SIEMENS

# SIMATIC RTLS

# Localization systems
# SIMATIC RTLS PCB OEM PULSE
# (6GT2700-8AF03)

Manual

10/2018

C79000-G8976-C552-01

# Legal notices

## Concept of the warning notices

This manual contains notices which you need to observe to ensure your own personal safety, as well as to avoid damage to equipment. Notices relating to your personal safety are highlighted by a warning triangle; notices relating to property damage only do not have a warning triangle. Warnings in descending order according to the degree of danger are shown as follows.

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

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

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

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

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

## Qualified personnel

The product/system to which this documentation applies may only be handled by **qualified personnel** for the intended purpose taking into account the documentation relating to the intended purpose and, in particular, the safety and warning notices it contains. Due to training and experience, qualified personnel is capable of recognizing risks and avoiding possible dangers when handling these products/systems.

## Proper use of Agilion products

Note the following:

| ⚠WARNING |
| --- |
| Agilion products may only be used for the applications indicated in the catalog and in the relevant technical documentation. If third-party products and components are used, these must be recommended or approved by Agilion. These products can only function correctly and safely if they are transported, stored, set up, mounted, installed, commissioned, operated and maintained properly. The permitted environmental and ambient conditions must be adhered to. Notices in the relevant documentation must be observed. |

## Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining designations in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

## Disclaimer of liability

We have checked this document for agreement with the hardware and software described. Since deviations cannot be precluded entirely, we cannot guarantee full agreement. However, the data in this manual is reviewed regularly and any necessary corrections included in subsequent editions.

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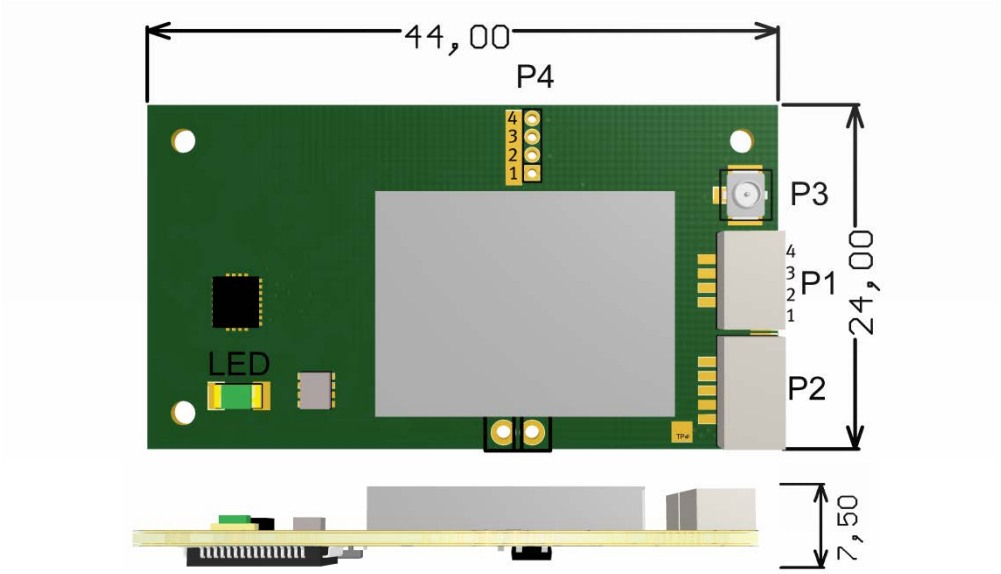
# Table of contents

# 1 Dimensions, connections and LEDs

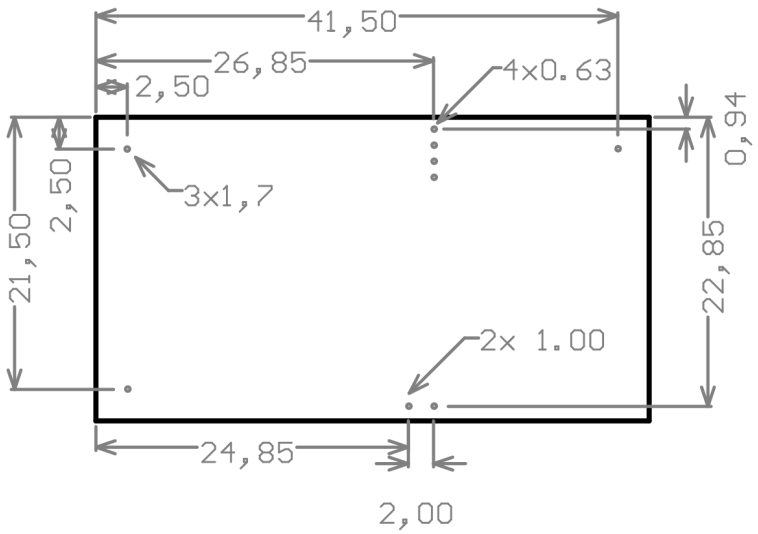
## 1.1 Dimensions

The antenna is connected to the PCB via a 5 cm long U.FL cable. The contacts used are P3 on the PCB and P1 on the antenna.

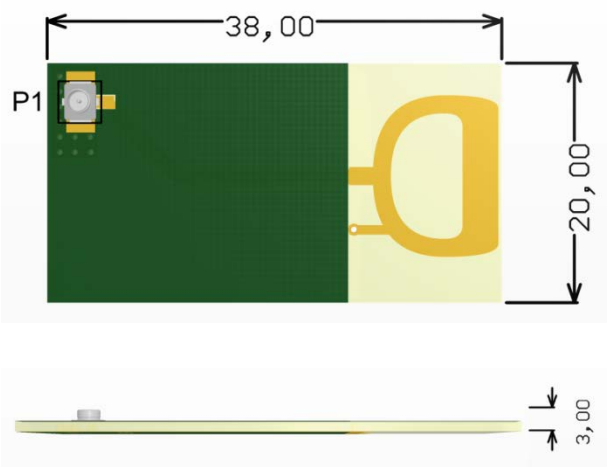
**PCB**




**Drill holes**



**Antenna**




## 1.2 Displays

| Display (LED) | Description |
|---|---|
| Short flash | Indicates radio activity |
| Off | Transponder is not in operation |

## 1.3 Solder contact P4

| Pin | Description/function |
|---|---|
| 1 | Grounding |
| 2 | Rx - Input on the transponder, 3.3 V |
| 3 | Tx - Output on transponder, 3.3 V |
| 4 | Supply voltage, 3.3 V |

## 1.4 P1 connector

The individual pins are connected to the solder contacts (P4).

Type: JST SM04B-SRSS-TB

| Pin | Description/function |
|---|---|
| 1 | Rx - Input on the transponder, 3.3 V |
| 2 | Tx - Output on transponder, 3.3 V |
| 3 | Grounding |
| 4 | Supply voltage, VCC, 3.3 V ±100 mV |

## 1.5 P2 connector

Internal interface for production and manufacturing test, do not use.

# 2 Technical specifications

## 2.1 Connections and supply voltage

| Connections and supply voltage | |
|---|---|
| Voltage | 3.3 V DC (±100 mV) |
| Energy intake | Max. 0.3 A |

## 2.2 Wireless

| Wireless PULSE (localization) | |
|---|---|
| Wireless process | IEEE 802.15.4-2011 UWB |
| Transmission speed | 850 Kbps |
| Frequency range | The following frequency bands are supported:<br>• 4000 MHz<br>• 6500 MHz |
| Bandwidth | 500 MHz |
| Transmit power | 0.037 mW |
| Antenna | Connected via antenna cable |
| Range | Inside maximum 90 m (typical 60 m),<br>Outside maximum 1000 m (typical 500 m) |

## 2.3 Environment

| Environment | |
|---|---|
| PCB dimensions | 44 x 24 x 7.5 mm |
| Antenna dimensions | 38 x 20 x 3 mm |
| Weight | Approx. 10 g |
| Temperature range | 0 to +50 °C |
| Method of securing | PCB: 3 screws, Ø 1.7 mm<br>Antenna: provided by customer |

# 3 Approvals

## 3.1 EU declaration of conformity

The EU declaration of conformity is available to all responsible authorities at:

Agilion GmbH
Blankenauer Str. 74
09113 Chemnitz
Germany

You can find the current EU Declaration of Conformity for these products on the Internet at Siemens Industry Online Support
(https://support.industry.siemens.com/cs/ww/en/ps/14970/cert)

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

## 3.2 RoHS

**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

## 3.3 RED

### 3.3.1 Protection of health and safety

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 **art. 3 (1) b) EMC** harmonized standards:

- 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: Specific conditions for Ultra-WideBand (UWB) devices
- EN 55011
  Industrial, scientific and medical (ISM) radio-frequency equipment – Electromagnetic 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

**Art. 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 wideband modulation techniques – Harmonized EN 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 Wide Band technology (UWB) - Harmonized EN covering the essential requirements of article 3.2 of the EU directive 2014/53/EU, Part 2: Requirements for ultra-wideband location monitoring

**Note**

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

## 3.4 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.