

Installation Manual

HVAC

V1.0



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Introduction:

The G4 HVAC2 Module is among the various modules that are used to integrate any Air Conditioning system out there in the market nowadays, with the Smart-Bus G4 home automation system.

HVAC2 Module is specialized with the most common AC systems, which is the FCU normal cooling unit, with its various types.

HVAC2 Module is an S-Bus enabled device, meaning it is installed and configured using the usual S-BUS G4 manners (Refer to Dimmers and Relays installation manual, and AC programming Manual)



Method of installing:

- 1- HVAC with DDP (Typical)
- 2- HVAC stand alone, controlled via another interface (iOS app, Android App, HAC for windows...)

1- With DDP:

When installing the HVAC with DDP to control it. You just need to terminate the FCU to it and the DDP will handle the control.

HVAC Termination to typical FCU:

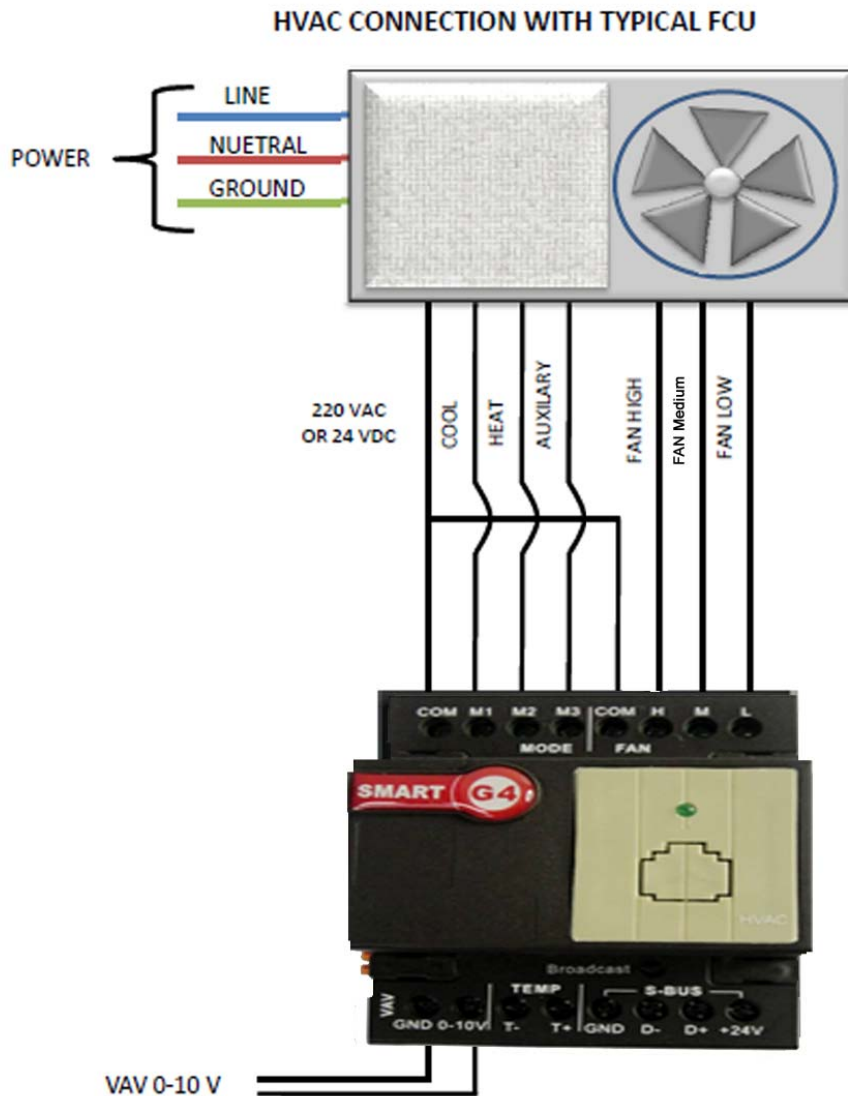


Figure 1 HVAC Termination to typical FCU

As shown in the Figure 1 above, HVAC2 module acts as the controller relay the typical FCU thermostat has, and the DDP acts as the actual thermostat that is controlling the HVAC (after the proper programming).

Typical FCUs come with Power cord and cord for each function, once the power cord is joined with function cord, the function starts.

For instance, the Cool power is connected to the M1, once the HVAC receives an instruction from the DDP, it will switch on the M1 relay, giving power to the Cool cord and causing it to start.

Exactly the same for FAN.

Refer to the HVAC2 programming manual to know how to tell the HVAC what FCU mode is connected to each port, for FAN and compressor.

For the VAV system, there is at the bottom of the HVAC2 module DC volts output 0-10 Vdc, those are easily connected to the VAV AC unit, and the voltage output value will change according to the DDP instructions. (refer to DDP programming manual)

2- HVAC stand alone:

HVAC2 Module also works as a standalone AC controller, in that case a G4 user interface other than the DDP will work as the controller like the Smart-Bus G4 iOS application for Apple devices, the Android application, the HAC software for windows and others.

But what about the temperature sensor? In this case, HVAC has variety of options depending on the condition of the environment of the application.

NOTE: Those options for temp sensor placing are also available if using DDP.



1- External temp sensor attached to the **HVAC module itself:**

As you can see from the figure 1 above, that in the bottom of HVAC2 module there is a TEMP + and – ports, those ports are used to connect an external temp sensor to be used to read room temperature with or instead of DDP temp sensor. (Refer to DDP and HVAC programming manual for more details on how to determine temp sensing method for a single AC system)

2- External temp sensor from the **9in1 Sensor Module:**

The Smart-BUS G4 9in1 Sensor is equipped with a built in temp sensor for extra temp sensing options. (Refer to the 9in1 DDP and AC systems programming Manuals)

3- External temp sensor connected to the **Zone Beast Module:**

The Zone-Beast 23 port Mix Control Module (G4) is equipped with same TEMP + and – ports as in the HVAC2 Module. So if you have installed the Zone-beast in your system you can connect an external sensor to it and use it as the room temp sensor reader of the AC system.

4- External temp sensor connected to the **4T module:**

Another G4 Module that can be used to read the room temp is 4T 4-Port Temperature Input Module. Refer to its own installation and programming manuals

NOTE: All kind of AC systems termination and installation are described in details in the AC system Manuals and HVAC Programming Manual.

