



sHub®

Sensor hub for intelligent servo motors that “say” when maintenance is required

MOTOR FEEDBACK SYSTEMS ROTARY HIPERFACE DSL®

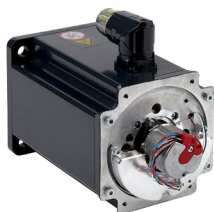
SICK
Sensor Intelligence.

Advantages



Condition monitoring for maximum machine availability

The sHub® can identify servo motor damage early on. The space-saving sensor hub extends the motor feedback system to include additional sensors for measuring vibration and temperature. The two measurands deliver decisive data for the detection of early damage. For example, when a ball bearing is defective or the servo motor is unbalanced. The synchronous detection of position and vibration data by the sHub® increases the forecast accuracy of when a component will fail. With these findings, the machine availability can be maximized with predictive maintenance and unplanned downtime can be effectively prevented.



Intelligent connection: Thanks to the HIPERFACE DSL®, no additional cabling is needed for the sHub®. One cable is enough for communication between the drive and the controller.



Simple integration: With its space-saving design, the sHub® fits perfectly into the available space – subsequent servo motor modifications are not necessary.



Reliable diagnostics: The additional sensor data in the servo motor enables precise condition monitoring and reduces the overall costs with predictive maintenance.



Additional vibration and temperature data of the sHub® enables high-precision access monitoring – and increases the availability of servo motors

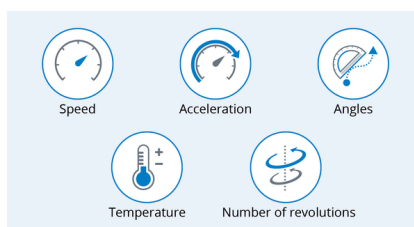


Higher reliability thanks to optimal performance

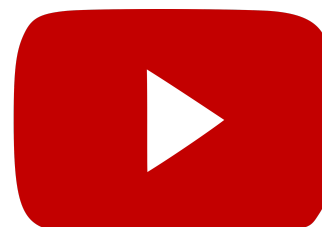
Combined with the EDS/EDM35 motor feedback system, the sHub® creates an ideal foundation for condition monitoring. The EDS/EDM35 fulfill even the highest performance standards with the newly-developed optical scanning system including dual-channel scanning as well as shock and vibration resistance. Since the motor feedback system enables drive safety functions such as safely-limited speed (SLS), it is the first choice for high-precision and safety-related servo drives. And thanks to the reliable singleturn absolute position, a reference drive is not even necessary.



The EDS/EDM35 features a powerful optical scanning system in an extremely compact design.



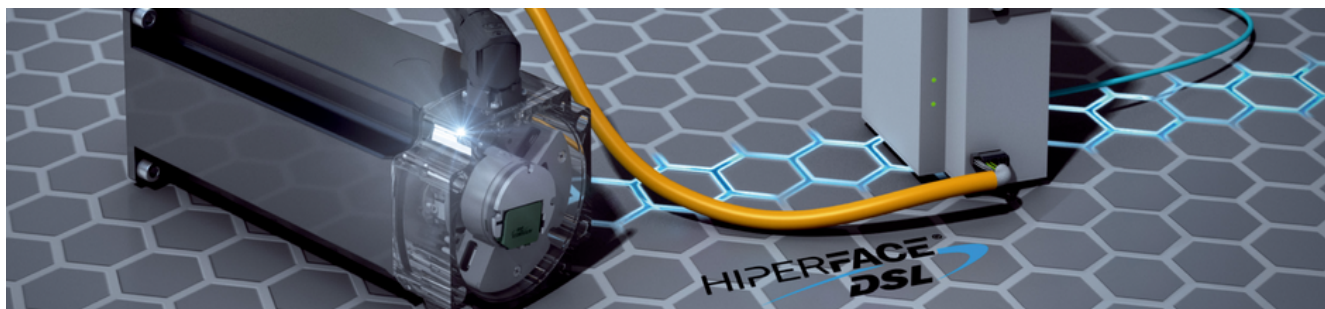
Thanks to a uniform mechanical interface, SICK motor feedback systems offers system suppliers and their applications a high level of flexibility.



The motor feedback system reliably detects the numerous parameters of servo motors such as vibration, temperature, speed and position and saves them in a service life histogram.



The sHub® and EDS/EDM35 make a powerful team; they ensure the integration of relevant safety functions and therefore high-precision and safe servo drives



Powerful and very safe communications thanks to the HIPERFACE DSL®

Data is transmitted into the drive system by the sHub® using the purely digital HIPERFACE DSL® motor feedback protocol. The system consisting of the sHub® and EDS/EDM35 is well-suited for integration into safety applications thanks to the safe communication interface. Even safe motion applications can be easily solved in this way. Only one cable is needed for the entire communication. This reduces connection costs and energy consumption as well as the amount of cables needed on-site, and also creates a better overview with lower space requirements.



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



For safety applications: The communication interface of the sHub® 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® communication interface, status monitoring of servo motors can be done in real time – with the highest level of safety



Technical data overview

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

Product description

With the sHub® sensor hub, servo motors can be used as a source of data for condition monitoring and predictive maintenance of the machine. The data is collected in the motor and transmitted to the control using the HIPERFACE DSL®. Monitoring occurs in real time. It is therefore possible for the maintenance staff to react in a timely manner and intervene in machine processes, e.g. if servo motors are imbalanced. sHub provides additional sensor data such as vibration for intelligent servo drive systems, therefore increasing the efficiency and reliability of machines.

At a glance

- Sensor hub with a maximum of 2 inputs for external sensors
- The sensor data is integrated in to the motion control system via HIPERFACE DSL®.
- Collection of vibration, temperature, speed, position and service life histogram of the servo motor (combined with EDS/EDM35)

Your benefits

- You can implement Industry 4.0 requirements such as condition monitoring and predictive maintenance through the collection of additional sensor data in the servo motor.
- Increase the availability of your machine with reliable condition monitoring and targeted maintenance
- You can minimize the time and money needed for development thanks to the existing HIPERFACE DSL® infrastructure in servo controllers.
- The synchronous detection of position and vibration data increases the forecast accuracy of when a component will fail.
- Additional cabling is not required.

Fields of application

- Servo motors: Early detection of ball bearing damage and imbalances due to vibration analysis (vibration analyses done by the drive manufacturer)
- Condition monitoring of servo motors
- Smart drive technology

Ordering information

Other models and accessories → www.sick.com/sHub

- **Communication interface:** HIPERFACE DSL®

Type	Connection type	Measuring range	Type	Part no.
For integration	Female connector, 8-pin	± 50 g	SHUB10-0ZA87010	1107310

- **Communication interface:** HIPERFACE DSL®
- **Model:** Absolute Multiturn
- **Type:** for integration
- **Resolution per revolution:** 24 bit
- **Mechanical interface:** tapered shaft
- **Connection type:** male connector, 8-pin

Safety system	Type	Part no.
✓	EDM35-2VF0A024A	1106851
-	EDM35-0VF0A024A	1106846

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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com