

SIMATIC RTLS

Localization systems SIMATIC RTLS4083T

Operating Instructions

Introduction

1

Device description

2

Programming interface

3

Installation & Operation

4

Technical specifications

5

Approvals

6

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.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

Table of contents

1	Introduction	5
2	Device description	9
2.1	Characteristics	9
2.2	Order data RTLS4083T	9
2.3	LED status indicator, display & function key	10
2.4	Dimension drawing.....	11
3	Programming interface.....	13
3.1	Overview	13
3.2	Communication via the programming interface.....	14
3.3	RPC calls	16
3.4	Event messages	18
3.5	Code examples	20
3.6	Additional information	23
4	Installation & Operation	25
4.1	Notes on installation	25
4.2	Operation	26
4.3	Cleaning and maintenance.....	26
4.4	Charging instructions.....	27
5	Technical specifications	29
6	Approvals	31

Introduction

Purpose of the Operating Instructions

This manual will assist you in mounting, connecting, and programming the programming interface of the SIMATIC RTLS4083T device.

The configuration and the integration of the devices in a network are not described in these operating instructions.

Validity of the Operating Instructions

These operating instructions apply to the following device:

- RTLS4083T (CE; article number: 6GT2700-5DC03)
- RTLS4083T (FCC/NOM; article number: 6GT2700-5DC13)
- RTLS4083T (CMIIT; article number: 6GT2700-5DC23)
- RTLS4083T (ISED; order number: 6GT2700-5DC33)

Further documentation

The system manual "Commissioning SIMATIC RTLS" provides information on other SIMATIC RTLS products that you can operate together with the devices in this product line in an Industrial Ethernet network.

You can find the system manual at the following link: (<https://support.industry.siemens.com/cs/us/en/ps/25277>)

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SIMATIC RTLS

Industry Online Support

In addition to the product documentation, the comprehensive online information platform of Siemens Industry Online Support offers support at the following Internet address: (<https://support.industry.siemens.com/cs/start?lc=en-US>)

Apart from news, there you will also find:

- Project information: Manuals, FAQs, downloads, application examples etc.
- Contacts, Technical Forum

- The option submitting a support query: (<https://support.industry.siemens.com/My/us/en/>)
- Our service offer:
Right across our products and systems, we provide numerous services that support you in every phase of the life of your machine or system - from planning and implementation to commissioning, through to maintenance and modernization.

You will find contact information on the Internet at the following address: (https://www.automation.siemens.com/aspa_app/?ci=yes&lang=en)

SITRAIN - Training for Industry

The training offer includes more than 300 courses on basic topics, extended knowledge and special knowledge as well as advanced training for individual sectors - available at more than 130 locations. Courses can also be organized individually and held locally at your location.

You will find detailed information on the training curriculum and how to contact our customer consultants at the following Internet address: (<https://new.siemens.com/global/en/products/services/industry/sitrain/personal.html>)

Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks.

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens' products and solutions constitute one element of such a concept.

Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place.

For additional information on industrial security measures that may be implemented, please visit: (<https://www.siemens.com/industrialsecurity>)

Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customers' exposure to cyber threats.

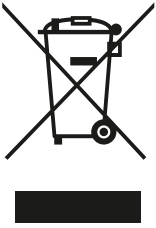
To stay informed about product updates, subscribe to the Siemens Industrial Security RSS Feed under: (<https://support.industry.siemens.com/cs/us/en/ps/15247/pm>)

Security recommendations

Note the following security recommendations to prevent unauthorized access:

- Keep the firmware up to date. Check regularly for security updates for the device. You can find information on this at the Industrial Security (<https://new.siemens.com/global/en/company/topic-areas/future-of-manufacturing/industrial-security.html>) website.
- Inform yourself regularly about security recommendations published by Siemens ProductCERT (<https://new.siemens.com/global/en/products/services/cert.html>).

Recycling and disposal



The products are low in harmful substances, can be recycled and meet the requirements of the Directive 2012/19/EU for disposal of waste electrical and electronic equipment (WEEE).

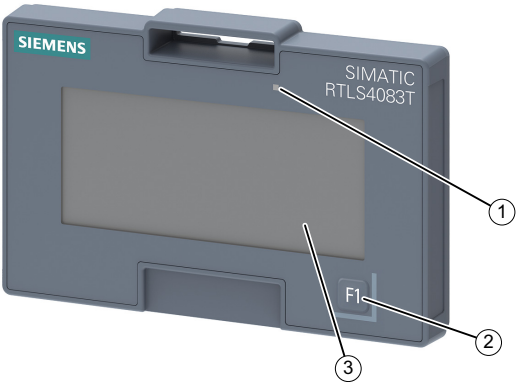
Do not dispose of the products at public disposal sites.

For environmentally compliant recycling and disposal of your electronic waste, please contact a company certified for the disposal of electronic waste or your Siemens representative.

Note the different national regulations.

Device description

2.1 Characteristics

SIMATIC RTLS4083T		Characteristics
	Design	① Status indicators (LED) ② F1 function key ③ display
	General	The transponder is a mobile device for localization in the RTLS locating system. It sends data to gateways to determine its position. The gateways transmit the data to the Locating Manager Server. Information can be transmitted to the transponder via a programming interface on the Locating Manager and shown on the display.
	Area of application	The device is suitable only for use in indoors.

2.2 Order data RTLS4083T

Table 2-1 Order data RTLS4083T

		Article number
SIMATIC RTLS4083T	CE	6GT2700-5DC03
	FCC/NOM	6GT2700-5DC13
	CMIIT	6GT2700-5DC23
	ISED	6GT2700-5DC33

Table 2-2 Accessories order data (not included in scope of delivery)

	Article number
Charging station for 10 transponders with power plug for region: EU	6GT2790-0DD00
Charging station for 10 transponders with power plug for region: USA	6GT2790-0DD01
Charging cradle without power supply for 10 transponders	6GT2790-0DD10
Power supply device for charging cradle without power plug	6GT2790-0DD40

2.3 LED status indicator, display & function key

The operating states of the gateways are indicated by the LEDs. The states can be off , on  and flashing .

Table 2-3 LED status indicator

LED	Meaning
	Flashes green briefly when the F1 function key has been pressed.
	Flashes green when the device is fully charged and in the charging station.
	Lights green when the device is charging and is in the charging station.
	Flashes red when the device is in the charging station and the battery is defective. Remove the transponder from the charging station immediately and do not recharge this device. Contact customer service.
	Lights up red if there is an error during charging.

Note

Refer to the information in the section "Charging instructions (Page 27)"

Table 2-4 Display and function key

Display	Meaning
Display	5 background images can be saved 20 text fields with 58 characters each 20 fonts and font sizes, including bar codes
F1 function key	If this function key is pressed, the message is forwarded to the program interface.

2.4 Dimension drawing

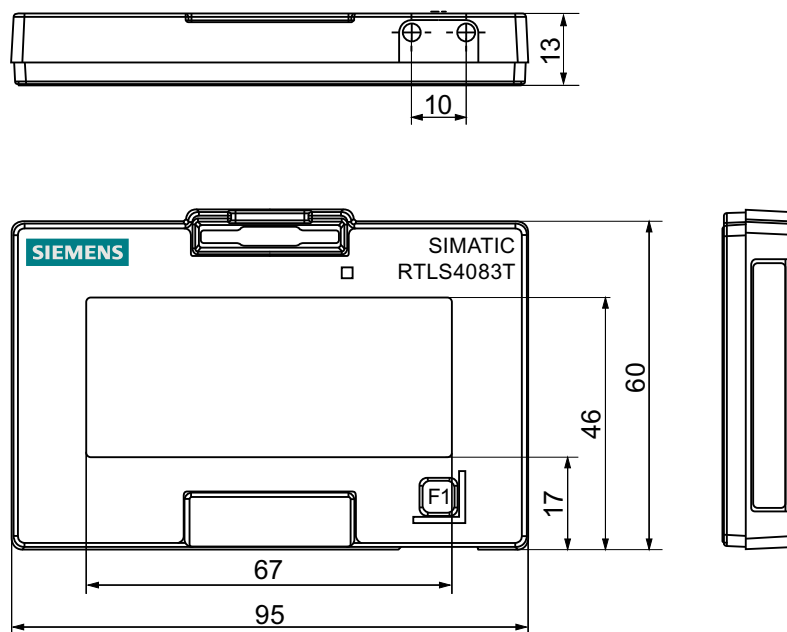


Figure 2-1 Dimension drawing SIMATIC RTL4083T - All dimensions specified in millimeters

2.4 Dimension drawing

Programming interface

3.1 Overview

Functionality of the programming interface

The functionality of the programming interface is available for the RTLS4083T transponder.

The programming interface of the transponder is a functionality supported by the Locating Manager. It enables external client applications to communicate with the transponder via the Locating Manager Server. The transponder can be accessed via WAMP (Web Application Messaging Protocol) independent of the operating system or the code language of the external client.

Additional functions of the transponder

In addition to the basic function of its use as a localizable node, the transponder offers additional functions such as "ePaper display" or "Control keys", which can be used by the external client applications. The display content is managed via "Themes". A transponder Theme contains a background graphic and various form fields to display text and barcode. A form field is a text field on the display of the transponder with the following configurable properties:

- Field type
 - Text field
 - 1D barcode
- Size and position on the display
- Font and font size

Project-specific requirements for the configuration of the "Themes" as well as the download of the configuration to the transponder can be performed during operation. Optionally, the configuration of the "Themes" can be transferred from the manager to the transponder.

Configuration options of the programming interface

The following properties can be configured for the transponder via the programming interface:

- Request a list showing all configured transponders of a Locating Manager Server.
- Activation of a "Themes" for the transponder including transfer of the texts / barcodes to be displayed
- Changing the contents of a form field of a transponder
- Query the current text or code and the current "Themes"
- Indication of the status of the "Control keys" used

3.2 Communication via the programming interface

General

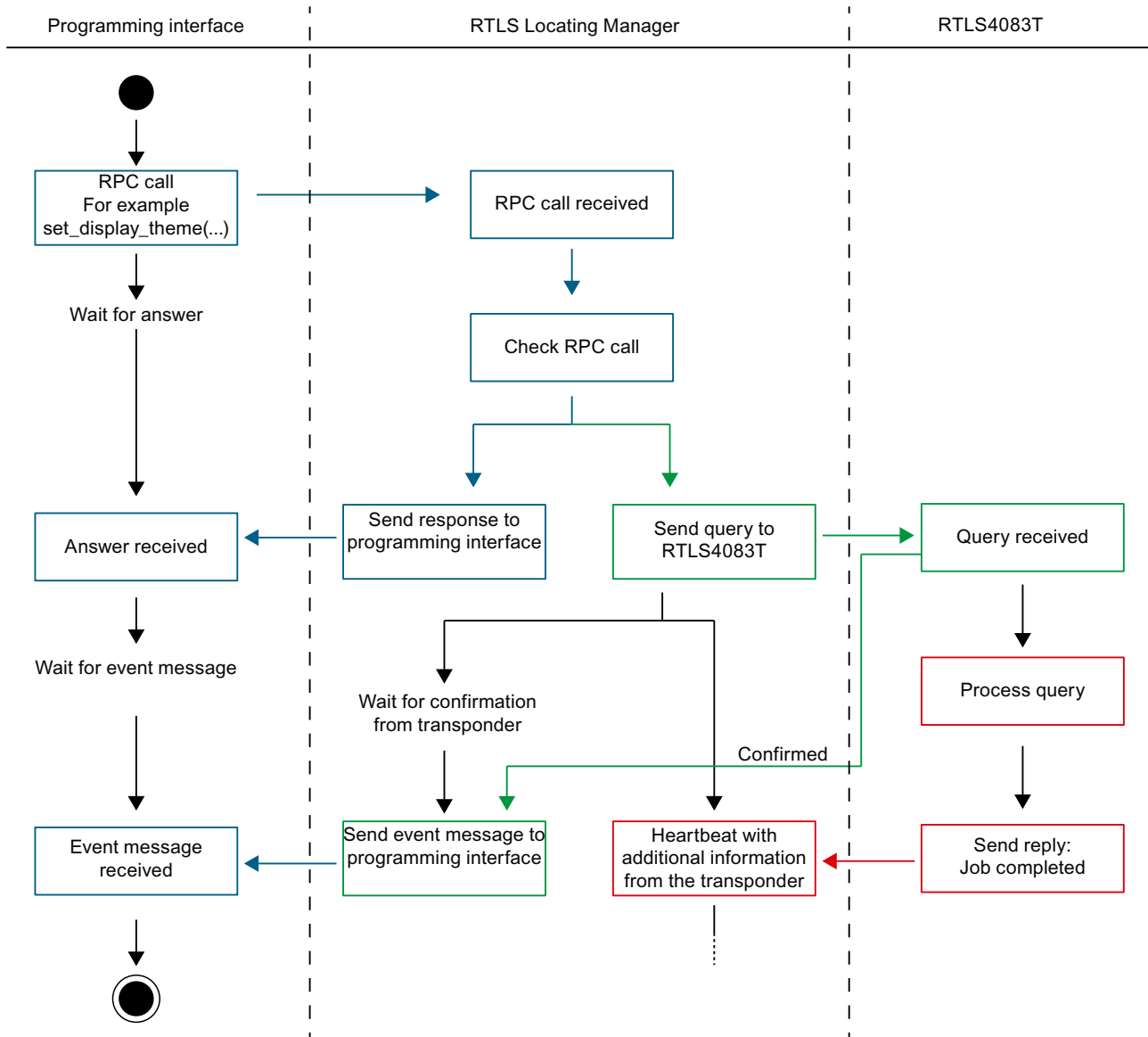
The communication of the programming interface is done via a WAMP-Router that is a component of the Locating Manager Server. Establishing a connection from an application to the Locating Manager Server requires the implementation of a WAMP client on the part of this application. There is no provision for client-specific parameterization. A connection can be terminated at any time using the WAMP client application.

Properties of the coding

The coding via the programming interface has the following properties:

- The data to be transferred for the data transport is transferred in the "JSON" format (JavaScript Object Notation).
- The text to be displayed is transmitted in "UTF-8" format (8-Bit UCS Transformation Format).
- Line breaks in text fields are managed using the "\r" element

Characteristics of the programming interface



- Blue Communication between programming interface and RTLS Locating Manager
- Green Communication between RTLS Locating Manager and RTLS408xT
- Red Communication between RTLS Locating Manager and RTLS408xT

All RPC calls (Remote Procedure Call) received by the programming interface are answered immediately. This means that there is no need to wait for an acknowledgment of the RPC call until the data transfer is completed. The completion of the data transmission is confirmed by an event message provided for this purpose. The various event messages can be found in the section "AUTOHOTSPOT".

The positive acknowledgment of an RPC call does not guarantee or indicate successful transmission and display of new display contents on the transponder. This can happen if, for example, the transponder was switched off during this time or is not within radio range. Since

3.3 RPC calls

the commands to be transmitted in the wireless network do not reach the transponder or reach it incompletely, no event message is generated in this case.

If an RPC call sets a field form to a value that is already set, an event message is sent immediately. This happens during or very shortly after the RPC call. Event messages are sent when a situation is reached.

If a field content still to be transmitted is overwritten again before the previous value could be sent to the transponder, only the value set last is transmitted to the transponder. In this case, only the writing of the last value is acknowledged by an event message.

The transmission of background images, fonts and theme files is given higher priority and temporarily interrupts the transmission of text content.

See also

Event messages (Page 18)

3.3 RPC calls

Parameters of the RPC calls

The following parameters can be used for RPC calls via the programming interface:

Parameter	Description
TransponderID	48-bit ID according to IEEE EUI-48 The network address in decimal notation contains the transponder ID: 17:b4:1a:bb:cc:e2 17:b4:10:00:00:07 17:b4:11:23:45:67 180079842 7 19088743
ThemeID	The number of the displayed theme The value range depends on the type and version of the transponder.
FieldID	The number of the text field The value range depends on the type and version of the transponder.
Text	Permitted characters: all printable ASCII characters and German umlauts
Result	Sends the return value

Return values for RPC calls

The following return values are possible for RPC calls via the programming interface:

Code	Description
0x0000	No error was detected.
0x0011	The "TransponderID" parameter is invalid.
0x0012	The "ThemeID" parameter is invalid.
0x0013	The "FieldID" parameter is invalid.

Code	Description
0x0101	The text length is invalid.
0x0102	The text contains invalid characters or the characters are not supported.

Command "Get Version"

This command queries the protocol version. The default value is 1.

URI	"agilion.wls.epaper.get_version"
Parameter	None
Return value	Consists of: Version of the protocol, type: UInt32

Command "Get Tags"

This command queries a list of all configured transponders in the Locating Manager Server.

URI	"agilion.wls.epaper.get_tags"
Parameter	None
Return value	Consists of: Result, type: UInt32 Field with the following parameters: TransponderID, type: UInt64 ProductID, type: UInt64 FirmwareVersion, type: String

Command "Set Display Theme"

This command selects and activates the "theme" visible on the display and the transfer of the text and barcode to be displayed. Texts are set to "empty" if they are not transferred in this call. If one text is invalid, the others are still set.

URI	"agilion.wls.epaper.set_display_theme"
Parameter	TransponderID, type: UInt64 ThemeID, type: UInt32 Field with the following parameters: FieldID, type: UInt32 Text, type: String
Return value	Consists of: Result, type: UInt32 Field with the following parameters: RPCResult, type: UInt32 1 ... n FieldResults, type: UInt32

Command "Get Display Theme"

This command outputs the current "theme" and the current texts and codes for a single transponder. Only completely transmitted texts are returned. If the current "ThemeID" is unknown, it has the return value -1.

URI	"agilion.wls.epaper.get_display_theme"
Parameter	TransponderID, type: UInt64
Return value	Consists of: Result, type: UInt32 ThemeID, type: UInt32 Field with the following parameters: FieldID, type: UInt32 Text, type: String

3.4 Event messages

General

The event messages and their parameters are described below.

"Display Theme Changed" event message

This event message is sent after a "Theme" on the display has been changed. If the text transmission has failed, the value "-1" is set in the "ThemeID" parameter, which invalidates the parameter.

URI	"agilion.wls.epaper.display_theme_changed"
Parameter	Consists of: TransponderID, type: UInt64 ThemeID, type: UInt32

"Display Text Changed" event message

This event message is sent after the contents of a form field on the display have been changed. Text is the content of this form field. If the text is empty, a problem with setting the text occurred.

URI	"agilion.wls.epaper.display_text_changed"
Parameter	Consists of: TransponderID, type: UInt64 FieldID, type: UInt32 Text, type: String

"Button Pressed" event message

This event message is sent after the F1 function key has been pressed or released. If you want to adapt the short/long press functionality, you need to change the parameter involved in the configuration file, "RTLS_LM_DataExport.ini".

URI	"agilion.wls.epaper.button_pressed"
Parameter	Consists of: TransponderID, type: UInt64 ButtonID, type: UInt32 ButtonDown, type: UInt32

The following happens when you briefly press the F1 function key:

Value	Description
0	Evaluated as not pressed OnShortButtonPress = 0 - Function key briefly pressed > Event parameter: ButtonDown = 0 - Function key pressed long (> 2 seconds) > Event parameter: ButtonDown = 1 - After a short or long press and subsequent heartbeat > Event parameter: ButtonDown = 0
1	Considered pressed OnShortButtonPress = 1 - Function key pressed short or long > Event parameter: ButtonDown = 1 - After a short or long press and subsequent heartbeat > Event parameter: ButtonDown = 0

The default value is 1 in the configuration file "RTLS_LM_DataExport.ini".

3.5 Code examples

Code example WAMP connection

```
{
  "wamp": {
    "url": "ws://127.0.0.1:12344/",
    "realm": "agilion.wls",
    "user": "Administrator",
    "key": "Agilion2011"
  }
}
```

Code example WAMP connection with RPC call

```
console.log("start")
var config = null
function changetheme(session, addr, themeid, param){
  console.log("change zone for etag (zoneid,etag)",themeid,addr)
  var epapercmd = [parseInt(addr,10),parseInt(themeid,10),param]
  if ( config.debug ) console.log("send epapercmd: ",epapercmd)
  session.call("agilion.wls.epaper.set_display_theme",
    epapercmd).then(
```

```
function (res) {
    if ( config.debug ) console.log("epaperapi response:", res);
    /*
        Code Bedeutung
    * 0x0000 No error
        * 0x0011 TransponderID invalid
        * 0x0012 ThemeID invalid
        * 0x0013 FieldID invalid
        * 0x0101 Text length invalid
        * 0x0102 Text contains invalid characters or characters not
        supported
    */

    }
};

console.log("load configuration")
try {
    var config = require('./config.json')
} catch (e) {
    console.error(e)
    process.exit(1);
}

console.log("load autobahn")
try {
    var autobahn = require('autobahn')
} catch (e) {
    console.error(e)
    process.exit(1);
}

console.log("connect to wamp-router", config.wamp.name)
var connection = new autobahn.Connection({
    url: config.wamp.url,
    realm: config.wamp.realm,
    max_retries: 1,
```

```

    authmethods: ['wampcra'],
    authid: config.wamp.user,
    onchallenge: function (session, method, extra) {
        if (method === "wampcra") {
            return autobahn.auth_cra.sign(config.wamp.key,
            extra.challenge);
        }
    }
});

connection.onopen = function (session) {
    console.log("connected to wamp-router", config.wamp.name)

    if ( config.debug ) console.info("check epaper api tags")
    session.call("agilion.wls.epaper.get_tags").then(
        function (res) {
            /*if ( config.debug ) console.log("epaperapi response:", res);*/
            for (let etag of config.tagwhitelist){
                var isin = false
                for (let epaper of res["args"][1]){
                    if ( config.debug ) console.log("check epaperadr", epaper[0]);
                    if (epaper[0] == etag.addr){
                        isin = true
                        break
                    }
                }
                if (isin == false){
                    console.error("epaper in config not found in wls (nodekey):
                    ", etag.addr)
                }
            }
        }
    );
}; //connection.onopen

connection.onclose = function (reason, details) {
    console.log("no connection to wamp-router", config.wamp.name);
};

```

```
}  
connection.open();
```

Code example RPC calls (pseudo code)

```
//get_version  
RPC: agilion.wls.epaper.get_version [ ]  
-> In return value: [Version]  
  
//get_tags  
RPC: agilion.wls.epaper.get_tags [ ]  
-> In return value: [ [TransponderID, ProductID,  
"FirmwareVersion"] , TransponderID, ProductID,  
"FirmwareVersion"], ...]  
-> [ [34954, 6021999, "GANYMED_TY41_002.000.025"] , [35319, 6021999,  
"GANYMED_TY41_002.000.025"], ...]  
  
//set_display_theme  
RPC: agilion.wls.epaper.set_display_theme [TransponderID, ThemeID,  
[ [FieldID, "text1"], [FieldID, "text2"] ] ]  
agilion.wls.epaper.set_display_theme [12345, 1, [ [0, "text1"], [1,  
"text2"] ] ]  
-> Theme 1 with texts 1: text1 and 2: text2  
  
//get_display_theme  
RPC: agilion.wls.epaper.get_display_theme [TransponderID]  
agilion.wls.epaper.set_display_theme [12345]  
-> In return value: [result_code, ThemeID, [ [FieldID, "text1"],  
[FieldID, "text2"] ] ]
```

3.6 Additional information

You can find additional information on the subject of WAMP etc. at:

LINK: (<https://wamp-proto.org/>)

LINK: (<https://crossbar.io/docs/>)

LINK: (<https://crossbar.io/autobahn/>)

LINK: (<https://github.com/crossbario/autobahn-js>)

LINK: (<https://github.com/crossbario/autobahn-cpp>)

Installation & Operation

4.1 Notes on installation

Note

Before you install the devices, read this section carefully to ensure trouble-free installation and commissioning.

The devices can only be used in conjunction with the RTLS localization system.

Mount the device so that it has a direct line-of-sight connection to the gateways (360° panorama view). Any type of material can impact wireless localization. Wireless localization through metal is not possible. In this case, localization via wireless reflections can occur which results in an inaccurate localization.

Check the device for damages before you use it so that it is not damaged during operation. Protect the display from objects that could scratch or otherwise damage it. The specified operating temperature ranges must be observed.

The device contains a lithium-ion battery.



CAUTION

Contact with the battery fluid

Incorrect handling of the device may damage the battery and cause fluid to leak out of the battery.

Avoid contact with the battery fluid. Rinse skin that comes into contact with battery fluid with water. If fluid from the battery gets into the eye, seek medical attention.



CAUTION

Handling batteries

There is a risk of fire and in extreme cases of explosion in the following cases:

- If the battery is improperly charged and discharged
- If the polarity is reversed
- If a short-circuit occurs

This applies to lithium-ion batteries:

- Do not squeeze
- Do not heat and do not burn
- Do not short-circuit
- Do not disassemble
- Do not immerse in liquid - the battery may crack or burst.



CAUTION

Fires and burns

Improper handling of the battery can lead to fire and skin injuries.

The housing of the device must not be squashed, punctured or exposed to other mechanical influences.

Never expose the device to fire, temperatures above 40 °C or direct sunlight for an extended period of time.

4.2 Operation

Note

Operate the device only with the accessories provided for this purpose, which are listed in the section "Order data RTLS4083T (Page 9)".

The device is operated with the F1 function key on the front panel. The function of the key can be programmed via the programming interface.

If the voltage is too low, the device switches off automatically. The device sends a "Low power" message to the Locating Manager. The limit above which the device sends this message is configurable. In this case, the device must be fully recharged within 3 months to avoid deep self-discharge and damage to the battery.

4.3 Cleaning and maintenance

The housing must not be opened.

The device may only be repaired by an authorized maintenance company or opened for other types of work.

Improper opening or repairing of the device may result in risks for the user. Opening the device without permission renders the warranty of the Siemens AG null and void.

Do not clean the enclosure with liquids or abrasive, caustic or flammable cleaning products.

Note

Due to the integrated battery, the device is a hazardous good. Observe the applicable regulations when shipping.

4.4 Charging instructions

Note

Fully charge the device upon receipt.

Mount the charging station in a location with cool ambient temperature.

The temperature of the device and the ambient temperature must not exceed 40 °C for the device to be charged. The higher the temperature, the longer it takes to charge the device.

If the device exceeds 55 °C during charging, remove the device from the charging station. Allow the device to cool down and try charging it again. If the device becomes too hot again, remove the device from the charging station and contact customer service.

The battery has a natural self-discharge. When stored in a state not fully charged, the device is discharged after approximately 6 months and must be recharged. If the device is completely discharged, the integrated battery may be damaged. This device can then no longer be charged.

Technical specifications

Table 5-1 Technical specifications of the transponder RTLS4083T

6GT2700-5DC03, 6GT2700-5DC13 6GT2700-5DC23, 6GT2700-5DC33	
Product name	SIMATIC RTLS4083T
PULSE radio frequencies (localization)	
Wireless method	IEEE 802.15.4-2015 UWB HRP PHY
Transmission speed	850 Kbps
Operating frequency rated value	3993.6 MHz (UWB channel 2; CE, FCC/NOM) 6489.6 MHz (UWB channel 5; CE, FCC/NOM, CMIIT, ISED)
Bandwidth	499.2 MHz
Frequency range	3100 MHz ... 4800 MHz (CE, FCC/NOM) 6000 MHz ... 7000 MHz (CE, FCC/NOM, CMIIT, ISED)
Transmit power	0.037 mW (-41.3 dBm/MHz)
Range	Maximum 30 m
Accuracy of the localization (typical)	0.2 m
Antennas	Built-in UWB antenna
PHASE radio frequencies (communication and optional localization)	
Wireless method	IEEE 802.15.4
Transmission speed	1 Mbit/s
Operating frequency rated value	2405 MHz ... 2480 MHz
Bandwidth	2 MHz; data transmission on 802.15.4; channels configurable
Frequency range	2400 MHz ... 2483.5 MHz
Transmit power	0.00025 mW ... 4 mW (configurable)
Range	Maximum 50 m
Accuracy of the localization (typical)	1 m
Antennas	Built-in 2.4 GHz antenna
Supply voltage	
Supply voltage	3.7 V lithium ion rechargeable battery (1900 mAh)
Service life (at 20 °C)	Standby: 1 year Operation: 100% UWB localization at 1 second: 6 months Display updates every 10 seconds without localization: 25 days
Permitted ambient conditions	

6GT2700-5DC03, 6GT2700-5DC13
6GT2700-5DC23, 6GT2700-5DC33

Ambient temperature

- | | |
|----------------------------|---------------------|
| • During operation | • -10 °C ... +50 °C |
| • During storage | • -10 °C ... +50 °C |
| • During transport | • -10 °C ... +50 °C |
| • During display operation | • 0 °C ... +40 °C |
| • During charging | • +10 °C ... +40 °C |

Design, dimensions, weights and connectors

Dimensions (L x W x H)	95 mm x 62 mm x 13 mm
Weight	85 g
Degree of protection	IP54
Method of securing	Mounting clips
Enclosure	Plastic housing
Color	Titanium gray

Approvals

You can find the current EU Declaration of Conformity for these products on the Internet at Siemens Industry Online Support.

Link: (<https://support.industry.siemens.com/cs/products?dtp=Certificate&mfn=ps&pnid=14970&lc=en-US>)

The products described in this document meet the requirements of the following EU directives:

- RoHS Directive 2011/65/EU
Directive of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment, official journal of the EU L174, 1 July 2011, pages 88-110
- Radio Equipment Directive 2014/53/EU (RED)
Directive of the European Parliament and of the Council of 16 April 2014 on the harmonization of the laws of the member states relating to placing radio equipment on the market; official journal of the EU L153, 22 May 2014, pages 62-106

RoHS directive (restriction of the use of certain hazardous substances)

The products described in these operating instructions meet the requirements of the EU directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Applied standard:

- EN 50581
Technical documentation for the assessment of electrical and electronic products with respect to restriction of hazardous substances

The products described in this document meet the requirements of the applied standards:

Article 3 (1) a) Protection of health and safety

- EN 62368-1
Equipment for audio/video, information and communication technology – Part 1: Safety requirements
- EN 62311
Assessment of electronic and electrical equipment related to human exposure restrictions in electromagnetic fields (0 Hz - 300 GHz)

The products described in these operating instructions meet the requirements of EU directive 2014/30/EU "Electromagnetic Compatibility" according to the designated standards for the following areas of application.

Article 3 (1) b) EMC

- ETSI EN 301 489-1
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 1: Common technical requirements
- ETSI EN 301 489-17
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 17:
Specific conditions for broadband data transmission systems
- ETSI EN 301 489-33
Electromagnetic compatibility and radio spectrum matters (ERM) - Electromagnetic compatibility for radio equipment and services - Part 33:
Special conditions for ultra-wideband (UWB) devices
- EN 55011
Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics – Limits and methods of measurement
- EN 55032 Class A, Class B
Electromagnetic compatibility of multimedia equipment – Emission requirements
- EN 55035
Electromagnetic compatibility of multimedia equipment - Immunity requirements
- EN 61000-6-1
Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments
- EN 61000-6-2
Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity for industrial environments
- EN 61000-6-3
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments
- EN 61000-6-4
Electromagnetic compatibility (EMC) - Part 6-4: Generic standards - Emission standard for industrial environments

Article 3 (2) Efficient use of the radio spectrum

- ETSI EN 300 328
Wideband transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using wide band modulation techniques. Harmonized standard covering the essential requirements of article 3.2 of the EU Directive 2014/53/EU
- ETSI EN 302 065-2
Short Range Devices (SRD) using ultra-wideband technology (UWB); Harmonized standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU; Part 2: Requirements for UWB location tracking

Note

The specified approvals are only valid if the corresponding symbol is printed on the device.

FCC information

Siemens SIMATIC RTLS4083T (MLFB 6GT2700-5DC13); FCC ID SCF4083T01

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC RF radiation exposure statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

ISED information

Siemens SIMATIC RTLS4083T (MLFB 6GT2700-5DC33); IC ID 267X-4083T01

NOTICE (RSS-Gen Issue 5)

This device complies with license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS standard(s).

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence.

L'exploitation est autorisée aux deux conditions suivantes:

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Radiation Exposure Statement (RSS-102)

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator and your body.

Déclaration d'exposition aux radiations

Cet équipement est conforme Canada limites d'exposition aux radiations dans un environnement non contrôlé. Cet équipement doit être installé et utilisé à distance minimum de 20 cm entre le radiateur et votre corps.

NOM información

Siemens SIMATIC RTLS4083T (MLFB 6GT2700-5DC13); IFT RCPSIRT19-1567

La operación de este equipo está sujeta a las siguientes dos condiciones: (1) es posible que este equipo o dispositivo no cause interferencia perjudicial y (2) este equipo o dispositivo debe aceptar cualquier interferencia, incluyendo la que pueda causar su operación no deseada.