# Hoffman Controls

**Engineering Bulletin** 

## **Interface Functions Chart Function Specifications**

Model Number	Stages* Heat	Dual Flow	Offset	Auto- Changeover	Proport. Heating	Time Base Heating	Power** Required VA
202-10-1	3		_				5.7
202-10A-1	3	Yes	_	_	—	_	6.2
202-10B-1	3	Yes	Yes				6.2
202-10C-1	3	_	Yes	—	_	_	5.7
202-10D-1		Yes	_				4.6
202-10E-1			Yes				4.6
202-11LS-1	—	_	_	Yes	_	_	4.6
202-12-1			_				5.9
202-13-1	1	_	Yes	—	Yes <sup>1</sup>	10 min.	5.5
202-13E-1	1	_	Yes	_	Yes <sup>1a</sup>	5 sec.	5.5
202-13A-1	1	Yes	Yes		Yes	10 min.	6.5
202-13AE	1	Yes	Yes	_	_	5 sec.	6.5
202-14-1	1		Yes		Yes <sup>2</sup>		5.1
202-14A-1	1	Yes	Yes	—	Yes <sup>2</sup>	_	6.1
202-16-1							
202-17-1							

\* Non-isolated rated 1 amp, 24V AC

\*\* Power includes 4.1VA for 200-3 Series. (Does not include power for valve or electric heat.)

1 10 min. time base (for hot water valve).

1a 5 sec. time base (for 900 Series SCR).

2 10 mA DC @ 15V DC max. (proportional).

#### Stages of Heat

1st Stage – Adjustable from +1° to -2°F of set point, 1/2°F differential, factory set at -1°F. (Fan "On" and/or heat).

2nd Stage - Fixed at -3°F, 1°F differential.

3rd Stage - Fixed at -4°F, 1°F differential.

#### **Dual Flow**

Adjustable from 0 to 3000 FPM, factory set at 0 FPM, can be initiated by 1st Stage of heat or external contact closure must be field calibrated.

#### Offset (set back)

Adjustable from -7° to -20°F from set point for set back, factory set at -20°F.

#### Auto-Changeover

Initiated by duct probe, set 86°F or above for heating and 70°F or below for cooling.

#### Time Base Heat

Adjustable with pot from set point to  $-4^{\circ}F$  of set point, factory set at  $-1^{\circ}F$ ,  $3^{\circ}F$  span. A 10 minute time base is used for hydronic heat. A 5 sec. time base is available for use with electric heat.

### Proportional Heat (normally closed valve)

Heat Set Point — Adjustable from set point to  $-4^{\circ}F$  below set point.

Temperature Span - Adjustable from 2°F to 4°F.

Output - Starting voltage, adjustable from 2 to 10V DC.

- Voltage span, adjustable from 2 to 13V DC, 10mA DC, 15V DC max. voltage.
- Factory set at  $-1^{\circ}F$  to  $-4^{\circ}F$  for a 6V to 9V DC output.

#### **Computer Interface**

Input - 2 to 20mA DC into 750 ohms or 1.5 to 15V DC into 350K ohms

Output — 4 to 20mA DC into 50 to 350 ohms for 0 to 4000 FPM.