RK200-07 UV Radiation Sensor

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RK200-07 UV Radiation Sensor is a precision instrument used to measure the atmosphere of the sun's ultraviolet radiation (UVA β wavelength range),supporting the product related information acquisition instrument use can provide public concern: the UV index, UV erythema measurement, on the health effects of the UV and UV special biology and chemistry, highly meteorology, industry, construction, medical attention, are widely used in the exposure caused erythema dose, integrated environment ecological effect, the study of climate change and ultraviolet radiation monitoring and forecast.
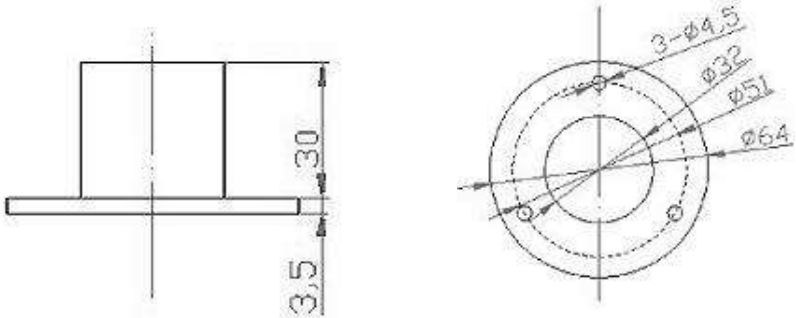
FEATURES

- Metal construction
- Harsh environment workable
- High sensitivity
- Light weight
- Compact size for easy use
- Long service life

SPECIFICATIONS

Item	SPECIFICATIONS
Spectral range	280～400nm
Supply	5V,12-24VDC
Range	0-200W/m², 0-200uW/cm², 0-15UV index
Output	0-2V,4-20mA(2 wires),0-5V,RS485
Accuracy	±5% rdg
Response time	≤1s
Cosine correction	≤±4%(Solar elevation angle=30°)
Non-linear	≤±3%
Temperature effect	±0.08%/℃
Stability	≤±2%/year
Operating Temperature	-40℃-+85℃
Ingress Protection	IP65
Weight(unpacked)	220g
Shell material	Aluminum alloy
Storage Condition	10℃-60℃@20%-90%RH

Dimension

Unit:mm

In order to ensure measurement accuracy, please keep the horizontal installation.

ELECTRICAL CONNECTIONS

Cable	Voltage/Current	Current(2 wires)	RS485
Red	V+		V+
Yellow	Signal	V+	RS485A
Green	V-		V-
Blue	/	Iout	RS485B

Note: This product has been tested and complies with European CE requirements for EMC directive.

WARRANTY

This product is warranted to be free of defects in materials and construction for a period of 12 months from date of lead time.Liability is limited to repair or replacement of defective item.

PARAMETER SELECTION TABLE

Remark	Series	Type	Supply	Range	Output	Cable Length	
RK							
	200						
		07					
			A				5V
			B				12-24V
			X				Other
				A			0-200W/m²(280-400nm)
				B			0-200uW/cm²(280-400nm)
				C			0-15UV index(280-400nm)
					A		4-20mA
					B		0-2V
					C		0-5V
					D		RS485
					X		Other
						1500	Units:mm（typ）
						3000	Units:mm
						...	Units:mm

Example: RK200-07BAA1500: Supply:12-24V, Range:0-200W/m²(280-400nm), Output:4-20mA,Cable Length:1.5m.

Communication Protocol（MODBUS）

Transmission mode: MODBUS-RTU,**Baud rate**: 9600bps,**Data bits:**8,**Stop bit:**1,**Check bit:**no

Slave address:the factory default is 0BH (set according to the need,00H to FFH)

● **The 04H Function Code Example: Read The UV Radiation Value**

Host Scan Order(slave address:0x0B)

0B 04 00 00 00 01 3160

Slave Response

0B 04 02 00 06 A133

Range A: UV radiation value:(0006)H=(6)D,6/10=0.6(W/m²)

Range B: UV radiation value:(0006)H=(6)D,6/10=0.6(uW/cm2)

Range C: UV index:(0006)H=(6)D,UV index=6

● **The 06H Function Code Example: Modify the slave address**

Host Scan Order (Changed from 09H to 01H):
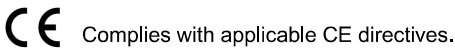
09 06 00 42 00 01 E956

Slave Response:

09 06 00 42 00 01 E956

If you forget the original address, you should use the broadcast address(00H) (ensure that no other devices on the bus at this time).

Note:

1. All underlined is fixed bit;

2. The last two bytes is CRC check command;

3. If you changed the address, restart the device to take effect.

CE Complies with applicable CE directives.

Manual subject to change without notice. Version 1.0

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