FRICO

Original instructions

Control system FC

Standalone level - FC111, FC113
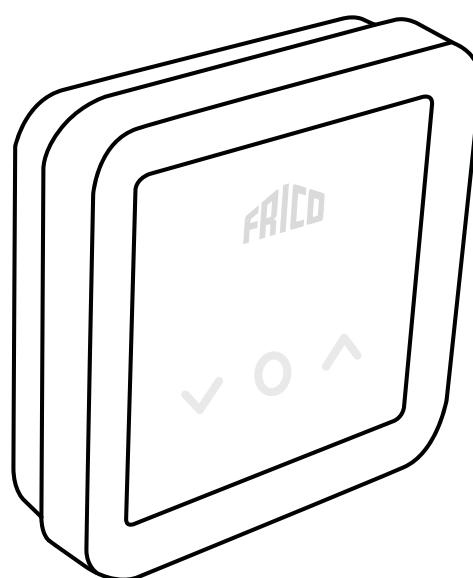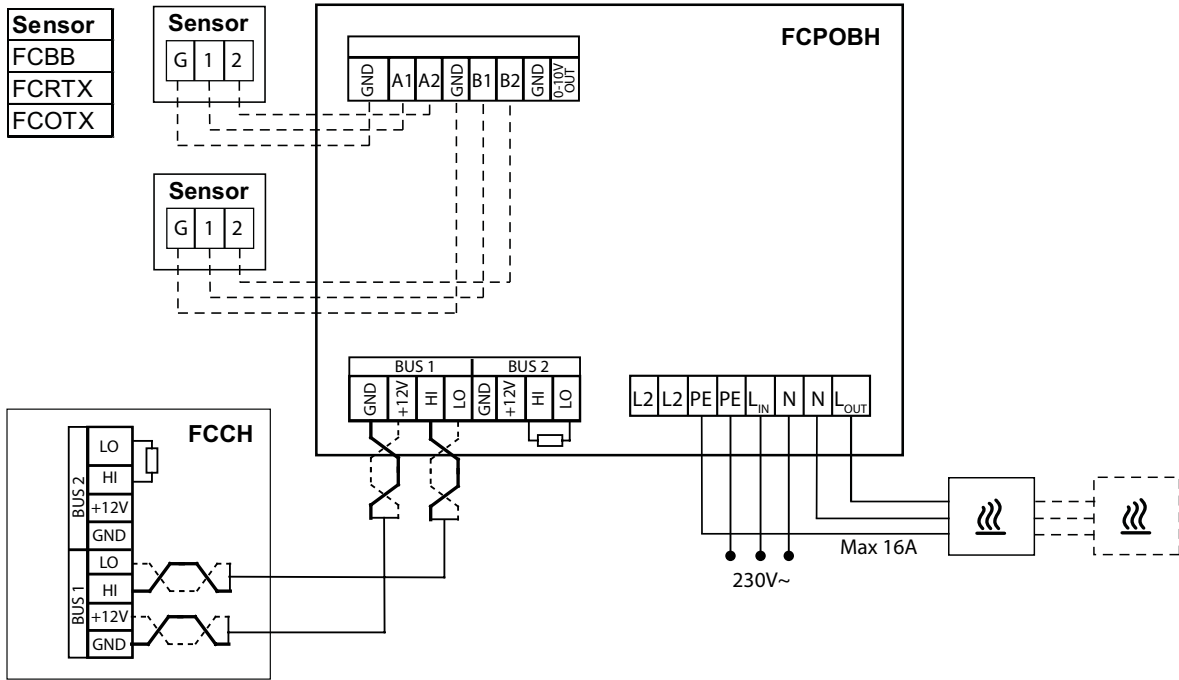
FC111
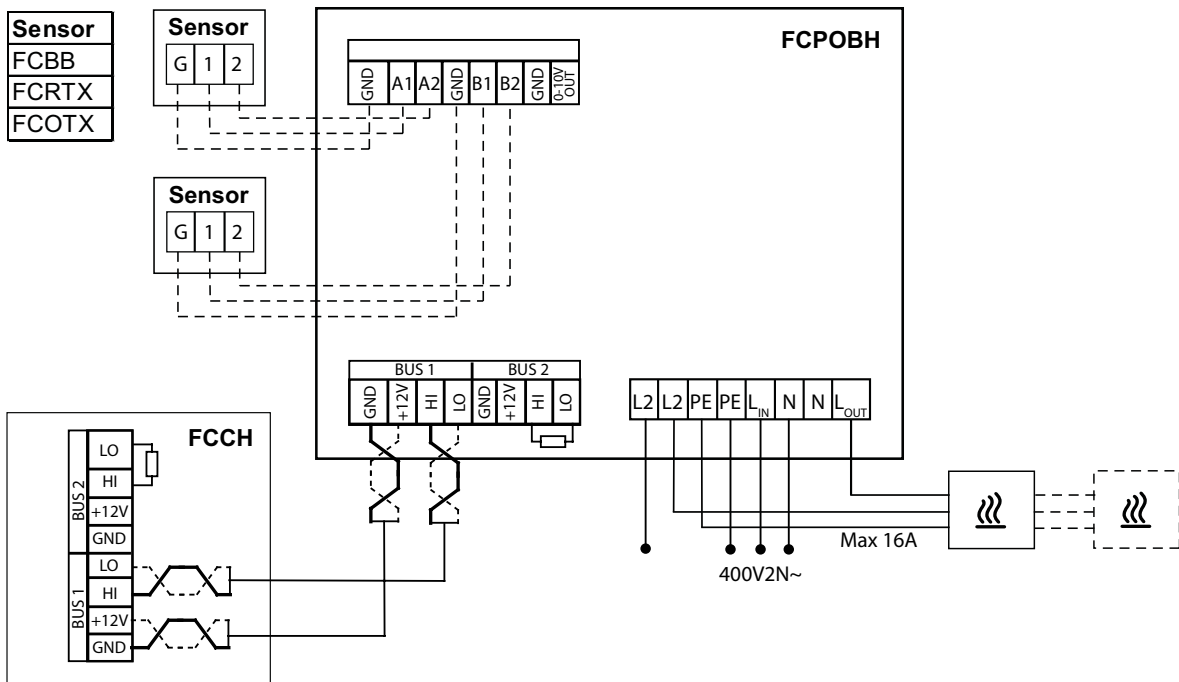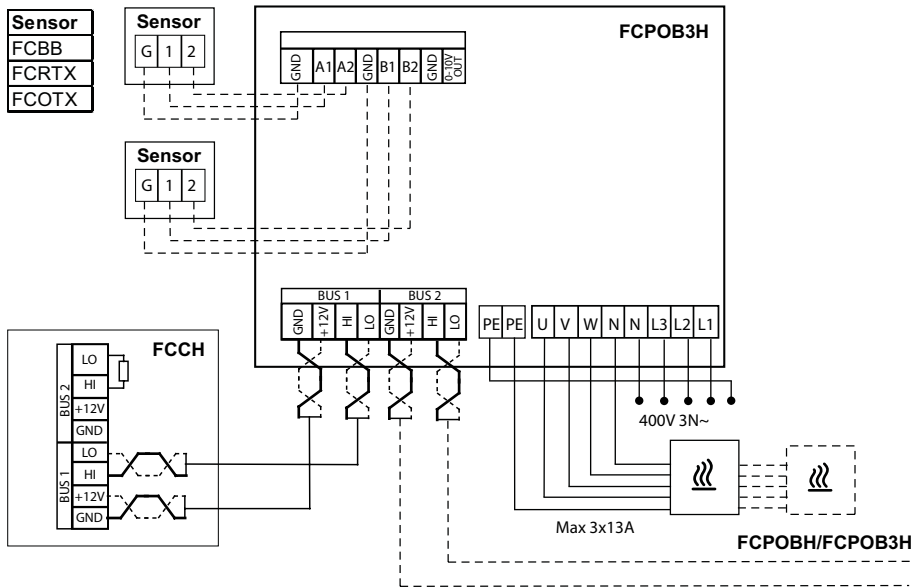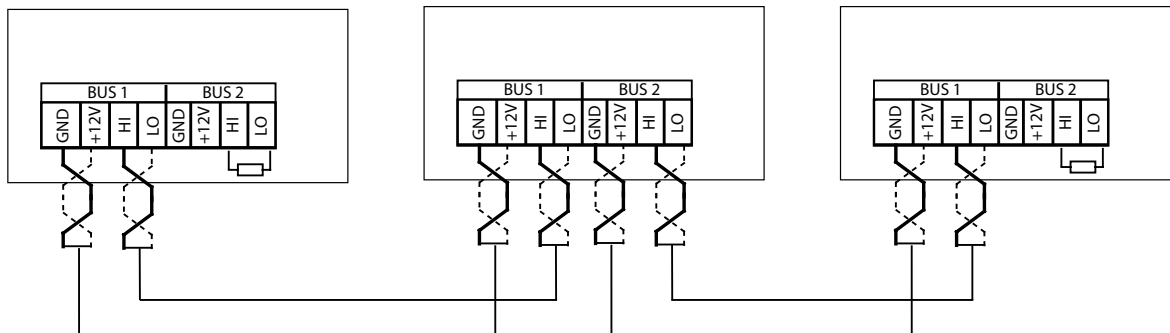
230V~

400V2~

FC113

400V3~

FC111/113 - FCPOBH/FCPOB3H

SE För att minska risken för störningar ska kommunikationsbussen vara terminerad (avslutad) i vardera änden dvs. i de enheter som sitter i början respektive i slutet av bussen. Vid leverans är alla bussar förterminerade med ett 120 Ohms motstånd mellan HI and LO på BUS2. Vid vidarekoppling tas motståndet bort.
Som alternativ till resistans kan termineringsswitchen på kortet sättas i läge "ON".

NO For å redusere faren for forstyrrelser skal kommunikasjonsbussen være terminert (avsluttet) i hver ende, dvs. i de enhetene som er plassert i begynnelsen henholdsvis i slutten av bussen. Ved levering er alle busser på forhånd terminert med en motstand på 120 Ohm mellom HI og LO på BUS2. Ved viderekobling fjernes motstanden.
Som alternativ til resistans kan termineringssvitsjen på kortet settes i stillingen "ON".

GB To reduce the risk of interference, the communication BUS should be terminated at each end, i.e. in the units that are located at the start and at the end of the BUS respectively. On delivery, all buses are pre-connected with a 120 Ohm resistor between terminals HI and LO on BUS2. When making further connections, remove the resistor.
As an alternative to resistance, the termination switch on the board can be set to the "ON" position.

FC111, FC113

FCCH   FCPOBH
       FCPOB3H

FCB05
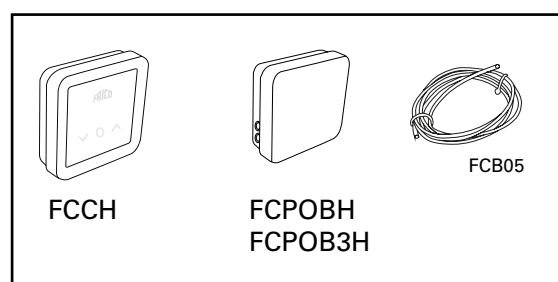
FC111 / FC113

SE

Ingående komponenter

Typ	Ingår i	Beskrivning	HxBxD [mm]
FCCH	FC111/FC113	Kontrollpanel, IP44	89x89x26
FCPOBH	FC111	Styrenhet, 16A, 230V~/400V2~, IP44	105x105x38
FCPOB3H	FC113	Styrenhet, 3x13A, 400V3~, IP44	149x149x43
FCBC05	FC111/FC113	Kommunikationskabel, 5 m	L: 5 m

NO

Inngående komponenter

Type	Inngår i	Beskrivelse	HxBxD [mm]
FCCH	FC111/FC113	Kontrollpanel, IP44	89x89x26
FCPOBH	FC111	Styreenhet, 16A, 230V~/400V2~, IP44	105x105x38
FCPOB3H	FC113	Styreenhet, 3x13A, 400V3~, IP44	149x149x43
FCBC05	FC111/FC113	Kommunikasjonskabel, 5 m	L: 5 m

GB

Components included

Type	Included in	Description	HxWxD [mm]
FCCH	FC111/FC113	Control panel, IP44	89x89x26
FCPOBH	FC111	Control box, 16A, 230V~/400V2~, IP44	105x105x38
FCPOB3H	FC113	Control box, 3x13A, 400V3~, IP44	149x149x43
FCBC05	FC111/FC113	Communication cable, 5 m	L: 5 m

FCPOBH / FCPOB3H

FCBB

FCRTX

FCOTX
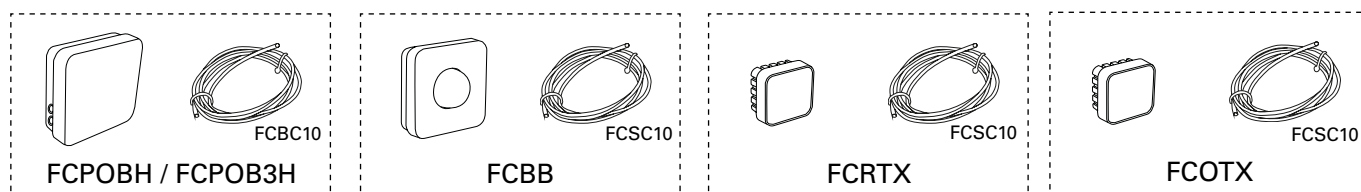
FCBC05/10/25
FCSC10/25

SE

Tillval

Typ	Beskrivning	HxBxD [mm]
FCPOBH	Styrenhet för systemutbyggnad, 16A, 230V~/400V2~, FC111, IP44	105x105x38
FCPOB3H	Styrenhet för systemutbyggnad, 3x13A, 400V3~, FC113, IP44	149x149x43
FCBB	Svartkroppsgivare, IP44	89x89x43
FCRTX	Extern rumstemperaturgivare, IP20	39x39x23
FCOTX	Utetemperaturgivare, IP44	39x39x23
FCBC05	Extra kommunikationskabel, 5 m	L: 5 m
FCBC10	Extra kommunikationskabel, 10 m	L: 10 m
FCBC25	Extra kommunikationskabel, 25 m	L: 25 m
FCSC10	Extra givarkabel, 10 m	L: 10 m
FCSC25	Extra givarkabel, 25 m	L: 25 m

NO

Ekstrautstyr

Type	Beskrivelse	HxBxD [mm]
FCPOBH	Styreenhet for systemutbygging, 16A, 230V~/400V2~, FC111, IP44	105x105x38
FCPOB3H	Styreenhet for systemutbygging, 3x13A, 400V3~, FC113, IP44	149x149x43
FCBB	Black bulb sensor, IP44	89x89x43
FCRTX	Ekstern romtemperaturføler, IP20	39x39x23
FCOTX	Utetemperaturføler, IP44	39x39x23
FCBC05	Ekstra kommunikasjonskabel, 5 m	L: 5 m
FCBC10	Ekstra kommunikasjonskabel, 10 m	L: 10 m
FCBC25	Ekstra kommunikasjonskabel, 25 m	L: 25 m
FCSC10	Ekstra giverkabel, 10 m	L: 10 m
FCSC25	Ekstra giverkabel, 25 m	L: 25 m

GB

Options

Type	Description	HxWxD [mm]
FCPOBH	Control box for system extension, 16A, 230V~/400V2~, FC111, IP44	105x105x38
FCPOB3H	Control box for system extension, 3x13A, 400V3~, FC113, IP44	149x149x43
FCBB	Black bulb sensor, IP44	89x89x43
FCRTX	External room temperature sensor, IP20	39x39x23
FCOTX	Outdoor temperature sensor, IP44	39x39x23
FCBC05	Extra communication cable, 5 m	L: 5 m
FCBC10	Extra communication cable, 10 m	L: 10 m
FCBC25	Extra communication cable, 25 m	L: 25 m
FCSC10	Extra sensor cable, 10 m	L: 10 m
FCSC25	Extra sensor cable, 25 m	L: 25 m

Start up

1. Check that all components and accessories are enclosed.
2. Assemble and connect system, consult wiring diagrams.
3. Power-up the system.
4. The system automatically identifies all components, even when they are added at a later stage.

System solution

A system consists of a control panel, FCCH, as well as an optional number of control units, FCPOBH/FCPOB3H (1-63 units), sensors and heaters. The set-point temperature for the system is selected on the control panel.

In the system, groups are created that comprise one FCPOBH/FCPOB3H, sensor and heater. At most, each group can consist of one or more heaters with a total rated current of 16A (FCPOBH) or 3 x 13A (FCPOB3H).

The control panel houses a built-in temperature sensor which can be used, alternatively the groups which are fitted with external room temperature sensors have better sensor positioning for local temperature control per group.

A. System without external room sensors
The control panel's temperature sensor is controlling.

B. System with one external room sensor
One external room temperature sensor in the system controls all groups.

C. System with several groups of external room sensors in each group
External room temperature sensors control each group.

D. System with several groups, of which, at least two groups have external room sensors and at least one group does not have an external room sensor
External room temperature sensors control each group.
Group/groups without sensors are controlled by the control panel's temperature sensor.

Black bulb sensor

With black bulb sensors, the operative temperature is measured and the control adapted to suit radiant heaters.

When the black bulb sensors are connected (accessory FCBB), the system will automatically detect this and the room value will be recorded from the black bulb sensor.

Heating blocked dependent on outdoor temperature

With outdoor temperature sensors (accessory FCOTX), heating is automatically blocked when the outdoor temperature exceeds 15 °C. This function can be deactivated, see Settings.

Control panel

Overview
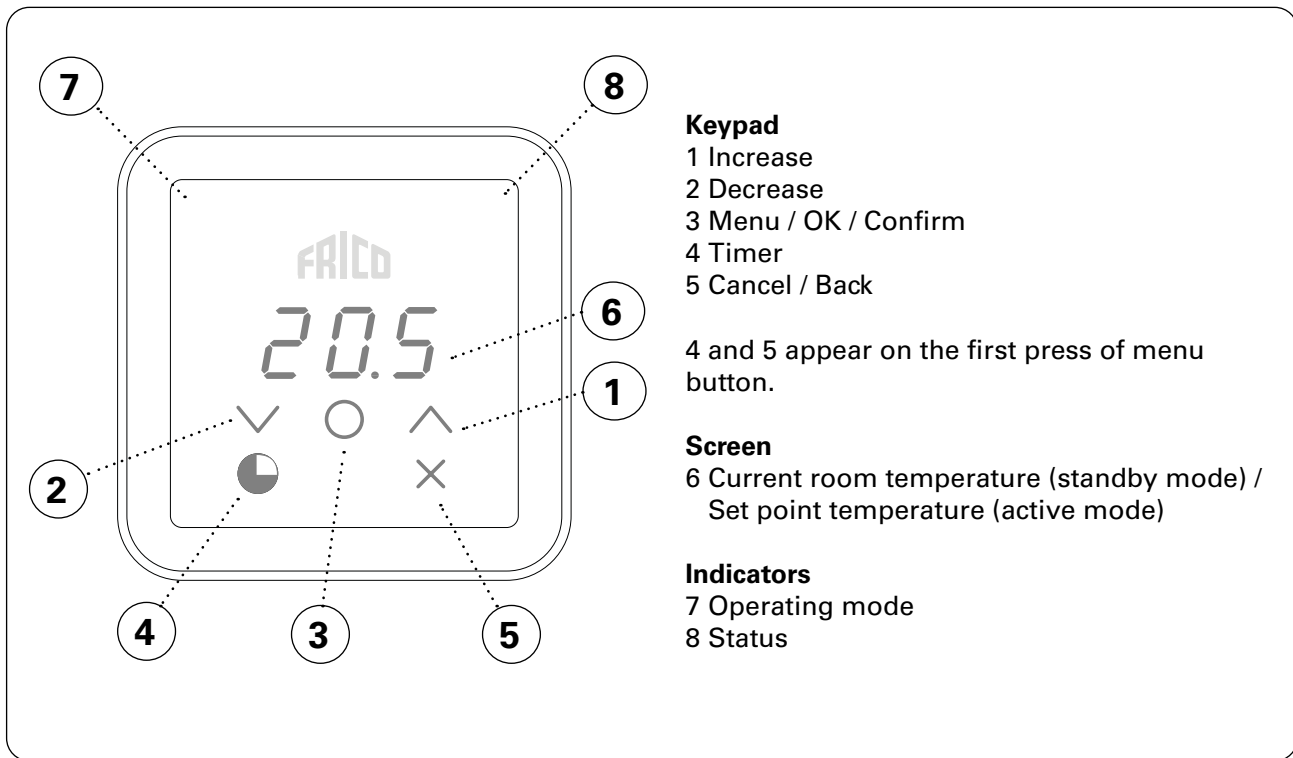
Keypad
1 Increase
2 Decrease
3 Menu / OK / Confirm
4 Timer
5 Cancel / Back

4 and 5 appear on the first press of menu button.

Screen
6 Current room temperature (standby mode) /
  Set point temperature (active mode)

Indicators
7 Operating mode
8 Status

Indicator Operating Mode (left-hand LED)

Colour (LED)	Operating mode
OFF	Normal mode
White	Comfort mode
White flashing	Comfort mode - temporary
Green	Reduced (night mode)
Green flashing	Reduced (night mode) - temporary
Yellow	Timer

Indicator Status (right-hand LED)

Colour (LED)	Status
White	Heat on
OFF	Heat off
Red flashing	Alarm
Purple	Heating blocking

During start-up, the text Inlt appears on screen, then the current room temperature is displayed.

When the screen is in standby mode, the light intensity is reduced. Pressing any button will simply display the set point temperature.

The FC111/113 is delivered with preset values. The preset set point temperature is 21 °C and can be easily adjusted using the up/down arrows. The FC111/113 can also be adjusted to your own requirements, consult the following pages.

Display lock

Press and hold (2 sec)	Quick command
∨ + ∧	Display lock on/off

Timer

The set point temperature can be changed for a limited period using the timer (15 minutes to 45 days).

◯   Press to activate keypad.

◖   Press to start timer at the preset values (1 h, 24 °C) or the most recently used values).

Or to adjust the time and temperature values:

◖   Press and hold for 2 seconds.

◇   Set the desired time.

$$\boxed{\textit{4 h}}$$

15 minutes - 45 days (' minute, h hour, d day)

◯   Confirm

◇   Set the desired room temperature (set point temperature).

$$\boxed{\textit{22.0}}$$

◯   Confirm

While the timer is counting down, the screen alternates between displaying the time remaining and the set point temperature. The current temperature is not shown in the timer mode.

When time is up the unit returns to previous settings.

User menu

◯   Press and hold for 2 seconds.

$$\boxed{\textit{dAtE}}$$

Home screen

◇   Browse between the menu options.

◯   Confirm

See the table on the following page for the choices which are possible.

User menu

Menu options	Functions	Default settings	Description
dAtE	For week program. Set the following: - year - month - day - time (00:00)	-	Increase/decrease with up/down arrow. Confirm each step with OK.
tHi	For week program. Set the desired room temperature (set point temperature) for comfort mode.	21 °C	Increase/decrease with up/down arrow. Confirm with OK.
tLo	For week program. Set the desired room temperature (set point temperature) for reduced mode.	18 °C	Increase/decrease with up/down arrow. Confirm with OK.
Prog	Weekly program, see separate section.	(off) (function not activated)	Switch between (OFF) and P1-P9 with up/down arrow. Confirm with OK.
HEAt	Switch heating on/off.	On (on)	Switch between (On) and (OFF) with up/down arrow. Confirm with OK.
AL A	Display active alarm.	-	Switch between alarms with up/down arrow. To see the serial number for an alarm, press OK. If no alarm: no A.
AL H	Display alarm history.	-	Switch between alarms with up/down arrow. To see the serial number for an alarm, press OK. If no alarm: no A.
OFF	Switch off the system.	-	To switch off the system, select (OFF) using OK. Wait 10 sec. The system is then switched on by pressing OK and selecting (On) with up/down arrow and confirming with OK.
SEt	Change settings, see separate section Settings.	-	
CLr	Factory reset. Resets values to factory settings.	-	Press OK. Select (YES), by keeping OK depressed for 2 seconds (countdown).

Week program

The FC has nine preset weekly programs (P0/P1-P9).

To activate weekly program, the following must be set in the user menu:
- Date (dAtE)
- Temperature, comfort mode (tHi)
- Temperature, reduced mode (tLo)

The adaptive start function allows the control to learn when it needs to start in order to attain a given set point temperature at a given time of the day in the environment in which it is used. This function can be deactivated (see Settings menu).

Preset programs

	Description	Comfort mode*	
P0, P1	Residence	Mon-Fri:	05:30 - 08 17 - 22
		Sat-Sun:	07 - 23
P2	Residence, late	Mon-Fri:	06:30 - 10 19 - 23:30
		Sat-Sun:	07:30 - 23:30
P3	Residence, short	Mon-Fri:	06 - 09 16 - 23
		Sat-Sun:	07 - 23
P4	Residence, day only	Mon-Sun:	06 - 22
P5	Weekend	Fri:	17 - 23
		Sat-Sun:	07 - 23
P6	Office	Mon-Fri:	06 - 18
P7	Office, late	Mon-Fri:	09 - 21
P8	Shop, late	Mon-Fri:	09 - 22
		Sat-Sun:	09 - 20
P9	Shop	Mon-Fri:	09 - 18
		Sat-Sun:	09 - 14

*) Other times: Reduced (night mode)

Setting week programs

Weekly program is selected and activated in User Menu:

○   Press and hold for 2 seconds.

◇   Browse to Prog.

○   Confirm

Selection of preset program P0/P1 - P9

◇   Select P0/P1-P9.

○   Confirm to start the program.

Temporarily override the weekly program
It is easy to temporarily disregard the set point temperature which is preset in the weekly program.

◇   Set the desired temporary set point temperature.

○   Confirm

The temporary set point temperature will apply until the next program step.

....

Power failure

Note! A power loss longer than 7 days may require an adjustment of time and date.
The week program is affected if the clock is not correctly set.

Settings

Settings are changed in User Menu:

◯   Press and hold for 2 seconds.

◇   Browse to SEt.
◇

◯   Confirm

```
 0000
```

Enter password using up/down arrows, confirm
each digit with OK. Password: 1932.

```
 P000
```

Enter the number for the setting that will be
changed using up/down arrows, confirm each digit
with OK. See table.

◇   Select desired value according to table.
◇

◯   Confirm

Settings

#	Functions	Default settings	Description
547	Adaptive start	1 (function activated)	0 (function not activated) / 1 (function activated) See weekly program.
360	Airing mode*	1 (function activated)	0 (function not activated) / 1 (function activated)
359	Airing mode*, block-ing time	900 sec	300 - 6000 sec
374	Heating blocking	1 (function activated)	0 (function not activated) / 1 (function activated) Heating blocking, which requires outdoor sen-sor (accessory FCOTX).
376	Heating blocking, Temperature	150 (15.0 °C)	-200 - +400 (-20.0 - +40.0 °C) Heating blocking, which requires outdoor sen-sor (accessory FCOTX).
438	Daylight saving/sum-mer time and winter time.	1 (function activated)	0 (function not activated) / 1 (function activated) Automatic time change-over.

*Airing mode, which saves energy, e.g. when windows are open. With the preset values: Should there be
a sudden drop in temperature, e.g. when opening a window, the set point temperature is lowered to 10 °C
for 900 sec (15 min). If the temperature does not drop any further after this, the control will return to the
previous setting.

Ensure that the product still satisfies Ecodesign Regulation's requirements when functions are
deactivated.

Trouble shooting

Error code	Cause	Action
A 5	Contact lost with control panel or control unit	• If the component is removed intentionally, the alarm must be reset manually. See below. • Check the connections. • The alarm resets automatically, if the component is detected again. • If the alarm persists after resetting, contact Frico.
A 8	Contact lost with external room temperature sensor	
A 12	Contact lost with outdoor temperature sensor	
A 14	Contact lost with black bulb sensor	
A 7	External room temperature sensor fault	• Check the connections. • If the alarm persists after resetting, contact Frico.
A 9	Fault on the control panel's temperature sensor	
A 10	Incorrect sensor connection	
A 11	Outdoor temperature sensor fault	
A 13	Black bulb sensor fault	

When error codes are displayed, the system continues to operate with the components that are functioning. If all room temperature sensors, including the temperature sensor in the control panel, have lost contact, the system will run at 25% heat output.

If the problems continue, please contact Frico for support.

Reset alarm
To reset manually, press X for 2 seconds where the serial number for an alarm is displayed (see User Menu). The majority of the alarms reset automatically, once the problem is corrected.

EAC

CE