# HEAT PUMP THERMOSTATS

for 1 & 2 Compressor Applications

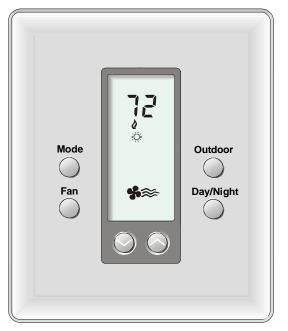
# HP32-N2 3 Heat / 2 Cool

(using JCI N2 Protocol)

DIRECT REPLACEMENT FOR: TEC1102-1 (Johnson Controls)

#### **GENERAL DESCRIPTION**

The HP32-N2 communicating thermostat is designed for new or replacement commercial or residential heat pump applications when the N2 protocol is required. The TEC-N2 thermostats represent the latest in solidstate surface mount electronics and manufacturing techniques incorporated into an extremely low-profile, ultra-slim white plastic case. The unit offers "userfriendly" control of the heating/cooling equipment along with an easy-to-read vertical LCD that displays complete operating status. An included 2-wire communications port allows complete scheduling, remote control and status with a separate N2 serial interface. A direct-wire, easy-to-install sub-base mounts directly on a standard vertical outlet box or any drywall surface using hardware provided.



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# **Standard Features**

- Selectable Celsius or Fahrenheit temperature display
- Fan selector for continuous fan operation
- Built-in anticipation and droop
- Built-in short cycle protection
- Electronic circuitry replaces conventional mechanical anticipator
- Internal switch to lockout the keypad to prevent unauthorized tampering
- Day/Night (Occupied/Unoccupied) button allows setpoint setback for energy savings
- No battery required (maintains last setpoint/mode of operation following power outages)
- Lockable access cover
- Commercial lockout with 1 or 3 hour temporary override; +/- 3°F adjustment during override
- Plenum fan switch
- Two LED lights available for status indication with switchable LCD icons
- One LED light available for emergency heat status indication
- Automatic changeover from heat-to-cool and cool-to-heat
- 2°F (1°C) minimum Heat/Cool separation
- Complete control and status via any of N2 interface
- Selectable minimum on/off time (2 or 4 minutes)
- HVAC equipment control using dry contact relays
- Optional remote indoor, outdoor, supply air and return air sensing modules

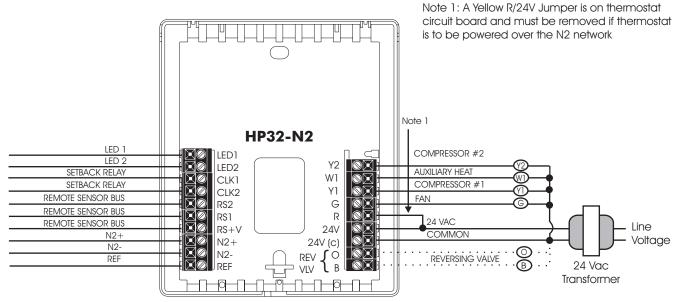
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Note : Specifications subject to change without notice. Telephone (866) 563-0711

## SPECIFICATIONS

Rated Voltage : 20 to 30Vac, DC 24 nominal Rated A.C. Current : 0.05 to 0.75 Amp continuous per output, with surges to 3 Amps maximum Rated D.C. Current : 0.0 to 0.75 Amp continuous per output, with surges to 3 Amps maximum Heating : 38 to  $88^{\circ}$ F in  $1^{\circ}$  steps (6 to  $30^{\circ}$ C in  $1^{\circ}$  steps) Control Range : Cooling : 60 to 108°F in 1° steps (16 to 40°C in 1° steps) Thermostat 28 to 124°F or 0 to 48°C Measurement Range : Control Accuracy : +/- 1°F @ 68°F (0.5°C @ 20°C) Minimum Deadband : (between heating and cooling) 2°F or 1°C 4.5" H x 4" W x 7/8" D (114mm x 102mm x 22mm) Dimensions : R-switching volt., W1-aux heat, Y1-compressor stage 1, Equipment Terminations : G-fan, O/B-reversing valve cool/heat, LED1-light, LED2-light HPT-2 only Y2-compressor stage 2 24V - power, 24V(c) - power common Power Terminations : Communication Terminations : N2+, N2-, REF Sensor Terminations : RS+V - sensor power, RS1 - comm(+), RS2 - comm(-) Setback Terminations : CLK1, CLK2 dry contact closure

NOTE: This thermostat contains electronic circuitry that replaces the conventional mechanical anticipator



#### **OUTPUT TERMINAL FUNCTIONS**

- LED1 Free light for status or function indication
- **LED2** Free light for status or function indication
- CLK1 Dry contact closure input for setback
- CLK2 Dry contact closure input for setback
- **RS2** Remote indoor, outdoor and/or
- RS1 duct sensor
- **RS+V** Power for remote sensors
- N2+ N2 Communications bus input/output
- N2- N2 Communications bus input/output
- **REF** N2 Communications bus input/output

- Y2 Energizes compressor for second stage heating or cooling
- W1 Energizes Auxiliary Heat as second stage heating or Emergency Heat
- Y1 Energizes compressor with a call for heating or cooling
- **G** Energizes fan circuit with a call for heating or cooling
- R Independent Switching Voltage
- **24V** 24Vac
- 24V(c) 24Vac Common
- O Energizes the reversing valve in cooling mode
- **B** Energizes the reversing valve in heating mode