

RY-G/W Illuminance Sensor Manual



Introduction

RY-G/W Illuminance Sensor is self-developed and produced by our company. It adopts advanced circuit module technology to develop the transmitter, which is designed to measure illuminance. Its output signals can be customized, including current signals, RS485 and other outputs.

In addition, the device has an aluminum housing. And it is waterproof and has stable working performance.

Features

- Housing made of aluminum alloy die-casting
- IP65 dustproof and waterproof design, suitable for outdoor applications.
- High precision, wide range, good linearity and high stability.
- Small size, easy to install.
- Long transmission distance and strong anti-interference ability.

Technical parameters:

Optional Range	0-2000Lux、0-20KLux、0-200KLux	
Wavelength	400~700（nm） visible light	
Accuracy	±3% or 1%F.S	
Principle	Photoelectric principle	
Supply	DC12V/DC24V	
Output	RY-G/W/S	RY-G/W/485
	4-20mA	RS485 Modbus（0-200Klux）
Response Time	1second	
Working Current	DC12V <35ma(Voltage; current); DC12V <20ma(RS485)	
Consumption	DC12V <0.42W(Voltage; current); DC12V <0.24W (RS485)	
Working Environment	Temperature: -30~60°C	
Cable Length	3 meters	
Protection Level	IP65	
Weight	220g	

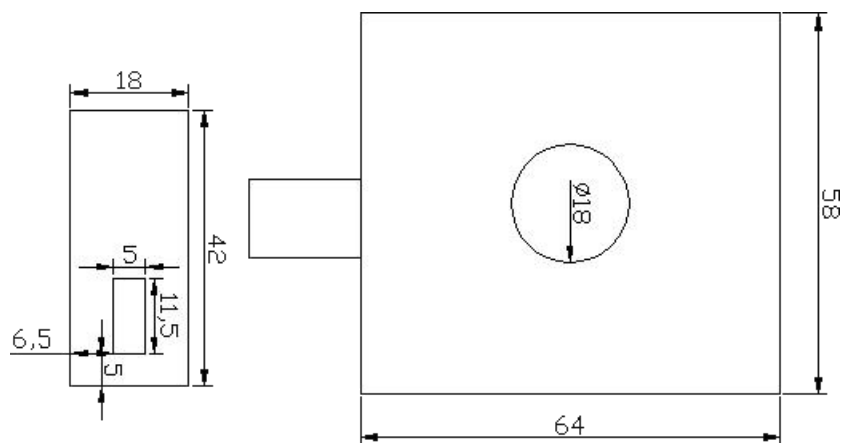
Wiring definition:

The voltage and current output sensor is equipped with a five-core cable as standard. Users can customize the appropriate length of cable according to the needs. The cable specification is 0.2mm² five-core shielded cable.

The wiring colors are defined as:

Current output color definition	
red	positive pole
black	negative electrode
yellow	Current signal output

Specification:



Communication Protocol

Baud rate: 9600

Data bits: 8

Stop bits: 1

Check digit: None

Flow Control: None

Write station number:

Device Address	Function code	Starting register address	Number of registers	Data length	Data (new station number)	CRC check
00	10	0001	0001	02	00xx	CRCloCRChi (XX=0X01-0XFF)

Write register response

Device Address	Function code	Starting register address	Number of registers	CRC check
00	10	0001	0001	CRCloCRChi

Example

Command 00 10 00 01 00 01 02 00 33 EA 04

Reply 00 10 00 01 00 01 51 D8

Read station number: (fixed command)

Device Address	Function code	Starting register address	Number of registers	CRC check
00	03	0001	0001	CRCloCRChi

Station number reply

Device Address	Function code	Data length	data	CRC check
00	03	02	00xx	CRCloCRChi (XX=01-ff)

Example

Read station number

Command 00 03 00 01 00 01 D4 1B

Reply 00 03 02 00 FF C5 C4

Read data (0-2K or 0-20K)

Device	Function	Starting	Number	CRC check
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Address	code	register address	of registers	
xx	03	000 0	0001	CRCloCRChi

Data recovery

Device Address	Function code	Data length	data	CRC check
xx	03	02	00yy	CRCloCRChi

Example

Command FF 03 00 00 00 01 91 D4

Reply FF 03 0 2 00 14 91 9F

For example, the reply is **FF 03 02 05 DC 93 59**

The 4th and 5th bytes are 05 DC respectively.

Lighting = $5 \times 256 + D \times 16 + C = 5 \times 256 + 13 \times 16 + 12 = 1500$ Lux

Read data (0-200K)

Device Address	Function code	Starting register address	Number of registers	CRC check
xx	03	0000	0001	CRCloCRChi

Data recovery

Device Address	Function code	Data length	data	CRC check
xx	03	02	00yy	CRCloCRChi

Example

Command FF 03 00 00 00 01 91 D4

Reply FF 03 02 00 14 91 9F

For example, the reply is **FF 03 02 05 DC 93 59**

The 4th and 5th bytes are 05 DC respectively.

Lighting = $5 \times 256 + D \times 16 + C = 5 \times 256 + 13 \times 16 + 12 = 1500$

Actual light = $1500 / 100 = 15$ KLux

Actual illumination = $1500 / 100 = 15$ KLux (0-200KLux)

Actual illumination = 1500 Lux (0-2000 Lux; 0-20000 Lux)

Warranty and After-sales Service:

Warranty: The product warranty period is 12 months from the delivery date (except for the product problems caused by not operating in accordance with corresponding technical requirements or other artificial behavior).

After-sales commitment: Users can consult technical issues by phone and get clear solutions. If it is a quality problem of the product itself, it can be returned to the factory for repair or replacement.