



# Universal Smart PDU

# USER'S GUIDE

## Features

Congratulations on selecting this smart Power Distribution Unit (PDU)! Switch features include:



### ***Simple Web Interface***

The internal web server is accessible from any browser. Simply enter an IP. Configuration and control are web-based.

### ***AutoPing™ Reboot***

AutoPing continuously monitors an IP address. If a server, router, or other peripheral goes down, AutoPing can automatically reboot it without user intervention. The switch can monitor several devices and multiple IPs simultaneously.

### ***8 Switched Outlets, IEC Standard Jacks.***

Eight individually switched control circuits are provided. Outlets are C13/C14 style for universal voltage. The inlet is C19/20 style.

### ***Programmable LCD Display & Keypad***

A 2x16 LCD displays status for each outlet. A keypad adds local control. Outlet states may be locked. The admin can also disable the keypad. Custom messages can be displayed via user scripts.

### ***Multi-User Password Security***

Multi-user authentication limits access to the switch. The administrator selects which outlets each user can control.

### ***Sequenced “On Timer”***

A programmable delay timer allows outlets to be switched on in sequence, rather than simultaneously. Most devices draw a surge of power when initially switched on. Using this timer, more equipment can share a single circuit without overloads. Programmable scripts can be used to create customized power-up and shut-down sequences with variable timing.

### ***MOV Surge Suppression***

A 3600W metal oxide varistor clamps power surges and spikes, protecting attached devices.

### ***Scripting Language and API***

Lua scripting can be used to create custom control and reboot sequences, schedule periodic reboots, etc. Internal and external event logs are provided. A full RESTful API is now available.

### ***New Features***

Supported protocols now include: Email, MQTT, IFTTT, Alexa, SNMP, Jabber, HTTPS, SSH, NTP, MODBUS IP, UPNP, AutoPing and Lua Scripting. The hardware features longer clock battery life and WiFi support.

### ***Field Upgradeable Firmware***

Firmware is field upgradeable via Ethernet.

## Package Contents

- Smart Switch with IEC outlets
- Detachable / reversable rack / wall mounting brackets|  
Simply rotate the bracket to your preferred orientation.
- RP-SMA WiFi Antenna
- Users guide

*Note:* Cord styles vary depending on application. Cords are sold separately.

## Options

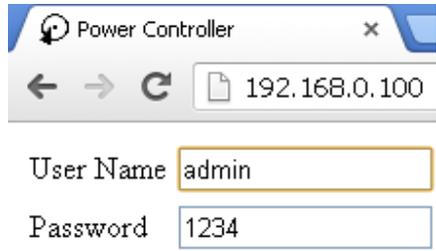
- Custom length cords & plugs: [digital-loggers.com/cords.html](http://digital-loggers.com/cords.html)
- AC powered control relay with dry contact outputs

## Inspection / Self Test

Please contact the freight carrier immediately if your package appears opened or damaged in transit. Call DLI at (408) 330-5599 for tech support, service, and hardware upgrades. The product performs a brief self-test when first powered up. Errors found are flagged on the LCD.

# Important Factory Defaults

**IP:** 192.168.0.100  
**User name:** admin  
(lower case)  
**Password:** 1234



To reset to factory defaults, gently press the reset-to-defaults button on the rear panel to enter the reset menu, then select a reset option.

## Quick Setup

Use these shortcuts if you are an experienced installer. We recommend reading the entire manual for first-time installation.

- Unpack. Save the carton. Attach the line cord. Power up.
- Attach an Ethernet cable from the controller to your LAN. Switch power on. If you are attached through a switch, you may need to power-cycle your switch to initially establish a connection.
- Ping the default address 192.168.0.100 to confirm that a network connection is established. No response? Proceed to the **IP Setup** instructions below.
- Log in to the switch using the default user name **admin** and the password **1234**. Note: "*admin*" must be entered in lower case.
- Click the **Settings** link to reach the configuration page. **Select the safest power-loss configuration** for your installation: (all OFF, all sequential ON, or pre-powerloss sequential ON). Note that pre-powerloss means the last previously configured state, and it does not take cycling into account. "Power loss" is defined as loss of AC power for more than 0.1 second.
- Configure the switch as described below. After each change, click Submit and wait for the page to refresh before continuing.

**Tip:** A three-bulb electrical safety-tester is handy for checking configuration before attaching loads.

## Setup via LAN

If your network settings won't reach the default IP, then use a direct cable connection (temporarily bypassing any switch or router) and follow steps below to add a compatible static IP, such as 192.168.0.50. Before adding an IP, close all programs and browsers. After the link is established, you can enable DHCP.

If you prefer, you can also adjust network settings using the keypad and LCD. See **Setup and Control via Keypad** on page 7.

## Windows Step 1

In Windows, the first step is locating the network adapter TCP/IP properties. The procedure differs for each Windows version:

**Windows XP, 2000, 2003:** Open **Start / Control Panel / Network Connections**. In "classic view", select **Start / Settings / Control Panel / Network Connections**. Right-click on **Local Area Network Connection** and select **Properties**. Proceed to step 2.

**Windows Vista:** Open **Start**, right click on **Network**, then on **Properties**. Double click **Network and Sharing Center**, click **Manage Network Connections**. A Network Connections window appears. Right click on the network connection to the switch, ie. **Local Area Network**. Proceed to step 2.

**Windows 7:** Open the **Start orb**, click on **Control Panel**. Click **View Network Status and Tasks**, then **Change Adapter Settings**. Proceed to step 2.

**Windows 8-10:** Right-click on the Windows Start button. Select **Network Connections**. Select **Change Adapter Settings or Adapter Options**. Right click on your connected network and select **Properties**. Proceed below.

## Windows Step 2

The second step is adding an IP such as 192.168.0.50 to your host machine. You may want to temporarily disable DHCP while configuring the host and switch using static IPs.

Select **Internet Protocol TCP/IP V4 Properties** and click **Properties**.

Enter a compatible static IP such as: 192.168.0.50

Obtain an IP address automatically  
 Use the following IP address:

IP address:   
 Subnet mask:

Click **Apply** and close windows. Ping the switch to confirm the connection. Point your browser to 192.168.0.100 and log in. Detailed instructions are at [digital-loggers.com/ip\\_setup](http://digital-loggers.com/ip_setup)

## Mac OS X

Turn **AirPort** off temporarily. Click the Apple logo, then **System Preferences**, then **Network**. Select **Built-In Ethernet** and then **Configure**. Under the **TCP/IP** tab, select **Manually** and enter an IP address such as 192.168.0.0 as shown:

Make changes shown. Point a browser to 192.168.0.100 Log in. Find Mac setup details at [digital-loggers.com/mac\\_ip\\_setup](http://digital-loggers.com/mac_ip_setup)

## Network Configuration

AirPort **TCP/IP** DNS WINS 802.1X Pr  
 Configure IPv4: **Manually**  
 IPv4 Address:   
 Subnet Mask:

HTTPS is disabled by default. WiFi is enabled with a random key. Start by establishing a hard-wired network connection to 192.168.0.100, or use the LCD and keypad to display the default WiFi SSID and password. The **Settings** page controls network configuration:

|                         |                                     |
|-------------------------|-------------------------------------|
| HTTP Port               | <input type="text" value="80"/>     |
| Enable SSH Server       | <input type="checkbox"/>            |
| SSH Port                | <input type="text" value="22"/>     |
| Syslog Server           | <input type="text"/>                |
| Same subnet access only | <input checked="" type="checkbox"/> |

| LAN Configuration |  |
|-------------------|--|
| MAC Address       | <input type="text" value="7C:E1:FF:00:00:00"/> |
| Protocol          | <input type="text" value="Static IP"/>         |
| IP address        | <input type="text" value="192.168.0.100"/>     |
| Subnet mask       | <input type="text" value="255.255.255.0"/>     |
| Gateway           | <input type="text"/>                           |

The IP address of the controller needs to initially match the “class C” of your system. In other words, the first three bytes (192.168.0) must match the IP on your computer to access the switch. Using a ping utility is a good way to confirm a valid network configuration. An “unreachable” report from Ping indicates misconfigured network settings.

Once you have a connection, the switch may be operated via a web browser. To access the switch, enter the IP address in the URL field of your web browser. The default is `http://192.168.0.100` SSH is disabled by default.

After setup, the HTTP and SSH ports (if enabled) may be moved to improve security. For example, changing the HTTP port to 2015 requires a browser URL of `192.168.0.100:2015` to reach the power controller.

*Note:* Some browsers deny connections to ports under 1024 by default.

## Setup and Control via Keypad

In addition to setup via LAN, you may use the keypad and display to get started and to manually control the basic functions of the switch. This section describes basic keypad usage.



Press any key to activate the keypad. “Keypad Locked” will be displayed if keypad was locked by the admin on the setup page.

Outlet (port or relay) status shows on the first line. The outlet name or time/date of last modification shows on the second line. Three symbols are used for relay status + (ON), - (OFF), and \* (LOCKED). In this example, the relay 1 is locked ON, the even numbered relays are ON, and relays 3.5.7 are OFF. The flashing cursor indicates outlet 8 is selected:

Select an outlet by pressing ‘UP’ (next) or ‘DOWN’ (previous). Hold ‘UP’ or ‘DOWN’ to advance automatically. Select an outlet, then:

- Turn the selected outlet ON by pressing ‘1’.
- Turn the selected outlet OFF by pressing ‘0’.
- Cycle selected outlet OFF-then back-ON by pressing ‘CYCLE’. The OFF time for a power cycle (ie. 10s OFF before turning ON) is adjusted on the web UI setup page.

Press and hold ON or OFF for a few seconds to lock. For example, if an outlet is currently in the ON state, it can be locked ON by long-pressing '1'. A star appears, ie:



Press '0' and hold for a few seconds to unlock. Similarly, if the outlet is currently in the OFF state it can be locked by holding '0' and unlocked by holding '1'.

Although the web interface is more commonly used, the keypad can be helpful for initial setup and for minor changes. To enter network setup, press 'UP' and 'DOWN' keys simultaneously:



Network setup consists of several pages. Use the 'CYCLE' key to loop through them.

- 'UP' and 'DOWN' are used to select a field within the page
- Pressing '1' means "yes" or "add 1"
- Pressing '0' means "no" or "subtract 1"

Available keypad settings are:

- **IP address** (default 192.168.0.100)
- **Netmask** (default 255.255.255.0)
- **Gateway** (default 192.168.0.1)
- **Syslog server** (default 0.0.0.0 = disabled)

IP addresses are comprised of four octets per page. Select an octet with 'UP' (next) or 'DOWN' (previous). Press '1' to increment the octet, or '0' to decrement.

### HTTP Port

Press '1' to increment the port, or '0' - to decrement.

### Same Subnet Restriction

Press '1' to activate restriction, '0' - to deactivate. When activated, only devices in the same class-C can access the switch. Note: whitelists can

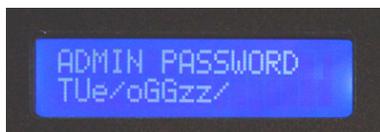
only be edited from the web UI.

### Web configuration protection

Network settings are locked on the web setup page when protection is enabled. Press '1' to activate protection, '0' - to deactivate. If you are installing the switch in a remote location, bear in mind: you will need physical access to the switch to unlock it.

### Password for admin user

Press '0' to leave the password unchanged. Press '1' to assign a new random case-sensitive password.



### Save/Discard

Use Save/Discard to exit setup. Press '0' to discard all changes, or '1' to save. You may want to review your selections using 'CYCLE' to correct errors before saving.

The physical keypad can be disabled by the admin from the Web interface here on the SETUP page:



## Reset-to-Defaults

The reset button is on the rear of the product between the outlets and Ethernet cable. Consider exporting a backup of your settings first.

We also recommend disconnecting loads before resetting. Power must be applied throughout the reset process. Note the reset button is recessed and located between the Ethernet jack and the input power cord. The larger red switch marked **RESET** is a circuit breaker. Gently press the reset button to enter the reset menu:



The LCD displays an overview of reset options on the second line. Use UP and DOWN buttons to select a reset option:

### Clear Lock Bits

Clears protection bits only. Other settings are preserved.

### Reset Network and Scripting

Clears protection bits, reset network settings and admin login, disable autoping and scripts. Other settings are preserved.

### Reset Network and Scripting + Enable WiFi

Clears protection bits, resets network settings and admin login, disables autoping and scripts, and enables open WiFi access. Other settings are preserved.

### Complete Wipe

Resets all settings to factory defaults and remove any user files. All settings will be lost!

### Complete Wipe + Enable WiFi

Resets all settings to factory defaults and removes any user files, then enables open WiFi access. *All settings are lost and WiFi is open!*

To trigger the reset, press and hold the RESET or CYCLE button.

NB: If all settings are reset (the two last 'wipe' modes), the Subnet Restriction will be enabled to prevent remote access using the default password. **ONLY MACHINES IN THE SAME SUBNET WILL BE ABLE TO CONNECT AFTER RESETTING TO DEFAULTS.** If connectivity is lost, try a local connection such as a laptop to restore network settings.

# Home (Outlet Control) Page

**DIGITAL LOGGERS, INC.** Ethernet Power Controller

Controller: WISP Outpost 2  
Thu Mar 31 11:36:19 2016

Individual Control

| # | Name                    | State | Action   |
|---|-------------------------|-------|--|
| 1 | DSL Router 1            | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |
| 2 | Cable Router            | OFF   | <a href="#">Switch ON</a>                        |
| 3 | Nanostation E           | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |
| 4 | Nanostation W           | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |
| 5 | Backhaul Link           | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |
| 6 | Beer Fridge             | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |
| 7 | Firewall                | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |
| 8 | Congressional O2 Supply | ON    | <a href="#">Switch OFF</a> <a href="#">Cycle</a> |

Master Control  
[All Outlets OFF](#)  
[All Outlets ON](#)  
[Cycle all Outlets](#)

Sequence delay: 3 sec.

Version 1.8.1 (Dec 15 2014 / 02:00:17)

To access the home page, first enter the controller’s IP address in the browser URL field, then log in. User **admin** has access to all features. Other users have limited access to outlets as assigned by the administrator

## Outlet Control

Clicking “Outlet Control” links to the home page used for manually switching outlets on and off. Access to specific outlets is determined by username. Admin controls all circuits.

## Setup

The setup page lets you set outlet names, create web links, adjust startup delays, and set a power loss recovery mode. You can also add user accounts and change login credentials on this page.

## Scripting

The Lua language lets you easily customize the switch. Scripts may be started manually, automatically on power-up, by external http commands, or by AutoPing events. Use the **HELP** link on the scripting page to locate sample Lua code.

## AutoPing

The AutoPing page lets you set parameters to automatically reboot attached equipment. First, specify an IP address to ping. Next, adjust the timing settings and use the checkboxes to link the IP to power circuits. For example, if a router is unreachable, you may set AutoPing to reboot both a router and a switch attached to two different circuits. Learn more on page 14 and at [digital-loggers.com/autoping2.html](http://digital-loggers.com/autoping2.html)

## System Log

The switch keeps an internal event log including logins, outlet switching, power interruptions, and AutoPing events. Recent events are stored in the log and accessible from the System Log page. SYSLOG export is supported. For more information: [digital-loggers.com/syslog.html](http://digital-loggers.com/syslog.html)

## Logout

Browser logout is automatic when a session is closed or after a time-out period. Use this link to log-out in advance.

## Programmable Web Links

User-defined web links are provided. Set names and destination URLs for these links on the **Settings** page. These are convenient for connecting to other power controllers, linking to pages hosted elsewhere, and for triggering scripts.

## Switching and Cycling Outlets

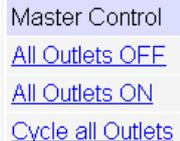
The outlet control page lets the admin control any outlet. A master control lets only permitted users switch all outlets on or off.

To switch an outlet, simply click to the right of the outlet name or number. On->Off switching is immediate Off->On switching speed is limited by the adjustable **On Sequence Delay** setting.

Use the keypad for local control: Select an outlet using the arrow keys, then press on, off, or cycle. Press ON or OFF for 5 seconds to lock or unlock an outlet. Locking prevents web access. To change the display mode, press the up and down arrows simultaneously. The keypad may be disabled by the admin on the **Setup** page.

You may want to cycle a device which is connected to the switch. This feature is useful for rebooting Ethernet devices which may interrupt the web link to the controller. Clicking **Cycle** switches power off, waits for the **Cycle time**, and then switches power back on while conforming to the **ON Sequence Delay**. This reboots the attached device.

You can also cycle all outlets using the Master Control on the bottom of the page. An adjustable ON sequence delay takes effect when outlets are turned on one after another, either when using the **All Outlets On** button, on power-up, or when switching manually using the front panel. This prevents power surges. A *separate* Cycle delay setting is provided on the setup page.



Master Control  
[All Outlets OFF](#)  
[All Outlets ON](#)  
[Cycle all Outlets](#)

Depending on your web browser settings, you may need to click the Refresh button or the F5 key to update the on-screen status display. Screen refresh rate is adjusted in two places: on the **Setup** page and in your browser settings.

## Setup Page

The **Setup** page allows the admin to configure:

### Controller and Outlet Names

Use the controller name field to assign a name to the switch. An example is **Rack 4 PDU**. The Controller Name will appear on top of all pages. Assign a separate name to each outlet, such as **DSL Router 1** or **Email Server** to aid identification. Check the **Confirm** box to the right of the outlet name if you would like a pop-up window to appear before switching critical outlets.

### Power-On Sequence Delay

When a time value is entered in the **All ON Sequence Delay** field, the switch will pause for a period of time before switching each outlet on in sequence. This delay helps prevent power surges and blown circuit breakers which can occur when multiple devices are switched on simultaneously. A delay of 60 seconds is suggested for server applications.

You may also enter a screen refresh delay in this section. If **Enable screen refresh** is checked, and a delay value is entered, your browser should periodically update the status screen.

### Wrong Password Lockout

After three failed login attempts, the switch can disable access for a selected period of time.

### Power Loss Recovery Modes

The power loss recovery mode setting is very important. Select the safest configuration:

|                                  |   |
|----------------------------------|---|
| When recovering after power loss | <input type="radio"/> Turn all Outlets off                      |
|                                  | <input type="radio"/> Turn all Outlets on (in delayed sequence) |
|                                  | <input checked="" type="radio"/> Return to pre-powerloss state  |

1. Turn all outlets off (all systems will be switched off until manually turned on later, possibly by a script).
2. You can automatically turn all outlets on using the sequence delay timer described above.
3. You can return to the same outlet settings that were used prior to the power loss. ie. 1 On, 2 Off, etc. The ON Sequence delay timer is used here as well.

*Note:* If you have written a power-on script, the recovery mode takes effect before script execution begins. Scripts start after self-test, approximately 30 seconds after power-up.

### User Defined Links

Add hyperlinks to other power controllers, your own web pages, or

remote web sites by entering URLs in the **Setup** page. For example, enter “Site Two Power Controller” in the description field and a URL of “192.168.0.250” These links appear on the left side of the web pages. You may also use custom links to start your own Lua script.

### **Access Control**

The administrator can grant users access to only certain outlets. To set permissions, login as admin first, then create a permissions matrix by entering user names on the left and checking allowed outlets on the right.

### **Network Settings**

A valid fixed IP address, network mask, and gateway must be entered in this section.

When changing IPs, you may need to restart your network switch to validate the new IP on an “auto-configuring” switch port. *Be sure to record the new IP address.*

Use the **Protect** button to lock the network settings. *Once protected, the network settings cannot be changed except by pressing the physical reset button located on the back of the switch near the network jack.*

## **AutoPing™**

### **AutoPing Operation and Settings**

AutoPing is an automatic system for rebooting IP equipment without human intervention. AutoPing will monitor a device. If it stops responding, AutoPing can cycle power to reboot it. For example, you might use AutoPing to monitor an external multi-cast IP to automatically reboot a DSL router or WiFi AP.

To use AutoPing, first add an IP address. Next, link that IP address to one or more outlets. Timing settings must be considered.

### **Add IP Address to AutoPing**

Use this option to specify the address of an IP device you wish to monitor. After entering the IP address, the settings page will refresh and you can select the outlets associated with this address. Use the checkboxes in the AutoPing section to correlate the IP address to one or more outlets. If communications to the target IP is lost, these outlets will be rebooted. Four main parameters control AutoPing:

### **Time Between Pings**

This is the time between each “ping” check of the IP address. 60 seconds should be useful for most applications.

### **Ping Failures Before Reboot**

This sets the number of failed communication attempts that must be detected sequentially before triggering a power cycle. For example, when set to 5, the target system must fail to respond 5 times in a row before

it is rebooted. Since occasional network timeouts and packet losses occur normally on busy networks, a setting between 5 and 10 pings is suggested.

### Times to Attempt Reboot

If you have an unreliable target device, or one that may be damaged by excessive power cycling, you can limit the number of times it will be rebooted here. For example, entering 5 to reboot your server no more than 5 times before giving up.

### Device Reboot Delay

After power cycling to reboot a device, a waiting period will occur before the IP address is re-checked by AutoPing. This delay allows the device time to reboot. Most devices take some time to reboot. Windows and Linux servers can force automatic file system checks which may take several minutes to complete. To allow for startup delays, enter a time delay in the **Device Reboot Delay** period. For example, a reasonable value for a typical server might be 10 minutes (600 seconds). Entering 600 would cause the power controller to start checking the server for normal IP operation 10 minutes after reboot.

## AutoPing™ Example

In this example, we use AutoPing to automatically reboot a DSL router. Since the switch is connected inside the router, we select a target IP of 8.8.8.8 This is a multi-cast address which connects to a multitude of Google name servers. We can safely assume that if none of them respond, we have lost network connectivity.

We connect the router to outlet 1, enter the external IP on the left, and leave all timing values at defaults.

| AutoPing                           |                                     |                          |                          |                          |                          |                          |                          |                          |         |                                  |       |    |     |
|------------------------------------|-------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|---------|----------------------------------|-------|----|-----|
| IP(s)                              | Reboot Outlets                      |                          |                          |                          |                          |                          |                          |                          | Script  | Action                           | Stats |    |     |
|                                    | 1                                   | 2                        | 3                        | 4                        | 5                        | 6                        | 7                        | 8                        |         |                                  | TX    | RX | HIT |
| <input type="checkbox"/> 8.8.8.8   | <input checked="" type="checkbox"/> | <input type="checkbox"/> | [Cycle] | <input type="button" value="+"/> | 0     | 0  | 0   |
| AutoPing Properties                |                                     |                          |                          |                          |                          |                          |                          |                          |         |                                  |       |    |     |
| Enable AutoPing:                   | <input type="checkbox"/>            |                          |                          |                          |                          |                          |                          |                          |         |                                  |       |    |     |
| Time between pings:                | 30                                  |                          | seconds. (2-3600)        |                          |                          |                          |                          |                          |         |                                  |       |    |     |
| Ping timeout to reboot:            | 150                                 |                          | seconds. (2-3600)        |                          |                          |                          |                          |                          |         |                                  |       |    |     |
| Ping responses to enable autoping: | 5                                   |                          | pings. (0-100)           |                          |                          |                          |                          |                          |         |                                  |       |    |     |
| Times to attempt reboot:           | 5                                   |                          | tries. (1-255)           |                          |                          |                          |                          |                          |         |                                  |       |    |     |
| Device reboot delay:               | 120                                 |                          | seconds. (1-43200)       |                          |                          |                          |                          |                          |         |                                  |       |    |     |

Find more details at: [digital-loggers.com/AutoPing2.html](http://digital-loggers.com/AutoPing2.html)

## Internet Access

Like to safely access your power controller over the Internet? Need router settings? Learn how to configure a home router at [portforward.com](http://portforward.com) A firewall is recommended. Give us a call if you need help.

## Mobile Device Access

Most mobile users find the web interface scales well on phones and tablets, so no special app is normally needed. Non-admin accounts have a simplified UI suitable for mobile devices with small screens. Third-party applications are available to control various DLI products from Android and IOS. These apps are sold and supported by independent developers, not by DLI. Learn more: [digital-loggers.com/mobile.html](http://digital-loggers.com/mobile.html)

## Real-Time Clock

An internal Real-Time-Clock (RTC) is provided. This clock can be set manually using the **Date/Time** link. The time zone can be selected based on GMT. The internal CR2032 coin-cell battery has an estimated 15-year lifetime. NTP time servers are supported; just enter the IP in the SETUP section. Scheduling examples are included in the Lua documentation.

## Lua Scripting

The controller can be customized using the Lua language. A full description is beyond the scope of this manual, so please take advantage of the emedded example scripts and context sensitive help. You may also find [lua.org](http://lua.org) helpful.

## Safety Shutdown

The switch uses a UL rated thermal circuit breaker for safety. In the event of an overload, the breaker will trip. Correct the situation by removing excessive load, then allow a minute or two for the breaker to cool. Cycling power on and off with the red rocker switch resets the breaker. Do not attempt to replace the breaker with any other type. The maximum rated sustained current without tripping is 15A.

## Open Source Code

In compliance with the spirit of the GNU public license, most source code is provided for reference. Purchasing a TLA and signing an NDA from Atheros are highly recommended before attempting any custom development. DLI can't provide warranty service or tech support for modified units.

## Technical Support & FAQs

Please register. Painless on-line registration gets you free tech support, access to firmware updates, and information when updates and new features become available. Take advantage of the FAQ page:

[digital-loggers.com/220FAQs.html](http://digital-loggers.com/220FAQs.html)

## Your Suggestions Are Appreciated!

At DLI, we listen to our customers. Please send your suggestions to [engineering@digital-loggers.com](mailto:engineering@digital-loggers.com).

[Latest Manual](#)



[FAQs](#)



[AutoPing](#)



[Redundant Model](#)



[Scripting](#)



[DLI Homepage](#)



# Specifications

|  |   |
|--|---|
| Applications                                     | Test equipment. Commercial, industrial, and residential remote power control and reboot<br>Indoor use only  |
| Audio Alert                                      | 73dBa at 12" programmable   |
| Circuit Breakers                                 | Manual reset, 15A Thermal Supplemental, UL  |
| Clock / RTC                                      | 15 year Li battery, under 2 grams   |
| Controls / Display w/ PowerSave, 5 button keypad | Reset -to-factory-default switch, 2x16 Backlit LCD keypad, manual reset   |
| Enclosure  | Steel, double grounded. Vented 4 sides. Fanless.  |
| Ethernet Interface                               | 10/100 autosensing, Static IP, TCP port selectable, 8 pin RJ-45 w/ internal FCC filtering   |
| FCC Modular Approval                             | Part 15 Contains FCC ID 2ACOE-SKW71   |
| Humidity   | 8-80% RH Operating  |
| Input Power Cord                                 | Removable 16-14AWG 250VAC C-19  |
| Inlet and Outlet Rating                          | UL, CSA 15A, 5-15, 120-240VAC   |
| Input Frequency                                  | Power supply - DC-400Hz   |
| Operating Temperature                            | -30° to 170°F, -34° to 77°C   |
| Options - Factory                                | Input cords, adapters, custom brackets, sensor port   |
| Power Supply Rating                              | 90-240V, AC/DC Autosensing  |
| Password Transmission                            | Encrypted, base 64 or HTTPS   |
| Power Dissipation                                | 3.9W Typ Max (all on) <3 W idle   |
| Power Fail Hold-Over                             | 200ms minimum (all relays on)   |
| Power-Up Modes                                   | Last used settings, all power on or off, sequential on or run user-script ~30s after power-up   |
| Protocall Support                                | Alexa, HTTP, HTTPS, IFTTT, SSH, SSL, MQTT, Lua, SNMP, JABBER, SYSLOG, RESTful API, MODBUS-IP, EMAIL, XMPP, UPNP, NTP, WOL,cURL  |
| Relay Rating                                     | 40A AC NO, 30A NC, 1/2HP, 12V DC coil   |
| Surge Protection                                 | 3600W Metal Oxide Varistor Line-Neutral   |
| Size   | 5.5x13.7x1.6" excluding mounting brackets   |
| Weight (packed)                                  | Single unit 4.7lbs 2.2kg  |
| WiFi   | Atheros 9331 2.4G 802.11n RP-SMA - FCC Note: The switch may only be used with (1) the manufacturer supplied antenna (Gain: 2.0dBi), or (2) a 50 Ohm antenna of equal or lesser gain |

# Limited Five Year Warranty

The terms of this warranty may be legally binding. If you disagree with the terms below, return the product immediately in original unopened condition for a full refund. The purchaser assumes the entire risk as to the results and performance of the unit. DLI makes reasonable efforts to ensure that this power controller is free of major defects. No agency, country, or local certifications are included with this unit. It is the responsibility of the user to obtain such certifications if necessary for the customer's application. Buyer acknowledges and agrees that he is solely responsible for proper use, certification and safety testing of components supplied by DLI. DLI's entire liability and exclusive remedy as to defective hardware shall be, at DLI's option, either (a) return of the purchase price or (b) replacement or repair of the hardware that does not meet DLI's quality control standards and has been returned through proper RMA procedures. DLI's liability for repair or replacement is to DLI's customer ONLY. NO SUPPORT IS PROVIDED FOR MODIFIED FIRMWARE. MODIFICATION OF FIRMWARE VOIDS ALL WARRANTY. Warranty service requires an original invoice from DLI and an RMA number provided by technical support. RMA material must be shipped prepaid to DLI. RMA numbers are valid for 15 days from date of issue. This warranty does not cover products which are modified (including firmware modifications), subjected to rough handling, or used in applications for which they were not originally intended. Batteries are not covered under warranty. Physical damage caused by customer or in transit to DLI is not covered under warranty. Please insure shipments. No oral advice or verbal warranties made by DLI's employees, dealers, or distributors shall in any way increase the scope of this warranty. DLI makes no warranty as to merchantability or fitness for any particular purpose. DLI assumes no liability for incidental or consequential damages arising from the use or inability to use this product. This warranty gives you specific legal rights. You may also have other rights that vary from state to state. Since some states do not allow the exclusion of liability for consequential damages, some of the above limitations may not apply. Auto-Ping™ is a registered trademark of Computer Performance, Inc. Since this is a FLASH based product, firmware should not be updated over the Internet or a busy LAN. Packet loss could result in FLASH corruption, requiring mail-in service. This product is designed for indoor use only. It should not be used for outdoor, mobile, airborne, or FDA Class III applications.



## **DIGITAL LOGGERS, INC.**

2695 Walsh Avenue  
Santa Clara, CA 95051

[Digital-Loggers.com](http://Digital-Loggers.com)

[Support@Digital-Loggers.com](mailto:Support@Digital-Loggers.com)



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Release 3/20/2019

P/N 222

## Compatible Products:



Redundant 120V PDU



DIN Relay



2x50A, 8x15A DC Smart Switch (+12,+24, or -48)



Smart PoE Injector

Call (408) 330-5599



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2695 Walsh Ave, Santa Clara, CA 95051  
(408) 330-5599 [digital-loggers.com](http://digital-loggers.com)