daviteq

WIRELESS SENSORS & ACTUATORS ECOSYSTEM




TYPE OF MEASUREMENTS & CONTROLS

TEMPERATURE

Built-in sensor or RTD input or Thermoucouples input for measuring temperature.

HUMIDITY

Built-in digital relative Humidity sensor for measuring environment humidity.

PRESSURE

Built-in digital differential pressure sensor for measuring pressure for clean room.

ANALOG SIGNAL

02-channel analog input 0..10VDC or 4..20mA for any sensors, process instrumentations.

DIGITAL SIGNAL

02-channel dry-contact digital input for detecting logic / counting OR relay outputs for controls.

AC CURRENT

01-channel 5A AC current measurement for power monitoring.

FEATURES

TRANSMISSION RANGE

- Long range transmission Maximum 1000m line of sight
- Dependent on data rate and height of antenna

BATTERY POWER

- Up to 10-year service life
- Based on configuration of log frequency
- Battery low warning

DATA RATE

Wireless data tranmission rate is up to 50 kbps

SUB-1GHZ TECHNOLOGY

Sub-1GHz
Robustness, long range

High performance, long range wireless and ultra-low power consumption based on sub-1Ghz technology developed by Texas Instruments

COMPLIANCE STANDARDS

ETSI FCC ARIB

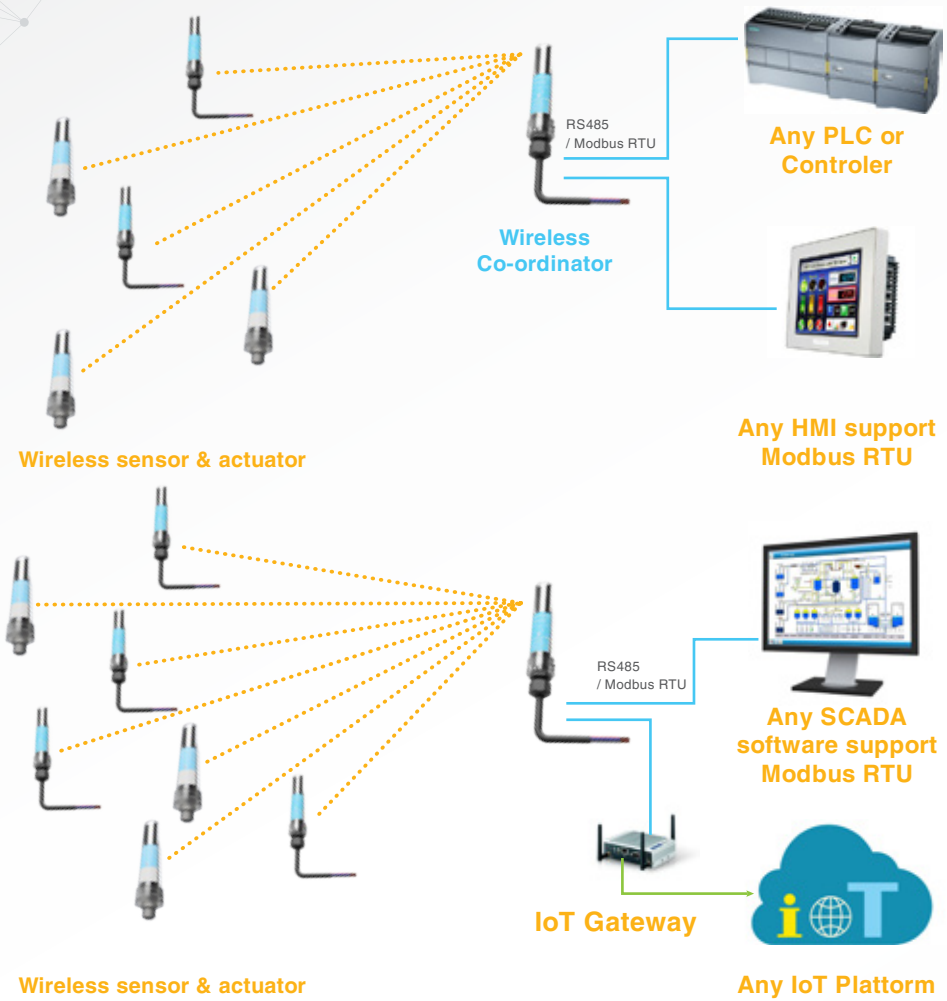
- ETSI EN 300 220, EN 303 204 (Europe)
- FCC CFR47 Part15 (US)
- ARIB STD-T108 (Japan)

AES 128 SECURITY

AES

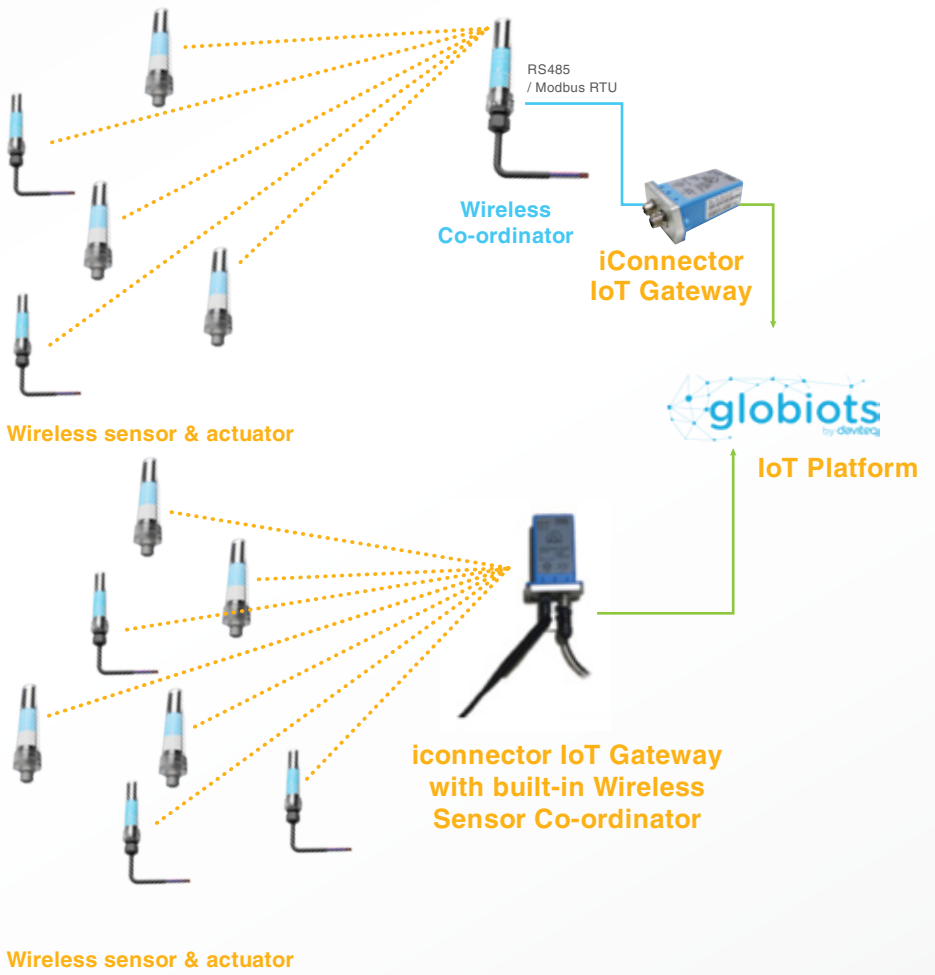
Secure data with symmetric encryption algorithm Advanced Encryption Standard 128

WIRELESS SENSOR & ACTUATOR NETWORKS



Wireless sensors connect wirlessly to sensor coordinator. Each wireless coordinator could communicate up to 30 wireless sensors. Wireless coordinator connects upward to different types of device, system and network such as Controller/PLC, HMI, SCADA software or IoT gateway/IoT Platform of any suppliers.

WIRELESS NETWORKS WITH GLOBIOTS IoT PLATFORM



Each wireless coordinator could communicate up to 30 wireless sensors. The wireless coordinator is external module or integrated module in iConnector. The external coordinator connects to iConnector through port RS485 Modbus RTU. iConnector communicates with Globiots IoT platform through cellular network or wifi network

1. Wireless sensor and actuator

No.	Item Code	Description	Application	Product Photo
1.1	WS433-M12F	433Mhz Wireless sensor tag, without battery, with M12-female connector, mounting bracket	To connect below sensor modules via M12 connector	
1.2	ADP-11	Ambient Differential Pressure Sensor Module, +/- 125 Pa, 3.0% Reading accuracy, M12-male connector	To monitor positive pressure of clean room	
1.3	PPS	Process Pressure Sensor Module, Gage/Absolute/Sealed gage pressure, Range from -1 .. + 35 bar, 0.5% accuracy, M12-male connector	To monitor pressure in process factory	
1.4	ATE-11	Compact digital temperature probe, M12-male connector	To monitor ambient temperature	
1.5	ATE-12-300	300mm cable digital temperature probe, M12-male connector	To monitor ambient temperature with extension cable	
1.6	ATH-11	Compact digital humidity/temperature probe, M12-male connector	To monitor ambient humidity/temperature	
1.7	ATH-12-300	300mm cable digital humidity/tempera-ture probe, M12-male connector	To monitor ambient humidity/temperature with extension cable	
1.8	PPT-11	1-channel Pt100/Pt1000 RTD sensor module, M12-male connecto	To monitor the temperature value from RTD sensor in process factory	
1.9	PTC-11	1-channel Thermocouples type K, J, T, N, S, E, B and R sensor module, M12-male connector	To monitor the temperature value from thermocouples sensor	
1.10	WS433-MA-11	Wireless 1-channel 0..20mA current input Sensor, IP67, AA 1.5V battery, PG9 Cable gland with 0.5m cable	To monitor 4-20mA current output of Process Instrumentation (Flow, Level, Pressure, Temperature, pH, Conductivity…)	
1.11	WS433-VL-12	Wireless 2-channel 0..3 VDC voltage inputs Sensor, 3.3V supply for OEM sensor board, IP67, AA 1.5V battery, PG9 Cable gland with 0.5m cable	To monitor 0..3V outputs of OEM sensor from other manufacturers	
1.12	WS433-DI-12	Wireless 2-channel Digital input Sensor, dry-contact or active voltage max 3.3V, counter/state functions, IP67, AA 1.5V battery, PG13.5 Conduit/Cable gland with 0.5m cable	To monitor the logic status or counting for a switch, button or digital output of a machin	
1.13	WS433-AC-11	Wireless 1-channel AC current sensor, max 5A, IP67, AA 1.5V battery, PG13.5 Conduit/Cable gland with 0.5m cable	To monitor the AC current load of a machine, motor… to calculate runtime…	

1. Wireless sensor and actuator (continued)

No.	Item Code	Description	Application	Product Photo
1.14	WS433-RL-14	Wireless 4-channel Relay output SPST, 0.5A@125VAC/1.0A@30VDC contacts, IP67, 8..50VDC supply, PG13.5 Conduit/Cable gland with 0.5m cable	For remote control of pump, valve, motor, door…	
1.15	WS433-RL-12	Wireless 2-channel Relay output SPDT, 5.0A@250VAC contacts, IP67, 8..50VDC supply, PG13.5 Conduit/Cable gland with 0.5m cable	For remote control of pump, valve, motor, door…	
1.16	WB433-RS485-S1	Wireless Bridge RS485 Slave with internal antenna 3 dbi, with 0.5 m cable and M12-Female connector for using with meter box	To connect to device, meter, equipment with RS485 Modbus RTU	

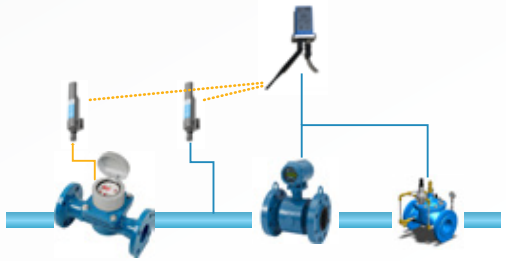
2. Wireless sensor co-ordinator and IoT gateway

No.	Item Code	Description	Application	Product Photo
2.1	WB433-RS485-M1	Wireless Bridge RS485 Master with external antenna 5 dbi, with 0.5 m cable and M12-Female connector for using with iConnector box	To use with item WB433-RS485-S1	
2.2	WR433-03	Wireless sensor co-ordinator with external antenna 5 dbi, 0.5m cable M12-Female connector, 4-pin, coding A, RS485 ModbusRTU	To work with PLC, HMI, SCADA, IoT Gateway… via S485/Modbus RTU	
2.3	STHCISG02DB/ WR433-02	iConnector 3G dual band, internal antenna, built-in wireless sensor coordinator, external antenna 5 dbi, power adapter 220VAC EU Plug	To work with Globiots IoT platform	
2.4	STHC-ISG02DB-NC	iConnector 3G dual band, internal antenna, with 02 relays, no M12 cables	To work with Globiots IoT platform To connect to WR433-03 or any device with RS485/Modbus RTU	
2.5	STHC-ISG02-NC/ GPS	iConnector 3G penta band, internal antennas, with 02 relays, no M12 cables, with GPS	To work with Globiots IoT platform To connect to WR433-03 or any device with RS485/Modbus RTU	
2.6	STHC-ISGWF	iConnector WiFi, internal antenna, with 02 relays, additional M12-Male RS485 port, no M12 cables	To work with Globiots IoT platform To connect to WR433-03 or any device with RS485/Modbus RTU	
2.7	STHC-ISGETH	iConnector Ethernet, with 02 relays, additional M12-Male RS485 Port, no M12 cables	To work with Globiots IoT platform To connect to WR433-03 or any device with RS485/Modbus RTU	
2.8	PWR-24-125-1	3W/24VDC power adapter, Din-rail type, input 85-264VAC, for wireless bridge or other low power devices	To supply power for WR433-03 or WS433-RL-XX	

WAREHOUSE MONITORING

- Be installed with battery-operated wireless temperature sensor or/and wireless humidity sensor
- Using wireless sensor co-ordinator with RS485 output to connect to PLC, PC or IoT Gateway OR using Daviteq IoT Gateway with built-in RF Receiver

WATER NETWORK MONITORING



- Wireless connection of mechanical water meter and pressure transmitter to Daviteq IoT Gateway with built-in RF Receiver
- RS485 modbus RTU wired connection of electromagnetic flow meter and pressure reducing valve to Gateway
- Optional external power supply from solar panel or grid

PORTABLE MONITORING

- Using gateway with built-in temperature/humidity sensor
- Available LiPo battery with 8-day operation for single charge
- Be placed inside non-metal material or half non-metal box OR be placed outside metal material box with sensor head inside

REMOTE CONTROL

- Using Wireless relay output module for Remote controls of irrigation (pump, valve, door...)
- Additional iConnector 3G dual band with integrated wireless sensor co-ordinator
- Optional external power supply from solar panel or grid

ENERGY MONITORING

- Be installed with energy meter and wireless bridge RS485 slave
- Additional iConnector 3G/wifi with wireless brige RS485 master
- Applicable to electricity, water, fuel, steam, gas….

CLEAN ROOM MONITORING

- Be installed with battery-operated wireless temperature sensor or/and wireless humidity sensor and/or wireless differential pressure sensor
- Additional iConnector 3G dual band with integrated wireless sensor co-ordinator
- Applicable in semi-conductor, pharmaceutical, medical, food

7-STEP TO BUILD A WIRLESS SENSOR NETWORK

Select wireless sensor
Choose wireless sensor type to suite application, please refer to the List of wireless sensors

Position sensor
Define the location of each sensor on the layout of your building/factory to specify the distance between sensors and Coordinator. If the distance is out of range of sensors, please install additional coordinator

Prepare host device
Make sure coordinator could connect to host devices (PLC, HMI, PC, IoT Gateway... any device have RS485/ ModbusRTU master)

Ordering the sensors and coordinators
Contact Daviteq to order product

Install sensor and devices
Install the sensors and Co-ordinators at pre-defined location

Configure coordinator
Configure the coordinator to accept the connections from wireless sensors by using Globiots software to configure OR using any Modbus Tool Software + Configuration cable

Power Up
After configuration, insert battery to sensor, then sensor will connect and transmit data to Coordinator

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