



FLOWRUN, FLOWSKID

RELIABLE TURNKEY SOLUTION FOR FISCAL METERING

Flow metering systems

SICK
Sensor Intelligence.

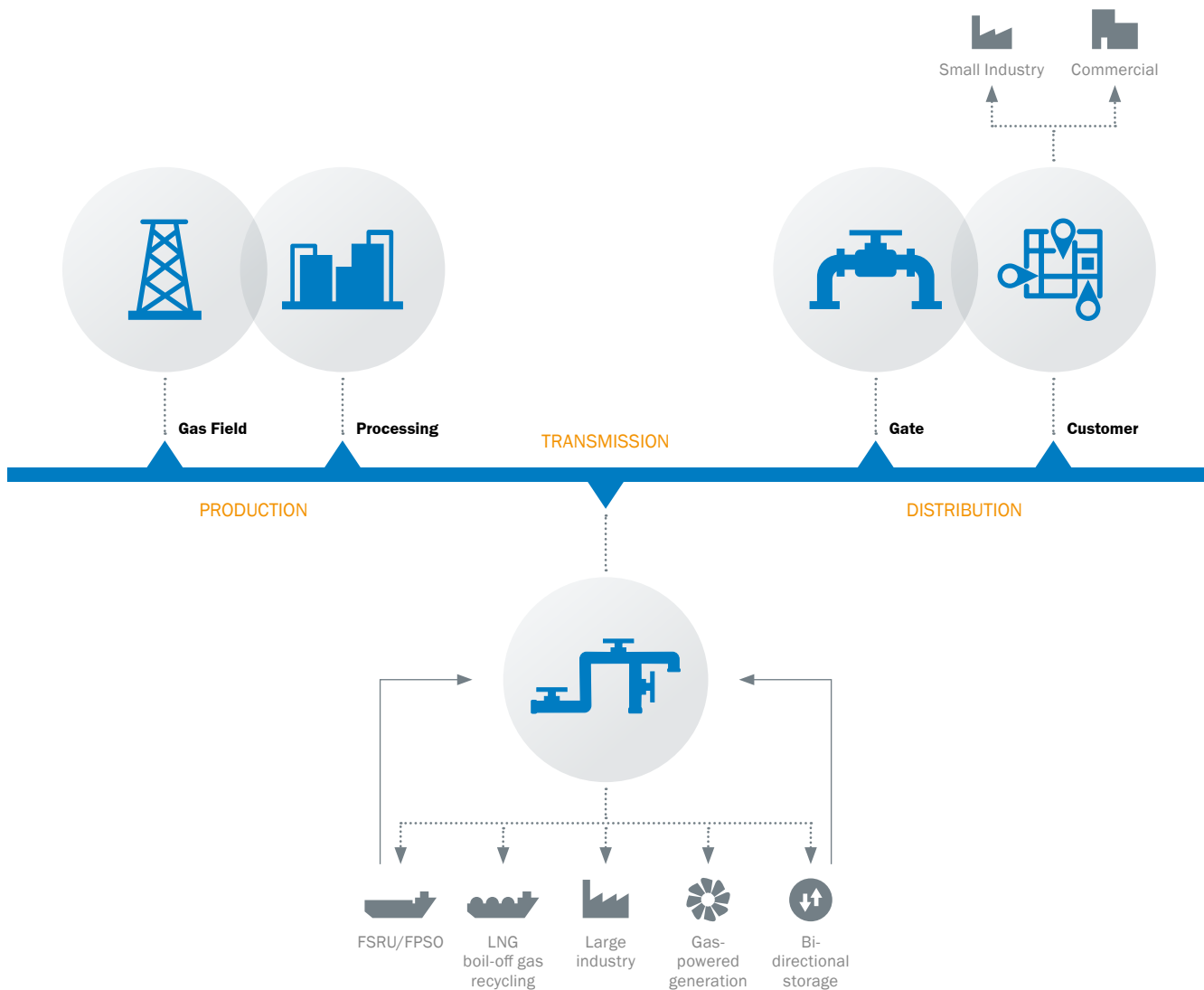
METERING IS KEY

The global trend towards cleaner energy is gaining ever more momentum. In consequence, the demand for natural gas will further increase in the future. Transactions on a larger scale, however, mean higher financial risk. Measurement errors and uncertainties unaccountable-for gas (gas that is lost in the asset from leakage, inefficient metering systems, pressure changes or gas quality changes) quickly add up to considerable financial losses.

Highly accurate and reliable measurement at production, distribution and custody transfer points allows for more transaction transparency and control over costs and processes. It is essential for meeting international regulations and requirements, and, ultimately, for making most efficient use of natural gas as a commodity.



SICK has many years of experience all over the world and in all areas of the natural gas sector – both on- and off-shore. We provide our customers with support, from the concept to completion, with our leading expertise and cutting-edge technology along with a personal experience.



MODULARITY FOR OPTIMAL SYSTEMS

In order to assemble the optimal system, SICK flow metering systems offer customers an extensive choice of components like flow computers, customized instrumentation, piping, valving, and gas analyzers. This enables system operators to accurately meter and monitor all parameters relevant to their asset. Only with the appropriate components installed, calibrated and certified to official standards is it possible to calculate and maintain the standardized flow rate.

Main Metering Tasks



Gas Composition Measurement

Analyzing the gas composition to determine its calorific value. The results are combined with flow rates, pressure, and temperature measurements to calculate the final value, which is how gas is traded.



Volume Measurement

Takes place in the flow meter and is output to the flow computer. This measurement shows the quantity of gas that has flown through the pipeline.



Pressure Measurement

The pressure is measured within the pipeline. Monitoring the pressure and reacting to changes is important, since pressure is linked to the gas volume.



Temperature Measurement

Monitoring the temperature is of similar importance to pressure measuring, since gas expands and contracts due to temperature changes.



Flow Computing

The values of composition, volume, temperature, and pressure constitute the variables for calculating the standardized flow rate.



Supervisory System

The supervisory system provides an overview of all metering activity. It gathers data from the measuring components and communicates it to the main plant control system.

FLOWRUN

The FLOWRUN is optimal for customers requiring a basic metering solution. It offers a wide range of metering applications. When simple solution is needed SICK can provide a pre-configured fully calibrated meter run for install into a metering system or pipeline.





Flow-X Flow Computer

The Flow computer provides volume conversion, event logging, parameter logging and reports.

- Plug and play
- Individual modules for automatic redundancy which reduces replacement time and downtime of the system
- All modules interchangeable thanks to the same connector system



FLAWSIC600XT Gas Flow Meter

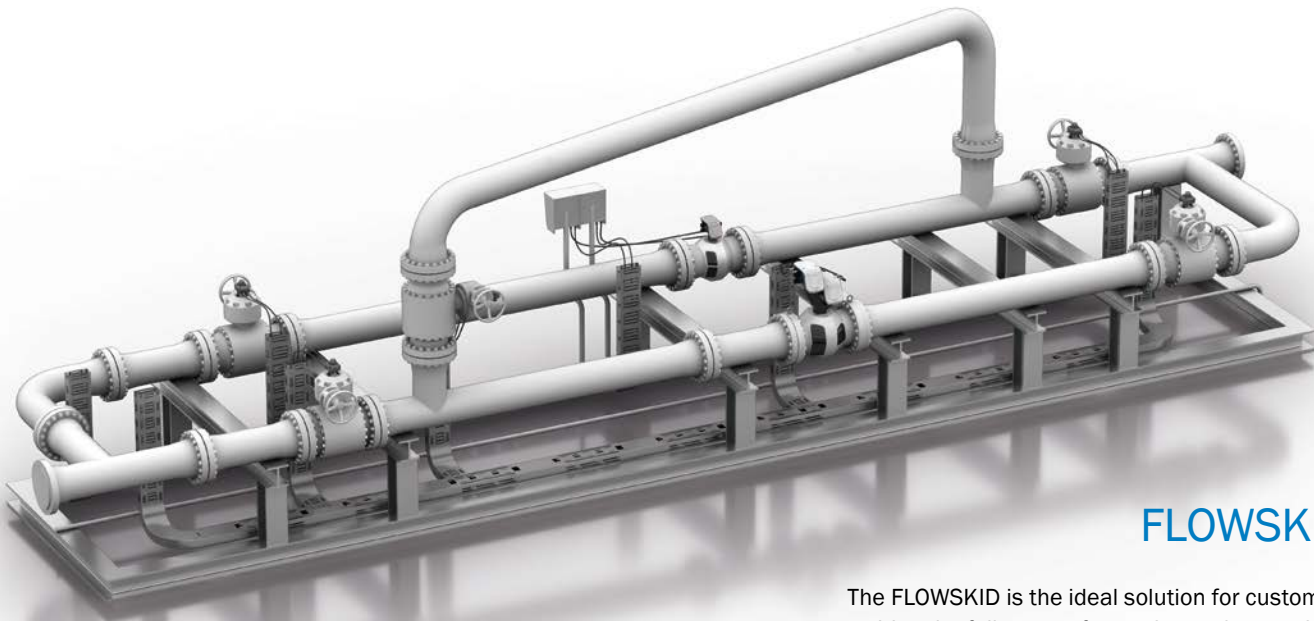
Accurate metering of the standardized flow rate and PowerIn Technology™ for reliable back-up operation.

- Quick and easy commissioning and inspection of the device
- Provides extended flow meter and application diagnostics during operation

Analyzer System

SICK has pre-defined instrumentation vendors who provide components at cost-effective prices. The analyzer system can be designed flexibly depending on the budget and the equipment desired. SICK can provide anything from a simple panel system to a fully-equipped analyzer room complete with air conditioning.

- Flexible design and cost management
- Highest accuracy and reliable sampling system
- Reduced OPEX costs



FLAWSKID

The FLAWSKID is the ideal solution for customers requiring the full range of metering and supervisory applications for all relevant process parameters.

	Gas composition measurement	Supervisory system	Skid frame
FLOWRUN600	-	-	-
FLAWSKID600	●	●	●
FLAWSKID600-compact	●	●	●

VARIANCE OF THE FLOWSKID RANGE

Redesigning something that has stayed as a standard for many years is never an easy thing. However with the FLOWSKID600-compact SICK has made this easy. The metering system continues to offer the same reliability and uncertainty that has become the market standard, but with the reduction in the purchasing, manufacture, delivery and installation efforts. The compact system is not just for compact situations, but can benefit wherever you are wishing to install a gas metering system with reduced input efforts.

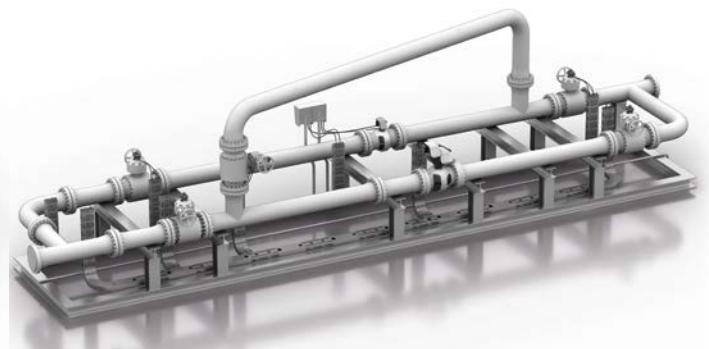
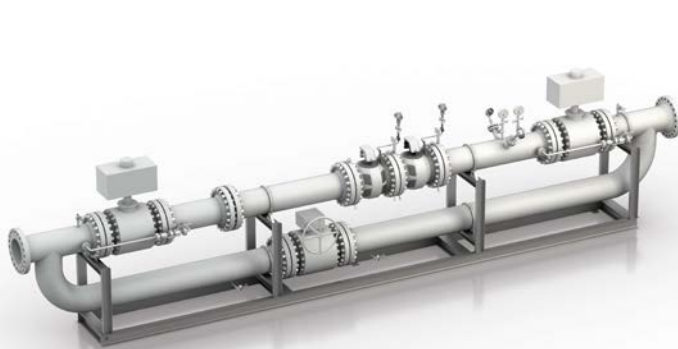
FLOWSKID600-compact

- Inlet: Down to 2D
- Outlet: Down to 3D
- Valves: Up to 5
- Bill of Materials: Pre-configured to reduce engineering efforts
- Meter: FLOWSIC600-XT Forte
FLOWSIC600 4-Path
- Flow Computer: FLOW-X/C
- Interlocking PLC: SICK standard PLC
- Instrumentation: Standardised
- Gas Chromatograph: Standardised
- Shipment: Standard Shipping Container



FLOWSKID600

- Inlet: 10D standard
- Outlet: 5D standard
- Valves: Up to 11
- Bill of Materials: Specific to Project
- Meter: FLOWSIC600-XT
- Flow Computer: FLOW-X
- Interlocking PLC: Specific to Project
- Instrumentation: Specific to Project
- Gas Chromatograph: Specific to Project
- Shipment: Wooden crate but dependent on size and configuration



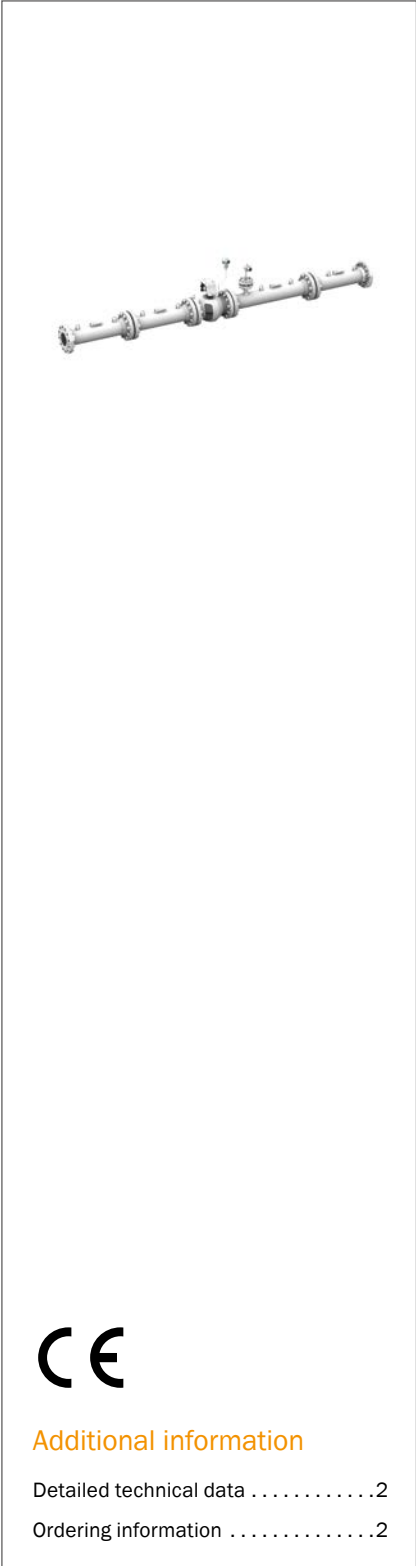
With any flow system the basic design configurations can always be changed.

MODULARITY FOR OPTIMAL SYSTEMS

SICK follows a solution-driven 360° approach, providing customers with gas metering solutions tailored to their individual requirements. They also enjoy the advantages of having all their demands met from one source: improved schedules, lower costs and lower risk.



MODULAR SOLUTIONS FOR FISCAL METERING



Product description

The FLOWRUN flow metering system complies with the industry standard for gas metering runs. Modularity in selection and low measurement uncertainty make choosing the FLOWRUN easy. Depending on the configuration requirements, upstream and downstream piping, flow computer, and instrumentation can be added in. With the metering system being manufactured according

to the ISO standards and with care to the highest quality, it will fulfill local regulations and requirements. Once the system is calibrated at the test facility of choice the highest reliability and most precise measurement can be assured. With the ultrasonic gas flow meters FLOWSIC600 or FLOWSIC600-XT as the heart of the metering run, the reliability of the system is ensured.

At a glance

- Utilises the ultrasonic flow meters FLOWSIC600 or FLOWSIC600-XT
- Available from DN 50 to DN 1200 from Class 150 to Class 2500
- With calibration the uncertainty of 0.1% is achievable
- Customization of system components
- Seamless integration with the SICK Flow-X flow computer

Your benefits

- Modularity in selecting the metering package
- Low uncertainty and operating costs
- Flexibility in designing of flow metering system
- As the solution provider SICK takes responsibility for the project, reducing efforts during execution



Additional information

- Detailed technical data2
- Ordering information2

→ www.sick.com/FLOWRUN

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications.

FLOWRUN

General notes

Items supplied	FLOWSIC600-XT Flow-X Piping Pressure and temperature measurement technology
Conformities	ISO9001 DIN ANSI ASME

Features

Industries	Oil and gas
Tasks	Measurement of gas composition Volume measurement Pressure measurement Temperature measurement Flow calculation

Performance

Gas temperature	-40 °C ... +180 °C
Pressure class	150 / 300 / 600 / 900 / 1,500 / 2,500

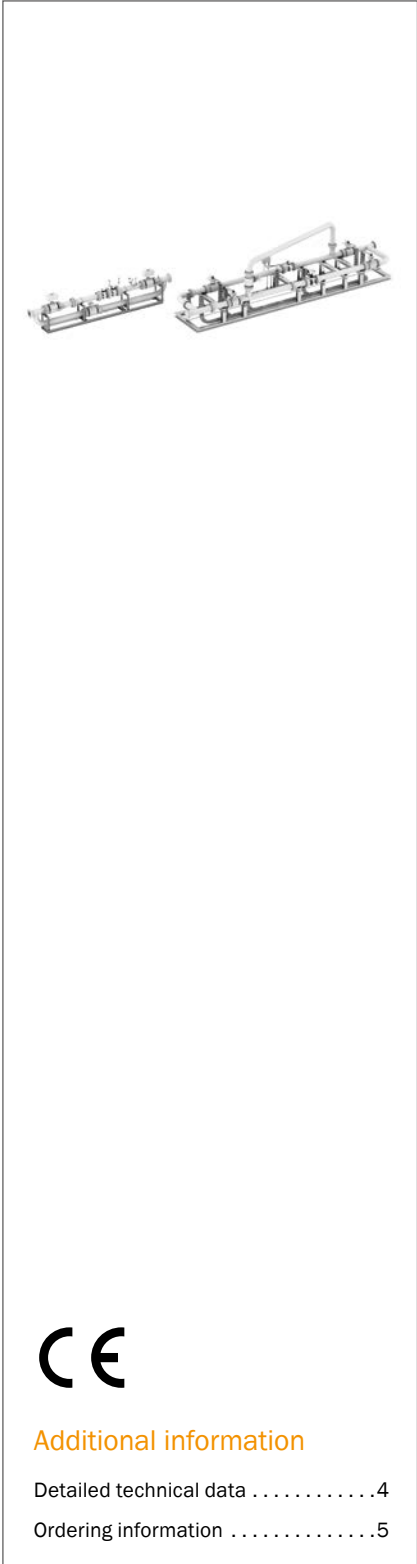
Mechanics/electronics

Contact material	Low temperature carbon steel, stainless steel
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Ordering information

Type	Tasks	Items supplied	Part no.
FLOWRUN600	Measurement of gas composition Volume measurement Pressure measurement Temperature measurement Flow calculation	FLOWSIC600-XT Flow-X Piping Pressure and temperature measurement technology	On request

RELIABLE TURNKEY SOLUTION FOR FISCAL METERING



Product description

FLOWSKID flow metering systems are the full gas flow metering system offering from SICK. They are provided by SICK as a turnkey solution for custody transfer applications. The systems are flexible in design and provide highly accurate measurement data. With the ultrasonic gas flow meters FLOWSIC600 or FLOWSIC600-XT as the heart of the

FLOWSKID600 and FLOWSKID600-compact, the reliability of the systems can be assured. They are manufactured according to ISO standards and with care to the highest quality using the latest DIN, ANSI, and ASME standards. This means the systems will fulfill local regulations and requirements.

At a glance

- Complete calibration is possible
- Customization of instrumentation including gas analyzer, gas chromatograph, and supervisory computer
- Seamless integration with the flow computer Flow-X from SICK
- Available from Class 150 to Class 2500
- Modular design

Your benefits

- Low unaccountable gas and operating costs
- Modularity in selecting the metering skid
- Flexibility in designing the flow metering system
- As solution provider SICK takes responsibility for the project, reducing efforts for the customer during project execution
- At all times, the customer is in close control of the project with dedicated project management
- Reduced shipping costs and efforts for FLOWSKID600-compact



Additional information

Detailed technical data 4
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Detailed technical data

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FLOWSKID

General notes

	FLOWSKID600-compact	FLOWSKID600
Bill of materials	Pre-configured to reduce engineering efforts	Specific to project
Items supplied	Advanced I/O Flow-X/C Analyzers including protected rooms Gas chromatograph Valves Skid structure Monitoring system Station control device Piping Pressure and temperature measurement technology	FLOWSIC600-XT Flow-X Analyzers including protected rooms Gas chromatograph Valves Skid structure Monitoring system Station control device Piping Pressure and temperature measurement technology
Conformities	ISO9001 DIN ANSI ASME	
Shipping	Standard Shipping Container	Wooden crate but dependent on size and configuration

Features

	FLOWSKID600-compact	FLOWSKID600
Industries	Oil and gas Maritime	Oil and gas
Tasks	Measurement of gas composition Volume measurement Pressure measurement Temperature measurement Flow calculation Condition monitoring	

Performance

Gas temperature	-40 °C ... +180 °C
Pressure class	150 / 300 / 600 / 900 / 1,500 / 2,500

Mechanics/electronics

	FLOWSKID600-compact	FLOWSKID600
Contact material	Low temperature carbon steel, stainless steel	
Nominal pipe size	2" ... 52", (DN50 ... DN1400)	
Number of valves	≤ 5	≤ 11

Ordering information

Type	Tasks	Note	Part no.
FLOWSKID600-compact	Measurement of gas composition Volume measurement Pressure measurement Temperature measurement Flow calculation Condition monitoring	The exact device specifications and performance data of the product may deviate from the information provided here, and depend on the application in which the product is being used and the relevant customer specifications. Our regional sales organization will help you to select the optimum device configuration.	On request
FLOWSKID600			On request

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- ✔ Check your history of all your orders and quotes.
- ✔ Create, save, and share as many wish lists as you want.
- ✔ Use the direct order to quickly order a big amount of products.
- ✔ Check the status of your orders and quotes and get information on status changes by e-mail.
- ✔ Save time by using past orders.
- ✔ Easily export orders and quotes, suited to your systems.



SERVICES FOR MACHINES AND PLANTS: SICK LifeTime Services

Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.



- 
Consulting and design
 Safe and professional
- 
Product and system support
 Reliable, fast, and on-site
- 
Verification and optimization
 Safe and regularly inspected
- 
Upgrade and retrofits
 Easy, safe, and economical
- 
Training and education
 Practical, focused, and professional

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 10,000 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its 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.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the 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 SICK a reliable supplier and development partner.

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

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