CE PMT 2.5R

CE PMT 2.5R L
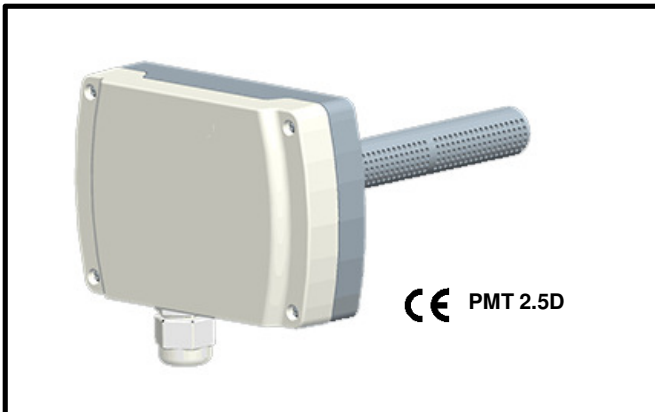

CE PMT 2.5D

CE PMT 2.5D L

Features

• **Room and duct mounting**

• **4-20 mA or 0-10 Vdc output**

• **Range measuring range >1000ug/ m3**
   PM2.5 0~500µg/m3, particle size 0.3~2.5µm
   PM10 0~600µg/m3, particle size 0.3~10µm

• **Options**
  - Modbus RS485
  - LCD display
 **- LCD display with back light, touch keys**
  - Relay 1 x SPST

Ordering

Type no.	Description
PMT 2.5R	PM2.5 transmitter for room mounting 4-20 mA or 0-10 Vdc
PMT 10R	PM10 transmitter for room mounting 4-20 mA or 0-10 Vdc
PMT 2.5D	PM2.5 transmitter for duct mounting 4-20 mA or 0-10 Vdc
PMT 10D	PM10 transmitter for duct mounting 4-20 mA or 0-10 Vdc
Options	
M	Modbus RS485
L	LCD display
LTK	LCD display with back light, touch keys (option only for PMT 2.5R and PMT 10R)
R	Relay 1 x SPST (option only for PMT 2.5R and PMT 10R)

Ventilation Control Products
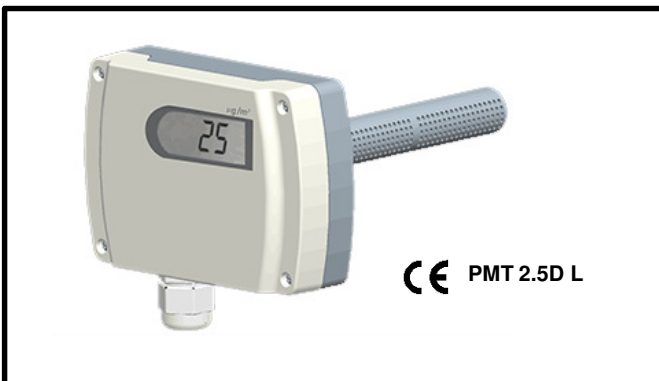
Technical data

Sensor	Laser particle matter sensor, detected particle size 0.3~10 um
Sampling Method	Laser scattering principle
Range	measuring range >1000ug/ m3 PM2.5 0~500µg/m3, particle size 0.3~2.5µm PM10 0~600µg/m3, particle size 0.3~10µm
Accuracy	+/-10 ug/m3 @0~100ug/m3, +/-10% reading@100~500/600ug/m3 @25°C/50%RH, see accuracy curve
Resolution	1 ug/m3
Response time	in continuous service mode, sample time＜1s, response time＜10s,
Service Life	MBTF more than 3 years in continuous service mode, service life up to 8-10 years in auto (intermittent) service mode
Output	4-20mA, 0-10Vdc (standard) RS485/Modbus (optional)
Power supply:	16~28Vac / 16~35Vdc
Load resistance	≤500Ω (Current output), ≥2kΩ (Voltage output)
Display	LCD (optional for all models)
Display and Touch Keys	(optional for PMT 2.5R and PMT 10R)
Relay	1×SPST, 3A-30VDC/250VAC (optional for PMT 2.5R and PMT 10R)
Approval	CE

Applications & Features

Particle Matters transmitters PMT series transmitters are designed For sensing, monitoring & controlling environment air quality PM2.5 & PM10.

PMT 2.5R and PMT 10R are suitable for wall mount and PMT 2.5D and PMT 10D are suitable for duct mount

The sensor has very good long-term stability, consistency accuracy is up to +/-10% readings or +/-10 ug/m3, with real-time response and support continuous acquisition

MBTF is more than 3 years for continuous service (servicelife can be up to 8-10 years in typical stable concentration change working conditions and auto(intermittent) work mode), free maintenance
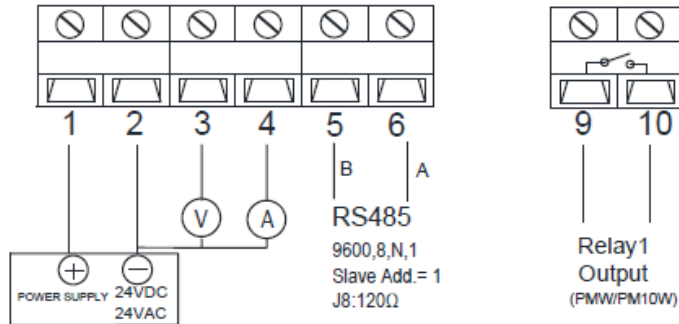
Digital technology applied, over voltage and reverse polarity protection, high reliability and anti-interference capability.

Typical consistency accuracy curve
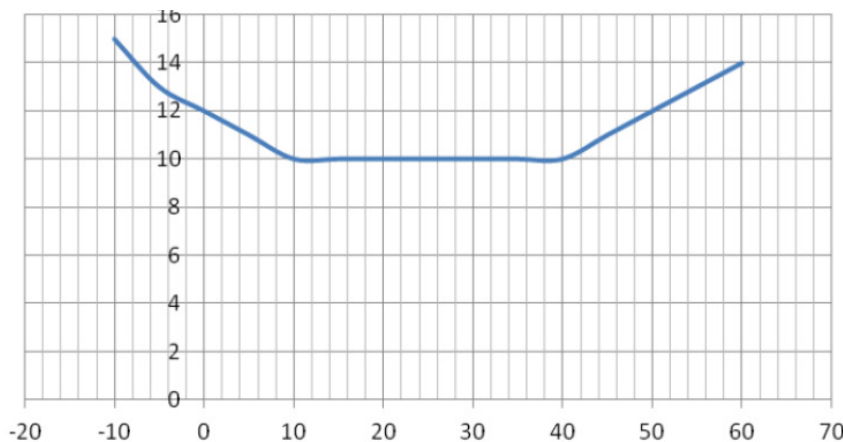
Connections

Different models have different electrical terminals. Please wire specific model according to the wiring diagram inside the front cover.

1. Analog output: Terminal 3 is output 0~10V, terminal 4 is output 4~20mA.

2. RS485/Modbus communication refer to "PMT series particulate matter transmitter Modbus communication instruction" RS485 terminal resistance jumper J8 description as the following figure:

Terminal resistance: None (default)   Terminal resistance: 120 Ω

3. PMT has two working modes, automatic mode (AUTO) and continuous mode (NORMAL). AUTO mode will automatically reduce the measuring time to extend the service life of the sensor when the dust concentration changes very slightly. Use MODE jumper to choose the mode. The factory default mode is AUTO as the following figure:

Continuous operation mode (NORMAL)   Automatic operation mode (AUTO) (default)

4. Relay output: Relay output setting refer to "PM series particulate matter transmitter MMI instruction" Terminals 9 and 10 close when relay 1 is on. Terminals 9 and 10 open when relay 1 is off.

MMI instructions

1. Button definition

◇   ▷   △

Set/Save   Bit Select/decrease   Adjust/increase

User can enter corresponding operation instruction to set the parameters.
The backlight of LCD will be off after 30s without any key's operation.
Note: the LCD will display "----" when the settings are successful, and display "Err" when failed.

2. Operation instruction

Users can use this instructions to set transmitter parameters. Push ◇ to enter programming and display "P000"; then push▷ to select the bit and push △ to cyclic 0~9 settings, select different instructions to enter corresponding parameter group settings.

2.1 "P999": Reset

◇→ P000→▷/ △→P999→◇→"rSt"→◇→finish.
User can resume the factory default set. Input "P999", press button ◇, display "rSt", press button ◇, then all factory default set will restore.

#### 2.2 "P083": Check LCD backlight, LCD display, Relay

◇→ P000→▷/ △→P083→◇→check LCD backlight on/off, LCD strokes display normal and relay alternately act→◇→finish.

#### 2.3 "P091": PM2.5 transmission range (Default 0 ,500)

◇→ P000→▷/ △→P091→◇→XX (1)→▷/ △→XX(1)→◇→XX(2)→▷/ △→XX(2)→◇ finish.

XX(1) means low range,XX(2) means high range
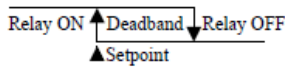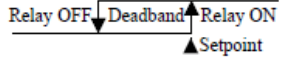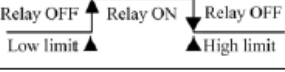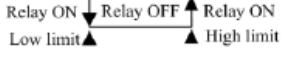
2.4 "P161": PM2.5 1 point calibration

◇→ P000→▷/ △→P161→◇→X.X→▷/ △→X.X→◇ finish. XX means calibration value.
Press ◇ key to finish and display temperature single point calibration offset, after about 2 seconds later, finally display temperature read value; display value (output) = actual measurement + offset

2.5 "P401": Relay 1 setting (default set: 2, 100, 5, 3, 1, not needed for product without relay output option)

◇→ P000→▷/ △→P401→◇→XX(M)→▷/ △→XX(M)→◇→XX(P1)▷/△→XX(P1)→◇
→XX(P2)→▷/△→XX(P2)→◇→XX(P3)→▷/ △→XX(P3)→◇→XX(P4)→▷/ △→XX(P4)→◇ finish.
XX (M) means Mode, XX (P1) means Para. #1, XX (P2) means Para. #2, XX (P3) means Para. #3, XX (P4) means Para. #4, refer to descriptions below.
R1 symbol in LCD will be on when relay 1 is actuated.

Relays parameters and descriptions:

Mode	Mode Description	Para. #1	Para. #2	Para. #3	Para. #4	Definition
0	Cancel relay alarm function	N/A	N/A	N/A	N/A	Relay OFF
1	Relay actuate when input is lower than set point	Set point	Dead band	Actuate delay	Restore delay	Relay ON ↑ Deadband ↓ Relay OFF ↑ Setpoint
2	Relay actuate when input is higher than set point	Set point	Dead band	Actuate delay	Restore delay	Relay OFF ↓ Deadband ↑ Relay ON ↑ Setpoint
3	Relay actuate between high and low limits	Low limit	High limit	Actuate delay	Restore delay	Relay OFF ↑ Relay ON ↓ Relay OFF / Low limit ↑ High limit ↑
4	Relay actuate outside high and low limits	Low limit	High limit	Actuate delay	Restore delay	Relay ON ↓ Relay OFF ↑ Relay ON / Low limit ↑ High limit ↑

2.6 "P483": Set RS485 baud rate (Default set: 9600, available 4800, 9600)
◇→ P000→▷/ △→P483→◇→XX→▷/ △→XX→◇ finish. XXX means baud rate.

2.7 "P484": Set RS485 parity (Default set: 0(None), available 0(None), 1(Odd), 2(Even))
◇→ P000→▷/ △→P484→◇→XX→▷/ △→XX→◇ finish. XXX means parity.

2.8 "P485": Set RS485 address(Default set: 1, available ranges 1~255, but recommend 1~32)
◇→ P000→▷/ △→P485→◇→XX→▷/ △→XX→◇ finish. XXX means address.

3. System Error signal

Error code	Possible Problems	Solution
Err	Key input error	Input right code
Er4	The sensor's reading is abnormal	check if the sensor is in good connection with the PCB