WIRELESS TAG EPAPER 4 PULSE | PHASE

User Manual

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1. Overview

1.1 General

The WIRELESS TAG EPAPER 4 PULSE | PHASE represents the movable device considered for localization within the Agilion WIRELESS LOCATION SYSTEM localization network. It sends its positional information to the localization network's nodes (anchors and gateways) which transmit the data to the localization server for computation and visualization. Simultaneously, information from the wireless system can be transmitted to and displayed on the e-paper-based screen.

1.2 Delivery contents WIRELESS TAG EPAPER 4 PULSE | PHASE

- 1 WIRELESS TAG EPAPER 4 PULSE | PHASE, order number 6032702
- 1 User's manual (this document)
- 4 AA-Batteries (3.6V Lithium)

1.3 Power supply

The power supply of the WIRELESS TAG EPAPER 4 PULSE | PHASE is realized via 4 AA-Batteries of type Alkaline or Lithium (1.5V to 3.6V).

1.4 Areas of application

The WIRELESS TAG EPAPER 4 PULSE | PHASE is designed for an operation temperature range from 0 °C to +50 °C. If just location without changes of the display information is needed, the lower temperature limit can be extended to -20 °C.

The batteries of WIRELESS TAG EPAPER 4 PULSE | PHASE need to be exchanged in dry environments.

The device is protected against water splashing on all sides (IP64) and is therefore temporarily operational in outdoor applications.

Important information for use in the USA:

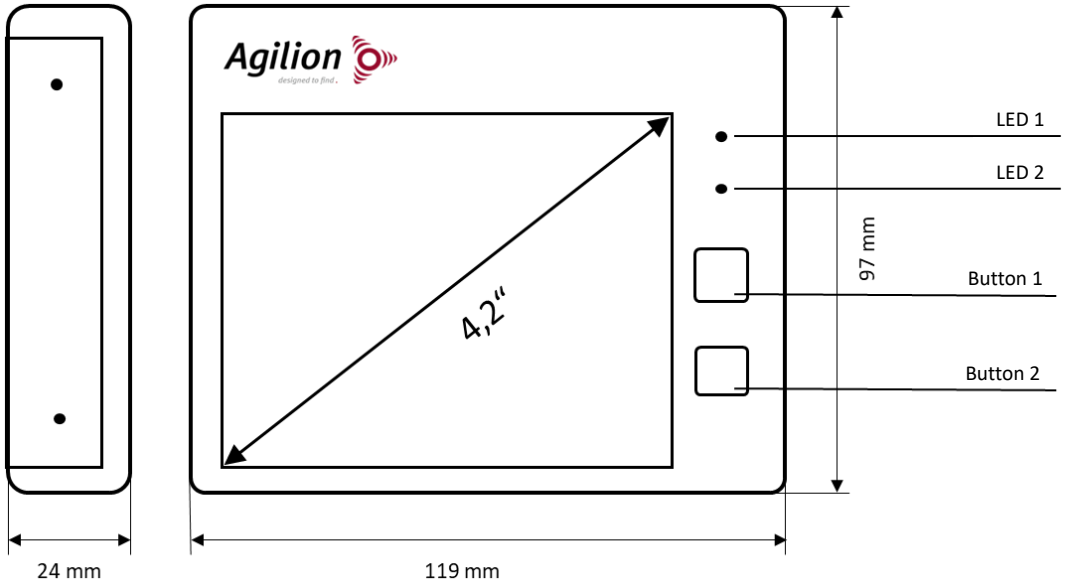
- This equipment may only be operated indoors. Operation outdoors is in violation of 47 U.S.C. 301 and could subject the operator to serious legal penalties.
- This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
- 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.

- Changes modifications or made to this equipment not expressly approved by Agilion GmbH may void the FCC authorization to operate this equipment.
- This equipment complies with FCC radiation exposure evaluation for portable devices.

2 Mechanics, technical data

2.1 WIRELESS TAG EPAPER 4 PULSE | PHASE



2.1.1 Display, LEDs, and operating elements

Display	Description
LED 1 (green) Blinking	Power-on
LED 2 (red) Blinking	Power-on
LED 2 (green) Blinking (from software version 2.0.9)	push of button 1 or 2
Display	4,2″ ePaper 10 Background images storable 20 Text boxes with each 58 characters 20 Fonts and font sizes incl. barcodes
Button 1	No fixed functionality Configurable via optional software
Button 2	No fixed functionality Configurable via optional software

2.1.2 Technical data

2.1.2.1 Radio

Radio PULSE (Location)	
Wireless technology	IEEE 802.15.4-2011 UWB
Frequency range	3100 MHz – 4800 MHz
Output power	0.037 mW (-41.3 dBm/MHz)
Antenna	UWB antenna (built-in)
Radio PHASE (Communication and optional location)	
Wireless technology	IEEE 802.15.4
Frequency range	2.40 to 2.48 GHz ISM-Band
Output power	Max. 4 dBm (adjustable)
Band width	2 MHz; Data transmission via 802.15.4 channels (adjustable)
Antenna	2.4 GHz antenna (built-in)

2.1.2.2 Power supply

Power supply	
Energy supply	4 x AA-Battery (1.5V Alkaline or 3.6V Lithium)
Operating time (@20 °C) (comparable to mobile phone with 3.6V Lithium)	Standby: 8 years Operation: 100% UWB-Location @ 1 s: 18 months Display updates every 10 s without location: 5 months

2.1.2.3 Environment and dimensions

Environment and dimensions	
Case	Plastic housing
IP-Protection	IP 64
Dimensions	approx. 119 x 97 x 24 mm
Weight	approx. 350 g (incl. batteries)
Operation temperature range	-20 °C to +50 °C (0°C to +50°C for display operation)

3 Installation, initial start-up, safety

3.1 General information

- Carefully read ALL items listed in section 3. Installation, initial start-up, safety before installing the devices in order to safeguard correct installation and operation.
- The devices can only be used in combination with the WIRELESS LOCATION SYSTEM.
- Buildup, installation as well as the use of the tools and clients of the localization system are described in the corresponding guides and manuals.

3.2 Installation of WIRELESS TAG EPAPER 4 PULSE | PHASE

- For an optimal location, the WIRELESS TAG EPAPER 4 PULSE | PHASE has to be mounted such that it has a direct line of sight to the infrastructure devices.
- Before usage of WIRELESS TAG EPAPER 4 PULSE | PHASE, check the device for damages such that it will not be damaged during operation. Please protect the display from objects which might scratch it or break it in another way.
- The indicated operation temperature ranges must be satisfied.
- The WIRELESS TAG EPAPER 4 PULSE | PHASE contains Lithium or Alkaline batteries. The improper use of batteries can cause fire and skin burns.
- The case of WIRELESS TAG EPAPER 4 PULSE | PHASE must never be crushed, punctured or exposed to other mechanical violence. Only for battery exchange it is allowed to open the case. Please pay attention to the correct polarity of the batteries (labeling on the battery lid).
- Never expose the WIRELESS TAG EPAPER 4 PULSE | PHASE to fire or temperatures above 50 °C.
- Do not expose the WIRELESS TAG EPAPER 4 PULSE | PHASE over a longer time to direct solar radiation.

3.3 Operation of WIRELESS TAG EPAPER 4 PULSE | PHASE

The operation of WIRELESS TAG EPAPER 4 PULSE | PHASE is performed via the buttons on the front panel. The functionality of the buttons can be programmed via software.

3.4 Cleaning and maintenance

- It is forbidden to open the case for actions other than the battery exchange
- The device should only be repaired or accessed for other work by an authorized technical service company.
- Improperly opening or repairing the device can seriously endanger the user.
- Unauthorized opening of the device will annul the warranty claim of Agilion GmbH.
- Do not use any liquids as well as abrasive, caustic or flammable cleaning aids for cleaning the housing.

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