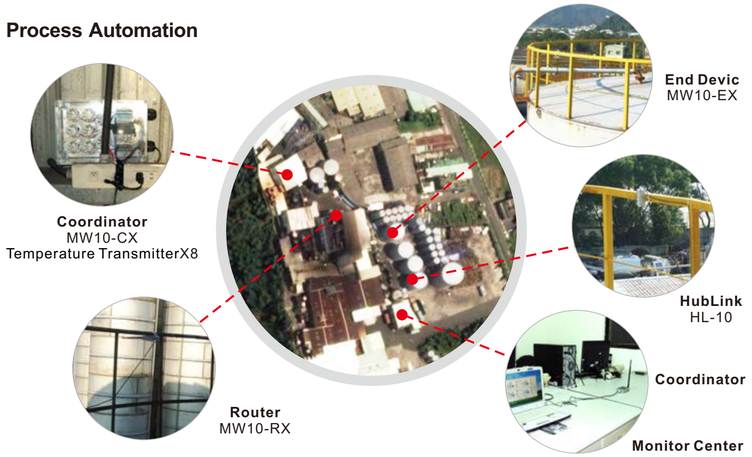
FineTek

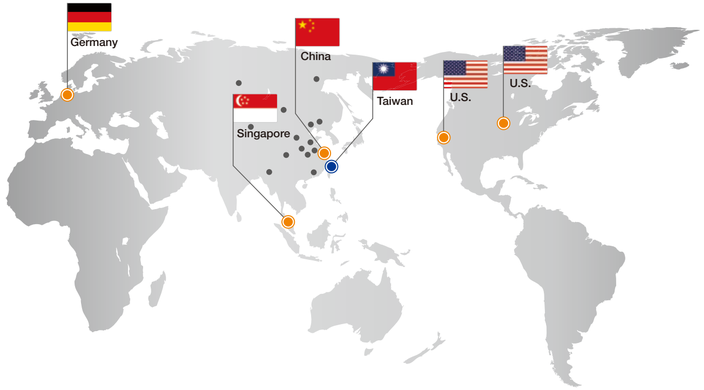
ISO-9001:2000 Certified

## Process Automation




## Geography Monitoring


# Global Network




### Asia

**Taiwan**

FINETEK CO., LTD. - Taipei Head Quarter
No.16, Tzuchiang St., Tucheng Industrial Park
New Taipei City 236, Taiwan
TEL: 886-2-2269-6789
FAX: 886-2-2268-6682
EMAIL: info@fine-tek.com

FINETEK CO., LTD. - I-Lan Factory
TEL: 886-3-990-9669
FAX: 886-3-9909659

FINETEK CO., LTD. - Taichung Brance
TEL: 886-4-2337-0825
FAX: 886-4-2337-0836

FINETEK CO., LTD. - Kaohsiung Branch
TEL: 886-7-333-6968
FAX: 886-7-536-8758

**China**

FINE AUTOMATION CO., LTD. - Shanghai Factory
No.451 DuHui Rd, MinHang District, Shanghai,
China 201109
TEL: 86-21-6490-7260
FAX: 86-21-6490-7276
EMAIL: info.sh@fine-tek.com

**Singapore**

FINETEK PTE LTD. - Singapore Office
No. 60 Kaki Bukit Place, #07-06 Eunos
Techpark 2 Lobby B, Singapore 415979
TEL: 65-6452-6340
FAX: 65-6734-1878
EMAIL: info.sg@fine-tek.com

### North America

**California, U.S.**

APLUS FINETEK SENSOR INC. - US Office
355 S. Lemon Ave, Suite D, Walnut,
CA 91789
TEL: 1 909 598 2488
FAX: 1 909 598 3188
EMAIL: info@aplusfine.com

**Illinois, U.S.**

APLUS FINETEK SENSOR INC.
TEL: 1 815 632-3132
FAX: 1 815 716 8464
EMAIL: info@aplusfine.com

### Europe

**Germany**

FineTeK GmbH - Germany Office
Frankfurter Str. 62, OG D-65428
Ruesselsheim, Germany
TEL: +49-(0)6142-17608-0
FAX: +49-(0)6142-17608-20
EMAIL: info@fine-tek.de

FineTek

**Distributor:**

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## Wireless Monitoring Total Solution

www.fine-tek.com

FineTek

## Product Introduction

**End device:**

It supports every single sensor to communicate through wireless mode directly

- Power Source: DC 9~30V
- Signal Input Interface: RS-485*1
- RF Interface: 3.5mm SMA Female
- RF Band: ISM Band 2.4G

**Router:**

It collects data from end nodes and communicates with backbone monitoring systems. They increase broadcast transmission distance and implement peer-to-peer communication.

- Power Source: DC 9~30V
- RF Interface: 3.5mm SMA Female connector (ANT)
- RF Band: 2.4G ISM Band

**Coordinator:**

The devices of Wireless Monitoring Total Solution are managed with the MMS. It allows users to create a network, add device to a network, defines parameters and monitor measuring data.

- Power Source: DC 5V
- RF Interface: 3.5mm SMA Female connector (ANT)
- RF Band: ISM Band 2.4G
- Interface: USB

**HubLink:**

These devices are operated in Wireless or Wired versions for expanding connected to measuring sensors. 4 ports 4-20mA or 4 ports RS-485, 4 ports 1-wire and 4 port I/O communication is selectable to meet demands of applications.

- Power Source: DC 9~30V
- Signal Input Interface:
  1. RS-485*4 3. 1 Wire* 4
  2. 4-20mA*4 4. I/O* 4
- RF Interface: 3.5mm SMA Female connector (ANT)
- RF Band: 2.4G ISM Band or Quad band: GSM



## System Structure Diagram

**Features**

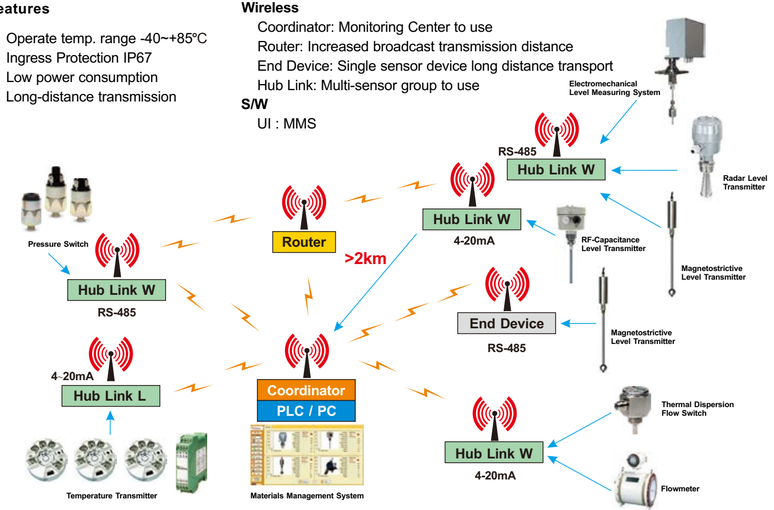
- Operate temp. range -40~+85℃
- Ingress Protection IP67
- Low power consumption
- Long-distance transmission

**Wireless**

Coordinator: Monitoring Center to use
Router: Increased broadcast transmission distance
End Device: Single sensor device long distance transport
Hub Link: Multi-sensor group to use

**S/W**

UI : MMS




## Specification: Coordinator/ Router/ End device

**Features**

- Comply with IEEE802.15.4
- Max. numbers of connecting nodes: 65535
- 1 set of RS-485 communication interface
- Transmission distance: 2KM (Visible range/ 7dBi ANTENNA )
- Replacement of wire monitoring

| | | | |
|---|---|---|---|
| **Operating Power** | 9~30Vdc | **Transmission Power Rate** | ±12dBm |
| **Operating Temperature** | -40~80°C | **Receiver Sensitivity** | -100dBm(PER≤1%) |
| **Storage Temperature** | -40~85°C | **Impedance Matching** | 50Ω |
| **Operating Frequency** | 2405~2480MHz | **Transmit Current Consumption** | 34~36mA |
| **Numbers of Channels** | 16CH | **Receive Current Consumption** | 27~30mA |
| **Interval of Channel** | 5MHz | **Serial Communication Interface** | RS-485 |
| **Frequency Offset** | ±15MHz | **UART Baud Rate** | 9600/3800/57600 b/s (Default 9600b/s) |
| **Frequency Change Mode** | O-QPSK | | |
| **Data Transmission Rate** | 250kb/s | **Dimensions(LxWxH)** | 146.37x66.37x30mm |



## Specification

Comply with EIA-485 standard, 4 sets of input, 1 set of output, available for multi to one transmission
Optional with wireless module (ZigBee or GSM), suitable for wireless network establishment
Can connect with FineTek UI (MMS)

| | |
|---|---|
| **Communication Interface** | RS-485/ZigBee/GPRS |
| **Sensor Interface** | 4 sets of RS-485/ 4 sets of 4~20Ma (Each set is independent and isolated) |
| **Operating mode** | Rs485 Asynchronous half-duplex |
| **Transmission format** | Compatible to ModBus Master/Slave Function |
| **Baud rate** | 1200~57600 b/s ( wireless 9600~57600 b/s) |
| **Communication distance** | RF transmission distance 2 KM (visible range/ 7d Bi ANTENNA) |
| **Power input** | 9~30Vdc |
| **Current input** | 2A |
| **Power output** | 9~30Vdc |
| **Current output** | 400 mA / CH |
| **Storage temperature** | -40~80°C |
| **Operating temperature** | -40~80°C |
| **Static electricity protection** | IEC61000-4-2 ESD 15kV Air, 8kV contact |
| **Dimensions** | 220 x 160 x 55 (without antenna and connector) |
| **IP rating** | IP67 |

## Wireless System

1. Zigbee

| Characteristic | Min. | Typical | Max. | Units |
|---|---|---|---|---|
| **Operating Frequency Range** | 2405 | | 2480 | MHZ |
| **Frequency Error Tolerance** | -20 | | +20 | KHz |
| **Spread Spectrum Method** | | Direct Sequence | | |
| **Modulation Type** | | QPSK | | |
| **Number of RF Channels** | | 16 | | |
| **RF Data Transmission Rate** | | 250 | | kb/s |
| **Symbol Rate Tolerance** | | | 120 | ppm |
| **RF Channel Spacing** | | 5 | | MHz |
| **Receiver Sensitivity, 1% PER** | | 100 | | dBm |
| **Upper Adjacent Channel Rejection, +5 MHz** | | 51 | | dB |
| **Lower Adjacent Channel Rejection,-5 MHz** | | 49 | | dB |
| **Upper Alternate Channel Rejection, +10 MHz** | | 55 | | dB |
| **Lower Alternate Channel Rejection,-10 MHz** | | 54 | | dB |
| **Maximum RF Transmit Power** | -13 | | 12 | dBm |
| **Transmit Power Adjustment** | | 25 | | dB |
| **Optimum Antenna Impedance** | | 50 | | Ω |

Combine with 7dBi antenna that direct vision range over 2.0 km

2. GSM
Quad band:GSM850/900/1800/1900 MHz