

# HEAT PUMP THERMOSTATS

for 1 & 2 Compressor Applications



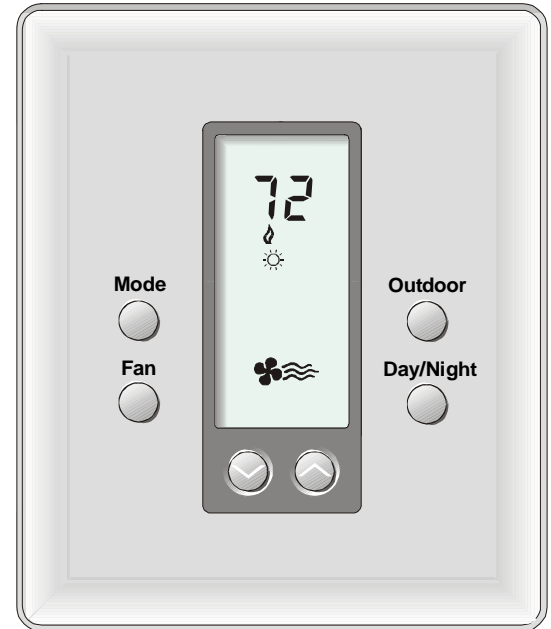
**HP21-NX 2 Heat / 1 Cool**

**HP32-NX 3 Heat / 2 Cool**

**(using XBUS Protocol)**

## GENERAL DESCRIPTION

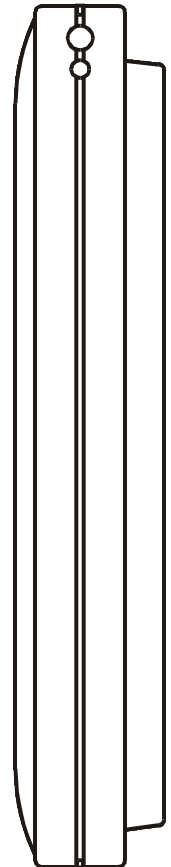
The HP21-NX and HP32-NX communicating thermostats are designed for new or replacement commercial or residential heat pump applications. The Net/X thermostats represent the latest in solid-state surface mount electronics and manufacturing techniques incorporated into an extremely low-profile, ultra-slim white ABS plastic case. Both units offer "user-friendly" 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 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.



## 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 NetworkThermostat's interfaces
- 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

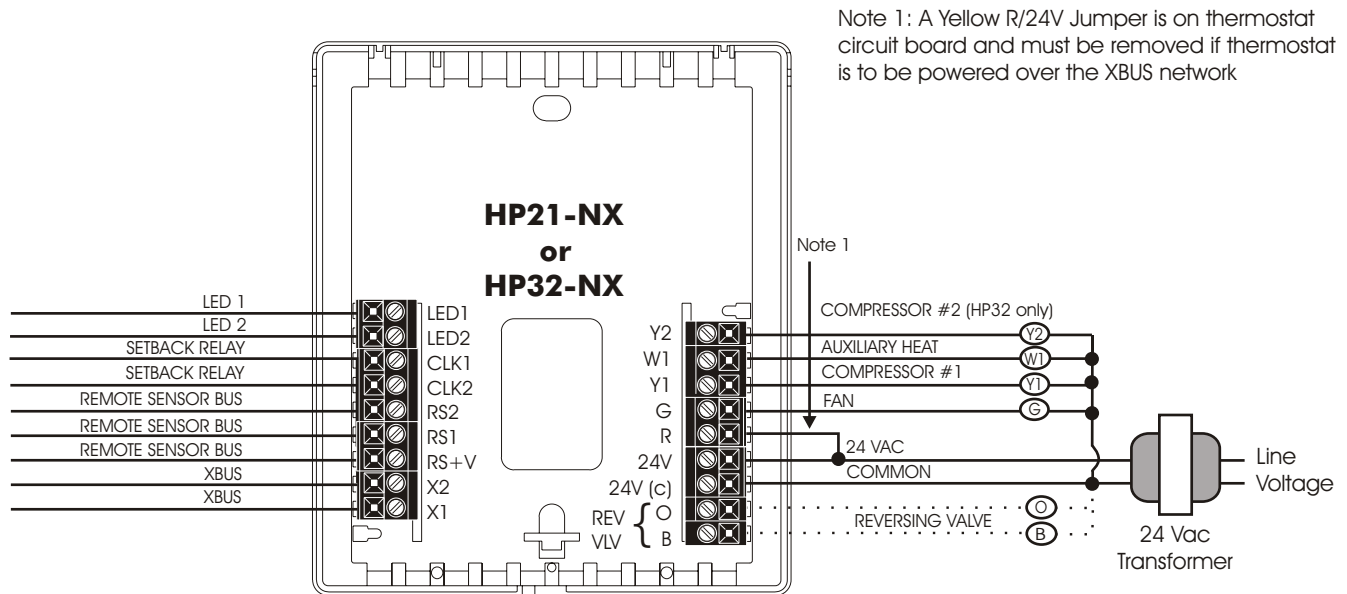
Note : Specifications subject to change without notice.



# 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
Control Range :	Heating : 38 to 88°F in 1° steps (6 to 30°C in 1° steps) Cooling : 60 to 108°F in 1° steps (16 to 40°C in 1° steps)
Thermostat	
Measurement Range :	28 to 124°F or 0 to 48°C
Control Accuracy :	+/- 1°F @ 68°F (0.5°C @ 20°C)
Minimum Deadband :	(between heating and cooling) 2°F or 1°C
Dimensions :	4.5" H x 4" W x 7/8" D (114mm x 102mm x 22mm)
Equipment Terminations :	R-switching volt., W1-aux heat, Y1-compressor stage 1, G-fan, O/B-reversing valve cool/heat, LED1-light, LED2-light HPT-2 only Y2-compressor stage 2
Power Terminations :	24V - power, 24V(c) - power common
Communication Terminations :	X1 - comm(+), X2 - comm(-)
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

<b>LED1</b>	Free light for status or function indication	<b>Y2</b>	Energizes compressor for second stage heating or cooling, HP32 only
<b>LED2</b>	Free light for status or function indication	<b>W1</b>	Energizes Auxiliary Heat as second stage heating or Emergency Heat
<b>CLK1</b>	Dry contact closure input for setback	<b>Y1</b>	Energizes compressor with a call for heating or cooling
<b>CLK2</b>	Dry contact closure input for setback	<b>G</b>	Energizes fan circuit with a call for heating or cooling
<b>RS2</b>	Remote indoor, outdoor and/or wet	<b>R</b>	Independent Switching Voltage
<b>RS1</b>	location sensor	<b>24V</b>	24Vac
<b>RS+V</b>	Power for remote sensors	<b>24V(c)</b>	24Vac Common
<b>X2</b>	Communications bus input/output	<b>O</b>	Energizes the reversing valve in cooling mode
<b>X1</b>	Communications bus input/output	<b>B</b>	Energizes the reversing valve in heating mode