KF0A020A-40	1112142
–	EDS35-0KF0A020A	1090708

- **Communication interface:** HIPERFACE DSL®
- **Model:** Absolute Singleturn
- **Type:** for integration
- **Resolution per revolution:** 24 bit
- **Mechanical design:** tapered shaft
- **Connection type:** male connector, 4-pin

Safety system	Measuring range	Operating temperature range	Specialty	Type	Part no.
✓	–	–40 °C ... +115 °C [1]	–	EDS35-2KF0A024A	1090734
–	–	–40 °C ... +115 °C [1]	–	EDS35-0KF0A024A	1090732
			Customized stator coupling, mounting compatible to EFS/EFM50	EDS35-0KF0A0S06	1141584
	± 50 g	–40 °C ... +110 °C [1]	–	EDS35-0ZF0A024A	1137493

[1] Given typical thermal connection between motor flange and encoder stator coupling. The max. internal sensor temperature may not exceed 125 °C.

- **Communication interface:** HIPERFACE DSL®
- **Model:** Absolute Multiturn
- **Type:** for integration
- **Resolution per revolution:** 20 bit
- **Mechanical design:** tapered shaft
- **Connection type:** male connector, 4-pin
- **Operating temperature range:** –40 °C ... +115 °C (Given typical thermal connection between motor flange and encoder stator coupling. The max. internal sensor temperature may not exceed 125 °C.)

Safety system	Type	Part no.
✓	EDM35-2KF0A020A	1090711
	EDM35-2KF0A020A-40	1112143
–	EDM35-0KF0A020A	1090709

- **Communication interface:** HIPERFACE DSL®
- **Model:** Absolute Multiturn
- **Type:** for integration
- **Resolution per revolution:** 24 bit
- **Mechanical design:** tapered shaft

Safety system	Connection type	Measuring range	Operating temperature range	Type	Part no.
✔	Male connector, 4-pin	–	–40 °C ... +115 °C [1]	EDM35-2KF0A024A	1090735
	Male connector, 8-pin	–	–40 °C ... +115 °C [1]	EDM35-2VF0A024A	1106851
–	Male connector, 4-pin	–	–40 °C ... +115 °C [1]	EDM35-0KF0A024A	1090733
		± 50 g	–40 °C ... +110 °C [1]	EDM35-0ZF0A024A	1137494
	Male connector, 8-pin	–	–40 °C ... +115 °C [1]	EDM35-0VF0A024A	1106846

[1] Given typical thermal connection between motor flange and encoder stator coupling. The max. internal sensor temperature may not exceed 125 °C.

- **Communication interface:** HIPERFACE DSL®
- **Type:** for integration

Connection type	Measuring range	Operating temperature range	Type	Part no.
Female connector, 8-pin	± 50 g	–40 °C ... +115 °C	SHUB10-0ZA87010	1107310

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

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