



Web Power Switch 5

USER'S GUIDE



DIGITAL LOGGERS, INC.

Product Features

Congratulations on selecting the DLI Web Power Switch, a surge-suppressed, AC power switch with automatic reboot and programmable power control. Features include:

Simple Web Interface

The internal web server is accessible from any standard browser. Simply enter an IP address. The controller may be configured and controlled via the web.

Auto-Ping Reboot

This automatic feature monitors a remote IP address. If a server, router, or other peripheral goes down, the switch will automatically reboot it, without user intervention. Up to 8 devices can be monitored individually.

8 Switched Outlets + 2 Unswitched Outlets

Eight individually switched controlled circuits are provided with single outlets. Outlets are spaced for large adapters and plugs. Un-switched outlets are provided for “always on” devices.

LCD Display

A 2x16 LCD displays status for each outlet. Custom messages can be displayed using a simple scripting language.

Password Security

Multi-user password security is provided to limit access to the power controller. The administrator selects which outlets each user controls.

Sequenced “On Timer”

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

MOV Surge Suppression

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

Scripting Language, Syslog, and Utilities

A scripting language can be used to create custom control and reboot sequences, schedule periodic reboots, customize the LCD, and control serial devices. Both internal and external system logs are provided. Windows utilities send status notifications, warnings, and power bills via email.

New Features

We’ve just added a keypad for local outlet control, the ability to send WOL “magic packets”, more scripting options and an Android app. Learn more at digital-loggers.com/lpcfaqs.html

Field Upgradeable Firmware

Firmware is field upgradeable via Ethernet using the web or a command line utility.

Standard Package Contents

1. Web Power Switch 5
2. Registration Card & Manual

Please contact the shipping carrier immediately if your package appears opened or damaged in transit. Call DLI at (408) 330-5599 for tech support, service, replacement batteries and hardware upgrades.

Important Factory Defaults

DEFAULT IP ADDRESS

The factory default is **192.168.0.100**

DEFAULT ADMINISTRATOR LOGIN

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

To reset the IP address and admin login to factory defaults, gently press the reset-to-defaults button to the left of the LCD!

Note: Reset-to-defaults sets the admin login and IP address, but it doesn't affect outlet names, links, and stored scripts. Auto-Ping and auto-start of custom scripts is disabled.

Quick Setup

Use these shortcuts if you are an experienced installer. If this is your first time, please skim the entire manual first.

1. Remove the switch from its shipping carton. Save the carton and packing for future hardware upgrade.
2. Attach the power cord to a protected power sources with a capacity of at least 15 amperes.

3. Attach the cable from the controller to a port on your LAN. Switch power on. If you are connected to a switch, you may need to cycle power to the switch to establish a connection.
4. Ping the default address: <http://192.168.0.100> to confirm that a reliable network connection is established. If you don't receive a response, use a crossover cable and see the **Windows IP Setup** section below.
5. Log in to the power controller using the default user name **admin** and the password **1234**
“admin” must be entered in lower case.
6. Click on the **Settings** link to reach the configuration page.
7. **Select the safest power-loss configuration** for your installation: (all OFF, all ON, or sequential ON)
8. 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 configuring the controller before attaching your equipment.

Windows IP Setup

If your default Windows settings won't access the default IP, use a crossover cable and follow these steps to add a compatible IP such as 192.168.0.1. Before adding an IP, close other programs and browsers.

Early Windows (2000, 2003, XP)

Go to Network Settings → Local Area Network. Use the keyboard shortcut <Windows-R> - type **ncpa.cpl** and click OK. Right click on **LAN Connection** and choose **Properties**. Highlight **Internet Protocol** and click **Properties**. Click **Advanced**. Under the IP Address settings, click **Add**. Enter a new compatible IP, such as 192.168.0.1, and a subnet mask of 255.255.255.0. Press **Add**.

Windows 7, Vista

Click **Start** -> **Control Panel**. In the search box, type **adapter**. Under “Network and Sharing Center”, click **View Network Connections**. Right click on the adapter you’re using and click **Properties**. Click the **Networking** tab. Select **Internet Protocol Version 4 (TCP/IPv4)**. Click **Properties, Advanced**, then under IP addresses click **Add**. Enter a new compatible IP, such as 192.168.0.1, and a subnet mask of 255.255.255.0. Press **Add**.

Close all windows for the configuration to take effect. Start your Browser and type 192.168.0.100 in the URL field. Log in.

Basic Operation

After power-up, the controller performs a sequence of self-tests to ensure reliability. The static IP on the **Settings** page is used.

The controller may then be operated via a web browser. To access the controller, simply enter the IP address in the URL field of your web browser. The default is <http://192.168.0.100>

Home (Outlet Control) Page

To access the home page, first enter the IP address in web 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. When configuring the power controller for the first time, use the default admin username and **1234** password.

The home page contains 11 links to other pages. The first nine are fixed internal links:

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 your login.

Setup

The setup page lets you select outlet names, program web link s, startup delays, and the power loss recovery mode. You can also change login credentials on this page.

Scripting

A scripting language using BASIC commands lets you customize the power controller. Scripts may be started manually, automatically on power-up, by external http commands, or by Auto-Ping events. Find a full list of commands and example scripts at: www.digital-loggers.com/scripting.html

AutoPing

The AutoPing link lets you set parameters for 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 specific circuits. For example, if a router is unreachable, you may choose to automatically reboot both a router and a switch attached to two different circuits. Learn more: www.digital-loggers.com/autoping.html

System Log

The power controller keeps a log of system events including logins (successful and attempted), outlet switching, power interruptions, and Auto-Ping events. Recent events are stored in the log and accessible from the System Log page. Multiple controllers can export logs to a single external SYSLOG server. Find information on setting up a SYSLOG server here: www.digital-loggers.com/syslog.html

Logout

The controller will automatically log-out when your browser session is closed. Click this link to log-out in advance.

Help

The Help link displays the latest online manual. Since features are subject to change without notice, this manual may not be an exact match for earlier controllers and earlier firmware versions. Find the firmware revision history at www.digital-loggers.com/revhistory.html

Logout

Logout ends the web session immediately. A login is required to reconnect. Browser authentication will time-out automatically after several minutes of inactivity.

Programmable Web Links

Four additional user-defined web links are provided on the outlet control page. Factory defaults are **Manual**, **FAQ**, etc. You may change the name and destination URL for these links on the **Settings** page. These links are convenient for connecting to other power controllers or to remote sites.

Switching Outlets On and Off

The outlet control page lets you control any pair of outlets (except the always-on pair). A master setting also allows users (with security access) to switch all outlets on or off.

To switch an outlet on or off, simply click to the right of the outlet name or number. Switching is immediate.

Use the keypad for local switching: 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.

You may also **Cycle** a device which is connected to the controller. This feature is useful for rebooting Ethernet devices which may interrupt the web link to the controller. Clicking **Cycle** switches power off, waits a few seconds (as specified on the setup page), and then switches power back on. This resets the attached device. You may also cycle all outlets using the **Cycle All Outlets** button on the bottom of the page.

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

Setup Page

The **Setup** page allows the administrator to configure the power controller. These settings are supported:

Controller and Outlet Names

Use the controller name fields to assign a Controller Name to the power controller itself. Examples are “Server Rack 4 PDU” or “Reactor Coolant Pumps”. The Controller Name field appears on the top of the home page. Assign a separate name to each outlet, such as “Customer 4” or “Email Server” to aid identification.

Power-On Sequence Delay

When a time value is entered in the “All ON Sequence Delay” field, the power controller will pause for a period of time before switching each outlet on in sequence. This delay helps prevent the 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 (0-60 Minutes).

Power Loss Recovery Modes

The power loss recovery mode setting has three settings which take effect after a power failure:

1. You can turn all outlets off (all systems will be switched off until manually turned on later) by checking the first box.
2. You can automatically turn all outlets on using the “All ON sequence delay” described above. Check the second option to do this.
3. You can return to the same outlet settings that were used prior to the power loss. The “All ON sequence delay” will

also be used in this instance. Check the third option for ALL ON.

Note: If you have written a script and enabled scripting, the script will start automatically on power up at LINE 1.

User Defined Links

You may link to other power controllers, your own web pages, or remote web sites by entering up to four URLs and descriptions in the Setup page. For example, enter “Site Two Power Controller” in the description field with a URL of “192.168.0.250” These links appear on the home page.

Access Control

The administrator can restrict user permissions to certain outlets. To set permissions, login as admin, then create a permissions matrix by entering user names on the left and checking permitted outlets to the right of each user name.

Network Settings

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

When changing IPs, you may need to restart the unit and 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 below the LCD.

Auto Ping Page

AutoPing Operation and Settings

AutoPing is an automatic system for rebooting IP equipment without human intervention. 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 Auto-Ping

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 parameters control AutoPing operation:

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 communications attempts that must be sequentially detected before 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 loss can occur during normal Ethernet operation, a number between 5 and 10 pings is suggested.

Times to Attempt Reboot

If you have an unreliable target device, limit the number of times it will be rebooted by entering that value here. For example, entering 5 will reboot your server up to 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.

Windows Logging and Email Notification

A Windows utility can be used to record activity and notify you when specified trigger events occur. This utility also logs power consumption and generates reports when used in conjunction with our larger power controllers. Learn more and download the utility free at www.digital-loggers.com/pcl.html

Technical Support

Please register your product. A quick on-line registration gets you free technical support and allows us to inform you when updates and new features become available. Registering gives you access to free firmware updates. To save time, please have a look at the product FAQ page solutions. You may FAX questions to (408) 541-8459 or email: support@digital-loggers.com For phone support, call (408) 330-5599 with the following so we can better serve you:

- The firmware version level installed in the power switch. This information can be found on the lower left corner of the outlet control page.
- A description of the Ethernet devices connected to your unit, for example, a 10/100 PC and crossover cable.

We Appreciate Your Feedback

At DLI, we listen to customers. Please send suggestions to engineering@digital-loggers.com. Since we're constantly adding and changing features, specifications are subject to change without notice.

Specifications

Operating input voltage and power consumption	70-250VAC. 5-15 outlets are UL rated only for 120V use. Idle power 3.4W typical (all outlets off).
Input frequency	DC-400Hz
Surge suppressors	Single MOV, 3600J rating
Ethernet interface	10/100 autosensing, Static IP, TCP port selectable, 8 pin RJ-45 with internal FCC filtering
Outlets & plugs	10x outlets NEMA 5-15R, 1x 15A plug, others available custom order
Password transmission	Encrypted, base 64
Circuit breakers	15A thermal, slow blow, switching
Control relays	25A Contact, 10 ⁶ mechanical ops
Power cords	14AWG low loss stranded, UL SJT FX3C VW-1 150°C rating
Power fail hold-over time	400ms minimum (all on)
Size	1.7x5.7x13.3
Indicators	2x16 backlit LCD, Link Audio alert 72dBA at case
Weight	Bare unit 3.4 lbs, Ship wt. 4.5lbs
Operating temperature	-30° to 17°F, -34° to 77°C
Enclosure material	Cold rolled steel cover, powder coated, hi-temp thermo plastic base plate

Limited Five Year Warranty

The terms of this warranty may be legally binding. If you do not agree to the terms listed 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 warrants this power controller to be free from 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. 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. WARRANTY SERVICE DOES NOT INCLUDE SOFTWARE OR HARDWARE UPGRADES. No warranty service will be provided without 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 modified, 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. 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 to you.



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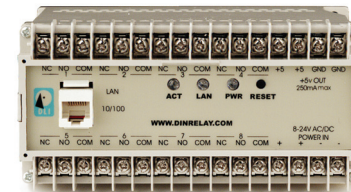
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