



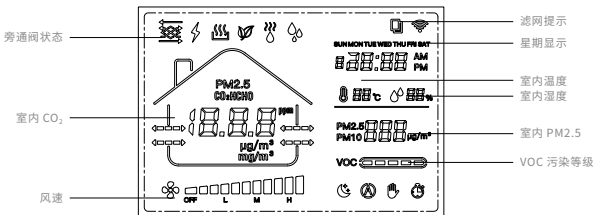
CS2-PM2.5/CO2
智能控制器说明书 (EC)

一、概述

CS2-PM2.5/CO2 智能控制器采用触摸按键技术，操作灵活方便。内置传感器能够实时监测室内温度、湿度、PM2.5 浓度，以及 CO2 浓度探测功能，控制器输出信号直接控制新风机的启动及转速，可广泛应用于住宅、商业及工业场合，并且能有效改善空气品质，创造健康、舒适、高效、环保、节能的生活工作环境。





二、按键功能说明

- 1、 键：开关机键
- 2、 键：参数上调键
- 3、 键：参数下调键
- 4、 键：开启或关闭风阀
- 5、 键：切换工作模式
- 6、 键：设置时钟及定时参数



三、详细说明

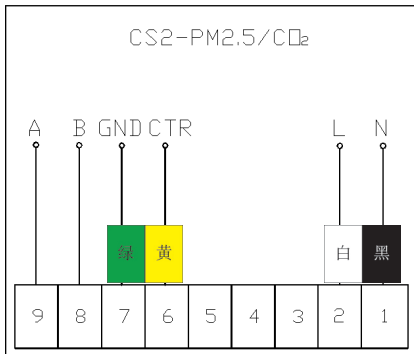
- 1、开关机：按  键开机或关机，关机状态所有输出关闭，显示关闭。
- 2、切换工作模式：按  键切换工作模式，工作模式在“自动—手动—定时—自动”三种状态循环切换，每按一次按键切换一种工作状态。
- 3、手动模式：由用户设定风机风速，不受定时和空气质量影响，通过  键或  键调整风速。
- 4、定时模式：按设定时间及风速运行，可设定星期一至星期天，每天 4 段，共计 28 个时段。
- 5、自动模式：控制器根据空气质量状况（PM2.5 和 CO2 浓度）自动调速风速；当 PM2.5 浓度高于设定值 70ug/m3 或 CO2 浓度高于设定值 500ppm，风机高速运行；当 PM2.5 浓度高于设定值 35 - 69ug/m3 或 CO2 浓度高于设定值 200-499ppm，风机中速运行；当 PM2.5 浓度高于设定值 0 - 34ug/m3 或 CO2 浓度高于设定值 0-199ppm，风机低速运行；当 PM2.5 和 CO2 浓度均低于设定值，风机停止。
- 6、自动模式风机启动浓度值设定：在自动模式下长按 2 秒进入  CO2 参数设置，原先显示 CO2 浓度位置将显示设置值并闪烁，通过  和  键修改数值；自动模式下长按  2 秒进入 PM2.5 参数设置，原先显示 PM2.5 浓度位置将显示设置值并闪烁，通过  和  键修改数值；超过 10 秒钟无按键操作控制器自动保存设置参数并返回正常工作状态。
- 7、定时参数设定：长按  键 2 秒进入定时参数设置，首先进入本地时间校正，通过轻按  切换周、小时、分钟，相对应的参数会闪烁，通过  和  键修改数值；本地时间校正完后，轻按  键进入周一时段一的小时设定，通过轻按  键切换小时、分钟、风速，通过  和  键修改数值；设定完成后轻按  键进入周一时段二设定……，重复前面步骤直到 28 个时段全部设置完成。在设置过程中超过 10 秒钟未操作按键，控制器将自动恢复至正常工作状态并保存设置参数。
- 8、长按  键 3 秒进入 RS485 通讯地址设置，原先显示 CO2 位置将显示 485 通讯地址并闪烁，通过  和  键修改数值。在设置过程中超过 10 秒钟未操作按键自动保存数据并返回。
- 9、风机启动后滤网开始计时，当滤网工作时间超过 3000 小时后，滤网图标 “” 闪烁提示更换或清洗滤网；在定时模式下长按  键 2 秒以上，原先显示时钟位置将显示滤网已工作时间（小时）；在定时模式下长按  键 5 秒清零滤网时间，重新开始计时。

10、输出电压设置，在开机状态下长按  键 5 秒进入输出电压设置，原先显示 CO2 浓度位置将显示设置值并闪烁，显示格式 XY.Z，其中最高位 X 表示档位，Y.Z 表示输出电压。X 档位含义：1：送风机低速 2：送风机中速 3：送风机高速 4：排风机低速 5：排风机中速 6：排风机高速；X.Y 输出电压，如 1.0 表示输出电压为 1.0V。通过短按  键切换设置档位，通过  和  键修改数值。在设置过程中超过 10 秒钟未操作按键自动保存数据并返回。

四、技术参数

外形尺寸	86*86MM	预热时间	1 分钟
安装孔距	60MM (标准)	响应时间	≤ 10 秒
接线端子	最大 2.5mm ² 导线	恢复时间	≤ 30 秒
额定电压	AC220V 50Hz	工作温度	-10°C - +50°C
待机功耗	≤ 2.0W	工作湿度	5% RH——90% RH(非结露)
控制功率	≤ 200W	存储温度	-10°C - +60°C
输出接口	0-10V	存储湿度	≤ 60% RH
温度显示范围	0°C -50°C	使用寿命	≥ 10 年
PM2.5 显示范围	1ug/m ³ -999ug/m ³		

五、接线示意图



(按如图所示颜色接线，设备接线与之一一对应)

六、通讯接口

RS485

七、通讯串口配置

8 位数据位, 1 位停止位, 无校验, 波特率: 9600bit/s

八、通讯协议

MODBUS RTU

九、支持指令

0X03 0X06 0X10

十、寄存器地址





寄存器 (DEC)	寄存器类型	描述	数据范围 (DEC)
012	读	开关机状态	0: 关机 1: 开机
013	读	工作模式	1: 自动 2: 手动 3: 定时
014	读	风速	0: 停止 1: 低速 2: 中速 3: 高速
015	读	备用	
016	读	备用	
017	读	PM2.5 浓度	数据范围 :1-1999 表示 1-1999ug/m3
018	读	CO2 浓度	数据范围 :350-1999 表示 350-1999ppm
019	读	温度	数据范围 :0-50 表示 0-50°C
020	读	湿度	数据范围 :1-99 表示 1-99 % rh
021	读	滤网时间	数据范围 :0-9999 表示 0-9999 小时

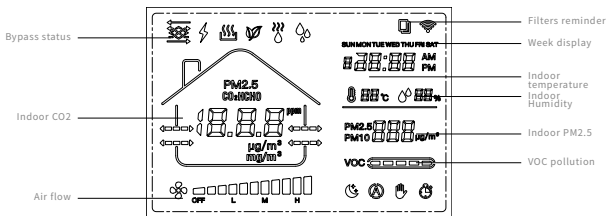
寄存器 (DEC)	寄存器类型	描述	数据范围 (DEC)
002	写	开关机状态	0: 关机 1: 开机
003	写	工作模式	1: 自动 2: 手动 3: 定时
004	写	风速	0: 停止 1: 低速 2: 中速 3: 高速
005	写	备用	
006	写	备用	
007	写	PM2.5 浓度	数据范围 :1-200 表示 1-200ug/m3
008	写	CO2 浓度	数据范围 :350-1500 表示 350-1500ppm

I. General description


CS2PM2.5/CO2 controller adopts touch technology, which is flexible and convenient. There are sensors can monitor the indoor temperature, humidity, PM2.5 and CO2 concentration detection function. The output signal of controller can directly control the starting and RPM of the fresh air. It can be widely used in residential, commercial and industrial conditions, and can effectively improve the air quality, create a healthy, comfortable, efficient, environmental protection and energy-saving living environment.

II. Press buttons instructions

- 1、: Switch key
- 2、: Parameter up key
- 3、: Parameter down key
- 4、: Open or close the dumper
- 5、: Switching mode of operation
- 6、: Set clock and timing parameters



III. Detailed instructions

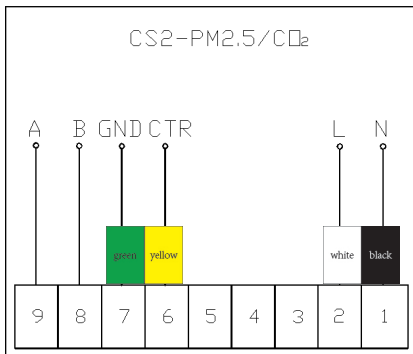
1. Switch key: Press  for power on and off, and in power off status, all input and display is shutdown.
2. Switch the working mode: press  to switch the working mode, and it can be switched in three states: automatic, manual, timing, automatic, each press will switch a working state.
3. Manual mode: the fan is set by the user and is not affected by the timing and air quality, and the flow speed is adjusted by  or  key.
4. Timing mode: according to the set time and flow speed, you can set from Monday to Sunday, 4 section period for each day, a total of 28 periods.
5. Automatic mode: the controller automatically adjusts the flow speed according to the air quality condition (PM2.5 and CO2 concentration); when the concentration of the PM2.5 is higher than the set value of 70ug/ m3 or the concentration of the CO2 is higher than the set value of 500ppm, the fan runs at high speed; when the concentration of the PM2.5 is higher than the set value of 35-69ug/ m3 or the CO2 concentration is higher than the set value of 200-499 ppm, the fan runs at a medium speed; When the concentration of PM2.5 is higher than the set value of 0-34ug/ m3 or the concentration of CO2 is higher than the set value of 0-199 ppm, the fan is operated at low speed; when the concentration of PM2.5 and CO2 is lower than the set value, the fan stops.
6. The automatic mode fan starts the concentration value setting: press  key for 2 seconds to enter the CO2 parameters setting in the automatic mode, the position to show CO2 will display the setting value and flicker, modify the value through the key  and , press  key for 2 seconds to enter the PM2.5 parameter setting in the automatic mode, the position to show PM2.5 will display the setting value and flicker, modify the value through the key  and . Without any operation more than 10 seconds, the controller automatically saves the setting parameters and returns to normal working state.
7. timing parameter setting: press the  key for 2 seconds to enter the timing parameter setting, first enter the local time correction, by gently pressing  to switch hours, minutes, the corresponding parameters will flicker, modify the value through the key  and ; after the local time is correction, press the  key to enter the first period of Monday, by gently pressing the  key to switch hours, minutes, flow speed, modify the value through the key  and ; When the setting is complete, press the  button to enter the second period of Monday... Repeat the previous steps until all 28 periods are complete. Without any operation more than 10 seconds, the controller automatically saves the setting parameters and returns to normal working state.

8. press the key for 3 seconds to enter the RS485 address setting, the position to show display CO2 will display 485 communication address and flicker, modify the value through the key ▲ and ▼ . Without any operation more than 10 seconds, the controller automatically saves the setting parameters and returns to normal working state.
9. After the fan starts, the filter begins to clock. When the filter working time exceeds 3000 hours, the filter mark flashes to remind replacing or cleaning; in timing mode, press the ▲ button for more than 2 seconds, the position to show display clock will display filter has been working time (hours); in timing mode, press the ▼ button for 5 seconds to clear the filter time, and start the timing again.
10. the output voltage setting, in the boot state, press the ⏻ key for 5 seconds to enter the output voltage setting, the position to show display CO2 will display the setting value and flicker, the display format XY.Z, in which X represents the level, Y,Z represent output voltage. X meaning: 1: fan low speed 2: fan medium speed 3: fan high speed 4: exhaust fan low speed 5: exhaust fan medium speed 6: exhaust fan high speed; X, Y output voltage, such as 1.0 indicates that the output voltage is 1.0V. By pressing the key to switch level, and modify the value through the key ▲ and ▼ . Without any operation more than 10 seconds, the controller automatically saves the setting parameters and returns to normal working state.

IV. Technical parameters

Out looking size	86*86MM	Preheating time	1minute
Installation hole distance	60MM (standard)	Response time	≤ 10 seconds
Terminal	maximum 2.5 mm ² wire	Recovery time	≤ 30 seconds
Rated voltage	AC220V 50Hz	Working temperature	-10°C - +50°C
Standby power Consumption	≤ 2.0W	Working humidity	5% RH—90% RH(non-condensation)
Control power	≤ 200W	Reserve temperature	-10°C - +50°C
Output interface	0-10V	Storage humidity	≤ 60% RH
Temperature Display range	0°C -50°C	Service life	≥ 10 years
PM2.5 display scope	1ug/m3 -999ug/m ³		

V. Diagram illustration:



(According to the color wiring shown in the figure, the equipment wiring corresponds to it one by one.)

VI. Communication interface

RS485

VII. Communication Serial configure

8-bit data bit,1-bit stop bit, no check, baud rate:9600 bit/ s

VIII Communication protocol

MODBUS RTU

VIII. Support instruct

0X03 0X06 0X10

X. Register address

Register (DEC)	Register type	Description	Scope (DEC)
012	Reading	Switch state	0: power on 1:power off
013	Reading	Working mode	1: automatic 2: Manual 3:Timing
014	Reading	Flow speed	0: Stop 1: Low speed 2: Medium speed 3: High speed
015	Reading	Spare	
016	Reading	Spare	
017	Reading	PM2.5 concentration	Data scope: 1-1999 indicate1-1999ug/m3
018	Reading	CO2 concentration	Data scope: 350-1999 indicate 350-1999ug/m3
019	Reading	Temperature	Data scope: 0-50 indicate 0-50°C
020	Reading	Humidity	Data scope: :1-99 indicate1-99 % rh
021	Reading	Filters time	Data scope: 0-1999 indicate0-9999ug/m3

Register (DEC)	Register type	Description	Scope (DEC)
002	Writing	Switch state	0: power on 1:power off
003	Writing	Working mode	1: automatic 2: Manual 3:Timing
004	Writing	Flow speed	0: Stop 1: Low speed 2: Medium speed 3: High speed
005	Writing	Spare	
006	Writing	Spare	
007	Writing	PM2.5 concentration	Data scope: 1-200 indicate 1-200ug/m3
008	Writing	CO2 concentration	Data scope: 350-1500 indicate350-1500ppm