



# RFGS Pro

THE COMPLETE RFID OBJECT IDENTIFICATION SYSTEM

Track and trace systems

**SICK**  
Sensor Intelligence.

# AUTOMATICALLY OPTIMIZE LOGISTICS PROCESSES: WITH THE RFGS Pro FROM SICK

SICK offers a wide range of automatic identification solutions. And now you can enjoy even more flexibility and intelligence thanks to the addition of the RFGS Pro (Radio Frequency Gate System) track and trace system with its RFID technology. The system is based on proven components and rugged standard mechanics and can be commissioned easily and cost-effectively. IDpro from SICK makes the RFGS Pro easy to integrate into any application – including in combination with other automatic identification technologies.

RFGS Pro: another step toward the automation of your logistics processes.

## RFID: Seamless identification

The RFGS Pro features radio-based RFID technology, which offers major advantages when it comes to fully automated material flow monitoring and control:

- External factors such as frost, abrasion, or dirt cannot interfere with the identification process.
- The identification process can also be performed away from the conveying line without any need for visual contact with the RFID tag.
- Individual objects are detected even when they are in a pile, saving time and money
- Material flow identification does not get interrupted at gate transition points.
- Information can be changed or overwritten on the RFID tag remotely – without a connection to a central database.



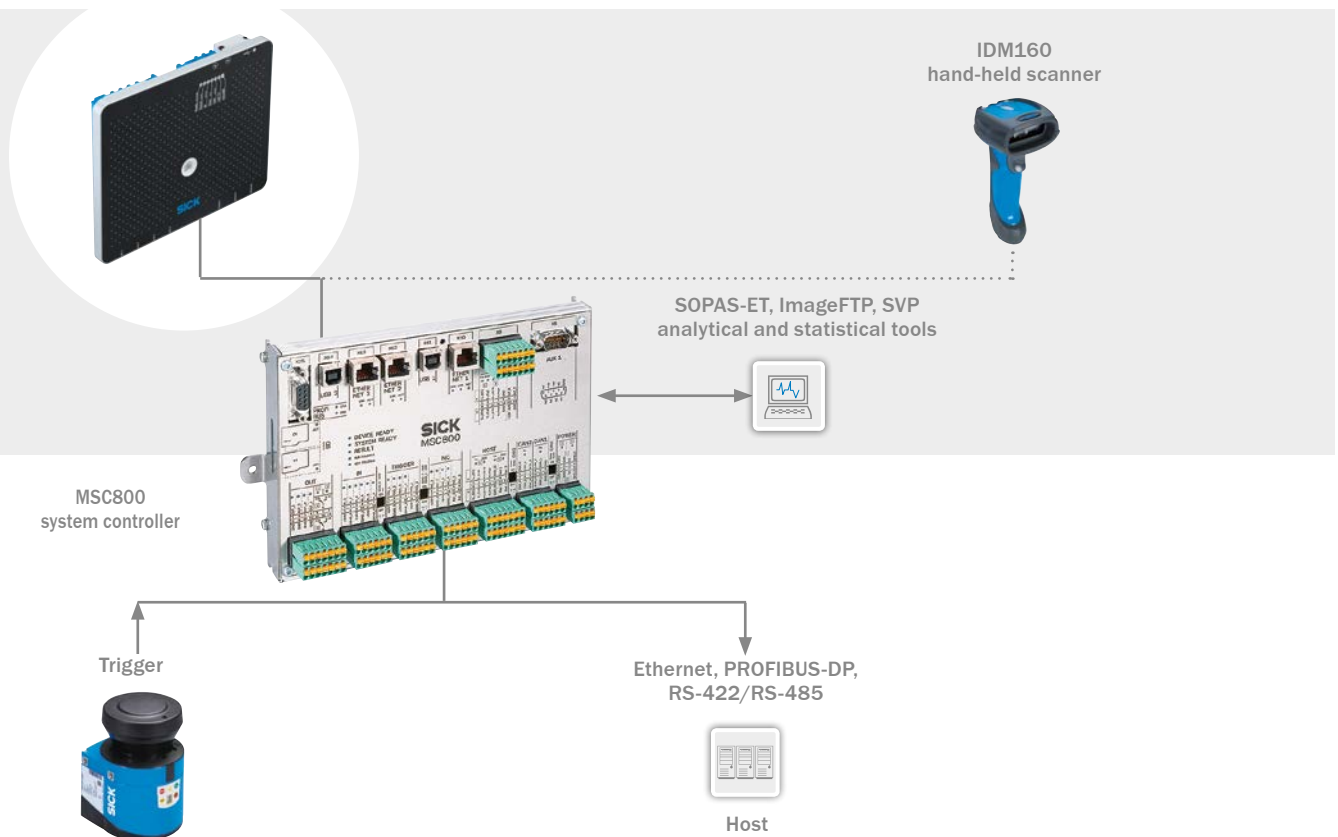
# RFGS Pro: INNOVATION BUILT ON PROVEN COMPONENTS

To create its RFGS Pro track and trace system, SICK has combined proven components and sensors that have been used time and time again – resulting in an innovative complete solution:

- MCS800 system controller: With its integrated assignment algorithm, the controller hardware is highly reliable.
- RFU630 read/write device for RFID-based identification
- LMS1xx 2D laser scanner for detecting the object, speed, and direction. The antenna field is only activated by the triggering process if there is an object at the relevant gate.

Because of the way these components are combined, the RFID tag can be uniquely assigned at the gate – remotely and at the very point in the process where intelligent identification is required.

All customer-specific parameters are saved on an SD card in each sensor for quick and easy device replacement.

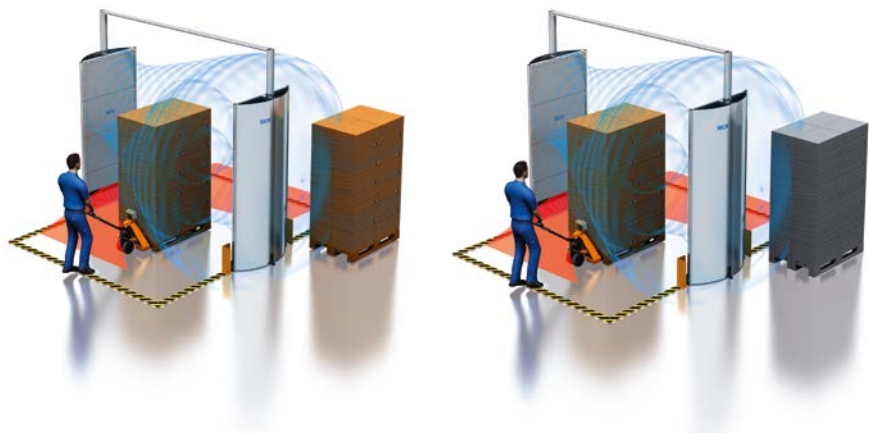


# RFGS Pro: INTEGRATED SENSOR INTELLIGENCE

The RFGS Pro offers all the benefits you would expect from a reliable solution for identifying incoming and outgoing goods. The intelligent assignment algorithm filters the RFID tags read by the system: Goods in the vicinity of the gate that are not meant to be assigned are filtered out. This allows precise identification of the actual incoming or outgoing goods – including direction detection.

## The differences at a glance

Direction detection	-	✓
Distinguishes between static and dynamic tags	-	✓
Distinguishes between pallet and person	-	✓
Integrated service, monitoring, and diagnostic tools	-	✓
Assigns RFID tags that are of relevance to (inbound) delivery	-	✓
Reads all standard RFID tags	✓	✓
Object-based output	✓, 1 object gets read 1 x, no unnecessary multiple reading	
High reading rate	✓	✓
Installation wizard	✓, results in easy commissioning	
Can be connected to an existing ERP system	Easy to connect thanks to configurable interfaces	



# OPTIMIZATION AT EXACTLY THE RIGHT POINT: THE RFGS Pro IN ACTION



The RFGS Pro track and trace system from SICK is ideal for optimizing material flow: when monitoring incoming and outgoing goods or when detecting empty totes and load carriers.

And, in manufacturing logistics it can't be beat: during batch checking and when monitoring the material flow between warehouses and various company locations.



### Fully automated monitoring within the material flow: incoming and outgoing goods

Within the context of manufacturing logistics, workers load goods onto trucks or unload them at loading bays and transfer points. With RFGS Pro, RFID tags can be read fully automatically without any interruptions – regardless of whether the goods are located inside boxes, on pallets, or inside totes.



### Greater transparency and fewer losses during tote management

Whether they are used in the retail trade, for fresh produce, or in manufacturing logistics, the empty totes have to be transported back to the supplier once the goods have been removed from them. The RFGS Pro improves transparency during tote management. It enables you to set up a fully automated process that provides a precise overview of the totes that have been delivered and returned. In this way, the high costs incurred by the potential loss of these totes can be reduced.

# THE COMPLETE RFID OBJECT IDENTIFICATION SYSTEM



## Product description

The RFGS Pro (Radio Frequency Gate System) track and trace system is ideal for optimizing processes in the supply chain process. It is a flexible, intelligent solution specifically for goods receipt and goods issue in logistics. The system consists of interrogators for RFID identification, a central controller with an integrated allocation algorithm, and a 2D laser scanner for object, speed and

direction detection. RFID tags can be uniquely and remotely assigned at the gate. In addition, “false-positive reads” are suppressed without the need for any expensive licensed software. The industrial, rugged standard mechanics and installation wizards integrated in SOPAS software from SICK make simple, cost-effective commissioning on site possible.

## At a glance

- Remotely assigns tags to objects and detects the direction of the moving object
- Remotely distinguishes between moving and static tags and filters them for the host message
- Distinguishes between pallet and person
- Stand-alone gate with integrated controller
- Central interface for all sensors via CAN and TCP/IP network
- Integrated service, monitoring and diagnostic tools
- Parameter cloning of sensors via SD card

## Your benefits

- Reliable pre-filtering of process-relevant tags reduces on-site adjustment costs
- Suppression of “false-positive reads” without using expensive licensed software saves money
- Simple ERP connectivity without any additional licensed software saves time and money
- High-quality sensors provide reliable detection capabilities
- Simple on-site commissioning via SOPAS software saves time
- Simple integration with SICK’s 4Dpro makes it easy to add bar code scanners to an application
- Durable mechanical design allows flexible adjustment of antennas for easy on-site adaptation, which saves time and money



## Additional information

Detailed technical data . . . . .	9
Ordering information . . . . .	10
Dimensional drawing . . . . .	11
Accessories . . . . .	11

→ [www.sick.com/RFGS\\_Pro](http://www.sick.com/RFGS_Pro)

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

<b>Items supplied</b>	1 x MSC800-1100 1 x RFU630-04xx 1 x LMS100-1000 4 x triple patch antenna Brackets, connection cables, frame and shielding Depending on application
<b>Usage</b>	Reading and assignment of RFID tags at gates

### Features

<b>Frequency band</b>	865 MHz ... 868 MHz (ETSI), 902 MHz ... 928 MHz (FCC), others on request
<b>Light source</b>	Infrared, Laser diode
<b>Laser class</b>	I
<b>MTBF</b>	> 80,000 h
<b>MTTR</b>	< 10 min, per device
<b>Applications</b>	Loading gate Receiving area Outgoing area Manual loading
<b>Field of application</b>	Indoor

### Performance

<b>Number of codes per reading interval</b>	Depending on application
<b>Minimum detectable object</b>	85 mm
<b>RFID standard</b>	EPCglobal UHF Class 1 Generation 2 ISO/IEC 18000-6 C

### Interfaces

<b>Serial</b>	Function	✓ (3) Data output, parameter set-up, analyses
	Data transmission rate	300 bit/s ... 57,600 bit/s
	Electrical connection	Sub-D, 9-pin
<b>Ethernet</b>	Function	✓ (2) Data output, parameter set-up, analyses
	Data transmission rate	10 MBit/s / 100 MBit/s
	Protocol	FTP, TCP/IP, Server/Client
	Electrical connection	RJ45
<b>PROFIBUS DP</b>	Function	✓
	Data transmission rate	12 MBaud
	Protocol	PROFIBUS DP
	Electrical connection	Sub-D, 9-pin
<b>PNP, configurable, opto isolated, reverse polarity protected</b>		✓ (13)
<b>Digital output, PNP +24 V, 30 mA</b>		✓ (4)
<b>Floating output</b>		✓ (2)
<b>Reading pulse</b>		LMS100-1000 / TiM320-1131000

<b>Output data</b>	XML ASCII Customer protocol
<b>Configuration interface</b>	Ethernet Serial SOPAS Engineering Tool

### Mechanics/electronics

<b>Dimensions, system (L x W x H)</b>	1,200 mm x 3,000 mm x 1,900 mm (width customized up to 4,500 mm possible, height up to 3,500 mm possible)
<b>Housing dimensions (W x D x H)</b>	1,200 mm x 220 mm x 1,900 mm (height up to 2,500 mm possible)
<b>Enclosure rating</b>	IP65 <sup>1)</sup> IP54 <sup>1)</sup>
<b>Supply voltage</b>	100 V AC ... 264 V AC
<b>Mains frequency</b>	50 Hz ... 60 Hz
<b>Power consumption</b>	50 W, without load
<b>Housing</b>	2 half-shell shields with aluminum profile
<b>Housing material</b>	Stainless steel Aluminum
<b>Total weight</b>	145 kg, at 2,500 mm height 125 kg, at 1,900 mm height
<b>Weight, half-shell</b>	75 kg, at 2,500 mm height, without sensors 60 kg, at 2,500 mm height, with sensors 65 kg, at 1,900 mm height, without sensors 50 kg, at 1,900 mm height, with sensors
<b>Housing color</b>	Metallic

<sup>1)</sup> Depending on antennas.

### Ambient data

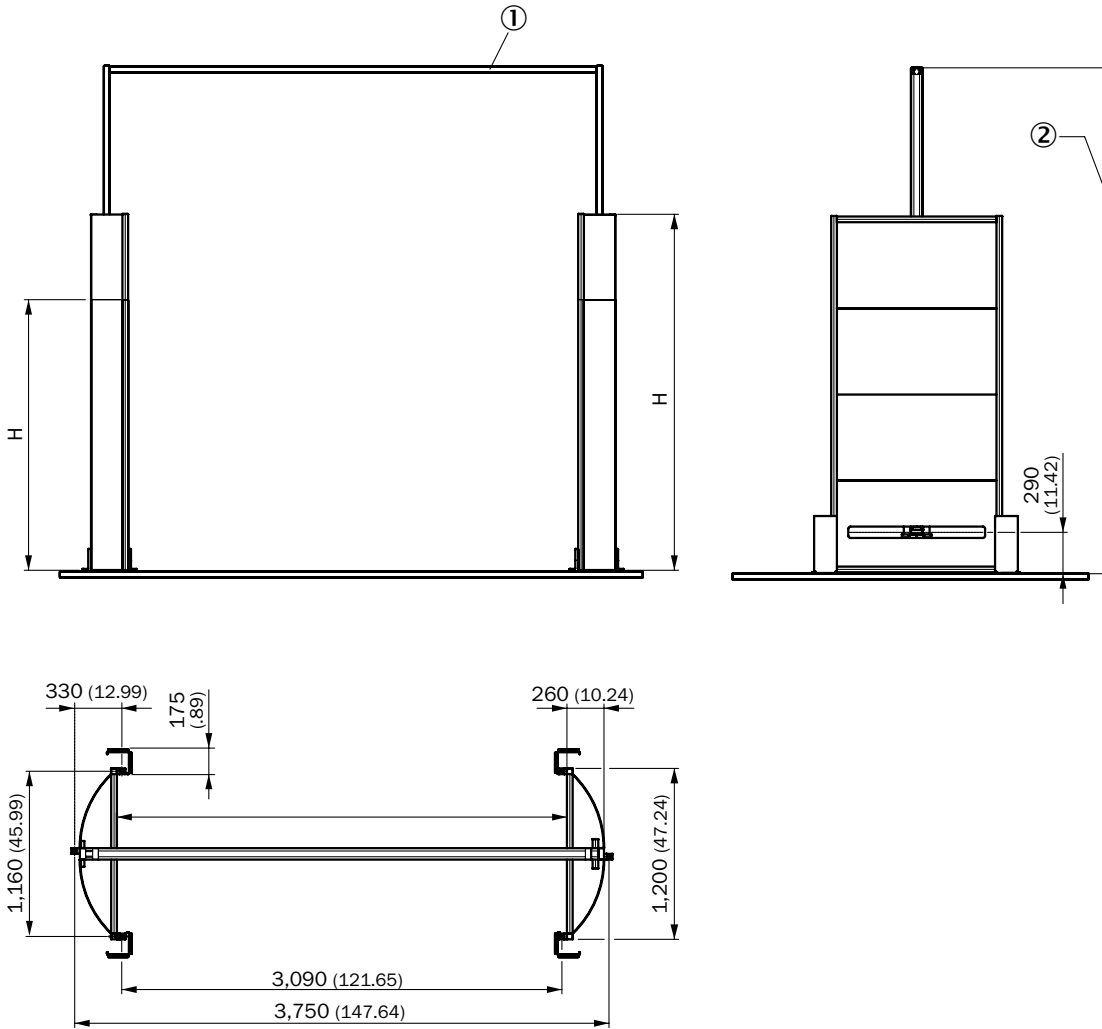
<b>Ambient temperature operation</b>	0 °C ... +40 °C
<b>Ambient storage temperature</b>	-20 °C ... +70 °C
<b>Permissible relative humidity</b>	90 %, Non-condensing
<b>Ambient light immunity</b>	40,000 lx
<b>Radio approval</b>	ETSI EN 302 208-2 V1.4.1, FCC Part 15.247 <sup>1)</sup>

<sup>1)</sup> Others on request.

### Ordering information

Application	Type	Part no.
Loading gate, Receiving area, outgoing area, manual loading	RFGS Pro	On request

**Dimensional drawing** (Dimensions in mm (inch))






- ① Width customized, max. 4.0 m
- ② Height customized, max. 3.5 m

**Accessories**







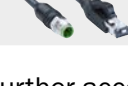
**Mounting systems**

**Device protection (mechanical)**

	Brief description	Type	Part no.
	Face plate 1.180 mm x 13 mm x 604 mm (L x W x H) with cutting for 2D laser scanners	Front plate for trigger	4075285
	L-shape, steel, yellow, powder-coated, 150 mm x 150 mm x 400 mm (L x W x H)	Ram protection	On request
	Face plate 1.180 mm x 13 mm x 604 mm (L x W x H)	Standard front plate	4075284


## Connection systems

### Plug connectors and cables

	Brief description	Type	Part no.
	4-wire, 2 m	SSL-2J04-G02ME	6034414
	4-wire, 3 m	SSL-2J04-G03MZ	6029630
	4-wire, 5 m	SSL-2J04-G05MACO	6054493
		SSL-2J04-G05ME	6034415
	4-wire, 10 m	SSL-2J04-G10MACO	6054492
		SSL-2J04-G10ME	6030928
	4-wire, 20 m	SSL-2J04-G20MACO	6050685

## Further accessories

### Signal and status indicators

	Brief description	Type	Part no.
	Tower light red, yellow, green, 24 V, incl. mounting and 10 m connection cable	Signal lamps	2069155





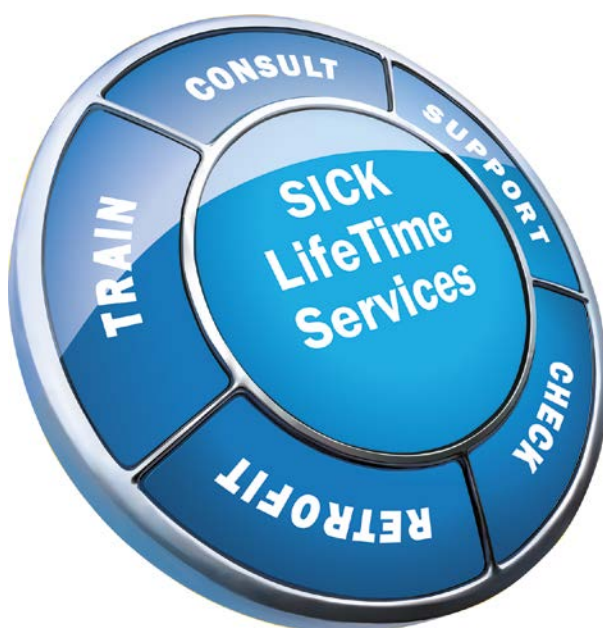
## REGISTER AT WWW.SICK.COM TO TAKE ADVANTAGE OF OUR FOLLOWING SERVICES FOR YOU






- ✔ Access information on net prices and individual discounts.
- ✔ Easily order online and track your delivery.
- ✔ 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 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](http://www.sick.com)