

ILLUMINANCE SENSOR

RY-G/N

MANUAL



INTRODUCTION

RY-GN measures illuminance, it adopts advanced circuit module technology development transmitter, and metal shell. It is used to achieve the measurement of illuminance. The output signals include current signals, RS485, etc., which can be customized according to customer requirements. It has convenient wiring and good waterproof performance. It is widely used in agriculture, forestry, greenhouse cultivation, breeding, meteorological stations, buildings, street lights, lighting measurement and research of intelligent buildings and other environmental light intensity detection.

FEATURES

- Plastic Material
- IP65
- High accuracy, wide range, good linearity and high stability
- Small size, easy installation, current limiting function
- Good linearity, long transmission distance, strong anti-interference ability

TECHNICAL SPECIFICATION

- Optional range: 0-2000Lux、0-20KLux、0-100KLux
- Wavelength range: 400~700 (nm) visible light
- Accuracy: $\pm 3\%$
- Working principle: photoelectric principle
- Supply voltage: DC12V/DC24V
- Output:

RY-G/W/S	RY-G/W/485
4-20mA	RS485modbus (0-100Klux)

- Respond time: 1s
- Working current: DC12V <35ma(voltage; current); DC12V <20ma(485)
- Power Consumption: DC12V <0.42W(voltage; current); DC12V <0.24W (485)
- Work environment: Temperature-30~60℃
- Standard line length: 3m
- Farthest lead wire: Current200m、 RS485 100 m、 voltage 50m
- Ingress Protection: IP65
- Weight: 220g

COMMUNICATION PROTOCOL

Baud rate: 9600

Data bit: 8

Stop bit: 1

Check bit: None

Flow control: None

Write station number:

Device address Function code Start register address No. of registers Data length

Data CRC check

00 10 0001 0001 02 00xx CRCloCRChi (XX=0X01-0XFF)

Write register response

Device address Function code Start register address No. of registers CRC check

00 10 0001 0001 CRCloCRChi

Example

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

Respond 00 10 00 01 00 01 51 D8

Read station number command (fixed command)

Device address Function code Start register address No. of registers CRC check

00 03 0001 0001 CRCloCRChi

Station respond

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

Respond 00 03 02 00 FF C5 C4

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

Device address Function code Start register address No. of registers CRC check

xx 03 0000 0001 CRCloCRChi

Data respond

Device address Function code Data length Data CRC check

xx 03 02 00yy CRCloCRChi

Example

Command FF 03 00 00 00 01 91 D4

Respond FF 03 02 00 14 91 9F

Example Respond FF 03 02 05 DC 93 59

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

illuminance = $5 \times 256 + D \times 16 + C = 5 \times 256 + 13 \times 16 + 12 = 1500 \text{ Lux}$

Read data (0-100K)

Device address Function code Start register address No. of registers CRC check

xx 03 0000 0001 CRCloCRChi

Respond data

Device address Function code Data length Data CRC check

xx 03 02 00yy CRCloCRChi

Example

Command FF 03 00 00 00 01 91 D4

Respond FF 03 02 00 14 91 9F

Example repond FF 03 02 05 DC 93 59

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

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

Actual illuminance = $1500/100 = 15$ KLux

WIRING METHOD

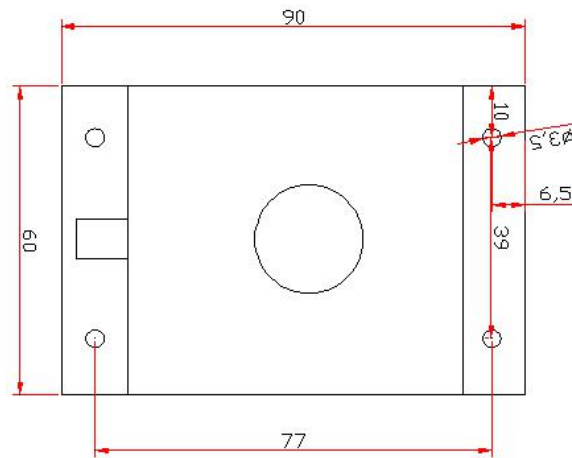
The voltage and current output sensor is equipped with a 1.5m three core cable as standard. The user can customize the cable of appropriate length according to the needs. The cable specification is 0.2mm² Three core shielded cable. The wiring color is defined as:

Current output	
Red	Positive pole
Black	Negative pole
Yellow	Current output

485 output sensor is equipped with a 3m four core cable as standard. Users can customize the cable with appropriate length according to their needs. The cable specification is 0.2mm² Four core shielded cable. The wiring color is defined as:

RS485	
Red	Positive pole
Black	Negative pole
Green	A
Blue	B

INSTALLATION DIAGRAM



WARRANTY & SERVICE

Warranty commitment: the warranty period is 12 months from the delivery period (except for the product problems caused by the failure to operate according to the corresponding technical requirements or other human behaviors).

After sales commitment: users can consult relevant technical problems by phone and get clear solutions. If it is a quality problem, it can be returned to the factory for maintenance or replacement.

Service Phone: 0310-8033736