WISE-S100

Intelligent Stack Light Monitoring Sensor



Features

- One product for all scenarios
- Fits a variety of stack-type light towers
- 8 light sensors for fast flexible installation
- No need to stop the machinery while deployment
- Modbus RTU with RS-485 interface
- Supports more than 64 Modbus addresses per channel
- Remote intelligent OEE solution by pairing with WISE-4000 series wireless I/O module
- Low power consumption for WISE-4000 LPWAN series

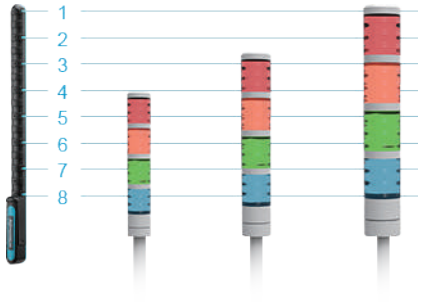
Introduction

WISE-S100 is an easy to install intelligent stack light monitoring sensor to fit a variety of stack-type light towers. When WISE-4000 wireless modular I/O series is paired with WISE-S100 sensor, users get a remote and intelligent OEE solution that can be integrated without stopping machinery, or worrying about wiring. WISE-S100 enhances the productivity and overall equipment effectiveness. It supports WiFi 2.4G and various LPWAN wireless technologies such as LoRaWAN and proprietary LPWAN (SUB-G) which has higher penetration, lower interference, wider coverage and fits diverse production scenarios on the production line. WISE-4000 LPWAN series come with an optional battery power solution.

Features

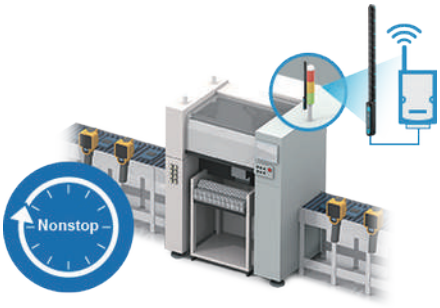
One for All, Fit a Variety of Stack-type Light Towers

There are 8 light sensors inside WISE-S100 tower light. The idea of the design is for quick and easy installation without needing to stop the machine. All users need to do is to simply position a sensor indicator at the stack light and adjust WISE-S100 directly to match each light and mount them together.



No Need to Stop the Machinery While Installation

Directly position WISE-S100 on the stack-type light tower to quickly get light status. You do not need to stop machine/equipment so you can quickly deploy your intelligent OEE solution.



Intelligent OEE Solution by Wireless Remote Management

By pairing RS-485 I/O interface(WISE-4051 or WISE4250+WISE-S250/S251) and WISE-S100, users can enjoy wireless remote management including up to 10, 000 data samples of local data storage with time stamps. WISE-S100 sends data to SCADA system, MES etc. via Modbus TCP, RESTful, HTTP and MQTT messaging protocols. The sensors support more than 64 Modbus addresses for intelligent OEE applications. WISE-4000 series also have WiFi, LoRaWAN and proprietary LPWAN wireless solution which support Modbus, and MQTT messaging protocols for remote management. With LPWAN wireless technologies, the whole solution can be battery powered with high penetration and wide coverage for complex production line environments.

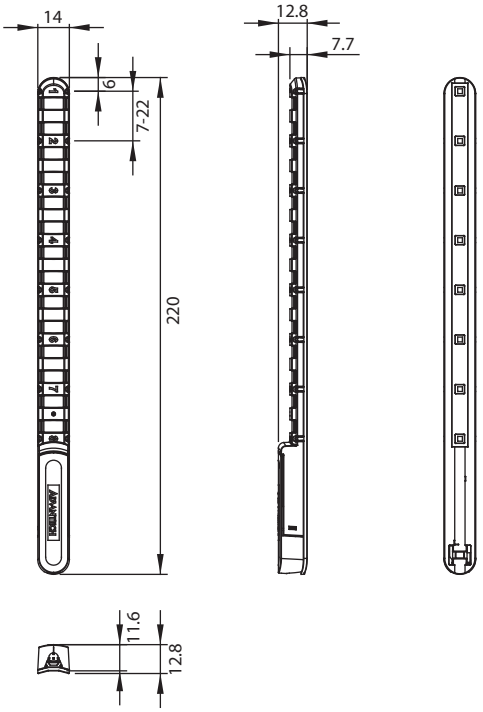


All product specifications are subject to change without notice.

Last updated: 31-May-2024

Dimensions

Unit: mm



Specification

Power

- **Power Supply** 3.3~30V_{DC}
- **Power Consumption** 15mA

Generic

- **Communication Interface** RS-485 (Modbus/RTU)

Ambient Light Sensor

- **Number of Sensor** 8
- **Sensor Detection Rate** 3Hz
- **Measuring Range** 20.48~83865.6 lux
- **Measuring Light Status** On, Off, Slow Blink, Fast Blink
- **Peak Irradiance** 550nm (TYP.)
  Spectral Responsivity
- **Resolution** 12 bits
- **Accuracy*** 15%
  *Accuracy of measurement of fluorescent light.
- **Linearity** Input illuminance > 40 lux, 2% (TYP.)
  Input illuminance < 40 lux, 5% (TYP.)
- **Temperature Drift** 0.02%/°C

Mechanical

- **Dimension (L x W x H)** 220 x 14 x 12.8 (mm)
- **Material** Polycarbonate (PC)

Environmental

- **Operating Temperature** -25~70 °C
- **Storage Temperature** -40~80 °C
- **Operating Humidity** 5~95% RH
- **Storage Humidity** 0~95% RH

Ordering Information

Sensor

- **WISE-S100-A** Intelligent Stack Light Monitoring Sensor

Wireless I/O Module

2.4GHz WiFi

- **WISE-4051-B** 2.4G WiFi IoT Wireless I/O with RS-485& 8DI

2.4/5GHz WiFi

- **WISE-4250-A** Wi-Fi 5 2.4/5GHz Wireless I/O Module
  - **WISE-S250-A** 6DI, 2DO & 1RS-485
  - **WISE-S251-A** 6DI & 1RS-485

Proprietary LPWAN (SUB-G)

- **WISE-4210-NA** Proprietary LPWAN IoT Wireless Modular I/O
  - **WISE-S250-A** 6DI, 2DO & 1RS-485
  - **WISE-S251-A** 6DI & 1RS-485
  - **1760002647-01** Bat.Cylindrical 3.6V/2500mAh AA Li/SOCl2 for WISE-4210
  - **1750008836-01** 863-870MHz Dipole Antenna for WISE-4210
  - **1750008837-01** 902-928MHz Dipole Antenna for WISE-4210

LoRaWAN

- **WISE-4610 Series** LoRaWAN IoT Wireless Modular I/O
  - **WISE-S672-A** RS-485& 6DI with M12 Connector
  - **WISE-S617T-A** RS-485, 2AI, 2DI& 1DO with Terminal Block
  - **WISE-S635-A** Sensor Conversion Board (No I/O)