

电梯空调使用手册

Instruction Manual of Elevator Air Conditioner

名称：电梯空调控制器

Name: The Elevator Air Conditioner Controller

使用前请仔细阅读注意事项，务必正确安装。

Please read following announcements carefully before use to ensure proper installation.

概述 Product Overview

本控制器适宜于空调冷暖机组使用。 控制器由主板和显示面板组成。 具有功能先进，可靠性高，抗干扰能力强，用户安装设置简单灵活，外型美观大方等优点

This controller is suitable for heating-and-cooling air conditioning unit and consists of main board and display board. It has advanced function, high reliability, high anti-jamming ability and its the installation is easy for users when it is also beautiful.

一、 主要技术参数 The Main Technical Parameters

1、 使用条件 The Operating Conditions

- ◇ 运行电压 operating voltage: AC220V $\pm$ 10%, 50Hz.
- ◇ 运行环境温度 operating environment temperature: -15 $\sim$ 60 $^{\circ}$ C
- ◇ 储存温度 storage temperature: -30 $\sim$ 60 $^{\circ}$ C
- ◇ 湿度要求 humidity requirements: 0 $\sim$ 95%RH
- ◇ 输出电流 output current: 压缩机 Compressor; 电加热 Electric heating $\leq$ 30A, 其它 Others $\leq$ 5A

2、 温度控制精度 the precision of temperature control: 1 $^{\circ}$ C

二、 特点 Characteristics

1、 配备液晶显示，业内领先 It is equipped with a LCD display, which leads the industry.

2、 开机状态下温度可调（16 $\sim$ 31 $^{\circ}$ C） It has adjustable temperature when it is on.

3、 压缩机启停保护 It has the start-stop protection of the compressor.

4、 实时时钟显示，内带电池，掉电后时间照常行走 It has real time clock display with inside battery and it can work normally after power off.

5、 循环定时开机、定时关机功能 It can start and shut down on time.

6、 显示图形界面形象、通俗易懂，操作简单 It shows a graphical interface, which is simple to understand and handle.

7、 标准 86*86 电控盒设计，安装极为方便 It is designed with a standard 86*86 electric control box, which is convenient to installation.

三、 控制器功能 The Controller Function

1、 实时显示环境温度，可查询蒸发器温度及室温温度 It has a real-time display about temperature and can inquire the evaporator temperature and room temperature.

2、 掉电自动记忆各种参数 It can automatically memorize all parameters when power off.

3、 传感器故障自检功能 Its sensor has self-check function when it's out of action.

四、主控板 The Main Control board

1、主控制板输入: The input of the main control board:

- ◇ 环境温度(显示板) environment temperature (display board)
- ◇ 盘管温度 coil temperature

2、主控制板输出: The output of the main control board:

- ◇ 风机高速 the motors run with high speed
- ◇ 风机中速 the motors run with medium speed
- ◇ 风机低速 the motors run with low speed
- ◇ 压缩机 the compressor
- ◇ 电加热 the electric heating

五、功能说明: Function Description

以下说明中符号意义: symbol meaning in the following descriptions

T 设: 设定温度 (本温度点可调, 详见下面显示板操作说明)

T_{set}: the setting temperature (this temperature is adjustable, as shown in the display-board instructions below)

T_室: 环境温度

T_{room}: the environment temperature

Ta: 蒸发器温度

Ta: the temperature of the evaporator

1. 制冷模式: The cooling mode:

1.1、压缩机启动条件: the start-up condition of the compressor:

当 T_室-T_设 ≥ 1°C (回差温度), 启动压缩机。

When T_{room}-T_{set} ≥ 1°C (back difference of temperature), the compressor starts.

1.2、压缩机关闭条件: the shut-down condition of the compressor:

当 T_设-T_室 ≥ 1°C, 压缩机关闭

When T_{set}-T_{room} ≥ 1°C, the compressor shuts down.

1.3、开机流程 the start-up process

首次上电开机 → 压缩机运行 (满足条件 1.1)

The machine connects the power supply and starts for the first time
→ the compressor is running (meet the condition 1.1)

1.4、关机流程 the shutdown process

自动关机 automatic shutdown

T_室 ≤ T_设 → 压缩机关闭 → 风机按原设定风速运行

T_{room} ≤ T_{set} → the compressor shuts down → the motors runs with the original speed

手动关机 manual shutdown

关机 → 压缩机、风机关闭

shutdown → the compressor and the motors shut down

1.5 风机运行 the motors' running

开机后风机默认中速, 开机过程中一直运行

the default of speed is medium after start-up and the motors keeps running in the process of start-up.

2. 制热模式: The heating mode:

2.1、电加热启动条件: the start-up condition of the electric heating:

室内风机运行; 室内空气温度低于 23°C ; $T_{\text{set}} - T_{\text{room}} \geq 1^{\circ}\text{C}$;

Indoor motors is running; Indoor air temperature is lower than 23°C ; $T_{\text{set}} - T_{\text{room}} \geq 1^{\circ}\text{C}$;

2.2、电加热关闭条件: the shut-down condition of the electric heating:

当 $T_{\text{room}} - T_{\text{set}} \geq 1^{\circ}\text{C}$, 进入恒温停机状态, 电加热关闭

When $T_{\text{room}} - T_{\text{set}} \geq 1^{\circ}\text{C}$, it comes to a state of constant temperature and downtime with the electrical heating shutting down.

2.3 风机运行 the motors' running

制热状态风机默认中风速, 可按风速键可切换至高风或低风。关机时电加热关闭 30 秒后风机关闭

the default of speed is medium after in the heating code and you can press the wind-speed key to adjust to high speed or low speed. Electrical heating shuts down when the machine shuts down and in 30s after that, the motors shuts down.

3. 风扇模式: the motors code

此模式下压缩机及电加热不工作, 风机工作。按风速键可切换风速

In this code, the compressor and electrical heating don't work while the motors runs. You can press the wind-speed key to change the speed.

4. 意外断电开关机记忆: the memory about on-and-off when power off by accident

若开机状态下意外断电则来电后系统自动开机, 关机状态下意外断电来电后保持关机

If the machine is on when the accident happens, it will automatically start when the power supply is back, or it will keep off.

六、 保护: Protections

1. 压缩机启停保护 the start-stop protection of the compressor

初次上电开机立即启动, 压缩机关闭 3 分钟后才能再次开启

The machine connects the power supply and starts for the first time and compressor starts. Then compressor can only start again after 3 minutes.

电加热保护 the protection to electrical heating

开启电加热必须开启风机, 要关闭风机必须在电加热关闭 30 秒后

To turn on electrical heating needs to turn on the motors, and to turn off the motors must be 30 seconds later after turning off the electrical heating.

2. 蒸发器防结霜保护 the anti-frost protection of evaporator

当压缩机连续运行 5 分钟后, 若 $T_{\text{ip}} \leq -4^{\circ}\text{C}$ 并持续 2 分钟时, 压缩机和室外风机停止运转, 室内风机按高速风运行, 液晶屏显示 E4;

When the compressor has run continuously for 5 minutes, if $T_{\text{ip}} \leq -4^{\circ}\text{C}$ has been 2 minutes, the compressor as well as the outdoor motor stops; at the same time, the indoor motor run with high speed and the LCD display shows E4

进入防霜冻保护后, 当 $T_{\text{ip}} > 10^{\circ}\text{C}$ 时, 运行显示恢复正常,

如压缩机停机时间 ≥ 3 分钟, 重新启动压缩机及室外风机

After entering anti-frost protection, when the $T_{\text{ip}} > 10^{\circ}\text{C}$, running display

returns to normal. If compressor' downtime ≥ 3 minutes, restart the compressor and outdoor motor.

3. 温度传感器 the temperature sensor

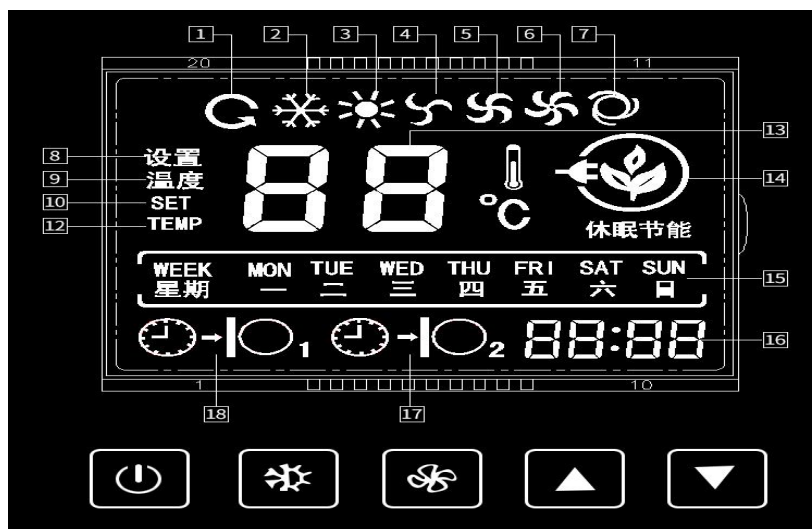
当温度传感器开路或短路时停止所有输出，并显示相应故障代码（室温传感器故障-E1；内盘管传感器故障-E2）。温度传感器恢复正常时自动复位

When the temperature sensor is in an open circuit or a short circuit, the machine stops all the output and shows the corresponding fault code (room temperature sensor is out of action - E1; inside coil sensor is out of action - E2). The temperature sensor automatically reset when it is back to normal.

七、显示板操作说明 Display board Instructions

一、操作面板图及说明各部分功能说明

operation board and function of each part



a) 显示部分

a) Part of Display

1. 自动模式
1. Automatic mode
2. 制冷模式
2. Cool mode
3. 制热模式
3. Heat mode
4. 低风
4. Low wind speed
5. 中风
5. Middle wind speed
6. 高风
6. High wind speed
7. 吹风模式
7. Fanning mode

- 13. 温度显示
- 13. Temperature display
- 14 一键节能模式
- 14. Press the button to enter power-saving mode
- 15. 星期显示
- 15. Day display
- 16. 时钟显示
- 16. Time display
- 17 循环定时开
- 17. Power on at set times in cycles
- 18 循环定时关
- 18. Power off at set times in cycles

二、开关机操作 on/off

系统上电后电源指示灯亮，按 “” 键控制系统开和关。

开机时，显示屏显示环境温度及工作状态；关机时显示屏显示室内温度、时钟

When the machine connects the power supply, the power display light is on.

You can press  to control the system to be on or off.

When you turn on the machine, the screen will display the environment temperature and the working condition; when you turn off it, the screen will display the room temperature and clock.

三、模式转换 mode switching

开机默认制冷模式，开通后按模式切换键

切换模式，显示屏显示相应状态图标

The default mode is the cooling mode when the machine is on and you can press (mode button) to switch the mode with the screen displaying the corresponding icon

四、速度切换 speed switching

开机默认风速为高风，风机启动后按  键切换风速，显示屏显示相应状态

The default speed is the high speed when the machine is on and you can 
press

(wind-speed key) to switch the speed with the screen displaying the corresponding state.

五、时钟设置及定时开关机设置 clock setting and starting or shutting down on time

第1次同时按下“+,-”进入设定北京时间（小时和分钟）状态,再按“+”，调整北京时间“小时”位，“-”调整北京时间“分钟”位；10秒内无操作，自动退出设定状态，并保存设定。

Press “+,-” simultaneously for the first time and enter into the mode of setting time in Beijing hour (hour and minute). Press again “+” to adjust the “hour”, and “-” to adjust the “minute”. If no operation is made in 10 seconds, exit from

the setting mode automatically, and save the setting.

10 秒内, 第 2 次同时按下“+,-”进入设定北京时间(周 1-周 7)状态, 按“+”, 周 1—》周 7 循环, 按“-”周 7—》周 1 循环; 10 秒内无操作, 自动退出设定状态, 并保存设定。

Otherwise, in the 10 seconds, press again the “+,-” simultaneously to enter the time setting mode, and set the day of the week (Monday - Sunday). Then, press “+” again to change the day from Monday to Sunday, or press “-” again to change the day in a reverse order. Later, if no operation is made in 10 seconds, exit from the setting mode automatically, and save the setting.

10 秒内, 第 3 次同时按下“+,-”进入设定开机时间(开机小时和分钟)状态, 再按“+”, 调整开机时间“小时”位, “-”调整开机时间“分钟”位; 10 秒内无操作, 自动退出设定状态, 并保存设定。

Otherwise, in the 10 seconds, press “+,-” simultaneously for the third time and enter into the mode of setting power-on time (hour and minute). Then, press again “+” to adjust the “hour”, and “-” to adjust the “minute”. Later, if no operation is made in 10 seconds, exit from the setting mode automatically, and save the setting.

10 秒内, 第 4 次同时按下“+,-”进入设定关机时间(关机小时和分钟)状态, 再按“+”, 调整关机时间“小时”位, “-”调整关机时间“分钟”位; 10 秒内无操作, 自动退出设定状态, 并保存设定。

Otherwise, in the 10 seconds, press “+,-” simultaneously for the fourth time and enter into the mode of setting power-off time (hour and minute). Then, press again “+” to adjust the “hour”, and “-” to adjust the “minute”. Later, if no operation is made in 10 seconds, exit from the setting mode automatically, and save the setting.

10 秒内, 第 5 次同时按下“+,-”进入允许、禁止开关机设定状态, 再按“+”, 选择定时开机允许和禁止(图标点亮为允许, 熄灭为禁止), “-”选择定时关机允许和禁止(图标点亮为允许, 熄灭为禁止); 10 秒内无操作, 自动退出设定状态, 并保存设定。

Otherwise, in the 10 seconds, press “+,-” simultaneously for the fifth time and enter into the mode of choosing to enable/disable power-on/off at set time. Then, press again the “+” to choose to enable/disable power-on at set time (if the icon is highlighted, power-on at set time is enabled, and if not highlighted, it is disabled); and press again the “-” to choose to enable/disable power-off at set time (if the icon is highlighted, power-off at set time is enabled, and if not highlighted, it is disabled). Later, if no operation is made in 10 seconds, exit from the setting mode automatically, and save the setting.

如果设定定时开机和设定定时关机的时间相同, 设定自动无效

If the set times for power-on and -off are same, the setting will be invalid automatically.

六、温度设定 temperature setting

开机状态下按  或  键可调整设置温度，同时显示屏闪烁显示设定值“XX” 3秒未按键，自动静止显示当前设定温度

Instruction Manual of Ling Run Elevator Air Conditioner Controller Model:LRKT-25 Version:V1.0 7/12

Press  or  to adjust setting temperature in the state of being on and at the same time, the screen will display the setting value "XX". If you don't press any key within 3 seconds, the screen will stop flickering, showing the present setting temperature.

七、遥控器（选配件） the remote control (optional accessories)

当面板安装位置不便操作时，
用户可选择红外线遥控器进行
远距离操作。遥控器使用二节
7号电池，随处可买，电池耗
尽时方便用户更换

When the position of the board is inconvenient to be handled,
You can choose the infrared remote control to operate at a
distance. Remote control use two No.7 batteries, which is
Available everywhere. It's convenient for users to change when
the batteries run out.

电梯空调机身尺寸:50CM*45CM*35CM（长*宽*高）

elevator air conditioning body size: 50CM*45CM*35CM(length * width * height)

轿厢冷气开孔尺寸: 31CM*7CM（如果电梯自带孔太小需要扩大）

cooling hole size of lift car:31CM*7CM(if the elevator has its own hole which is too small, it need expanding)

冷气管长: 1.6 米（管径 6 寸）（安装时管太长可以切割短点，制冷效果更好）

the length of cooling tube:1.6 meters(the diameter is 6 cun) (tube too long can cut short when installation, refrigeration effect is better)

回风管长: 1.6 米（管径 8 寸）（由于室外观光电梯太热，室外观光电梯需要装回风管）

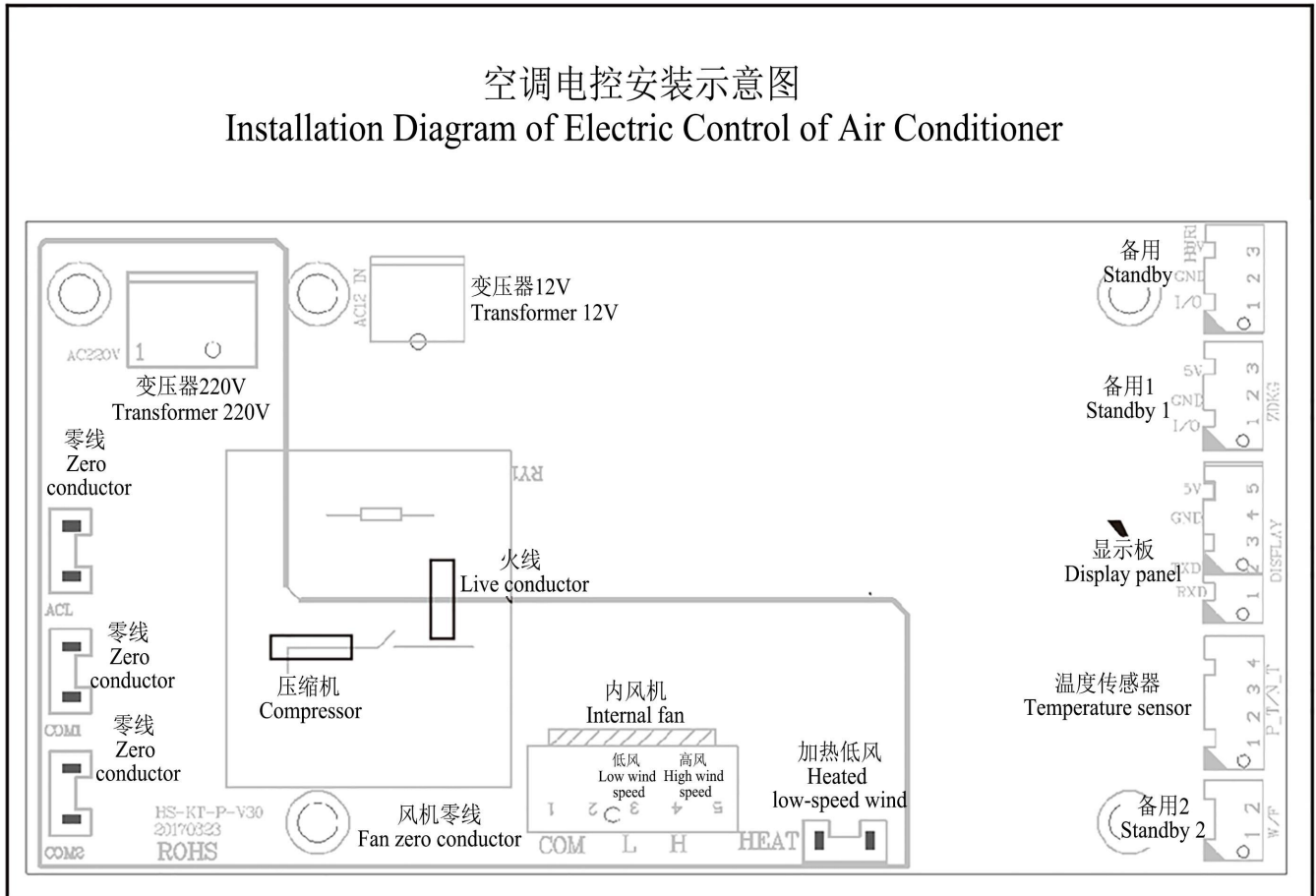
the length of return-air duct:1.6 meters (the diameter is 8 cun) (outdoor sightseeing lift needs it because of being too hot)

电梯空调重量: 30KG 附件重量: 12KG

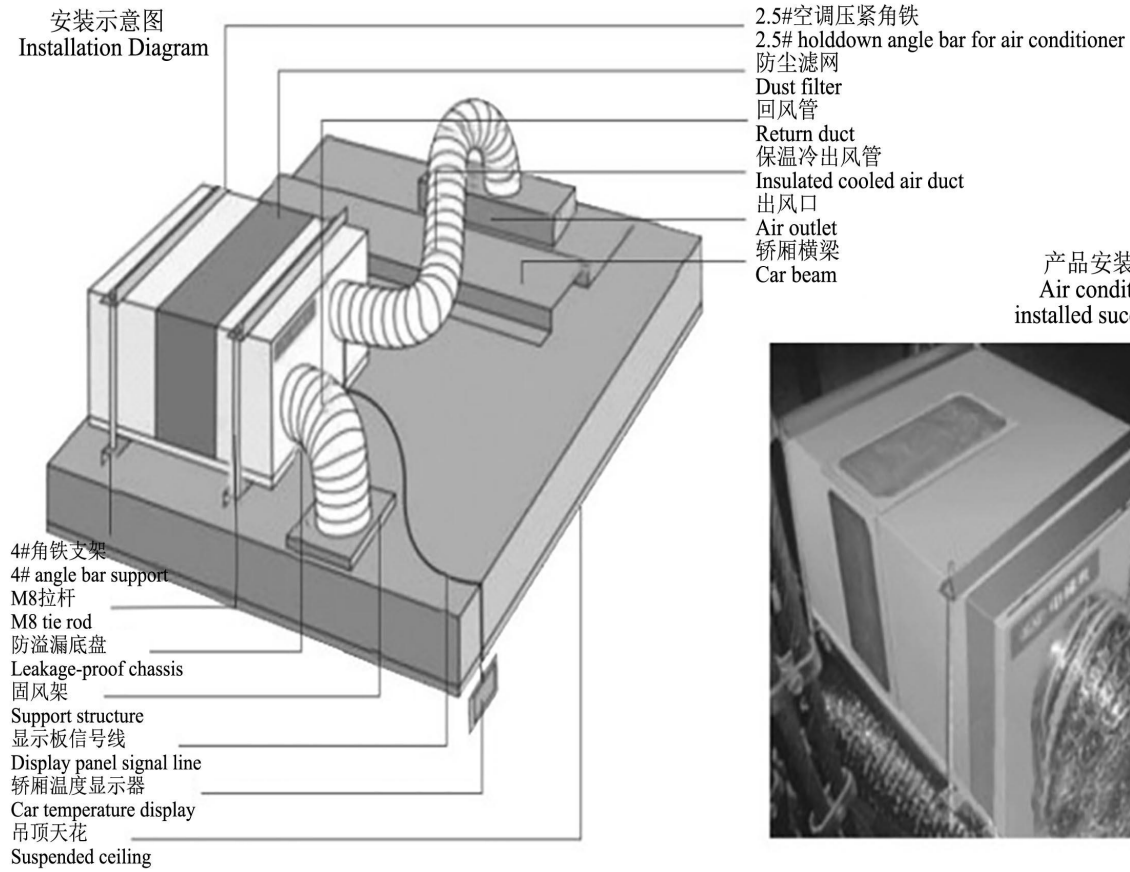
the weight of elevator air conditioning:30KG the weight of accessories:5KG

（电梯空调的制冷功率不同，安装尺寸，与开孔尺寸会有所不同，以上是制冷量 2500W 尺寸）
(refrigeration power of elevator air conditioning, the installation size and the size of holes are different. Above the refrigerating capacity is 2500 w)

接线图: wire diagram



安装示意图
Installation Diagram



产品安装完工
Air conditioner
installed successfully

