

# RK300-08 Multi-in-one Gas Sensor

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RK300-08 Multi-in-one Gas Sensor adopts high-precision chip for data acquisition, advanced technology of manufacturing technique and surface mount, which to ensure accurate and reliable measurement data. It has outstanding characteristics in measurement accuracy, linearity, repeatability, interoperability, consistency and other aspects. It is suitable for environmental equipment matching, integration, and most of the general environmental tests. RK300-08 with complete monitoring parameters and accurate data. The parameters can be customized according to the requirements, up to 5-6 parameters, including air temperature, air humidity, CO<sub>2</sub> concentration, CO concentration, PM1.0/2.5/10.0, atmospheric pressure, formaldehyde, oxygen, ozone, volatile organic compounds, air quality, etc.

## FEATURES

- High sensitivity
- Fast response
- High precision, wide measuring range
- Effective resistance to water vapor
- Excellent stability
- Easy installation

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## SPECIFICATIONS

Item	Technical Specification		
	Range	Resolution	Accuracy
Temperature	-30℃~70℃	0.1℃	±0.2℃
Humidity	0~100%RH	0.1%RH	±3%RH
Illuminance	0~200K Lux	10 Lux	±5%
Dew point temperature	-100℃~40℃	0.1℃	±0.3℃
Air pressure	600~1100hPa	0.1hPa	±0.5hPa
CO <sub>2</sub>	0~5000ppm	1ppm	±75ppm+2%rdg
Civil CO	0~500ppm	0.1ppm	±2%FS
PM1.0/2.5/10	0~1000µg/m <sup>3</sup>	1µg/m <sup>3</sup>	±3%FS
TVOC	0~5000ppb	1ppb	±3%
CH <sub>2</sub> O	0~5000ppb	10ppb	±3%
O <sub>2</sub>	0~25%VOL	0.1%VOL	±2%FS
O <sub>3</sub>	0~10ppm	0.01ppm	±2%FS
Air quality	0~10mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>	±2%FS
NH <sub>3</sub>	0~100ppm	1ppm	±2%FS
H <sub>2</sub> S	0~100ppm	1ppm	±2%FS
NO	0~250ppm	0.1ppm	±3%FS
NO <sub>2</sub>	0~20ppm	0.1ppm	±2%FS
Odour	0~50ppm	0.01ppm	±2%FS
SO <sub>2</sub>	0~20ppm	0.1ppm	±2%FS
Cl <sub>2</sub>	0~10ppm	0.1ppm	±2%FS
Civil gas	0~5000ppm	50ppm	±3%LEL
Supply / Output	12-24VDC / RS485		
Stability	<±1%FS		
Repeatability	<±2%FS		
Operating Temperature	-20℃~+60℃@15-80%RH		
Storage	-40-70℃@20%-90%RH		

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## ELECTRICAL CONNECTIONS

Connector (cable)	RS485
Red	V+
Black	V-
Yellow	RS485A
Green	RS485B

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

### Note:

1. All underlined is fixed bit;
2. The last two bytes is CRC check command.

### 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.

## 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 01H (set according to the need, 00H to FFH)

- The 03H Function Code Example: Read gas concentration value

Host Scan Order (slave address: 0x01)

01 03 00 00 00 06 C5C8

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Slave Response

01 03 0C 010D 024F 000A 0032 0028 0014 9725

Temp: (010D)H=(269)D=269/10=26.9°C, Humi: (024F)H=(591)D=591/10=59.1%RH

CO: (000A)H=(10)D=10ppm, NO<sub>2</sub>: (0032)H=(50)D=50/10=5ppm

SO<sub>2</sub>: (0028)H=(40)D=40/10=4ppm, O<sub>3</sub>: (0014)H=(20)D=20/10=2ppm

- The 06H Function Code Example: Modify the slave address

Host Scan Order (Changed to 02H, read and write address must be 01H):


01 06 0030 0002 0804

Slave Response:

01 06 0030 0002 0804

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 Complies with applicable CE directives.

Manual subject to change without notice. Version 1.0

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