

Description

The 202-10-1 Series Interface cards provide additional zone control functions when used in conjunction with the 200-3 Series direct acting Flow Controllers. These functions include:

- Three stages of heating
- Dual Flow
- Offset (setback)

Flow Description

Direct acting systems furnish cold conditioned air to the controlled zone. Zone Heating Control provides up to three stages of heating in sequence as temperatures fall below setpoint. Heating is accomplished at Minimum Flow Limit or as determined by an increased flow level by the Dual Flow function. Dual Flow provides an increase flow level of primary air for meeting specific heating flow requirements. Dual Flow can be initiated by remote closure or by Zone Heating Control. Offset (setback) provides a reset of setpoint to a lower temperature to conserve energy during unoccupied hours.

Zone Heating Control

Direct acting systems furnish cold, conditioned air to the space. When load conditions require heating to maintain setpoint, auxiliary heating can be furnished in steps to provide warm (reheated) air to the zone. Zone Heating Control provides up to three stages of heating. Although any heat source may be used, staged electric heating steps are typical. Heating is accomplished at Minimum Flow as determined and preselected by the Minimum Flow Limit. If the Minimum Flow Limit has insufficient air volume for the particular heat source the Dual Flow function must be used to reset to a higher Minimum Flow.

The first stage of heat is adjustable from +1°F to -2°F of setpoint. The 2nd and 3rd stage of heat are fixed at -3°F and -4°F respectfully and are non-adjustable.

CAUTION

Minimum Flow or Dual Flow must be selected to assure sufficient air quantity for the specific electric KW heating load selected.

1st Stg. Heat, (factory std./adj.)	-1°F/+1°F to -2°F
Hysteresis	0.5°F 1st stg, 1°F 2nd stg., 1°F 3rd stg.
2nd Stg. Heat, (non-adjustable)	-3°F/-4°F

Dual Minimum Flow

This function of the 202-10A-1, 202-10B-1 and 202-10D-1 interfaces provides an increase level of minimum air flow adjustment, in addition to the Minimum Flow Limit provided on the 200-3 Series Flow Controller. The Dual Minimum Flow level is not factory set and must be field adjusted to meet specific zone heating requirements.

Offset

The temperature Offset (setback) function is initiated by a remote contact closure. Field adjustable Offset from -7°F to -20°F is available. This function is factory set at -20°F. A time clock closure is typically used to provide setback during unoccupied periods to conserve energy.

Offset, (factory std./adjustable)	-20°F/-7°F to -20°F
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Application

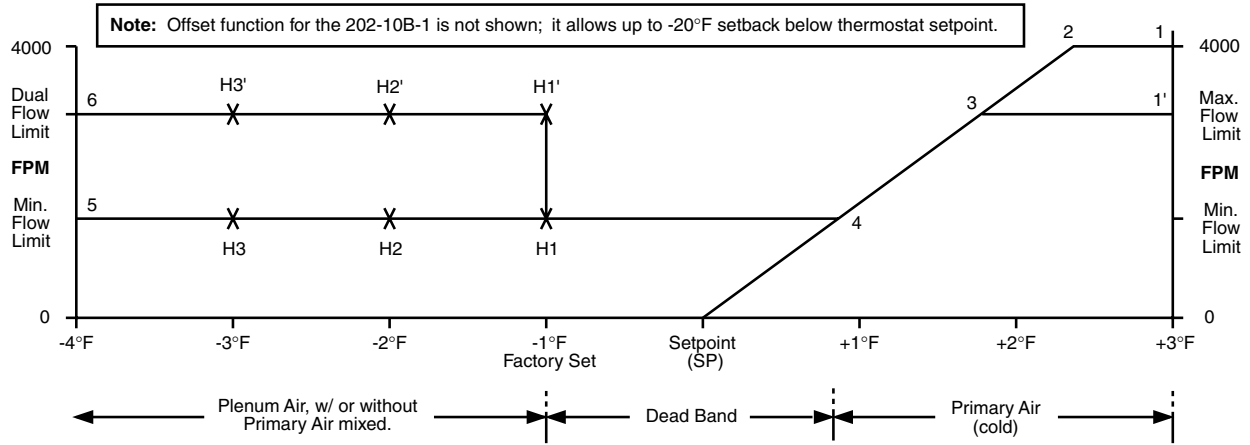
The functions of the 202-10-1 Series Interface cards are used in applications where exterior zones will require varying heat loads and temperature cooling and heating control is required of each zone.

202-10-1 Series Functions Chart

<u>Model</u>	<u>3 Ht. Stgs.</u>	<u>Dual Flow</u>	<u>Offset</u>
202-10-1	Yes	No	No
202-10A-1	Yes	Yes	No
202-10B-1	Yes	Yes	Yes
202-10C-1	Yes	No	Yes
202-10D-1	No	Yes	No
202-10E-1	No	No	Yes

The interface card functions are in addition to the 200-3 Flow Controller. These functions are accomplished by inserting the specific auxiliary card to the flow controller. All field wired interface functions will be performed in accordance with the factory standard calibration values as noted in the above specifications.

If control requirements other than factory standard calibration values are required, recalibration of each function used will be required (see 200-3 Series Recalibration Instructions).

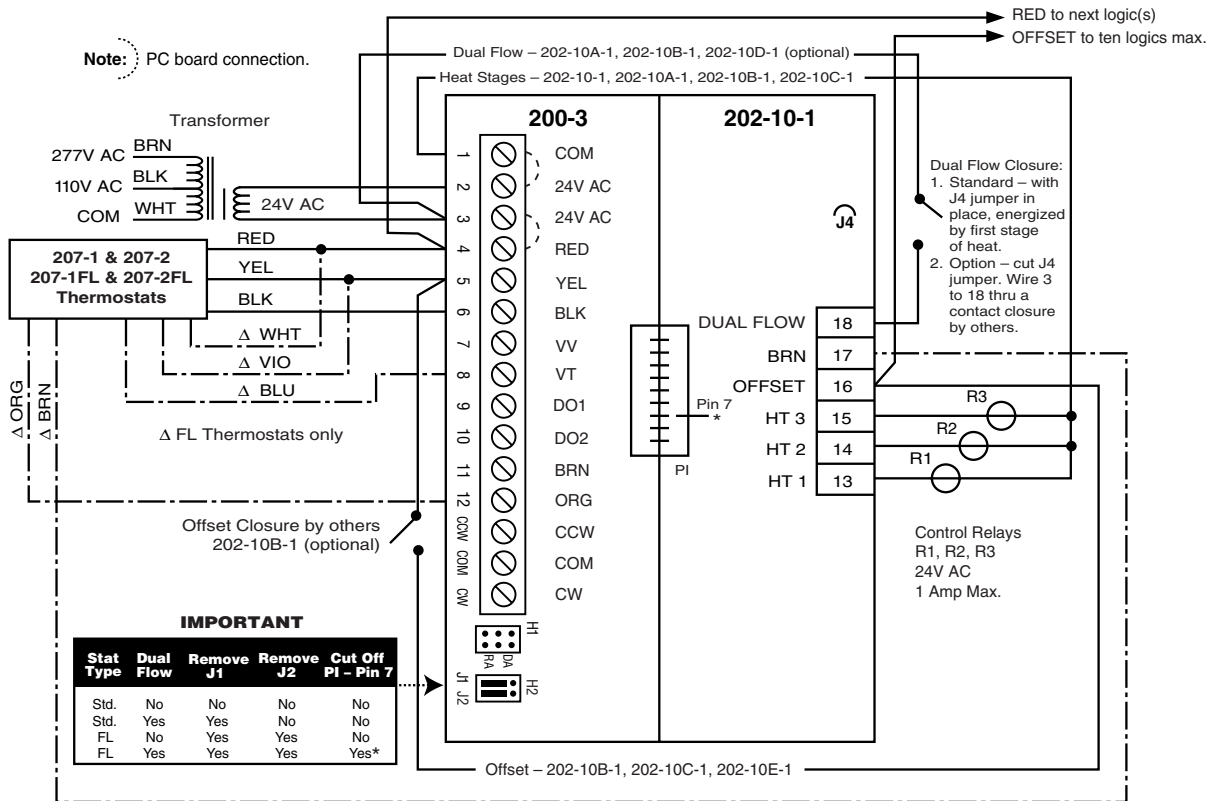


FLOW FUNCTION

- a. 1 - 2 indicates Maximum Flow at 4000 FPM (or Max. Flow Limit 1' - 3 as req.) adjustable on 200-3. Zone comes under control at 2 or 3.
- b. At 2 or 3 throttling begins and continues until Minimum Flow Limit is reached at 4 or "shut-off" is reached at setpoint.
- c. 4 - H1 continues at Minimum Flow Limit until 1st stage of heat energizes at H1 (adj: +1°F to -2°F).
- d. H2 and H3 energize at Minimum Flow Limit at -2°F and -3°F (non-adjustable). **CAUTION:** Minimum Flow Limit may not be adequate flow for heating, use Dual Flow as required.
- e. Dual Flow may be energized on or before H1' by external closure 3 - 18 (optional) or 13 - 18 (std.) by 1st stage of heat.
- f. H2' and H3' energize at Dual Flow Level at -2°F and -3°F (non-adjustable).
- g. Offset, not shown, is adjustable from -7°F to -20°F; factory set at -20°F.

* When electric heaters are used for heating applications, Fan Powered Flow must be energized on or before proportional heat begins.

202-10-1 Series Flow Function



- Notes:**
- 1. When 207-1FL or 207-2FL Series Thermostats are used, additional wiring required indicated by _____
 - 2. Terminals (#1 and #2) and (#3 and #4) are internally connected indicated by - - - - -
 - 3. Wiring shown for all functions. Wire only those functions required.

200-3 Series Flow Controller and 202-10-1 Series Interface

Hoffman|Controls