

PLUS TWP-1DI WIRELESS TRANSMITTER



PLUS TWP-1DI Wireless Transmitter System is a complete solution to easily gather the data needed to identify production issues and implement measures to increase efficiency and prevent future disruptions.

PLUS TWP-1DI Wireless Transmitter was designed to monitor digital signals and pulses, working as a pulse counter, providing a secure communication, without cable requirements of a complex wired solution.

Dimensions: 120 x 90 x 50 mm

Weight: 314 g

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

Protection Index: IP65

KEY FEATURES

1 CONFIGURABLE DIGITAL INPUT

1 REMOTE SWITCH OUTPUT

ABSOLUTE PULSE COUNTER

UP TO 4 KM COMMUNICATION DISTANCE (LOS)

MULTI-HOP MESH NETWORK

WITH SELF-FORMING, SELF-HEALING AND SELF-OPTIMIZING FEATURES

OPERATING MODE

AS END DEVICE / AS REPEATER

SITE SURVEY FEATURE

SIMPLE AND INTUITIVE USB CONFIGURATION

TEKON CONFIGURATOR SOFTWARE

DS_PLUS_TWP-1DI_E01A

TECHNICAL SPECIFICATIONS

RADIO SPECIFICATIONS	868MHZ	915MHZ
Range ¹	Up to 4Km LoS	
Frequency Band	868 to 869MHz	902 to 928MHz ⁴
Radio channels	16	50 ⁵
Radio receiver sensitivity ²	-97 to -110 dBm	
Power ²	25 to 27 dBm	8 to 27 dBm
Radio transmission rate ²	19 to 76,8kbit/s	
Encryption method	AES 128 (Advanced Encryption Standard)	
Modulation	GFSK	
Connection	SMA	
Antenna	Articulated dipole antenna	
Antenna impedance	50Ω	

WIRELESS NETWORK

Maximum devices	55
Maximum hops	13
Communication period	1 to 43200 seconds (configurable)

INTERNAL TEMPERATURE

Range	-30 to 80°C
Resolution	0,01°C
Accuracy	± 0,50°C
Sensor type	NTC

DIGITAL INPUTS

Range	0 to 24V DC
ON detection level	3,0V
OFF detection level	2,5V
Detection level tolerance	± 0,100mV
Type	Sinking
Impedance	> 500Ω
Input current	10mA
Galvanic Isolation	Yes
Detection type	State change
Activation detection (if enabled)	Falling Edge / Rising Edge / Both ³

PULSE COUNTER

Type	PNP or NPN (see diagram of connections)
On detection level	± 100mV
Frequency range	10 kHz
Minimum Pulse Width	15 μs
Absolute Counter	
Square Wave Signal compatible	
Reset over Modbus coil	

DIGITAL OUTPUT - REMOTE OUTPUT	
Range	5 to 24V DC
Type	Sinking / NPN
Maximum current protection	90mA
Start state	ON / OFF / last state ³
Communication loss state	ON / OFF / last state ³
Event number activation	N/A
Activation period before communication	N/A

POWER SUPPLY	
Supply voltage	5 to 24V DC $\pm$ 5% / USB ⁶
Maximum current	500mA DC @ 5V DC / 100mA DC @ 24V DC
Protection against reverse polarity	

INTERFACE	
Indication	Frontal Panel LED
Switches	External - Site Survey activation Internal - Load Default Factory Settings
Configuration	Internal micro USB connector

MECHANICAL INTERFACE	
Push-in spring terminal blocks (internal)	
Bucins PG-7	
1.5mm ² (0.0591in ²)	
Micro USB internal connector	

OPERATING ENVIRONMENT	ENVIRONMENTAL CONDITIONS	STORAGE CONDITIONS
Temperature		-30 to 80°C
Relative humidity	N/A	≤ 95% (non- condensing)

CASING	
Dimensions	120 x 90 x 50 mm
Weight	314 g
Material	ASA+PC-FR (UL 94 V-0) / Polycarbonate
Protection index	IP65

FACTORY DEFAULT SETTINGS	868MHZ	915MHZ
Frequency	869,525MHz	915,000MHz
Radio transmit power		27dBm
Radio transmission rate		76,8kbit/s
Wireless channel	13	26
Wireless network ID		13042017
Communication period		10 seconds
Gateway modbus index		1
Digital inputs		Disable
Digital output - Remote output		OFF
Operating mode		End Device

CERTIFICATIONS AND APPROVALS

EN 61326-1 - Class B - Industrial Requirements

EN 300 220-2 V3.1.1

EN 301 489-1 V2.2.1

EN 301 489-3 V2.1.1

EN 60950-1:206

EN 61326-1:2013

ETSI EN 301 489-1 V1.9.2

¹ Range depends on the RF propagation environment and Line of Sight (LoS). Always verify your wireless network's range by performing a Site Survey

² Dependent on radio channel selection

³ Configurable

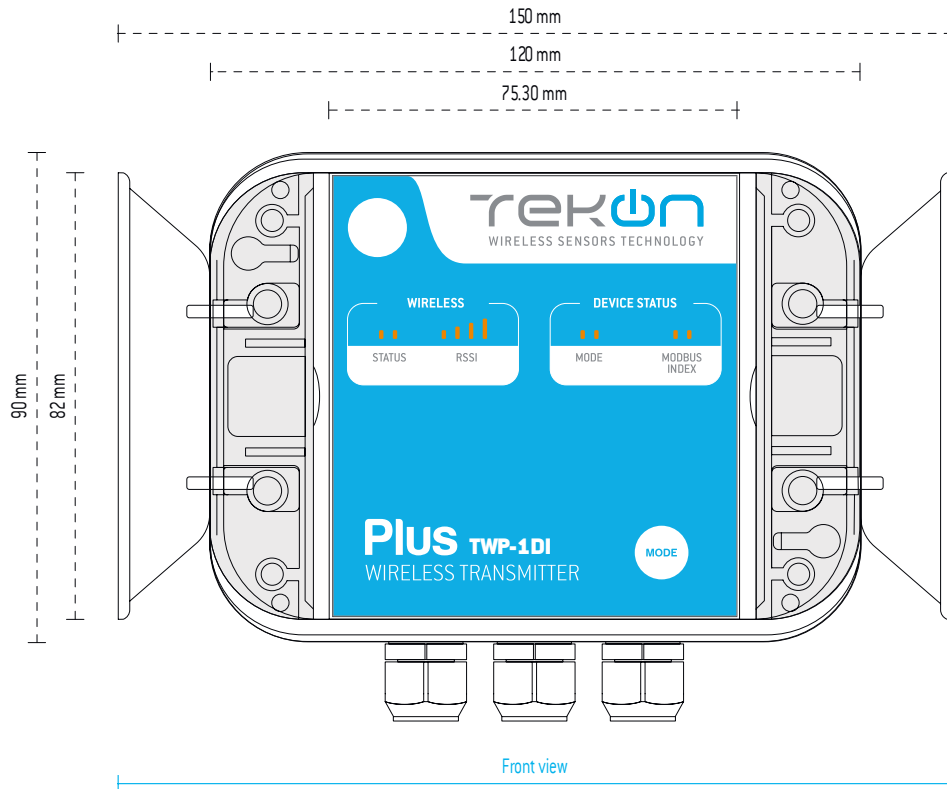
⁴ In some countries, the frequency band admitted is not so extended as the default range.

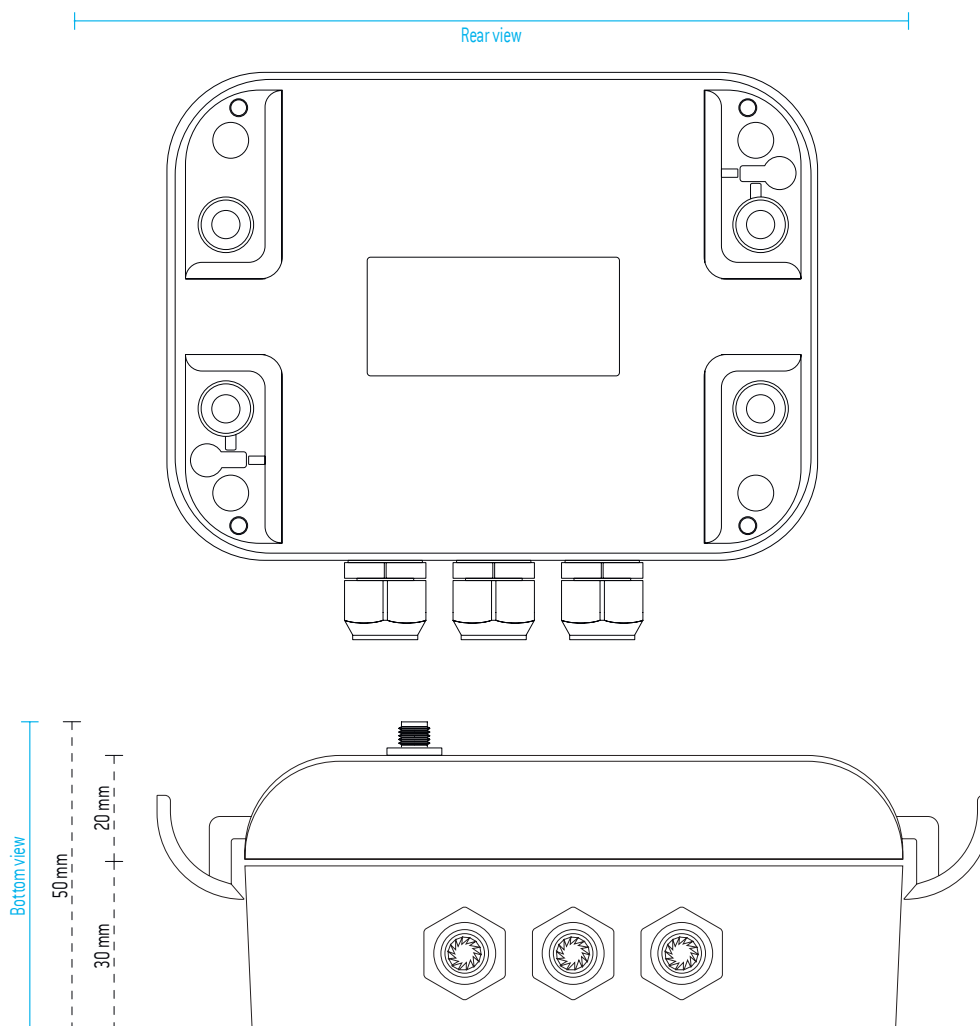
⁵ The radio frequencies admitted in Australia are available from channel 26 to channel 50.

⁶ It is recommended to use a power supply with short-circuit current protection or equipped with a fuse.

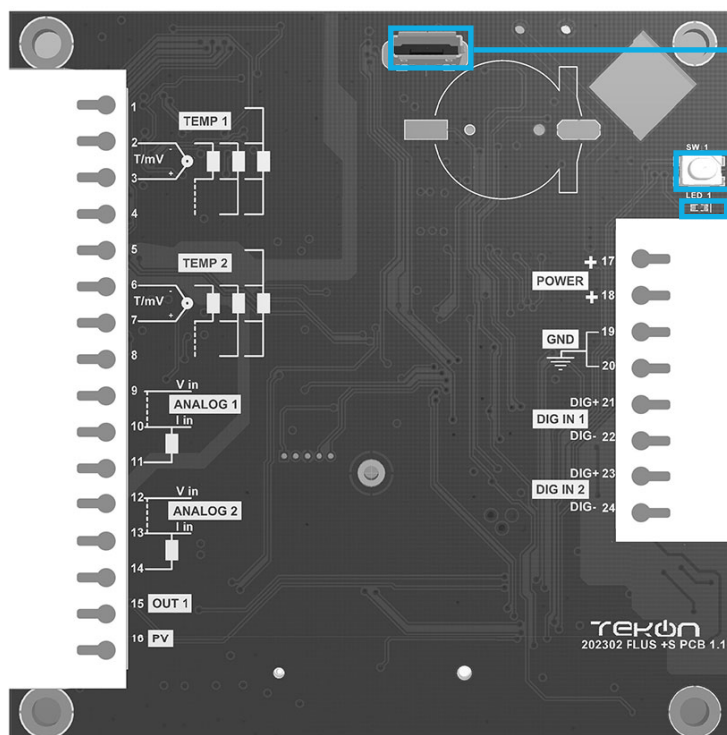
TECHNICAL DRAWINGS

DIMENSIONAL DRAWINGS AND INTERFACE DESIGN





WIRING DIAGRAM



USB Configuration Port

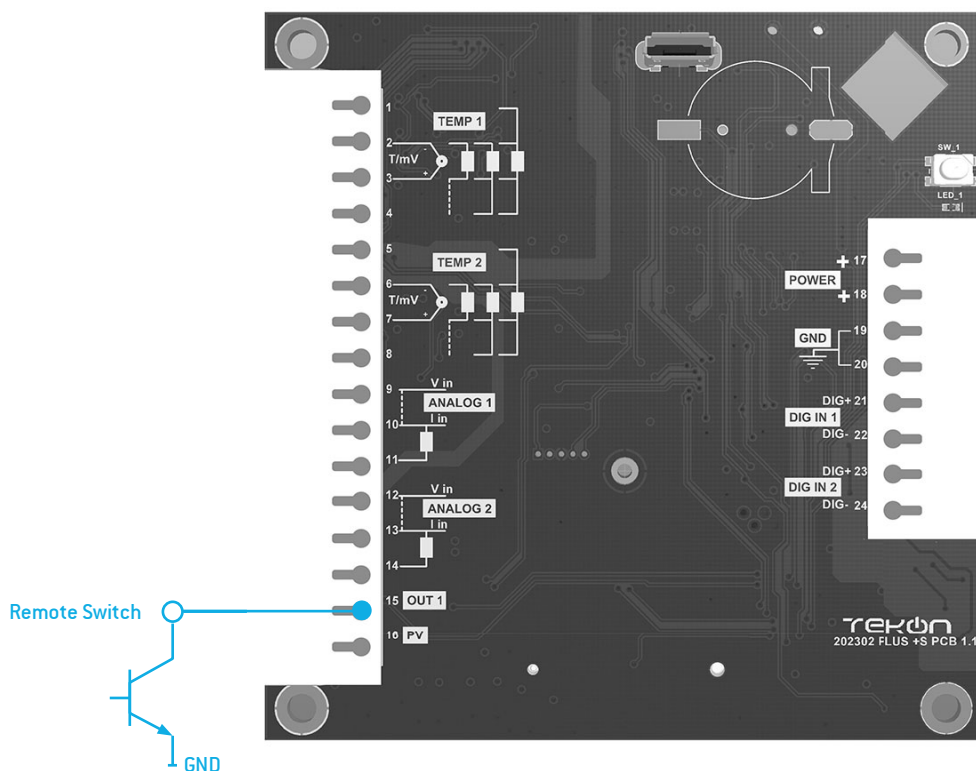
Allows Tekon device Configuration

Load factory setting button (2 methods)

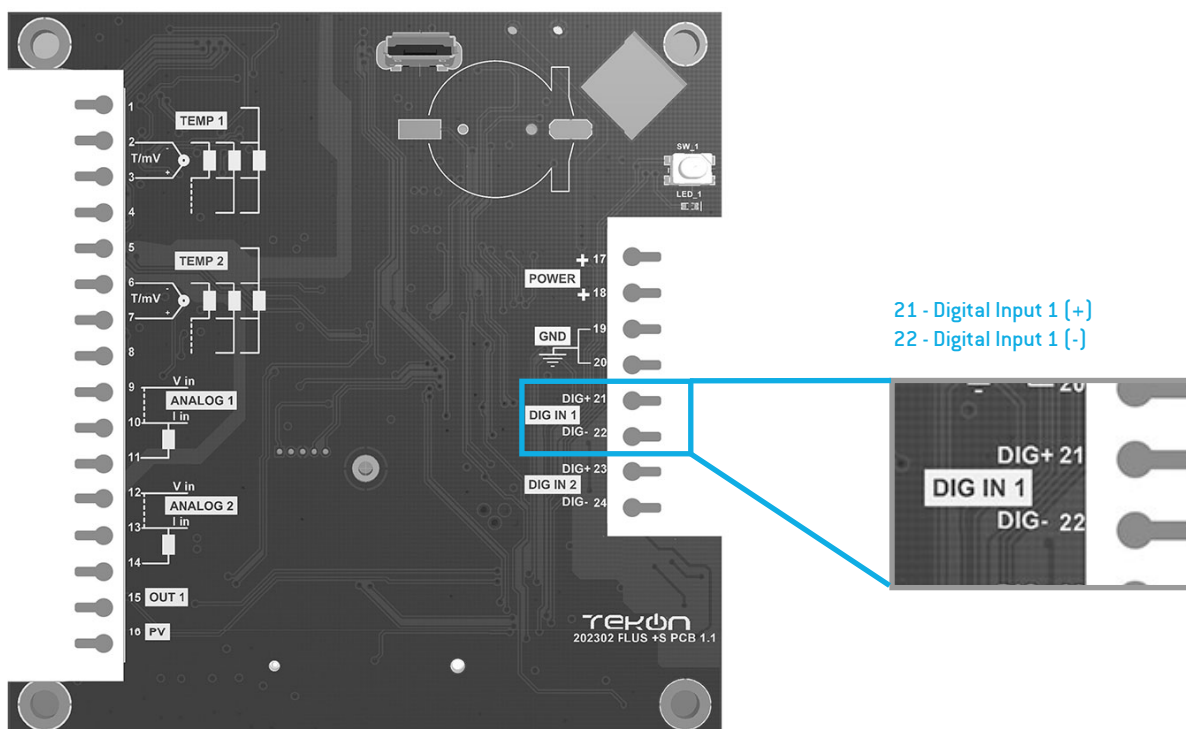
- Pressing this button during 3 seconds forces the factory settings load and reboot.
- Power ON the device with the button pressed during 3 seconds forces the factory settings load and reboot

Internal LED

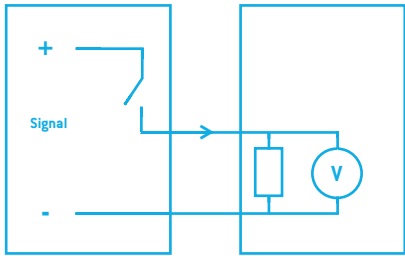
Digital Output - SINKING - NPN



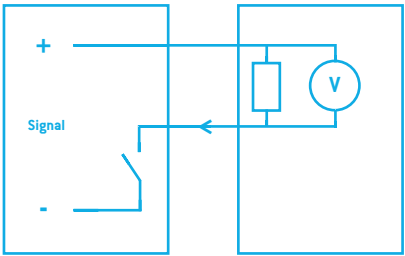
Digital Input - SINKING/NPN - SOURCING/PNP



SOURCING/PNP



SINKING/NPN



Transmitter		
PIN		Functionality
Polarity		
1	Not used	
2	Not used	
3	Not used	
4	Not used	
5	Not used	
6	Not used	
7	Not used	
8	Not used	
9	Not used	
10	Not used	
11	Not used	
12	Not used	
13	Not used	
14	Not used	
15	Remote Switch Output	
16	Battery Voltage	
17	Power Supply (+)	
18	Power Supply (+)	
19	Power Supply (GND)	
20	Power Supply (GND)	
21	Digital Input 1	(+)
22		(−)
23	Not used	
24	Not used	

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