WRT-Pulse

169 MHz WIZE transmitter

User manual

Version 1.1

IMPORTANT PRECAUTIONS / WARNINGS

Take the time to read all the instructions contained in this user guide prior to the initial use of the device.

KEEP THESE INSTRUCTIONS

This appliance is designed solely for domestic use. Any inappropriate use or use not in accordance with these instructions may compromise the protection provided by the appliance and renders the manufacturer's liability and guarantee null and void.

Do not place the appliance close to a source of heat.
Only use a cable that is in good condition.
For your own safety, never dismantle the appliance yourself; contact an approved Service Centre for repairs, see troubleshooting section.
Only use specified sensors.

DEVICE DESCRIPTION

The WRT-Pulse is a 169 MHz VHF transmitter dedicated to perform all the operations related to smart metering, over the WIZE network.

The WRT-Pulse has a local NFC interface allowing configuration, installation, maintenance and software upgrade of the integrated software.
The integrated software allows to connect to different pulse emitters: 3 or 4 wires, fraud or backflow detection.

The radio transmission is carried out through the WIZE long range fixed network remote reading system.

THE WRT-PULSE IS COMPOSED OF THE FOLLOWING ELEMENTS

A set of electronic components allowing the reading of pulse emitter, data processing and storage:

- A radio transmitter with its antenna to communicate with the gateway;
- 2 batteries for autonomous operation;
- A radio interface (NFC) for local access (configuration, update, installation, test) compatible with smart meter communication tools;

INTERFACE CONFIGURATION

Local access to the WRT-Pulse is granted by a mobility device connected to an NFC coupler.
This interface allows to configure and start the WRT-Pulse and to operate its maintenance on site.
The communication through the NFC interface is secured and ciphered.

SYMBOLS

	Please read these original operating instructions and the enclosed safety instructions prior to the initial use of your device.
	This product is compliant and has undertook conformity tests with the applicable European directives.
	WEEE. This product contains valuable recyclable materials that should be recycled properly. It contains batteries with substances that must not enter the environment. This product should therefore not be disposed with other household wastes at the end of its working life. Electrical and electronic devices often contain components which could potentially pose a danger to human health and the environment if handled or disposed incorrectly.
Battery Li-SOCl2	Batteries contained in this product are primary Lithium-Thionyl Chloride (Li-SOCl2) batteries.
IP68	This product is compliant with EN 60259 regarding water ingress protection at 1 meter during 4 weeks.

TECHNICAL SPECIFICATIONS

Power	2 batteries AA, Li-SOCl2, 3.6 VDC, 2.6 Ah
Storage and transport temperature	-25°C to +65°C
Operating temperature	-20°C to +55°C
Dimensions	160 x 50 mm
Weight	270 g
Supported sensors	Pulse emitters from Diehl Metering, Itron, Honeywell, Sensus …
Lifetime	15 years
ISM band radio communication	
Protocol	WIZE
Modulation	GFSK
Frequency	169 MHz
Bandwidth	12.5 kHz
Bit rate	2400 bps to 6800 bps
Radiated power	< 27 dBm
NFC radio communication	
Type	Tag (no radio transmission)
Frequency	13.56 MHz

This appliance complies with the regulations and safety conditions in force and with the directives:

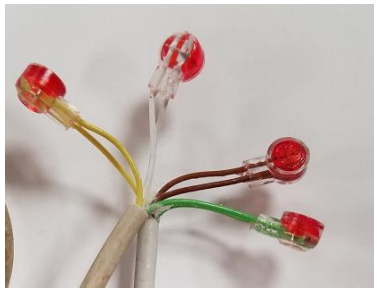
Environmental / Compliance with standards / Certifications / Directives	
RoHS2	Limitation of hazardous substances in electrical and electronic devices
REACH	Registering, evaluation, authorization and restriction of chemical substances
RED	▪ RED Directive 2014/53/EU ▪ EN 300 220-1 / EN 300 220-4 / EN 300 330, Electromagnetic compatibility and Radio spectrum Matters (ERM)
EMF	▪ EN 50364 / EN 62369-1 / EN 62479, ElectroMagnetic compatibility Field (EMF), Electrical equipment for measurement control and laboratory use EMC requirements, class B limit
EMC Immunity	▪ EN 301 489-1 / EN 301 489-3, ElectroMagnetic Compatibility (EMC) standard for radio equipment and services ▪ EN 61326-1, Electrical equipment for measurement control and laboratory use EMC requirements: Industrial environment ▪ EN 61000-3-2, Limits for harmonic current emissions ▪ EN 61000-3-3, Limitation of voltage changes, fluctuations and flicker in public low-voltage supply systems ▪ EN 61000-4-2, Immunity to electrostatic Discharges ▪ EN 61000-4-3, Immunity to radiated RF field ▪ EN 61000-4-4, Immunity to electrical fast transients / burst ▪ EN 61000-4-6, Immunity to conducted RF disturbance ▪ EN 61000-4-8, Immunity to magnetic field
LVD	EN 61010-1, Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements
Water and dust resistance	▪ IP68 - relative humidity 95%

WIRING INSTALLATION

This wiring guide shall be used to connect WRT-Pulse remote VHF transmitter with a pulse emitter

Connect wires using provided self-striping connectors (similar to ETON or 3M Scotchlok connectors). There are 4 wires per cable to connect together with 4 connectors: white, green, yellow and brown, see photo below.

The detailed connection depends on the pulse emitter model, a specific notice will be available for each model.



The following table gives an example of the pin function of the WRT-Pulse for 2 possible configurations.

Wiring		
Side "WRT-Pulse"	**Side "Pulse Emitter"**	
Wire Ended	**Conf1**	**Conf2**
Brown	Ground	Ground
White	Pulse	Pulse
Green	Fraud	Fraud
Yellow	Direction	-

IDENTIFICATION

WRT-Pulse identification is done visually from its label or electronically using NFC:

- Reference: WRT-Pulse
- Manufacturing date (week / year)
- Serial numbers
- Hardware (HW) and software (SW) revision
- Regulatory logo

STARTUP

Device shall be started using NFC coupler and P'Eau'Se mobility software only.

MAINTENANCE

Once installed, the device operates autonomously. Maintenance operations can be done at any time using the mobility tools (NFC coupler and P'Eau'Se software) for testing or reconfiguration, or remotely through the network.

STORAGE

Storage period is part of the device's lifetime. When not in use, the device batteries will continue to drain and therefore reducing the device's remaining lifetime.

TROUBLESHOOTING

First steps in troubleshooting can be done using the mobility tools (Tablet with P'Eau'Se application and Bluetooth NFC coupler).
If the problem is confirmed and the device does not work as expected anymore, device shall be sent to:

SUEZ Smart Solutions Service Center
38 rue du Président Wilson
78230 Le Pecq – France

TECHNICAL SUPPORT

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38 rue du Président Wilson
78230 Le Pecq – France
Tél : +33 (0)1 34 80 38 56

MANUFACTURER

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