network thermostat

US32-SM

**Standard (Gas/Electric/Oil)
up to 2Heat / 2Cool**

**Heat Pump (Standard and Dual Fuel)
up to 3Heat / 2Cool**

**Advanced Remote Bus with up to
11 Remote Sensors**

**Integrated Net/X™ StrongMesh™
Communications**

GENERAL DESCRIPTION:

The US32-SM is a communicating setback thermostat designed for new and replacement commercial or residential applications. The US32-SM has a beautiful new blue backlight and secondary display for the remote sensor bus, and is a direct replacement for the GE22-SM and the HP32-SM products. The thermostat can be configured to control conventional HVAC equipment or heat pump equipment with both traditional and dual fuel heat pumps. The unit will operate either as a stand-alone or communicating thermostat.

Using the Net/X™ NT-IPXB network controller, one or more Net/X™ WCM-2 StrongMesh™ wireless coordinator and the Net/X™ Command Center software, Net/X™ makes it simple with near effortless changes to each setting on the thermostat. The pushbuttons on the thermostat can be locked to give restricted override capabilities, and the optional Occupancy Sensor enables automatic energy savings. The advanced remote sensor bus allows up to 6 indoor remote sensors, humidity sensor, outdoor sensor, and up to 3 auxiliary sensors for needs such as supply air, return air, water temperature, walk-in freezers and refrigerators, and any other temperature monitoring desired.

STANDARD FEATURES:

Free PC Software for Controlling Multiple Thermostats from a Single Screen

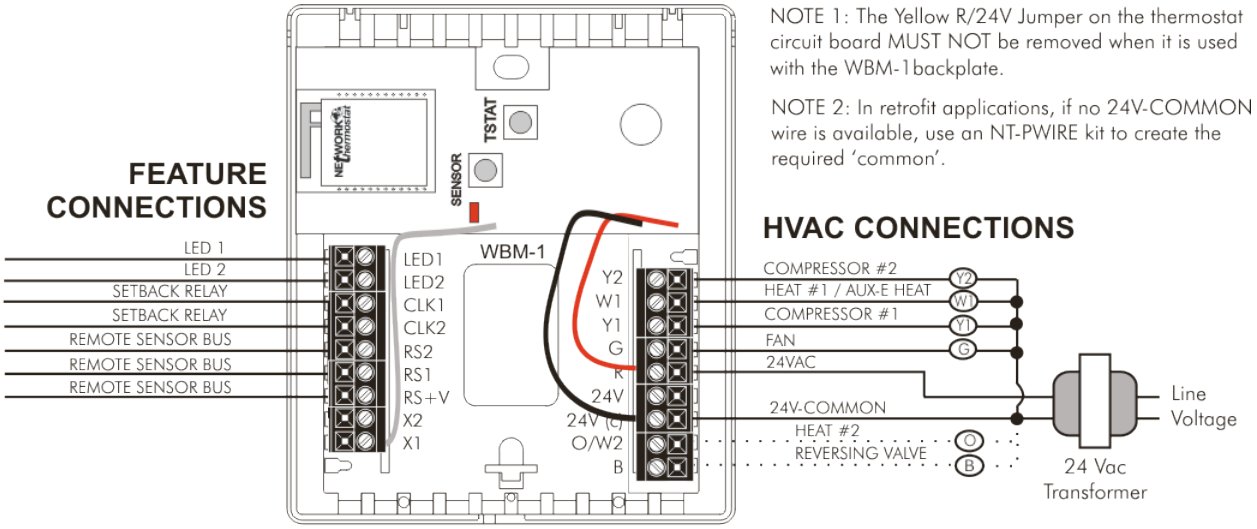
- Automatic Changeover from Heat-to-Cool and Cool-to-Heat
- Fan Selector for Automatic or Continuous Fan Operation
- 2 Occupied (Day-Cool & Day-Heat) and 2 Unoccupied (Night-Cool & Night-Heat) Setpoints
- Commercial Lockout Mode with adjustable 0 to 24 Hour Override in 10min Increments
- Resume Button for Cancelling Commercial Override
- +/- 3°F (1°C) or +/-5°F (2°C) Restricted Temperature Adjustment in Commercial Lockout Mode
- Selectable Fahrenheit or Celsius Display
- Lockable Access Cover
- HVAC equipment control using dry contact relays
- LED1 (Green - Filter) and LED2 (Yellow – Fault) with or without LCD icon indications
- LED3 (Red - Emergency Heat; HP Operation Only)
- Optional Occupancy Sensors Available (Ceiling and Wall Mount)
- Two Digital Inputs (LED1 and LED2) (think Condensate & Fault)
- Occupancy Sensor Input (can also be used as a Occupied/Unoccupied trigger)
- Advanced Remote Sensor Bus Sensors (NT-TEMP) allow up to 6 Indoor, plus Outdoor, Aux1, Aux2, Aux3 (think supply air, return air... all on a 3-wire bus)
- StrongMesh™ Self-Healing Wireless Mesh Network Communications with the WCM-2 Wireless Coordinator
- Random Restart on power up randomly staggers restart of HVAC system after a power outage to minimize peak in-rush current for a facility

866-563-0711
P/N 240211-00

SPECIFICATIONS:

Rated Voltage:	20V to 30VAC, 24VAC nominal
Rated A.C. / D.C. Current:	0.05 to 0.75 AC / 0.0 to 0.75 DC Amp continuous, per output, surges to 3 Amps max.
Control Range:	**Heating:** 38 to 88°F (6 to 30°C) in 1° steps **Cooling:** 60 to 108°F (16 to 40°C) in 1° steps
Thermostat Sensing Range:	20 to 124°F (0 to 48°C) **Control Accuracy:** +/-1°F @ 68°F (0.5°C @ 20°C)
Minimum Deadband:	(between Heat and Cool) 2°F (1°C)
Dimensions:	4.5"H x 4"W x 1"D (114mm x 102mm x 26mm)
Thermostat LEDs:	Red – Emergency Heat, Yellow – Fault, Green – Filter
Equipment Terminations:	R - 24V switching voltage, W1 - Heat1 or Aux/Emer Heat, G - Fan, Y1-Compressor1, Y2 - Compressor2, O/W2 - Heat2 or Rev. Valve in Cooling, B-Rev. Valve in Heating
Power Terminations:	24V - remote power by removing jumper, 24V(c) - power common (from HVAC equipment)
Input Terminations:	LED1 (Green LED / Filter Icon), LED2 (Yellow LED / Fault Icon)
Occupancy Terminations:	CLK1 (+), CLK2 (-)
Remote Sensor Terminations:	RS+V - Power, RS2 - Return, RS1 - Data

WIRING DIAGRAMS:



NOTE 1: The Yellow R/24V Jumper on the thermostat circuit board MUST NOT be removed when it is used with the WBM-1backplate.

NOTE 2: In retrofit applications, if no 24V-COMMON wire is available, use an NT-PWIRE kit to create the required 'common'.

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 wet
RS1 location sensor
RS+V Power for remote sensors
X2 No Connection
X1 XBUS Communications (internal connection to wireless module)

Y2 GE - Cooling #2
HP - Compressor 2nd stage operation
W1 GE - Heating #1
HP - Auxiliary Heat as 2nd stage heat or Emergency Heat
Y1 GE - Cooling #1
HP - Compressor 1st stage operationHeat
G Fan
R Independent Switching Voltage from HVAC equip
24V 24Vac (NOT USED)
24V(c) 24Vac Common
O/W2 GE - Heat #2
HP - Cooling Mode Reversing Valve
B HP - Heating Mode Reversing Valve

THERMOSTAT DIP SWITCH SELECTIONS

(FACTORY DEFAULT) OFF		ON
GAS / ELECTRIC	1	HEAT PUMP
CLK - OCC SENSOR	2	CLK - MODE OFF
4 MINUTES (ON/OFF)	3	2 MINUTES (ON/OFF)
UNLOCKED	4	LOCKED
DIP1=OFF : ELECTRIC DIP1=ON : HP NORM	5	DIP1=OFF : GAS HEAT DIP1=ON : HP DUAL FUEL
1-STAGE CONTROL	6	2-STAGE CONTROL
+/- 3F OVERRIDE RANGE	7	+/- 5F OVERRIDE RANGE
REMOTE SENSORS ONLY	8	TSTAT & REMOTE SENSORS

network thermostat NT™