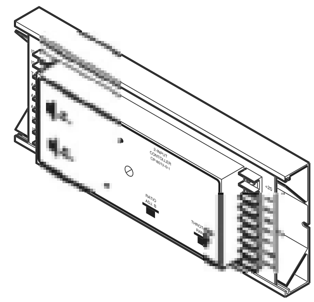
System 8000 Two-Input Temperature or Humidity Controller

This two-input temperature or humidity controller provides heating, cooling, humidification, or dehumidification control in HVAC systems.



Features:

- Individual setpoints for each input element.
- Self contained package incorporating two bridges and amplifiers.
- One input element has a 0.5 to 1 through 25:1 ratio adjustment.
- Accommodates all temperature/humidity System 8000 devices.
- Temperature setpoint ranges can be customized with remote setpoint assemblies.
- Standard System 8000 track mounting.

Model Chart

Model No.	Control Dial Range Setpoint "A"	Control[a] Dial Range Setpoint "B"	Throttling Range for 3 Vdc Output Change
CP-8102	20 to 120°F	20 to 120°F	Adjustable 2 to 10 F° by dial [b]
CP-8102-116	-6 to 48°C	-6 to 48°C	Adjustable 1 to 6 C° by dial [b]

[a] For reset control, set setpoint "B" at zero reset point and setpoint "A" at control point desired with no reset action from sensor "B".

[b] 15, 25, 40, and 60°F by pin selection (use J9 jumper). With the use of AD-8969-901 (order separately), the following T.R.'s can be obtained: 55, 65, 75, 85, 100, 115, 125, and 140°F (13,18, 24, 29, 38, 46, 52, and 60°C).

Specifications

Sensors	
Temperature	TS-8xxx one or two; three sensors through a CN-8101.
Humidity	HS-8x01, VER-HDxx-MSx, VER-HOxx-MSx, VER-HxWx-MA.
Control action	Direct (D.A.) or reverse (R.A.) selectable by jumper. Factory set D.A.
Authority ratio adjustment	0.5:1 to 25:1, adjustable by dial.
Control output voltage	1 to 15 Vdc, 10 mA maximum. Unit factory calibrated for 7.5 Vdc output with sensor at setpoint temperature.
Power requirements	20 Vdc (-1.5, +1), 23 mA.
Power supply available	6.2 Vdc, 7 mA maximum. Regulated and filtered power supply must not be connected to +6.2 of other supplies.
Remote setpoints	Order separately AT-8122, AT-8155 or AT-8158.
Setpoints, ratio and throttling potentiometers	Visible and accessible without removing controller cover.

Specifications (Continued)

Typical controlled devices	Maximum of six System 8000.
CC-8100	Series relays.
MF-63123	Floating valve actuator.
MFC-8000	Control module card for MF-62123 actuator.
MM/MMR-400 Series	Modular actuators w/MMC-8000 control module.
MM/MMR-500 Series	Modular actuators w/MMC-8000 control module.
MP-300-600 Series	Actuators.
MP-400-600 Series	Actuators.
MP-5000 Series	Actuators.
MS-1233 Series	Damper actuators.
MS4D-x0x3-030	Actuators.
MS40-7043-MP	Actuators.
MS40-7043-MP5	Actuators.
MS51-7103-030	Actuators.
MS51-7103-040	Actuators.
SP-40000 Series	Step controllers.
Environment	
Ambient temperature limits	Shipping and storage: -40 to 160°F (-40 to 71°C). Operating: 40 to 135°F (4.4 to 57°C).
Humidity	5 to 95% RH, non-condensing.
Locations	NEMA Type 1.
Connections	Coded screw terminals for 14 to 20 AWG.
Cover	Aluminum.
Mounting	Unit is provided with plastic track for panel mounting. AD-8912 enclosure can be ordered separately for remote installations.
Dimensions	4 H x 11 W x 2-1/2 D in. (102 x 279 x 64 mm).
General Instructions	Refer to F-14969.

Accessories

Model No.	Description
AD-8122	Signal adaptor for dual outputs (two direct acting).
AD-8123	Signal adaptor for dual outputs (one direct, one reverse acting).
AD-8124	Signal adaptor for dual outputs (one reverse, one direct acting).
AD-8912	Enclosure, 12 in. (305 mm).
AD-8969-201	Offset resistor kit: 5, 10, 15 and 20°F
AD-8969-901	Extended throttling range jumper.
AT-8122	Remote setpoint adjuster, dual scale 20 to 120°F (-6 to 49°C).
AT-8155	Remote setpoint adjuster dual scale 50 to 250°F (10 to 121°C).
AT-8158	Remote setpoint adjuster, dual scale 55 to 85°F (13 to 29°C).
AT-8222-101	Setpoint scale for humidity 20 to 100%.
AT-8435	Remote setpoint adjuster, dual scale 50 to 450°F (10 to 232°C) for use with TS-8204 only.
CN-8101	Multi-purpose bridge.
TOOL-201	Calibration kit for System 8000.

Typical Applications

Jumper Connections.

Controller Function	Jumper Connections Required	
	Bridge "A"	Bridge "B"
Direct acting[a]	J4 to JC6 J3 to JC5	J5 to JC5 J6 to JC6
Reverse acting	J4 to JC5 J3 to JC6	J5 to JC6 J6 to JC5
Internal setpoint active [a]	J1 to JC1	J2 to JC3
Internal setpoint inactive for remote setpoint	J1 to JC2	J2 to JC4
Disable Bridge "B" for single sensor input	Remove jumper from AB2 to AB3	

[a] As supplied from factory.

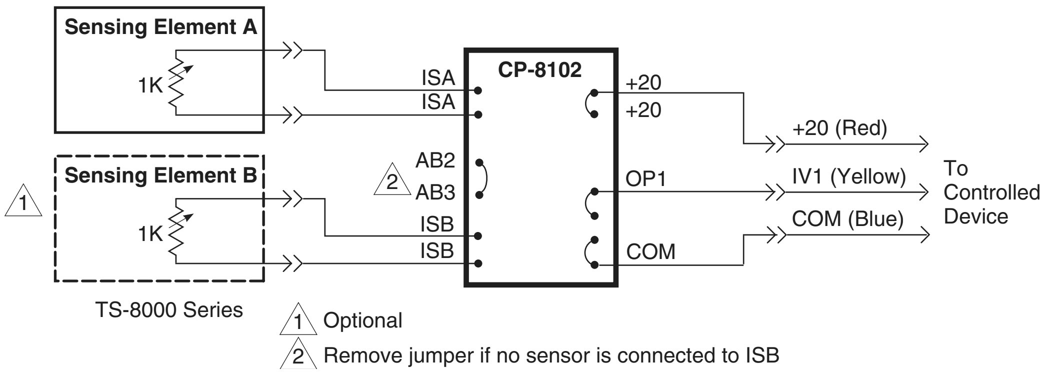


Figure 1 Typical Temperature Control Wiring.