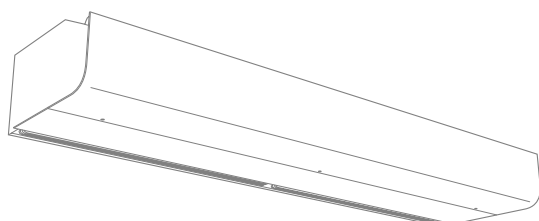
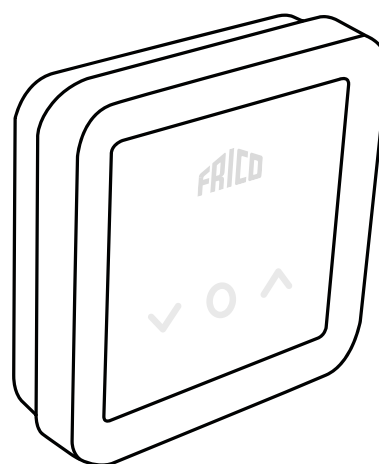


Quick Guide

Control system FC for air curtains

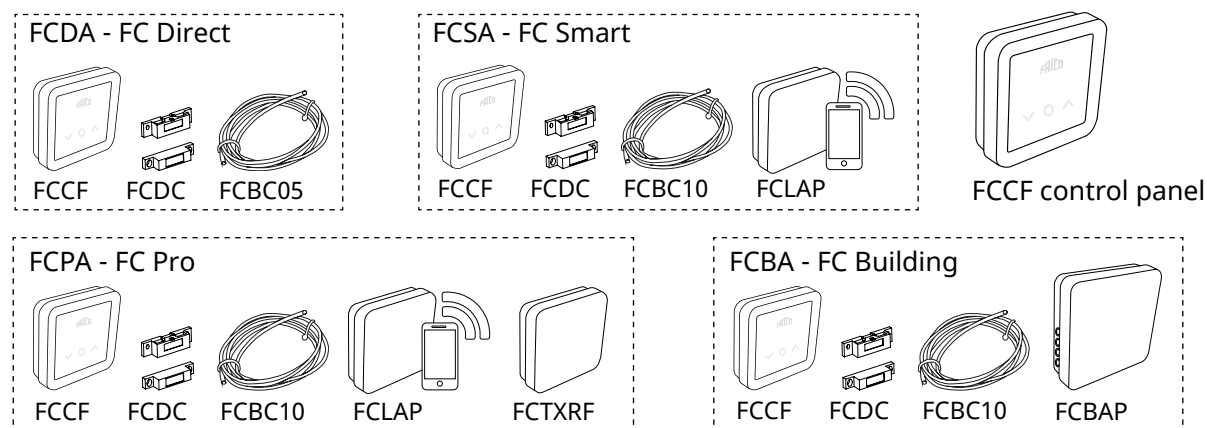
FCDA - FC Direct, FCSA - FC Smart
FCPA - FC Pro, FCBA - FC Building



FC Control system

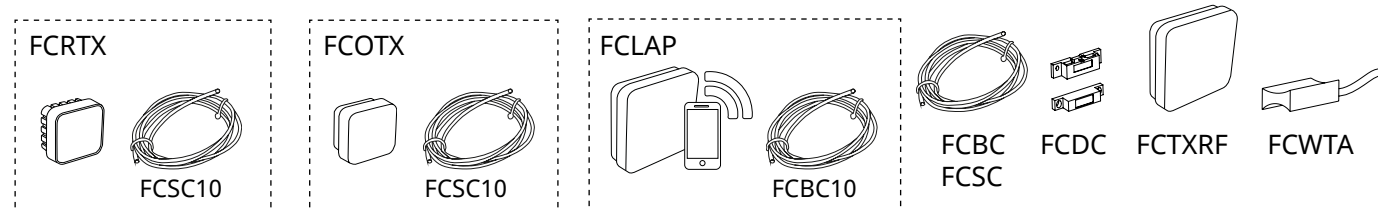
The air curtain must be supplemented with a control system.

FC Control system helps to create many smart and energy saving features. In addition to our four packages, components can be added to expand and customize the system.



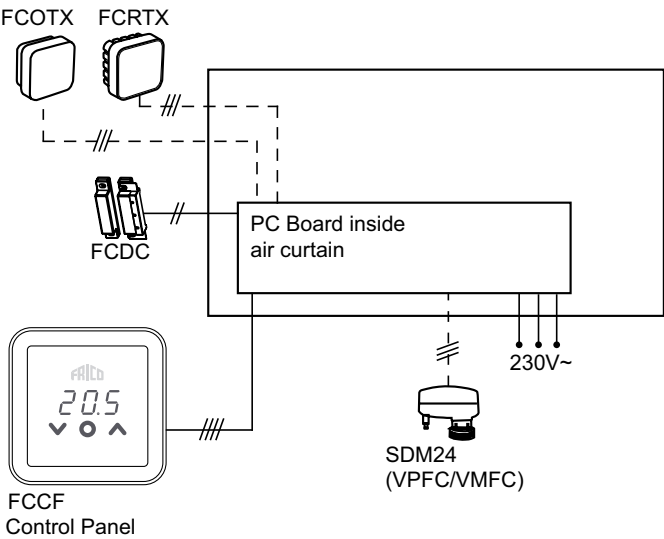
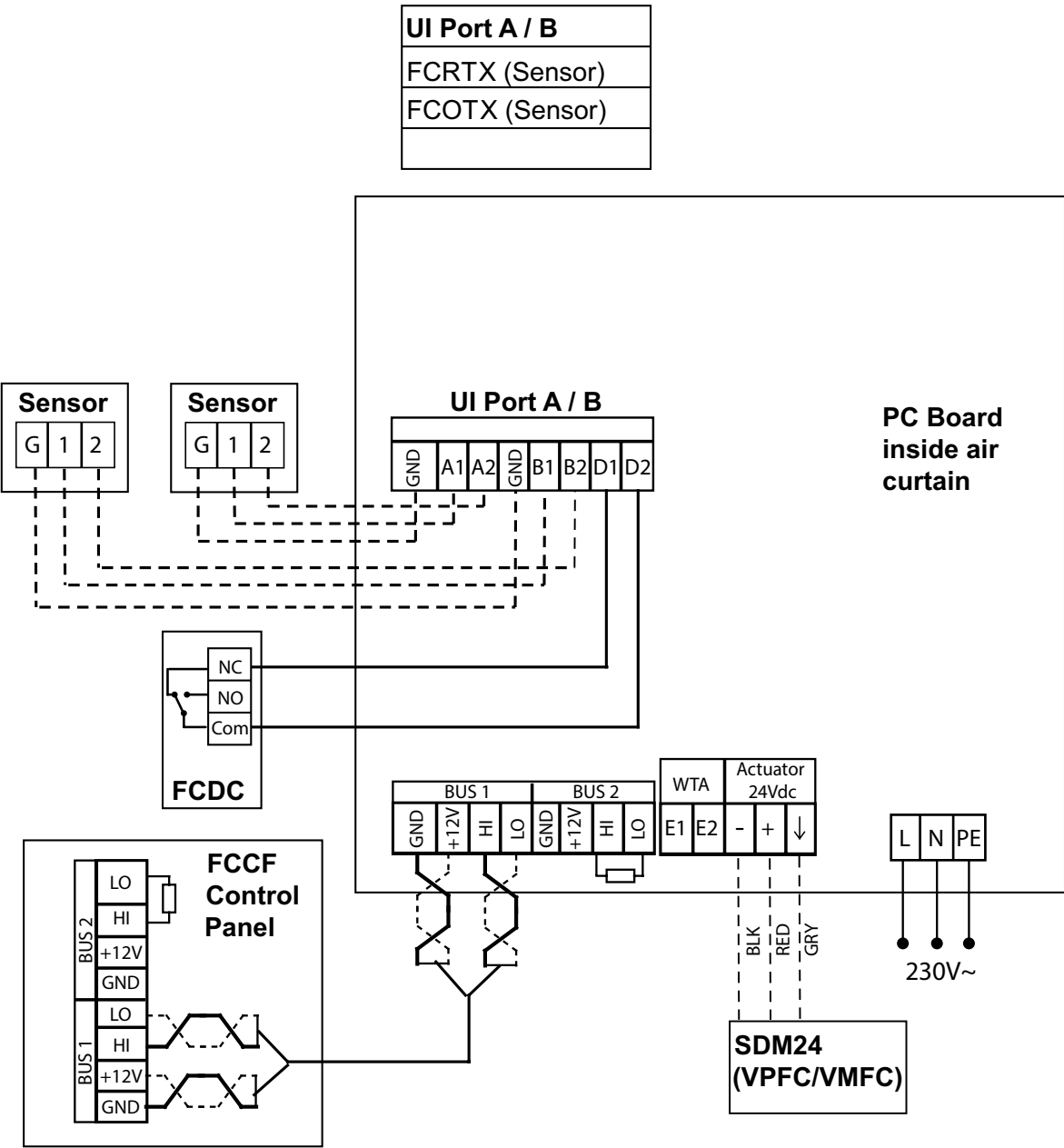
Item number	Type	Description	Dimensions
74684	FCDA	FC Direct, first level control system	89x89x26 mm (FCCF)
74685	FCSA	FC Smart, second level control system	89x89x26 mm (FCCF)
74686	FCPA	FC Pro, third level control system	89x89x26 mm (FCCF)
74687	FCBA	FC Building, BMS system	89x89x26 mm (FCCF)

Control system content and accessories

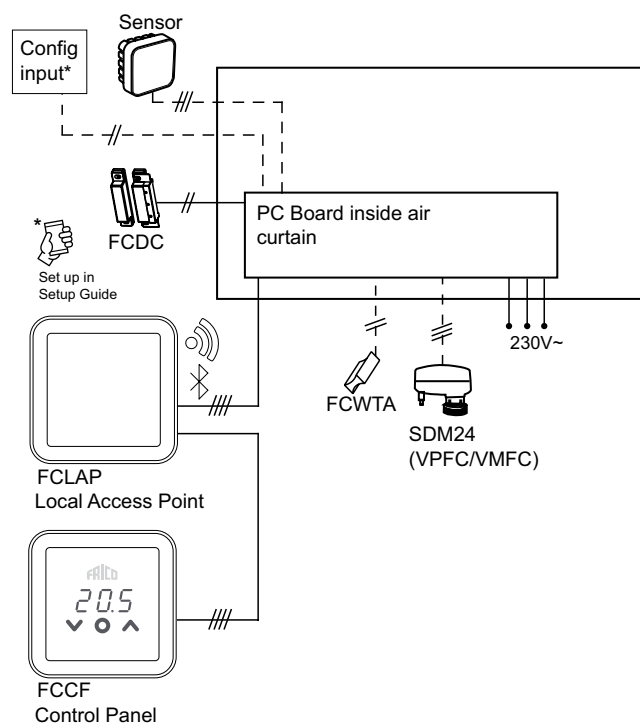
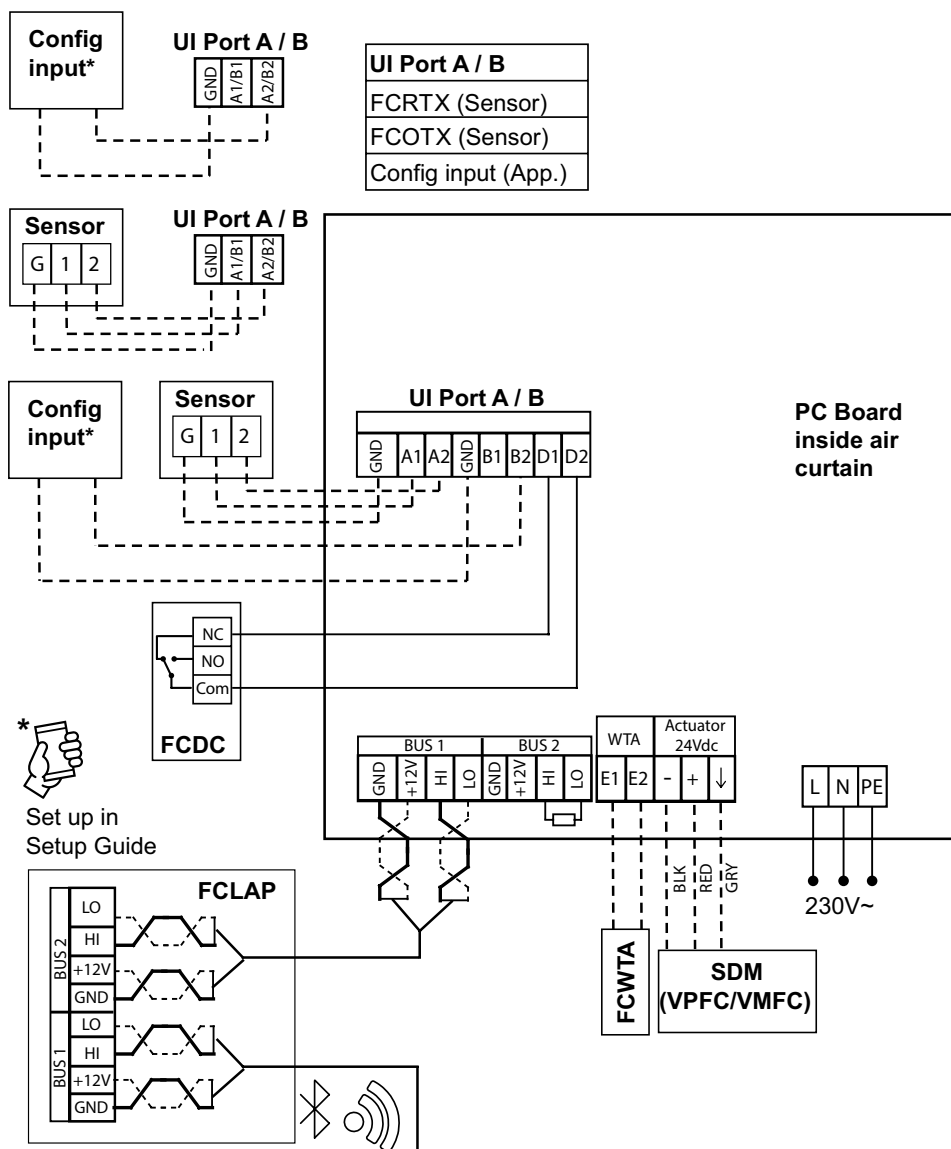


Item number	Type	Description	Dimensions
74694	FCRTX	External room temperature sensor	39x39x23 mm
74695	FCOTX	Outdoor temperature sensor	39x39x23 mm
74699	FCLAP	Local access point for extra wireless sensors and extended range	89x89x26 mm
74718	FCBC05	Extra communication cable, 5 m	5 m
74719	FCBC10	Extra communication cable, 10 m	10 m
74720	FCBC25	Extra communication cable, 25 m	25 m
74721	FCSC10	Extra sensor cable, 10 m	10 m
74722	FCSC25	Extra sensor cable, 25 m	25 m
17495	FCDC	Door contact	
74703	FCTXRF*	Indoor/outdoor wireless sensor (for FC Smart, FC Pro)	89x89x26 mm
74702	FCWTA	Return water temperature sensor	
74700	FCBAP	Building access point	149x149x43 mm

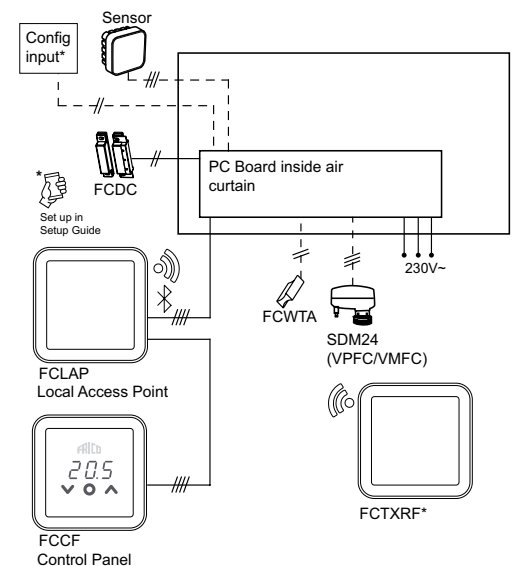
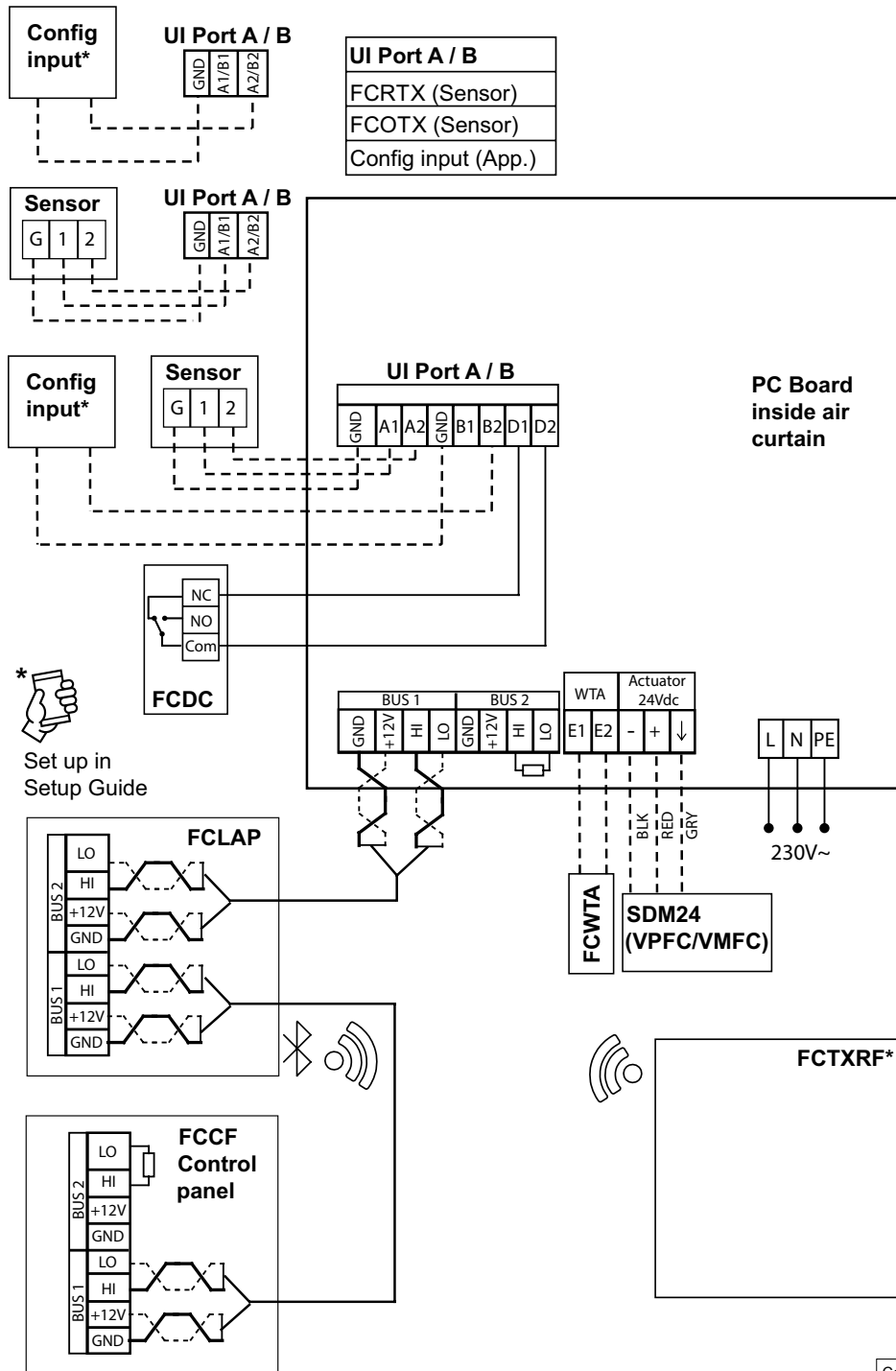
*The wireless sensor can be set up as outdoor or indoor sensor by a switch inside the sensor.



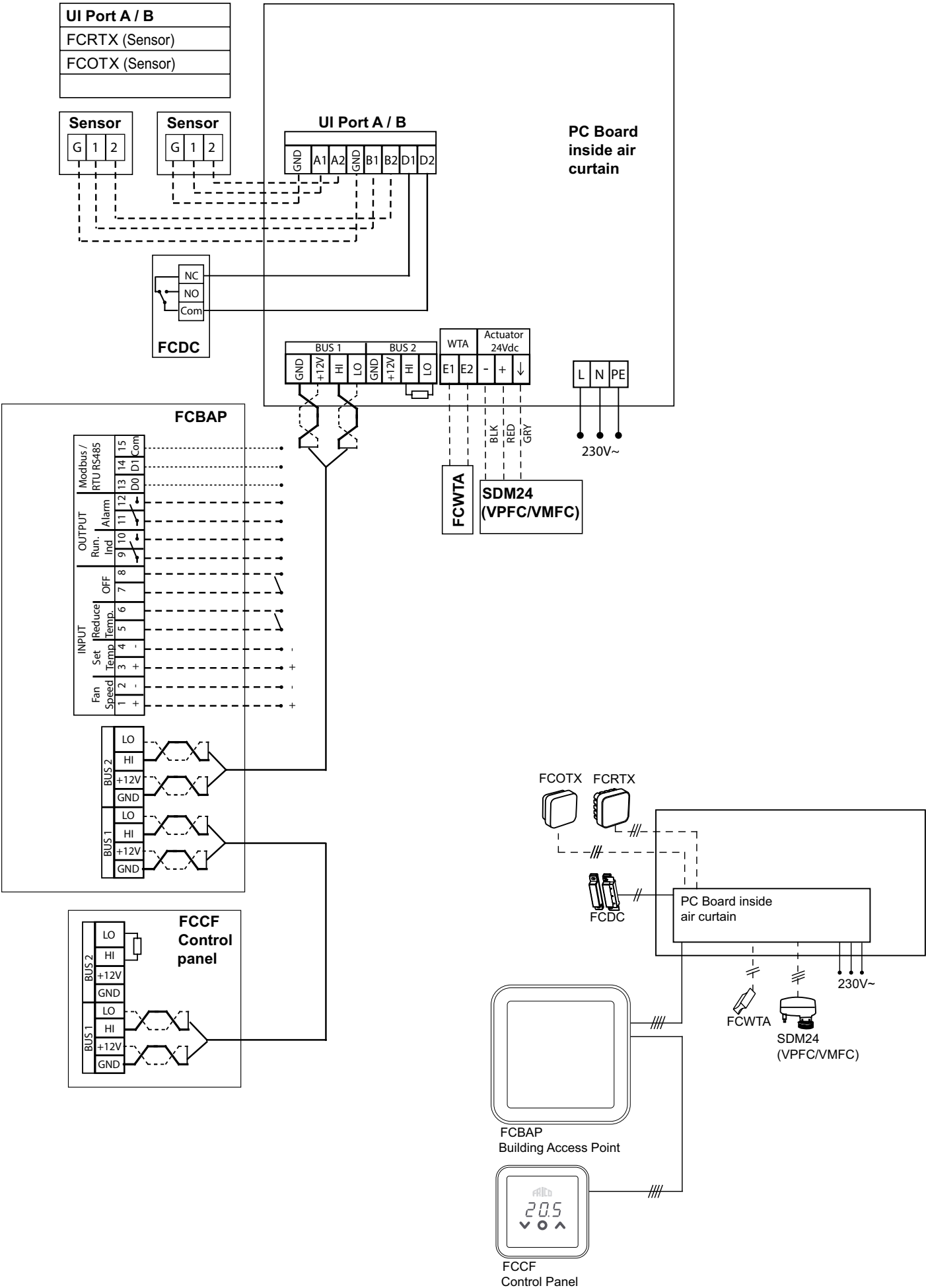
FC Smart - FCSA



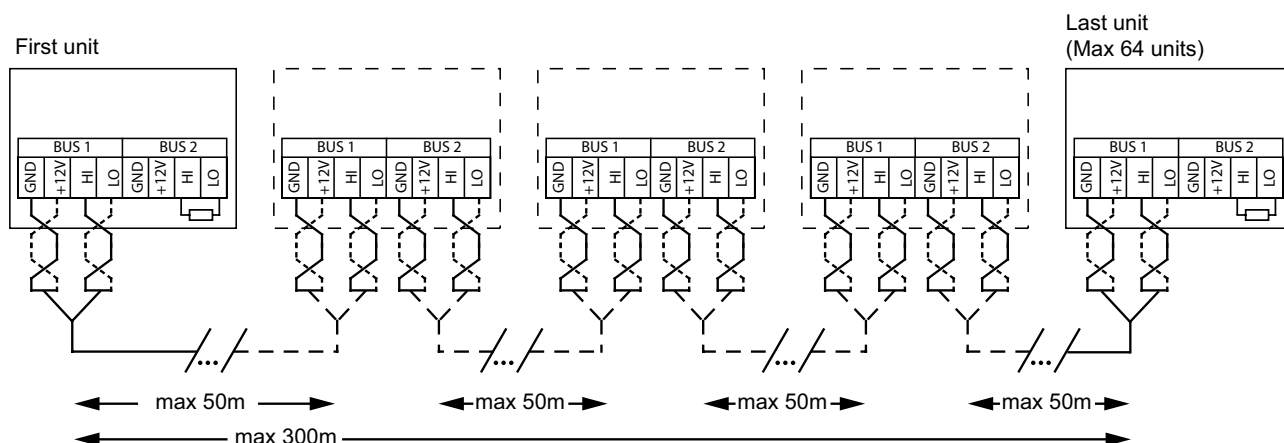
FC Pro - FCPA



FC Building - FCBA

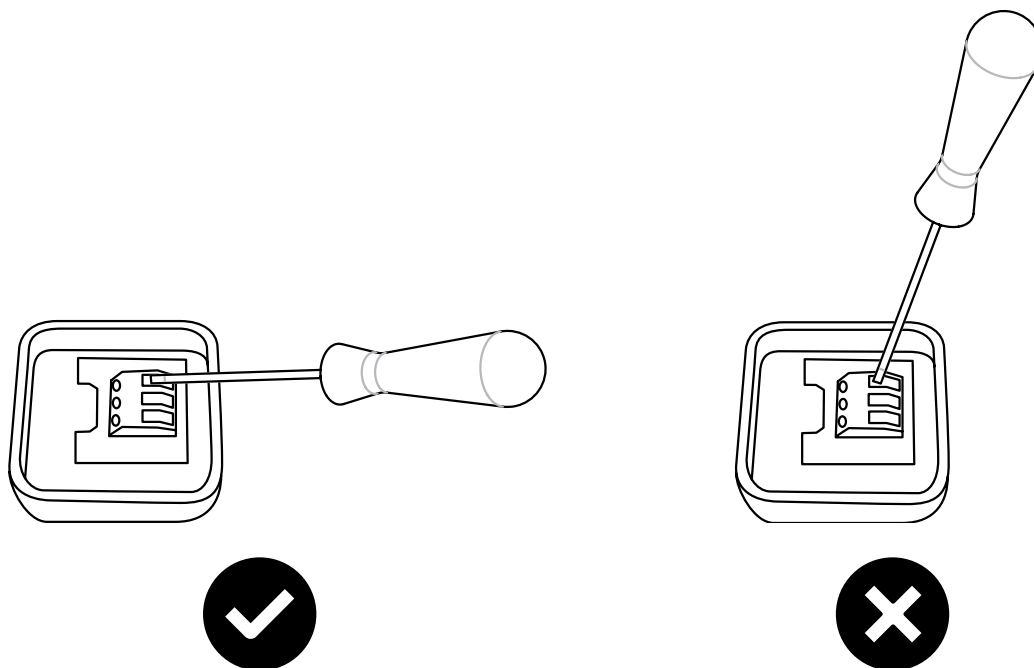


Termination at PC Board



EN

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.



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.
5. Connecting a new product must always be made with the power off.

System solution

A system consists of a control panel, FCCF, as well as an optional number (1-63) of units (air curtains, fan heaters, access points or control panels) and sensors. The set-point temperature and the fan settings for the system are selected on the control panel.

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

A. System without external room sensors

The control panel's temperature sensor is controlling together with the inlet sensor in each product.

C. System with several products with external room sensors connected to each product

External room temperature sensors control each product, together with the inlet sensor in each product.

B. System with one external room sensor

One external room temperature sensor in the system controls all products, together with the inlet sensor in each product.

D. System with several products, of which, at least two products have external room sensors and at least one product does not have an external room sensor

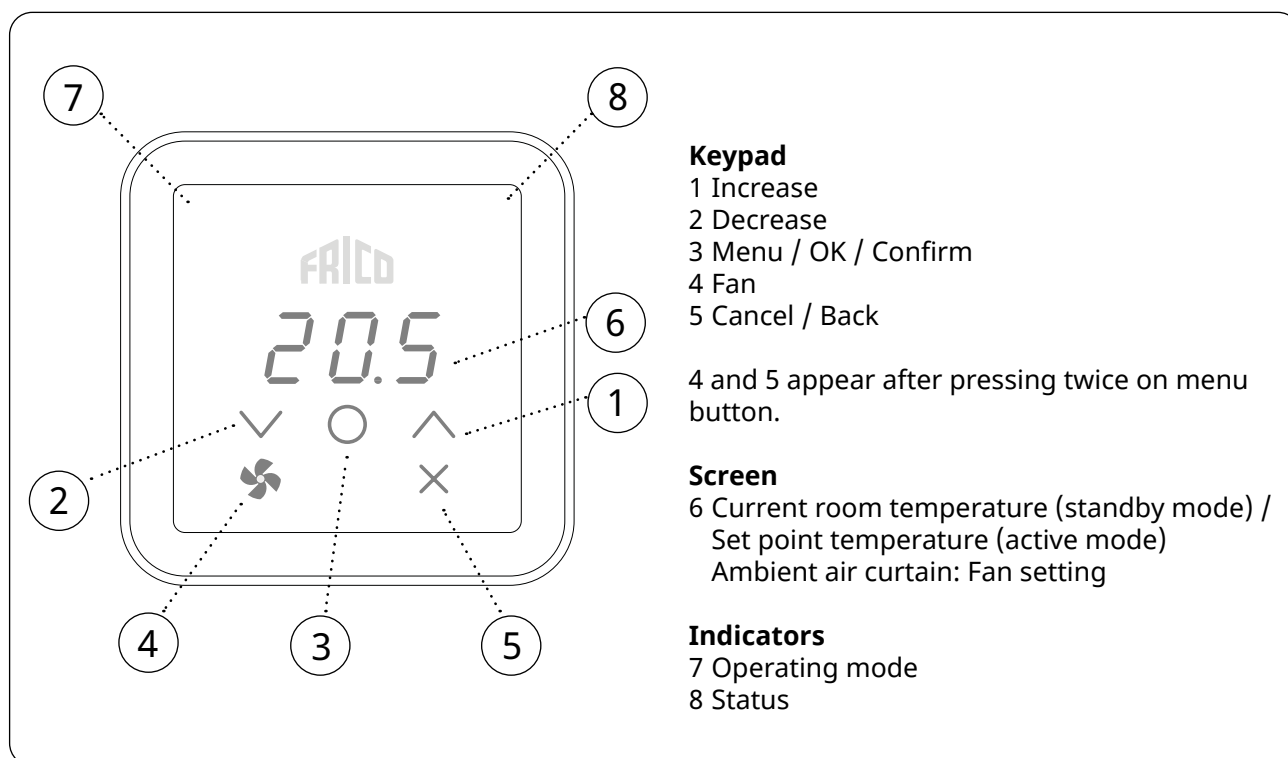
External room temperature sensors control each product it is connected to together with the inlet sensor in each product. Products without sensors are controlled by the control panel's temperature sensor together with the inlet sensor in each product.

Heating blocked dependent on outdoor temperature

With outdoor temperature information (FCOTX / FCTXRF / outdoor temperature signal in FCBAP), heating is automatically blocked when the outdoor temperature exceeds 15 °C. The set point can be changed and this function can be deactivated, see Settings.

Control panel

Overview



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
Orange	Timer (activated in app)
Purple	Saving mode (activated in app)
Cyan	Presence mode (activated in app)

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 FC control is delivered with preset values. The preset set point temperature is 21 °C and can be easily adjusted using the up/down arrows. Setting range +5 – +35 °C.

Indicator Status (right-hand LED)

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

Display lock

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

The app FRICO CONTROL is available for both iOS and Android.

Fan speed when door is open



Press twice to activate keypad and hidden buttons.



Press to set fan speed



Set the fan speed: OFF-100-Auto / OFF-3-Auto.

Auto requires outdoor temperature information (FCOTX / FCTXRF / outdoor temperature signal in FCBAP).



75

Fan menu



Press twice to activate keypad and hidden buttons.



Press and hold for 2 seconds.



FAN H

Home screen



Browse between the menu options.



Confirm

or



Exit without saving

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

Fan menu

Menu options	Functions	Default settings	Description
FAnH	Maximum fan speed in Auto mode.	100 or 3 (100% or step 3)	Increase/decrease with up/down arrow. Confirm with OK.
FAnL	Minimum fan speed in Auto mode.	0	Increase/decrease with up/down arrow. Confirm with OK.
FAnC	Fan speed closed door.	30 or 1 (30% or step 1)	Increase/decrease with up/down arrow. Confirm with OK. Fan speed if there is a need for heat when door is closed. Set to OFF if the air curtain should be off at closed door.
Arun	After run when door closes.	Auto	Increase/decrease with up/down arrow. Confirm with OK. Auto - OFF - 10 - 20 ... - 500s



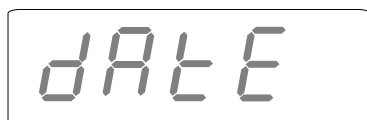
User menu



Press to activate keypad.



Press and hold for 2 seconds.



Home screen



Browse between the menu options.



Confirm

or



Exit without saving

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

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).
LAP	Pairing with local access point. Follow set up guide in mobile app to pair it with the FC system.	-	Press OK. A pairing period of 120 s starts.

Week program

The FC has nine preset weekly programs (P1-P9) and one customized (P0). Customized program is possible via FC Smart and FC Pro through the mobile app.

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 *	
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 to activate keypad.



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 to activate keypad.



Press and hold for 2 seconds.



Browse to SEt.



Confirm



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

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

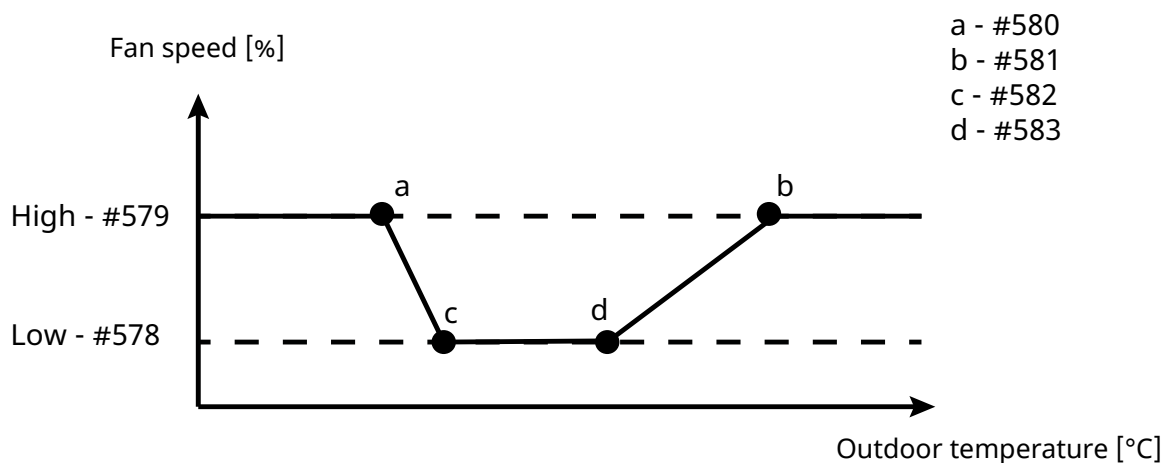
Settings - General

#	Functions	Default settings	Description
602	After run speed - fixed	15 (%)	0-100 Fan speed in fixed after run mode.
592	After run speed - Auto low	15 (%)	0-50 Low fan speed in automatic after run mode.
690	Door contact polarity	1	0 (normally open) / 1 (normally closed) If other type of signal is used. normally closed = short circuit - fan stops normally open = short circuit - fan runs
691	Door contact reset	0	0 (no door contact has been detected) / 1 (door contact has been detected) Set this parameter to 0 to reset the memory
687	Door contact - Common control	1 (enabled)	0 (disabled) / 1 (enabled) Set to 0 if the product only shall react to it's own door contact. Set to 1 if the product shall react to all door contacts in the same zone.
438	Daylight saving/summer time and winter time.	1 (function activated)	0 (function not activated) / 1 (function activated) Automatic time change-over.

Settings - Outdoor temperature sensor, requires FCOTX / FCTXRF / outdoor signal from FCBAP

#	Functions	Default settings	Description
374	Outdoor temperature heat blocking	1 (enabled)	0 (disabled) / 1 (enabled) If enabled, the heat is blocked when temperature exceeds the set point #376.
376	Outdoor temperature heat blocking - set point	150 (15.0 °C)	Set point for Outdoor temperature heat blocking in 0.1 °C.
663	Block water bypass due to outdoor temperature.	1 (enabled)	0 (disabled) / 1 (enabled) If enabled, the water bypass is blocked when temperature is above the set point #664.
664	Block water bypass due to outdoor temperature - set point.	150 (15 °C)	Set point for Block water bypass due to outdoor temperature.
578*	Auto fan low	0 (%)	0-100 % Low fan speed in auto fan mode.
579*	Auto fan high	80 (%)	0-100 % High fan speed in auto fan mode.
580*	Auto fan set point - Cold high	0 (°C)	Set point for high fan speed in cold conditions.
581*	Auto fan set point - Warm high	320 (32.0 °C)	Set point for high fan speed in warm conditions.
582*	Auto fan set point - Cold low	180 (18.0 °C)	Set point for low fan speed in cold conditions.
583*	Auto fan set point - Warm low	210 (21.0 °C)	Set point for low fan speed in warm conditions.

*See figure below.



EC fans admit stepless control.

AC fan speed will automatically be converted to steps.

Settings - Water heated air curtain

#	Functions	Default settings	Description
662	Bypass	0 (disabled)	0 (disabled) / 1 (enabled) Allows time controlled or temperature* controlled bleeding. *Requires return water temperature sensor and mobile app.
666	Bypass temperature set point - WTA	300 (30.0 °C)	0-50 °C
657	Return water temperature control	0 (disabled)	0 (disabled) / 1 (enabled) Controls the return water temperature. Requires return water temperature sensor and mobile app.
658	Return water temperature set point	370 (37.0 °C)	15-90 °C Requires return water temperature sensor and mobile app.

Settings - Vestibule, requires FC Smart or FC Pro and is set in mobile app

#	Functions	Default settings	Description
681	Vestibule function	0 (disabled)	0 (disabled) / 1 (enabled) Activates a higher fan speed and a lower temperature at the outer door and a lower fan speed and higher temperature at the inner door.
682	Vestibule function - fan adjustment in outer door	20 (%)	-100 - 100 Difference from the inner door.
686	Vestibule set up	0	0 (disabled) 1 (inner air curtain) 2 (outer air curtain) Identifying the placement of each air curtain. Must be set up in mobile app.

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.

The last four digits of the serial number for the faulty product, can be found on the data label on the outside of each FC component or on the PC-board inside the air curtain.

User menu → Error code → Serial number → No alarm



Troubleshooting

Error code	Cause	Action
A 5	Contact lost with control panel or control unit	<ul style="list-style-type: none"> 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 FCRTX	
A 12	Contact lost with outdoor temperature sensor FCOTX	
A 16	Contact lost with return water temperature sensor, FCWTA	
A 1	Control panel communication error	<ul style="list-style-type: none"> Check the connections. If the alarm persists after resetting, contact Frico.
A 7	External room temperature sensor fault	
A 9	Fault on the control panel's temperature sensor	
A 10	Incorrect sensor connection	
A 11	Outdoor temperature sensor fault	
A 15	Return water temperature sensor fault	<ul style="list-style-type: none"> Connect a room temperature sensor or a control panel to the system.
A 17	No room temperature sensor in the system	
A 18	Overheat alarm electrical	

Troubleshooting

Error code	Cause	Action
A 19	Frost protection alarm	Ensure that the heating is on and working.
A 20	Frost protection alarm from return water temperature sensor.	
A 21	Contact lost with RF sensor, FCTXRF	Check the batteries. If low, replace them. If the batteries are ok, check the local access point.
A 23	RF sensor out of batteries.	Replace the batteries.
A 25	No water heat	Check the water supply temperature and flow.
A 26	No electrical heat	Check the electrical supply. Check the overheat protection, see manual for the air curtain.
A 27	Filter alarm - timer	Clean the filter. Reset the alarm manually.
A 28	Filter alarm - pressure guard	
A 33	Motor alarm	Determine which fan is not functioning and replace it.
A 37	Parameter error	Contact Frico.
A 38	Outlet sensor missing	Check the sensor connections.
A 39	Inlet sensor missing	

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.



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about your local contact: www.frico.net**