PHANTOM WIRE™

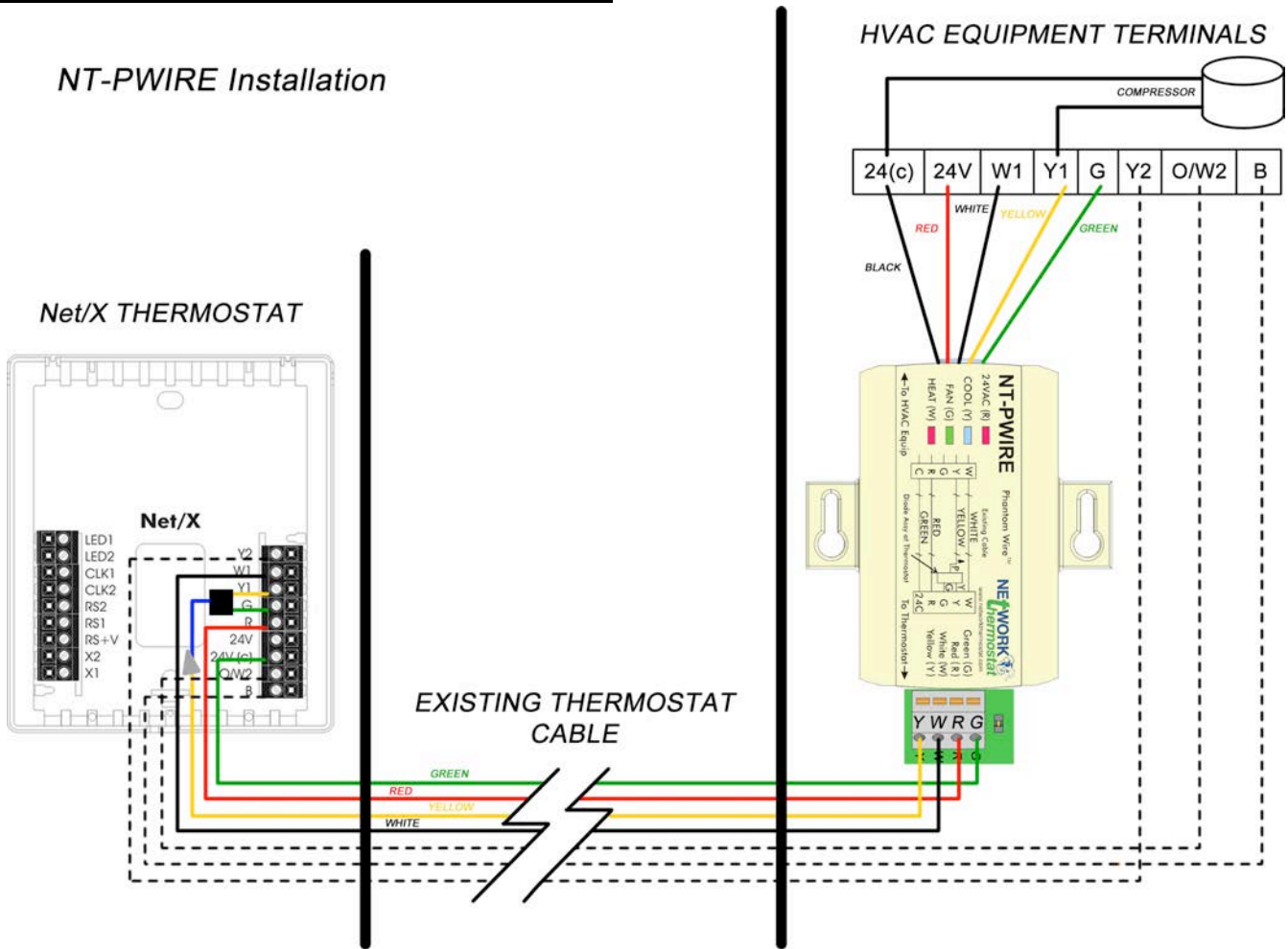**NET WORK thermostat** ™

NT-PWIRE   *Installation Instructions*

DESCRIPTION

The NT-PWIRE Phantom Wire™ device allows the installer to connect any Net/X™ thermostat when a 'common' wire is not available in the existing thermostat cable. This handy device 'creates' a phantom wire. In many existing installations, older thermostat cables don't have a common (24VAC common) wire because they were not needed for the mechanical thermostats originally installed. Years ago, it was typical for the cable to only have four (4) conductors. The NT-PWIRE creates the 'common' wire so the HVAC unit can be used along with any NetX thermostat or just about any other thermostat requiring a 24VAC common. Additionally, the NT-PWIRE includes screwless terminals, color-coded wiring for the HVAC unit connection, and LEDs on the unit to show power, heat, cool and fan calls are being created from the thermostat, practically eliminating troubleshooting.

DRAWING

INSTALLATION & WIRING

AT HVAC EQUIPMENT LOCATION
1) Turn off power for HVAC unit
2) Remove cover to HVAC control board
3) Remove existing thermostat cable, but leave 2-wire compressor leads in place (will be connected to Y and C)

AT THERMOSTAT LOCATION
4) Remove existing thermostat
5) Install Net/X™ thermostat base
6) **Install Diode Assembly to Y and G terminals**
   a. White to W terminal
   b. Yellow to Blue diode assembly with wire nut
   c. Red to R terminal
   d. Green to 24(c) terminal
7) Set the DIP switches on the back of the thermostat for proper operation with HVAC equipment.
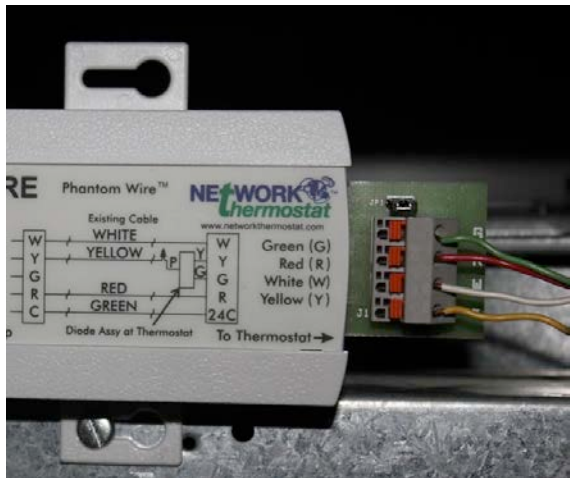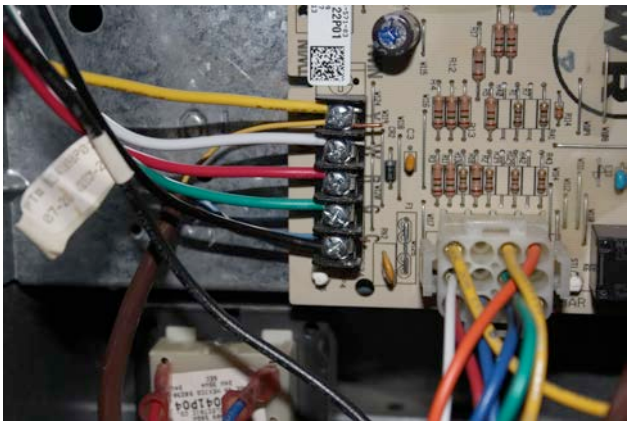8) Install thermostat on backplate

AT HVAC EQUIPMENT LOCATION
9) Mount NT-PWIRE device in a location inside the equipment board area. Make sure it is not in the way of any moving parts. Device must be mounted close enough to the thermostat wiring board for connection.

10) Install thermostat cable to the NT-PWIRE screwless terminals
   a. Green wire to G terminal
   b. Red wire to R terminal
   c. White wire to W terminal
   d. Yellow wire to Y terminal

11) Install NT-PWIRE cable to corresponding
   terminals on HVAC thermostat wiring board
   a. Green wire to G terminal
   b. Red wire to R terminal
   c. White wire to W terminal
   d. Yellow wire to Y terminal
   e. Black wire to C terminal

12) If the HVAC system is a Heat Pump, install the Reversing Valve (O or B) and any other necessary connections per HVAC system requirements.

13) If the HVAC system is a 2-stage unit, install any other necessary connections per HVAC system requirements.

FINAL CHECKOUT

14) Turn on HVAC equipment power.
   Red (24VAC - R) LED will be on.
   If not, check your connections.

15) FAN TEST - At thermostat, manually turn on Fan. Check LEDs on NT-PWIRE.

GAS / ELECTRIC HVAC SYSTEM	HEAT PUMP HVAC SYSTEM
Red (24VAC - R) LED will be on.	Red (24VAC - R) LED will be on.
Green (FAN - G) LED will be on.	Green (FAN - G) LED will be on.

If not, check your connections.
(Remember to turn the Fan back to 'Auto' when test is completed).

16) COOL TEST - At thermostat, turn on Cooling. Check LEDs on NT-PWIRE.

GAS / ELECTRIC HVAC SYSTEM	HEAT PUMP HVAC SYSTEM
Red (24VAC - R) LED will be on.	Red (24VAC - R) LED will be on.
Blue (COOL - Y) LED will be on.	Blue (COOL - Y) LED will be on.
Green (FAN - G) LED will be on.	Green (FAN - G) LED will be on.

If not, check your connections.

17) HEAT TEST - At thermostat, turn on Heating. Check LEDs on NT-PWIRE.

GAS / ELECTRIC HVAC SYSTEM	HEAT PUMP HVAC SYSTEM
Red (24VAC - R) LED will be on.	Red (24VAC - R) LED will be on.
Green (FAN - G) LED may or may not be on, depending on gas or electric heat.	Blue (COOL - Y) LED will be on. (THIS IS COMPRESSOR-HEAT)
Red (HEAT - W) LED will be on.	Green (FAN - G) LED will be on.

    If not, check your connections.

18) AUX HEAT TEST (HEAT PUMP ONLY) –
    At thermostat, turn on Heating. Then Turn on Aux Heat. Check LEDs on NT-PWIRE.

GAS / ELECTRIC HVAC SYSTEM	HEAT PUMP HVAC SYSTEM
N/A	Red (24VAC - R) LED will be on.
N/A	Blue (COOL - Y) LED will be on. (THIS IS COMPRESSOR-HEAT)
N/A	Green (FAN - G) LED will be on.
N/A	Red (HEAT - W) LED will be on.

    If not, check your connections.

SPECIFICATIONS

DEVICE ASSEMBLY at HVAC EQUIPMENT

Rated Voltage: 20V to 30VAC, 24VAC nominal
Rated Output Current: 5A / 250VAC,   5A / 28VDC
Thermostat Terminations: All Screwless, G – Green, R – Red, W – White, Y – Yellow
Equipment Wires: 9" with Stripped & Tinned Ends
    R – Red (24VAC+), C – Black (24VAC Common)
    W – White (Heat), Y – Yellow (Cool), G – Green (Fan)
Jumpers: JP1 – Remove Jumper to Disable LEDs

DIODE ASSEMBLY at THERMOSTAT

Diode Assembly Terminations:
    Y – Yellow (Cool), G – Green (Fan), B – Blue (Connect to Thermostat YELLOW wire)
Thermostat Terminations:
    R – Red (24VAC+), C – 24VAC Common (Green), W – Heat (White),
    Y - Connect to Diode Assembly BLUE wire