ABSOLUTE CONTROL

ETHERNET ENCODERS WITH ADDITIONAL FUNCTIONS

Encoders

SICK
Sensor Intelligence.

MOTION SEQUENCES MUST BE CONTROLLED BEFORE THEY CAN BE OPTIMIZED

The machines used in a wide variety of production systems in the materials handling and packaging industries run many different manufacturing processes that interact with one another. In order to have full control over these processes, you need to know how quickly the components are moving and precisely where they are at any given time.

Ethernet encoders from SICK can provide this information for you.

8020855/2017-03-02
Subject to change without notice

NOTHING MONITORS MORE PRECISELY: ETHERNET ENCODERS FROM SICK

The industrial systems market is undergoing a period of dramatic change and Industrial Ethernet is emerging as the future of communication systems. Fast Ethernet, dual-port switches and full-duplex transmission make it so powerful that fieldbuses based on Industrial Ethernet have become the standard solution in factory, logistics and process automation. This is why SICK supplies its high-performance encoders with the most widely used Ethernet variants: PROFINET, EtherCAT® and EtherNet/IP™ can achieve very high data transmission rates in fail-safe networks.

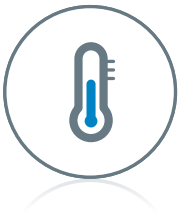
As a result, SICK's Ethernet encoders provide reliable information about the position and speed of components in almost all areas of industrial automation. The high performance and short cycle times of EtherCAT® are responsible for huge increases in productivity, while the strengths of PROFINET networks lie in their real-time communication options. Both of these fieldbuses support all types of network topology. In contrast, EtherNet/IP™ networks have a revolutionary ring topology that needs no additional switches. This reduces the amount of work and the costs involved.

Because of their wide range of configuration options, Ethernet encoders from SICK can easily be adapted to meet your requirements and used in every conceivable application.

OFFERING SENSOR INTELLIGENCE BECAUSE WE CAN ACHIEVE EVEN MORE

You can rely on SICK's Ethernet encoders in every possible situation. These sensors record the position and speed of components, as already described, but also other parameters that can provide you with valuable help in managing your automated processes:

FUNCTIONS WITH GENUINE ADDED VALUE



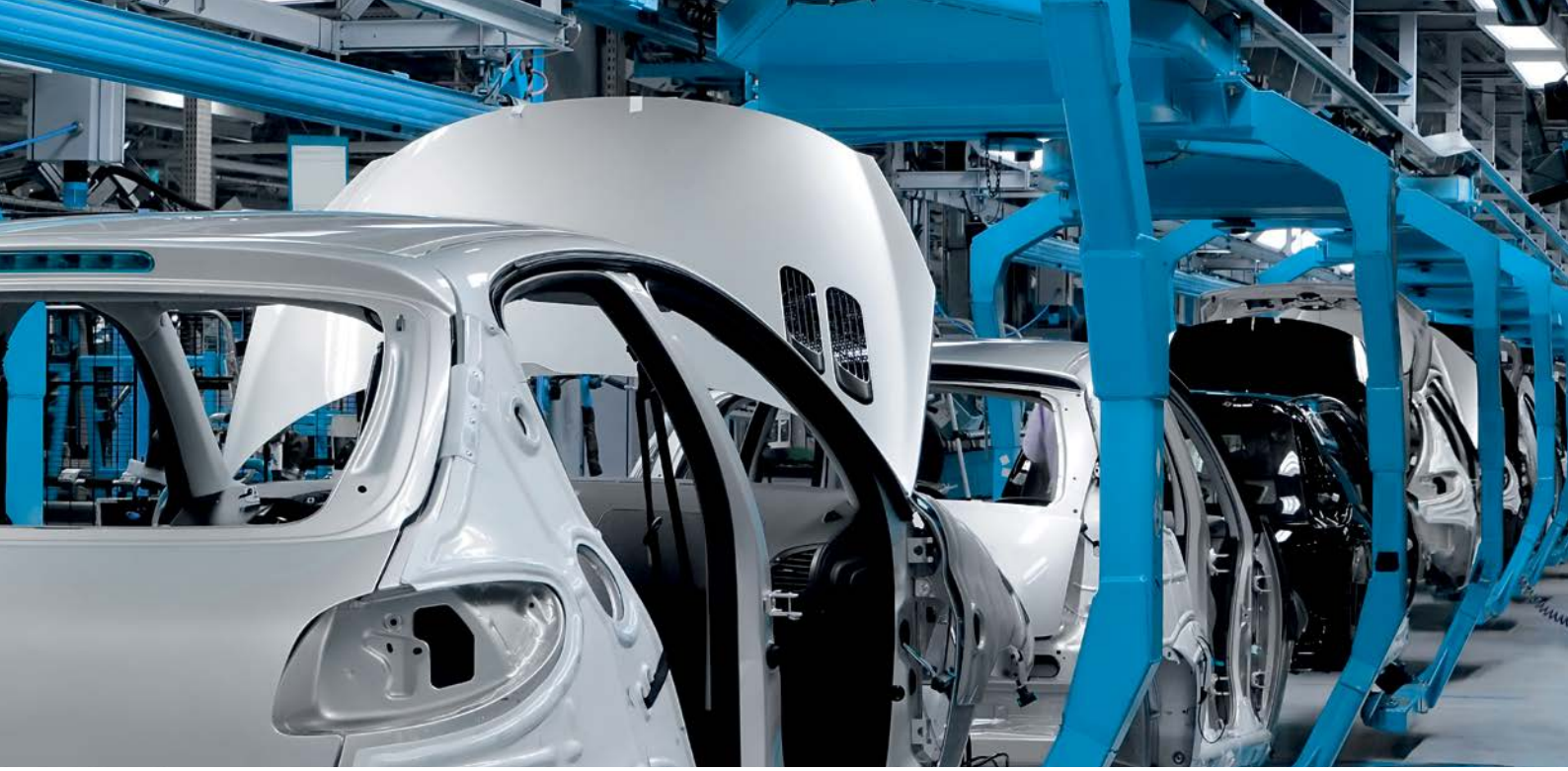
Temperature sensor

The integrated temperature sensor not only measures the operating temperature of the encoder, but also the ambient temperature. It can send out a signal when the temperature exceeds or falls below the limits you have set. This allows the cooling levels required in a production process, for example, to be controlled to meet your requirements, saving you both time and money.

Motion timer

The motion timer helps you to record the operating hours of your encoder accurately. While the operating time meter in power-up mode counts the hours when the encoder is live, the motion timer only records the time when the encoder is actually moving. It also counts the number of power-ups of the encoder. This means that maintenance is carried out precisely when it is needed, which helps to prevent downtimes.
As a result of this additional function, you do not need to install or program a separate, external operating time meter. However, you will always know how many hours your application has been running for.

8020855/2017-03-02
Subject to change without notice



Cycle counter

The cycle counter records the number of changes of direction, not only when the rotation changes, but also when the shaft comes to a stop. This enables you to replace wear and tear parts in good time and avoid downtimes.

Full scalability

In addition, SICK's Ethernet encoders can be scaled to meet your precise requirements. The round axis functionality of the encoders allows for the highest resolutions that go beyond binary settings. In addition to resolutions in whole numbers, decimal places and resolutions of less than one revolution are possible. In the case of a 30-bit resolution (1,073,741,824 steps), there are 262,144 positions within a 360° rotation, for example.

These intelligent functions provide support for your application in many other ways. They dispense with the need for additional sensors in your system and for further programming of the controller. By monitoring the actual operating hours and cycles of your machine, you can improve the service concept of the machine and reduce your costs. The intelligent functions also remove the pressure on the overall system controller. All of this is only possible with Ethernet encoders from SICK.

MEETING YOUR REQUIREMENTS BECAUSE WE ARE ADAPTABLE

Maximum scalability is a key feature of Ethernet encoders from SICK. Depending on your requirements and the location of the encoders, you can set limits and thresholds for each encoder to determine the correct measurement range for each application. When the limits you have set for position, speed or temperature or for the cycle counter and motion timer are reached or exceeded, the encoder sends out a signal independently of the overall system controller indicating that a check needs to be made. You can also choose the format of the individual data items to meet your requirements. For a certain position you specify the number of steps and for the speed the number of steps per second or millisecond. The acceleration can be calculated from the change in the speed.

The measurements that are recorded, such as the temperature in Celsius or Fahrenheit, the whole numbers produced by the cycle counter or the different outputs from the motion timer, do not need to be converted, because units can be chosen right from the start that the system can work with.

In addition to their high-quality basic functions, the SICK Ethernet encoders offer valuable additional functionality and full scalability.

Your benefits:

- No additional sensors needed
- Very little adaptation during installation and commissioning
- PLC programming kept to a minimum

8020855/2017-03-02
Subject to change without notice

8020855/2017-03-02 · MN/ITL (2017-03) · Pre USmod en46

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 7,400 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, 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

SICK
Sensor Intelligence.