CPS100 Operation Manual

Purpose of Document: Show the characteristics of a CPS100 Intelligent Power Strip and demonstrate how to configure it with TCP Spy.

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1.0 Device Characteristics

1.1 LCD Panel

The LCD panel on the CPS100 cycles through displaying the following:

- IP address and port
- Outlet status with letters A-F to match the outlets (upper case is active, lower case is inactive)
- Serial number (not implemented)

1.2 Ethernet Connectivity

The LCD panel displays ethernet connectivity status in the upper right-hand corner, abbreviated as 'E'.

If the 'e' is lower case, the power strip does not have ethernet connectivity. If the 'E' is upper case with a

number next to it, an ethernet cable is connected.

The number next to the 'E' indicates the amount of clients connected to the power strip, up to a maximum of 3 clients. (Example: The CPS100 is connected to two sign computers. That leaves 1 opening for a computer to configure the CPS100. Additional computers will be unable to connect until one of the other computers is disconnected.)

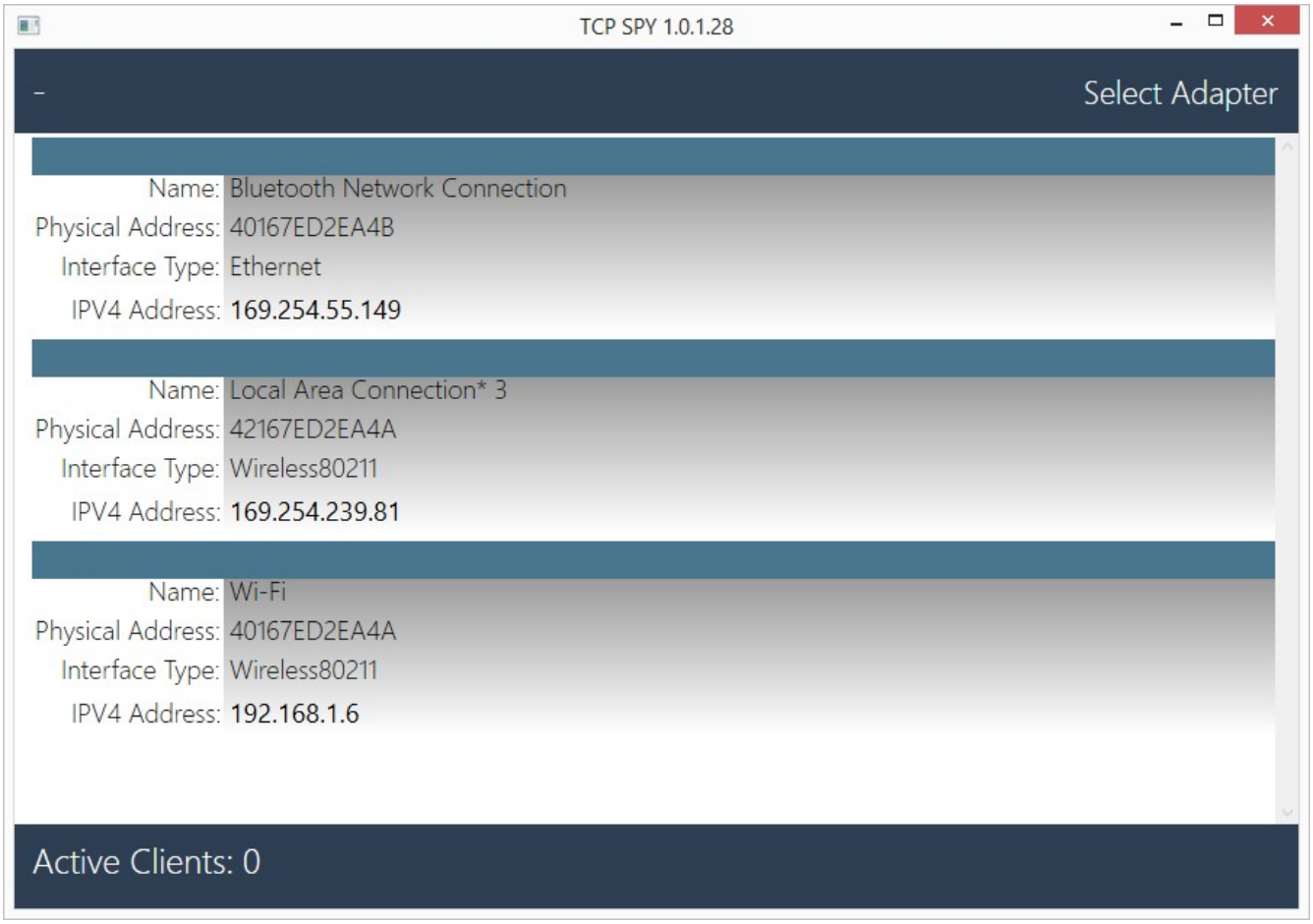
1.3 Outlets

The CPS100 features 6 configurable outlets and 2 non-configurable outlets for the heater and fan. **Important:** Plugs labeled as HEATER and FAN are non-configurable and should be used exclusively for the labeled purpose.

Outlets A & B are used for the single-board computers that you wish to use with SBC Watchdog (*see below, **2.3.1 SBC Watchdog***).

2.0 Configuration through TCP Spy

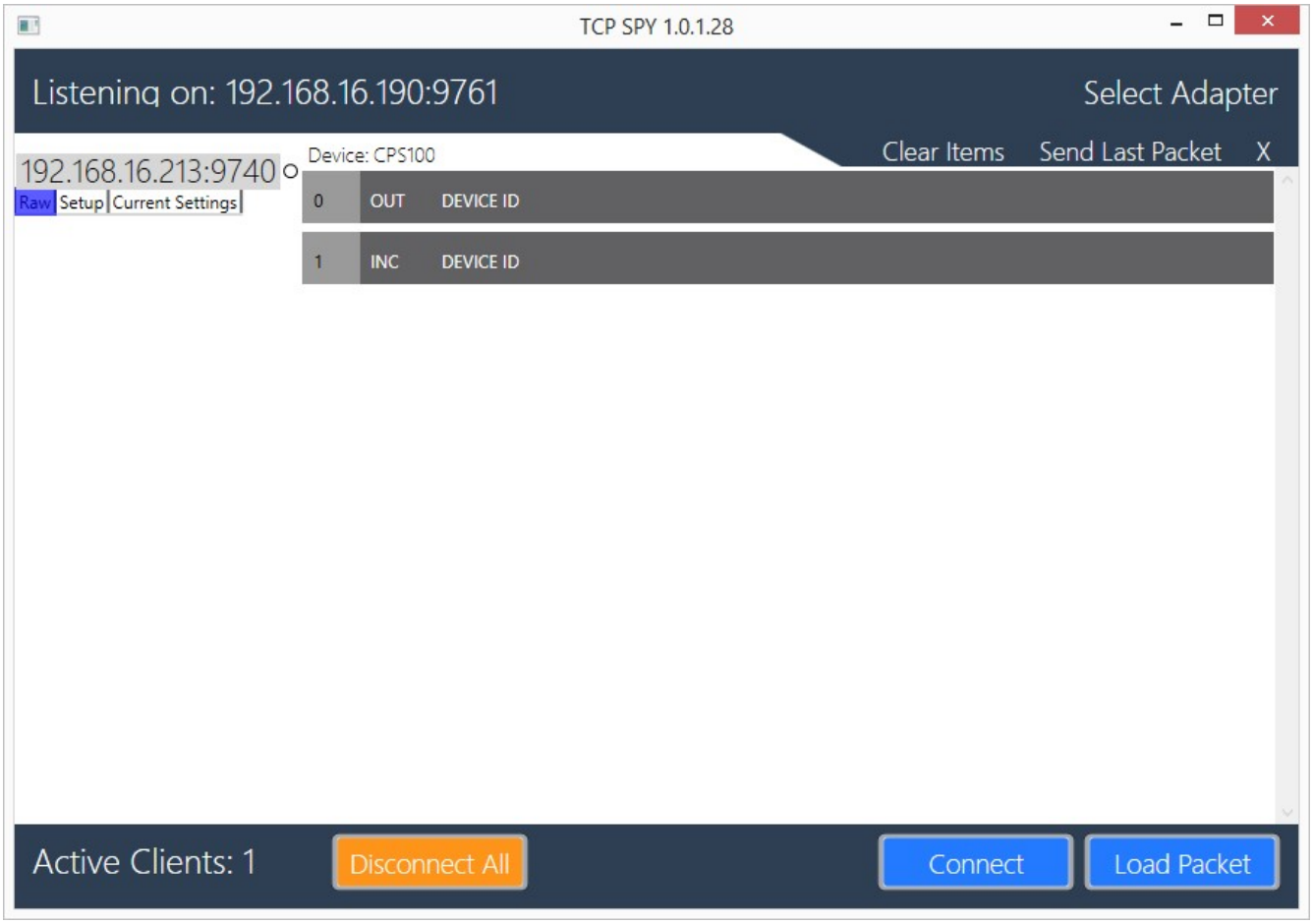
Open TCP Spy. Select the type of adapter your device is attached to from the list of your computers network adapters on the main page of TCP Spy. You may return to this page by clicking **Select Adapter** in the upper right-hand corner of the screen.



Enter the appropriate IP Address and Port Number and click **Connect**.

Note: Clicking the 'X' in the upper right-hand corner of TCP Spy disconnects the program from the power strip and removes it from the part of the interface where connections to different devices are listed. All saved settings will remain saved on the CPS100 intelligent power strip after disconnection from TCP Spy.

2.1 Raw



This section shows raw data being sent back and forth. It is used primarily as a CPS100 development tool, and may be safely ignored.

Two of the items in the upper right-hand corner of the program pertain exclusively to this Raw section of TCP Spy:

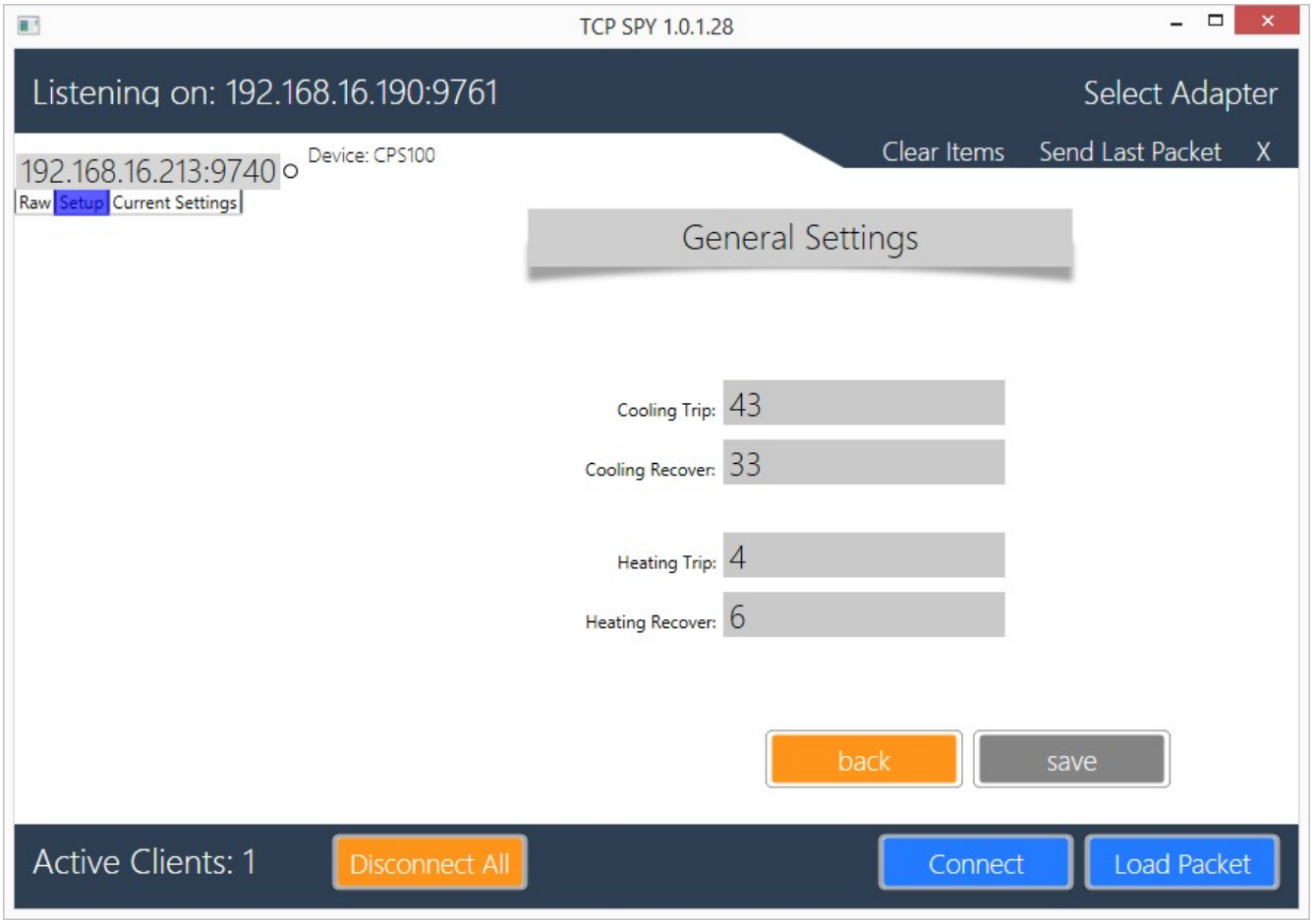
- Clear Items
- Send Last Packet

Please ignore both.

2.2 Setup

2.2.1 General Settings

Note: All temperature measurements are in Celsius.

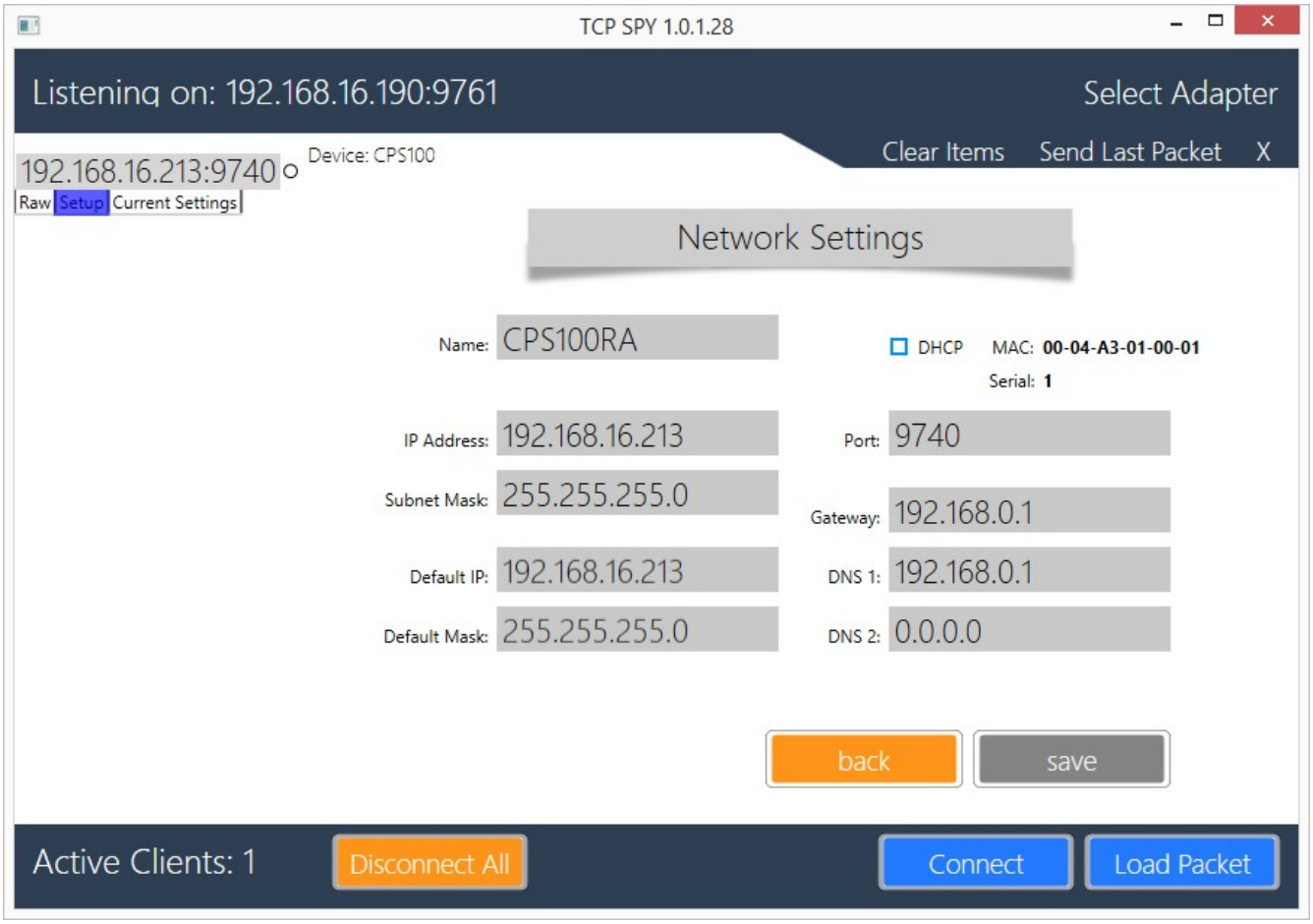


Cooling Trip: Sets the point at which cooling fans activate
Cooling Recover: Sets the point at which they shut off again

Heating Trip: Sets the point at which heater activates
Heating Recover: Sets the point at which heater shuts off again.

(**Note:** These settings affect power strip temperature controls, not sign temperature controls.)

2.2.2 Network Settings

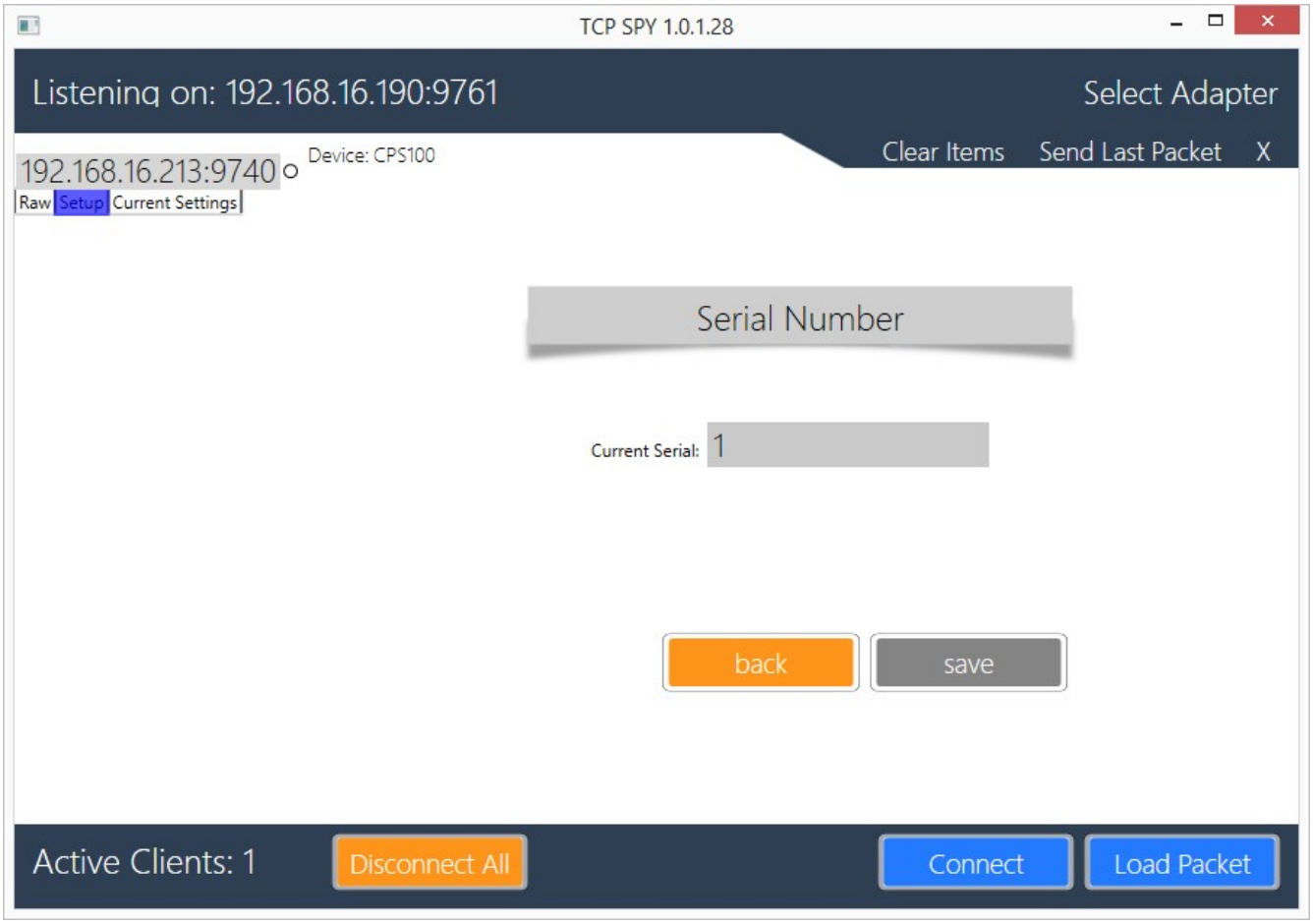


Enter network settings for CPS100 here.

Default IP Address: 192.168.0.40
Default Port Number: 9740

These default numbers are standard for most setups and will almost always be used.

2.2.3 Serial



A sign's Serial Number is set during manufacturing. **Do not change.**

2.3 Current Settings

Important: Outlets labeled HEATER and FAN cannot be renamed. Use these outlets exclusively for their given purpose.

The temperature of the CPS is displayed at the top of the screen in both Celsius and Fahrenheit.

2.3.1 SBC Watchdog

The SBC Watchdog monitors the computer(s) connected to the CPS100, and will attempt to power cycle them if they do not respond within 10 minutes.

SBC Watchdog alerts you to the status of the sign's computers using the following colors:

- **Red:** The SBC has not sent a heartbeat to the power strip within the configurable timeout period. The power strip will attempt to power cycle the SBC.
- **Yellow:** The power strip has never talked to an SBC and will not power cycle the SBC. If you mouse over the yellow light, the timer will show as 0.
- **Green:** The power strip is connected to an SBC and functioning normally. If you mouse over the green lights, a timer will appear showing how long the power strip will wait to receive a heartbeat from the SBC before power cycling it.

To temporarily suspend power cycling, click the switch under SBC (Single-Board Computer) Watchdog. This prevents the power strip from cycling a sign under maintenance or during a planned outage. The screenshot below shows the SBC Watchdog in both the on and off positions.

Important: If turned off, SBC Watchdog must be reactivated manually.

2.3.2 Right-Click Context Menu Options

To access further options, right click on an outlet. You will be presented with these options:

Cycle Outlet Power: Shuts down an outlet and, after a few seconds, turns it back on (i.e. reboots it).

Edit Attached Device List: Devices can be associated with an outlet. Choose the device you wish to associate from the dropdown list. (Note: if the SBC does not find an internet connection, it will power cycle internet-related devices. Make sure to associate outlets correctly, so that the computer cycles the appropriate outlets when internet connectivity issues arise.)

Turn On/Off: Turn an outlet off. Outlet will remain off until enabled again with this setting.