

# Modbus RTU communication

## 1. Serial interface parameters

Baud rate: 9600 or 115200

Data bits: 8

Parity: None

Stop bits: 1

## 2. Holding Register

| Register Address (hex) | Register Address (dec) | Description          | Type                 | Data-Format                                                        |
|------------------------|------------------------|----------------------|----------------------|--------------------------------------------------------------------|
| 0x01                   | 1                      | Temp - process       | R-Holding Register   | = (Value - 1000) /10                                               |
| 0x02                   | 2                      | Temp - Head          | R-Holding Register   | = (Value - 1000) /10                                               |
| 0x20                   | 32                     | Emissivity           | R/W-Holding Register | = (Value) /1000                                                    |
| 0x21                   | 33                     | Transmittance        | R/W-Holding Register | = (Value) /1000                                                    |
| 0x22                   | 34                     | Temp upper limit     | R-Holding Register   | = (Value - 1000) /10                                               |
| 0x23                   | 35                     | Temp lower limit     | R-Holding Register   | = (Value - 1000) /10                                               |
| 0x24                   | 36                     | High Temp Alarm      | R/W-Holding Register | = (Value - 1000) /10                                               |
| 0x25                   | 37                     | Low Temp Alarm       | R/W-Holding Register | = (Value - 1000) /10                                               |
| 0x26                   | 38                     | High End for outputs | R/W-Holding Register | = (Value - 1000) /10                                               |
| 0x27                   | 39                     | Low End for outputs  | R/W-Holding Register | = (Value - 1000) /10                                               |
| 0x28                   | 40                     | Hold mode            | R/W-Holding Register | 0--Real mode<br>1--Peak Hold<br>2--Valley Hold<br>3--Advanced hold |

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| Register Address<br>(hex) | Register Address<br>(dec) | Description                 | Type                        | Data-Format                                                                                                                         |
|---------------------------|---------------------------|-----------------------------|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| 0x29                      | 41                        | Average time                | R/W-<br>Holding<br>Register | example : 0.1s = (1) / Average time 1s = (10)                                                                                       |
| 0x2A                      | 42                        | Peak hold time              | R/W-<br>Holding<br>Register | example : 0.1s = (1) / Average time 1s = (10)                                                                                       |
| 0x2B                      | 43                        | Valley hold time            | R/W-<br>Holding<br>Register | example : 0.1s = (1) / Average time 1s = (10)                                                                                       |
| 0x2C                      | 44                        | Advanced Hold<br>Mode       | R-Holding<br>Register       | = (Value - 1000) / 20                                                                                                               |
| 0x2D                      | 45                        | Advanced Hold<br>Hysteresis | R-Holding<br>Register       | 0°C                                                                                                                                 |
| 0x2E                      | 46                        | °C/ °F                      | R-Holding<br>Register       | 1 = °F<br>2 = °C                                                                                                                    |
| 0x2F                      | 47                        | Spot Illumination<br>Laser  | R/W-<br>Holding<br>Register |                                                                                                                                     |
| 0x30                      | 48                        | MODBUS-ID                   | R/W-<br>Holding<br>Register | The range is: 1~255, 0 is the broadcast address. If the address code is forgotten, it can be queried through the broadcast address. |
| 0x85                      | 133                       | Protocol Type               | R/W-<br>Holding<br>Register | 0 : Autonomous Agreement<br>1 : modbus-rtu                                                                                          |

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