

IT'S THE INTERNAL VALUES THAT COUNT
















SOLUTIONS FOR DRIVE TECHNOLOGY IN ROBOTICS

Smart Motor Sensors

SICK
Sensor Intelligence.

SICK MOTOR FEEDBACK SYSTEMS

Precise, reliable, and suitable for every type of robot

Types of robot	Recommended products	Product features	Additional information
 <p>Articulated-arm robots</p>	 <p>Motor feedback system EEM37</p>	<p>At a glance</p> <ul style="list-style-type: none"> • Motor feedback system with HIPERFACE DSL® interface • Compact design with 36 mm diameter • 17-bit resolution per revolution + 12-bit multiturn • SIL2 / PLd certified • Usage chart <p>Your benefits</p> <ul style="list-style-type: none"> • Cabling is reduced by half due to One Cable Technology • Facilitates compact robot designs • Enhanced diagnostics due to electronic type label and usage chart 	
  <p>Articulated-arm robots</p>	 <p>Motor feedback system SEM70 / 90</p>	<p>At a glance</p> <ul style="list-style-type: none"> • HIPERFACE® motor feedback system for large hollow shaft and torque motors • 64 sine/cosine periods per revolution + 12-bit multiturn • Flat design 24 mm high <p>Your benefits</p> <ul style="list-style-type: none"> • Hollow shaft enables cables to be routed internally for collaborative robots • No battery maintenance due to mechanical multiturn 	
 <p>Linear robots (Cartesian)</p>	 <p>Motor feedback system TTK50 / TTK70</p>	<p>At a glance</p> <ul style="list-style-type: none"> • Absolute, non-contact, wear-free length measurement system for linear motors • Measuring lengths of up to 4 m • Suitable for high traversing speeds of up to 10 m/s • Reliable determination of positions, even in the event of contamination and condensation on the magnetic tape <p>Your benefits</p> <ul style="list-style-type: none"> • No need for a reference run due to the absolute measurement system • Maintenance-free thanks to the non-contact measurement principle • Simple system integration as a result of the HIPERFACE® interface 	
 <p>SCARA robots</p>	 <p>Motor feedback system SEM70 / 90</p>	<p>At a glance</p> <ul style="list-style-type: none"> • HIPERFACE® motor feedback system for large hollow shaft and torque motors • 64 sine/cosine periods per revolution + 12-bit multiturn • Flat design 24 mm high <p>Your benefits</p> <ul style="list-style-type: none"> • Hollow shaft enables cables to be routed internally for collaborative robots • No battery maintenance due to mechanical multiturn 	
 <p>DELTA robots</p>	 <p>Motor feedback system EEM37</p>	<p>At a glance</p> <ul style="list-style-type: none"> • Motor feedback system with HIPERFACE DSL® interface • Compact design with 36 mm diameter • 17-bit resolution per revolution + 12-bit multiturn • SIL2 / PLd certified • Usage chart <p>Your benefits</p> <ul style="list-style-type: none"> • Cabling is reduced by half due to One Cable Technology • Facilitates compact robot designs • Enhanced diagnostics due to electronic type label and usage chart 	

SMART MOTOR SENSORS – INTELLIGENCE IN ALL AXES

INCREASING THE CAPABILITY OF YOUR ROBOTS



Preventive maintenance

Processed status data can be displayed to the machine operator via the HMI. The operator can take a proactive approach to planning upcoming maintenance work.



Condition monitoring

- The motion profile is saved and the ambient conditions are detected in each axis



SMART MOTOR SENSORS – INTELLIGENCE IN ALL AXES

REDUCTION OF OVERALL OPERATING COSTS THROUGH

HIPERFACE[®]
DSL



One Cable Solution

The HIPERFACE DSL[®] protocol reduces mounting effort and increases availability.

- Less wiring, easy installation, reduced risk of failure
- Smaller motors make more space for other components



Detecting and switching

Robots and grippers must be familiar with their surroundings. They use sensors to detect what is going on in the area around them and then transmit this data to the controller via the sHub and HIPERFACE DSL[®] protocol without the need for additional cabling. I/O equipment can also be switched via this same interface.



Absolute position and speed measurement with multiturn

- Optical and capacitive motor feedback systems with resolutions between 15 and 23 bits for singleturn + 12 bits from mechanical multiturn
- Delivered SIL2 / PLd certified
- With 8 KB of free memory for the storage of customer data and application-specific data



M2M communication

In the future, robots will have their own say in capacity planning decisions. High-speed data communication between each drive axis and the controller will provide the basis for this.

Find out more about SICK Smart Motor Sensors → www.sick.com/hiperfacedsl



SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 8,000 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, we are always close to our customers. 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 various 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 round out 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:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

Detailed addresses and further locations → www.sick.com