

TF-LP01 Laser Particulate Matter Sensor

characteristic :

- * High detection accuracy
- :: Short response time
- :: Product miniaturization

apply :

- * Air purifiers, portable air quality detection equipment, smart home and other places.

TF-LP01 laser particulate matter sensor is a small module that uses the scattering principle to detect dust particles in the air. It has the advantages of small size, high detection accuracy, good repeatability, good consistency, real-time response and continuous collection, strong anti-interference ability, the use of ultra-quiet fan, 100% detection and calibration of the sensor at the factory.









qualification :

- Particulate matter that can be identified: PM1.0, PM2.5, PM10
- Interface type: USART(3.3V TTL level) PWM (custom)
- Measurement range: 0~999 ug/m³
- Measurement accuracy: ±10 ug/m³@0~99 ug/m³ ±10% @100~999 ug/m³
- Resolution of mass concentration: 1 ug/m³
- Response time: <10S
- Working voltage: DC5.0V (± 0.1V)
- Working current: <100mA
- Working temperature: -10. C~50. C
- Working humidity: ≤95%RH (non-condensation)
- Storage temperature: -30. C~70. C
- Dimensions: 51 x 33 x 22mm

joggle :

PIN1	Vcc 5.0±0.1V DC
PIN2	GND
PIN3	NC
PIN4	RXD TTL3.3V
PIN5	TXD TTL3.3V
PIN6	RESET (reset)
PIN7	NC
PIN8	NC

Concentration classification table:

Font color identifier	grade	Quality concentration (ug / m ³)
	ample	0 - 50
	good people	50 - 100
	Mild contamination	100 - 150
	middle level pollution	150 - 200
	Severe contamination	200 - 300
	severe contamination	> 300

protocol : _____

1. Serial port configuration

PIN1	Vcc 5.0±0.1VDC
PIN2	GND
PIN3	NC
PIN4	RXD TTL3.3V
PIN5	TXD TTL3.3V
PIN6	RESET (reset)
PIN7	NC
PIN8	NC

2. Active data upload

Byte number	data	remarks
1	2	
2	9	
3	14	Length of data field
4 - 5		Current value of PM1.0(ug / m3)
6 - 7		Current PM2.5 value (ug / m3)
8 - 9		Current value of PM10(ug / m3)
10 - 11		PM1.0 filtered after calibration value (ug / m3)
12 - 13		PM2.5 filter after calibration value (ug / m3)
14 - 15		PM10 filter calibration value (ug / m3)
16		CRC high-order
17		CRC low-order

3. CRC Algorithm

```
uint16_t crc16_modbus(uint8_t* modbusdata, uint16_t Length)
{
    uint16_t i, j;
    uint16_t crc16 = 0xFFFF;

    for (i = 0; i < Length; i++)
    {
        crc16 ^= modbusdata[i];

        for (j = 0; j < 8; j++)
        {
            if ((crc16 & 0x01) == 1)
                crc16 = (crc16 >> 1) ^ 0xA001;
            else
                crc16 >>= 1;
        }
    }

    return crc16;
}
```

Important Notice: The application conditions for Feigaro sensors may vary depending on specific customer requirements. Feigaro strongly recommends consulting our technical team prior to use, particularly when the detected gas is not listed. Feigaro assumes no liability for any usage that has not undergone professional testing by Feigaro.

REV. 04/18

深圳市杰晟兴电子有限公司 JM Components Limited

地址：深圳市福田区中航路7号鼎诚国际大厦南座2007室

手机：13662266995 马少良 电话：0755-83951311

官网：cn-sensor.com

邮编：518031

传真：0755-83952401

电邮：jackson@jmcomponents.com