

WIRELESS SENSORS TECHNOLOGY

Turn-key wireless solution for lightweight monitoring applications of temperature, humidity, dew point, CO_2, barometric pressure and air-quality

DUOS

WIRELESS SMART SENSORS

APPLICATIONS



Offices

PORTUGAL

Temperature, humidity, CO2 and barometric pressure are some of the critical variables that need to be measured in order to keep the environment in safe patterns. Wireless monitoring with alarms and user notifications to ventilate the area allows to keep all the values in a healthy standard.



Pharmaceutical

UNITED KINGDOM

DUOS wireless smart sensors are being used to monitor and report temperature and humidity values in a pharmaceutical application with restricted product and workplace quality control.



Blood Bank

LATVIA

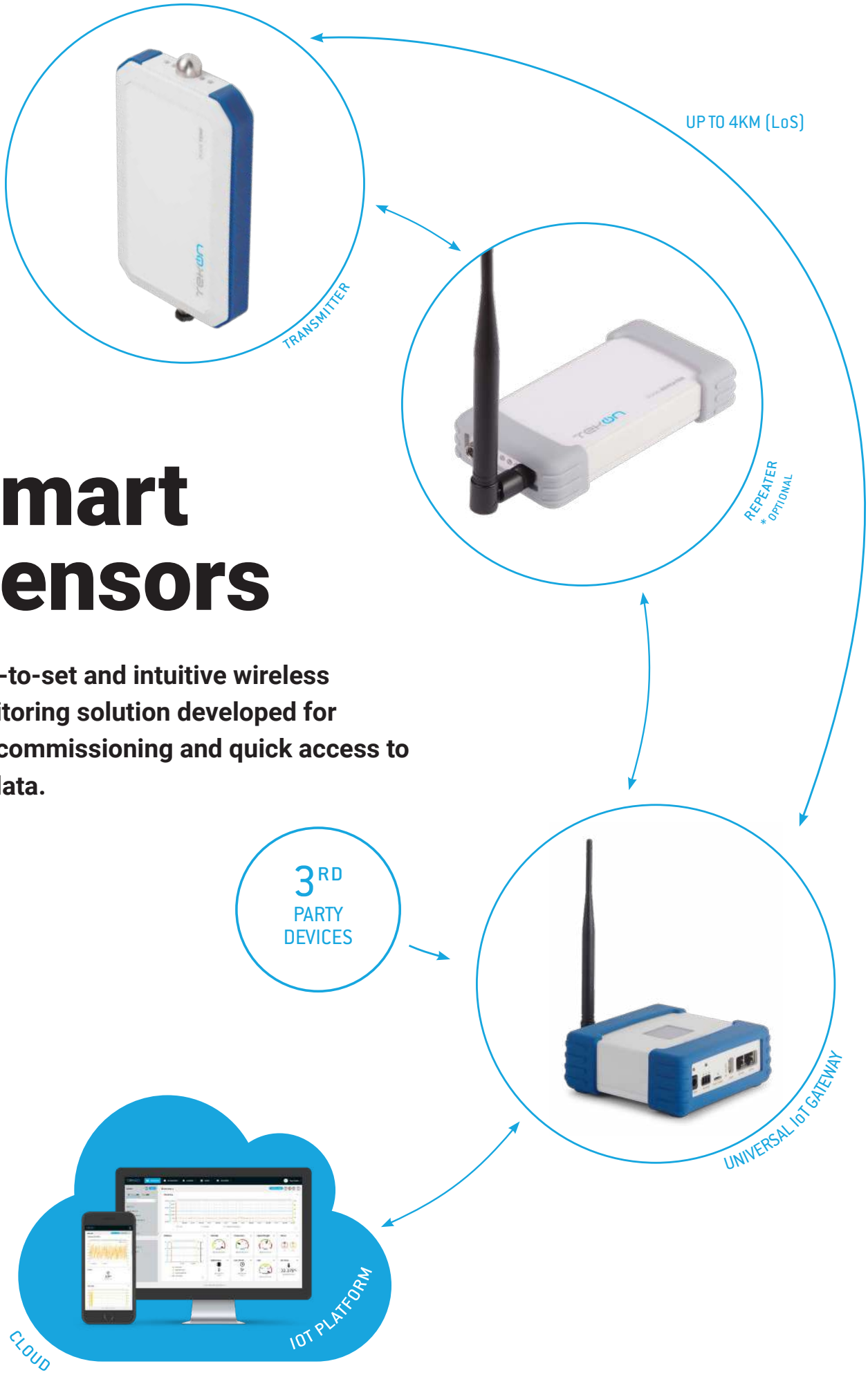
DUOS wireless sensors were integrated into a blood bank, to monitor temperature, humidity and digital input state to ensure the security of blood and derivatives assets. All data was available in the local automation and stored in a cloud service.



Museums

PORTUGAL

Our temperature and humidity monitoring solutions are helping to preserve our history. Tekon Electronics implemented wireless solutions in the museum's exhibition and storage rooms, in order to minimize the interference of these variables in the preservation process. The solution was backed with our Tekon IoT Platform to establish a real-time monitoring system to ensure a timely intervention in the temperature control of these spaces.



Smart Sensors

Easy-to-set and intuitive wireless monitoring solution developed for fast commissioning and quick access to IoT data.



Transmitters

Smart IoT solutions with external sensors for a reliable wireless monitoring of environmental variables.

DUOS Temp

Temperature

- -40ºC to 60ºC Temperature range
- Multiple probe options (*)
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

(*) Probe with 125ºC range available

DUOS Hygrotemp

Temperature and Humidity

- -40ºC to 60ºC Temperature range
- 0% to 100% Humidity range
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform
- External sensor up to 2m

DUOS Dew Point

Dew Point

- -40°C to 60°C Operating range
- Low power consumption with long battery life
- IP65 protection rating
- Simple and intuitive USB configuration via Tekon Configurator

DUOS Di+Temp

Temperature and Digital Input

- -40ºC to 60ºC Temperature range
- Dry contact digital input
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

DUOS Multitemp

Temperature

- Up to 5 measuring points
- -40ºC to 90ºC External Temperature range
- -40ºC to 60ºC Internal Temperature range
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

DUOS uTemp

Universal Temperature and Digital Input

- RTD, Thermocouples, mv and ohm sensors
- -40ºC to 60ºC Internal Temperature range
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

temperature · humidity · CO_2 · barometric pressure · DI digital input · mV milivolts · Ω ohms · dew point



inSensors

Smart IoT solutions with built-in sensors for a reliable wireless monitoring of environmental variables.

DUOS inTemp

DI

Temperature and Digital Input

- -40ºC to 60ºC Temperature range
- Built-in sensor
- Dry contact digital input
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

DUOS InHygrotemp

DI

Temperature Humidity and Digital Input

- -40ºC to 60ºC Temperature range
- 0% to 100% Humidity range
- Built-in sensor
- Dry contact digital input
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

Duos InCO2

CO_2 DI

Temperature, CO2, Average CO2, Barometric Pressure and Digital Input

- -40ºC to 60ºC Temperature range
- 0 to 5000 ppm CO2 range
- 700mbar to 1100mbar Barometric Pressure
- Dry contact digital input
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

DUOS InAir

CO_2 DI

Temperature, CO2, Average CO2, Humidity, Barometric Pressure and Digital Input

- -40ºC to 60ºC Temperature range
- 0 to 5000 ppm CO2 range
- 0 to 100% Humidity range
- 700mbar to 1100mbar Barometric Pressure
- Dry contact digital input
- Calibration options
- IP65 protection
- Integration with Tekon IoT Platform

MODELS	TEMPERATURE EXTERNAL	TEMPERATURE INTERNAL	DIGITAL INPUT	INTERNAL CO_2	HUMIDITY EXTERNAL	HUMIDITY INTERNAL	DEW POINT	BAROM. PRESSURE	MV	Ω
TEMP	●	●								
HYGROTEMP	●	●			●					
DEW POINT	●	●			●		●			
DI+TEMP	●	●	●							
MULTITEMP	●	●								
UTEMP	●	●	●						●	●
INTEMP		●	●							
INHYGROTEMP		●	●			●				
INCO$_2$		●	●	●				●		
INAIR		●	●	●		●		●		

Gateways

Smart endpoints of DUOS wireless solutions for Modbus data transmission or TCP/IP communication.



DUOS IoT Gateway

- Ethernet TCP/IP communication
- Modbus TCP/IP communication
- Integration with Tekon IoT Platform
- Scalable network up to 55 smart sensors
- Up to 13 repeaters in series
- IP40 protection
- AES-128 bits data encryption

DUOS Gateway

- Modbus RTU via RS485
- Scalable network up to 55 smart sensors
- Up to 13 repeaters in series
- IP40 protection
- AES-128 bits data encryption

Repeater

Wireless signal repeater for network redundancy that ensures an efficient communication in any application.



DUOS Repeater

- Compatible with all smart sensors and gateways
- Up to 13 repeaters in series
- IP40 protection
- AES-128 bits data encryption

uGateway

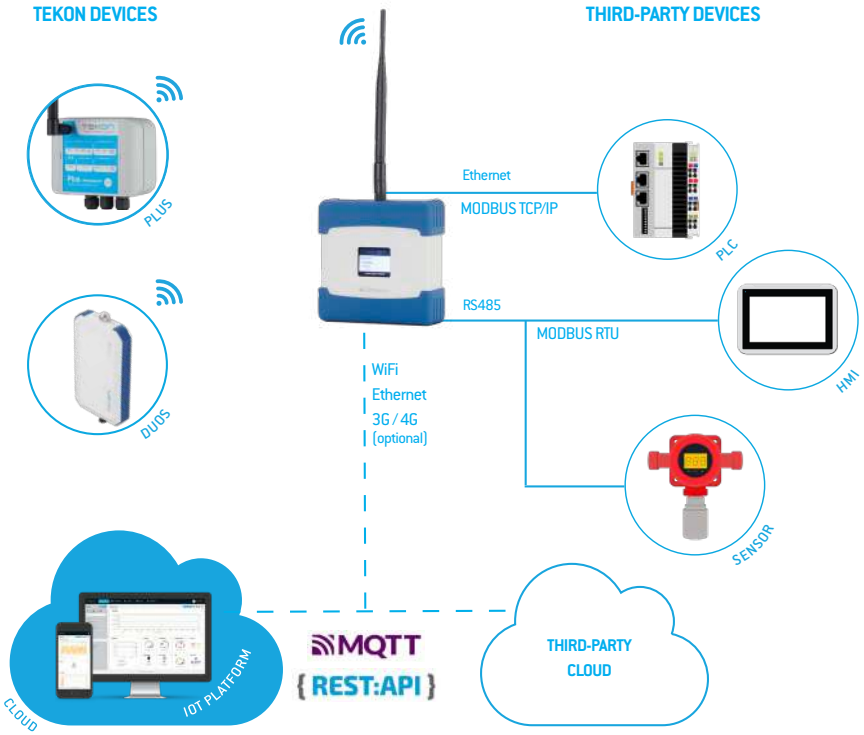
Smart Industrial IoT Gateway

UNIVERSAL IoT GATEWAY

IIoT MADE SIMPLE!



COLLECT, RECORD, SEND AND ANALYZE



TECHNICAL SPECIFICATIONS

Processor : Arm Quad Core Cortex-A72 64-bit SoC

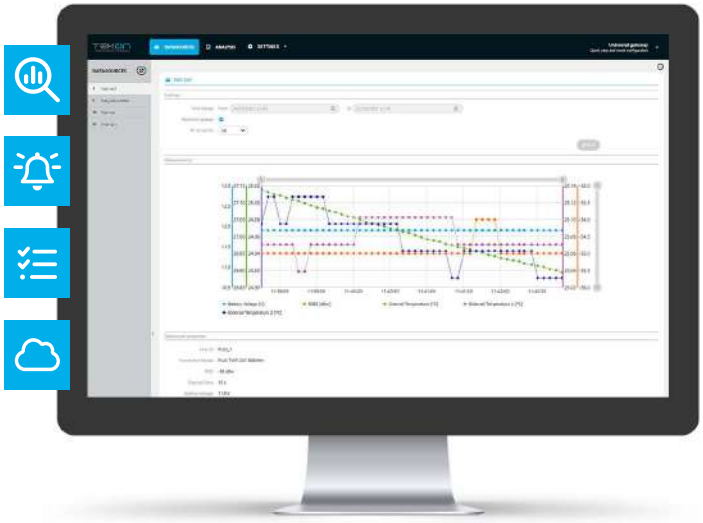
I/O: WiFi LAN: 2.4 GHz
Radio wireless interface 868/915MHz (used by Tekon transmitters)
Mobile: 3G/4G cellular Modem (optional)
Serial: RS-485
Ethernet: 100/1000 Mbps

Memory: 16 GB eMMC flash

Protocols: Modbus RTU, Modbus TCP/IP, MQTT

User interface

Through the browser-based user interface, the transmitted data offers users the highest level of transparency. Accessing product data during development enables rapid planning and reduces timelines. Processes become measurable, enhancing production flexibility.



Data analysis

Real-time alarms and notifications

Device management

IoT platform connectivity

Open solution for third-party systems

Modbus MQTT Node-RED

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