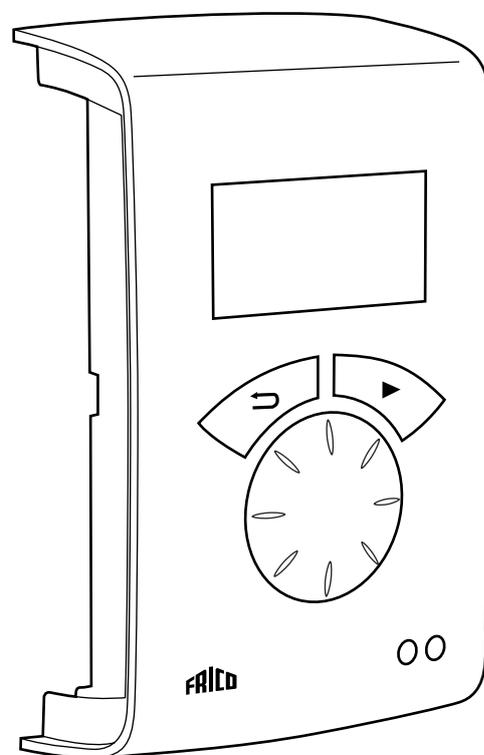


Original instructions

# **SIRe Advanced Air Curtains Water With quick guide**

## **SIReAA**



For wiring diagram, please see last pages

## Quick guide/start up

Check that all constituent parts are present (see section Constituent parts).

### Advice about location

PC board HUB SIReA1X is installed close to the unit.

Control unit SIReUA1 has an integrated room temperature sensor and is installed so that it is easily accessible to the user. RJ12 (6p/6c) modular cables, which are available in different lengths, are used to connect the PC board and the control unit. Longer cables are available as options. Maximum cable lengths see section Options.

To prevent unauthorised people from accessing the Control unit it can instead be placed in another area and an external room sensor, SIReRTX (option), can be installed in the premises to sense the correct temperature.

### Connect the system

In control board base SIReB1(X) the unit is connected further with RJ12 (6p/6c) modular cable if several units are to be connected in parallel.

If an external room temperature sensor SIReRTX (option) is used it is connected using modular cable RJ11 (4p/4c) on HUB SIReA1X.

The actuator for water control, door switch SIReDC and outdoor sensor SIReOTX is connected on PC Board HUB SIReA1X.

Transformer for voltage supply of the valve actuator is connected with quick terminal block on PC Board Base SIReB1(X) (230V) and 24V and onward to the actuator.

If return water temp. sensor SIReWTA is used, it is connected with modular cable RJ11 (4p/4c) on PC Board Base SIReB1(X).

Control board Base SIReB1(X) in/at the unit and control unit SIReUA1 are connected by PC board HUB SIReA1X with RJ12 (6p/6c) modular cables, after the other units are powered up.

For fixed installation requirements, remove the supplied cable and plug. Perform the installation in accordance with applicable regulations.

## Wiring diagrams

The wiring diagrams are in a separate section at the end of this manual.

When external PC board Base SIReB1X is used, wiring between the PC board base and the unit must be done. Please see separate manual for SIReB1X.

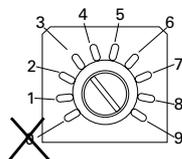
### Enter ID/Operation without control unit

The control system can control one or more units in parallel (max 9). Each unit must get a unique ID number (1-9) which is set in the ID selector of the PC board. E.g. Unit 1: ID=1, unit 2: ID=3

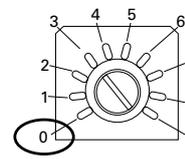
If the external control for some reason has not been installed the unit can still be run temporarily. The ID selector is then set to mode 0 see the image below.

The function is half speed and heating is on.

When the ID number must be changed the unit must be disconnected from power.



Each unit should have a unique ID on its SIReB1X card.



To run the unit temporarily without external control select mode 0.

**Start up**

System supplied with power. At the first start up, the start-up wizard is run and the basic settings are made. Fan and heating steps are tested through the test program. Then a status window is displayed.

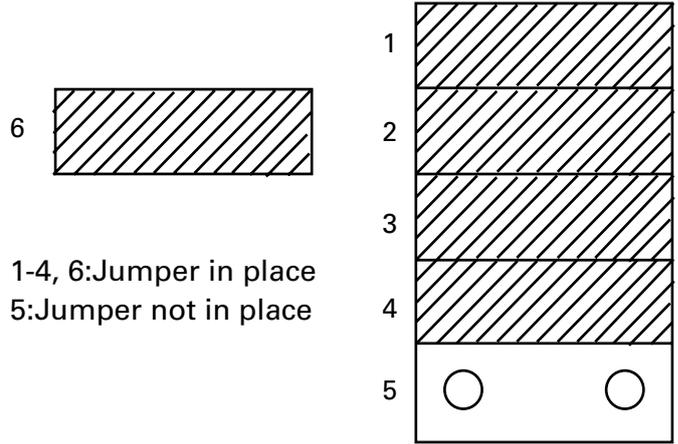
At the first start up alarm and error codes can occur, these will usually be reset without actions.

**Jumper settings**

Actuator SDM24 (included in the valve kit) is adjustable, this is done with jumpers. These are located under the hatch of the actuator. To SDM24 to work with SIRe the setting should be as follows:

*Start-up wizard*

<p>1 Start-up wizard Set language English</p>	<p>5 Start-up wizard Function test Start test Skip test</p>
<p>2 Start-up wizard Set temp. unit °C °F</p>	<p><b>Screen function test</b> Start-up wizard Fan step 1-5 Heating step off-1</p>
<p>3 Start-up wizard Set date 2011-05-28 YYYY-MM-DD</p>	<p>6 Start-up wizard Function test Test completed Restart test</p>
<p>4 Start-up wizard Set time 14:07 24h format</p>	<p>7 Start-up wizard Eco / Comfort Comfort mode Eco mode</p>
<p>Checking system...</p>	<p>10 Start-up wizard Start-up finished Proceed Restart wizard</p>



Jumper 4 and 6 are not in use.

## Contents

### Quick guide/start up

---

Advice about location	23
Connect the system	23
Wiring diagrams	23
Enter ID/Operation without control unit	23
Start up	24
Jumper settings	24

### Constituent parts

---

SIReAA	26
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### Operating modes

---

Door that is opened and closed	29
Doors that are always or often left open for longer periods	29
Function description of current stage	30

### Control unit SIReUA1

---

Overview	32
Statuswindow	32

### Main menu

---

Current settings	33
Temperature settings	33
Fan control	33
System on/off	33
Installer menu	33

### Installer menu

---

Installer status screen	34
Week program	34
Fan settings	35
Heating settings	36
External filter guard (not for electric)	38
External control (BMS)	38
Filter guard settings	38
General settings	39
Service menu	39

### Alarm and error codes

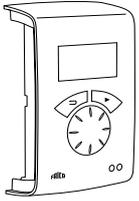
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Displaying alarm and error codes	40
Reset alarm	40
Overheat protection	40
Power failure	40
Frost protection function	40

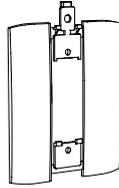
Wiring diagrams, see last pages

## Constituent parts

### SIReAA

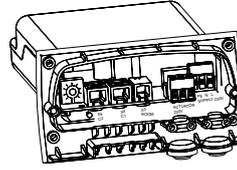


SIReUA1,  
control unit Competent  
and Advanced

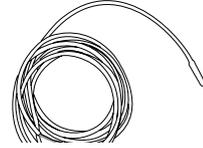


Wall unit cover

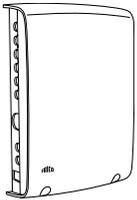
Integrated in the air curtain



SIReB1, integrated  
PC Board Base



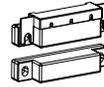
SIReIT, internal  
temperature  
sensor



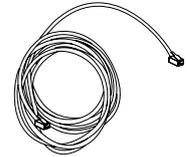
SIReA1X,  
PC board HUB  
Advanced



SIReOTX,  
outdoor temperature  
sensor



SIReDC,  
door contact



SIReCC,  
modular cable

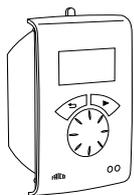
### Dimensions constituent parts

Type	Description	HxWxD [mm]	L [m]
SIReUA1	Control unit Competent and Advanced	120x70x35	
SIReB1	Integrated PC board Base		
SIReIT	Internal temperature sensor		1
SIReA1X	PC Board HUB Advanced	202x139x50	
SIReOTX	Outdoor temperature sensor	70x33x23	
SIReDC	Magnetic door contact		
SIReCC603	Modular cable RJ12 (6/6)		3
SIReCC605	Modular cable RJ12 (6/6)		5

## Option



SIReRTX,  
external room  
temperature  
sensor



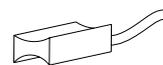
SIReUR, kit  
for recessed  
installation



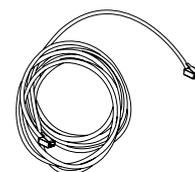
SIReCJ4,  
joint piece



SIReCJ6,  
joint piece



SIReWTA,  
clamp-on sensor



SIReCC,  
modular cable

Type	RSK-no.	E-no.	Description	HxWxD [mm]	L [m]
SIReRTX	673 09 22	87 510 12	External room temperature sensor	70x33x23	10
SIReUR*	673 09 21	87 510 11	Kit for recessed installation	114x70x50	
SIReCJ4			Joint piece for two pcs. RJ11 (4/4)		
SIReCJ6			Joint piece for two pcs. RJ12 (6/6)		
SIReWTA			Clamp-on sensor RJ11(4/4)		
SIReCC603	673 09 23	87 510 13	Modular cable RJ12 (6/6)		3
SIReCC605	673 09 24	87 510 14	Modular cable RJ12(6/6)		5
SIReCC610	673 09 25	87 510 15	Modular cable RJ12 (6/6)		10
SIReCC615	673 09 26	87 510 16	Modular cable RJ12 (6/6)		15
SIReCC403	673 09 27	87 510 17	Modular cable RJ11 (4/4)		3
SIReCC405	673 09 28	87 510 18	Modular cable RJ11 (4/4)		5
SIReCC410	673 09 29	87 510 19	Modular cable RJ11 (4/4)		10
SIReCC415	673 09 30	87 510 20	Modular cable RJ11 (4/4)		15

\*) See separate manual.

### Max. cable lengths

Modular cable RJ12 (6p/6c) between SIReUA1 and SIReA1X: max. 50 m.

Modular cable RJ12 (6p/6c) between SIReA1X and SIReB1(X): max. 10 m.

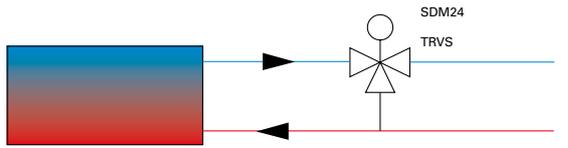
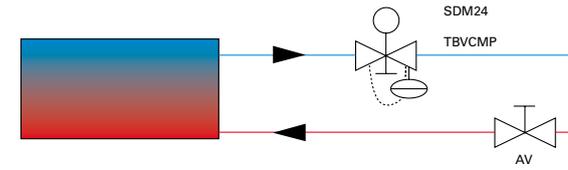
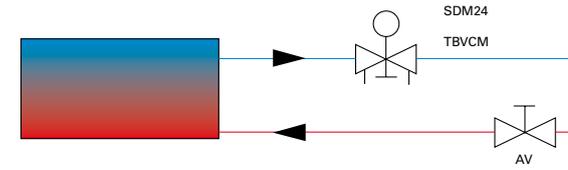
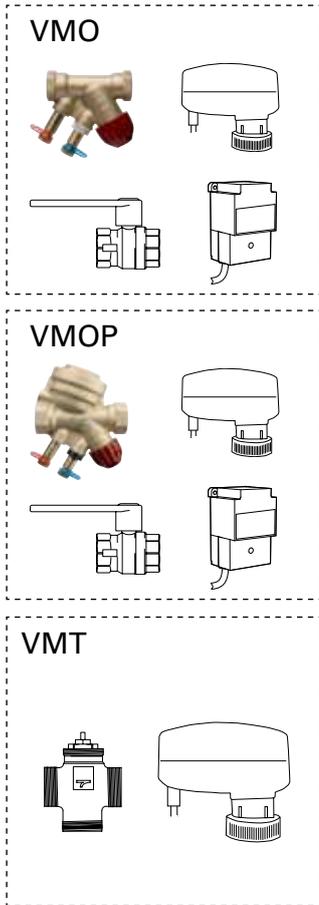
Modular cable RJ12 (6p/6c) between two SIReB1(X): max. 50 m.

Modular cable RJ11 (4p/4c) to room sensor SIReRTX: max. 20 m.

Cable for outdoor sensor SIReOTX (not modular): max. 50 m.

Total cable length permitted in the system is a maximum of 300 m.

Water control - valve kit



Water control - option



VAT, adjustment tool for valve package.

Type	RSK-no.	Description	Connection
VMO15LF	673 09 47	Modulating	DN15
VMO15NF	673 09 48	Modulating	DN15
VMO20	673 09 49	Modulating	DN20
VMO25	673 09 50	Modulating	DN25
VMOP15LF	673 09 51	Pressure independent and modulating	DN15
VMOP15NF	673 09 52	Pressure independent and modulating	DN15
VMOP20	673 09 53	Pressure independent and modulating	DN20
VMOP25	673 09 54	Pressure independent and modulating	DN25
VMT15		Three way valve and modulating actuator	DN15
VMT20		Three way valve and modulating actuator	DN20
VMT25		Three way valve and modulating actuator	DN25
VAT		Adjustment tool for valve package	

## Operating modes

### Door that is opened and closed

The control function notes whether the door is open or closed as standard, this mode is default set and is called Fixed flexible (the setting is under Installer menu > Settings fan > Door mode).

### **Open door**

Indicates OP on the installer status screen. Fan control runs at high speed mode and is controlled to outdoor temperature. During dropping outdoor temperatures during the winter and increasing outdoor temperatures during summer the fan speed increases. High speed limit is set under Main Menu > Fan control > High speed limit.

The control curves to the outdoor temperature are set under Installer menu > Settings fan > Fan speed increase where temperatures for min- and max speed are set for summer and winter modes.

Normally it is requested that heat is engaged when the door is opened. The set point value (Room temp. day) is then increased with the fixed set point value difference that can be changed under Installer menu > Settings heating > Open door setp. diff., factory setting 3.0 K. The set point is set under Main Menu > Temperature settings > Room temp. day. If week program is used the night time set point value is set under Main menu > Temp. settings > Room temperature night. The room temperature is regulated using the integrated room temperature sensor or the external room temperature sensor, SIReRTX (option).

### **Closed door**

Indicated CL on the installer status screen. When heating demand the fan speed runs at low speed which is set under Main menu > Fan speed > Speed closed door. Heating is regulated to Room temp. Day which is set under Main Menu > Temperature settings > Room temp. day.

If week program is used the night time set point value is regulated against the Room temperature is set under Main menu > Temp.

settings > Room temperature night. The room temperature is regulated using the integrated room temperature sensor or the external room temperature sensor, SIReRTX (option).

### **When the door is closed - over run**

When the door has been closed, high speed mode remains during the fixed time that is set under Installer menu > Settings fan > Door over run > High speed over run and at low speed during a fixed time under Installer menu > Settings fan > Door over run > Low speed over run, on the condition that it is sufficiently warm in the premises, otherwise the fans run until the desired temperature has been reached.

When the door is closed, the set point value shifts from room temperature + fixed set point value difference for open door to Room temp. day/night.

Over run is factory set so that the over run times are controlled according to how often the door is opened (Auto mode under Installer menu > Settings fan > Door over run > Over run mode).

### Doors that are always or often left open for longer periods

If a door is always, or often, left open it is possible to use a function called CURRENT STAGE instead. The fan and heating steps increase/decrease 6 or 9 steps (depending on the type of unit) and are only controlled by the room temperature. Actual Current stage is shown in the status screen.

The function current stage is activated in two ways:

### **Door that are always open**

For a door that is always open, door mode Fixed open > can be selected under >Settings fan > Door mode.

### **Doors that are often open**

For a door that is often open Auto can be selected under Installer menu > Settings fan > Door mode. In Auto mode, the control

automatically switches between Fixed flexible and Fixed open modes depending on how often the door has been open (when the door has been open for longer than 300 seconds the function changes from Fixed Flexible to Fixed Open).

### **Function description of current stage**

The task of the Current stage function is to balance the room climate when a door is always open by using the right combination of fan and heating step.

In open mode, the room temperature is read every 60 seconds (during the first 6 cycles, and then every 5 minutes and at each reading any Current stage adjustments are made, i.e. fan control and supplied output adjusted.

### **Winter**

When the outdoor temperature is less than the current setting on Installer menu> Settings fan > Outdoor temp. limit.

- If the room temperature is more than 3 degrees below the current settings, the current stage increases by 2 steps.
- If the room temperature is between 1 and 3 degrees below the current settings, the current stage increases by 1 step.
- If the room temperature is more than 2 degrees above the current setting, the current stage decreases by 1 step.

### **Summer**

When the outdoor temperature is greater than the current setting on Installer menu> Settings fan > Outdoor temperature limiting. The heating is blocked.

- If the room temperature is more than 2 degrees below the current settings, the current stage increases by 1 step.
- If the room temperature is between 1 and 2 degrees below the current settings, the current stage decreases by 1 step.
- If the room temperature is more than 2 degrees greater than the Current settings, current stage increases by 1 step.
- If the room temperature is between 1 and 2

degrees above current settings, the current stage decreases by 1 step.

If fan control has been max. limited under Main Menu > Fan control> High speed limit, all current stages will be used but the fan will be limited to the current setting.

See the table on the next page.

*Table - Current stage for units with 5 fan controls*

<b>Current stage</b>	<b>Fan</b>	<b>Stepless fan 5 speeds (output)</b>	<b>Stepless heat (Outlet temp.)</b>
0	0	0	0
1	1	30% (3V)	0
2	2	47% (4.7V)	0
3	2	47% (4.7V)	30 °C
4	3	64% (6.4V)	30 °C
5	3	64% (6.4V)	35 °C
6	4	81% (8.1V)	35 °C
7	5	100% (10V)	35 °C
8	5	100% (10V)	40 °C

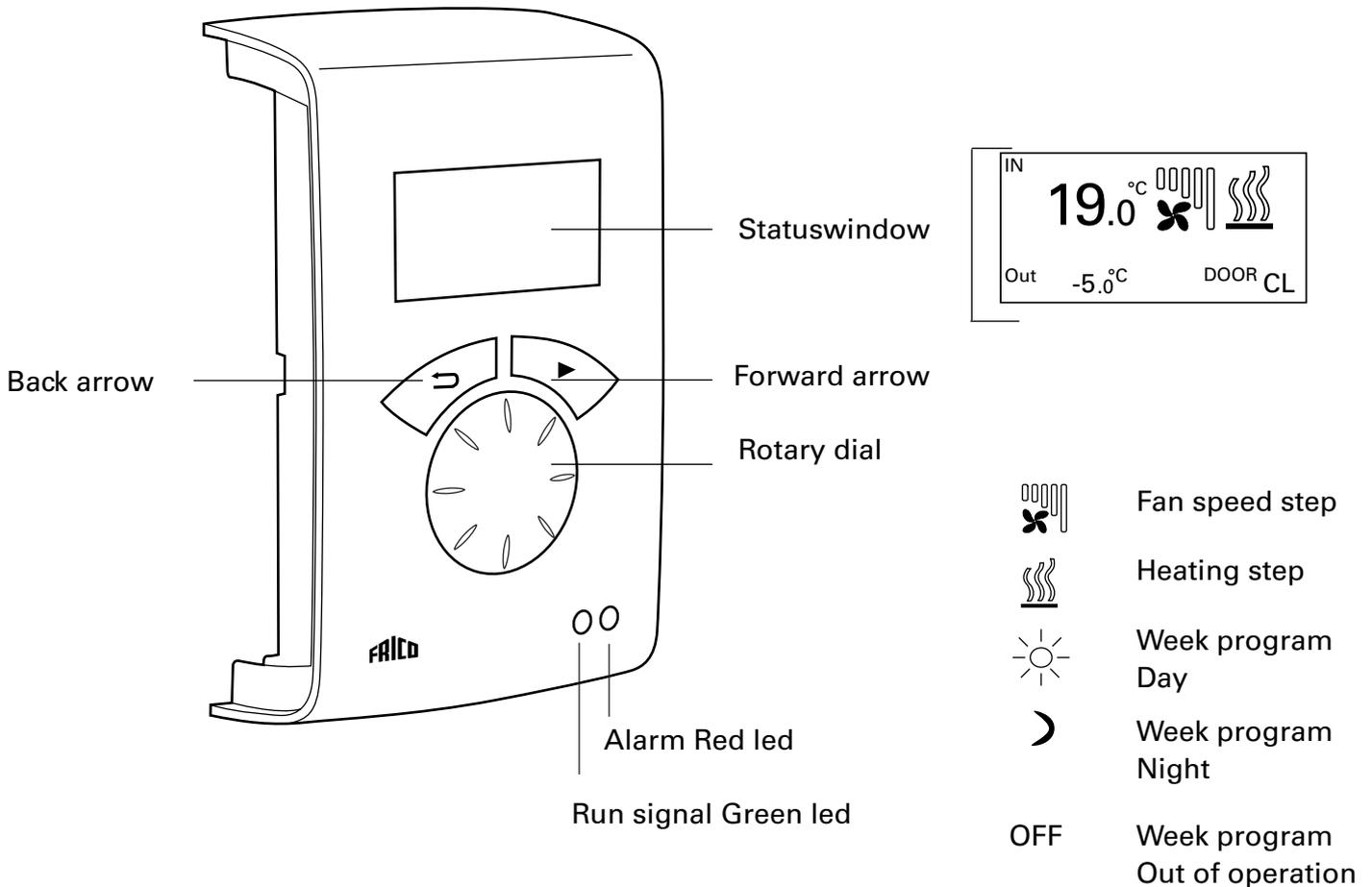
*Table - Current stage for units with 3 fan controls*

<b>Current stage</b>	<b>Fan</b>	<b>Stepless fan 3 speeds (output)</b>	<b>Stepless heat (Outlet temp.)</b>
0	0	0	0
1	1	30% (3V)	0
2	2	60% (6V)	0
3	2	60% (6V)	30 °C
4	3	100% (10V)	35 °C
5	3	100% (10V)	40 °C

# Control unit SIReUA1

## Overview

---



### Explanations

#### Statuswindow

The display shows prevailing room temperature, outdoor temperature, fan and heating step, door status and day or night mode when week program is used.

#### Forward arrow

Confirm selection and proceed.

#### Rotary dial

Scroll between alternatives

#### Back arrow

Go back.

After three minutes the control unit goes back to displaying the status window.

### Statuswindow

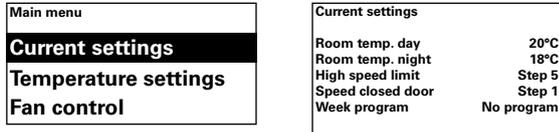
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Press forward arrow to enter the main menu.

## Main menu

### Current settings

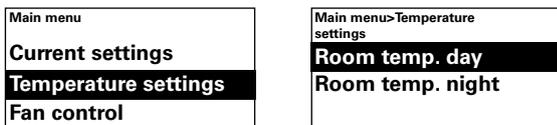
Shows the current room temperature, high speed limit, speed closed door and week program status.



### Temperature settings

Set the desired room temperatures to apply for day respectively night mode, when the door is closed (room temperature night is used for week program/night reduction).

At open door these set point values automatically increase with a set point differential that can be set under Installer menu > Heat settings> Open door setp. diff. (Factory setting 3.0 K).

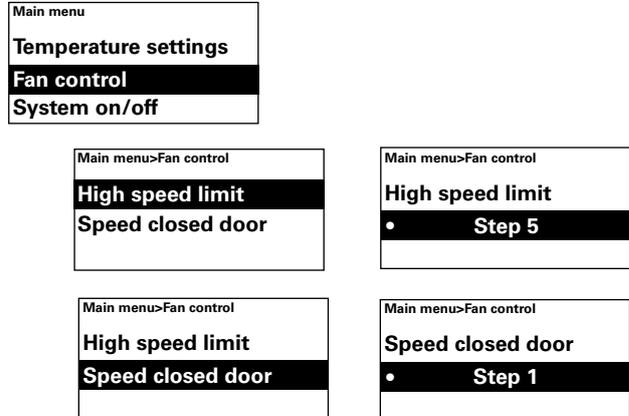


### Factory setting

Room temp. day: 20°C (5 – 35°C)  
 Room temp. night: 18°C (0 – 20°C)

## Fan control

Possibility of setting high speed mode at an open door and what speed should apply with a closed door (3 or 5 steps depending on the unit).



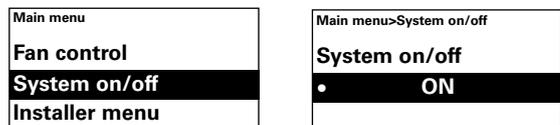
### Factory setting

High speed limit: 3 resp. 5 (1-3, resp. 1-5)  
 Speed closed door: 1 (Off-3, resp. Off-4)

## System on/off

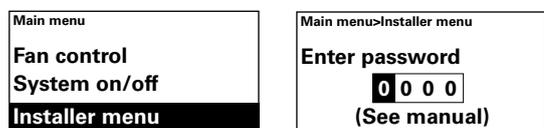
Switch the whole unit off manually. In Off the display goes out; as soon as a button is pushed the display lights and shows System on/off. To activate the unit again select On.

The unit's safety functions are still active when the system is switched off, which means that the fan can continue to run for a moment after mode Off has been selected.



## Installer menu

The installer menu is at the bottom of the main menu, this is password protected. See Installer menu in this manual.



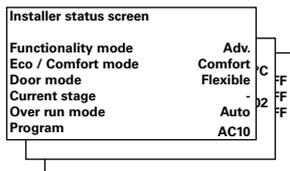
## Installer menu

To enter the Installer menu, code 1932 is entered. Select the digits using the rotary dial and confirm using the forward arrow.



## Installer status screen

Check the settings. The installer status screen consists of three pages with settings, scroll using the rotary dial.



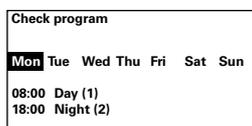
## Week program

Make settings for week program.

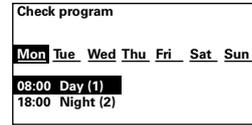


A basic program is pre-entered in SIRe.  
 Mon-Fri Day from 08:00, Night from 18:00  
 Sat Day from 10:00, Night from 16:00  
 Sun Day from 11:00:00, Night from 14:00

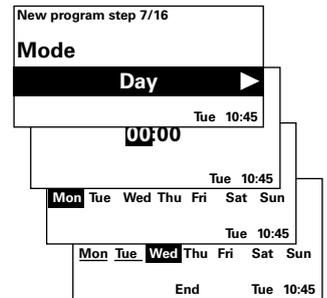
To check which program is set for a particular day, select Check program and then switch between the days using the rotary dial.



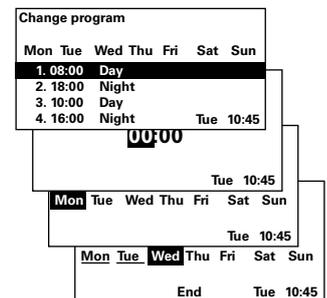
To check which days a certain program is active, select a week day by pressing the forward arrow, the program is marked and those days that the program is used will be underlined, switch between the programs for a particular day using the rotary wheel.



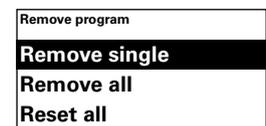
To add program step, select New program step. Confirm your selection with the forward arrow. Select Day, Night or Off (if the unit should not be in operation), set the time for switch on and then for which days the program applies, then go to End to finish.



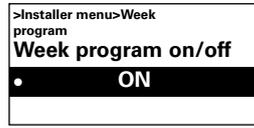
A new program step does not replace a set time for Day for example, but you can instead select to change a program step. To change a program step, select Change program.



The program steps that should not apply are removed in Remove program. One or all program steps can be removed in the menu. To return to the factory set basic program, select Reset all.

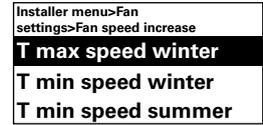
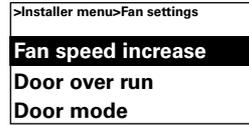


Week program is activated by selecting On, under Week program on/off. In On-mode, a sun, moon or Off in the Status window appears to indicate day, night respectively Off-function.



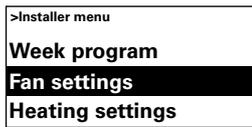
**Fan speed increase**

Settings for outdoor temperatures for max respectively min speed during summer respectively winter modes.



**Fan settings**

Make settings for fan mode (see also Operating modes section).



*Factory setting*

T max speed winter: -10°C (-30 – 15°C)

T min speed winter: 15°C (-10 – 22°C)

T min speed summer: 22°C (15 – 37°C)

T max speed summer: 37°C (22 – 50°C)

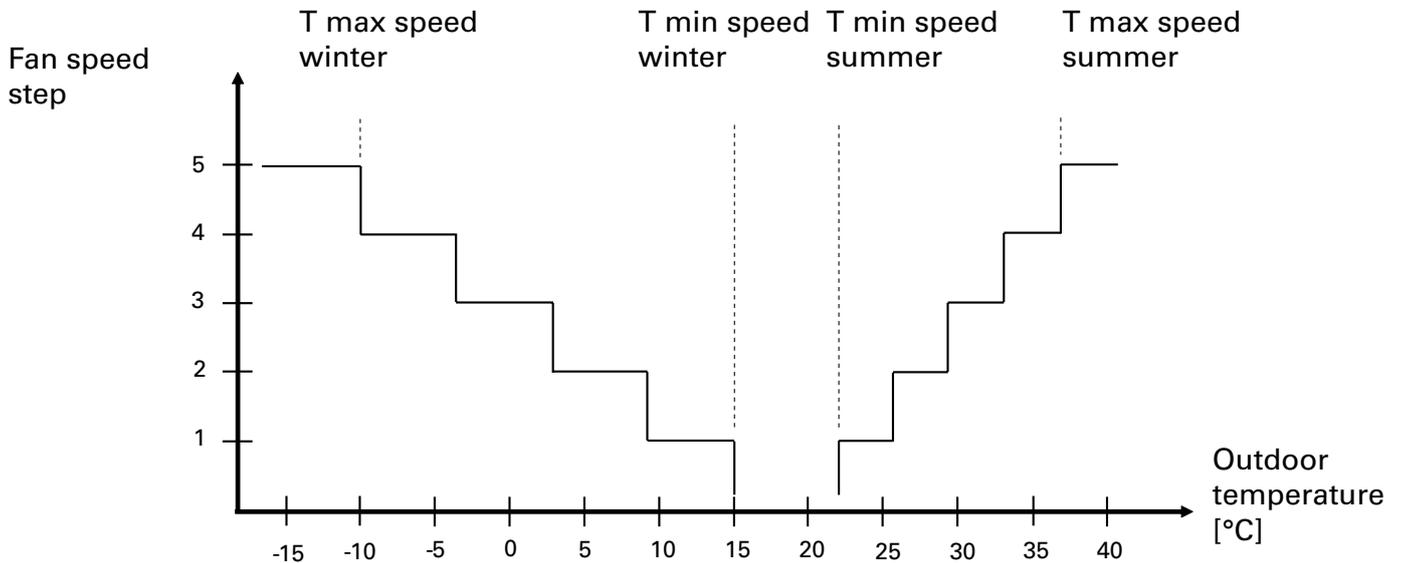


Diagram: Fan speed increase 5 step

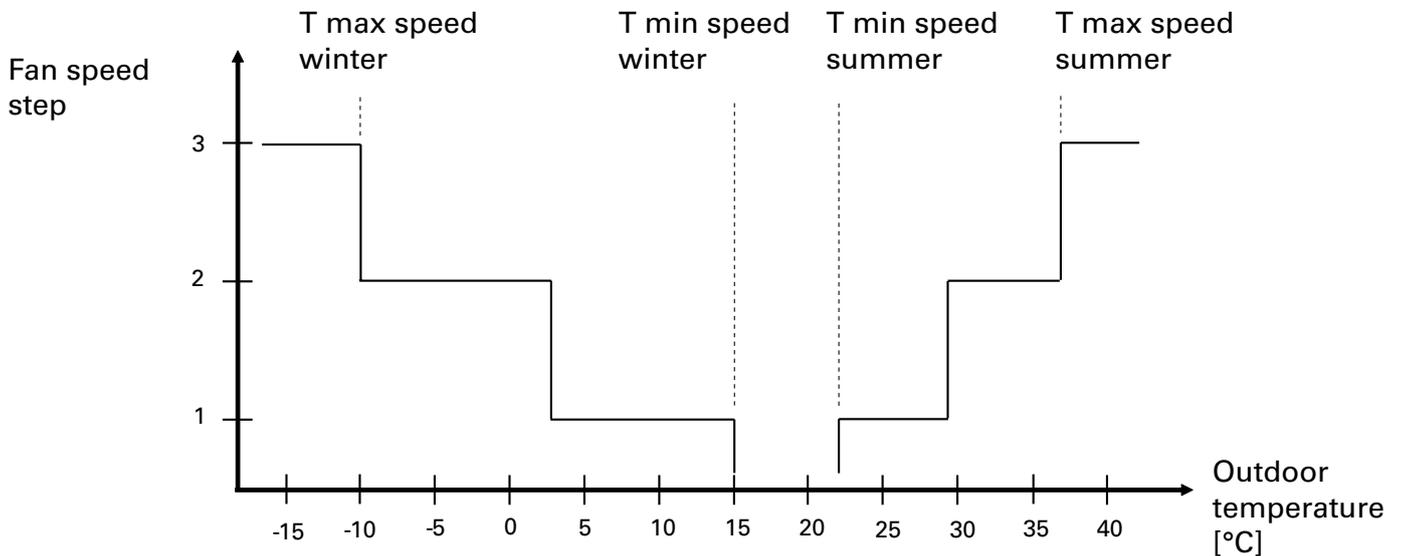
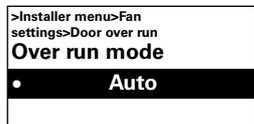
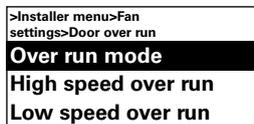
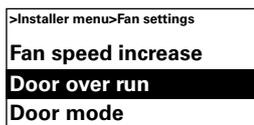


Diagram: Fan speed increase 3 step

### Door over run

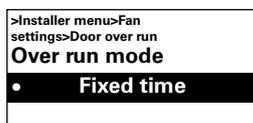
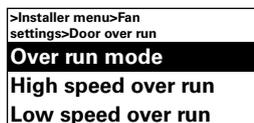
Settings for overrun.



In over run mode Auto, SIRe controls the over run time depending on how frequently the door is opened between openings, according to fixed preset values, according to the table.

Time between opening [s]	High speed over run [s]	Low speed over run [s]
t < 60	30	90
60 < t < 300	10	300
t > 300	0	180

Over run mode Fixed time is selected is one wants fixed over run times, the times can be changed during High speed over run and Low speed over run.

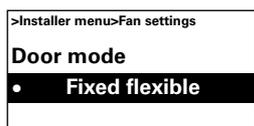
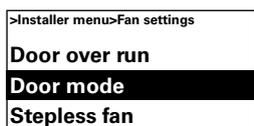


#### Factory setting

Over run mode: Auto (Set time)  
 High speed over run: 30 s (0 – 180 s)  
 Low speed over run: 120 s (0 – 300 s)

### Door mode

There are three different door modes to choose from; Auto, Fixed flexible and Fixed open.



In Fixed flexible mode, the control function notes whether the door is open or closed. In Fixed open mode the door is considered always open and is only controlled according to Current stage. In Auto mode, the control automatically switches between Fixed flexible

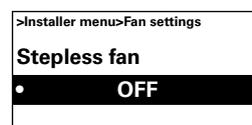
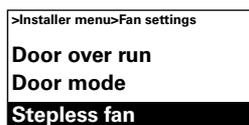
and Fixed open modes depending on how often the door has been open.

#### Factory setting

Door mode: Fixed flexible (Fixed open/ Auto)

### Stepless fan control

Settings for stepless fan control. Fans are controlled in 3 or 5 steps as standard. If stepless fan control is selected, the fans can be controlled steplessly via an external frequency converter for example.

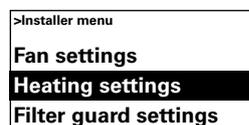


#### Factory setting

Stepless fan control: Off (On)

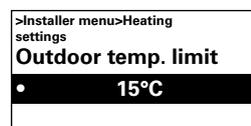
### Heating settings

Make settings for heating.



### Outdoor temp. limit

Blocking heating summer time.

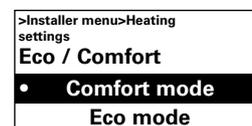


#### Factory setting

Outdoor temp. limit: 15°C (5 – 30°C)

### Eco / Comfort

Select between Eco and Comfort mode depending on whether energy savings or optimal comfort is more important. Comfort



mode gives faster comfort and a slightly greater output. Comfort mode prioritises the temperature comfort, the control system only accepts a smaller deviation from the set room temperature.

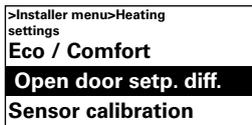
In Eco mode the heating adapts to the desired level a little more slowly, when a temperature change occurs, which gives lower energy consumption (only valid for units with internal temperature sensor).

In units with an internal sensor the Eco mode outlet temperature is restricted to 32 °C (adjustable), which further reduces the energy consumption.

To use the Eco functions it is necessary for the valve actuator to be controlled by 0-10V.

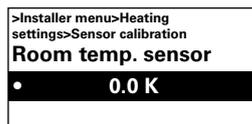
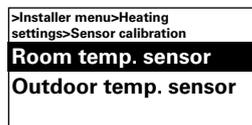
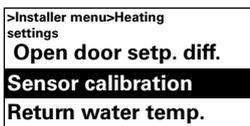
**Open door setp. diff.**

Set by how much the set point value (Room temp. day/night) is to increase when the door is open.



**Sensor calibration**

If the sensor displays the wrong values these can be calibrated. Some display errors may occur, but this is primarily due to the location (cold/hot surfaces etc). The value + or – adds to or subtracts from the measured value (for example +2K gives an increase of the displayed value of 2 degrees).



**Factory setting**

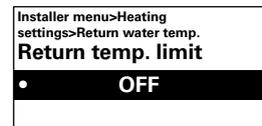
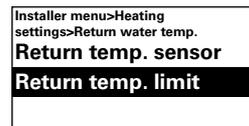
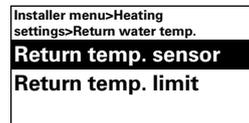
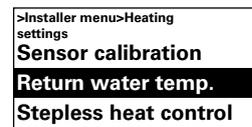
Room temperature sensor: 0.0 K (-10 K – 10 K)

Outdoor temperature sensor: 0.0 K (-10 K – 10 K)

**Return water temp.**

If there is a demand for the temperature of the return water not to exceed a certain value, this function is activated under Return water temp. A return water temperature sensor (proximity sensor SIReWTA, option) must then be installed on the return water pipe.

Install Return temp. Sensor to Connected and select max return temperature (15-90 °C) using the turn wheel. During operation, this function limits the valve's degree of opening, which reduces the flow and the return temperature.



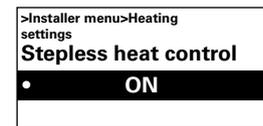
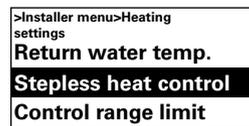
**Factory setting**

Return temp. sensor: Not connected (Connected)

Return temp. limit: Off (15 – 90°C)

**Stepless heat control**

To use Advanced fully, stepless heat control must be used.

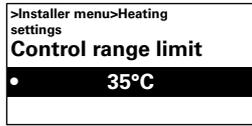


**Factory setting**

Stepless heat control: ON (Off - not selectable)

**Control range limit**

The maximum room temperature that a user can select is limited to between 5 – 35°C.



*Factory setting*

Control range limit temperature: 35°C (5 – 35°C)

**Filter guard settings**

Filter alarm alarms when the set fixed run time has been exceeded.



**Filter timer setting**

Under Filter timer setting, set the desired run time to between 50 and 9950 hours.



*Factory setting*

Filter timer setting: 1500 h (50 - 9950 h)

**Filter timer on/off**

Filter alarm is activated by selecting On, under Filter timer on/off.



*Factory setting*

Filter timer on/off: Off (On)

**External filter guard (not for electric)**

If an external filter guard, e.g. a pressure switch, is used, it is activated under External filter guard, select On.



*Factory setting*

External filter guard: Off (On)

**Last filter change**

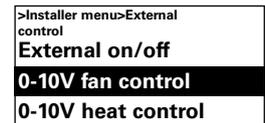
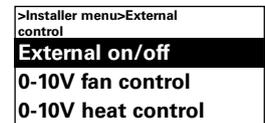
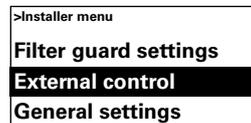
To check the number of run time hours since the last filter replacement, select Last filter change. The time is reset when the filter alarm is reset. If the time is to be reset before the alarm has gone, switch the filter timer on and off.



**External control (BMS)**

BMS functions can be activated under External control.

Activate External on/off (5-30V AC/DC from BMS), 0-10V fan control or 0-10V Heating control by selecting On under the relevant one. See diagram on next page and Connecting external control.



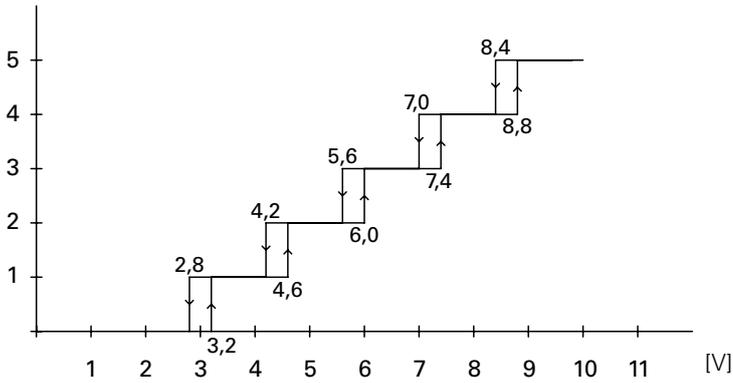


Diagram: Fan step at incoming 0-10V DC voltage level, 5 step

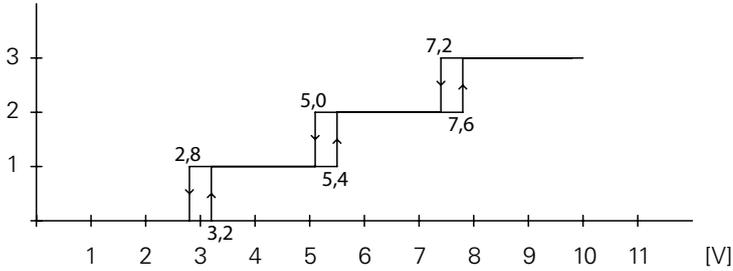


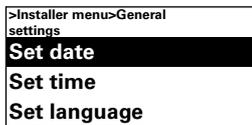
Diagram: Fan step for incoming 0-10V DC voltage level, 3-step.

### General settings

Possibility of making general settings that are also in the Start-up wizard and execute user reset.

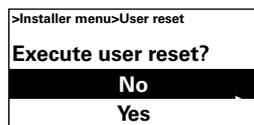
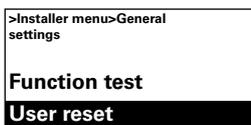


Change the date, time, language and temperature unit.



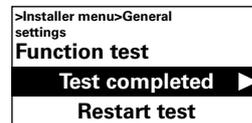
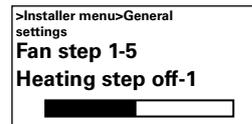
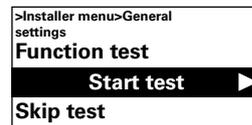
### User reset

User reset (Room temp. day resp. night, high speed limit, speed closed door) to factory setting.



### Function test

To test the fan and heating steps, run the function test.



### Service menu

The service menu is password protected and is used for support in contact with Frico or authorised installer.

## Alarm and error codes

SIRe has different alarms and error codes for safe and problem free operation.

If alarms or error codes have been indicated these must be reset in order to return to normal operation, for example activating the heating again. Fan mode is active even when, for example, the over heating alarm has been indicated.

### Displaying alarm and error codes

In event of alarm or error the alarm/error code is shown in the status window. In event of alarm/error code the unit it applies to is displayed.

See Table - Alarms and Table – Error codes.

### Reset alarm

**Note! Before resetting, check that the fault is rectified and there is nothing to prevent the unit from being recommissioned!**

When the fault is rectified, the alarm is reset by pressing the forward arrow and selecting Reset alarm and then confirm. If several units give an alarm at the same time, the fact that there are several alarms is indicated, but only one is shown in the display. By resetting that alarm the next alarm can be read.

At the first start up alarm and error codes can occur, these can usually be reset without action.

### Overheat protection

Only applies to units with internal sensor. The over heat protection maintains the exhaust temperature at +40°C. If the temperature should exceed +46°C e.g. in the event of a faulty valve or actuator, the fan starts to speed up to keep the temperature down. At the same time there is an over heating alarm A2. At internal temperatures of +50°C the fan runs at maximum speed. If the unit cools, heating is automatically reengaged. The alarm remains in the control unit's display. If the unit overheats twice within an hour, the fan operates until the alarm is reset.

### Power failure

Note that in case of power failure the time settings need to be checked, if the time is not set correctly week program will be affected.

### Frost protection function

Only applies to units with internal sensor.

The frost protection function is intended to prevent the water coil from freezing.

When the fan is in operation the valve actuator opens the valve at an internal temperature below +15°C regardless of whether there is a heating requirement. If the internal unit temperature continues to drop, e.g. at low ambient temperatures, insufficient flow line temperatures, low flow or fault valve function, the frost protection alarm A3 will be triggered when the internal unit temperature drops +5°C. The fan then also stops and when the mixing cabinet is used the dampers is also closed.

With return temp. sensor SIReWTA connected an advanced alarm function occurs. At return temperatures less than +15°C the actuator will open regardless of the heat demand. Alarm is triggered at return temperature +7°C and the fan also stops.

When the fan is not running there is a heat retention function that opens the valve when the water's return temperature falls below +25°C regardless of heat demand.

Note! In event of repeated alarms, overheating alarms and frost protection alarms, carry out a thorough check and if the fault cause cannot be found contact authorised installer or Frico.

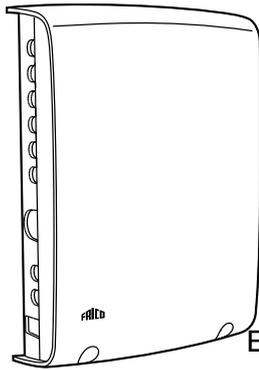
**Table - Alarm**

<b>Alarm</b>	<b>Cause</b>	<b>Action</b>
A1 Motor alarm Thermal switch	has deployed. One or several motors have overheated. (Only units with withdrawn thermal switches.)	Check that nothing is obstructing the unit's air intake and exhaust. When the overheated motor has cooled the thermal switch shuts again and the alarm can be reset. At repeated alarms, check the motors, replace damaged motors.
A2 Over heating alarm	The temperature in the unit has exceeded the alarm limit for overheating. (Only applies to units with internal unit temperature.)	Check that nothing is obstructing the unit's air intake and exhaust, the function of the actuator and valve, flow temperature and internal temperature sensor.
A3 Frost protection alarm	The temperature in the unit has fallen below the alarm limit for frost protection. (Only applies to units with internal unit temperature.)	Make sure that the ambient temperature where the unit is installed exceeds +5°C. Check the flow temperature, the flow of hot water and the function of the actuator and valve. In event of an alarm there a risk that the battery is damaged, check carefully for leakage and replace the battery if damaged.
A4 Filter alarm	Fixed run time before the filter alarm has been reached. or the external filter alarm has been activated.	Replace or clean the filter, adjust any alarm time based on how dirty the filter was and reset the alarm.
A5 Ext. alarm	External alarm input on SIReA1X has been activated.	Check the external alarm.

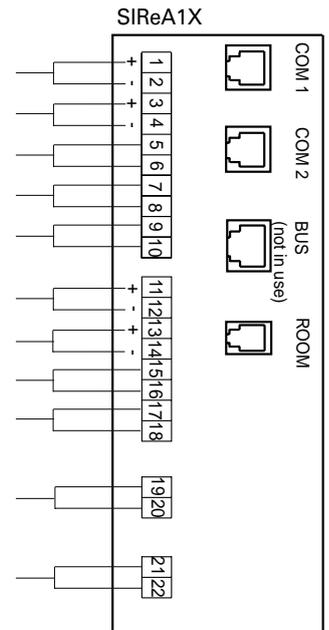
**Table - Error codes**

<b>Error code</b>	<b>Cause</b>	<b>Action</b>
E1	Communication SIReB1(X) has no contact with SIReA1X.	Check connection between the boards. Replace any modular cables.
E2	ID Error Two or more SIReB1(X) have the same ID-number.	Interrupt the current and select different ID numbers for all SIReB1(X) in the system.
E3	ID Error One or more SIReB1(X) do not have programs.	Contact Frico for support.
E4	Room sensor error Fault on or missing external room sensor SIReRTX connected to SIReB1(X).	Always disconnect the power when connecting or disconnecting sensors. Check connection of the sensor.
E6	Sensor alarm Return water temp. Fault on or missing return water temp. sensor SIReWTA connected to SIReB1(X).	Always disconnect the power when connecting or disconnecting sensors. Check connection of the sensor. If the sensor is not used, it must not be activated (see the Settings heating section)
E8	Internal sensor faults Fault on or missing internal sensor in the unit. (Only applies to units with internal unit temperature.)	Check connection of the sensor. If there is no sensor, contact Frico for support.
E10	ID Error Two or more SIReB1(X) in the system have different programs.	Contact Frico for support.
E12	Room sensor error Fault on or missing external room sensor SIReRTX connected to SIReA1X.	Always disconnect the power when connecting or disconnecting sensors. Check connection of the sensor.
E14	Outdoor sensor fault Fault on or missing outdoor temperature sensor SIReOTX connected to SIReA1X.	Always disconnect the power when connecting or disconnecting sensors. Check connection of the sensor.
E20	Communication Control unit SIReUA1 has no contact with SIReA1X.	Check the connection. Replace any modular cables.
E21	Room sensor error Error in the internal room sensor in the control unit SIReUA1.	Check connection between SIReUA1 and SIReA1X. Replace any modular cables. If the error is not rectified SIReUA1 must be replaced.
E23	Soft ware error Contact Frico for support.	

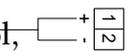
**Connecting external control - including BMS functions**



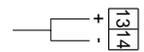
- RPM indication
- Heating indication
- Outdoor temp. sensor
- External night reduction
- External alarm IN
- Ext. speed ctrl. 0-10V DC IN
- Ext. Heating control 0-10V DC IN
- External ON/OFF
- Door switch
- ALARM OUT (BMS)
- Operation indication OUT (BMS)



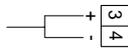
**RPM indication**  
 0-10V DC OUT (max 5 mA)  
 Signal from SIRe indicates fan control, corresponds to 0-100% fan control. Always active.



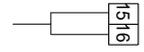
**Ext. Heating control 0-10V DC IN**  
 Activates heating. Set parameter: >> Installer menu > External control > 0-10V heating control. = On



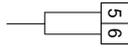
**Heating indication**  
 0-10V DC OUT (max 5 mA)  
 Signal from SIRe indicates connected heating step. Always active. Control signal to modulating actuator.



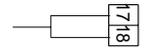
**External on/off 5-30V AC/DC**  
 External signal activates the unit. Set parameter: >> Installer menu > External control > External On/Off = On



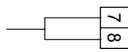
**Outdoor temp. sensor (obligatory)**  
 SIReOTX



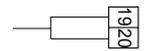
**Door switch (obligatory)**  
 (External potential-free switch)  
 SIReDC indicates door status. Potential-free switch from door automatic or BMS can also be used. Closed = door open  
 Open = door closed



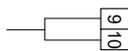
**External night reduction**  
 on/off (potential-free switch)  
 Closes to activate the night reduction function. Always active.



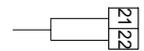
**Alarm outgoing (BMS) (potential-free switch, max 3A, 230V)**  
 Outgoing alarm indication. Always active. Closed = buzzer alarm  
 Open = no alarm



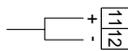
**External alarm IN**  
 (potential free contact)  
 An external filter guard closes to indicate an alarm. Set Parameter: >> Installer menu > Filter guard > External filter guard = On



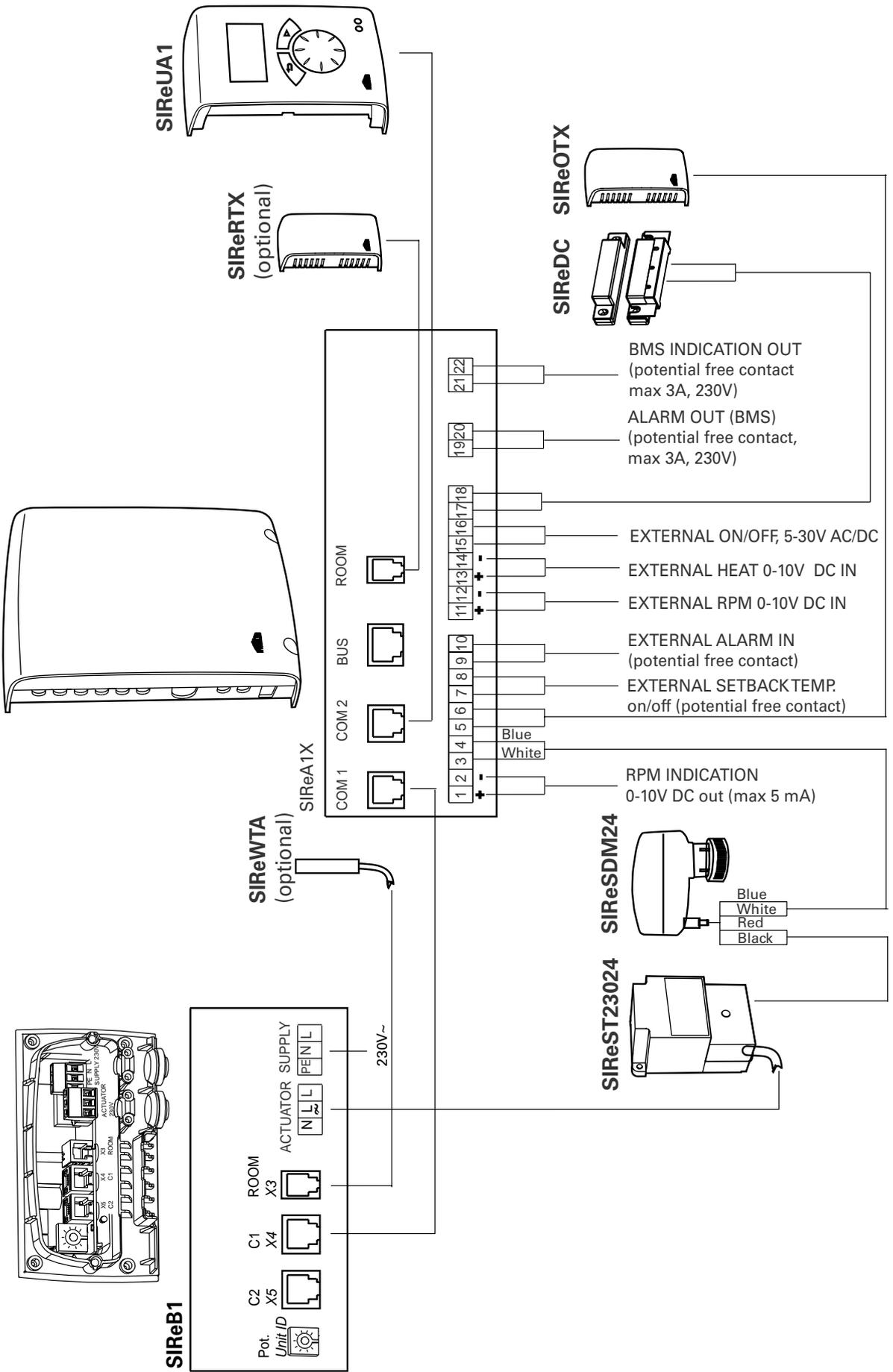
**Operation indication OUT (BMS)**  
 (potential free contact) max 3A, 230V  
 Outgoing operation indication. Always active.



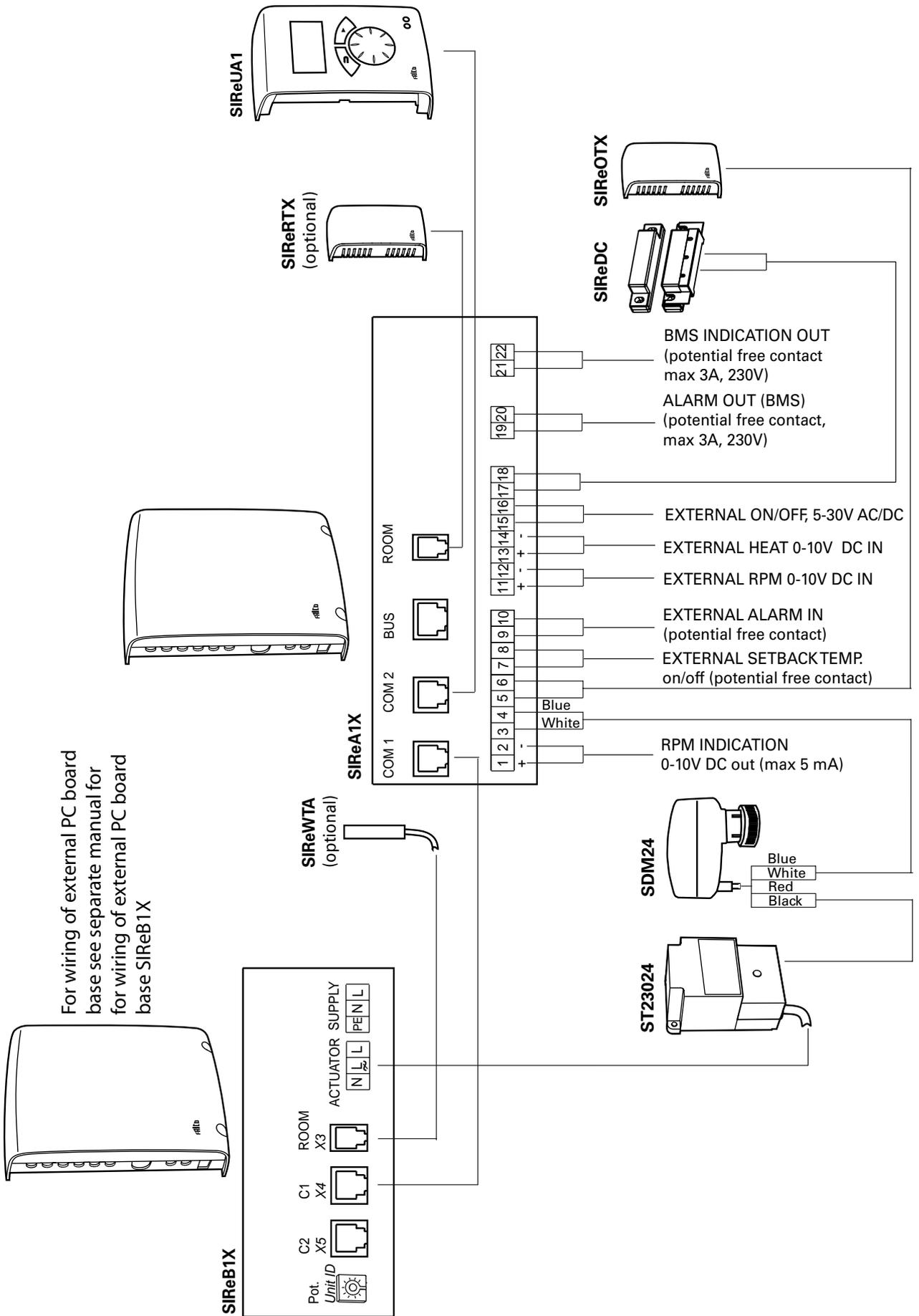
**External rpm control 0-10V DC**  
 Control fan control 0-100%. Set parameter: >> Installer menu > External control > 0-10V Fan control = On



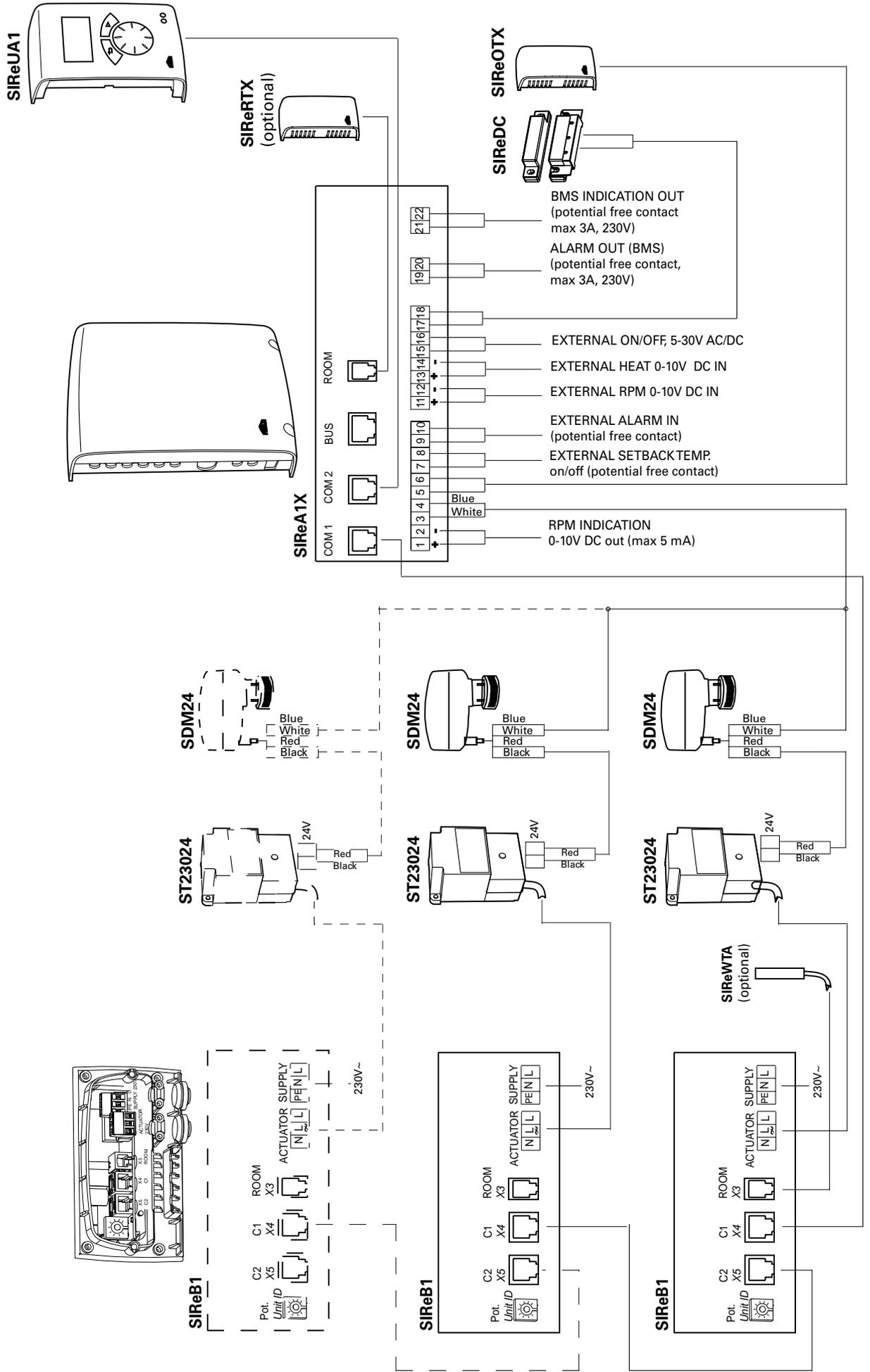
**Wiring diagram - Advanced  
Internal PC Board Base**



# Wiring diagram - Advanced External PC Board Base



Wiring diagram - Advanced – parallel connection



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