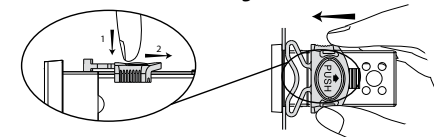


# ir33+ - 电子控制器，用于控制独立式制冷装置/Electronic controller for stand-alone refrigerating units

型号/Models: IREV(M,S,Y,F,C)(0,7)(0,L,H,E,A)(N,R,C,B,A,M,L,T)(0,1,2,3,5)O  
带16 A继电器的控制继电器型号/Models relay 16 A: IREV(S,Y)(0,7)(E,A)(P,Q,S,U,V,X,Y,Z)(0,1,2,3,5)O



## 面板安装 / Panel mounting



## 尺寸(mm) / Dimensions (mm)

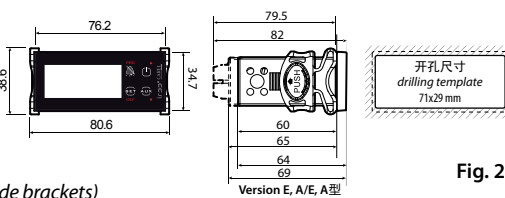


Fig. 1

Fig. 2

背面(用2个快速安装的侧支架固定) / Rear (with 2 quick-fit side brackets)

## 小键盘上的按钮

| 按钮        | 常规功能  | 启动   | 自动分配地址  |
|-----------|---|--|---|
| PRG/MUTE  | 单独按下这个按钮<br>• 按下至少5秒钟后，进入设定“F”类(常用的)参数的菜单;<br>• 将报警调为静音(蜂鸣器)和禁用报警继电器。 | 与其它按钮一起按下<br>• PRG+SET/DEF: 如果同时按下超过5秒，则将进入设定“C”类(配置)参数或下载参数的菜单;<br>• PRG+ON-OFF/UP: 如果同时按下超过5秒，则将手动复位任何报警   | 如果在启动时按下超过5秒，则将启动默认参数设定<br>如果按下持续1秒，则进入自动分配串行地址程序 |
| ON-OFF/UP | • 按下至少1秒钟后，启用/禁用调节<br>• 在参数修改时增加显示的值转向下一个参数                           | • ON-OFF/UP+AUX/DOWN: 如果同时按下超过5秒，则将启用/禁用连续循环运行<br>• ON-OFF/UP+SET/DEF: 如果同时按下超过5秒，则将显示由1号除霜传感器读取的温度<br>• ON-OFF/UP+PRG/MUTE: 如果同时按下超过5秒，则将手动复位任何报警                                     |   |
| AUX/DOWN  | • 按下至少5秒钟后，启用/禁用辅助输出<br>• 在参数修改时减少显示的值转向下一个参数                         | • AUX/DOWN+ON-OFF/UP: 如果同时按下超过5秒，则将启用/禁用连续循环运行<br>• AUX/DOWN+SET/DEF: 如果同时按下超过5秒，则将显示一个带HACCP报警参数(HA, HAn, HF, HFn)的副菜单  |   |
| SET/DEF   | • 按下至少1秒钟后，启用显示和/或设定设定<br>• 按下至少5秒钟后，启用一个手动除霜                         | • SET/DEF+PRG/MUTE: 如果同时按下超过5秒，则将进入设定“C”类(配置)参数或下载参数的菜单;<br>• SET/DEF+AUX/DOWN: 如果同时按下超过5秒，则将显示一个带HACCP报警参数(HA, HAn, HF, HFn)的副菜单<br>• SET/DEF+ON-OFF/UP: 如果同时按下超过5秒，则将显示由1号除霜传感器读取的温度 |   |

## Buttons on the keypad

| Button    | Normal function  | Start-up  | Automatic address assignment  |
|-----------|--|---|---|
| PRG/MUTE  | Pressing the button alone<br>• pressed for more than 5 s accesses the menu for setting type “F” (frequent) parameters<br>• in the event of alarm: silences the audible alarm (buzzer) and disables the alarm relay | Pressing together with other buttons<br>• PRG+SET/DEF: if pressed together for more than 5 s access the menu for setting the type “C” (configuration) or downloading the parameters<br>• PRG+ON-OFF/UP: if pressed together for more than 5 s reset any alarm with manual reset   | if pressed for more than 5 s at start-up, starts the automatic serial address assigning procedure<br>if pressed for 1 s enters the automatic serial address assigning procedure |
| ON-OFF/UP | • if pressed for more than 1 s, enables/disables the regulation<br>• during the parameters modification increase the value displayed move towards the next parameter   | • ON-OFF/UP+AUX/DOWN: if pressed together for more than 5 s enable/disable the continuous cycle operation<br>• ON-OFF/UP+SET/DEF: if pressed together for more than 5 s display the temperature read by the defrost probe no 1<br>• ON-OFF/UP+PRG/MUTE: if pressed together for more than 5 s reset any alarm with manual reset   |   |
| AUX/DOWN  | • if pressed for more than 5 s, enables/disables the auxiliary output<br>• during the parameters modification decrease the value displayed or move towards the previous parameter                                  | • AUX/DOWN+ON-OFF/UP: if pressed together for more than 5 s enable/disable the continuous cycle operation<br>• AUX/DOWN+SET/DEF: if pressed together for more than 5 s display a submenu with the HACCP alarm parameters (HA, HAn, HF, HFn)   |   |
| SET/DEF   | • if pressed for more than 1 s, enables/displays and/or set the set point<br>• if pressed for more than 5 s, enables a manual defrost  | • SET/DEF+PRG/MUTE: if pressed together for more than 5 s access the menu for setting the type “C” (configuration) or downloading the parameters<br>• SET/DEF+AUX/DOWN: if pressed together for more than 5 s display a submenu with the HACCP alarm parameters (HA, HAn, HF, HFn)<br>• SET/DEF+ON-OFF/UP: if pressed together for more than 5 s display the temperature read by the defrost probe no 1 |   |

## 报警和信号表: 显示屏, 蜂鸣器和继电器 / Table of alarms and signals: display, buzzer and relay

| 代码 / Code   | 显示屏上的图标 / Icon on the display | 报警继电器 / Alarm relay | 蜂鸣器 / Buzzer | 复位 / Reset                   | 说明 / Description   |
|-------------|-------------------------------|---------------------|--------------|------------------------------|--|
| 'E'         | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 虚拟控制传感器故障 / virtual control probe fault  |
| 'E0'        | 闪烁 / flashing                 | OFF                 | OFF          | 自动的 / automatic              | 房间传感器S1故障 / room probe S1 fault  |
| 'E1'        | 闪烁 / flashing                 | OFF                 | OFF          | 自动的 / automatic              | 除霜传感器S2故障 / defrost probe S2 fault   |
| 'E2'-3-4'   | 闪烁 / flashing                 | OFF                 | OFF          | 自动的 / automatic              | 传感器S3-4-5故障 / probe S3-4-5 fault   |
| ' '         | 否 / no                        | OFF                 | OFF          | 自动的 / automatic              | 传感器未启用 / probe not enabled   |
| 'L0'        | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 低温报警 / low temperature alarm   |
| 'H1'        | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 高温报警 / high temperature alarm  |
| 'A1'        | 闪烁 / flashing                 | ON                  | ON           | 手动的 / manual                 | 防冻报警 / antifreeze alarm  |
| 'IA'        | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 外部触点的即时报警 / immediate alarm from external contact  |
| 'dA'        | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 外部触点的延时报警 / delayed alarm from external contact  |
| 'dE'        | 亮 / ON                        | OFF                 | OFF          | 自动的 / automatic              | 除霜进行中 / defrost running  |
| 'Ed1'-2'    | 否 / no                        | OFF                 | OFF          | 自动的 / 手动的 / automatic/manual | 蒸发器1-2的除霜因超时而终止 / defrost on evaporator 1-2 ended by timeout   |
| 'Pd'        | 闪烁 / flashing                 | ON                  | ON           | 自动的 / 手动的 / automatic/manual | 泵极报警的最长时间 / maximum time pump-down alarm   |
| 'LP'        | 闪烁 / flashing                 | ON                  | ON           | 自动的 / 手动的 / automatic/manual | 低压报警 / low pressure alarm  |
| 'Ats'       | 闪烁 / flashing                 | ON                  | ON           | 自动的 / 手动的 / automatic/manual | 泵极中自动启动 / autostart in pump-down   |
| 'cht'       | 否 / no                        | OFF                 | OFF          | 自动的 / 手动的 / automatic/manual | 高冷凝温度预报警 / high condenser temperature pre-alarm  |
| 'CHT'       | 闪烁 / flashing                 | ON                  | ON           | 手动的 / manual                 | 高冷凝温度报警 / high condenser temperature alarm   |
| 'door'      | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 因门打开时间太长而报警 / door open for too long alarm   |
| 'Etc'       | 闪烁 / flashing                 | OFF                 | OFF          | 自动的 / 手动的 / automatic/manual | 实时钟故障 / real time clock fault  |
| 'EE'        | 闪烁 / flashing                 | OFF                 | OFF          | 自动的 / automatic              | Eeprom故障, 机组参数 / EEPROM error, unit parameters   |
| 'EF'        | 闪烁 / flashing                 | OFF                 | OFF          | 自动的 / automatic              | Eeprom故障, 运行参数 / EEPROM error, operating parameters  |
| 'HA'        | 闪烁 / flashing                 | OFF                 | OFF          | 手动的 / manual                 | HACCP报警, 'HA'型 / HACCP alarm, type 'HA'  |
| 'HF'        | 闪烁 / flashing                 | OFF                 | OFF          | 手动的 / manual                 | HACCP报警, 'HF'型 / HACCP alarm, type 'HF'  |
| 'rc'        | 信号 / signal                   |                     |              |                              | 通过远程控制启用装置并进行编辑(对ir33+效) / Instrument enabled for programming from the remote control (not available on ir33+)   |
| 'Add'       | 信号 / signal                   |                     |              |                              | 自动分配地址进行中 / Automatic address assignment procedure in progress   |
| 'LrH'       | 信号 / signal                   |                     |              |                              | 低相对湿度程序的启用 / Activation of the of low relative humidity procedure  |
| 'HrH'       | 信号 / signal                   |                     |              |                              | 高相对湿度程序的启用 / Activation of the of high relative humidity procedure   |
| 'ccb'       | 信号 / signal                   |                     |              |                              | 请求开始连续循环 / Request to start continuous cycle   |
| 'cce'       | 信号 / signal                   |                     |              |                              | 请求结束连续循环 / Request to end continuous cycle   |
| 'dFb'       | 信号 / signal                   |                     |              |                              | 请求开始除霜 / Request to start defrost  |
| 'dFE'       | 信号 / signal                   |                     |              |                              | 请求结束除霜 / Request to end defrost  |
| 'On'        | 信号 / signal                   |                     |              |                              | 开启 / Switch ON   |
| 'OFF'       | 信号 / signal                   |                     |              |                              | 关闭 / Switch OFF  |
| 'rES'       | 信号 / signal                   |                     |              |                              | 通过手动方式复位报警; 复位HACCP报警; 恢复温度监控 / Reset alarms with manual reset; Reset HACCP alarms; Reset temperature monitoring |
| 'n1'...'n6' | 闪烁 / flashing                 | ON                  | ON           | 自动的 / automatic              | 表明网络内存在的装置1..6有报警 / Indicates an alarm on unit 1 to 6 present in the network                                     |
| 'dnL'       | 信号 / signal                   |                     |              |                              | 下载进行中 / Download in progress   |
| 'd1'...'d6' | 闪烁 / flashing                 | OFF                 | OFF          |                              | 装置1..6上的下载出现错误 / Download with errors on unit 1 to 6   |

注意: 蜂鸣器是启用的, 如果已经通过参数'H4'启用。 / NOTE: The buzzer is enabled if enabled by the parameter H4

友情提示: 请将传感器和开关量输入信号线与带电感负荷的电缆和电源线尽可能分开, 以避免可能产生的电磁干扰。不要将电源线(包括电控板接线)和信号线放在同一个导管内。  
WARNING: separate as much as possible the probe and digital input signal cables from the cables carrying inductive loads and power cables to avoid possible electromagnetic disturbance. Never run power cables (including the electrical panel wiring) and signal cables in the same conduits.

## Descrizione / Description

ir33+\* 是一个带LED显示屏的微处理器控制器系列, 是专为控制独立式制冷装置而开发的。  
ir33+\* represent a range of electronic microprocessor controllers with LED display developed for the management of stand-alone refrigerating units.

## 技术规格 / Technical characteristics

| 电源 / power supply                                  | 型号/Model                         | 电压/Voltage                          | 功率/Power  |
|--|----------------------------------|-------------------------------------|---|
| 由电源保证的绝缘/Insulation guaranteed by the power supply | IREVxxExxxx                      | 230 V~, 50/60 Hz                    | 3 VA, 25 mA~ max.   |
|  | IREVxxAxxxx                      | 115 V~, 50/60 Hz                    | 3 VA, 50 mA~ max.   |
|  | IREVxxHxxxx                      | 115...230 V~, 50/60 Hz              | 6 VA, 50 mA~ max.   |
|  | IREVxxLxxxx                      | 12...24 V~, 50/60 Hz, 12...30 Vdc   | 3 VA, 300 mA~/mAdc max.   |
|  | IREVxxOxxxx                      | 12 V~, 50/60 Hz, 12...18 Vdc        | 仅使用SELV电源/Use only SELV power supply  |
| 输入点/Inputs   | S1 (传感器1) / S1 (probe 1)         | NTC (IRxxx0xxxx) 或 PTC (IRxxx7xxxx) | 10 kΩ a 25 °C, range -50T90 °C / 在25 °C时为10 kΩ, 量程-50~90 °C   |
|  | S2 (传感器2) / S2 (probe 2)         | NTC (IRxxx0xxxx) 或 PTC (IRxxx7xxxx) | 测量误差<br>1 °C nel range -50T50 °C / 量程-50~50 °C, 为1 °C<br>3 °C nel range 50T90 °C / 量程-50~90 °C, 为3 °C |
| 继电器输出/Relay outputs                                | IRxxx(E,A)(P,Q,S,U,V,X,Y,Z)xxx   | R2 (*)                              | 250 V~<br>动作次数 / operating cycles<br>100000   |
|  | IRxxx(E,A)(N,R,C,B,A,M,L,T)xxx   | R3 (*)                              | 250 V~<br>动作次数 / operating cycles<br>100000   |
| SSR输出/SSR Outputs                                  | IRxxx(E,A)(N,R,C,B,A,M,L,T)xxx   | R1, R2                              | EN60730-1<br>动作次数 / operating cycles<br>100000  |
|  | IRxxx(O,L,H)(N,R,C,B,A,M,L,T)xxx | R2, R3, R4 (*)                      | UL873<br>动作次数 / operating cycles<br>100000  |
| 连接/Connections                                     | IRxxx(E,A)(P,Q,S,U,V,X,Y,Z)xxx   | R1                                  | 250 V~<br>动作次数 / operating cycles<br>100000   |
|  | IRxxx(O,L,H)(N,R,C,B,A,M,L,T)xxx | R1, R2                              | 250 V~<br>动作次数 / operating cycles<br>100000   |

传感器和数字输入点之间的最长距离小于10 m / Maximum distance of probes and digital inputs less than 10 m  
注意: 在安装时, 请将电源、负载连接与传感器线缆、数字输入点、显示屏和监控系统分开。 / During installation keep the power and loads connection separate from probe cables, digital inputs, repeater display and supervisory system

| 继电器输出/Relay outputs   | 型号/model                         | 继电器/relay      | 250 V~                  | EN60730-1 | UL873                       |
|---|----------------------------------|----------------|-------------------------|-----------|-----------------------------|
| 与超低压部件的绝缘/insulation in reference to very low voltage parts     | IRxxx(E,A)(P,Q,S,U,V,X,Y,Z)xxx   | R2 (*)         | 5(1) A                  | 100000    | 5 A res. 1 FLA 6 LRA C300   |
|   | IRxxx(E,A)(N,R,C,B,A,M,L,T)xxx   | R3 (*)         | 5(1) A                  | 100000    | 5 A res. 1 FLA 6 LRA C300   |
| 独立的继电器输出点之间的绝缘/insulation between the relay outputs independent | IRxxx(E,A)(N,R,C,B,A,M,L,T)xxx   | R1, R2         | 8(4) A N.O. 6(4) A N.C. | 100000    | 8 A res. 2 FLA 12 LRA C300  |
|   | IRxxx(O,L,H)(N,R,C,B,A,M,L,T)xxx | R2, R3, R4 (*) | 2(2) A N.O./N.C.        | 100000    | 2 A res. 2 FLA 12 LRA C300  |
| 与超低压部件的绝缘/insulation in reference to very low voltage parts     | IRxxx(E,A)(P,Q,S,U,V,X,Y,Z)xxx   | R1             | 12(2) A N.O./N.C.       | 100000    | 12 A res. 5 FLA 30 LRA C300 |
|   | IRxxx(O,L,H)(N,R,C,B,A,M,L,T)xxx | R1, R2         | 8(4) A N.O. 6(4) A N.C. | 100000    | 8 A res. 2 FLA 12 LRA C300  |

| SSR输出/SSR Outputs | 最大输出电压: 12 Vdc / Max output voltage: 12 Vdc                            | 输出点阻抗: 600 Ω / Output resistance: 600 Ω | 输出点最大电流: 20 mA / Max output current: 20 mA |
|-------------------|--|---|--|
| 连接/Connections    | 线径截面0.5-2.5 sq, 可过的最大电流12 A / wire section 0.5-2.5 sq max current 12 A |   |  |

(\*) 继电器不适合用于那些使用移相电容作为启动器(镇流器)的荧光灯负载(如霓虹灯等等)。带电子控制器或不带相转换电容的荧光灯是否能使用, 由每个类型继电器的具体运行范围决定。  
(\*) Relay not suitable for fluorescent lamps (neon lights, ...) that use starters (ballasts) with phase-shift capacitors. Fluorescent lamps with electronic control devices or without phase-shift capacitors can be used, within the operating limits specified for each type of relay.

安装商必须选择控制器与负载之间的电源和连接线的正确规格。根据控制器的型号, 公共端1,3或5可过的最大电流是12 A。在最大负载和最大工作温度条件下, 线缆的使用必须适合于最多105 °C的工作温度。  
The installer has to provide the correct dimensioning of the power supply and cable connection between the instruments and the loads. Depending on the model, the maximum current in the common terminals 1, 3 or 5 is 12 A. When using the controller at maximum operating temperature and full load, use cables featuring a maximum operating temperature of 105 °C at least.

| 时钟 / Clock   | 在25 °C时, 偏差为±10 ppm (±5.3分钟/年) / error at 25 °C ±10 ppm (±5.3 min/year)                              |
|--|--|
| 工作温度 / Operating temperature   | 量程为-10~60 °C时, 偏差为-50 ppm (27分钟/年) / error in the temperature range -10T60 °C -50 ppm (-27 min/year) |
| 工作湿度 / Operating humidity  | -10~60 °C适用于所有型号 / -10T60 °C for all versions  |
| 储存温度 / Storage temperature   | <90% r.H. 无凝露 / <90% r.H. non-condensing   |
| 储存湿度 / Storage humidity  | -20~70 °C  |
| 抗电击等级 / Class of protection against voltage surges                                   | <90% r.H. 无凝露 / <90% r.H. non-condensing   |
| 断开或中断连接类型 / Type of disconnection or interruption                                    | II类 / category II  |
| 控制设备的结构 / Construction of control  | 1.B继电器触点(微型开关) / 1.B relay contacts (micro-disconnection)  |
| 防触电等级 / Classification according to protection against electric shock                | 与电控板设备合在一起 / incorporated control, electronically  |
| 远程显示屏与接口之间的最长距离 / Maximum distance between interface and display                     | 通过适当的组合, 可用于II类设备中 / Class II, by appropriate incorporation  |
| 编程钥匙 / Programming key   | 10 m   |
| 安全标准: 符合欧洲相关标准。 / Safety standards: compliant with the European reference standards. |  |

## 显示屏上的信号

| 图标功能  | ON                 | OFF                | 常规操作       | 启动           |
|-------|--------------------|--------------------|------------|--------------|
| 压缩机   | 压缩机开启              | 压缩机关闭              | 请求压缩机运行    |              |
| 风扇    | 风扇开启               | 风扇关闭               | 请求风扇运行     |              |
| 除霜    | 除霜中                | 无除霜请求              | 请求除霜       |              |
| AUX   | 辅助输出AUX是启用的        | 辅助输出AUX未启用         | 防露加热功能是启用的 |              |
| 报警    | 外部报警延迟(在时间'A7'到点前) | 无报警                | 报警和故障      |              |
| 时钟    | 至少已经设定了一个定时        | 不存在定时除霜            | 时钟报警       | 如果存在RTC则是开启的 |
| 灯光    | 辅助灯光输出是启用的         | 辅助灯光输出未启用          | 防露加热功能是启用的 |              |
| 服务    | 无故障                | 故障(例如EEPROM或传感器故障) |            |              |
| HACCP | 功能未被启用             | 功能被启用(HA和/或HF)     | HACCP报警被启用 |              |
| 连续循环  | 功能被启用              | 功能未被启用             | 请求执行此功能    |              |

## Signals on the display

| Icon             | Function  | Normal operation                  | Startup                                       |
|------------------|---|-----------------------------------|---|
| COMPRESSOR       | compressor ON   | compressor OFF                    | compressor required                           |
| FAN              | fan ON  | fan OFF                           | fan required                                  |
| DEFROST          | defrost in progress   | defrost not required              | defrost required                              |
| AUX              | auxiliary output AUX active                                 | auxiliary output AUX not active   | anti-sweat heater function active             |
| ALARM            | delayed external alarm (before the expiry of the time 'A7') | no alarm present                  | alarms and malfunctions                       |
| CLOCK            | at least one timed defrost has been set                     | no timed defrost is present       | clock alarm                                   |
| LIGHT            | auxiliary output LIGHT active                               | auxiliary output LIGHT not active | anti-sweat heater function active             |
| SERVICE          |   | no malfunctions                   | malfunction (es. EEPROM error or probe fault) |
| HACCP            | function not enabled  | function enabled (HA and/or HF)   | HACCP alarm enabled                           |
| CONTINUOUS CYCLE | function enabled  | function not enabled              | function required                             |

## 产品处理 / Product disposal

必须按照当地关于废品处理的强制性法规单独处理本装置(或本产品)。  
The appliance (or the product) must be disposed of separately in accordance with the local waste disposal legislation in force.

操作参数汇总 (U.M. = 测量单位, DEF= 默认值) /

Summary of operating parameters (UOM = Unit of measure; Def. = Default value).

| 图标<br>Symbol | 代码<br>Code | 参数  | Parameter  | 类型<br>Models | U.M.<br>UOM | 类型<br>Type | 最小<br>Min. | 最大<br>Max. | Def. |
|--------------|------------|---|--|--------------|-------------|------------|------------|------------|------|
|              | Pw         | 口令  | Password   | MSYF         | -           | C          | 0          | 200        | 22   |
|              | /2         | 测量稳定性   | Measurement stability  | MSYF         | -           | C          | 1          | 15         | 4    |
|              | /3         | 传感器显示反应   | Probe display response   | MSYF         | -           | C          | 0          | 15         | 0    |
|              | /4         | 虚拟传感器   | Virtual probe  | MSYF         | -           | C          | 0          | 100        | 0    |
|              | /5         | 选择温度单位(°C或°F(0:°C,1:°F))  | Selezione °C o °F (0:°C,1:°F)  | MSYF         | flag/ 标记    | C          | 0          | 1          | 0    |
|              | /6         | 显示小数点<br>0: 显示温度的十分位<br>1: 不显示温度的十分位  | Display decimal point with tenths of a degree without tenths of a degree   | MSYF         | flag/ 标记    | C          | 0          | 1          | 0    |
|              | /tl        | 在内置终端上显示<br>1: 虚拟传感器<br>2: 传感器1<br>3: 传感器2<br>4: 传感器3<br>5: 传感器4<br>6: 传感器5<br>7: 设定点   | Display on internal terminal<br>1: virtual probe<br>2: probe 1<br>3: probe 2<br>4: probe 3<br>5: probe 4<br>6: probe 5<br>7: set point   | MSYF         | -           | C          | 1          | 7          | 1    |
|              | /te        | 在外部终端上显示<br>0: 远程终端不存在<br>1: 虚拟传感器<br>2: 传感器1<br>3: 传感器2<br>4: 传感器3<br>5: 传感器4<br>6: 传感器5   | Display on external terminal remote terminal not present<br>1: virtual probe<br>2: probe 1<br>3: probe 2<br>4: probe 3<br>5: probe 4<br>6: probe 5   | MSYF         | -           | C          | 0          | 6          | 0    |
|              | /p         | 选择传感器类型<br>0: NTC标准型, 范围-50°C到90°C<br>1: NTC扩展型, 范围-40°C到150°C<br>2: PTC标准型, 范围-40°C到150°C  | Select type of probe<br>0: NTC standard with range -50T90°C<br>1: NTC enhanced with range -40T150°C<br>2: PTC standard with range -50T150°C  | MSYF         | -           | C          | 0          | 2          | 0    |
|              | /A2        | 配置传感器2 (S2)<br>0: 传感器存在<br>1: 产品传感器 (仅显示)<br>2: 融霜传感器<br>3: 冷凝传感器<br>4: 防冻传感  | Configuration of probe 2 (S2)<br>0: probe absent<br>1: product probe (display only)<br>2: defrost probe<br>3: condenser probe<br>4: antifreeze probe   | MS YF        | -           | C          | 0          | 4          | 0 2  |
|              | /A3        | 配置传感器3 (S3, D11), 参考参数/A2   | Configuration of probe 3 (S3/D11) As for /A2   | MSYF         | -           | C          | 0          | 4          | 0    |
|              | /A4        | 配置传感器4 (S4, D12), 参考参数/A2   | Configuration of probe 4 (S4/D12) As for /A2   | MSYF         | -           | C          | 0          | 4          | 0    |
|              | /c1        | 传感器1校正  | Calibration of probe 1   | MSYF         | °C/°F       | C          | -20        | 20         | 0.0  |
|              | /c2        | 传感器2校正  | Calibration of probe 2   | MSYF         | °C/°F       | C          | -20        | 20         | 0.0  |
|              | /c3        | 传感器3校正  | Calibration of probe 3   | MSYF         | °C/°F       | C          | -20        | 20         | 0.0  |
|              | /c4        | 传感器4校正  | Calibration of probe 4   | MSYF         | °C/°F       | C          | -20        | 20         | 0.0  |
|              | St         | 温度设定点   | Temperature Set Point  | MSYF         | °C/°F       | F          | r1         | r2         | 0.0  |
|              | rd         | 控制偏差  | Control delta  | SYF          | °C/°F       | F          | 0.1        | 20         | 2.0  |
|              | r          | 死区  | Dead band  | SYF          | °C/°F       | C          | 0.0        | 60         | 4.0  |
|              | rr         | 带死区的反向控制偏差  | Reverse differential for control with dead band  | SYF          | °C/°F       | C          | 0.1        | 20         | 2.0  |
|              | r1         | 设定点最小值  | Minimum set point allowed  | MSYF         | °C/°F       | C          | -50        | r2         | -50  |
|              | r2         | 设定点最大值  | Maximum set point allowed  | MSYF         | °C/°F       | C          | r1         | 200        | 60   |
|              | r3         | 运行模式<br>0: 带有除霜控制的正向模式 (制冷):<br>1: 正向模式 (制冷)<br>2: 反向模式 (制热)  | Operating mode<br>0: Direct (cooling) with defrost control<br>1: Direct (cooling)<br>2: Reverse-cycle (heating)  | SYF          | flag/ 标记    | C          | 0          | 2          | 0    |
|              | r4         | 自动的夜间设定点偏差  | Automatic night-time set point variation   | MSYF         | °C/°F       | C          | -20        | 20         | 3.0  |
|              | r5         | 启用监视温度<br>0: 启用 1: 不启用  | Enable temperature monitoring<br>0: disabled, 1: enabled   | MSYF         | flag/ 标记    | C          | 0          | 1          | 0    |
|              | rt         | 温度监视间隔  | Temperature monitoring interval  | MSYF         | h           | F          | 0          | 999        | -    |
|              | rH         | 最大温度读数  | Maximum temperature read   | MSYF         | °C/°F       | F          | -          | -          | -    |
|              | rL         | 最小温度读数  | Minimum temperature read   | MSYF         | °C/°F       | F          | -          | -          | -    |
|              | c0         | 在死区启动时压缩机、风机和辅助延期   | Compressor, fan and AUX delay on start-up in dead band   | SYF          | min         | C          | 0          | 15         | 0    |
|              | c1         | 两次连续启动的最小时间间隔   | Minimum time between successive starts   | SYF          | min         | C          | 0          | 15         | 0    |
|              | c2         | 压缩机最小停机时间   | Minimum compressor OFF time  | SYF          | min         | C          | 0          | 15         | 0    |
|              | c3         | 压缩机最小开机时间   | Minimum compressor ON time   | SYF          | min         | C          | 0          | 15         | 0    |
|              | c4         | 轮值设置  | Duty setting   | SYF          | min         | C          | 0          | 100        | 0    |
|              | cc         | 持续循环时间  | Continuous cycle duration  | SYF          | h           | C          | 0          | 15         | 0    |
|              | c6         | 持续循环后报警忽略   | Alarm bypass after continuous cycle  | SYF          | h           | C          | 0          | 250        | 2    |
|              | c7         | 最大停机抽空时间  | Maximum pump down time   | SYF          | s           | C          | 0          | 900        | 0    |
|              | c8         | 打开停机抽空阀后压缩机启动延时 (出厂默认=0, 显示屏不显示)  | Compressor start delay after open PD valve (factory default=0, not visible from display)   | SYF          | s           | C          | 0          | 60         | 5    |
|              | c9         | 在停机抽空期间允许自启动功能  | Enable autostart function in PD  | SYF          | flag/ 标记    | C          | 0          | 1          | 0    |
|              | c10        | 根据时间或压力选择停机抽空<br>0: 根据压力选择停机抽空<br>1: 根据时间选择停机抽空   | Select Pump down by time or pressure<br>0: Pump down by pressure<br>1: Pump down by time   | SYF          | flag/ 标记    | C          | 0          | 1          | 0    |
|              | c11        | 第二压缩机延时   | Second compressor delay  | SYF          | s           | C          | 0          | 250        | 4    |
|              | d0         | 除霜类型<br>0: 根据温度电加热除霜<br>1: 根据温度热气除霜<br>2: 根据时间电加热除霜<br>3: 根据时间热气除霜<br>4: 根据时间电加热除霜温度调节器   | Type of defrost<br>0: Electric heater defrost by temperature<br>1: Hot gas defrost by temperature<br>2: Electric heater defrost by time<br>3: Hot gas defrost by time<br>4: Electric heater defrost thermostat by time   | SYF          | flag/ 标记    | C          | 0          | 4          | 0    |
|              | dl         | 除霜间隔  | Interval between defrosts  | SYF          | h           | F          | 0          | 250        | 8    |
|              | dt1        | 除霜结束温度, 蒸发器   | End defrost temperature, evaporator  | SYF          | °C/°F       | F          | -50        | 200        | 4.0  |
|              | dt2        | 除霜结束温度, 辅助蒸发器   | End defrost temperature, aux evaporator  | SYF          | °C/°F       | F          | -50        | 200        | 4.0  |
|              | dp1        | 最大除霜持续时间, 蒸发器   | Maximum defrost duration, evaporator   | SYF          | min         | F          | 1          | 250        | 30   |
|              | dP2        | 最大除霜持续时间, 辅助蒸发器   | Maximum defrost duration, aux evaporator   | SYF          | min         | F          | 1          | 250        | 30   |
|              | d3         | 除霜开始延迟  | Defrost start delay  | SYF          | min         | C          | 0          | 250        | 0    |
|              | d4         | 机组开机时是否允许除霜<br>0: 机组开机时不除霜<br>1: 机组开机时除霜  | Enable defrost on start-up<br>0: No defrost when the instrument is switched on<br>1: A defrost is performed when the instrument is switched on   | SYF          | flag/ 标记    | C          | 0          | 1          | 0    |
|              | d5         | 机组启动时除霜延迟   | Defrost delay on start-up  | SYF          | min         | C          | 0          | 250        | 0    |
|              | d6         | 除霜期间显示屏显示内容<br>0: dEF和传感器值交替显示<br>1: 最后一个出现的温度显示<br>2: dEF显示稳定不动  | Display on hold during defrost<br>0: Alternating display of dEF and probe value<br>1: Display of the last temp. shown<br>2: Display of dEF steady  | SYF          | -           | C          | 0          | 2          | 1    |
|              | dd         | 除霜后的排水时间  | Dripping time after defrost  | SYF          | min         | F          | 0          | 15         | 2    |
|              | d8         | 除霜后报警忽略   | Alarm bypass after defrost   | SYF          | h           | F          | 0          | 250        | 1    |
|              | d8d        | 门打开后报警忽略  | Alarm bypass after door open   | SYF          | min         | C          | 0          | 250        | 0    |
|              | d9         | 除霜优于压缩机保护<br>0: 考虑压缩机保护时间c1,c2,c3<br>1: 不考虑压缩机保护时间 c1,c2,c3   | Defrost priority over compressor protectors<br>0: The protection times c1, c2 and c3 are observed<br>1: The protection times c1, c2 and c3 are not observed  | SYF          | flag/ 标记    | C          | 0          | 1          | 0    |
|              | d/1        | 显示除霜传感器1  | Display of defrost probe 1   | MSYF         | °C/°F       | F          | -          | -          | -    |
|              | d/2        | 显示除霜传感器2  | Display of defrost probe 2   | MSYF         | °C/°F       | F          | -          | -          | -    |
|              | dC         | 除霜时间<br>0: dl用小时表示, dp1, dp2用分钟表示<br>1: dl用分钟表示, dp1, dp2用秒表示   | Time base for defrost<br>0: dl in hours, dp1 and dp2 in minutes<br>1: dl in minutes, dp1 and dp2 in seconds  | SYF          | flag/ 标记    | C          | 0          | 1          | 0    |
|              | d10        | 压缩机运行时间   | Compressor running time  | SYF          | h           | C          | 0          | 250        | 0    |
|              | d11        | 运行时间温度阈值  | Running time temperature threshold   | SYF          | °C/°F       | C          | -20        | 20         | 1.0  |
|              | d12        | 高级除霜  | Advanced defrost   | SYF          | -           | C          | 0          | 3          | 0    |
|              | dn         | 标称除霜持续时间  | Nominal defrost duration   | SYF          | -           | C          | 1          | 100        | 65   |
|              | dH         | 比例因子, dl变量  | Proportional factor, variation in dl   | SYF          | -           | C          | 0          | 100        | 50   |
|              | A0         | 报警和风机偏差   | Alarm and fan differential   | MSYF         | °C/°F       | C          | 0.1        | 20         | 2.0  |
|              | A1         | AL和AH阈值类型<br>0: AL和AH是相对阈值 (相对于设定点)<br>1: AL和AH是绝对阈值  | Type of threshold 'AL' and 'AH'<br>0: AL and AH are relative thresholds to the set point<br>1: AL and AH are absolute thresholds   | MSYF         | flag/ 标记    | C          | 0          | 1          | 0    |
|              | AL         | 低温报警阈值  | Low temperature alarm threshold  | MSYF         | °C/°F       | F          | -50        | 200        | 0.0  |
|              | AH         | 高温报警阈值  | High temperature alarm threshold   | MSYF         | °C/°F       | F          | -50        | 200        | 0.0  |
|              | Ad         | 高温和低温信号显示   | Low and high temperature signal delay  | MSYF         | min         | F          | 0          | 250        | 120  |
|              | A4         | 开关量1输出配置(DI1)<br>0: 输出不动作<br>1: 即时的外部报警<br>2: 外部报警延时<br>3: 如果控制器型号为M, 传感器的选择<br>4: 其它的模式启用除霜<br>5: 开始除霜<br>6: 压缩机和风扇停机时, 门的开关动作<br>7: 远程开/关<br>8: 门帘开关<br>9: 低压开关<br>10: 仅在风扇停机时门开关动作<br>11: 正向/反向模式<br>12: 灯光传感器<br>13: 辅助输出动作<br>14: 压缩机、风扇停机且灯光不受管理<br>15: 仅风扇停机且灯光不受管理时门的开关状态 | Digital input 1 configuration (DI1)<br>0: Input not active<br>1: Immediate external alarm<br>2: Delayed external alarm<br>3: If model M, probe selection<br>4: Other models enable defrost<br>5: Start defrost<br>6: Door switch with compressor and fan stop<br>7: Remote on/off<br>8: Curtain switch<br>9: Low pressure switch<br>10: Door switch with fan stop only<br>11: Direct/reverse<br>12: Light sensor<br>13: Activation of the AUX output<br>14: Door switch with compressor and fans off and light not managed<br>15: Door switch with fans only off and light not managed | MSYF         | -           | C          | 0          | 14         | 0 3  |
|              | A5         | 开关量输入2配置, 参考参数A4  | Digital input 2 configuration (DI2) / As for A4  | MSYF         | -           | C          | 0          | 14         | 0    |
|              | A6         | 因外部报警使压缩机停机   | Stop compressor from external alarm  | SYF          | min         | C          | 0          | 100        | 0    |

| 图标<br>Symbol | 代码<br>Code | 参数   | Parameter   | 类型<br>Models | U.M.<br>UOM | 类型<br>Type | 最小<br>Min. | 最大<br>Max.                       | Def.                       |
|--------------|------------|--|---|--------------|-------------|------------|------------|----------------------------------|----------------------------|
|              | A7         | 外部报警检测延时   | External alarm detection delay  | SYF          | min         | C          | 0          | 250                              | 0                          |
|              | A8         | 报警"Ed1"和"Ed2"有效<br>0: 报警信号"Ed1"和"Ed2"有效<br>1: 报警信号"Ed1"和"Ed2"无效  | Enable alarms 'Ed1' and 'Ed2'<br>0: Alarm signals Ed1 and Ed2 enabled<br>1: Alarm signals Ed1 and Ed2 disabled  | SYF          | flag/ 标记    | C          | 0          | 1                                | 0                          |
|              | Ado        | 门打开时灯光管理模式   | Light management mode with door switch  | MSYF         | flag/ 标记    | C          | 0          | 1                                | 0                          |
|              | Ac         | 冷凝温度高温报警   | High condenser temperature alarm  | SYF          | °C/°F       | C          | 0.0        | 200                              | 70                         |
|              | AE         | 冷凝温度高温报警偏差   | High condenser temperature alarm differential   | SYF          | °C/°F       | C          | 0.1        | 20                               | 10                         |
|              | Acd        | 冷凝温度高温报警延时   | High condenser temperature alarm delay  | SYF          | min         | C          | 0          | 250                              | 0                          |
|              | AF         | 灯光传感器的关闭时间   | Light sensor OFF time   | SYF          | s           | C          | 0          | 250                              | 0                          |
|              | ALF        | 防冻报警阈值   | Antifreeze alarm threshold  | MSYF         | °C/°F       | C          | -50        | 200                              | -5                         |
|              | Adf        | 防冻报警延时   | Antifreeze alarm delay  | MSYF         | min         | C          | 0          | 15                               | 1                          |
|              | F0         | 风机管理<br>0: 风机总是开机<br>1: 根据蒸发温度与虚拟传感器间的温度差控制风机<br>2: 根据蒸发温度控制风机   | Fan management<br>0: Fans always on<br>1: Fans controlled according to the temperature difference between the virtual control probe and the evaporator temperature<br>2: Fans controlled according to the evaporator temperature  | F            | flag/ 标记    | C          | 0          | 2                                | 0                          |
|              | F1         | 风扇启动温度   | Fan start temperature   | F            | °C/°F       | F          | -50        | 200                              | 5                          |
|              | F2         | 压缩机停机时风机状态<br>0: 风机总是开机<br>1: 压缩机停机时风机停机   | Fan OFF with compressor OFF<br>0: Fans always on<br>1: Fans off with compressor off   | F            | flag/ 标记    | C          | 0          | 1                                | 1                          |
|              | F3         | 除霜时的风机状态<br>0: 除霜时运行风机<br>1: 除霜时不运行风机  | Fans in defrost<br>0: Fans operate during defrosts<br>1: Fans do not operate during defrosts  | F            | flag/ 标记    | C          | 0          | 1                                | 1                          |
|              | Fd         | 排放化霜水风机关闭  | Fan OFF after dripping  | F            | min         | F          | 0          | 15                               | 1                          |
|              | F4         | 冷凝器风机停止温度  | Condenser fan stop temperature  | MSYF         | °C/°F       | C          | -50        | 200                              | 40                         |
|              | F5         | 冷凝器风机启动偏差  | Condenser fan start differential  | MSYF         | °C/°F       | C          | 0          | 20                               | 5                          |
|              | HO         | 串行地址   | Serial address  | MSYF         | -           | C          | 0          | 207                              | 1                          |
|              | H1         | AUX输出功能<br>0: 报警输出通常带电<br>1: 报警输出通常失电<br>2: 辅助输出<br>3: 灯光输出<br>4: 辅助蒸发器除霜输出<br>5: PD阀输出<br>6: 冷凝器风机输出<br>7: 压缩机延时输出<br>8: 停机时辅助输出不得电<br>9: 停机时灯光输出不得电<br>10: 相关的输出无功能<br>11: 带有死区反向控制模式<br>12: 第二压缩机步序输出<br>13: 带有轮值功能的第二压缩机步序输出 | Function of AUX output<br>0: Alarm output usually energised<br>1: Alarm output usually de-energised<br>2: Auxiliary output<br>3: Light output<br>4: Auxiliary evaporator defrost output<br>5: Pump down valve output<br>6: Condenser fan output<br>7: Delayed compressor output<br>8: Auxiliary output with deactivation when OFF<br>9: Light output with deactivation when OFF<br>10: No function associated with the output<br>11: Reverse output in control with dead band<br>12: Second compressor step output<br>13: Second compressor step output with rotation | MSYF         | flag/ 标记    | C          | 0          | 13                               | 1                          |
|              | H2         | 无效按键/ir<br>参数 "Hz"<br>灯光/关<br>AUX<br>HACCP<br>PRG/MUTE (静音)<br>UP/CC<br>DOWN/DEF<br>SET<br>参数修改类型<br>设定值修改   | Disable keypad/ir<br>Parameter "Hz"<br>LIGHT<br>ON/OFF<br>AUX<br>HACCP<br>PRG/MUTE (mute)<br>UP/CC<br>DOWN/DEF<br>SET<br>parameter F. modification<br>Set point modification  | MSYF         | flag/ 标记    | C          | 0          | 6                                | 1                          |
|              | H3         | 远程控制启用代码 (不适用于ir33+)   | Remote control enabling code (not available on ir33+)   | MSYF         | -           | C          | 0          | 255                              | 0                          |
|              | H4         | 禁用蜂鸣器<br>0: 蜂鸣器启用<br>1: 蜂鸣器禁用  | Disable buzzer<br>0: Buzzer enabled<br>1: Buzzer disabled   | MSYF         | flag/ 标记    | C          | 0          | 1                                | 0                          |
|              | H6         | 锁定键盘   | Lock keypad   | MSYF         | -           | C          | 0          | 255                              | 0                          |
|              | H8         | 选择以时段输出点的启用<br>0: 时段与配置为灯光的输出点关联<br>1: 时段与配置为辅助的输出点关联  | Select activation of output with time band<br>0: Time band linked to output configured for light<br>1: Time band linked to output configured for aux  | MSYF         | flag/ 标记    | C          | 0          | 1                                | 0                          |
|              | H9         | 以时段启用设点变量<br>0: 以时段启用设点变量无效<br>1: 以时段启用设点变量有效  | Enable set point variation with time band<br>0: Set point variation with time band disabled<br>1: Set point variation with time band enabled  | MSYF         | flag/ 标记    | C          | 0          | 1                                | 0                          |
|              | Hdh        | 防露加热器偏差  | Anti-sweat heater offset  | MSYF         | °C/°F       | C          | -50        | 200                              | 0                          |
|              | HAn        | 记录的HA事件记录号   | Number of HA events recorded  | MSYF         | -           | C          | 0          | 15                               | 0                          |
|              | HA         | 最后一外HA事件发生的时间<br>y_ 年<br>M_ 月<br>d_ 日<br>h_ 小时<br>n_ 分钟<br>t_ 持续时间   | Date/time of last HA event<br>Year<br>Month<br>Day<br>Hour<br>Minute<br>Duration  | MSYF         | -           | C          | 0          | 99<br>12<br>31<br>23<br>59<br>99 | 0<br>0<br>0<br>0<br>0<br>0 |
|              | HA1        | 倒数第二个HA事件发生的时间   | Date/time of penultimate HA event   | MSYF         | -           | C          | -          | -                                | -                          |
|              | HA2        | 倒数第三个HA事件发生的时间   | Date/time of third-to-last HA event   | MSYF         | -           | C          | -          | -                                | -                          |
|              | HFn        | 记录的HF事件记录号   | Number of HF events recorded  | MSYF         | -           | C          | 0          | 15                               | 0                          |
|              | HF         | 最后一外HF事件发生的时间<br>y_ 年<br>M_ 月<br>d_ 日<br>h_ 小时<br>n_ 分钟<br>t_ 持续时间   | Date/time of last HF event<br>Year<br>Month<br>Day<br>Hour<br>Minute<br>Duration  | MSYF         | -           | C          | 0          | 99<br>12<br>31<br>23<br>59<br>99 | 0<br>0<br>0<br>0<br>0<br>0 |
|              | HF1        | 倒数第二个HF事件发生的时间   | Date/time of penultimate HF event   | MSYF         | -           | C          | -          | -                                | -                          |
|              | HF2        | 倒数第三个HF事件发生的时间   | Date/time of third-to-last HF event   | MSYF         | -           | C          | -          | -                                | -                          |
|              | Htd        | HACCP报警延时  | HACCP alarm delay   | MSYF         | min         | C          | 0          | 250                              | 0                          |
|              | td1        | 除霜时段1<br>d_ 日<br>h_ 小时<br>n_ 分钟  | Defrost time band 1<br>Day<br>Hour<br>Minute  | SYF          | -           | C          | 0          | 11<br>23<br>59                   | 0<br>0<br>0                |
|              | td2        | 除霜时段 2   | Defrost time band 2   | SYF          | -           | C          | -          | -                                | -                          |
|              | td3        | 除霜时段 3   | Defrost time band 3   | SYF          | -           | C          | -          | -                                | -                          |
|              | td4        | 除霜时段 4   | Defrost time band 4   | SYF          | -           | C          | -          | -                                | -                          |
|              | td5        | 除霜时段 5   | Defrost time band 5   | SYF          | -           | C          | -          | -                                | -                          |
|              | td6        | 除霜时段 6   | Defrost time band 6   | SYF          | -           | C          | -          | -                                | -                          |
|              | td7        | 除霜时段 7   | Defrost time band 7   | SYF          | -           | C          | -          | -                                | -                          |
|              | td8        | 除霜时段 8   | Defrost time band 8   | SYF          | -           | C          | -          | -                                | -                          |
|              | ton        | 灯光/辅助打开, 设点变化时段<br>d_ 日<br>h_ 小时<br>n_ 分钟  | Light/aux on time band, set point variance<br>Day<br>Hour<br>Minute   | SYF          |             |            |            |                                  |                            |