

WISE-S100

Intelligent Stack Light Monitoring Sensor

Startup Manual

Packing List

- 1 x WISE-S100 stack light monitoring sensor
- 3 x plastic tie
- 1 x 2m cable
- 1 x WISE-S100 startup manual
- 1 x China RoHS declaration

If any of the above items are missing or damaged, please contact your distributor or sales representative immediately.

Overview

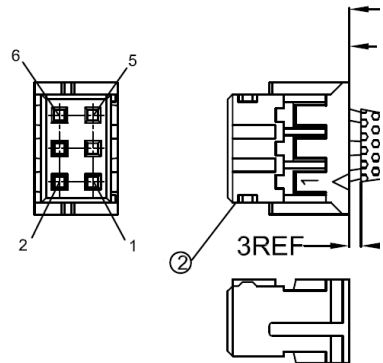
Thank you for purchasing the WISE-S100 Stack Light Monitoring Sensor. This quick start guide is intended to help you with deploying the device. It includes information on the configuration setup and application wiring. Should you require more instructions, please refer to the user manual.

Cable Wiring & Pin Assignments

The cable of the WISE-S100 stack light sensor is connected and installed in the default package. The power input of the sensor is 3.3~30V_{DC}.

Please refer to the pin assignments via the below table.

2M Cable with Wafer Box PN:1700031410-01		
1	Red	V+ In
2	Black	GND
3	Brown	DATA+
4	Yellow	MCU Interrupt
5	Orange	DATA-
6	Green	IO Interrupt



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<http://www.advantech.com/eAutomation>

For technical support and service:

<http://www.advantech.com/support/>

This startup manual is for WISE-S100.

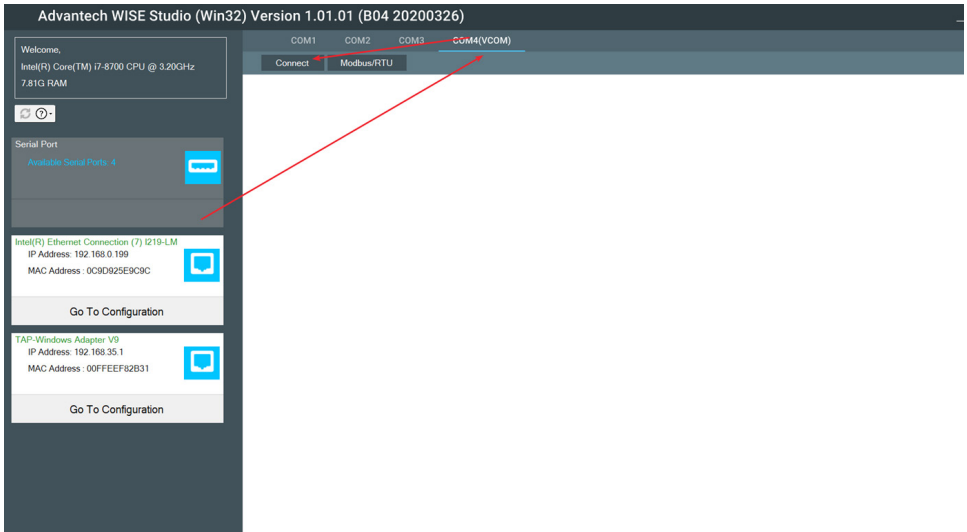
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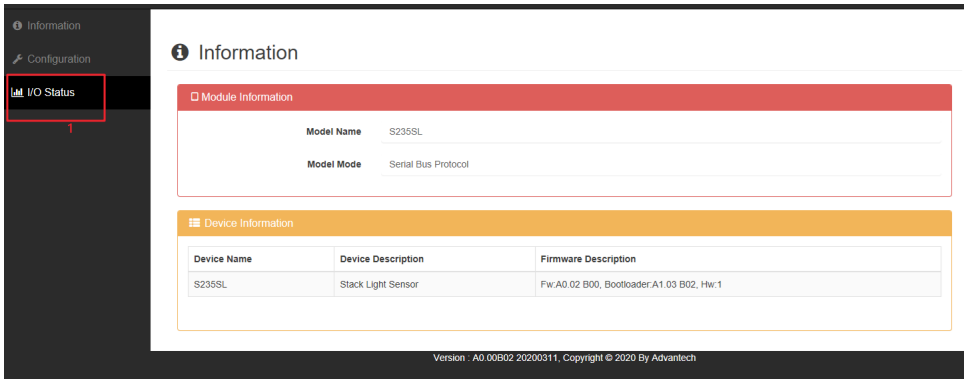
Quick Start for WISE-S100

Please follow the steps below to install the WISE-S100 module.

1. The default mode of WISE-S100 is Serial Bus Mode for pairing with WISE-4200/4400/4600 series WiFi or LPWAN IoT Wireless Modular I/O.
2. If you intend to use WISE-S100 with WISE-4051 2.4G WiFi IoT Wireless Modular I/O or any other Modbus master device, please change to Modbus mode via WISE Studio (WISE Studio version needs to be 1.01.01 (B05) or above).
3. The way to access WISE-S100 in Serial Bus Mode is through WISE Studio when switching into Modbus Mode:
- PC < --- > ADAM-4561 or any other USB to RS-485 converter < --- > WISE-S100
4. The LED indicator will be on when WISE-S100 is powered on.
- Serial Bus Mode: LED indicator will be on for 5 secs then go off for power saving when pairing with WISE-4200/4400/4600 LPWAN IoT Wireless Modular I/O.
- Modbus Mode: LED indicator will be on constantly.
5. Serial Bus Mode (pair with WISE-4200/4400/4600 series)
 - Please enter into the main page of WISE-S100 via WISE Studio.



- For the device information, please click into I/O status for device mode and further information.



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Quick Start for WISE-S100 (Cont.)

- In the configuration section, users can get more information and setup the sensor.
 - **Mode:** Enable this function to detect blinking frequency within a maximum of 3.3 Hz.
 - **Delay Time:** Only effective in on/off/blink mode which is the default setting.

2 Secs Default:

Light on or off > 2 secs = device on or off.

Light on and off < 2 secs = blinking.

For example, when the delay time is set to 2 seconds, it means the sensors determine the light should last for at least 2 seconds in ON or OFF mode and during those 2 seconds, it will be BLINKING.

- **Filter:** Sensor sampling rate is 0.1s by default.

This function ensures a change of state and avoids noise when the function is enabled.

- **Reading Illumination option:** Enable this function to get the Lux value of the sensor.
- **Normal Status:** To support better power saving mode, please tick the normal status of the light tower.
For example, the light is usually on, please tick normal on.
- **Low Illumination Limited Value:** Lux < x means Dark
- **High Illumination Limited Value:** Lux > x means Light
- **Fast Blink Frequency Threshold:** Frequency ≥ x means Fast Blinking

Note: Tips for better accuracy

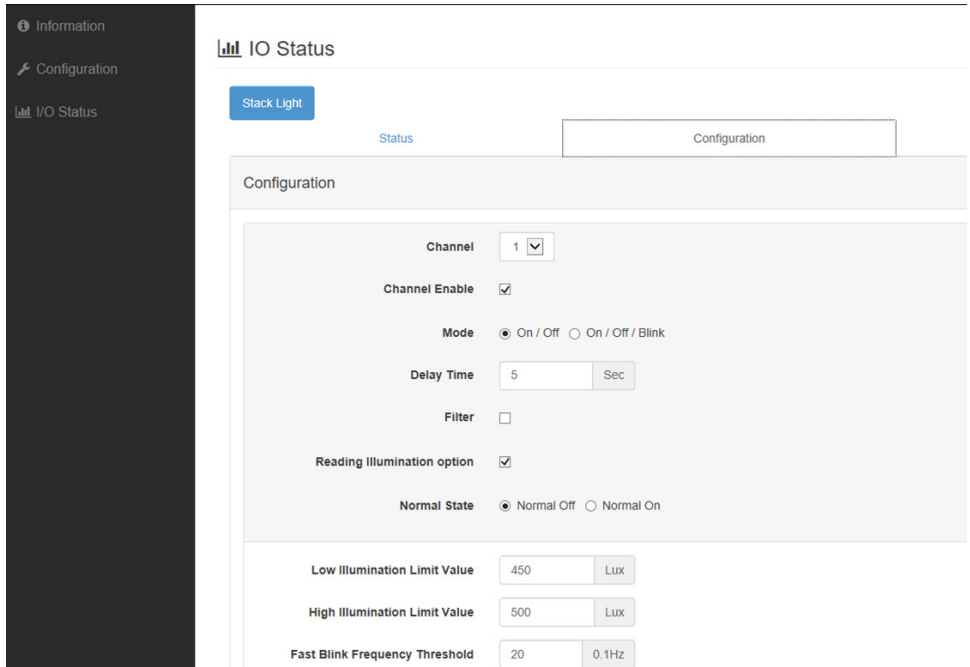
Please enable Lux reading first.

Record the Lux value when the lights are on.

Lux (on) / 2 +100: High Illumination Limit Value.

Lux (on) / 2 -100: Low Illumination Limit Value.

*For example, when the lux is 1000, it is suggested to set the high illumination limit value at 600.
(This varies based on real case example)*



Information

Configuration

IO Status

IO Status

Stack Light

Status Configuration

Configuration

Channel: 1

Channel Enable:

Mode: On / Off On / Off / Blink

Delay Time: 5 Sec

Filter:

Reading Illumination option:

Normal State: Normal Off Normal On

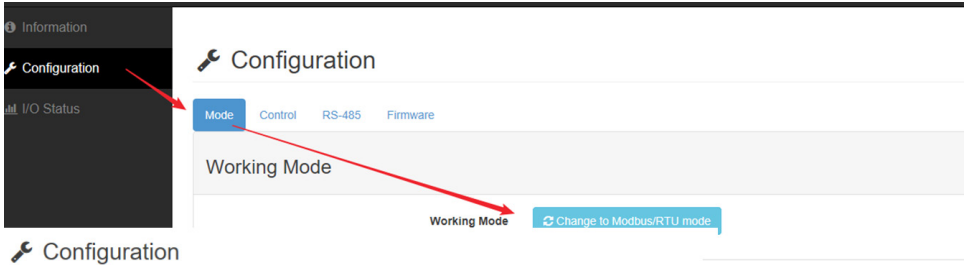
Low Illumination Limit Value: 450 Lux

High Illumination Limit Value: 500 Lux

Fast Blink Frequency Threshold: 20 0.1Hz

Quick Start for WISE-S100 (Cont.)

- Modbus Mode (pair with WISE-4051)
Enter Configuration page through WISE Studio.
Please take note of your RS-485 setting in case you could not search for it.
Note: Please refer to the Modbus Address table for more information.



Modbus Table

Address 0X	Ch	Description	Attribute
33	1	Clear low state count	Write
...	...		Write
40	8		Write
41	1	Clear high state count	Write
...	...		Write
48	8		Write
49	1	Clear slow blink state count	Write
...	...		Write
56	8		Write
57	1	Clear fast blink state count	Write
...	...		Write
64	8		Write

Modbus Table (Cont.)

65	1	Clear low state total time	Write
...	...		Write
72	8		Write
73	1	Clear high state total time	Write
...	...		Write
80	8		Write
81	1	Clear slow blink state total time	Write
...	...		Write
88	8		Write
89	1	Clear fast blink state total time	Write
...	...		Write
96	8		Write

Modbus Table

Address 4X	Ch	Description	Attribute
40001~40002	1	Sensor Value (Lux)	Read
...	...		Read
40015~40016	8		Read
40017	1	Sensor Status (Low:0/High:1/Slow Blink:2/ Fast Blink:3/ non-exist: 0xFE/ broken: 0xFF)	Read
...	...		Read
40024	8		Read
40025	1	Frequency (hundredfold)	Read
...	...		Read
40032	8		Read
40033~40034	1	Low state count	Read
...	...		Read
40047~40048	8		Read
40049~40050	1	High state count	Read
...	...		Read
40063~40064	8		Read
40065~40066	1	Slow Blink state count	Read
...	...		Read
40079~40080	8		Read

Modbus Table (Cont.)

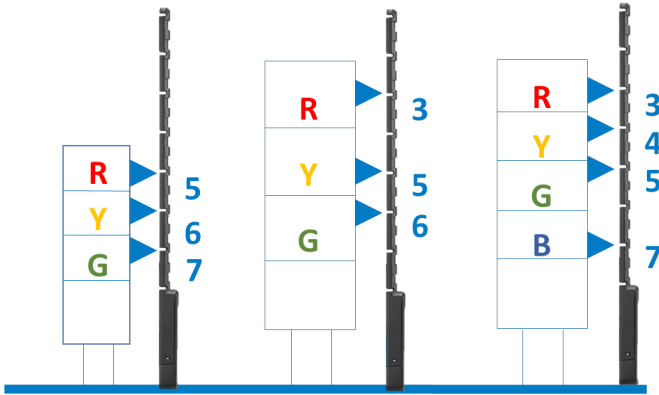
Address 4X	Ch	Description	Attribute
40081~40082	1	Fast Blink state count	Read
...	...		Read
40095~40096	8		Read
40097~40098	1	Low state total time (100 ms)	Read
...	...		Read
40111~40112	8		Read
40113~40114	1	High state total time (100 ms)	Read
...	...		Read
40127~40128	8		Read
40129~40130	1	Slow Blink state total time (100 ms)	Read
...	...		Read
40143~40144	8		Read
40145~40146	1	Fast Blink state total time (100 ms)	Read
...	...		Read
40159~40160	8		Read

Address 4X	Ch	Description	Attribute
40211		Module Name 1	Read
40212		Module Name 2	Read
40213		Module Name 3	Read
40214		Reserved for Module Name	Read
40221		Channel enable	Read/Write
40231~40232	1	Set Low limit (Lux)	Read/Write
...	...		Read/Write
40245~40246	8		Read/Write
40247~40248	1	Set High Limit (Lux)	Read/Write
...	...		Read/Write
40261~40262	8		Read/Write

Mounting & Installation

WISE-S100 is a stack light monitoring sensor that supports Modbus protocol and serial bus protocol with 8 light sensors inside the device for flexible and compact design to fit a variety of stack light towers without the need to stop the machinery. WISE-S100 is ideal for intelligent OEE applications.

Users simply adjust the sensor position when pairing the light towers with WISE-S100.



Mounting & Installation

