

# WxS8800-334062

LoRaWAN UV radiation Smart Sensor & RTU 2-in-1 Terminal

## Product Highlights

- ❖ LoRaWAN UV radiation Smart Sensor & RTU 2-in-1 Terminal
- ❖ 2-in-1 smart sensor(s) and RTU terminal product
- ❖ Optional DC 12V power supply
- ❖ Optional Battery power supply (ER34615H 19,000mAh/ER34615M 13,500mAh)
- ❖ It can monitor the ultraviolet radiation of 0~5mw/cm<sup>2</sup>, with stable performance
- ❖ Expandable with 2 of 14 types PSS gas sensors with aluminum Sleeve enclosure
- ❖ Up to 8 working simultaneously including sensors and controllers; Customization needed if more than 8 working at the same time
- ❖ RTU controlling signal and interfaces OD/PWR triggered by sensor(s) data or OTA command for solenoid valve or other devices
- ❖ Optional (Public/Private) IoT cloud platform PolySuite iView and LoRaWAN network iServer
- ❖ LoRaWAN Compliance

## Products includes following parts:

- ❖ WxS8800 LoRa Smart IoT and RTU 2-in-1 Terminal
- ❖ ENC-102001 WxS Series 4.0 Enclosure(φ145x90x55mm, IP67)
- ❖ PSS-334062 UV radiation sensor (Range:0~5mw/cm<sup>2</sup>, indoor,DC12V)

## Configuration Tool

- ❖ iEdge4.0 WxS IoT Terminal products can be configured with PolySuite software-visual based Configuration Tool or CLI interface command or OTA via IoT platform, such as PolySuite PaaS platform iView.
- ❖ Download link <http://ota.polysense.online/wincc/ConfigurationTool.rar>

## Product Image

- ❖ The shell is WxS Series 4.0 Enclosure(φ145x90x55mm, IP67) , as shown in the figure below
- ❖ The sensor is externally connected. See the following document PSS-334062 for the sensor picture



# WxS8800

## LoRa Smart IoT and RTU 2-in-1 Terminal

### Related Products

| Product . | Interf.                                       | Descriptions                                                                           |
|-----------|-----------------------------------------------|----------------------------------------------------------------------------------------|
| WxS8800   | 11MPI+RS485+OD*2+PWR*2                        | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx00, PSB-BD01, & Enclosure) |
| WxS8801   | RS485+OD*2+PWR*2                              | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx01, PSB-BD01, & Enclosure) |
| WxS8802   | 0-20mA*1+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx02, PSB-BD01, & Enclosure) |
| WxS8803   | 0-20mA*4+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx03, PSB-BD01, & Enclosure) |
| WxS8804   | 0-3.3V*2+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx04, PSB-BD01, & Enclosure) |
| WxS8805   | 0-3.3V*4+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx05, PSB-BD01, & Enclosure) |
| WxS8806   | 0-10V*2+OD*2+PWR*2                            | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx06, PSB-BD01, & Enclosure) |
| WxS8807   | 0-10V*4+OD*2+PWR*2                            | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx07, PSB-BD01, & Enclosure) |
| WxS8808   | PT100*1+OD*2+PWR*2                            | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx08, PSB-BD01, & Enclosure) |
| WxS8809   | PT100*5+OD*2+PWR*2                            | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx09, PSB-BD01, & Enclosure) |
| WxS880A   | Switch*1+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0A, PSB-BD01, & Enclosure) |
| WxS880B   | Switch*5+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0B, PSB-BD01, & Enclosure) |
| WxS880C   | Unibus*1+OD*2+PWR*2                           | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0C, PSB-BD01, & Enclosure) |
| WxS880D   | Unibus*18+OD*2+PWR*2                          | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0D, PSB-BD01, & Enclosure) |
| WxS880E   | IIC*1+OD*2+PWR*2                              | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0E, PSB-BD01, & Enclosure) |
| WxS880F   | SPI*1+OD*2+PWR*2                              | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0F, PSB-BD01, & Enclosure) |
| WxS880G   | Uart*2+OD*2+PWR*2                             | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0G, PSB-BD01, & Enclosure) |
| WxS880H   | Uart*3+OD*2+PWR*2                             | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0H, PSB-BD01, & Enclosure) |
| WxS880J   | Uart*1+RS485+OD*2+PWR*2                       | LoRa Smart IoT and RTU 2-in-1 Terminal (Inc. WxS88xx, PSM-xx0J, PSB-BD01, & Enclosure) |
| WxS8850   | Ai/Ao/Di/Pi/Ro/IIC/SPI/Ci + RS232/485/Ro/RJ45 | LoRa Smart RTU                                                                         |

### Product Highlights

- ❖ Interfaces supported:
  - MPI:(AIN(0-20mA)\*2, PT100\*1, VIN(0-10V/0-3.3V)\*2, Switch\*1 ,Unibus\*1, IIC \*1, SPI\*1, Uart(3.3V TTL)\*2), RS485\*1
  - RTU interfaces
    - OD\*2 output for external devices controlling
    - PWR\*2 output for external devices/sensors power supply or customization usage
- ❖ 2-in-1 DC(5V/12V)+Battery(3.6V Li-SOCl2 ER34615H/M) Power Supply, DC in priority
- ❖ Up to 8 working simultaneously including sensors and controllers; Customization needed if more than 8 working at the same time
- ❖ Built-in sensor options including:
  - PSS-403011 IIC Temperature and Humidity Sensor (Indoor)
  - PSS-403012 RS485 Temperature and Humidity Sensor (Indoor)
  - PSS-403013 IIC Temperature and Humidity Sensor (IP67,Outdoor)
  - PSS-403014 RS485 Temperature and Humidity Sensor (IP67,Outdoor)
  - PSS-403015 IIC Temperature and Humidity Sensors (Indoor)
  - PSS-403016 RS485 Temperature and Humidity Sensors (Indoor)

- PSS-403017 IIC Temperature and Humidity Sensors (IP67,Outdoor)
- PSS-403018 RS485 Temperature and Humidity Sensors (IP67,Outdoor)
- PSS-403019 IIC Temperature and Humidity Sensors (Indoor)
- PSS-40301A RS485 Temperature and Humidity Sensors (Indoor)
- PSS-40301B IIC Temperature and Humidity Sensors (IP67,Outdoor)
- PSS-40301C RS485 Temperature and Humidity Sensors (IP67,Outdoor)
- PSS-403021 IIC Temperature + Humidity + Barometric Pressure Sensors(Indoor)
- PSS-403022 RS485 Temperature + Humidity + Barometric Pressure Sensors(Indoor)
- PSS-403023 IIC Temperature + Humidity + Barometric Pressure Sensors (IP67,Outdoor)
- PSS-403024 RS485 Temperature + Humidity + Barometric Pressure Sensors (IP67,Outdoor)
- PSS-33B011 RS485 illumination Sensor(Indoor)
- PSS-423011 Uart AQI(PM2.5/10, SO2,NO2, O3, CO,Temp,Humidity) PPM Level Sensors
- PSS-423031 Uart IAQ(PM2.5/10, CO2, HCHO, Temp,Humidity) Sensors
- PSS-423041 Uart IAQ(PM2.5/10, CO2, TVOC, Temp,Humidity) Sensors
- PSS-423051 Uart IAQ(PM2.5/10, CO2, HCHO, TVOC,Temp,Humidity)Sensors
- PSS-318711 Uart GPS/Beidou Positioning Sensor
- PSS-318712 RS485 GPS/Beidou Positioning Sensor
- PSS-319311 0-3.3V Tilt / Inclination Sensor (SHM- Structure Health Monitoring)
- PSS-333051 0-3.3V PIR Sensor (3-4 Meters)
- PSS-333052 0-3.3V PIR Sensor (up to 20 Meters)
- PSS-334061 0-3.3V UV Sensor (Range:0-15 grade, outdoor)
- PSS-355051 Switch Uni-Call Button & Controller
- PSS-362011 Uart Sound/Noise Sensor (30~130dB range, Indoor)
- All Gas Sensors with Product No. PSS-21xxxx

#### ❖ Support 1-8 enclosure externally connected sensors

- All enclosure external PSS sensors w/o separate power supply

#### ❖ RTU OD & PWR(PWM) output control interfaces

- OD output control interface for controlling external devices such as electric relay,AC contactor, beeper, draught fan, lamps and lantern etc.
- PWR\*2 output, one default for external devices/sensors power supply voltage output, one with 3.3V voltage; or customization usage,such as for PWM port
- PWR port signal can be used as PWM output to control stepper moter or lamp
- Sensor(s) data or OTA Command triggered OD/PWR controlling signal & interfaces

#### ❖ Power supply options:

- PSB-BT01 WxS Terminal Battery Power (3.6VDC Output) (3.6V Li-SOCI2 ER34615H/M)
- PSB-BT02 WxS Terminal Battery Power Board (3/5/9/12VDC Output) (3.6V Li-SOCI2 ER34615H/M)
- PSB-DC01 WxS Terminal DC Power Board (Inc. PSP-DC012V)
- PSB-BD01 WxS Terminal Battery (3.6V Li-SOCI2 ER34615H/M) & DC Power Board(Inc. PSP-DC012V)
- Battery capacity ER34615H: 19000mAh/ER34615M: 13500mAh

- ❖ iEdge 4.0 terminal enclosure options
  - ENC-102001 WxS Series 4.0 Enclosure( $\phi$ 145x90x55mm, IP67)
  - ENC-102002 WxS Series 4.0 Poromeric Enclosure( $\phi$ 145x90x59mm)
  - ENC-102003 WxS Series 4.0 High Poromeric Enclosure( $\phi$ 145x90x70mm)
- ❖ Terminal and sensor parameters configurable with Configuration Tool running on PC
  - LoRaWAN ISM Global Bands Supported and SW Configurable
  - LoRaWAN Uplink Transmission Cycle Configurable
  - Sensor Parameters Configurable
  - Sensor Data Report Cycle Configurable
- ❖ FOTA (Over The Air) firmware upgrade, including to upgrade loader and application images
- ❖ OTA (Over The Air) terminal running parameters supported including output signal
- ❖ Low power consumption, years of battery operational life with 3.6V Li-SOCl<sub>2</sub> ER34615H/M Battery with various scenarios
- ❖ Integrated internal antenna, or optional external SMA/IPEX antenna
- ❖ The transmission reaches 5km in NLoS (non-line of sight) and 18km in LoS (line of sight) environment
- ❖ LoRaWAN Compliance

## Specifications

| Parameters                            | Value                                                                                                                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Smart Terminal</b>                 |                                                                                                                                                                                                 |
| Interfaces                            | MPI Interfaces-Any Mixture of Following:<br>MPI:(AIN(0-20mA) *2, PT100 *1, VIN(0-10V/0-3.3V) *2, Switch *1 ,Unibus*1, IIC *1, SPI*1, Uart(3.3V TTL)*2), RS485*1<br>Output Control: OD*2 & PWR*2 |
| Data Report                           | Cross-threshold report, plus periodic report (the threshold and the periodic report cycle are both user-configurable)                                                                           |
| Intensive data sampling and averaging | Support intensive data sampling and averaging to improve data accuracy                                                                                                                          |
| <b>Wireless</b>                       |                                                                                                                                                                                                 |
| ISM Regional Parameters               | AS923 (AS923-1, AS923-2, AS923-3, AS923-4)<br>AU915<br>CN470 CN779<br>EU433<br>EU868<br>IN865<br>KR920<br>RU864<br>US915                                                                        |
| Maximum Link Budget                   | 168dB                                                                                                                                                                                           |
| Distance                              | Up to 5km in NLOS; up to 18km in LOS                                                                                                                                                            |
| Antenna                               | Integrated internal antenna or external 1/2 wavelength whip antenna (SMA)                                                                                                                       |

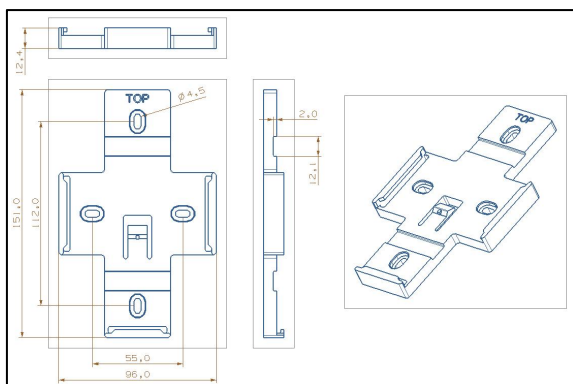
| <b>Mechanical</b>                                                                                      |                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Dimension                                                                                              | 3 Enclosure options with different size<br>WxS Series 4.0 Enclosure( $\phi 145 \times 90 \times 55 \text{mm}$ , IP67)<br>WxS Series 4.0 Poromeric Enclosure( $\phi 145 \times 90 \times 59 \text{mm}$ )<br>WxS Series 4.0 High Poromeric Enclosure( $\phi 145 \times 90 \times 70 \text{mm}$ ) |
| IP rating                                                                                              | IP65 & IP67                                                                                                                                                                                                                                                                                    |
| Operating Temperature                                                                                  | -40C to +85C                                                                                                                                                                                                                                                                                   |
| Total Weight                                                                                           | 150 g                                                                                                                                                                                                                                                                                          |
| <b>Electrical</b>                                                                                      |                                                                                                                                                                                                                                                                                                |
| Supply Voltage                                                                                         | 3.6VDC                                                                                                                                                                                                                                                                                         |
| Power Type                                                                                             | Replaceable 1 ER34615H/M 3.6V Li-SOCl <sub>2</sub> Battery (H/M); DC 4.5V – 12V optional                                                                                                                                                                                                       |
| <b>Compliance/Certification</b>                                                                        |                                                                                                                                                                                                                                                                                                |
|  <b>LoRa Alliance</b> | LoRaWAN 1.0.2                                                                                                                                                                                                                                                                                  |
|                       | FCC(America): 2A07W-WXS8000,<br>IC(Canada): 23701-WXS8000<br>CE(European Union): B1810246<br>ROHS(European Union): R2BJ180927F0664E                                                                                                                                                            |

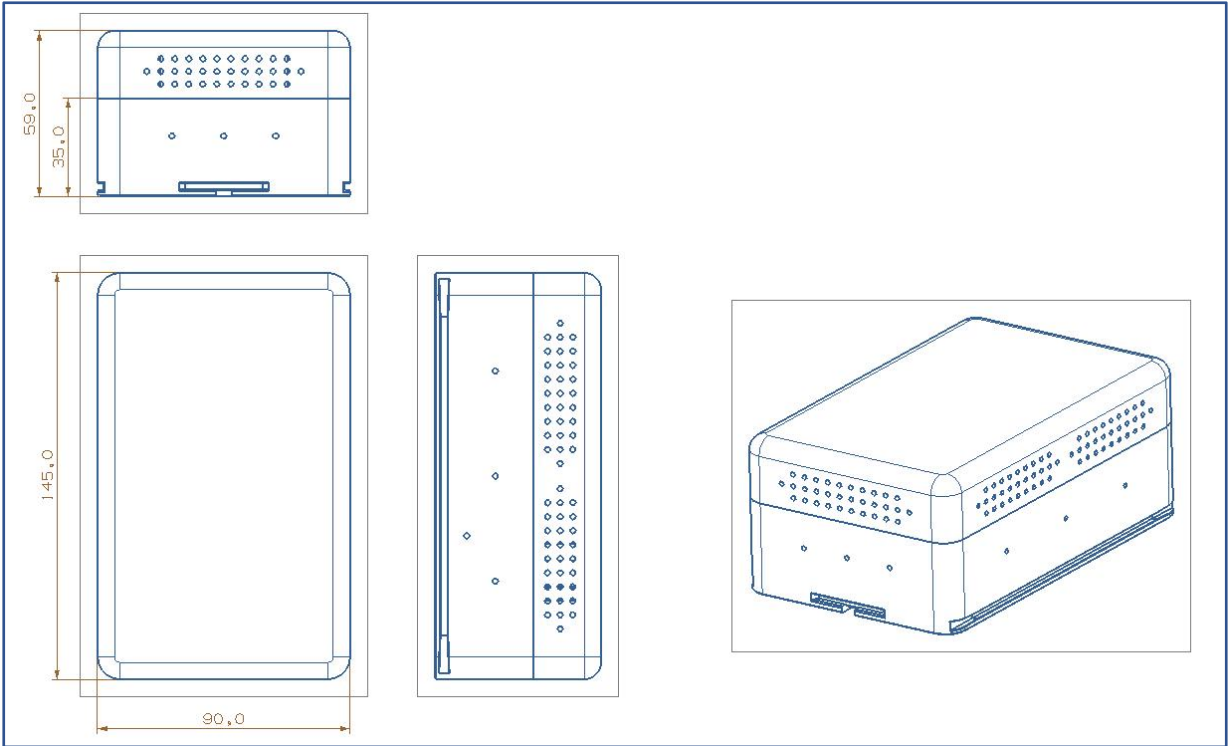
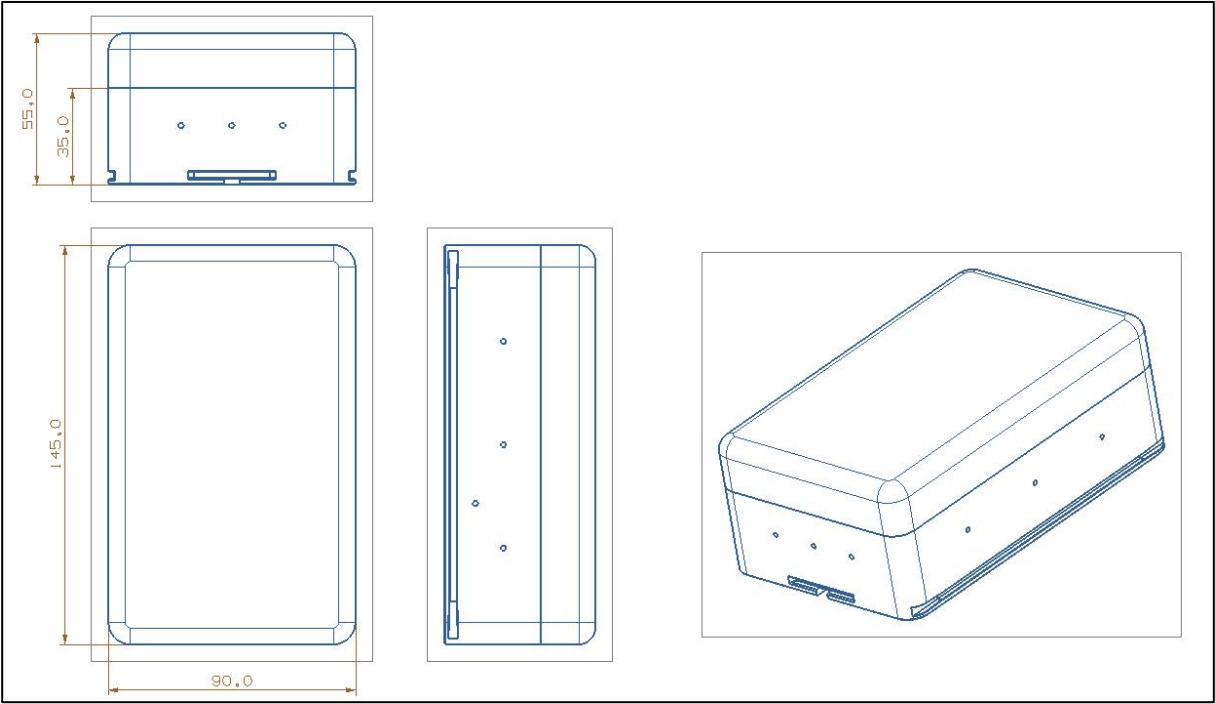
## Configuration Tool

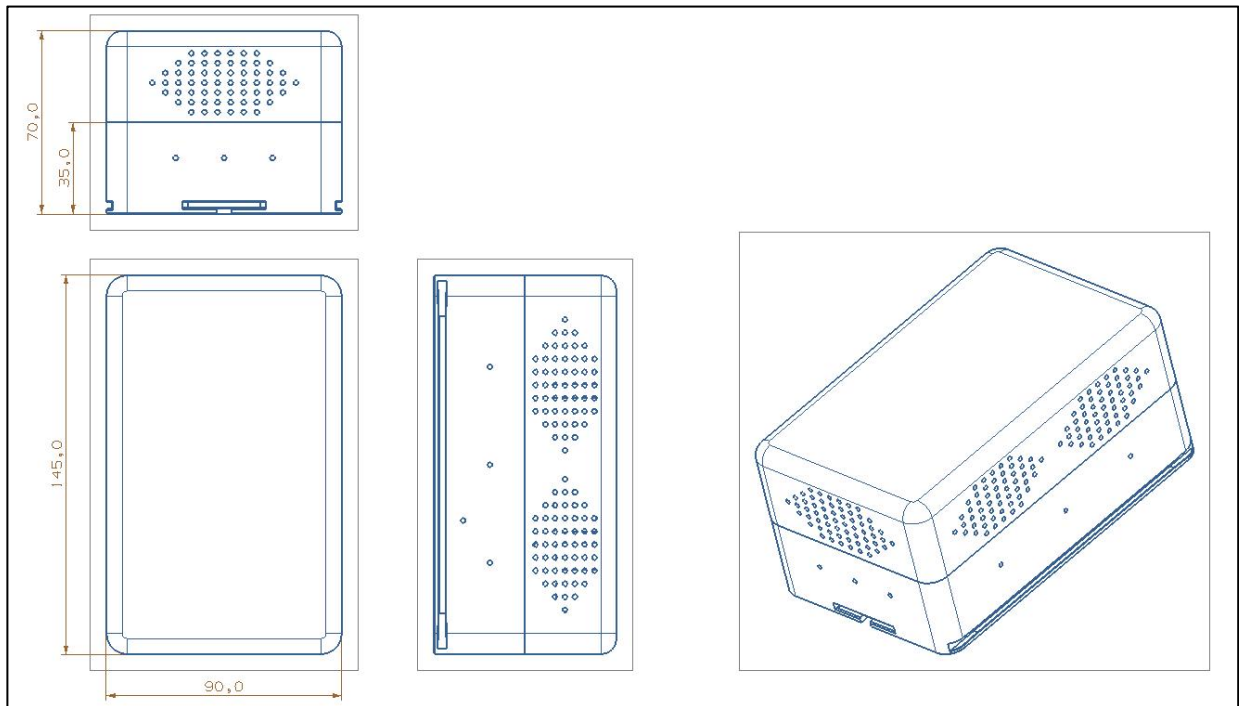
- ❖ iEdge4.0 WxS IoT Terminal products can be configured with PolySuite software-visual based Configuration Tool or CLI interface command or OTA via IoT platform, such as PolySuite PaaS platform iView.
- ❖ Download link <http://ota.polysense.online/wincc/ConfigurationTool.rar>

## Installation Guide

- ❖ Below diagram shows the general installation guide for WxS8800, it can be installed on any flat and solid surface:

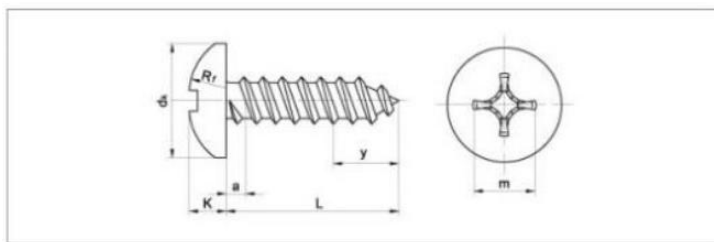






❖ Below is the recommendation of the self-tapping screw and its sizes:

| 螺纹规格 |     | ST2.2       | ST2.9 | ST3.5 | ST4.2 | ST4.8 | ST5.5 | ST6.3 |
|------|-----|-------------|-------|-------|-------|-------|-------|-------|
| dk   | min | 3.7         | 5.3   | 6.64  | 7.64  | 9.14  | 10.57 | 11.57 |
| K    | min | 1.4         | 2.15  | 2.35  | 2.8   | 3.4   | 3.7   | 4.3   |
| m    |     | 1.9         | 3     | 3.9   | 4.4   | 4.9   | 6.4   | 6.9   |
| L    |     | 4.5mm~100mm |       |       |       |       |       |       |



## Product Images

❖ WxS Series 4.0 Enclosure(φ145x90x55mm, IP67)



## ❖ WxS Series 4.0 Poromeric Enclosure(φ145x90x59mm)



❖ WxS Series 4.0 High Poromeric Enclosure( $\phi 145 \times 90 \times 70 \text{mm}$ )



# PSS-334062

## UV Sensor

### Related Products

| Product.   | Interf. | Descriptions                                                     |
|------------|---------|------------------------------------------------------------------|
| PSS-334061 | 0-3.3V  | UV Sensor (Range:0-15 grade, outdoor)                            |
| PSS-334062 | 0-3.3V  | UV radiation sensor (Range:0~5mw/cm <sup>2</sup> , indoor,DC12V) |

### Product introduction

PSS-334062 The ultraviolet sensor, with a range of 0~5mw/cm<sup>2</sup>, is suitable for indoor use. It is a signal transmitter specially designed for detecting the intensity of ultraviolet lamps. The imported UV probe is selected with stable performance.

### Detection principle

The ultraviolet signal is converted into an electrical signal by a photosensitive element.

### Product features

- ❖ Detection Monitoring range: 0 ~ 5mw/cm<sup>2</sup>
- ❖ Imported UVC sensor with stable performance
- ❖ No visible light effect, peak response spectrum  $\lambda_p=254\text{nm}$
- ❖ Standard industrial signal, 0~5VDC linear voltage output, convenient for industrial application
- ❖ High measurement accuracy, resolution up to 0.001 W/m<sup>2</sup>
- ❖ Wide operating temperature range: 0 °C~+80 °C, temperature drift coefficient:<- 0.1%/°C
- ❖ Ultra low power consumption, complete power consumption<0.5W



### Product parameters

| Parameters                    |                                                      |
|-------------------------------|------------------------------------------------------|
| Measuring range               | 0~5mw/cm <sup>2</sup> (can be preset)                |
| Response spectrum range       | 254nm ± 5nm                                          |
| Peak response spectrum        | 254nm                                                |
| Load impedance                | >5.1K $\Omega$                                       |
| Wiring mode                   | Three wire system                                    |
| Interface                     |                                                      |
| Output                        | 0-5VDC                                               |
| Warranty                      |                                                      |
| Warranty period               | 1year                                                |
| Mechanics                     |                                                      |
| Operating temperature         | 0 °C~+80 °C                                          |
| Storage temperature           | - 20 °C ~ 100 °C                                     |
| Probe housing material        | Aluminum                                             |
| Transmitter housing dimension | φ35.5×23.5 (mm)                                      |
| Connection mode               | Back hole installation                               |
| Output cable specification    | AVVR 3 × 0.3 0.5m long, 5mm tin plated on the outlet |

**Power**

Power

6~24V DC

**Application**

It is specially used to detect the intensity of ultraviolet lamp tubes, which can be used in industrial and medical industries.

**Ordering Guide**

- ❖ PSS-334062 sensor is a sensor only, it needs to use with WxS terminals to combine to different product series; On the basis of the combination, multiple PSS sensors can be loaded through the Multiple Purpose Interface (MPI) of the intelligent IoT terminal.
- ❖ According to the specific scenario of use case, the enclosure and antenna of intelligent IoT terminal will be replaced to ensure the product quality and performance.
- ❖ PSS sensors can be integrated with the WxS terminal via the MPI interface to form different product series.
- ❖ Example of products are as follows:
  - WxS7800-334062 WiFi Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - WxS8800-334062 LoRaWAN Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - WxS9800-334062 NB-IoT (China) Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - WxS9900-334062 NB-IoT (Global) Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - WxSC800-334062 LTE Cat1 Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - WxSC900-334062 LTE Cat1 w/GPS Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - WxSD800-334062 LTE Cat4 Series UV radiation Smart Sensor & RTU 2-in-1 Terminal
  - CxS1800-334062 Ethernet (RJ45) Series UV radiation Smart Sensor & RTU 2-in-1 Terminal