Hoffman Controls
Product Data

202-12-1 Series Interface
200-3 Series Flow Controller

Description

The 202-12-1 Interface PC board allows the user to interface with other electronic controllers in a distributive Energy Management System (EMS). The 200-3 Series Flow Controller may be supplied with the 202-12-1 Interface PC board or it may be added in the field at a later date. The field conversion is accomplished by removing the Hoffman 207 Series thermostat leads, mounting the interface board to the logic/actuator bracket and plugging the PC board into the terminals on the 200-3 Series Flow Controller.

The 202-12A-1 Interface accepts either a (1.5 – 15V DC) or (2 – 20mA DC) signal from the EMS. The input signal represents a temperature difference between zone temperature as sensed by the EMS and zone setpoint temperature as established by the EMS. The input signal is converted by the interface to the same level signal as would be received by the 200-3 Flow Controller from a Hoffman 207 Series Thermostat.

The Variable Air Volume (VAV) portion of the DC signal from the EMS is (10 – 15V DC) or (13.4 – 20mA DC) for 0 – 4000 FPM air velocity. Depending on the scaling in the EMS, setpoint can vary from zone to zone.

Approximately 12.2V DC or 16.3mA DC represents 1000 FPM air velocity with this input from the EMS the 200-3 Series logic will position the air damper to deliver 1000 FPM as sensed by the 200-3 velocity sensor. If the air velocity changes due to static pressure fluctuations, the 200-3 Flow Controller repositions the damper to assure 1000 FPM air velocity. The maximum flow to each zone can be limited by setting the maximum input signal to a value below 15V DC or 20mA DC. Conversely, the minimum flow to each zone can also be limited by setting the minimum input signal to a value above 10V DC or 13.4mA DC. It is also possible to limit the minimum and maximum flows by using the adjustable velocity pots on the 200-3 Flow Controller.

The 200-3 Series Flow Controller can be direct acting (cooling only) or reverse acting (heating only) as represented in a double duct application. The 202 Series Interfaces with 200-3 Series Flow Controllers will operate on the 10 to 15V DC or 13.4 to 20mA DC signals and the EMS will control each Flow Controller separately.

Application

If the application calls for starting a fan and/or bringing on stages of heat with the 200-3 Series Flow Controller, accomplish it by adding a 202-10-1 Series reheat interface and changing the input signal level from the EMS. The first non-isolated contact on the reheat board can be closed at any input level between (6.8 – 13.0V DC) or (9.2 – 17mA DC). The cut-in point is adjustable by a pot on the 202-10-1 Interface board and allows the choice of closing the contact above or below setpoint.

The option of dual flow is also available. Dual flow will reset the minimum flow to a new value when the first contact is closed, or when initiated by a separate external contact closure. The new minimum flow is adjustable by a pot on the 202-10-1 Interface board from 0 – 4000 FPM. A second (H2) non-isolated contact can be closed by EMS inputs of 4.8V DC or 6.4mA DC and a third (H3) non-isolated contact at 2.7V DC or 3.6mA DC respectively. These cut-in points are fixed.

A 202-13-1 Series reheat Interface can be added to accomplish a contact closure to start a fan and one stage of time proportioning heat to control an On/Off hot water or steam reheat zone value. The scaling in the EMS will determine the temperature (referenced to setpoint) at which these contacts will close.

The 202-12-1 Interface provides a 4 to 20mA DC output signal proportional to 0 – 4000 FPM air velocity. This signal can be used to monitor each terminal units' velocity and set/check minimum and maximum flow limits.

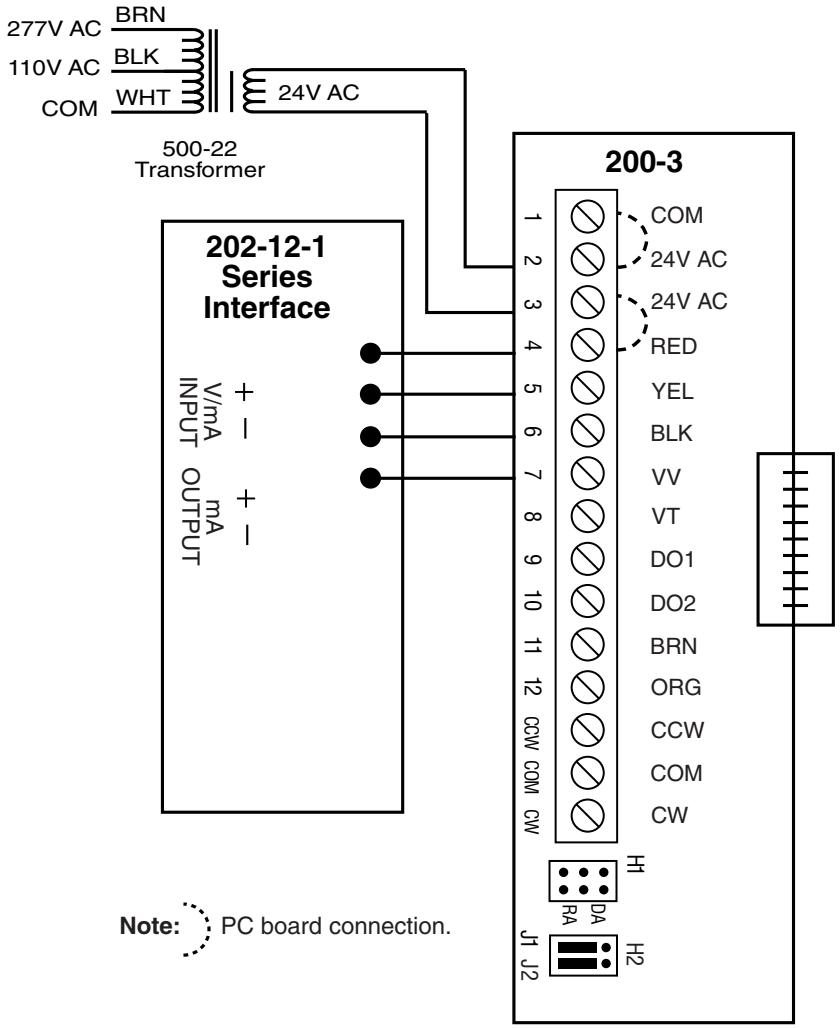
Features and Benefits

- 202-12-1 Interface card may be furnished with the 200-3 Series Flow Controller or be added to it in the field.
- Accepts 1.5 to 15V DC or 2 to 20mA DC inputs.
- Establishes varying temperature throttling ranges for each zone with the EMS.
- Establishes different heating and cooling setpoints for each zone with the EMS.
- Pressure independent control with the 200-3 Flow Controller.

- Initiates Offset (set back) for each zone or multiple zones from the computer.
- Initiates morning warm-up for each zone or multiple zones from the computer.
- Initiates automatic changeover from the computer.
- Incorporates a fire and smoke alarm system into the logic operation from the computer.
- Programs minimum and maximum flow limits for each logic with the computer.
- Energizes a fan and/or stages of heat with or without the dual flow option from the logic through the computer program.
- Monitors air velocity from each terminal unit and set, then check, the minimum and maximum flow limits with the computer.

Inputs

Computer Input (mA/DC)	3.7	6.4	9.2	11.9	17.3	20.1	20.7
Computer Input (VDC)	2.7	4.8	6.9	8.9	13.0	15.1	15.5
Stat BLK IN (Pin 6) (VDC)	10.44	10.33	10.22	10.11	9.89	9.78	9.75
Temperature °F	-4.0	-3.0	-2.0	-1.0	1.0	2.0	2.3
Velocity (FPM)	—	—	—	—	1000	3000	4000
Velocity Output (mA/DC)	—	—	—	—	16.5	19.7	20.6



200-3 Flow Controller & 202-12-1 Interface Wiring Diagram