

Fan Coil Controller

OPTI Lite Output Board for heating and cooling control

The Fan Coil Controller (FCC) is an output board for the OPTI Lite mainboard, which can be used for heating and cooling control. The FCC board uses two of the four OPTI Lite slots. The OPTI Lite built-in webserver control page used for the FCC is depicted in Figure 1.

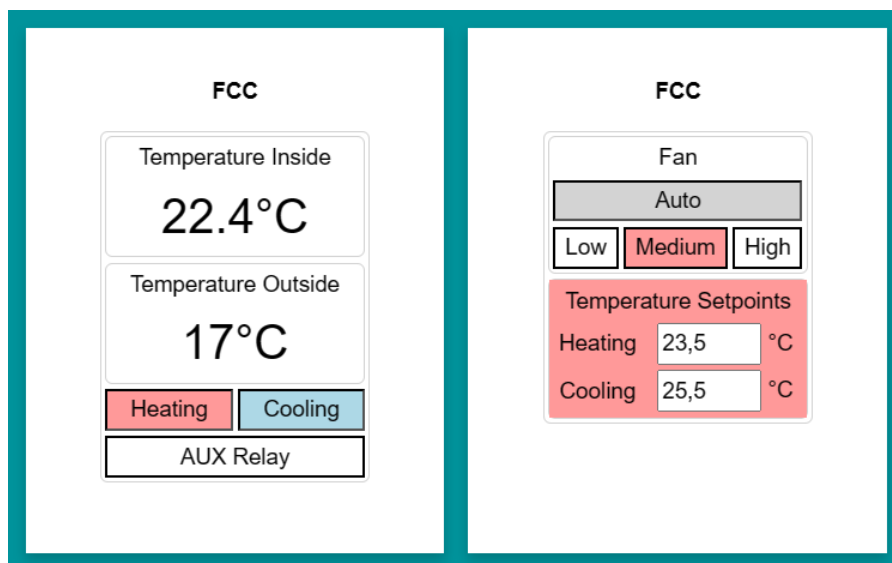


Figure 1. The OPTI Lite Control Page for the FCC

Main Features

- Heating, Cooling and Auto modes
- 3-Speed Fan Control (Low, Medium, High)
- Built-in web server for configuration, control, and monitoring
- Discrete setpoints for heating and cooling
- Supports two temperature sensors or one FN-Thermostat Touchpad (terminals 7-11)
- Automatic event reporting of temperature changes
- Triggers and logics based on temperature sensor readings
- Supports a wide array of NTC temperature sensors
- TCP communication protocol (API) using simple ASCII commands
- Extra Relay Output (terminals 11 & 12)
- An offset can be added to the measured temperature to compensate for deviation error
- Hysteresis to avoid oscillation. There is a deadband between turn on and turn off temperatures

Terminal Connections

The terminal connectors of the FCC:

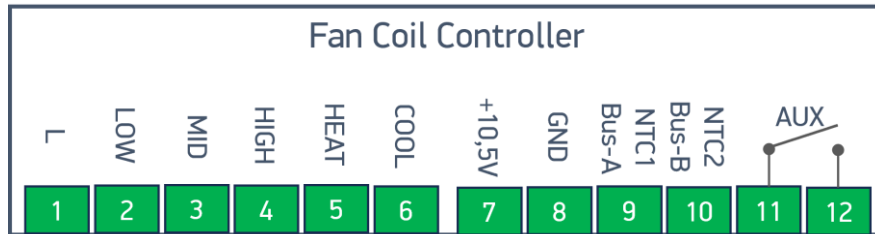


Figure 2. The FCC terminal connectors

Terminal No	Label	Description
1.	L	Live input
2.	LOW	Low fan speed relay output
3.	MID	Medium fan speed relay output
4.	HIGH	High fan speed relay output
5.	HEAT	Heating relay output
6.	COOL	Cooling relay output
7.	+10,5V	Used to power the FN-Thermostat from the FCC output board (can be omitted in the case of NTC)
8.	GND	Ground terminal for both sensors and FN Thermostat Touchpad
9.	NTC1 (Bus-A)	NTC1 temperature sensor terminal Bus-A connection if FN Thermostat Touchpad is used
10.	NTC2 (Bus-B)	NTC2 temperature sensor terminal Bus-B connection if FN Thermostat Touchpad is used
11-12	AUX	Auxiliary relay

Specifications

Relay Outputs	
Load	6 x NO Relay Outputs max. 5A @ 230V AC each (Heating, Cooling, Low, Medium, High, Auxiliary)
Connections	
FCC Input/Output terminals	2.5mm ² screw terminals
Inputs	
Temperature sensors	2 x temperature sensors or 1 x FN-Thermostat Touchpad
Supported sensors	
Temperature sensors	NTC10K-B3950, BAPI-10k-2, NTC10K-B4100, NTC10K-B3435
Accuracy	
Temperature accuracy	0.1°C for temperature sensor NTC1 0.1°C or 1°C for temperature sensor NTC2
Temperature range	
Temperature range	Temperature range for sensor NTC1: 0°C..50°C Temperature range for sensor NTC2: <ul style="list-style-type: none"> • 0°C..50°C for 0.1°C temperature resolution • -20°C..70°C for 1°C temperature resolution
Communication	
Control	TCP (simple ASCII TCP commands) Built-in web server (HTTP)
Environmental	
Operating Temperature	0 °C – 40 °C (32 °F – 104 °F)
Storage Temperature	-20 °C – 60 °C (-4 °F – 140 °F)
Humidity	Up to 93% (non-condensing)
Physical	
Dimensions FCC	2 slots out of the 4 available OPTI Lite slots
Dimensions (OPTI Lite)	157 mm x 86 mm x 57 mm (9 DIN unit width)
Weight (OPTI Lite)	0.5 kg
Installation	Standard DIN Rail Mount
Approvals	
CE	
Warranty	
	2 years