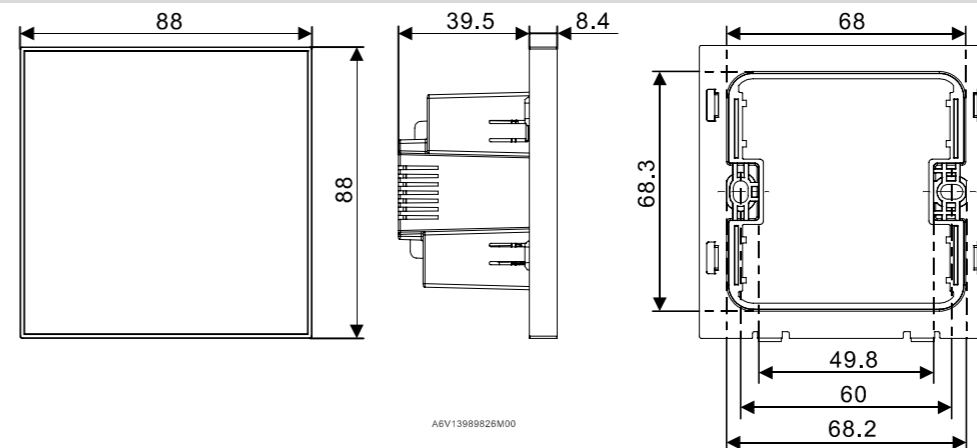




Datasheet / 技术参数表

## Room thermostat Modbus 房间温控器 Modbus RDF440MB

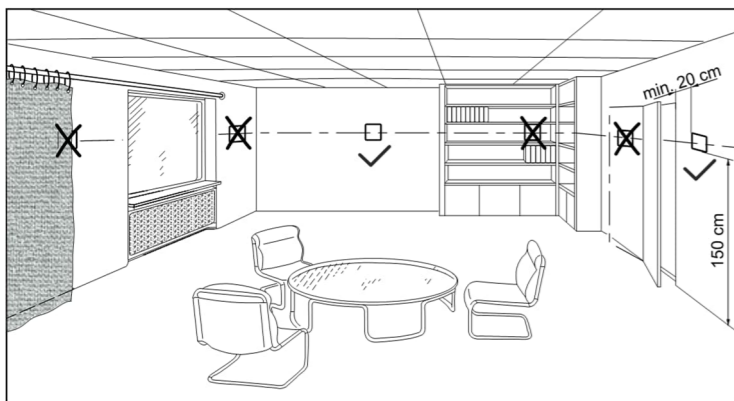
### Dimensions (mm) / 尺寸 (毫米)



The dimensions are for the unit and its mounting plate.

尺寸包括温控器和安装板。

### Mounting location of unit / 温控器安装位置

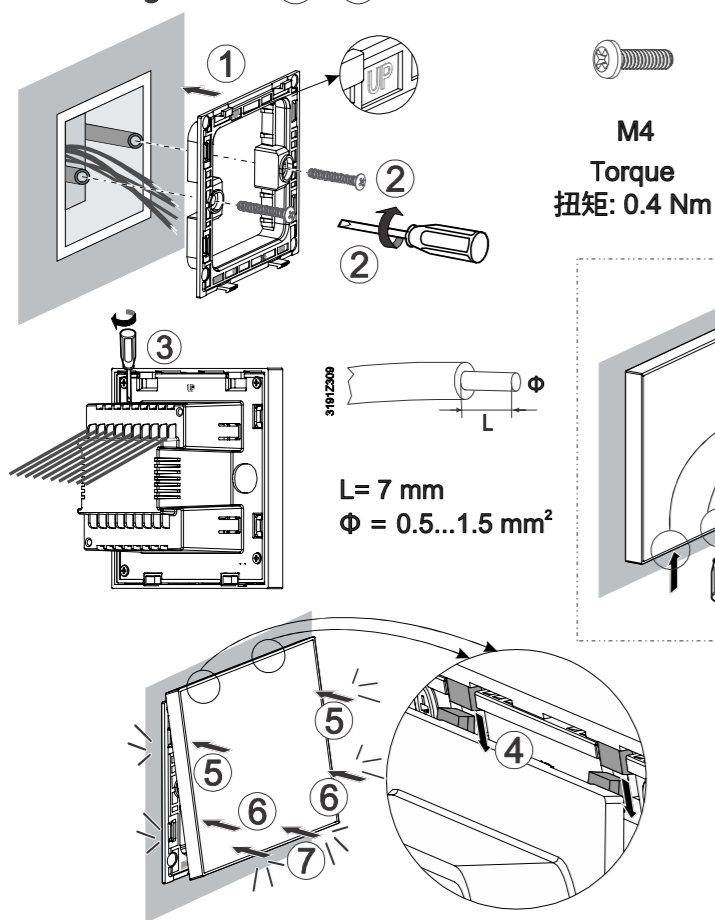


Carefully read all wiring diagrams prior to installation to avoid damage to the device caused by incorrect wiring of high or low voltages.

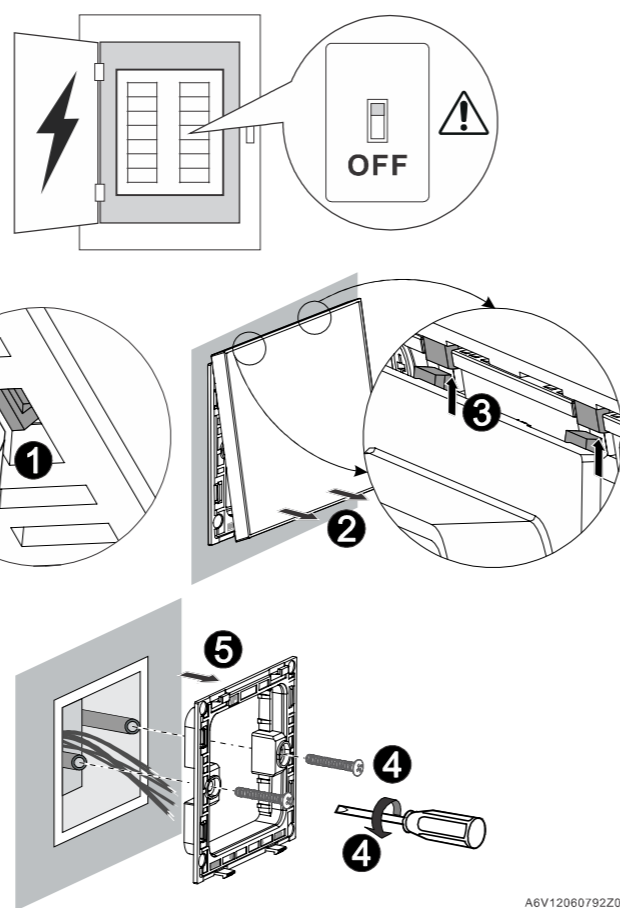
请在安装前仔细阅读接线说明图。错接强电、弱电会导致产品损坏。

### Mounting and dismantling / 安装和拆卸

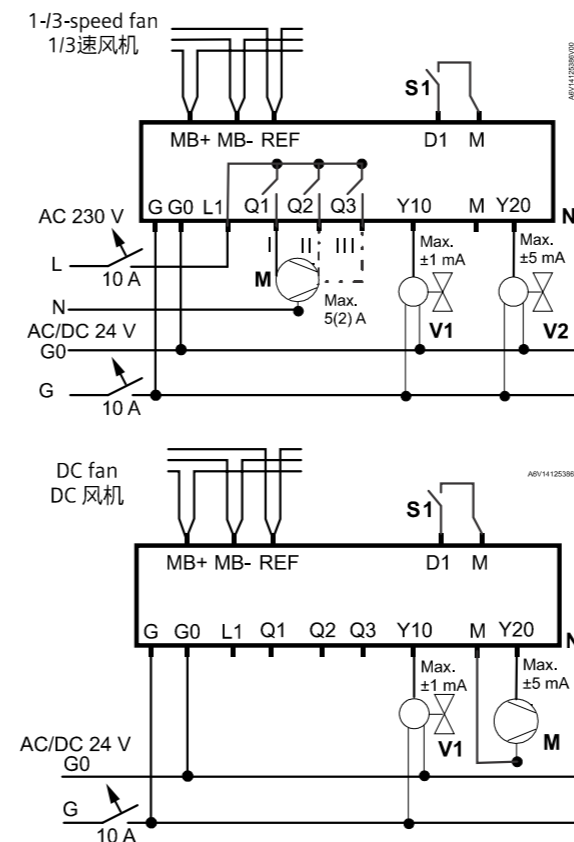
#### Mounting / 安装 ①-⑦



#### Dismounting / 拆卸 ①-⑤



### Wiring diagrams / 接线图



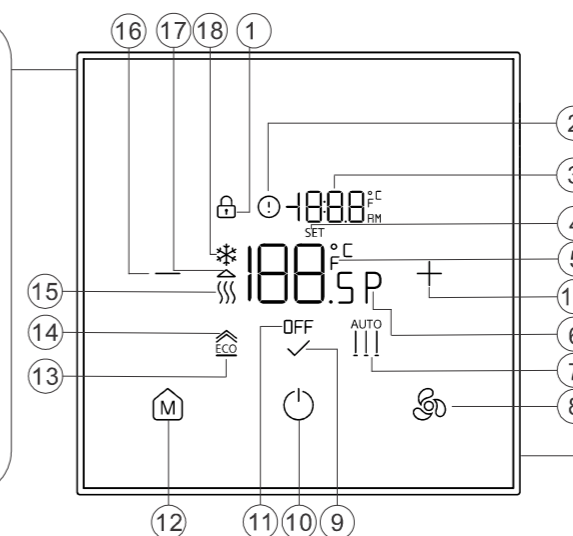
	en (English)	zh (中文)
G, G0	AC/DC 24 V power supply	工作电压为 AC/DC 24 V
L1	Feed for relays AC 24...230 V	继电器公共端供电电压 AC 24...230 V
Q1, Q2, Q3	Fan control output (relay output), Q1-low, Q2-middle, Q3-high	风机继电器输出, Q1-低速, Q2-中速, Q3-高速
Y10	Control outputs "Valve" DC 0...10 V, 2-pipe cooling/heating, or 4-pipe heating	阀门控制输出, DC 0...10 V (两管制冷水/热水阀或四管制热水阀)
Y20	Control outputs "Valve" DC 0...10 V, 4-pipe cooling, and 2-pipe DC fan	阀门控制输出, DC 0...10 V (四管制冷水阀及两管制 DC 风机)
M	Reference ground for D1	D1 信号接地或 DC 风机信号接地
D1	Digital input, e.g., switch	数字输入, 如开关
MB+, MB-	Modbus terminals	Modbus 端口
REF	Modbus reference ground	Modbus 接地

### Operating instructions / 操作说明

#### Overview / 概览

#### Information / 信息

1. Keylock / 按键锁定
2. Alarm / 告警
3. Secondary display / 副显示
4. Setpoint adjustment / 设定值调节
5. Temperature or parameter values, etc. / 温度或参数值等
6. Parameter setting / 参数设置
7. Fan mode / 风机模式
9. Confirm / 确认
11. Protection mode / 保护模式
13. Economy mode / 节能模式
14. Exit / 退出
15. Heating mode / 制热模式
17. Valve on / 阀门开启
18. Cooling mode / 制冷模式

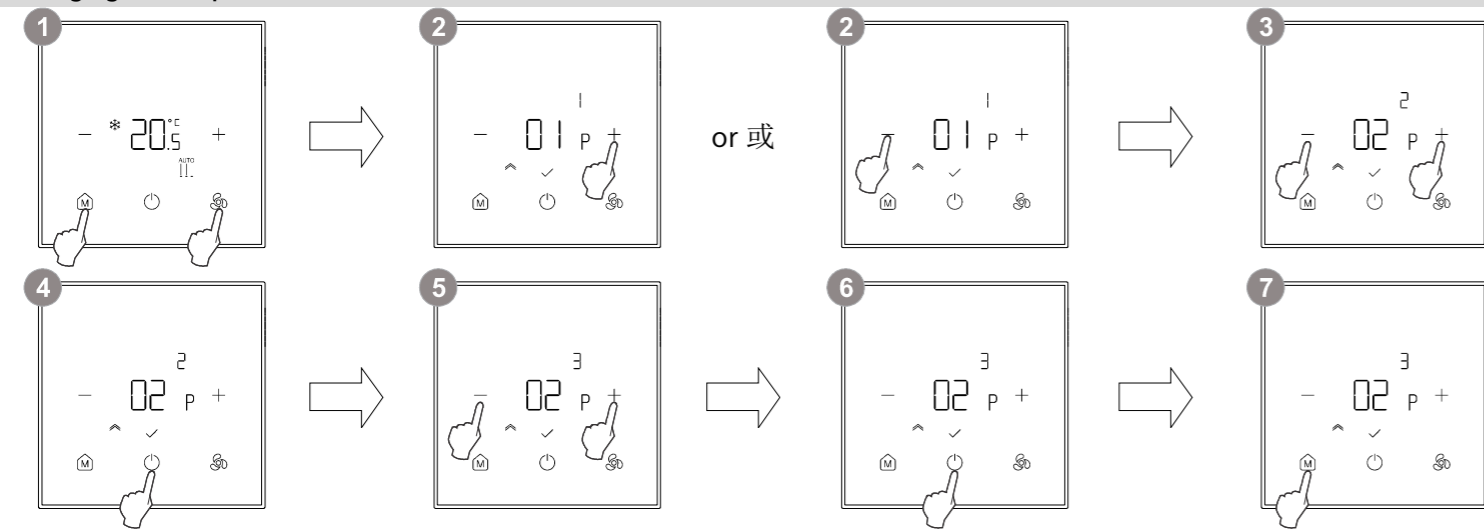


#### Button / 按键

8. Switch fan mode / 切换风机模式
10. On / Off / 开启 / 关闭
12. Mode selection / 模式选择
16. Increase, decrease or select / 增减或选择



## Changing control parameters / 更改参数



- 1 Press and hold the **M** and **S** buttons simultaneously for more than 3 seconds.  
**Service level:** Release the buttons, within 2 seconds, short press + and Pxx is displayed after release.  
**Expert level:** Release the buttons, within 2 seconds, short press - and Pxx is displayed after release.
- 2 Press + or - (< or >) to access the desired parameter and the value of the selected parameter is displayed.
- 3 Press **✓** to edit the value of the required parameter.
- 4 Press + or - to increase / decrease or select a new value of current parameter during editing.
- 5 Press **✓** to confirm the new value and repeat steps 3 to 5 to change more parameters.
- 6 Press **M** (**^**) to exit the parameter setting mode.
- 7 同时按下 **M** 和 **S** 键 3 秒钟以上。  
初级参数：松开按键且在 2 秒内短按下 + 键，松开后即显示 Pxx。高级参数：松开按键且在 2 秒内短按下 - 键，松开后即显示 Pxx。  
按下 + 或 - 键（使用 < 或 > 键）选择参数。所选参数的当前值会显示。  
按下 **✓** 键（使用 **✓** 键）编辑所需参数值。  
按下 + 或 - 键，在编辑过程中增加 / 减少或选择当前参数的值。  
按下 **✓** 键（使用 **✓** 键）确认更改的值。重复步骤 3 至 5 更改其他参数。  
按下 **M** 键（使用 **^** 键）退出参数模式。

## Parameter list / 参数列表

Parameter 参数	Description 参数说明	Factory setting 出厂设置	Setting range 设定范围	Adj. 更改记录
<b>Service level / 初级参数</b>				
P01 <sup>1)9)</sup>	Application / 应用	1	1 = 2-pipe, H/C changeover; 3 = 4-pipe / 1 = 两管制, 供热制冷转换; 3 = 四管制	
P02 <sup>9)</sup>	Control sequence if 2-pipe is selected, i.e., P01 = 1 选择两管制应用时的控制序列 (即 P01 = 1)	2	1 = Heating only; 2 = Cooling only 3 = H/C changeover auto; 4 = H/C changeover manual 1 = 仅供热; 2 = 仅制冷; 3 = 供热制冷自动转换 4 = 供热制冷手动转换	
	Control sequence if 4-pipe is selected, i.e., P01 = 3 选择四管制应用时的控制序列 (即 P01 = 3)	5	4 = H/C changeover manual / 4 = 供热制冷手动转换 5 = Heating and Cooling / 5 = 供热和制冷	
P03 <sup>2)9)</sup>	Fan type / 风机类型	2	1 = 1-speed fan; 2 = 3-speed fan; 3 = ECM fan 1 = 1速风机; 2 = 3速风机; 3 = ECM 风机	
P04 <sup>9)</sup>	Valve actuator type / 阀门执行器类型	4	4 = Modulating valve actuator / 调节阀门执行器	
P10	Operating mode selector / 运行模式切换选项; P02 ≠ 4	1	1 = Comfort – Protection 2 = Comfort – Economy – Protection 1 = 舒适 – 保护; 2 = 舒适 – 节能 – 保护	
	Operating mode selector / 运行模式切换选项; P02 = 4	1	1 = Comfort – Protection / 1 = 舒适 – 保护	
P11	Display information / 显示信息	1	1 = Room temperature, built-in; 2 = Temperature setpoint 3 = Temperature via bus / 1 = 室内温度, 内置传感器 2 = 温度设定值; 3 = 总线温度	
P12	Temperature unit / 温度单位	1	1 = Celsius / 摄氏度; 2 = Fahrenheit / 华氏度	
P13	Measured value adjustment / 传感器温度测量值修正	0 K	-5...5 K	
P14 <sup>3)</sup>	Additional display information 其它显示信息	1	1 = Off; 2 = Temperature in deg C and deg F; 3 = Temperature setpoint; 4 = Time of day am/pm / 1 = 无显示; 2 = 温度以 °C 和 °F 显示; 3 = 温度设定值; 4 = 当日时间上午/下午	
P15	Keypad / 按键	1	1 = Unlock; 2 = Lock; 3 = Lock, except setpoint 4 = Lock setpoint; 5 = Lock fan; 6 = Lock operating mode 1 = 解锁; 2 = 锁定; 3 = 锁定, 设定值除外 4 = 设定值锁定; 5 = 风机锁定; 6 = 运行模式锁定	
P20	Min. room temp. setpoint for Comfort 舒适模式温度设定值下限	5 °C	5 °C...(P21-1)	
P21	Max. room temp. setpoint for Comfort 舒适模式温度设定值上限	35 °C	(P20 + 1)...40 °C	

P22	Heating setpoint for Economy / 节能模式供热温度设定值	15 °C	0 = Disabled (OFF) / 0 = 禁用 (关闭); 5 °C... P23 (40 °C, when / 当 P23 = OFF)
P23	Cooling setpoint for Economy / 节能模式制冷温度设定值	30 °C	0 = Disabled (OFF) / 0 = 禁用 (关闭); P22 (5 °C, when / 当 P22 = OFF)...40 °C
P30	Fan operation in zero energy zone 无供热制冷需求区风机运行	1	1 = Disable / 禁用; 2 = Low speed, heating and cooling / 低速, 供热和制冷 3 = Low speed, cooling only / 低速, 仅制冷
<b>Expert level / 高级参数</b>			
P41	Zero energy zone / 无供热制冷需求区	2 K	0.5...5 K
P42	Setpoint difference / 设定值偏差	2 K	0.5...5 K
P43	P-band / hysteresis for heating / 供热比例带 / 迟滞	2 K	0.5...6 K
P44	P-band / hysteresis for cooling / 制冷比例带 / 迟滞	1 K	0.5...6 K
P45 <sup>4)</sup>	Integral action time for temp. ctr. / 用于温度控制的积分作用时间	45 min	0...120 min
P50	Heating setpoint for Protection / 保护模式供热温度设定值	8 °C	0 = OFF / 关闭; 5 °C...P51 (WCoolProt) (40 °C, when / 当 P51 = OFF)
P51	Cooling setpoint for Protection 保护模式制冷温度设定值	0	0 = OFF / 关闭; P50 (5 °C, when / 当 P50 = OFF)...40 °C
P62 <sup>5)</sup>	Configuration input D1 / 配置输入 D1	1	1 = No input; 3 = H/C changeover; 4 = Window contact; 5 = Fault input 6 = Monitor input; 8 = Presence detector; 9 = Hotel presence detector 1 = 无输入; 3 = 冷热转换; 4 = 开窗探测; 5 = 告警输入; 6 = 监测输入 8 = 存在探测器; 9 = 酒店存在探测器
P63 <sup>6)</sup>	Signal type input D1 / 信号输入类型 D1	1	1 = Normally open / 常开; 2 = Normally closed / 常闭
P70	Fan kick in Economy mode 节能模式风机启动	0	0 = OFF; 1...359 min; 360 = Fan continues to run 0 = 关闭; 1...359 分钟; 360 = 风机持续运转
P71	Enable fan start kick / 启用风机启动	1	0 = Disable / 禁用; 1 = Enable / 启用
P72	Maximum fan speed / 高速风机转速	80 %	ECM fan med....100 % / ECM 风机中速...100 %
P73	Medium fan speed / 中速风机转速	50 %	ECM fan min....ECM fan max / ECM 风机低速...ECM 风机高速
P74	Minimum fan speed / 低速风机转速	30 %	1 %...ECM fan med. / 1 %...ECM 风机中速
P75	Operating hours configuration fan 风机运行小时数配置	2	1 = Enable / 启用; 2 = Disable / 禁用; 3 = Reset (Afterwards P75 auto changed to 1) / 重置 (之后 P75 自动更改为 1)
P80	Restart after power failure 断电重启后运行模式	1	1 = Previous operating mode / 前一运行模式 2 = Comfort mode / 舒适模式; 3 = Protection mode / 保护模式
P82	Enable password / 启用密码	0	0 = Disable / 禁用; 1 = Enable / 启用
P83 <sup>7)</sup>	Password / 密码	0	00...99
P89	Reset parameter / 重置参数	0	0 = Disable / 禁用; 1 = Enable / 启用
P90 <sup>9)</sup>	Protocol / 协议	3	1 = No communication / 无通信; 3 = Modbus RTU
P91 <sup>9)</sup>	Baud rate / 波特率	3	1 = Auto / 自动; 2 = 9600 bps; 3 = 19200 bps; 4 = 38400 bps
P92 <sup>8)9)</sup>	Modbus data frame format / Modbus 数据帧格式	1	1 = 1/8/E/1; 2 = 1/8/O/1; 3 = 1/8/N/1; 4 = 1/8/N/2
P93 <sup>8)9)</sup>	Device address / 设备地址	1	1...127

Please record all changes you make. / 请记录您所作出的更改。

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Please see Datasheet (A6V14125396) for further details, such as diagnostic parameters d01, etc. / 更多信息如诊断参数 d01 等, 可参见数据表 (A6V14125396).

- 1) The parameter P01 cannot be set to 3 when P03 = 3. / P01 不能设置为 3 在 P03 = 3 时。
- 2) The parameter P03 cannot be set to 3 when P01 = 3. / P03 不能设置为 3 在 P01 = 3 时。
- 3) The parameter P14 value 3 is temperature display only when P11 = 2 and setpoint only when P11 = 1 & 3.  
P14 的参数值 3 仅在 P11 = 2 时为温度显示以及仅在 P11 = 1 & 3 时为设定值显示。
- 4) The parameter P45 is visible only when P04 = 4. / 参数 P45 仅在 P04 = 4 时可见。
- 5) The parameter P62 value 9 is visible only when P10 = 2. / P62 的参数值 9 仅在 P10 = 2 时可见。
- 6) The parameter P63 is visible only when P62 ≠ 1. / 参数 P63 仅在 P62 ≠ 1 时可见。
- 7) The parameter P83 is visible only when P82 = 1. / 参数 P83 仅在 P82 = 1 时可见。
- 8) The parameters P92 and P93 are visible only when P90 = 3. / 参数 P92 和 P93 仅在 P90 = 3 时可见。
- 9) These parameter value changes take effect after exiting the parameter setting mode and device automatic restart.  
退出参数模式, 设备自动重启, 然后重启后参数值的更改生效。

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