

PLUS WRP001 WIRELESS REPEATER 868MHz

REF.: PA164510310



PLUS WRP001 Wireless Repeater provides extra communication range by supporting up to 13 hops (12 repeaters in series). By increasing network redundancy with unlimited number of repeaters and taking advantage of mesh network topology, it permanently provides the best wireless link and improves reliability.

Dimensions: 120 x 90 x 50 mm

Weight: 312 g (11 oz)

Material: ASA+PC-FR (UL 94 V-0) / Polycarbonate

Protection Index: IP65

KEY FEATURES

UP TO 12 REPEATERS IN SERIES
FOR EXTRA-LONG RANGE

WIRELESS SITE SURVEY FUNCTION
FOR EASY INSTALLATION AND FAST DEPLOYMENT

UP TO 4 KM COMMUNICATION DISTANCE (LOS)
WITH 128-BIT AES ENCRYPTION FOR DATA SECURITY

MULTI-HOP MESH NETWORK
WITH SELF-FORMING, SELF-HEALING AND SELF-OPTIMIZING FEATURES

SIMPLE AND INTUITIVE USB CONFIGURATION
VIA TEKON CONFIGURATOR (FREE SOFTWARE)

PA164510310_DS.V01.2.2018

TECHNICAL SPECIFICATIONS Data applicable at 25°C

RADIO SPECIFICATIONS

Range ¹	4Km LoS (2.5mi)
Frequency Band	868.050 a 869.950MHz ²
Number of Channels	16 (configurable)
Receiver Sensitivity	-99 to -104 dBm ²
Transmit Power	0 to 27 dBm ²
Transmission Rate	19 a 76.8kbit/s ²
Encryption method	128-bit AES
Modulation	GFSK
Antenna	Articulated dipole antenna
Antenna gain	+3dBi
RF circuit impedance	50Ω

HMI

Indication	Frontal Panel LED Internal Service LED
Indicators	External - Site Survey activation Internal - Load factory defaults Service LED
Configuration	Internal micro USB connector

POWER SUPPLY

External	5 to 24V DC ± 5%
USB	Only in configuration
Maximum Current	500mA DC @ 5V DC / 100mA DC @ 24V DC
Protection	Reverse Polarity Overvoltage ³

MECHANICAL

Supply Connection	Internal push-in terminals
Wire Fixation	Bucins PG-7
Bucin size	∅ Min:2.5 ∅ Max: 6.5
Maximum Wire section	1.5mm ² (0.0591in ²)
Configuration Connection	Micro USB internal connector
Antenna Connection	SMA connector

OPERATING ENVIRONMENT

Operating Temperature	-30 a 80°C
Storage Temperature	-30 a 80°C
Storage relative humidity	≤ 95% (non-condensing)

¹ Range depends on the environment and line of sight. Always verify your wireless network's range by performing a Site Survey.

² According to the radio channel selection.

³ Transient phenomena.

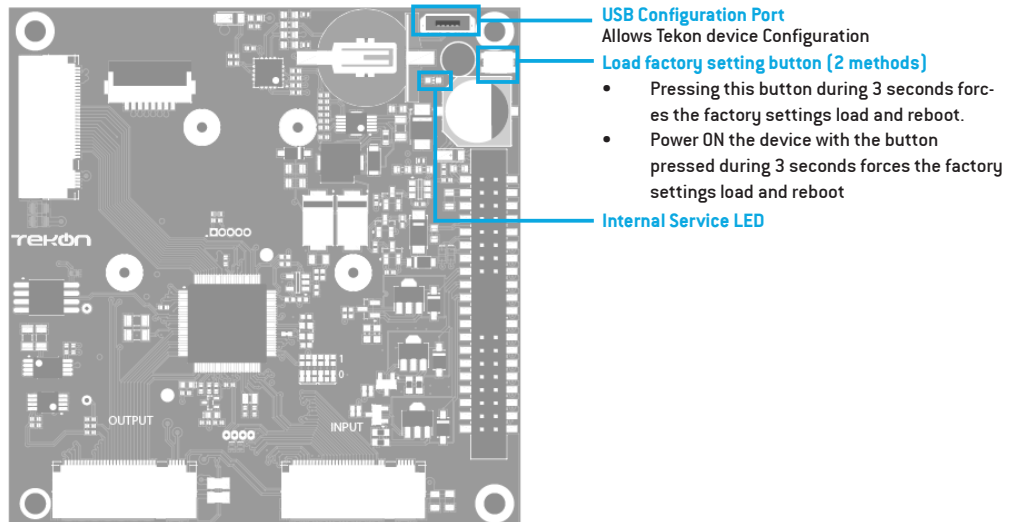
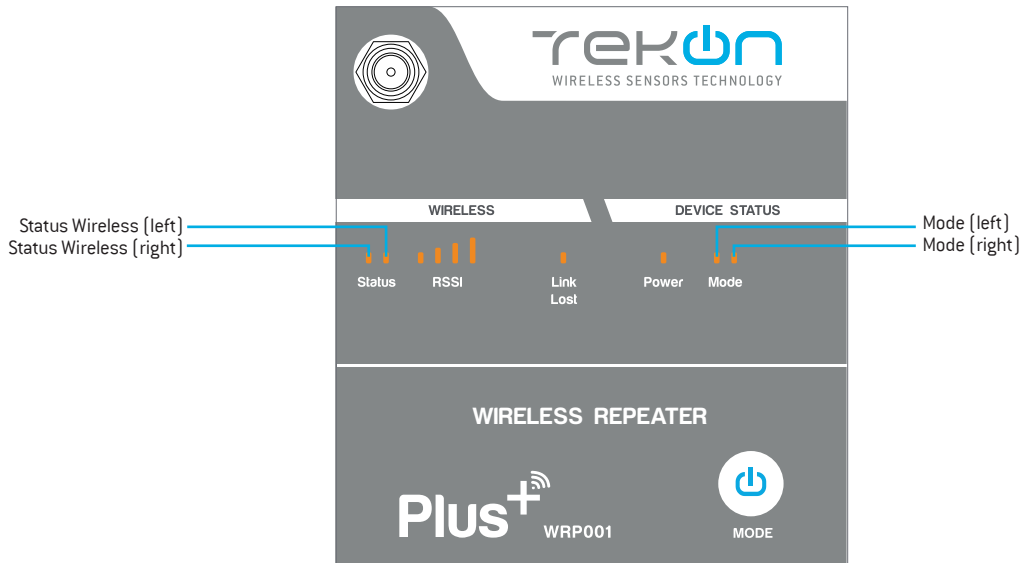
HOUSING	
Dimensions	120 x 90 x 50 mm
Weight	312 g [11 oz]
Material	ASA+PC-FR (UL 94 V-0) / Polycarbonate
Protection Index:	IP65

DEFAULT SETTINGS	
Wireless Frequency	869.525MHz
Wireless Transmission Power	27dBm (500 mW)
Wireless Transmission rate	76.8kbit/s
Wireless Channel	13
Wireless Network ID	13042017

CERTIFICATIONS AND COMPLIANCE	
RED - Diretiva 2014/53/EU	
EN 300 220-2 V3.1.1 - Short range equipment (SRD)	
EN 301 489-1 V2.2.0 - Electromagnetic compatibility and Radio spectrum Matters (ERM)	
EN 301 489-3 V2.1.1 - Electromagnetic compatibility and Radio spectrum Matters (ERM)	

LED INDICATORS

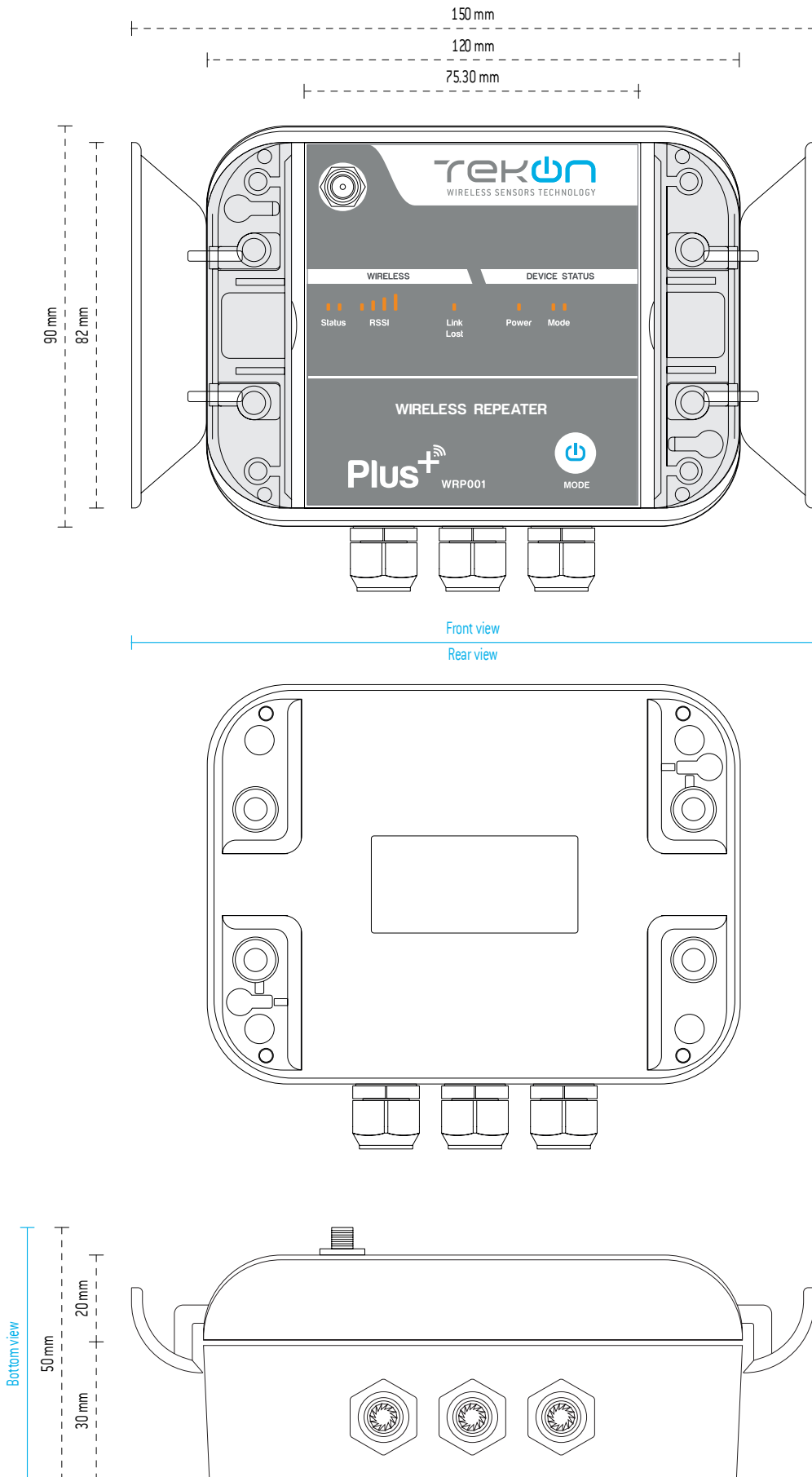
LED	State	Repeater
Power	Network search	ON
	Configuration	ON
	Connected	ON
Mode (Left/Right)	Configuration	Flashes 2 times alternately between modes
	Network Search	Flashes every second
	Site Survey	Flashes 2 times alternately between modes
Wireless Status (Left) (controlled by RF module)	Network Search	Flashes slowly - 2 seconds ON and 2 seconds OFF
	Connected	Flashes according to the RSSI level
	Configuration	ON
	Site Survey	ON
Wireless Status (Right) (controlled by RF module)	Network search	OFF
	Connected	Flashes 5 times if connected to the Gateway or 1 time if connected to a repeater
	Configuration	ON
	Site Survey	ON
RSSI	Site Survey	Number of LEDs ON according to the RSSI level of Gateway or Repeater packets received; Flashes 2 times simultaneously if no packets are received
Link Loss	Disconnected (active function)	ON when there's loss of network connection and the number of reconnection attempts equals Cicles Number; ON or Last State according to the Startup State settings
	Connected (active function)	OFF when recovers network connection.
Internal LED	Error	Flashes x times codifying device problems in auto-diagnosis regime. Error codes don't matter from the users point of view, while it matters for support, optimizing diagnosis process, for example, by telephone.



INDICATORS

BUTTON	State	Repeater
MODE	-	3 second pressure activates Site Survey mode
	Site Survey	3 second pressure deactivates Site Survey mode and enters in network connection state
Internal	-	5 second pressure resets to default factory settings

TECHNICAL DRAWINGS



COMPLEMENTARY PRODUCTS



PLUS TWP4AI WIRELESS TRANSMITTER 868MHZ

REF.: PA164510110

- 4 configurable analog inputs (0..20 mA or 0..10 V) providing cable replacement features;
- 3 configurable digital outputs: generic, RF link lost indication and external power control;
- Configurable communication period and/or event trigger via digital input;
- Up to 4Km communication distance (LoS) with 868 MHz and 128-bit AES encryption;
- Internal temperature, battery voltage and wireless link quality (RSSI) monitoring;
- Simple and intuitive USB configuration via Tekon Configurator (free software).



PLUS WGW420 WIRELESS GATEWAY 868 MHZ

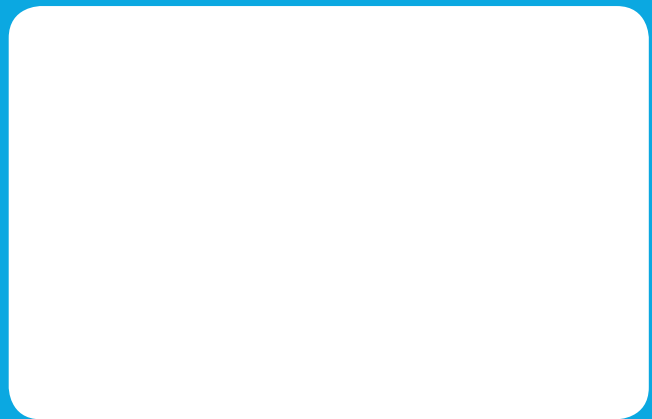
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- Scalable network up to 55 PLUS transmitters;
- Up to 4 Km communication distance (LoS) with 868 MHz and 128-bit AES encryption;
- Multiple networks with extra gateways and extra long range with several repeaters;
- Multi-hop mesh network with self-forming, self-healing and self-optimizing features;
- Modbus RTU communication protocol via RS-485 interface;
- 8 analog outputs (4..20 mA current loop);
- Simple and intuitive USB configuration via Tekon Configurator (free software);
- DIN rail mounting.

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