

# Track-and-Trace Systems



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### **Described systems**

Track-and-Trace - TTS  
Tire-Lector-Array - TLA  
Image-Recognition-Matrix - IRM

### **Manufacturer**

SICK AG AG  
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### **Original document**

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# 1 About this Document

## Note

This document regarding the Track-and-Trace systems

- contains information required during the life cycle of the system.
- is available to all those people who work with the system.
- read this document carefully and make sure that you understand the content fully before working with the system.

## 1.1 Limitation of Liability

### Note

All information and notes in this document have been compiled in accordance with the applicable standards and regulations, the state of the art and the manufacturer's many years of knowledge and experience.

It is therefore pointed out that the manufacturer assumes no liability, particularly in the following cases:

- Non-compliance with this document.
- Failure to comply with instructions and regulations.
- Unauthorized assembly and installation.
- Unauthorized technical and other modifications.
- Use of spare parts, wearing parts and accessories not approved by the manufacturer.
- Unauthorized changes, adjustments and/or manipulations of software.
- Non-performance of regular maintenance work and its documentation.

The actual scope of delivery may deviate from the features and illustrations described here in the case of special designs, the use of additional ordering options or due to the latest technical changes.

## 1.2 Purpose of this Document

This document describes the systems:

Track-and-Trace - TTS

Tire-Lector-Array - TLA

Image-Recognition-Matrix - IRM

## 1.3 Target Group

This document is intended for qualified personnel which are authorized to work on the systems.

## 1.4 Further Information

### Special local conditions

Follow all local laws, technical rules, and company-internal operating directives applicable at the respective installation site.

### Preserving the documents

This document and the additional technical documentation and information must be:

- Available for reference.
- Passed on to new system operator or new employees.

## 1.5 Additional Technical Documentation/Information

- Technical System-Documentation:
  - Wiring diagram
  - Technical drawings
- Original SICK operating instructions for **optional** products and components can be found at [www.sick.com](http://www.sick.com)

### 1.5.1 Track and Trace - Products

ID-Number	Products	Manufacturer
8016510	RFGS Pro - Object Identification	SICK
8016512	RFMS Pro - Object Identification	SICK
8025175	TTC100-2 - Track-and-Trace-Cabinet	SICK
8010592	VMS410/510 - Volume Measurement System	SICK
8010448	VMS420/520 - Volume Measurement System	SICK
8023994	VMS4100/5100 - Volume Measurement System	SICK
8022965	VMS4200/5200 - Volume Measurement System	SICK
8024628	VMS4200-x/5200-x - Volume Measurement System	SICK
8025140	VMS6200 - Volume Measurement System	SICK
8017074	VMS4x0 - Contour Verification Measurement System	SICK
8017046	VML Pro - Objects Volume Calculation System	SICK
8019514	VML Prime - Objects Volume Calculation System	SICK
8020065	Master Data Analyzer - Article master data acquisition	SICK

## 1.5.2 Components

ID-Number	Components	Manufacturer
8018071	Lector63x - Image-Based Code Readers	SICK
8016185	Lector64x/65x - Image-Based Code Readers	SICK
8024536	RFU61x - RFID read/write device (UHF)	SICK
8015930	RFU62x - RFID read/write device (UHF)	SICK
8014335	RFU63x - RFID read/write device (UHF)	SICK
8011325	ICR880/890 - Camera Systems	SICK
8014396	CLV69x - Bar Code Scanners	SICK
8019588	CLV63x, 64x, 65x - Bar Code Scanners	SICK
8010004	CDM420-0001 - Connection Module	SICK
8011155	CDM420-0004 - Connection Module	SICK
8014808	CDM420-0006 - Connection Module	SICK
8015216	CDM420-0007 - Connection Module	SICK
8016155	CDB650 - Connection Module	SICK
8015922	CDF600-2200 - PROFINET IO	SICK
8013919	CDF600-0300 - Fieldbus Module EtherCAT	SICK
8016853	CDF600-2201 - PROFINET IO AIDA	SICK
8015335	CDF600-21x - Fieldbus Module PROFIBUS-DP	SICK
8013709	DFV60 - Incremental Encoder	SICK
8018632	DBS36 Core/DBS50 core - Incremental Encoder	SICK
8011540	MSC800 - Modular System Controller	SICK
8020764	SIM2000 - Sensor Integration Machine	SICK
8022121	DIM320 - Handheld Dimensioner	SICK
8015578	RFA630-000/-001 - UHF-Antennas	SICK
8022178	RAY26 - Opto-Electronic Retro-Reflective Sensor	SICK
8020348	WLA16 - Opto-Electronic Retro-Reflective Sensor	SICK
8020352	WLD16 - Opto-Electronic Retro-Reflective Sensor	SICK
8020357	WLA26 - Opto-Electronic Retro-Reflective Sensor	SICK
8020356	WLD26 - Opto-Electronic Retro-Reflective Sensor	SICK

- The original supplier operating instructions for **optional** system components are supplied with the component.





## 2 Important Safety Instructions

### 2.1 Intended Use

- Identification and tracking of objects.
- Bar code/matrix code reading or image recognition.
- Dimensioning - capturing dimensions and volumes of objects.
- Adherence to this system information, in particular the potential hazards and safety instructions.

#### Note

The systems may only be used in an industrial environment.

It is to be operated exclusively by trained personnel.

### 2.2 Supplemental Directives

- ▶ The installation and assembly of the systems and associated components may only be carried out by personnel of SICK AG or by persons designated, instructed and qualified by SICK AG.
- ▶ Before working on the systems, read this document carefully and follow all safety information.
- ▶ Only qualified persons from the respective areas are permitted to work on the systems.
- ▶ Follow operating procedures.
- ▶ Follow local regulations.
- ▶ Observe local regulations.
- ▶ Access to the systems is restricted to authorized personnel only.

#### System damage/transport damage

- ▶ Damage to individual components can lead to malfunctions of the entire system.
- ▶ Do not ignore system components damaged during transport.
- ▶ In the event of damage, contact SICK Service.

### 2.3 Requirements for the Qualification of Personnel

Only qualified personnel from the respective field are permitted to work on the system.

- Qualified personnel have the specialist training, skills, and experience, as well as knowledge of the relevant regulations and standards, to be able to perform tasks delegated to them and to detect and to avoid any potential dangers independently.
- Electricians have the specialist training, skills, and experience, as well as knowledge of the relevant standards and provisions to be able to carry out work on electrical systems and to detect and avoid any potential dangers independently.

### 2.4 Potential Hazards

#### **Optical radiation light source RG2**

Injuries to the eyes and skin.

#### **Optical laser radiation laser class 2**

Laser class 2 can lead to serious eye and skin injuries.

#### **Electric voltage**

Touching components that are live may result in death, burns or shock from electric shock.

#### **Suspended loads**

Suspended loads can lead to serious injuries and death.

#### **Thermal hazards**

Hot surfaces on objects can cause burns.

#### **Mechanical hazards**

Conveyor technology can lead to serious injury due to crushing of body parts.

### 2.5 System Warranty

Any warranty claim expires if:

- ▶ Safety instructions and measures in this document are not observed.
- ▶ Parts or components of the systems are installed, assembled or modified without authorization.
- ▶ The systems are changed or modified.
- ▶ Software is changed, adapted and/or manipulated without authorization.

### 2.6 RoHS-Directive


This product is designed for applications in large industrial plants according to Article 2 (4) e, RoHS 2011/65/EU and can therefore only be used in such systems.


The product is neither suitable nor approved for use outside of these systems.


SICK cannot assume any kind of warranty or liability for use outside of these systems.

## 2.7 Safety Conventions

The warnings used in this manual have the following meanings:

 **DANGER**  
Indicates a hazardous situation with a high risk level, which if not avoided, will result in death or serious injury.

 **WARNING**  
Indicates a hazardous situation with a middle risk level, which if not avoided, could result in death or serious injury.

 **CAUTION**  
indicates a potentially dangerous situation with a low risk level, which if not avoided may lead to minor or moderates injuries.

### NOTICE









Indicates a situation which, if not avoided, may result in property damage to the system or products in its vicinity.

### Note

Indicates important information and useful hints..

## 2.8 Warning Signs on System Components






Do not remove or cover warning and mandatory stickers. Damaged or missing stickers must be replaced.

Sign	Significance
	Warning of a danger point
	Warning of dangerous electrical voltage
	Warning of laser beam
	Warning of suspended loads
	Warning of optical radiation
	Warning of hot surfaces
	Warning of bruising of limbs
	Warning of bruising of body

2.9 Mandatory Signs

Mandatory signs indicate a measure that is required to protect personal health and/or avoid the risk of personal injury.

Mandatory signs on the systems must not be removed or covered. Damaged or missing signs (stickers) must be replaced.

Sign	Significance
	Read instructions manual
	Wear eye protection
	Wear hard hat
	Wear safety boots
	Disconnect before maintenance or repair

2.10 Safety Instructions

All types of work on the system may only be performed by qualified personnel, see: [chapter 2.3 Requirements for the Qualification of Personnel /page 7](#).

2.10.1 Transport



**DANGER**

**Danger from suspended loads. Crushes.**

Falling objects can cause serious injury and death.

- ▶ Do not stand under suspended loads.
- ▶ Use personal protective equipment (PPE).
- ▶ Use suitable lifting equipment.
- ▶ Do not lift the system higher than necessary.



**DANGER**

**Danger from live parts.**

Serious injuries and death from live parts.

- ▶ Energy sources must be separated before any transport movements.
- ▶ The energy separation may only be done without voltage.

### 2.10.2 Assembly and Installation



#### NOTICE

- ▶ The installation and assembly of the systems and associated components may only be carried out by personnel of SICK AG or by persons designated, instructed and qualified by SICK AG.



#### DANGER

##### Danger from falling components.

Falling components can cause serious injury and death.

- ▶ Do not stand under suspended loads.
- ▶ Use personal protective equipment (PPE).
- ▶ Do not carry out assembly work alone.
- ▶ Have components secured by a second person.
- ▶ Install components in accordance with the operating instructions / technical specifications. Observe tightening torques.



#### DANGER

##### Danger due to inadequately secured reading gate. Crushes.

Dropping or falling objects and reading gate can cause serious injury and death.

- ▶ Install the reading gate and system components at the place of use in accordance with the installation guidelines in the technical description/operating instructions (floor anchoring).
- ▶ Sufficiently connect the system and system components to each other.
- ▶ Observe SICK specifications for installation.

### 2.10.3 Operation



#### DANGER

##### Danger due to minimum distances not being observed. Crushes.

Crushing of the upper body and upper limbs.



- ▶ Prevent access to the interior of the reading gate by means of fixed separating guards.
- ▶ If no fixed guards can be installed due to environmental conditions, inclined plates (standing preventer) must impede access.

### 2.10.4 Electrical Installation



#### DANGER

##### Risk of injury or death due to dangerous electrical voltage.

- ▶ Only qualified personnel may perform electrical work on the system.
- ▶ Disconnect power supply.
- ▶ Check residual voltages on system components.
- ▶ Pay increased attention.
- ▶ Always connect equipotential bonding (grounding).
- ▶ Do not disconnect or remove protective conductor.

### 2.10.5 Laser Radiation



**WARNING**

**Risk of injury to the retina by class 2 laser radiation.**

- ▶ Do not look directly into the beam path.
- ▶ Pay attention to reflections during mounting and alignment.
- ▶ Wear suitable laser safety glasses.
- ▶ Do not open the component housing.
- ▶ Observe laser safety regulations.

### 2.10.6 Camera Lighting



**WARNING**

**Risk of injury to the retina by RG2 light sources.**

- ▶ Do not look directly into the light beam.
- ▶ Wear suitable eye protection during commissioning and maintenance work.

### 2.10.7 Thermal Hazard



**WARNING**

**Risk of injury from hot surfaces.**

Burns caused by hot surfaces on drive motors, camera lighting or industrial PCs.

- ▶ Do not look directly into the light beam.
- ▶ Wear suitable eye protection during commissioning and maintenance work.

### 2.10.8 Maintenance



**WARNING**

**Danger from loose screw connections and cracking.**

- ▶ Check mechanical fastening elements for tight fit.
- ▶ Check supporting parts for cracks.
- ▶ Check deformations and wear of fastening elements.
- ▶ Clean the entire system annually and check its functionality.
- ▶ Maintain system components in accordance with the specifications in the operating instructions.

## 3 Disposal

### Note

Note the relevant currently valid local and legal environment regulations and directives for the disposal of industrial and electronic waste.

### Disposal of batteries, electrical and electronic equipment

According to international directives and regulations, batteries, accumulators and electrical or electronic devices must not be disposed of as household waste.

The owner is obliged to dispose of the equipment at the end of its service life at the appropriate public collection points.

This symbol on the product, packaging or in this document indicates that a product is subject to these regulations.



The following assemblies may contain substances that must be disposed of separately:

**Electronics:** capacitors, accumulators, batteries

**Displays:** Liquid in the LC-Displays

**Australia**

Phone +61 (3) 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Austria**

Phone +43 (0) 2236 62288-0  
E-Mail office@sick.at

**Belgium/Luxembourg**

Phone +32 (0) 2 466 55 66  
E-Mail info@sick.be

**Brazil**

Phone +55 11 3215-4900  
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**Canada**

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