

FCR-F-2-4.2.21.1-xx
FCR-F-2-4.6.21.1-xx

EN

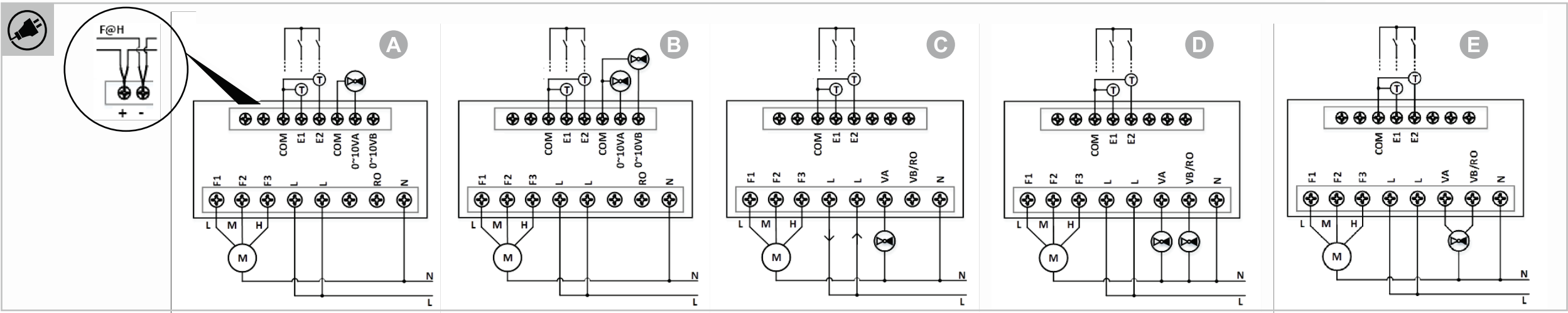


ABB-free@home®
Caldion® Room Temperature controller

WARNING
Dangerous currents flow through the body when coming into direct or indirect contact with live components. This can result in electric shock, burns or even death. Work improperly carried out on current-carrying parts can cause fires.
- Disconnect the mains voltage prior to mounting and dismantling!
- Work on the 110 - 240 V mains network is to be performed by specialist staff only.

Please read the mounting instructions carefully and keep them for future use.
Additional user information is available at www.abb.com/freethome or by scanning the QR code.
For information on system integration please see the system manual (www.abb.com/freethome).

Intended use
Caldion® Room Temperature Controller is a flush mounted, ambient room temperature controller for controlling fan coil units. The device output allows you to control the heating and/or cooling valve together with the integrated 3 speed fan.
The following installation types are possible:

FCR-F-2-4.2.21.1-xx
A 2 pipes 0-10 V (with VB/RO as an additional heating, for example, an electrical heater)
B 4 pipes 0-10 V

FCR-F-2-4.6.21.1-xx
C 2 pipes on/off (with VB/RO as an additional heating, for example, an electrical heater)
D 4 pipes on/off
E 2 pipes on/off 3 points valves

The device also offers two physical inputs for free@home binary input functions like condensation monitoring, window contacts, dew point monitoring, temperature reading and heating/cooling switch over. If a window contact connection is not available, the physical inputs E1 and COM need to be connected with cable in close contact. Without cable connection, the device will be activated in protection mode. For detailed information about the range of functions see the technical reference manual (see QR code).

Technical data

Rate voltage	AC 230 V (min. AC 110 V), 50/60 Hz
Power consumption	Max. 3 VA
Maximum allowable input load (fan + valve + electric auxiliary heat) current through phase input (L) terminal	Max. 7 A
free@home bus voltage	21...32 V DC
Wire connection Wiring cross section on L, N, F1, F2, F3, VA, VB	1 x 0.5...2.5 mm ²
Wire connection Wiring cross section on COM, E1, E2, 0...10VA, 0...10VB and F@H connection	Stranded wires 1 x 0.5...1.5 mm ²
Control output Rating [Resistive(Inductive)] on F1, F2, F3-N; VA/VB -N; RO-N	230 V AC , min. 8.3 mA, Max. 5(2) A [Resistive (Inductive)]
Total load current through terminal "L" (Fx + Vxx)	Max. 7 A
Control output load on 0-10VA-COM / 0-10VB-COM	SELV DC 0...10 V / 1.5 mA (Max) / > 10 kohms
Input port E1 & E2	10V/1mA
E1	Default: Windows contacts
E2	Default: NTC 10-01: 10K (B-Constant=3936-3976)
Input cable length	Max. 30 m
Exterior dimension	86 mmL x 86 mmW x 16 mmD
Flush mounted box	British Standards minimum depth: 40 mm
Transport and storage temperature	-25°C ... +70°C
Operating temperature range	-5°C ... +50°C
Humidity max. range	Not more than 98%, no dew permissible
Max. air pressure of atmosphere	Up to 2000 m
Degree of protection	IP20 EN 60529
Protection class	II EN 60730-1
Isolation category	Overvoltage category III EN 60 664-1

Connection

Note
No internal fuse! External preliminary protection with max. C 10 A circuit breaker is strictly required.

- Observe correct wiring.
- Establish the connections according to the connection diagram.
- Connect the device to the free@home bus [F@H], as shown in diagram A.

Mounting

The device may only be installed in dry interior rooms in flush-mounted boxes. Observe the currently valid regulations. Remove the identification label and glue it into the list (at System Access Point).

- Place the base unit on the flush mounted installation box.
 - Base unit installation orientation is to follow the "TOP" indication.
- Fix the base unit with the screws.
- Fix the front cover starting from the bottom.
- Insert the anti-theft clip into the allocated slot.
 - Ensure the correct orientation of the clip.
 - Adjust the anti-theft clip approximately half way down to allow the installation of the front cover top.
- Push the top of the front cover into position.
- Once the front cover is in position, press down the anti-theft clip fully to secure the device.

Commissioning

Note
The devices must only be operated with the front cover attached.

After connection to the free@home bus, the device must be parameterized for the use of additional functions.

- Detailed information about commissioning and parameterization is available in the technical reference manual and the online help of the System Access Point (www.abb.com/freethome).
- The firmware update is carried out via the System Access Point.

Operation

[7]	Short press: Select the level of fan speed. - With each short press the next level is reached (1>2>3>Auto>1).
[8]	Short press: Decrease setpoint by 0.5°C. Long press: Decrease setpoint continuously by 0.5°C.
[9]	Short press: Increase setpoint by 0.5°C. Long press: Increase setpoint continuously by 0.5°C.
[10]	Short press: Enter ECO mode. Long press: Switch between display of temperature (°C or °F).
[11]	Short press: Turn on / off device. Long press: Switch between heating and cooling mode.

Display / messages

[12]	Heating	[20]	Fan Automatic
[13]	Cooling	[21]	Fan speed 3
[14]	Electric heater	[22]	Fan speed 2
[15]	Error indication	[23]	Fan speed 1
[16]	ECO mode	[24]	Fan speed 0
[17]	Fahrenheit unit	[25]	Protection mode
[18]	Celsius unit	[26]	Setpoint temperature
[19]	Window open	[27]	Device lock

Service
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