

Industrial IoT Environment Sensor

Model: EVS-101 With Temperature, Humidity, and Gas Sensor NH3 and H2S

System Feature

- Wi-Fi/Ethernet Connected Industrial IoT Device
 - Once system power up, it will auto create a persistence connection to the server without user intervention.
 - Server can be placed either at public cloud, private cloud or LAN.
 - Device able to work behind firewall.
- Network link with MQTT Broker Server
 - Open Standard protocol and readily available either using paid version or free version of MQTT Broker Server.
 - Messaging format based on JSON format.
 - JSON messaging format is supported by various programming language and easily integrated to any existing system.
- Direct link with USB Connection
 - The device also can be configured to use USB Connection without connecting to the network.
 - Suitable for direct connection with PC/Host system locate beside the device.
 - Just add an extra JSON layer of wrapper to wrap around the same JSON messaging standard used in the MQTT Broker Server communication.
- Thus provide an easy path for future system expansion, from localized system architecture to network-based system architecture.
- Device's sensors with MEMS
 - Build in with Micro-electromechanical systems sensors (MEMS) technology
 - Highly accurate and fully digital output direct from the sensors.
 - Sensors are calibrated and accuracy are guarantee by sensor manufacturer.
- TFT display
 - Colorful TFT display design



- Eye-caching of the sensor reading from a far.
- Auto fetch real time clock from Internet Time Server.
 - Auto connect with the Internet Time Server to fetch the Real time value (EPOCH Time) when network is connected and internet link is available.
 - Manually set time by server if internet link is not available.
 - Auto readjust the time drift periodically.
 - Append the EPOCH time to all the message.
- Easy setup and configuration
 - System configures with Android Apps.
 - Provide detail device properties, E.g., model number, version number, etc.
 - Connectivity selection either using Wi-Fi, Ethernet or USB Link.
 - Upload WPA Enterprise Server private/public key.
 - Server IP/Domain Name Setup.
 - DHCP/Fix IP.
 - Internet Time Server Setting.
- Other
 - Build in with ventilation fan to suck in surround air to have better gas sensing sensitivities.
 - Industry grade enclosure for better protection and durability.

Specification

Power and Enclosure Specification

<i>Input Voltage</i>	DC 5V through USB-C Connector
<i>System Power Consumption</i>	5W Max
<i>Operation Humidity</i>	10%-95%RH
<i>Operation Temperature</i>	25°C to 85°C
<i>Storage Humidity</i>	10%-95%RH
<i>Storage Temperature</i>	0°C to 85°C
<i>Enclosure Dimension</i>	68mm (W) x 100mm (L) x 43mm (H) (Exclude sensor wire and mounting hook, 125mm(L) with mounting hook)
<i>Enclosure Type</i>	Durable Industrial ABS and Acrylic Casing with build in ventilation fan

Sensors Specification

<i>Temperature and Humidity Sensor</i>	Model SHT-Cx By Sensirion
<i>Temperature Accuracy</i>	±1°C
<i>Relative Humidity Accuracy</i>	2.5%RH
<i>Operating Range</i>	0~100%RH, -40~125°C

Gas Sensors Specification

<i>NH3 and H2S Gas Sensor</i>	Electrochemical Gas Sensor fully calibrated by sensor manufacture
<i>Resolution</i>	1ppm
<i>Range</i>	NH3: 0~50PPM, H2S: 0~5000PPM
<i>Operating Range</i>	15~90%RH, -20~50°C
<i>Initial Start-up Setup Period</i>	Less than 3min
<i>Response Period</i>	Less than 30 second
<i>Recovery Period</i>	Less than 60 second

Wi-Fi Specification

Frequency	2.4Ghz~2.5Ghz
Supported Wi-Fi Protocol	802.11 b/g/n
Antenna Type	Internal
Security Protocol	WPA/WPA2 personal, WPA/WPA2 Enterprise
Encryption Protocol	WEP/TKIP/AES

Ethernet Specification

Speed	RJ45, 10/100 Mbps
-------	-------------------

USB Type-C Port Specification

Supported Protocol	USB Virtual Comm Port
Baudrate	115200 Baud, 8bit, no-parity, 1 stop bit

Backend Server Connectivity

Server Connection	MQTT Broker with TCP, TCP-TLS, Web-Socket Connection
Server Port	User Definable
Encryption/Security	Public CA, Self-Signed Certificate
Messaging Format	JSON
Other	NTP auto RTC update

Device Outer Dimension

