SIEMENS

SIMATIC Ident
RFID systems
SIMATIC RF622L Smartlabel
Compact Operating Instructions

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury **will** result if proper precautions are not taken.

⚠ WARNING
indicates that death or severe personal injury **may** result if proper precautions are not taken.

⚠ CAUTION
indicates that minor personal injury can result if proper precautions are not taken.

NOTICE
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

1 Features

The SIMATIC RF622L Smartlabel is a passive and maintenance-free data carrier. It operates based on the
UHF Class 1 Gen 2 technology and has a fast FRAM user memory of 3,424 bytes.

The SIMATIC RF622L achieves a read range of up to 3 m on a non-metallic base and provides numerous options for use in a wide range of applications such as in logistics.

SIMATIC RF622L Smartlabel	Characteristics	
	Area of application	Industrial plant management, RFID identification of tools, containers and non-metallic equipment.
	Frequency band	860 ... 960 MHz
	Air interface	according to ISO°18000-6C
	Memory	EPC 496 bits User memory: 3424 bytes
	Write range	Up to 3.0 m on a non-metallic surface [1]
	Read range	Up to 3.0 m on a non-metallic surface [1]
	Mounting	Self-adhesive

[1]   Depending on the environment

2 Ordering data

Table 2-1   Ordering data RF622L

	Article number
SIMATIC RF622L Delivery package: 500 labels on the roll	6GT2810-4AC80

3 Read ranges

Table 3-1   Read ranges of transponders at a room temperature of +25 °C (all ranges in m)

	SIMATIC RF622L metal-free surface
SIMATIC RF620R with internal antenna	1.8
with RF620A	0.2
with RF640A	2.0
with RF642A	3.0
with RF660A	3.0
SIMATIC RF630R with RF620A	0.2
with RF640A	2.0
with RF642A	3.0
with RF660A	3.0

	SIMATIC RF622L metal-free surface
SIMATIC RF640R	
with internal antenna	3.0
with RF620A	0.4
with RF640A	2.5
with RF642A	3.0
with RF660A	3.0
SIMATIC RF650R	
with RF620A	0.4
with RF640A	2.5
with RF642A	3.0
with RF660A	3.0
SIMATIC RF670R	
with RF620A	0.4
with RF640A	2.5
with RF642A	3.0
with RF660A	3.0
SIMATIC RF680R	
with RF620A	0.4
with RF640A	2.5
with RF642A	3.0
with RF660A	3.0
SIMATIC RF685R	
with internal antenna	3.0
with RF620A	0.4
with RF640A	2.5
with RF642A	3.0
with RF660A	3.0

The specified read ranges apply only to single tag mode (one transponder in the antenna field) and depend on the environments in which they are used. If there is more than one transponder in the antenna field, the ranges may be reduced.

4 Technical specifications

Table 4-1   Technical specifications of SIMATIC RF622L

	6GT2810-4AC80
Product designation	SIMATIC RF622L
Memory	
Chip (manufacturer/type)	Fujitsu MB97R803
Memory configuration	
• EPC	• 496 bits
• User memory	• 3424 bytes
• TID	• 256 bits [1]
Write cycles (min., at 22 °C)	> 10 ^{10}
Data retention (at 55 °C)	10 years
Mechanical specifications	
Material	Plastic
Material surface	PET
Color	White glossy
Antenna material	Aluminum
Type of antenna	Shortened dipole
Printing	Can be printed using heat transfer technique
Roll core diameter	76 mm
Roll outer diameter	≤ 120 mm
Label carrier	PET, siliconized, opaque paper liner (reverse side is not siliconized)
Electrical data	
Air interface	ISO 18000-6C
Polarization direction	Linear
Frequency band	860 ... 960 MHz
Write/read distance	
• Write	• Up to 3 m on a non-metallic surface [2]
• Read	• Up to 3 m on a non-metallic surface [2]
Permitted ambient conditions	
Ambient temperature	
• In operation during write/read access	• -20 ... +85 °C
• In operation, outside write/read access	• -40 ... +85 °C
• During transportation and storage	• Optimum 18 °C ± 5 °C [3]
Distance from metal	Not suitable for mounting directly on metal
Degree of protection	IP64 (when adhered)

Design, dimensions and weight

Dimensions (L x W x H)	90 × 18 × 0.5 mm
Weight	Approx. 0.1 g
Type of mounting	Single-sided adhesive (self-adhesive labels); silicone-free acrylate glue; Minimum adhesive temperature: +10 ℃

[1] In the current chip version of the transponder, the TID can be written to. It is not recommended that you use the TID as user memory.

[2] Depending on the environment

[3] For more information, refer to the section "Storage and transport".

5   Certificates and approvals

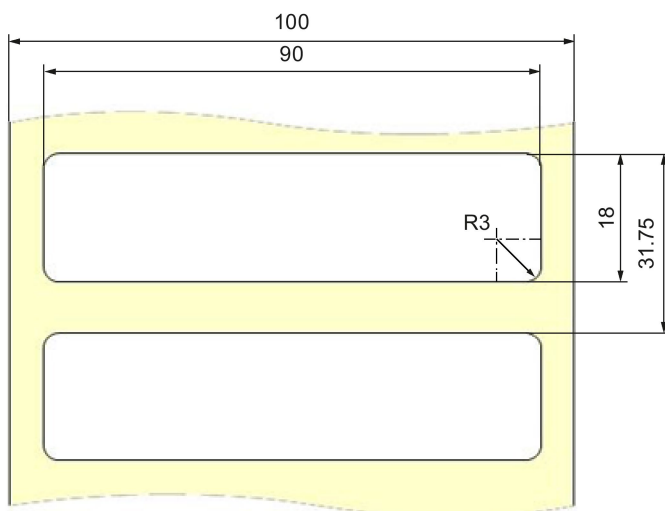| Certificate	Description
CE	Conformity with R&TTE directive
	Compliant according to EU Directive 2002/95/EC
FCC Federal Communications Commission	Passive labels and transponders comply with the valid regulations; certification is not required.

6   Dimension drawing

Figure 6-1   Dimension drawing RF622L

All dimensions in mm

7 Storage and transportation

NOTICE
Notes on storage and transportation of rolls   Note the following information on the storage and transportation of rolls: • Protect the transponders from direct sunlight and heat (e.g. heating appliances).   • Prior to use, store the label rolls in the polyethylene bag or the shrink film of the original packaging.   • Store the label rolls in a cool and dry location.   Ideal conditions: 18 °C ±5 °C, 40-60 % humidity   • Stack several label rolls lying flat and centered one above the other.   • Avoid external pressure (e.g. a narrow box).
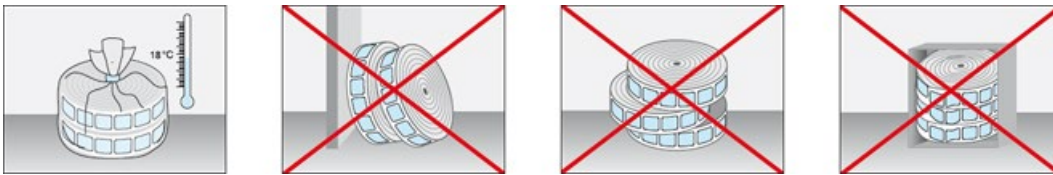
Figure 7-1   Storage of transponders