

Technical Sheet For Multifunctional sensor

CSMS-04/00.1.0x (4 in 1)

CSMS-05/00.1.0x (5 in 1)

CSMS-06/00.1.0x (6 in 1)

CSMS-09/00.1.0x (9 in 1)

(x=0: White; x=1: Black)



The worldwide STANDARD for home and building control

CHARACTERISTICS

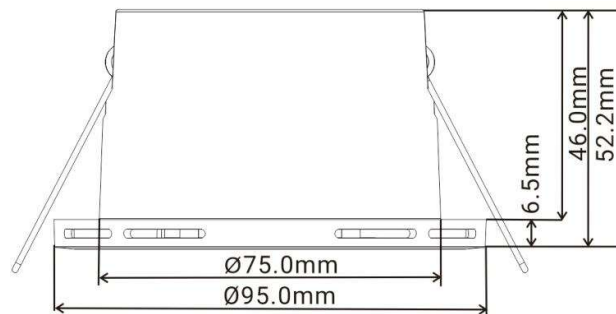
- Detects temperature, humidity, PM2.5, PM10, CO2, TVOC, formaldehyde, movement, Illuminance data and output AQI
- Support sending alarm value, when the temperature, humidity, CO2, PM2.5, PM10, TVOC, formaldehyde, AQI detection data exceeds the threshold, it can send the corresponding alarm telegram
- AQI, CO2, relative humidity, PM2.5, PM10, TVOC, formaldehyde level control
- Support for motion detection, using pyroelectric infrared detection technology, which can only detect normal movement behavior. Can configurable up to 4 presence control outputs and work modes of master/slave
- Built-in brightness sensor, and control the light via brightness threshold and also control logically with movement signal
- Constant lighting control
- RTC functions for heating/cooling system, as well as support additional heating/cooling
- Relative humidity/Ventilation/CO2 control, 3 level humidity/fan speed/CO2
- Logic functions and scene group functions
- Support the KNX Data Secure

Note: Different models of multifunctional sensor can be configured with different types of sensors (temperature, humidity, PM2.5, PM10, CO2, TVOC, formaldehyde, motion, brightness sensors)

PARAMETERS

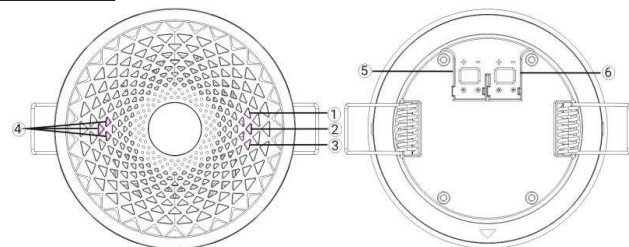
Power supply	Bus voltage	21-30V DC, via the KNX bus
	Bus current	<4mA/24V DC, <4mA/30V DC
	Bus consumption	<100mW
	Voltage	12-30V DC
Auxiliary supply	Current	<17mA/12V DC, <16mA/24V DC <12mA/30V DC
	Consumption	<0.5W
	Connection line	KNX Bus connection terminal(Red/Black) Auxiliary supply Connection terminal(Yellow/White)
Operation and display	Programming button and LED	For assigning the physical address
	Temperature sensor	Range -10°C ~ +45 °C
Humidity sensor	Range	0~100%
	PM2.5/PM10 sensor	Range 0-1000µg/m³ Efficiency 50%(φ=0.3µm), 98%(φ≥0.5 µm) Response time ≤ 1s
CO2 sensor	Range	400~2000ppm
TVOC sensor	Range	0~65000ppb
Formaldehyde sensor	Range	0~5 ppm
Brightness sensor	Range	0~10000 Lux
Temperature range	Operation	-5 °C ... + 45 °C
	Storage	-25 °C ... + 55 °C
	Transport	-25 °C ... + 70 °C
Ambient	Humidity	<93%, except dewing
Installation	Ceiling mounted or Surface mounted	
	Surface mounted with additional accessory CSMSA-00/0.1.0x	
	Mounting height	2.5-6m

DIMENSIONS



Model	Dimension	Weight
CSMS-04/00.1.0x, CSMS-05/00.1.0x	φ95*52.2mm	0.2KG
CSMS-06/00.1.0x, CSMS-09/00.1.0x		

DESCRIPTIONS



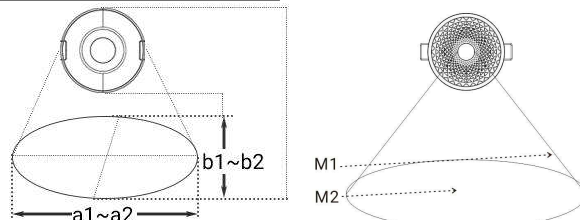
- ① Programming LED ② Programming button ③ Alarm LED ④ Brightness sensor
⑤ KNX bus connection terminal ⑥ Auxiliary supply connection terminal
- Reset the device to the factory configuration: press the programming button and hold for 4 seconds then release, repeat the operation for 4 times, and the interval between each operation is less than 3 seconds**

INSTALLATION INSTRUCTIONS

1. Keep it far away fridge, air conditioning, and stovepipe, where temperature changes violently.
2. In a certain temperature, speed of wind affects a little.
3. If ambient temperature approaches body temperature, the sensor will lose efficacy.
4. Between the sensor and detected area must not have stumbling block.

5. Sensor can not be directly on the windows and doors, and where there is direct sunlight. Air flow and dramatic changes in light will case sensor generates fault alarm.

INSTALLATION DIAGRAM



The following table shows the maximum range of the different areas for different installation heights (H) (unit: meter), with a movement speed of 1.0m/s:

H	M1		M2	
	a1	b1	a2	b2
2.5	5	4	7	6
3	6	5	8	7
4	8	7	11	9.5
5	10	8.5	13.5	11.5
6	11	10	15.5	13.5

a: the wide range of detection diameter;
b: the narrow range of detection diameter;
a, b is corresponds to direction of sensor installation
M1: walking straight to sensor;
M2: walking across sensor.

Note: the data is referred from internal laboratory, there may be differences in results depending on the environment, object and movement speeds. For better detection effect, temperature difference between the ambient and the human body should be greater than 5°C, to avoid abnormal triggering.

IMPORTANT INFORMATION

Installation and commissioning of the device may only be carried out by trained electricians. The relevant standards, directives, regulations and instructions must be observed when planning and implementing the electrical installation.

● Protect the device against moisture, dirt and damage during transport, storage and operation!

● Do not operate the device outside the specified technical data (e.g. temperature range)!

Should the device become soiled, it may be cleaned with a dry cloth. If this does not suffice, a cloth lightly moistened with soap solution may be used. On no account should caustic agents or solvents be used.

多功能传感器技术规格书

适用型号：

CSMS-04/00.1.0x（四合一）

CSMS-05/00.1.0x（五合一）

CSMS-06/00.1.0x（六合一）

CSMS-09/00.1.0x（九合一）

（x=0：白色；x=1：黑色）

国际标准的家庭和楼宇控制系统



产品功能

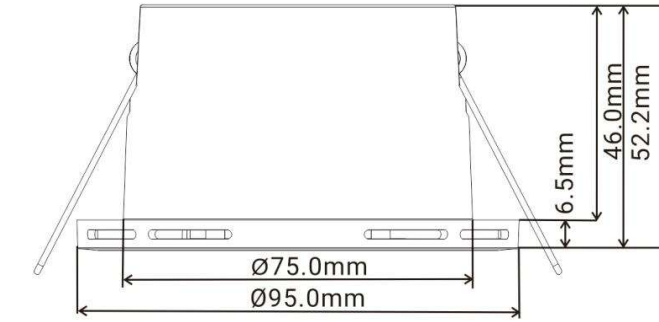
- 检测温度、湿度、PM2.5、PM10、CO2、TVOC、甲醛、人体移动、光照度的数据并输出空气质量指数（AQI）
- 支持警报值发送功能，当检测数据超过阈值时，可以发送对应警报提示报文，如：过温或过湿、二氧化碳超标、PM2.5 超标、PM10 超标、大气挥发性有机物超标（TVOC）甲醛超标、空气质量指数（AQI）超标等报警功能
- AQI、CO2、相对湿度、PM2.5、PM10、TVOC、甲醛输出等级控制
- 支持人体移动检测，采用热释电红外技术，只能支持普通的移动行为探测。可配置多达 4 个通道的移动控制功能和支持主从的工作模式
- 内置光照度传感器，且可根据光照度阈值进行灯光控制，还可与移动信号联动进行逻辑控制
- 支持恒照度控制
- 支持温控器功能，用于加热/制冷系统，同时支持额外的加热/制冷阀门控制
- 支持湿度/新风/CO2 控制器功能，可设置 3 档湿度/风速/CO2 阈值
- 支持逻辑和场景组功能
- KNX 安全

注：不同型号的多功能传感器可配置不同类型的传感器（温度、湿度、PM2.5、PM10、CO2、TVOC、甲醛、移动、照度传感器）

技术参数

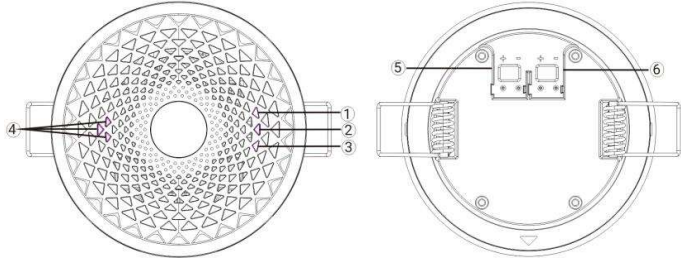
总线电源	总线电压	21-30V DC，通过 KNX 总线获得
	总线电流	<4mA/24V DC，<4mA/30V DC
	总线功耗	<100mW
辅助电源	电压	12-30V DC
	电流	<17mA/12V DC，<16mA/24V DC <12mA/30V DC
	功耗	<0.5W
接线	KNX	总线连接端子（红/黑）（直径 0.8 mm）
	辅助供电	总线连接端子（黄/白）
操作与指示	编程按钮和红色 LED	分配物理地址
	温度检测	范围 -10℃~ + 45℃
湿度检测	范围	0~100%
	颗粒物、PM2.5、PM10 浓度传感器	范围 0-1000µg/m³
	计数效率	50%(φ=0.3um)， 98%(φ≥0.5 um)
CO2 检测	响应时间	≤1s
	范围	400~2000ppm
TVOC 检测	范围	0~65000ppb
	甲醛检测	范围 0~5 ppm
光照度检测	范围	0~10000 Lux
	温度范围	运行 -5℃ ... + 45℃
	存储	-25℃ ... + 55℃
环境条件	运输	-25℃ ... + 70℃
	湿度	<93%，没有结露
安装	安装方式	吸顶式安装、表面安装
		表面安装，通过配件 CSMSA-00/0.1.0x
	安装高度	2.5~6m

尺寸规格



型号	尺寸	重量
CSMS-04/00.1.0x、CSMS-05/00.1.0x CSMS-06/00.1.0x、CSMS-09/00.1.0x	φ95*52.2mm	0.2KG

接线图

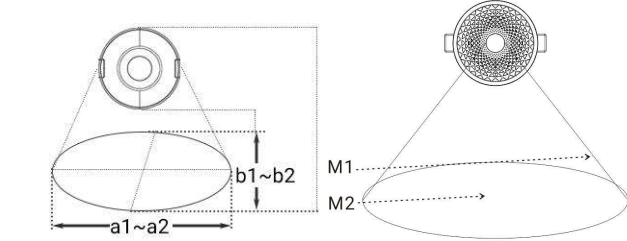


- ①编程 LED ②编程按钮 ③报警指示灯 ④照度传感器 ⑤KNX 总线连接端子
⑥辅助供电连接端子
- 重置设备到出厂配置：长按编程按钮约 4 秒，长按 4 次，且每次松开间隔小于 3 秒

安装说明

- 1.远离空调，冰箱，火炉等空气温度变化敏感的地方。
- 2.在温度一定的情况下，风速对传感器的影响不是很大。
- 3.当环境温度接近人体温度的时候，传感器反应不是很灵敏，甚至会失灵。
- 4.传感器和被探测的人体之间不得间隔家具、大型盆景、玻璃、窗帘等其他物体。
- 5.传感器不能直对门窗及有阳光直射的地方(照度和移动)，否则窗外的热气流扰动和人员走动，会使移动传感器误报，光线的剧烈变化会使照度传感器误报。

安装感应示意图



下表显示在移动速度 1.0m/s 下，不同安装高度(H)所对应的最大感应范围(单位：米)：

H	M1		M2		
	a1	b1	a2	b2	
2.5	5	4	7	6	a：检测直径的宽边； b：检测直径的窄边； a、b 对应于传感器安装方向 M1：走向传感器； M2：经过传感器
3	6	5	8	7	
4	8	7	11	9.5	
5	10	8.5	13.5	11.5	
6	11	10	15.5	13.5	

注：仅参考内部实验室测试的数据，不同环境、物体和移动速度，可能存在结果差异。为了更好地获得检测效果，环境温度与人体温度的温差需大于 5℃，否则可能有误触风险。

重要提示

安装和调试设备只能由合格的熟练电工来操作。在计划与实施电气安装的过程中相关的标准、指令、规则和指示都要严格执行。

- 需要避免器件在运输、储存、使用的过程中受潮、脏污以及受损。
- 不要使器件运行在指定的技术指标之外（例如温度范围）。

当设备脏污时，只可以使用干燥的布来清洁。如果这样不足以清洁干净,可以使用湿布蘸少许肥皂溶液轻轻擦拭。绝不能使用碱剂或者腐蚀性溶剂。