

SYSTEM PLUS

WIRELESS TRANSMITTERS



FLEXIBLE AND COST-EFFECTIVE SYSTEM
MONITORING OF ANALOG, DIGITAL AND
TEMPERATURE SIGNALS
SCALABLE SOLUTION - UP TO 55 TRANSMITTERS
PER GATEWAY
AUTOMATIC MESH NETWORK MANAGEMENT
EASY TO INSTALL AND CONFIGURE

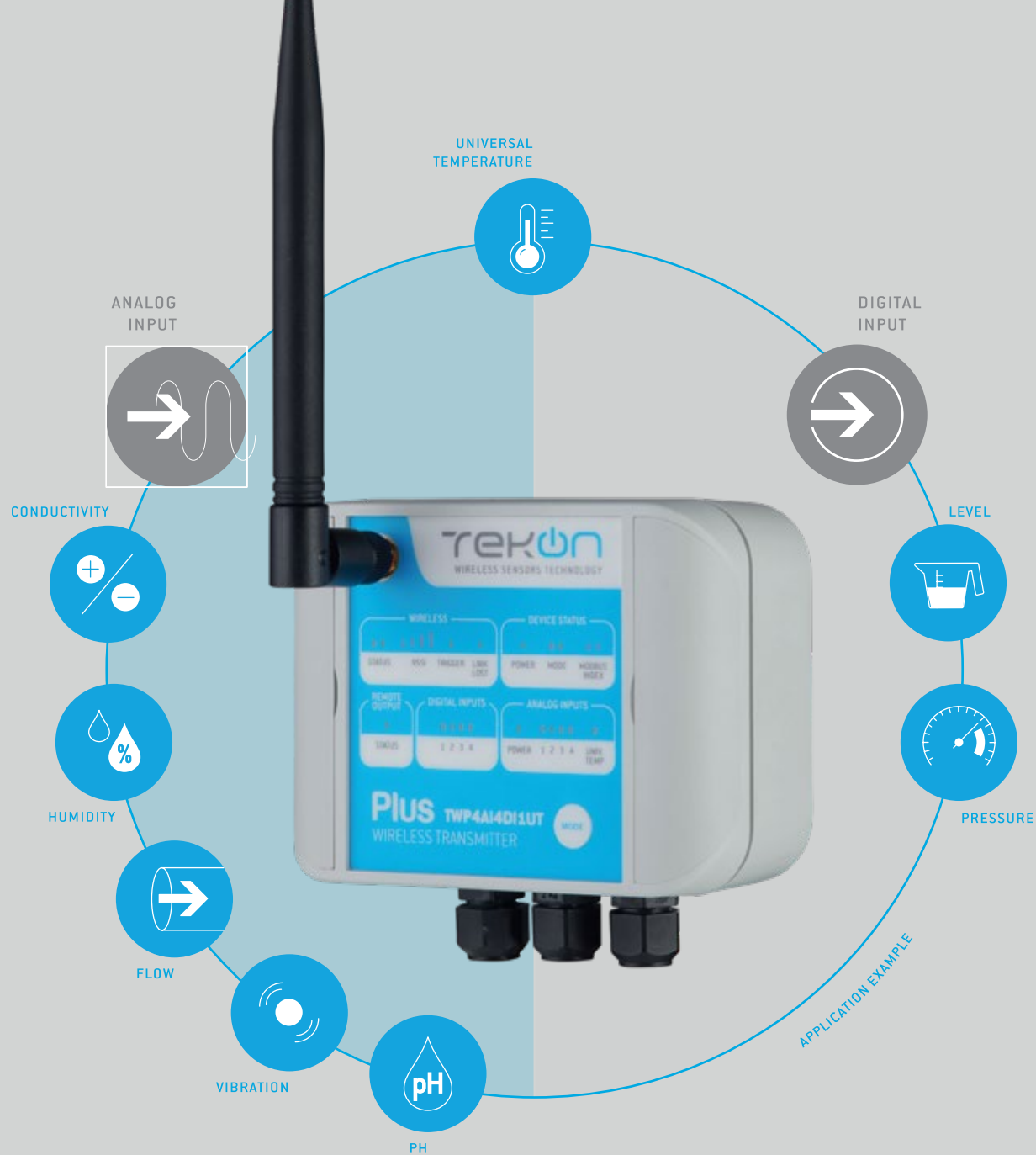
Connect wired sensors with analog or digital outputs to our transmitters and set a wireless network between end points. Eliminate long wired connections across the plant and preserve your already in use sensing solutions.



PLUS WIRELESS SYSTEM










- Analog, digital and temperature inputs*
- Digital outputs – Generic, Link Lost indication and external power control*
- Analog inputs with 15-bit resolution*
- Digital inputs configuration – pulse counter or event state*
- Configurable communication period
- Up to 4 Km communication distance (LoS) with 868/915 MHz and 128-bit AES encryption
- Multi-hop mesh network with self-forming, self-healing and self-optimizing features
- Internal temperature, battery voltage and wireless link quality (RSSI) monitoring*
- Large operating temperature range -30°C to 80°C and IP65/IP40 protection*
- Simple and intuitive USB configuration via Tekon Configurator (free software).

* Depending on the models



PLUS transmitters inputs allow to connect a wide range of sensors, that measure several industry variables. Several variables can be monitored by a single transmitter.

TRANSMITTERS

		INPUTS			DIGITAL OUTPUTS			PROTECTION INDEX		
		ANALOG	DIGITAL	TEMP	REMOTE SWITCH	LINK LOST	EXTERNAL POWER CONTROL	EVENT TRIGGER	IP65	IP40
TWP-4AI4DI1UT		4	4	1	●	●	●	●	●	-
TWP-4AI		4	-	-	●	●	●	●	●	-
TWPH-1UT		-	-	1	-	-	-	-	-	●
TWP-2AI		2	-	-	●	-	-	-	●	-
TWP-1AI		1	-	-	●	-	-	-	●	-
TWP-2DI		-	2	-	●	-	-	-	●	-
TWP-1DI		-	1	-	●	-	-	-	●	-
TWP-2UT		-	-	2	●	-	-	-	●	-
TWP-1UT		-	-	1	●	-	-	-	●	-

GATEWAY **WGW420**

The main endpoint of PLUS wireless network is tasked to manage the communications between all the devices of PLUS wireless network.

- Up to 55 transmitters by network
- 8 analog outputs with 4..20 mA range
- Modbus RTU communication protocol
- Power Supply 12 to 24V DC \pm 5%
- Protection Index IP40



IOT MODULE **PIM101**

PIM101 IoT Module ensures the connectivity of PLUS wireless family to Tekon IoT Platform.

- Modbus TCP/IP communication
- Native integration with Tekon IoT Platform
- Configuration through webserver



REPEATER WRP001

Increase the range of your PLUS wireless network, with up to 12 repeaters in series. With the repeater WRP001, the wireless data communication is more secure and reliable.



HOW IT WORKS



**RENEWABLE INDUSTRY****PROCESS INDUSTRY****PHARMACEUTICAL
INDUSTRY****BUILDING AUTOMATION****HVAC****FOOD INDUSTRY**

PLUS wireless product family ensures reliable communication and success of data transmission, through the possibility of communicating as a transmitting element or accumulating the function of transmitter and repeater, where they receive and transmit information from other equipment of the PLUS family located on the same network.

The data collected by the PLUS transmitters are organized on the Modbus map which, through the WGW420 gateway, can be accessed by the automation equipment or become available to the Tekon IoT Platform, through Modbus TCP / IP communication, ensured by the IoT PIM101 module.

CASE STUDIES



TANK LEVEL MONITORING

Collect and send data from sensors and equipment that monitor and manage the water tank level that serve an industrial infrastructure for the Tekon IoT Platform. Monitor the sensors condition through data analysis and observe standard values for normal function and failures.

WATER METERING

Measurement of water metering of a hotel unit in the north of Spain. Application of a PLUS transmitter with pulse counter to the values next to the remote water meter. This application eliminated the manual measures and records. All the data is available through local automation.



BIODEGRADABLE WASTE COMPOSTING MONITORING

Monitoring of the composting process of biodegradable waste to produce organic soil fertilizer.

Analyze and monitor the fermentation process through the platform to ensure process compliance and registration.



PRINTER MONITORING

Count the number of printed and applied labels using a sensor and our PLUS TWP-1DI solution with pulse counter functionality. Digital output remotely controlled allowed the installation of a tower light to provide visual status about the operation to the local operators.



INDUSTRIAL DRUM MONITORING

Monitoring of the temperature of heat treatment, carried out in a rotating industrial drum with real-time data visualization. Implementation of a system that monitors and informs users about process conditions.

VIBRATION MONITORING

Wireless solution for vibration monitoring in mining applications. Measurement of vibration in remote machinery using a vibration sensor with analog output and PLUS TWP-2AI transmitter with battery pack to provide a reliable and real-time measurement of vibration that will prevent machine downtime.



USE CASE

TEMPERATURE PROBES FOR COMPOSTING

Waste composting is a slow process, where temperature monitoring allows you to gauge when the process is complete.

Tekon Electronics developed a complete solution

that includes all the essential components for carrying out temperature monitoring.

The wireless system provides long-range, secure and reliable remote monitoring.

HOW DOES WIRELESS TEMPERATURE MONITORING WORK?

Tekon Electronics has developed a joint transmitter and probe solution with 1 or 2 measuring points. The entire solution is powered by internal batteries, rechargeable through a solar panel. In this way, continuous and sustainable remote monitoring of the entire application is ensured.

Temperature measurements are sent to the solution's gateway, which, via a module with an internet connection, will send data to the cloud, where they can be viewed and analyzed, in real time, on the Tekon IoT Platform, the visualization platform and advanced data analysis from Tekon Electronics.

Note: the data can be made available in local automation systems. Consult our team to learn more about this option.

FAST, RELIABLE AND SAFE

Eliminate the manual process of measuring and recording temperatures from the composting process. Using the Tekon IoT Platform data analysis tool, you can quickly access data from any device and place. Reduce the risk of accidents at work, avoiding contact with the fermentation atmosphere. Monitoring is done remotely and continuously.

SOLUTION BENEFITS

- Rapid implementation
- Low maintenance rate
- Turnkey solution
- Real-time monitoring
- Querying data anywhere
- Alarms and notifications about the status of the monitoring process
- Possibility of calibration by entities credited outside the process
- Installation scalability of up to 55 transmitters



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