Industrial IoT sensor gateway brings intelligence to your processes

Industries are turning to Industrial IoT gateway (IIoT) to empower their Internet of Things applications. These gateways can get information streams from hundreds of individual smart sensors and IoT nodes over networks like Ethernet, WiFi and GSM and pipe them to the cloud system where the information is stored, processed and analyzed.
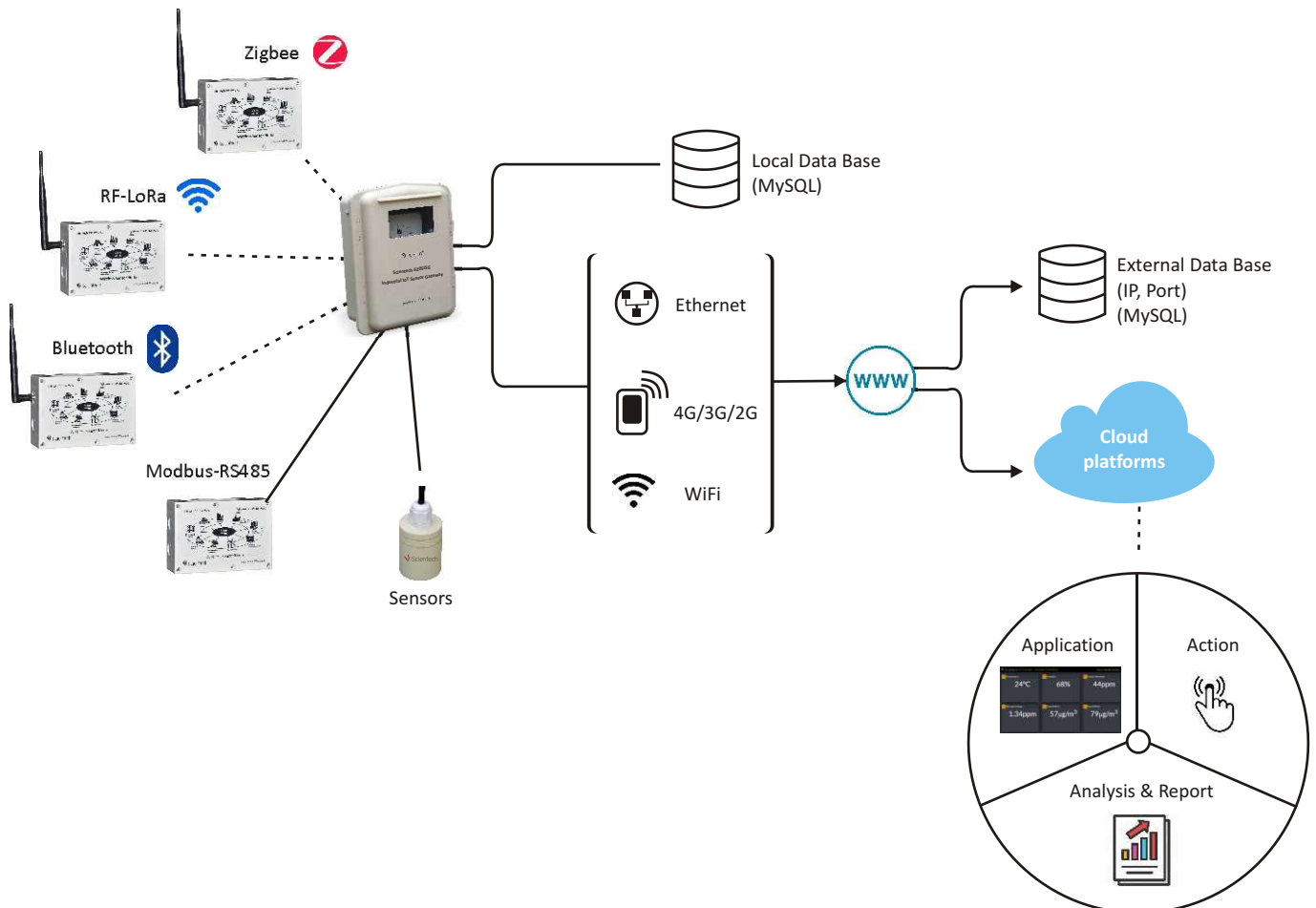
Scientech Industrial IoT Sensor Gateway is a bridge between smart sensors, IoT devices and the cloud or data center based IoT platforms. It is ideal for industrial control and monitoring and provides extensive wireless and wired connectivity. Users can connect Zigbee, RF433MHz and RS485 network to the cloud via Ethernet, WiFi and GSM. It stores data in local or external cloud platforms.

Feature highlights

- Optimized for industrial environments
- Industrial quality and reliability
- Outdoor ready to deploy solution
- Easily programmable. Uses PYTHON/JAVA/C/C++
- Supports HTTP, MQTT, TCP and application layer protocol
- Cloud ready gateway with Node.js script
- Modular software and hardware architecture
- Local data storage with edge computing
- Supports Microsoft Azure IoT and AWS Greengrass
- Analog & Digital sensors interface

- Inbuilt temperature sensor
- Shock, vibration, dust and humidity resistant
- Hardware protection against unauthorized boot from external storage
- Linux based core software
- Wide operating temperature range of -40°C to 80°C
- Custom I/O expansions
- DIN-rail and wall / VESA mounting
- Designed in IP65 rugged housing

Applications

- Factory Automation
- Logistics Automation
- Medical and Healthcare
- Building Automation & Security

- Utilities
- Power & Energy
- Precision Agriculture
- Intelligent Transportation Systems

- Railways
- Oil & Gas
- Monitoring & Control Systems

Scientech

Technical Specifications

System-on-chip	:	Broadcom BCM2837
Connectivity	:	802.11 b/g/n Wireless LAN Bluetooth 4.1, Zigbee, USB & Ethernet
Clock Frequency	:	1.2 GHz
Architecture	:	64 bit quad-core ARM Cortex A53 Processor
Memory	:	32GB Flash, 1GB LPDDR2 SDRAM
Operating system	:	Linux
Sensor Interfaces	:	6 Analog Inputs, 6 Digital Inputs/Outputs
ADC resolution	:	10 bits (optional 16 bits)

Radio Interfaces

WiFi	:	802.11/b/g/n
Bluetooth	:	BLE 4.0
Ethernet	:	1 x Ethernet 10/100 Mbit/s
USB	:	1 x USB Host
GSM/GPRS	:	2G/3G/4G (SIM slot available)
Zigbee	:	2.4 GHz
RF (LoRa)	:	433/867 MHz
Wired	:	Modbus RS485
Antennas	:	1x cellular, 1 x Zigbee, 1 x RF
Display	:	HDMI port

Power

Operating Voltage	:	230V ±10% 50Hz

Software

IoT Framework	:	Oracle/Open JDK Java SE Embedded Version 8 - Software Framework (Java/OSGi)
Cloud Platform	:	Azure, AWS & other supported

Package contains

Scientech 6205ISG	: 1 no.
Wireless keyboard & mouse	: 1 no.
HDMI to VGA converter	: 1 no.
5 Pin Din cable (Female)	: 2 nos.
SS150 Temperature & Humidity sensor	: 1 no.

Optional Cloud/Server

Online Cloud/Server (Scientech 6205C)

This is online server. In this user will get one static IP address, one domain (Website) name and one database along with email address. Annual subscription for domain name and IP address required.

Optional sensors

A. Water monitoring

SS154 - Temperature sensor

SS158 - Water conductivity

SS181 - Turbidity sensor

B. Soil & Environmental monitoring

SS157 - Watermark soil moisture

SS154 - Temperature sensor

SS160 - Dust sensor

SS165 - CO_2 sensor

SS166 - O_2 sensor

SS180 - Solar radiation sensor

and many more.

Ordering Information (optional)

Product Name	Model No.
1. Industrial IoT Sensor Gateway	Scientech 6205ISG
2. Solar power pack	Scientech 6205SSP
3. Wireless Sensor Node (Zigbee)	Scientech 6205N
4. Wireless Sensor Node (Bluetooth)	Scientech 6205NB
5. Wireless Sensor Node (LoRa)	Scientech 6205NL
6. Wireless Sensor Node (RS485)	Scientech 6205NR
8. Online Cloud/Server	Scientech 6205C

Scope of learning for educational institutes-

Introduction to Internet of Things (IoT)

- Definition, History, IoT architecture, Importance in society.

Operating System used for IoT

- Linux, Installing and Configuring, file system, Security, System Network.

Shell Scripting Programming for IoT

- Introduction, Creating, Flow control, advanced Shell features.

Programming language used in IoT

- C , C++ Programming, PHP and Python.

Hardware interfacing for IoT

- Sensors and Actuators interfacing.

Communication Protocol study for IoT

- USB, Ethernet, MQTT Protocol, Wi-Fi AP and Router interfacing.

Important note:

- To perform actual/remote cloud application and configuration user must have Static IP based server with MySQL Database/Php/Java/Html software.

- To make GSM gateway, users must have own SIM card with data balance.

Solar operated Industrial IoT Sensor gateway (optional)

Subject to Change