**NET/X™ WIRELESS BACKPLATES**

for use with Net/X™ Network Thermostats

**WBM-1a** for GE11-NX and HP21-NX Thermostats
**WBM-1** for ALL Net/X Thermostats (shipping Jan 2009)

**GENERAL DESCRIPTION**

The WBM-1a and WBM-1 wireless communicating backplates are designed to replace the passive backplates of Net/X™ thermostats. Based on state-of-the-art wireless mesh network technology, the backplates work seamlessly with the WCM-1, Wireless Coordinator Module. The integrated RF transceiver offers unmatched performance in a 2.4GHz IEEE 802.15.4 module. With a tested outdoor line-of-site range of 1,000 feet from thermostat to thermostat, the WBM-1 series supplies the power and reliability needed for practically any building. In addition, each thermostat’s RF transceiver acts as a repeater, allowing networks of virtually any size and range.

Works for both new construction and hard to reach retrofit applications.

**Standard Features**

- Interchangeable with passive Net/X thermostat backplates
- Standard HVAC thermostat connections match all Net/X thermostats
- Standard Net/X remote sensor connections
- Single Push Button for Link Coordination with WCM-1
- Link LED with link quality indicator
- Powered from HVAC equipment with standard HVAC cabling
- Integrated F antenna
- IEEE 802.15.4 mesh network compliant
- 2.4GHz spread spectrum technology
- FCC Certified on all 16 channels
- FCC Part 15.247 Class B agency approval
- Industry Canada (IC) approval

Note: Specifications subject to change without notice.
SPECIFICATIONS

Rated Voltage: 20 to 30Vac, DC 24 nominal
Rated Power: 18dBm
L.O.S Range: 1,000 feet
Indoor Range: up to 200 feet
Frequency Range: 2.4GHz, spread spectrum
Antenna Type: Integrated F
Certifications: FCC and IC

Dimensions: 4.5" H x 4" W x 1" D (including thermostat)
Equipment Terminations: R-switching volt., W1- Heat 1/Aux Heat/E Heat,
Y1-compressor stage 1, G-fan, O/B-reversing valve cool/heat,
LED1-light, LED2-light, Y2-compressor stage 2
Power Terminations: 24V - power, 24V(c) - power common
Communication Terminations: X1, X2
Sensor Terminations: RS+V - sensor power, RS1 - comm(+), RS2 - comm(-)
Setback Terminations: CLK1, CLK2 dry contact closerer

WIRELESS BACKPLATE CONNECTIONS

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

FEATURE CONNECTIONS

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)

* Future Wireless Remote Sensor Feature

- 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 operation Heat
- G: Fan
- R: Independent Switching Voltage from HVAC equip
- 24V: 24Vac
- 24V(c): 24Vac Common
- O/W2: GE - Heat #2
- HP - Cooling Mode Reversing Valve
- B: HP - Heating Mode Reversing Valve