



Upgrade kit CC3000 controller

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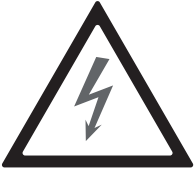
Part no. 094838

Dantherm[®]

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Introduction

Warning



It is the responsibility of the operator to read and understand this service manual and other information provided and to use the correct operating procedure.
Read the entire manual before the initial start-up of the unit. It is important to know the correct operating procedures for the unit and all safety precautions to prevent the possibility of property damage and/or personal injury.

It is the responsibility of the installer to ensure the conformity of all, not supplied cables towards national regulations.

Make sure that the power to the unit is disconnected before you start the installation.

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General information

Introduction

The CC3000 is an advanced controller that can control two Free cooling units and two A/C. This kit is for replacement of TKS3000 and ACUE Controllers installed at free cooling units.

Manual, part no.

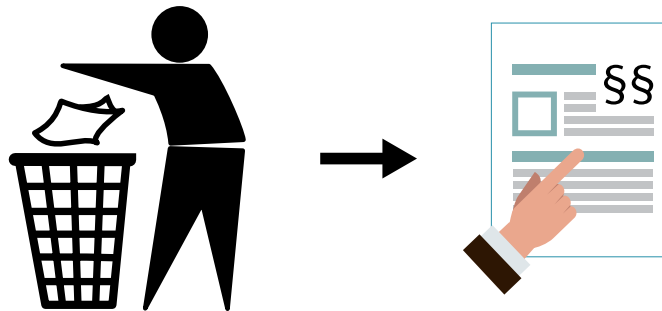
Part number of this service manual is 094927.

Reservations

Dantherm reserves the right to make changes and improvements to the product and the service manual at any time without prior notice or obligation.

Recycling

The unit should be recycled according to national rules and procedures to protect the environment.



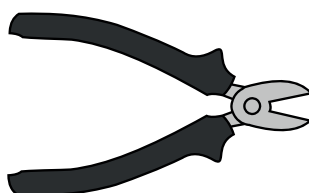
The CC3000 upgrade kit AC/DC has the part number 094838 and is available in two versions:

- CC3000 with Sat Box AC 230V to replace TKS 3000
- CC3000 with Sat Box DC 48V to replace ACUE 3000

Included in the kit:

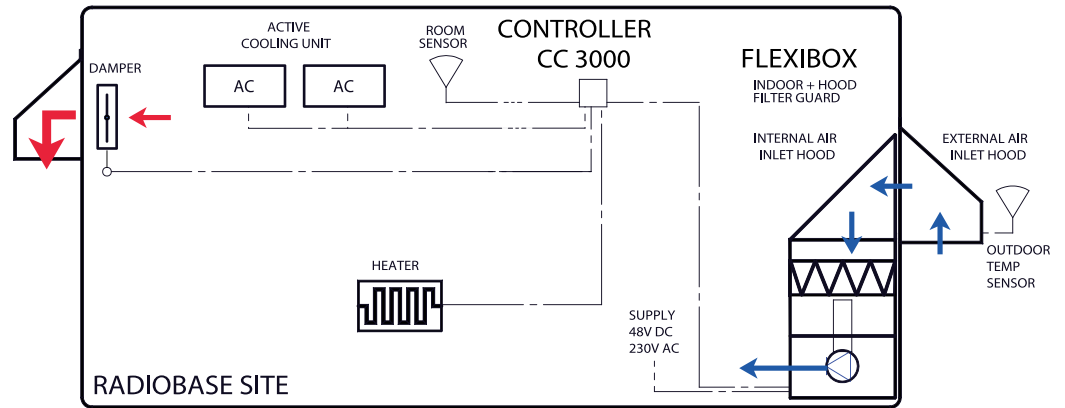
Version: ACUE3000 / 48VDC	Version: TKS3000 / 230VAC
DC satellite box	AC satellite box
CC 3000 controller	
SD card with configuration files	
8 wire cable for connecting Satellite box to CC3000	
Room temperature sensor and outdoor temperature sensor. Both are equal (And must be used with CC3000)	
Service manual CC3000	
Instruction CC3000 upgrade kit	

Tools needed for installation:



Installation

Schematic installation



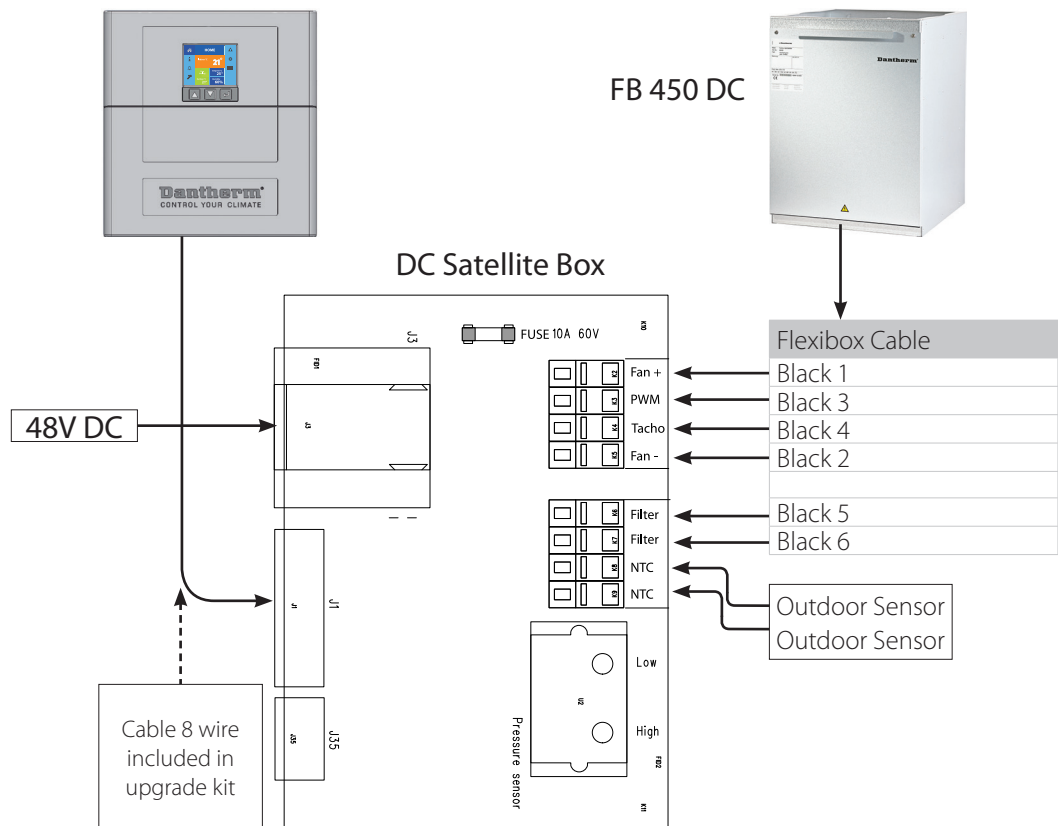
Installation procedure

Follow these steps to install the CC3000 upgrade Kit for Free Cooling Units.

Step	Action
1	Make sure that the power to the Free Cooling Units is disconnected.
2	Find a location for satellite box and the CC 3000. Satellite box as close to unit as possible.
3	Cut the power supply- and communication cable in right length to be connected to the satellite box
4	Connect to satellite box
5	Connect the satellite box to the CC3000 with the included 8 wire cable.
6	Connect the enclosed Room temperature sensor to CC3000, place the sensor element at same place as present sensor. The temperature sensors from ACUE and TKS3000 will not work with CC3000
7	Outdoor temperature sensor. Connect the included temperature sensor to the satellite box and locate the sensor element outdoor an appropriate place.
8	Connect power to the satellite box (plug is included in the kit package)
9	Insert the included SD cart into the CC3000. The SD card contains several Configuration files for different products
10	Select the right Config file at the menu of CC3000 <ul style="list-style-type: none"> • FB 450 AC • FB 450 DC • DFC 350 DC • DFC 450 DC • DFC 350 AC • DFC 450 AC
11	See the enclosed CC3000 instructions manual for changing settings
12	The new CC3000 controller is now ready for service

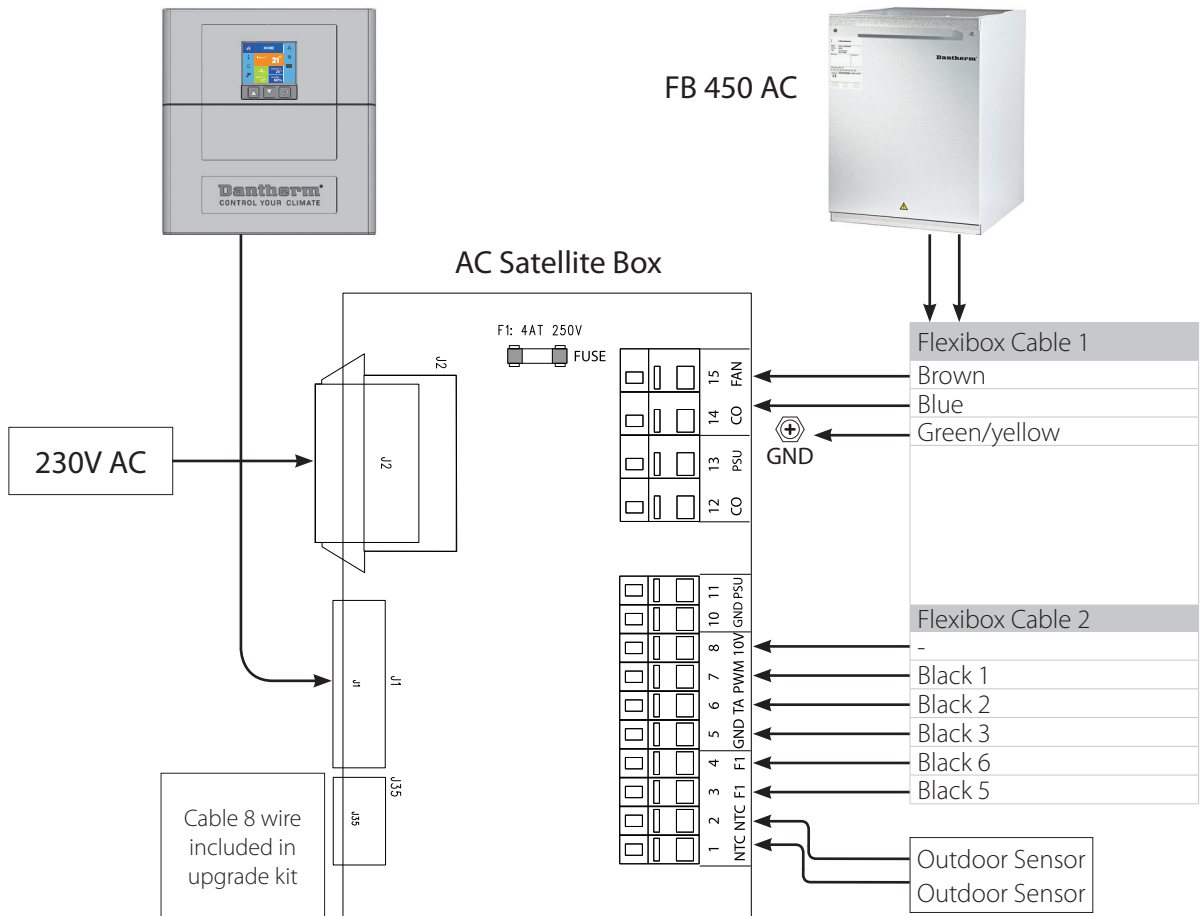
Installing the CC3000 with Flexibox 450 and DFC 350/450

Step 4 48V DC



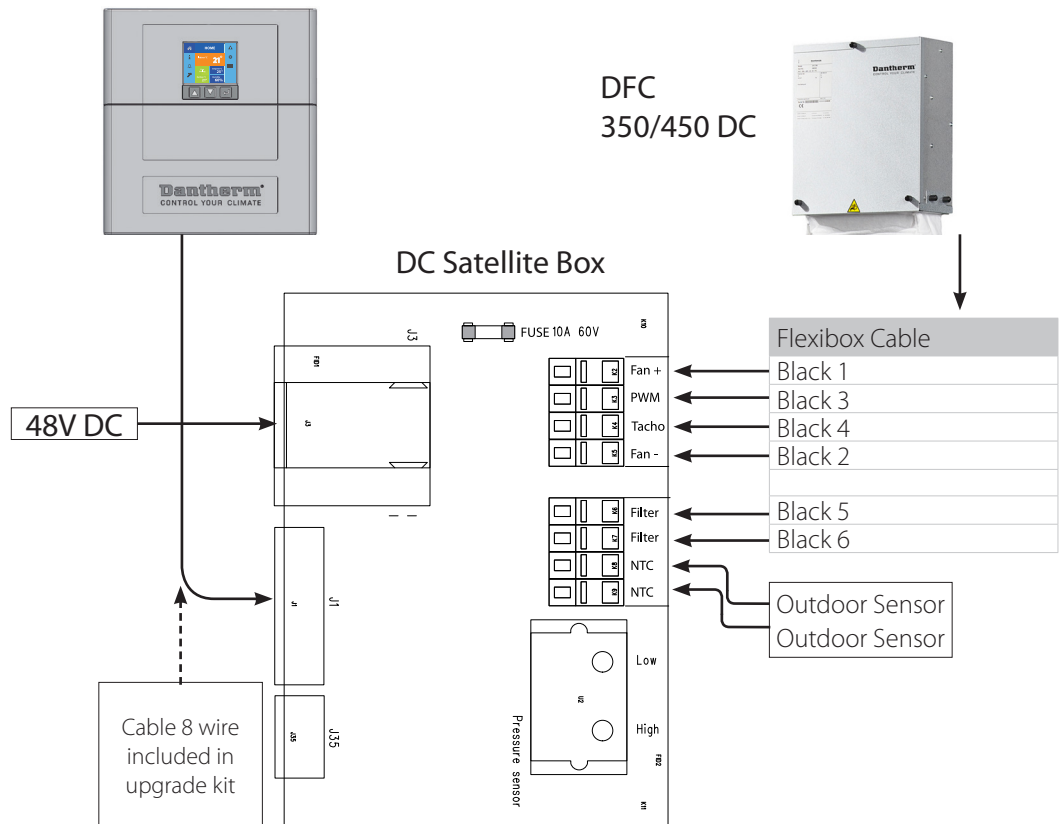
Installing the CC3000 with
Flexibox 450 and DFC 350/450, *continued*

Step 4
230V AC



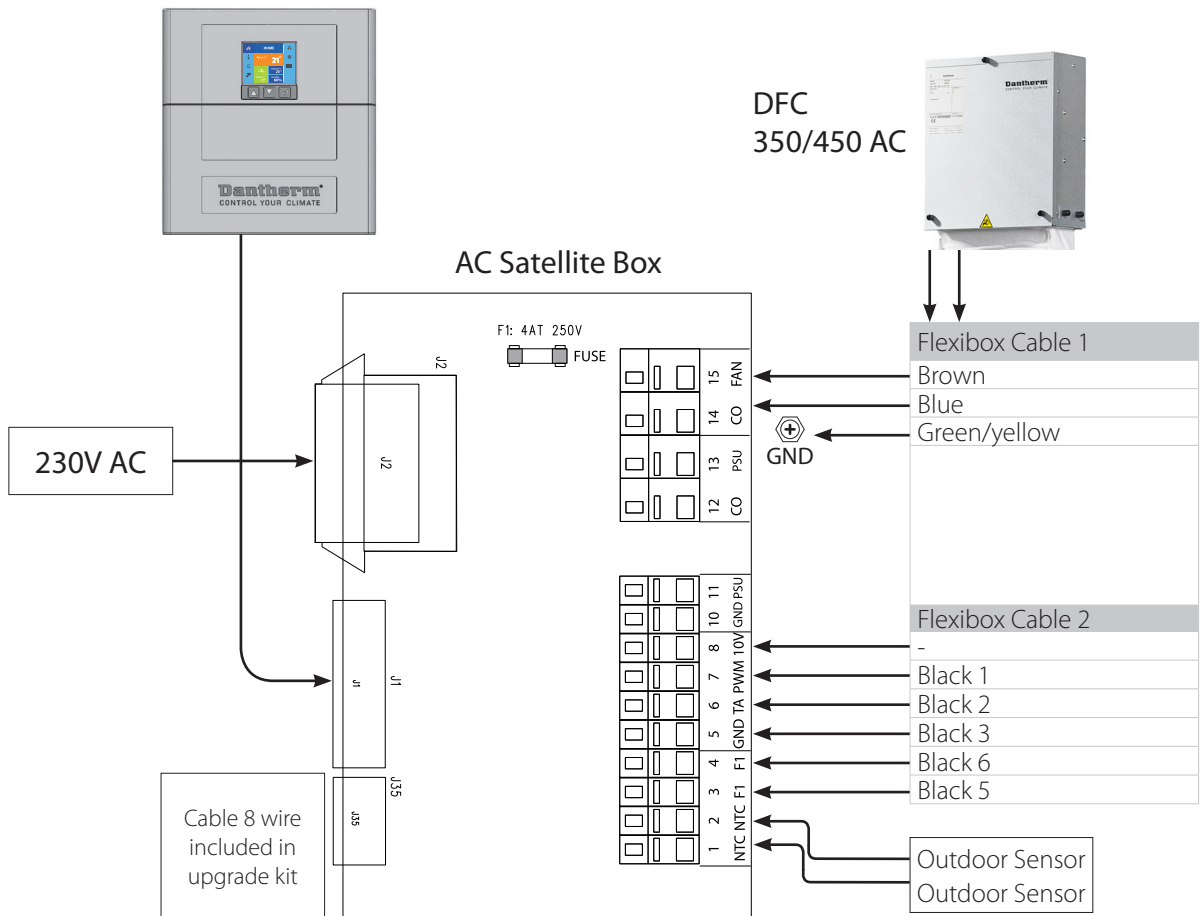
Installing the CC3000 with
Flexibox 450 and DFC 350/450, *continued*

Step 4
DFC 48V

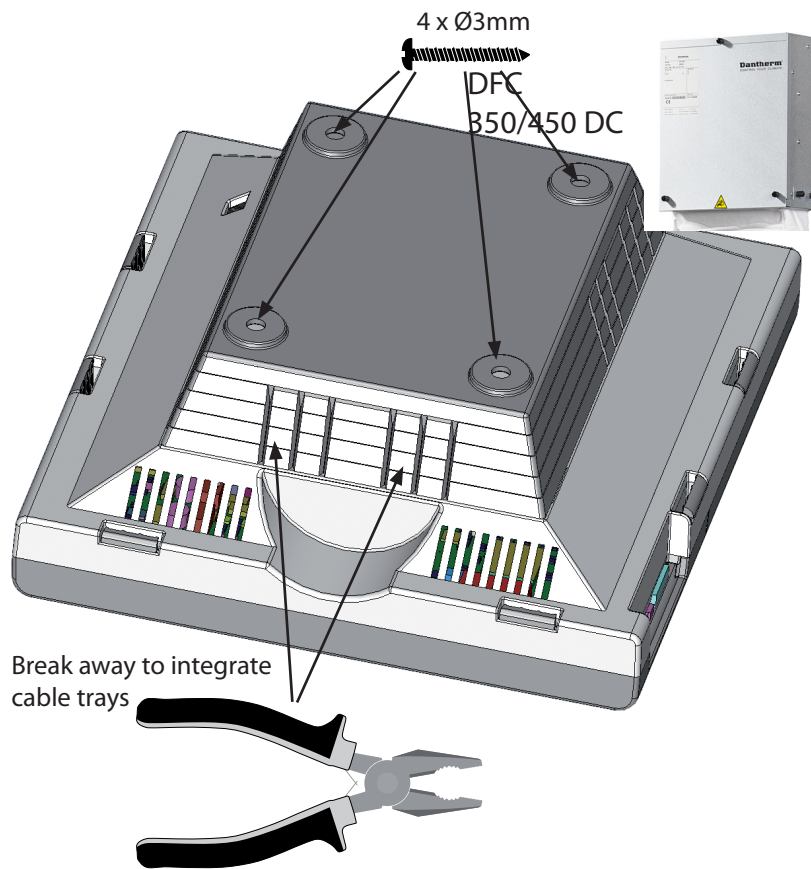


Installing the CC3000 with
Flexibox 450 and DFC 350/450, *continued*

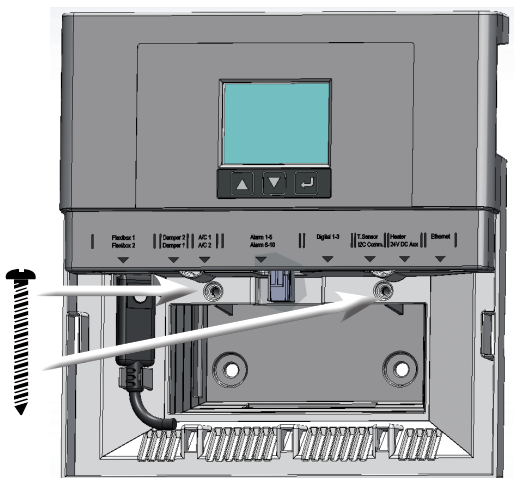
Step 4
230V AC



Step 5
CC3000

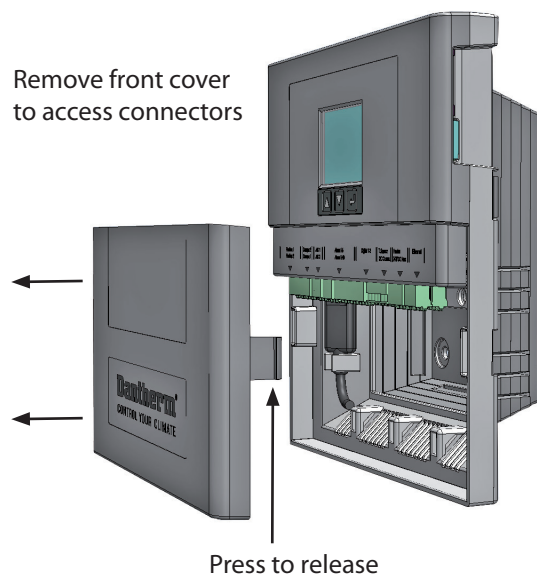


Fasten main part to the wall mount



Use two screws in the stand-offs to secure the main part of the casing to the wall mount.

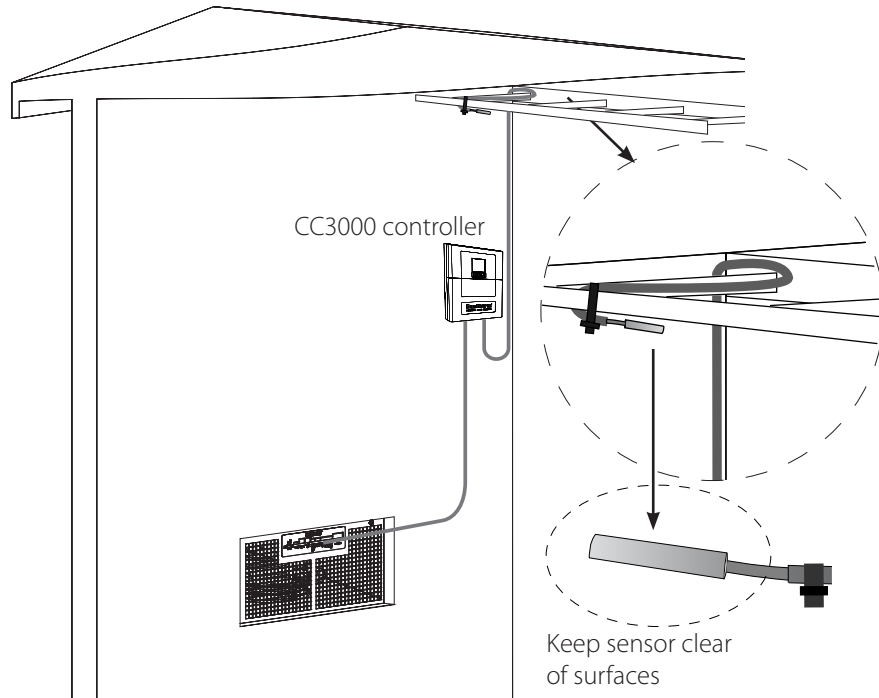
Access connectors



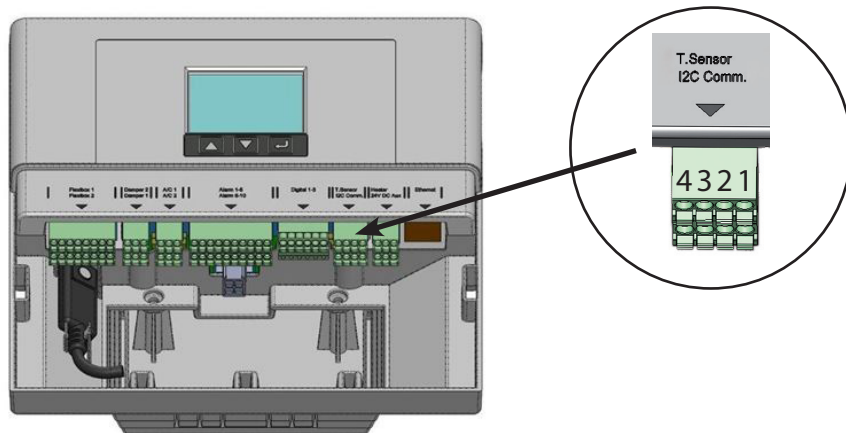
Step 6
Room temperature sensor

Use the new enclosed temperature sensor and connect to CC3000. Place it on the same location as the present sensor.

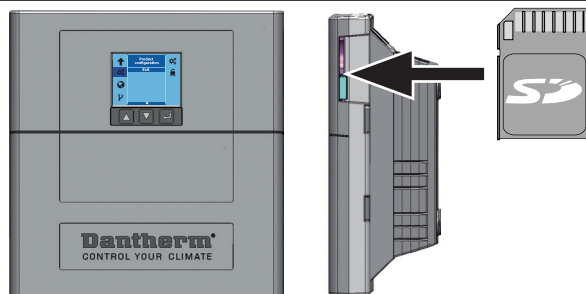
Note: For DFC 350/450 the temperature sensor must be placed 160 cm above ground level.



Connect the room temperature sensor to green connector J11 Pin No: 1 and 2



System setup



At startup insert SD card in the slot located on the side of the CC3000 controller. This will allow you to select the config file for your free cooling system..

Note: until the SD card is inserted the controller will remain inactive and the buttons will not function.

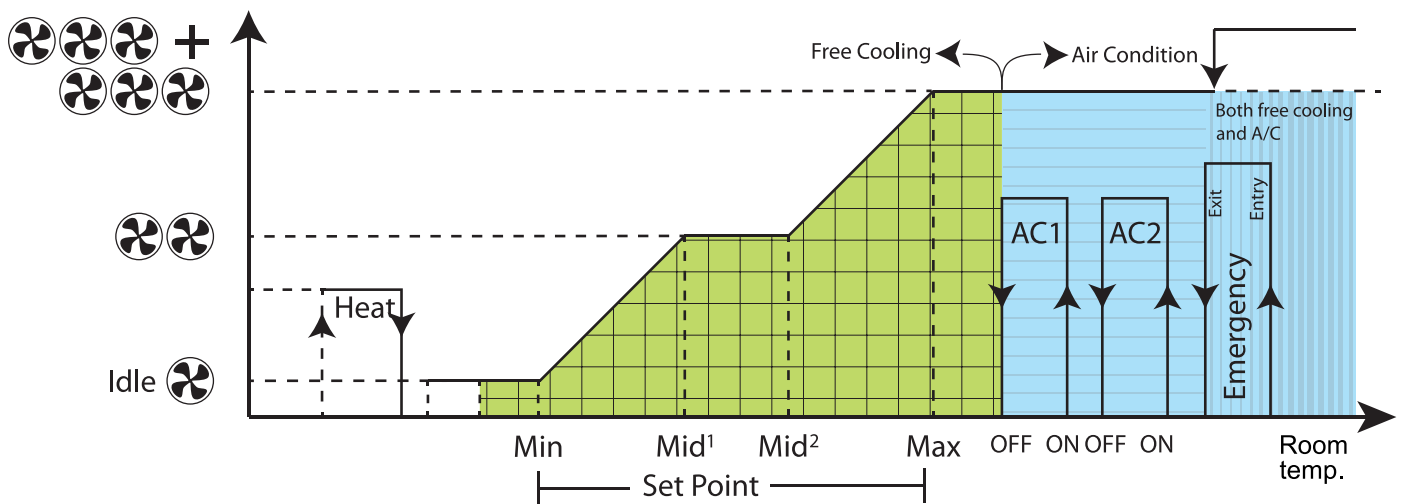
For advanced use of the CC3000 controller please refer to the user manual for this product.

Default Cooling strategies (can be changed using the CC3000 controller.)

TTL link

The TTL link interface is used for service / test purposes.
 System status information can be read out.
 Configuration and settings can be changed.
 Override function to verify correct connection of system components like Free cooling unit ,
 dampers, sensors, etc.
 All configuration overrides are password protected.

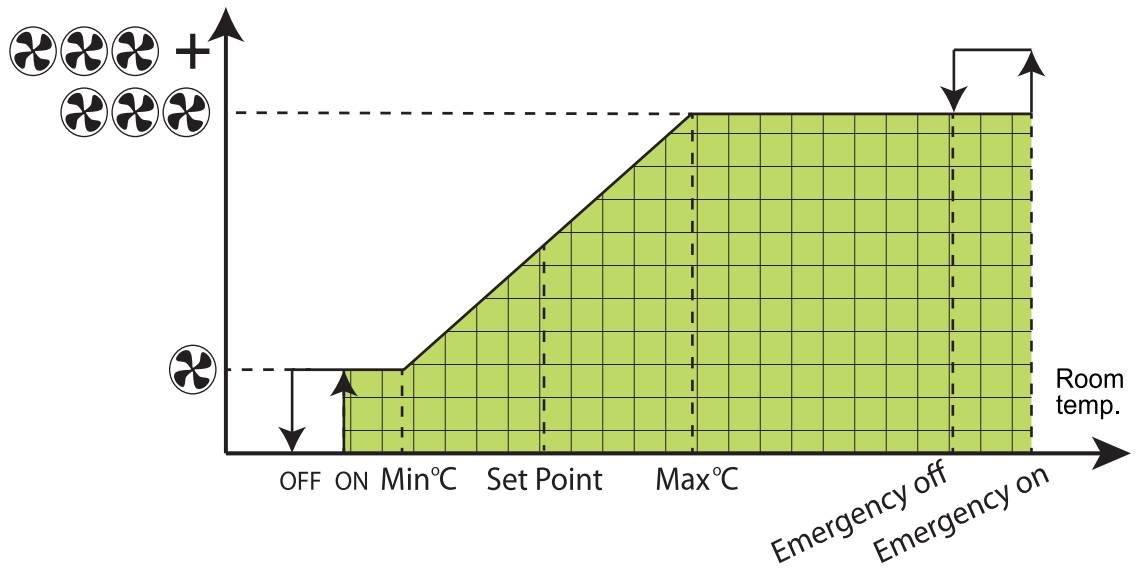
Cooling strategy - example



Default Cooling strategies, *continued*

Free Cooling
Mode

	Description	Value
Off	Temperature when fan stops	20
On	Temperature when Fan starts	23
Min °C	Temperature at bottom of P-band	25
Max °C	Temperature at top of P-band	29
Set Point	The wanted indoor temperature; fan speed will be adjusted between Min°C and Max °C	27
Emergency on	Fan run 100%	38
Emergency off	Fan go back to nominal speed	36

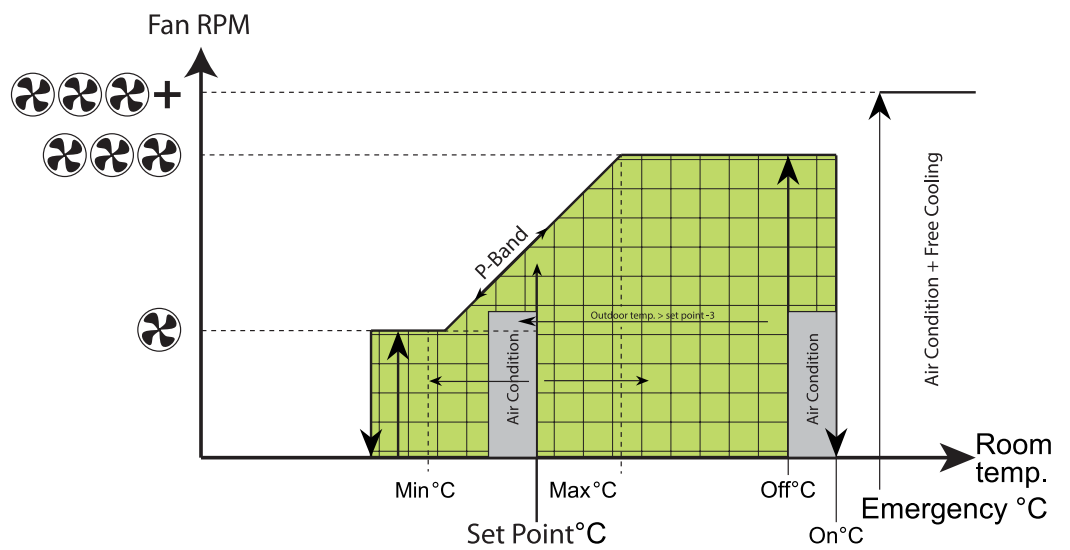


Default Cooling strategies, *continued*

Standard Mode
(Freecooling <> A/C)

	Description	Value
Off	Temperature when fan stops	20
On	Temperature when Fan starts	23
Min °C	Temperature at bottom of P-band	25
Max °C	Temperature at top of P-band	29
Set Point	The wanted indoor temperature; fan speed will be adjusted between Min°C and Max °C	27
A/C 1 on	External Air Con unit 1 start if connected	31
A/C 1 off	External Air Con unit 1 stops if connected	29
A/C 2 on	External Air Con unit 2 start if connected	33
A/C 2 off	External Air Con unit 2 stops if connected	31
Emergency on	Fan run 100% and both A/C 1 and A/C 2 starts	38
Emergency off	Fan stops both A/C 1 and A/C 2 continue to run	36

A/C unit 1 start at set point if outdoor temperature is less than 3°K colder than set point.
If outdoor temperature is more than 3°K colder than setpoint the A/C unit 1 will start at 31°C



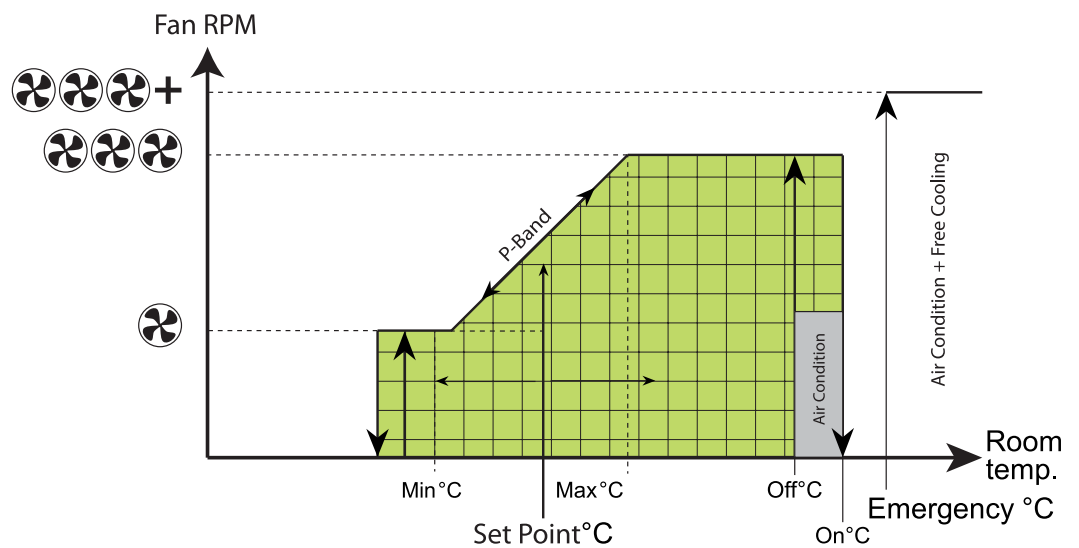
Default Cooling strategies, *continued*

Energy save Mode
(Freecooling > A/C)

	Description	Value
Off	temperature when fan stops	20
On	Temperature when Fan starts	23
Min °C	temperature at bottom of P-band	25
Max °C	Temperature at top of P-band	29
Set Point	The wanted indoor temperature; fan speed will be adjusted between Min°C and Max °C	27
A/C 1 on	External Air Con unit 1 start if connected	31
A/C 1 off	External Air Con unit 1 stops if connected	29
A/C 2 on	External Air Con unit 2 start if connected	33
A/C 2 off	External Air Con unit 2 stops if connected	31
Emergency on	Fan run 100% and both A/C 1 and A/C 2 starts	38
Emergency off	Fan stops both A/C 1 and A/C 2 continue to run	36

If outdoor temperature is less than 1°C colder than indoor room temperature the Flexibox Fan will stop.

The connected Air-con units will start and stop according to the table above.

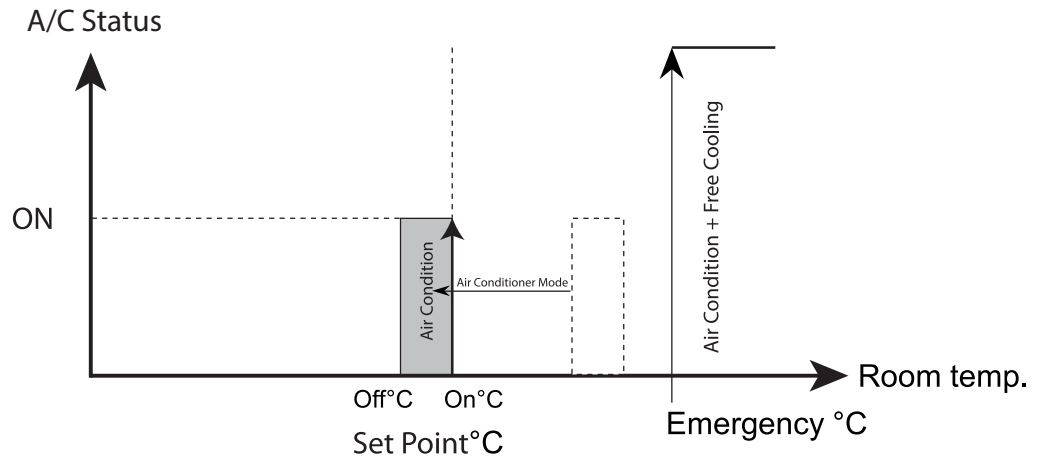


Default Cooling strategies, *continued*

Air Conditioner Mode

	Description	Value
Set Point	External Air Con unit 1 start if connected	27
A/C 1 off	External Air Con unit 1 stops if connected	25
A/C 2 on	External Air Con unit 2 start if connected	29
A/C 2 off	External Air Con unit 2 stops if connected	27
Emergency on	Fan run 100% and both A/C 1 and A/C 2 starts	38
Emergency off	Fan stops both A/C 1 and A/C 2 continue to run	36

The free cooling unit is not active, only the connected Air conditioners



Declatation of conformity

Dantherm Air Handling A/S
Marienlystvej 65
DK - 7800 Skive

Tel.: +45 96 14 37 00
Fax: +45 96 14 38 00

Declaration of following product:

Product name: **CC3000 Ugrade kit**

Product No: 094838

- 2006/42/EC Directive on the safety of machines
- 2014/35/EU Low Voltage Directive
- 2014/30/EU EMC Directive
- 2011/65/EU RoHS Directive

- and is manufactured in conformity with the following harmonised standards::

- EN 12100:2011 Safety of Machinery
- EN 60950-1:2006 Safety
- EN 61 000-6-2:2005 Immunity
- EN 61 000-6-3:2007 Emission

Skive, 24.02.2017

Dantherm Air Handling A/S

Marienlystvej 65
7800 Skive
Denmark

Phone +45 96 14 37 00
Fax +45 96 14 38 00

infodk@dantherm.com
www.dantherm.com

Dantherm AS

Postboks 4, 3101 Tønsberg
Norway
Besøksadresse: Løkkeåsvn. 263138
Skallestad

Phone +47 33 35 16 00
Fax +47 33 38 51 91

dantherm.no@dantherm.com
www.dantherm.com

Dantherm Air Handling AB

Fridhemsvägen 3
602 13 Norrköping
Sweden

Phone +46 (0) 111 930 40
Fax +46 (0) 121 133 70

infose@dantherm.com
www.dantherm.se

Dantherm Air Handling

Suite # 1009 Prism Tower
Business Bay
Dubai, UAE

Mobile +971 56 831 7466
Direct +45 60 23 55 29

frb@dantherm.com
www.dantherm.com

Dantherm Limited

12 Windmill Business Park
Windmill Road, Clevedon
North Somerset, BS21 6SR
England

Phone +44 (0)1275 87 68 51
Fax +44 (0)1275 34 30 86

infouk@dantherm.com
www.dantherm.co.uk

Dantherm Cooling A/S

4th Dobryninskiy Lane 8
Office C 11-01
119049 Moscow
Russia

Mobile +7 903 700 69 01
Phone +7 495 642 95 60
Fax +44 (0)1275 34 30 86

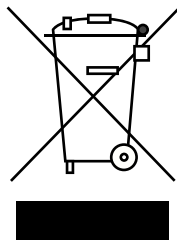
thj@dantherm.com
www.dantherm.com

Dantherm Cooling GmbH

Ziegler Str. 19
D-86199 Augsburg
Deutschland

Mobile +49 172 627 02 87
Direkt: +49 821 297 00 297
Fax +49 821 297 00 298

KW@dantherm.com
www.dantherm.com



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