

# SIMATIC RF600

RFID system in the UHF range

Brochure · November 2008



SIMATIC Sensors

**SIEMENS**

# SIMATIC RF600

## RFID system in the UHF range

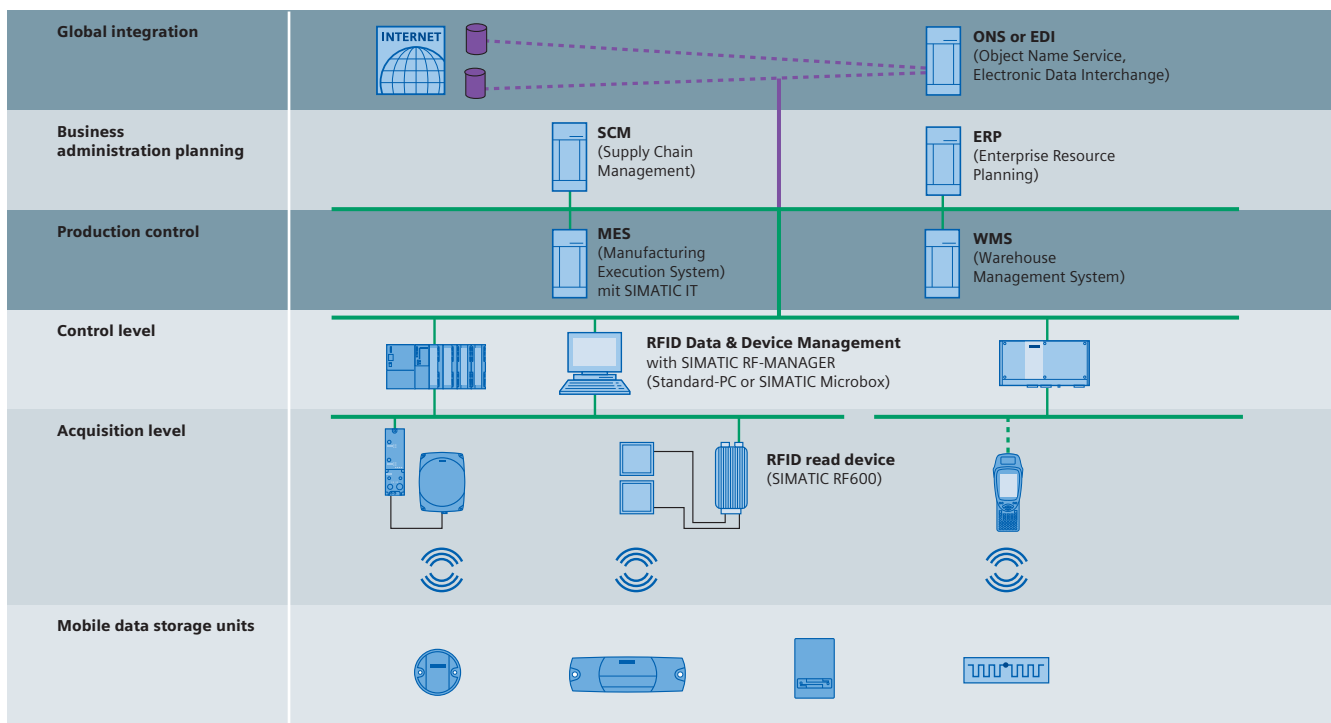
Whether in the warehouse or cold store, for the identification of containers or the recognition of components – when controlling and managing in logistics and material flow control, our RFID systems have been setting new standards for many years, in terms of reliability, for example. For these economical and rewriteable data storage units and SmartLabels can be reliably read and identified regardless of the surface and even when dirty.

Based on the ISO 15693 standards as well as EPCglobal and ISO/IEC 18000-6B/6C, SmartLabels from various suppliers may be used. Thanks to these "electronic goods issue slips", you have all the necessary information at hand at all times. Our systems perform both simple and complex tasks quickly and competently. We have the right system ready for you, whatever the requirements. Accessories, such as mobile handheld terminals, ensure additional flexibility in use.

## Highlights

- Flexibility and versatility due to compact designs and remote antennas
- Rugged, industry-compatible components
- Safe and selective individual acquisition and optional mass recording possible
- High reading speed: Fast-moving tags are reliably detected
- Flexible system integration via PROFIBUS, PROFINET or Ethernet
- Uniform system environment over the entire process chain
- Direct identification on the product is possible
- Easy and direct SIMATIC integration

RFID system	SIMATIC RF600
Read/write distance	up to 10 m (2 x 2 antennae, mounted opposite each other)
Frequency	865 - 868 MHz (Europe) 902 - 928 MHz (North America)
Standards	EPC Gen 1, EPC Gen 2, ISO 18000-6B, ISO 18000-6C



# SIMATIC RF600

## Maximum data transparency for greater efficiency

Fiercer competition, stricter standards and legal regulations, shorter product life cycles, more individual customer requirements: companies must assert themselves in ever more dynamic markets. In addition, due to increasing globalization, more and more closed value added chains are reaching their limits and are being replaced by global networks. This also

places greater demands on the supply chain. There is a demand for greater efficiency in tracking and tracing, asset management and production control.

The prerequisite for this is: maximum data transparency – with RFID (Radio Frequency Identification).

### Automatic yet flexible:

#### Production control

- Integrated solutions through the use of standards
- Accessible mounting locations due to extended read/write ranges
- Direct identification on the product



### The right part in the right place at the right time:

#### Material flow control

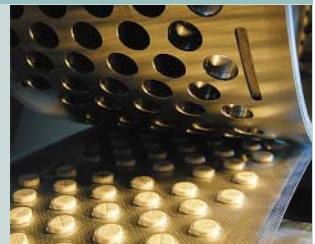
- Optimized inventory management
- Minimization of storage quantities
- Automatic, synchronous feeding of parts or components



### 100% traceability:

#### Tracking & tracing

- Improved product quality
- Focused after-sales support (e.g. product recalls)
- Observation of legal regulations



### Keeping an overview:

#### Asset management

- Increased rate of inventory turnover
- Reduction of inventory and less need for replenishment
- Increase of availability



### Commanding global logistics:

#### Supply chain management

- Greater transparency in logistics
- Improved options for process control
- Support of new logistics concepts



# Read/write devices, antennas

## Technology overview

	Write/read device SIMATIC RF620R	Write/read device SIMATIC RF630R	Write/read device SIMATIC RF660R
			
Description	Stationary compact UHF read/write device with integral antenna	Stationary compact UHF read/write device for one or two remote antennas	Stationary compact UHF read/write device for up to four remote antennas
<b>Interfaces</b>			
Ethernet (TCP/IP)			1 (100 Mbit/s)
RS232/RS422	-/1	-/1	1/-
Digital inputs 24 V			3
Digital outputs 24 V / 0.5 A nom.			3
<b>Connection to the automation system</b>			
<b>SIMATIC</b> ■ S7-300 ■ S7-400	■ ASM 475 communication module or over distributed I/O or PROFINET or PROFIBUS communication modules ■ over distributed I/O or PROFINET or PROFIBUS communication modules		■ Via TCP/IP ■ Via TCP/IP
<b>Distributed IO</b> ■ ET 200pro ■ ET 200M	■ SIMATIC RF170C communication module ■ ASM 475 communication module		
<b>Fieldbus</b> ■ PROFINET ■ PROFIBUS	■ RF180C communication module ■ ASM 456 communication module		
<b>Additional characteristics</b>			
Mass recording	optional		yes
Max. read/write distance	1.4 m/2.0 m	2.5 m/3.5 m	7.0 m/10.0 m
Distance between two read/write devices	3.0 m		
Data transmission rate	40 Kbit/s	40 Kbit/s	≥ 80 Kbit/s
Antenna	integrated	RF660A (max. 2)	RF660A (max. 4)
Operating temperature	-25 °C ... +55 °C		
Degree of protection	IP65		
Approvals	CE, ETSI EN 302208	CE, ETSI EN 302208	CE, UL, ETSI EN 302208, FCC
Dimensions in mm (L x W x H)	260 x 193 x 52		320 x 145 x 102

# Read/write devices, antennas

## Technology overview

SIMATIC RF610M mobile handheld terminal	
	
Description	Ready-for-use mobile write/read device with installed system software
Display	TFT color display with backlighting
Size	9.14 cm screen diagonal
VGA resolution (H x W in pixels)	640 x 480
<b>Control and display elements</b>	
Display	Touch screen
Keyboard	Alphanumeric
<b>Memory</b>	
Flash/RAM/SD card	128MB/128MB/optional
Operating system	Microsoft Windows Embedded CE 5.0
<b>RFID reader</b>	
Frequency	868 MHz (Europe) acc. to ETSI, 915 MHz (USA) acc. to FCC
Read/write distance	0.8 m typical
Mass recording	yes
<b>Interfaces</b>	
Wireless	Bluetooth Class II, WLAN (optional)
USB	1 (USB 1.1 Host)
Serial	RS232
Operating temperature	-10 °C ... +50 °C
Degree of protection	IP65
Power supply	Lithium-ion rechargeable battery, 3000 mAh

# Mobile data storage units

## Technology overview

	Smart label SIMATIC RF630L	Transponder SIMATIC RF620T	Transponder SIMATIC RF640T
			
Description	UHF SmartLabel on paper, cardboard, plastic or foil packaging	UHF transponder for use in industry. Can be mounted on cardboard, plastic, wood, or glass; on metal and conductive plastic with spacers	UHF transponder that can be mounted directly on metal
Memory size	EPC Class 1 Gen2, 96 bit EEPROM	EPC Class 1 Gen2, 96 bit EEPROM	216 bytes of user memory, 8 bytes UID, 28 bytes lock information
Standard	according to ISO 18000-6C	according to ISO 18000-6C	according to ISO 18000-6B
Frequency	Europe 865...868 MHz USA 902...928 MHz	Europe 865...868 MHz USA 902...928 MHz	Europe 865...868 MHz USA 905...928 MHz
Data retention	10 years		
Typical read/write distance	0.2...8.0 m	up to 6 m (on plastic or wood) up to 2 m (on metal and conductive plastic <i>without</i> spacers) up to 4 m (on metal and conductive plastic <i>with</i> spacers)	Read 0.2...2.0 m Write 0.2...1.5 m
Read cycles	Unlimited		
Write cycles, min.	100 000		500 000
Dimensions	101.6 x 152.4 mm (4" x 6") / 101.6 x 50.8 mm (4" x 2") / 97 x 27 mm 54 x 34 mm	Transponder: 127 x 38 x 6 mm Spacers: 155 x 38 x 12 mm	50 x 8 mm (Ø x H)
Operating temperature	-40 °C ... +65 °C/+80 °C (200 cycles)	-25 °C...+80 °C	-25 °C...+85 °C
Stock	Paper / plastic PET	Plastic housing PP (food-friendly)	Plastic PA 12, anthracite
Degree of protection	IP65 (plastic only)	IP67	IP68 / IPX9K / Ex idD 21 T140°C
Inscription	printable using thermal transfer procedure, depending on version	Laser labeling possible	no

# SIMATIC RF-MANAGER software

## Technology overview

With our SIMATIC RF-MANAGER, we are offering a totally integrated software solution for read/write devices of the SIMATIC RF600 RFID system, from the acquisition level through to the ERP and MES level.

Compatible with the EPCglobal standards, SIMATIC RF-MANAGER stands for efficient engineering and smooth operation. This means that readers can be commissioned quickly and easily, RFID data can be efficiently preprocessed, individual devices can be managed and a great deal of time and effort can be saved.



	RF-MANAGER Engineering system	RF-MANAGER Runtime
<b>General data</b>		
Current version	2008	
Supported devices	SIMATIC RF610M, SIMATIC RF660R	
Target systems	Standard PC	Standard PC, SIMATIC Microbox PC 427B
<b>Languages</b>		
Documentation / configuration software / runtime software	English, German	
<b>Hardware and software requirements</b>		
Operating system	Windows XP Professional/SP2	Windows XP Professional/SP2 (standard PC) Windows XP Embedded/SP2 (SIMATIC Microbox)
Processor	Pentium 4 with 1.6 GHz processor, or higher	Pentium 3 with 933 MHz processor, or higher
<b>Graphics</b>		
Resolution	at least 1024 x 768; recommended: 1280 x 1024	at least 640 x 480
Colors, at least	256	256
RAM	at least 1.0 GB; recommended: 2.0 GB	at least 512 MB; recommended: 1.0 GB
Spare memory / hard disk	at least 1.5 GB	at least 512 MB (standard PC), CF card with at least 512 MB (SIMATIC Microbox)
Additional hardware	CD-ROM drive (for software installation)	
Internet browser	Microsoft Internet Explorer V6.0 SP1 / SP2	

## Further information

SIMATIC Sensors RFID:

[www.siemens.com/simatic-sensors/rf](http://www.siemens.com/simatic-sensors/rf)

3D data on SIMATIC RF:

[www.siemens.com/simatic-sensors/rf-cad](http://www.siemens.com/simatic-sensors/rf-cad)

References for SIMATIC Sensors:

[www.siemens.com/simatic-sensors/references](http://www.siemens.com/simatic-sensors/references)

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[www.siemens.com/automation/mall](http://www.siemens.com/automation/mall)

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Further publications on the topic SIMATIC:

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Subject to change without prior notice  
Order No.: 6ZB5330-0AG02-0BA4  
Dispo 26107  
BR 1108 3. ROT 8 En / 3P.8101.66.02  
Printed in Germany  
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