TELEMATIC DATA COLLECTOR

INTELLIGENT NETWORKING – HARNESS YOUR DATA
AND BE PROACTIVE

Gateway systems

SICK
Sensor Intelligence.

MAKING BIG DATA USEABLE – OPTIMIZED PROCESSES, HIGHEST QUALITY, LOW COSTS

TRANSPARENCY

In the age of Industry 4.0, automation and intelligent data management are strategic success factors and are decisive for the competitive edge and sustainability of the company.

Any company which wants to compete in the markets of tomorrow faces a wide range of challenges: The demand for quality and functionality of products is growing, and machines, systems and production processes are becoming more and more complex in industrial manufacturing. Large amounts of data are generated and must be evaluated in a profitable manner. Networking sensors, machines, systems and vehicles with IIoT platforms and processing knowledge in real time – that is what the Telematic Data Collector gateway system is about.

PRODUCTIVITY

QUALITY ASSURANCE

EFFICIENCY

4

DIGITAL INTEGRATION WITH WIRELESS COMMUNICATION

RECORDING

The TDC system reliably records data from production and control processes via a variety of interfaces.

⊕ Numerous connection options
GPS, serial, CAN bus, Ethernet, USB, etc.

Thanks to the wide variety of connection options available, it is possible to connect not only SICK sensors but also sensors, devices, machines, controls, and systems of other manufacturers.
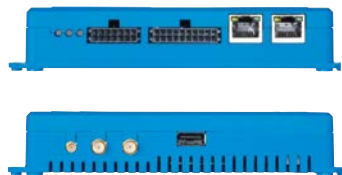
⊕ Fast and easy integration
Plug and play

The plug and play functionality of SICK sensors enables them to be integrated with minimum time and effort.

⊕ Additional data collection
On-board sensor technology

Additional data on tilt, temperature and acceleration can be made available with the integrated sensor technology.

⊕ Real-time positioning and precise location data
Localization

Safe wireless technology and a GPS module create the foundation for precise position determination of vehicles or other assets in outdoor areas.

TRANSMISSION

The TDC system transmits filtered sensor data and process information to a cloud or a customer service using various interfaces. They are then available for further processing worldwide and at any time.

➕ Safe and reliable data transmission
Wireless technology

Thanks to the mobile communication technology, data collection is also possible over large distances. Data security is ensured through the use of safe protocols.

➕ Optimized quality assurance
Real-time alarms

With the help of user-defined notifications via SMS or e-mail, measures can be taken to ensure uniformly high product quality in real time.

➕ Armed for the future
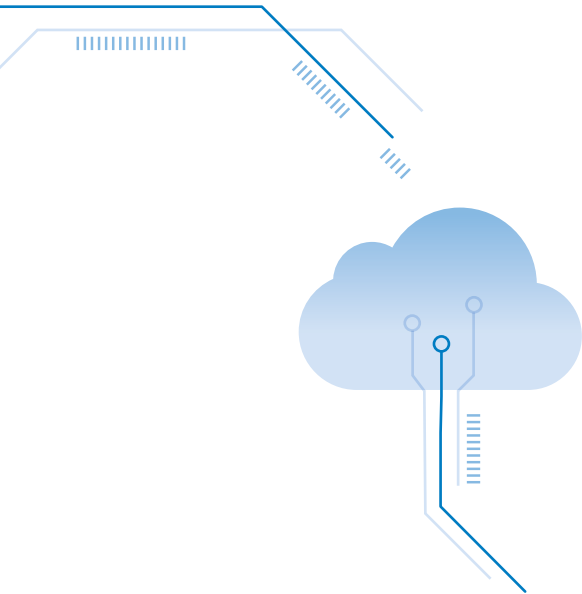**Open standards**

Die eingesetzten Micro-Services unterstützen eine stabile Ablaufumgebung und machen das System einfach skalierbar. Neben der Verwendung von SICK-eigenen Anwendungen lassen sich kundenspezifische Applikationen leicht integrieren und flexibel weiterentwickeln.

➕ Convenient data access
**Browser-based user interface**

In addition to device administration, the individually-configurable user interface is also used for data visualization, process control, and remote configuration of sensors and devices.

ANALYSIS

The merged data is filtered and simple evaluations, such as diagnostics of limit value overshoots, can be done. Pre-processing can reduce response time and transmission costs.

MAXIMUM TRANSPARENCY

All information along the process chain can be merged in the SICK or a customer cloud using the TDC system – the optimal foundation for comprehensive evaluation. Sensor and process data can be visualized, important performance figures can be viewed and processes monitored.
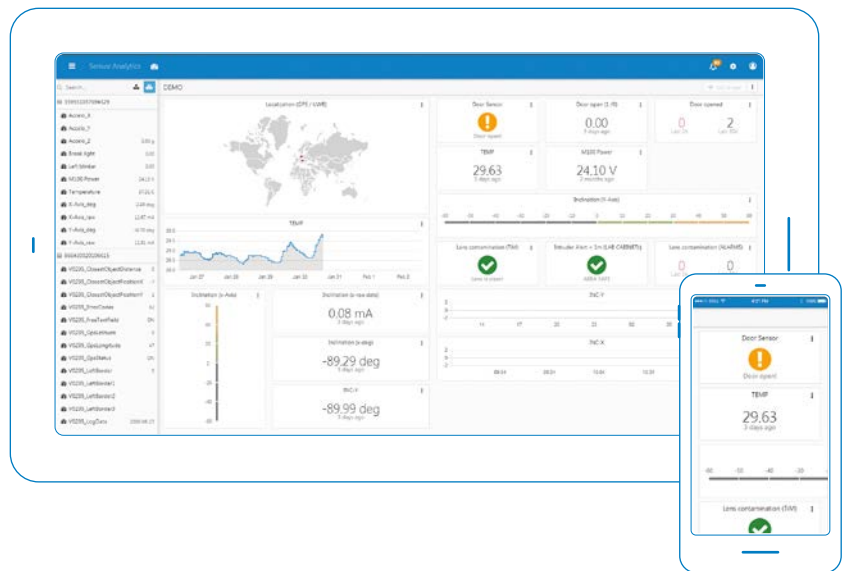
Complete solutions from a single source

In addition to sensors and gateway systems, SICK offers customer-specific platforms, cloud solutions, digital services, individualized advice as well as design of the overall system including integrating the IT components into the existing customer system.

Asset Analytics
SICK IntegrationSpace®
Sick LifeTime Services

On the browser-based user interface, the transmitted data provides the user with maximum transparency. The ability to access product data in development processes allows quick planning and reduced product development times. Production processes can be measured, which increases flexibility in production. In addition, the recorded data creates the foundation for diagnostics, statistics and forecasts.

Analysis and decision-making processes can be significantly accelerated through evaluation of the data directly on the device (edge computing), in the cloud, or via other IIoT platforms.

Smart Services

Der ideale Wartungszeitpunkt sowie der Servicebedarf von Sensoren, Maschinen und Anlagen kann durch die Auswertung der Sensor- und Systemdaten prognostiziert werden. Mithilfe einer präventiven Wartung wird die Lebensdauer aller Komponenten verlängert und Ausfallzeiten lassen sich reduzieren.

Maximum availability

Localization

Server-side localization systems determine the current position of vehicles and assets using the data transmitted by the TDC system. Thanks to the precise localization function, the routing of manned forklift trucks, AGVs, AGCs, mobile machine and other vehicles can be coordinated with one another, avoiding possible collisions.

Route optimization

Digitalization of production

THINK ABOUT YOUR DATA – ANALYZE AND ACT

The TDC systems turn data from industrial applications into valuable information for operational and strategic decision-making.

I4.0 Retrofit

Existing machines and plants can be retrofitted with state-of-the-art sensor systems and communication technology. This allows networking and communication between plants and higher-level systems as well as recording and analysis of production data. The TDC provides an optimal entry point for upgrading to Industry 4.0.

Accelerated commissioning and optimized operating phase

Remote service

Targeted expert support via mouse click with the help of TDC with no travel or setup times required. The modular remote service concept from SICK offers just the right assistance at all times.

Efficient management of access authorizations

Access control

Access authorizations are controlled by defined access data. For monitoring and control applications, e.g., of parking spaces, TDC supports the collection of this data by directly communicating with the vehicle or the driver – via RFID, ANPR or text messages.

INTELLIGENT NETWORKING – HARNESS YOUR DATA AND BE PROACTIVE
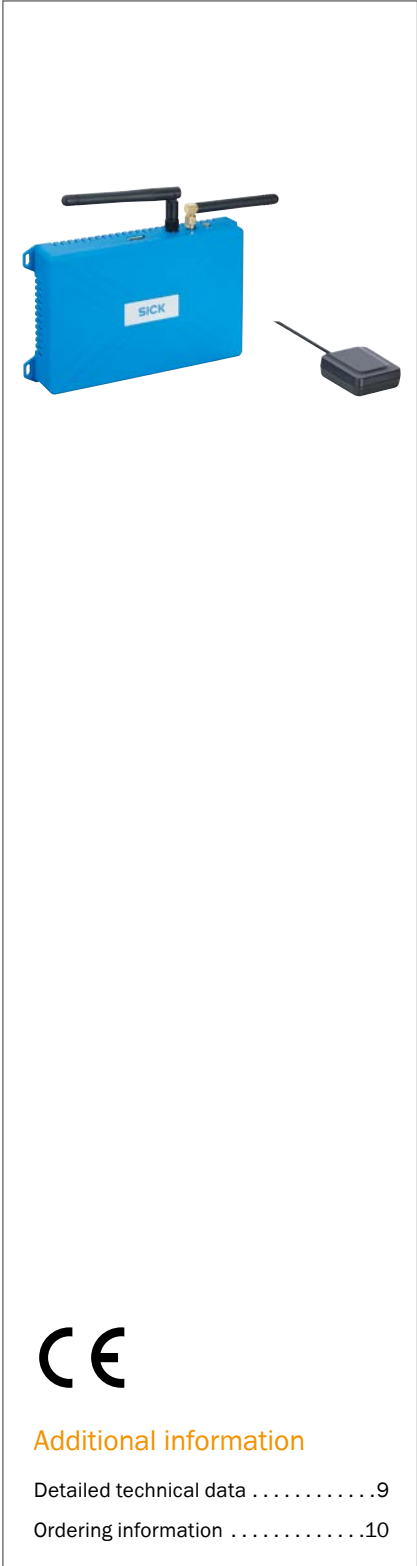
Product description

The Telematic Data Collector (TDC) networks sensors, machines, systems and vehicles using IIoT platforms. The data are transmitted wirelessly via mobile, radio communication or fixed-line connections. They can also be analyzed and evaluated locally (edge computing). It is also possible to set up user-defined real-time alarms (e.g., SMS notifications) via a variety of interfaces based on relevant data. The TDC brings together all the information along the value adding chain, thereby providing the ideal basis for wide-ranging analysis of that information and for deriving useful measures to increase productivity and efficiency.

At a glance

- Support for standardized interfaces and protocols for data communication
- Tailored configuration via a web-based user interface
- Integrated wireless technology and GPS module for precise position determination
- Open end-to-end IIoT architecture

Your benefits

- Simple, fast, cost effective and beneficial utilization of data
- Maximum availability of sensors and machines through real-time monitoring with user-defined alarms
- Broad range of applications thanks to the many connection and communication options available
- Future-proofed thanks to the use of open standards

Additional information

→ **www.sick.com/Telematic_Data_Collector**

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.

General notes

Description	The gateway networks sensors, machines and IIoT platforms for collecting and preprocessing local sensor and process data.
Items supplied	TDC-E210GC with mobile communication (without data flow) including connecting cables and operating instructions

Features

Product category	Gateway and cloud solutions

Performance

Sensor	Acceleration sensor, Magnetometer, Thermometers
Internal computer	1GB, DD3, dual-core Cortex-A7 with Cortex-M4 co-processor
Internal memory	16 GB
Operating system	Linux4Microservices, based on Linux Yocto Project 3.1.4 (Dunfell)
Ecosytem	Docker
User interface	TDC-E Device Manager, User Manager, Interface Manager
Data protocol	MQTT, REST API, WebSocket
Data format	JSON
Connectivity	Mobile communication (4G), WLAN, WPAN, LAN
Mobile network	Global coverage, LTE TDD: 1900/2300/2500/2600, LTE-FDD: 700/800/850/900/1700/1800/1900/2100/2600, UMTS: 850/900/1700/1900/2100
Network coverage	Europe, Middle East, Africa, APAC without Japan

Interfaces

GPS		✔, L1 C/A satellite-based extension system: WAAS, EGNOS, MSAS, GAGAN
	Protocol	GPS, GLONASS, BeiDo, Galileo
	Electrical connection	MCX
Modem		✔, 4G
	Data transmission rate	(≤ 150 Mbit/s), Full 4G performance cannot be guaranteed on operating temperature over 60°C.
Ethernet		✔ (2)
	Data transmission rate	(10 Mbit/s ... 1,000 Mbit/s)
	Electrical connection	RJ45
WLAN		✔
	Data transmission rate	(≤ 65 Mbit/s), single band 2.4 GHz
	Protocol	IEEE 802.11 b/g/n
WPAN		✔, IEEE 802.15.1, IEEE 802.15.4, IEEE 802.15.3
Inputs/outputs [1]		
	I/O	6 analog inputs (configurable, current and voltage), 6 digital inputs/outputs (configurable), 2 additional digital inputs, 2 additional digital outputs
Optical indicators		3, LED, status displays
Configuration interface		Web-Interface REST API

[1] Analog measurement of voltage (0 – 36 V) with accuracy of ± (0.2%+30 mV), current (0 – 32 mA), with accuracy of ± (1%+0.1 mA), input resistance 27.5 kΩ typical for voltage mode, 100 Ω typical for current mode.

Mechanics/electronics

Supply voltage	24 V DC (9 V DC … 36 V DC)
Power consumption	2.4 W
Housing dimensions (W x D x H)	162 mm x 32 mm x 101 mm
Weight	230 g
Housing material	Polyamide PA6
Housing color	Light blue (RAL 5012)
Enclosure rating	IP20 (according to DIN EN 60529)

Ambient data

Ambient temperature, operation	–20 °C … +70 °C
Ambient temperature, storage	–40 °C … +85 °C
Shock load	IEC 60068-2-27
Electromagnetic compatibility (EMC)	EN 303446-1, EN 55032, EN 55024, EN 61000-3-2, EN 61000-3-3
Product safety	EN 62311:2008
Radio approval	RED

Ordering information

Description	Network coverage	Items supplied	Type	Part no.
The gateway networks sensors, machines and IIoT platforms for collecting and preprocessing local sensor and process data.	Europe Middle East Africa APAC without Japan	TDC-E210GC with mobile communication (without data flow) including connecting cables and operating instructions	TDC-E210GC	6070344

WORKING WITH SICK IN A DIGITAL WORLD

Making your digital business environment comfortable

Find a suitable solution in next to no time

- Online product catalog
- Application Solver
- Online configurators and selectors

My SICK is your personal self-service portal

- Open around the clock
- Clear product information
- Company-specific price conditions
- Convenience during the ordering process
- Document overview
- Availability and delivery times

Register now:
➜ www.sick.com/myBenefits

Even more value

- Digital Customer Trainings ➜ www.sick.com/c/g300887
- Digital Service Catalog ➜ cloud.sick.com
- SICK AppPool ➜ apppool.cloud.sick.com

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 10,400 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**

SICK
Sensor Intelligence.

SICK AG | Waldkirch | Germany | www.sick.com