IntelliPEAK DirectLink WiFi

IntelliPEAK DirectLink Applications Guide

IntelliPEAK DirectLink can be installed to control the following loads.

Description	
HVAC	Yes
Water Heater	Yes
Pool Pump	Yes
Refrigeration	Yes

It requires connection to line power and must be installed by a trained and experienced technician. **Do not under any circumstances open the door and touch any components inside, as line voltage (120 – 240 VAC) is present. You could damage this product or cause a hazardous condition if you fail to follow these instructions.**

Need Help? For assistance with this product, please visit http://www.comverge.com or call?

HVAC

For HVAC, IntelliPEAK DirectLink is typically installed outside, near your compressor. It is wired to the same power source as the compressor and relays inside IntelliPEAK will intelligently reduce the compressor run time during a control event to reduce the demand on the electrical grid during event periods.   Relay(s) inside the device will interrupt the control signal from the thermostat to the compressor and will only disable the compressor periodically during a control event. The indoor fan will continue to run during this time. The indoor temperature is expected to rise a few degrees during the event, depending on the amount of insulation in the premise.
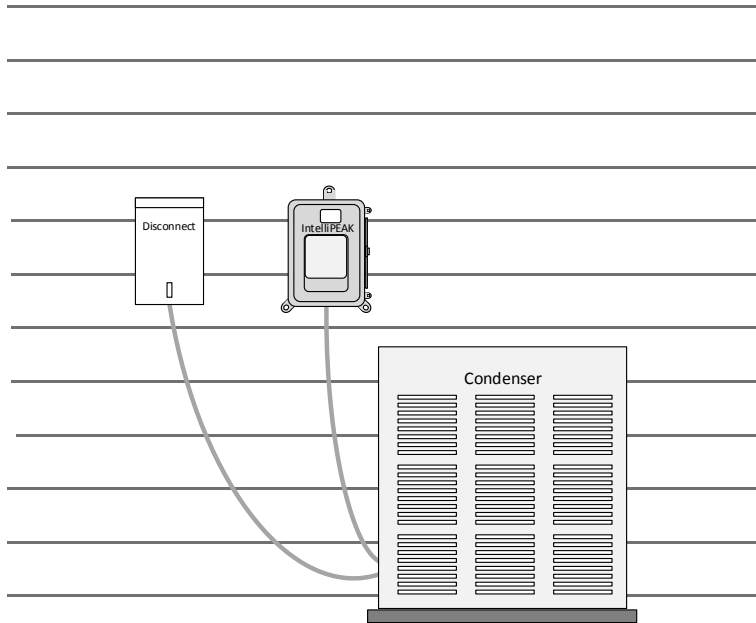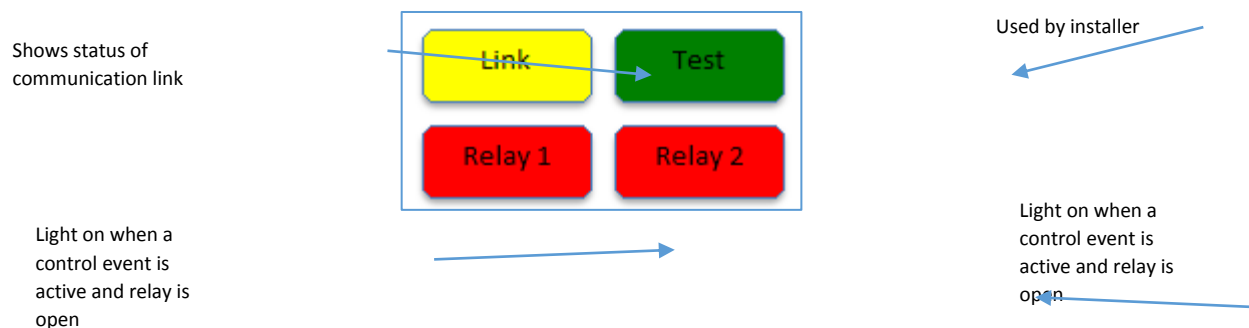
Water Heater/Pool Pump/Refrigeration

For controlling electric water heaters, pool pumps, or refrigeration, IntelliPEAK DirectLink is typically installed near the appliance or power source and interrupts the power to the appliance for control. During control event periods, IntelliPEAK will open the power connection to the appliance to reduce the demand on the electrical grid. It is expected that the load will be disabled for the entire duration of the control period.

LED and What Do They Indicate

IntelliPEAK contains up to four[1] LED (Light Emitting Diodes) underneath a clear window in front of the unit. These LEDs show the operation of the IntelliPEAK device as shown below:

Shows status of communication link

Link   Test

Used by installer

Relay 1   Relay 2

Light on when a control event is active and relay is open

Light on when a control event is active and relay is open

LED Indicators

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[1] IntelliPEAK DirectLink used in water heater/pool pump/refrigeration contain only one (1) relay and has three (3) LEDs – Relay2 LED is not present.

Link LED

The Link LED is used to indicate the status of the communication link. When it stays on solid, it indicates good end-to-end communication with the controlling software system. If any link along the communication chain is lost, the LED will blink at different patterns as shown below:

Link LED	Status
Off	Client mode - no network connection
0.5 second blink	Ad-hoc mode – IntelliPEAK is creating its own Wi-Fi network to allow entry of credentials
1 second on, 3 second off blink	Client mode - Wi-Fi network connected, waiting for internet connection
3 seconds on, 1 second off blink	Client mode – Wi-Fi/internet network connected, but not connected to controlling software
Solid On	Client mode - Cellular/internet/software connection OK

Test LED

The Test LED is used by the installer during installation. When the device is first powered up, the Test LED will flash either one or two times to indicate a cold or warm start respectively. The Test LED can also be manually toggled by the installer to test end-to-end communication with the software using his test tool. In normal operation, this LED should be off.

Relay LED

The relay LED(s) is used to indicate whether the appliance is prohibited from running during a control event. It is turned on whenever the appliance (HVAC, water heater, pump or refrigeration) is being controlled and is prohibited from running. When used with HVAC[2], the compressor is controlled and released periodically. This allows some amount of cooling/dehumidification as well as air circulation during the control period to minimize customer discomfort. This LED will turn on during the times when the HVAC is turned off.

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[2] HVAC may have multiple compressor stages. In these installations, each relay is used to control each stage of the compressor and both relays will open at the same time to prohibit both stages of the compressor from running during a control event.

Cold Load Pickup

IntelliPEAK DirectLink is designed to prohibit the connected load from coming back on immediately after a power outage. This ensures that the electrical grid has time to recover from the transient condition that caused the outage. When the Cold Load Pickup is activated, the Relay LEDs will turn on and the relays are open to prohibit the load from running. This is normal. After the Cold Load Pickup timer expires, the connected appliance is allowed to resume its normal operation.

The default Cold Load Pickup time delay is:

- HVAC – 90 seconds
- Water heater/pool pump/refrigeration – 0 seconds
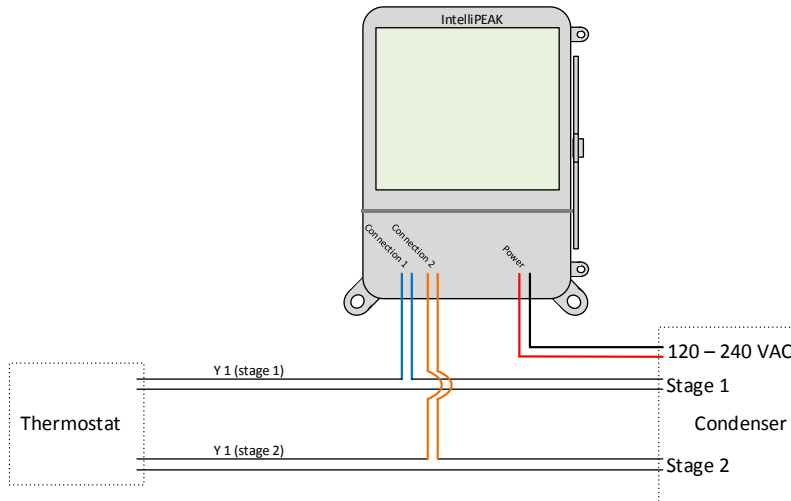
Hardware Error Reporting

If the IntelliPEAK hardware senses an error that prevents normal operation of the switch, then all LED's will flash as an indicator of this condition. If this happens repeatedly, then the switch should be replaced.

IntelliPEAK Wiring

- 2 Single Stage Condenser Units and a Single IntelliPEAK
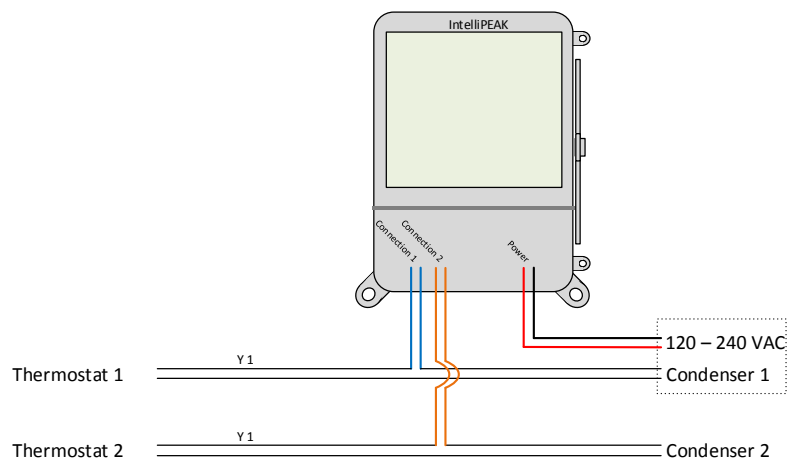
- 1 Two Stage Condenser Unit and a Single IntelliPEAK

IntelliPEAK

Connection 1
Connection 2
Power

120 – 240 VAC

Y 1 (stage 1)
Stage 1

Thermostat
Condenser

Y 1 (stage 2)
Stage 2

IntelliPEAK WIFI Setup

IntelliPEAK is paired with the premise Wi-Fi network during the initial install. IntelliPEAK stores all security credentials in permanent memory and will use these credentials to reconnect to the Wi-Fi network after power outages. However, if any of the Wi-Fi network credential is changed (i.e., router, SSID or security password changes), IntelliPEAK will fail to connect to the Wi-Fi network using the old credentials. If this occurs, IntelliPEAK will continually attempt to rejoin but will also periodically revert to the "Ad-Hoc" mode where it broadcasts its own Wi-Fi network to allow external devices (PC/MAC/tablet/smartphone) to enter the new credentials. The duration that IntelliPEAK is in "Ad-Hoc" mode increases, the longer it cannot connect to the old Wi-Fi network. Initially, IntelliPEAK will stay in "Ad-Hoc" mode for a few minutes but will extend to a maximum of a full hour. The Link LED (see LED section) indicates the status of the communication link and indicates when IntelliPEAK is in "Ad-Hoc" mode.

Please follow the steps below to reset the credentials stored in IntelliPEAK:

1. Note the serial number of IntelliPEAK. There should be a serial label on the side of the product. Note the last four digits of the serial number.

2. If the device is accessible and convenient, check to see if the device is in "Ad-Hoc" mode. This is indicated by a blinking Link LED (see Link LED table above).

3. Use a Wi-Fi ®-enabled smartphone, tablet, or computer to connect to the thermostat. Open the Wi-Fi ® settings menu on your device and select the IntelliPEAK network displayed. The network will be Wifi-SwitchXXXX. The XXXX will be the last four digits of the IntelliPEAK serial number. You may receive a notification that you are connected to a non-secure network. Select OK or CONTINUE.

4. Open the web browser on your device. If your browser is set to automatically open a Web page, the IntelliPEAK configuration page should automatically appear.

5. If the settings page does not appear after a few seconds, type "DirectLink/settings" in the address bar, then press ENTER.
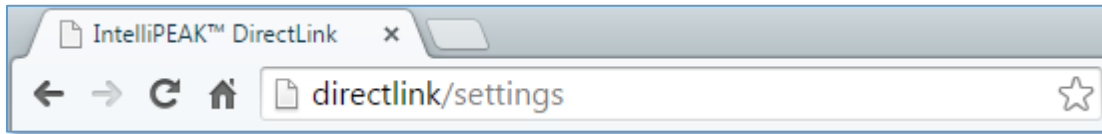
6. Use the pull-down on the settings page to select your user network name
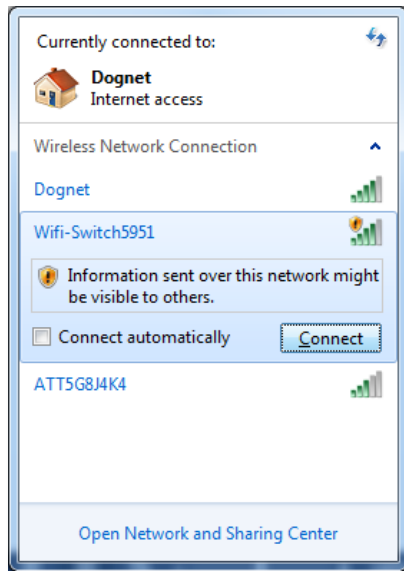
7. If your wireless Internet router is set to hide the network name or your network is not listed in the pull-down, click on the link "Click Here If your WIFI network is not listed" to display the manual settings page.

IntelliPEAK™ DirectLink

IPDL-110 S/N 4595951

Select WiFi Network Name
Dognet   ·
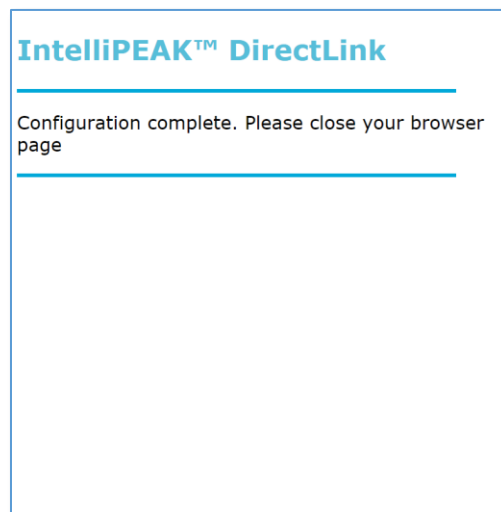Click Here if your WiFi network is not listed

Security Key:
··········

Save

SN: 4595951
MAC: 00:25:A7:46:20:EF

8. Manually enter the WiFi Network Name (SSID), select the security type from the drop
    down menu, and enter the security key.

9. Enter the network password for your network in the Security Key field:

10. Once all fields are filled in correctly, click on the Save button.

IntelliPEAK™ DirectLink

Name: **Dognet**

Security Type: **WEP**

Security Key: **1234567890**

Please verify the settings then click on Apply to connect to Dognet

Apply Cancel

SN: 4595951
MAC: 00:25:A7:46:20:EF

11. The settings page will now show an overview of the settings you entered. If all settings are correct, click on Apply. If you need to correct any settings, click on Cancel.

12. After clicking Apply, a Configuration Complete message will be displayed. Close your browser to complete the network configuration.

IntelliPEAK™ DirectLink

Configuration complete. Please close your browser page

13. Steady state yellow LED will signify the successful completion of the WIFI setup and network connection.

14. Restore your Wi-Fi-enabled smartphone, tablet, or computer to connect to the normal network.

Specifications

Power Input	120VAC – 240VAC auto-ranging
Power Consumption	Less than 12 VA
Operating Condition	-35° to +85° C, 0% - 95% humidity (non-condensing)
Regulatory	FCC part 15; UL 916
Relay Rating/Cycles	2 Function (2F): 24VAC, 2 Amp 1 Function (1F): 240VAC, 30 Amp Resistive Electrical Endurance: 250,000 cycles at rated worst-case loads Mechanical Endurance: 10 million cycles at rated loads
Packaging	Injection molded, high-impact poly-carbonate, weather resistant for outdoor installation

Note: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment