LANTRONIX®

LSS2200-8P
Quick Start Guide

The LSS2200-8P is a managed Layer 2+ Gigabit Ethernet switch offering eight (8) 1GBase-T interfaces with full IEEE 802.3bt 90W support, two (2) 10/5/2.5/1GBase-T multi-gigabit SFP+ slots, two (2) programmable Digital Input/Outputs with 12V power output, and one (1) RJ-45 console port. The switch offers 720W total PoE budget for powering LED lighting, high-powered security and surveillance cameras and other IP devices.

Note: See the full Install Guide for important information: Product Description, Ordering Information, Optional Accessories, Related Manuals, Features & Specifications, Application Example, Pre-Installation, Safety, Unpacking, Package Contents, Front Panel, LED Descriptions, Reset Button, Back Panel, Installing the Switch, Mounting the Switch, Installing SFP/SFP+ Modules, Connecting PDs, Connecting Power Cords, Connecting DI/DO Relay Wires, DI/DO Use Case, Power Supply Info, Initial Switch Config, Troubleshooting, Compliance & Safety Information, Cautions, Warnings, and Electrical Safety Warnings.

Remarque : Consultez le guide d'installation complet pour obtenir des informations importantes : description du produit, informations de commande, accessoires en option, manuels associés, fonctionnalités et spécifications, exemple d'application, pré-installation, sécurité, déballage, contenu de l'emballage, panneau avant, descriptions des voyants, bouton de réinitialisation, Panneau arrière, installation du commutateur, montage du commutateur, installation des modules SFP/SFP+, connexion des PD, connexion des cordons d'alimentation, connexion des fils de relais DI/DO, cas d'utilisation DI/DO, informations sur l'alimentation, configuration initiale du commutateur, dépannage, conformité et sécurité Informations, mises en garde, avertissements et avertissements de sécurité électrique.

Front Panel
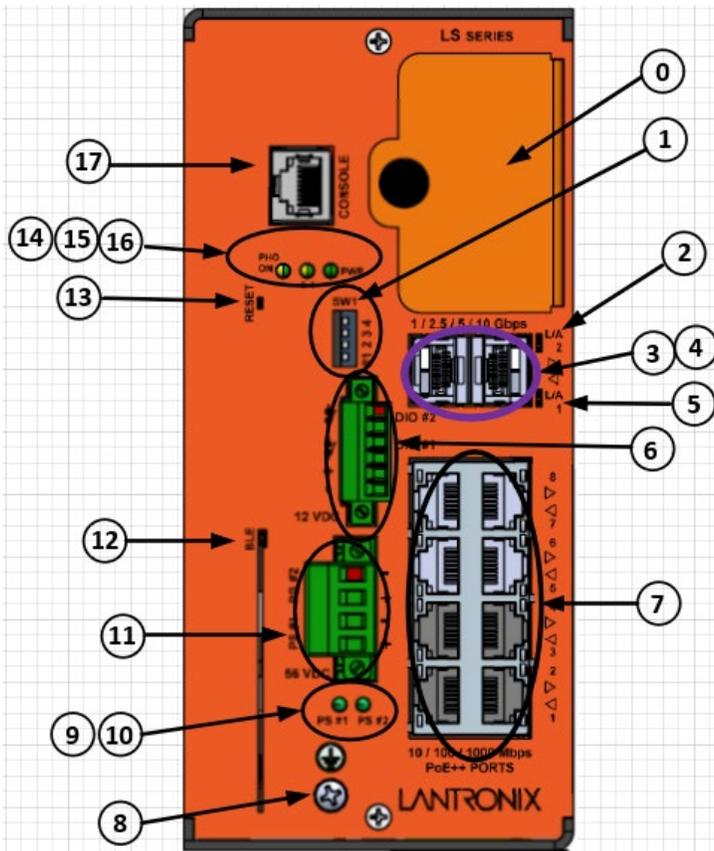
0 Expansion slot/cover (for future use)

1 SW1 : 4-position DIP Switch:

   #1 - Enable/Disable PHO* to PoE Power interlock

   #2 - Input 1 relay normal state (not active)

   #3 & 4 - PoE power down selection

2 L/A : Link Activity LED for SFP++ Port 2

3 4 Port 9 & 10: Two 10/5/2.5/1G SFP++ Ports (SFP++ Port 1 & 2)

5 L/A : Link Activity LED for SFP++ Port 1

6 DIO1 & DIO2 : Digital Input/Output 1 & 2

7 Port 1 - 8 : 10/100/1000 PoE++ Ports

8 Ground screw

9 10 PS #1 and PS #2: Power Supply 1 and 2 LEDs

11 56 VDC + /- : Terminal connector for dual 56VDC input power

12 BLE : Bluetooth Low Energy connector

13 RESET : System reset button

14 15 16 PHO On LED, S1 LED, and P (Power) LED

17 CONSOLE Port

(* **Note**: PHO is currently Disabled by default; do not override until fully supported.)

RESET Button
The RESET button is inset from the front panel. Use a thin object such as a paperclip to depress the button.
Press the front panel RESET button for 1-5 seconds to reset the switch.
Press the front panel RESET button for 10-20 seconds to restore the switch to its factory defaults.

LED Summary

The RJ-45 ports have two LEDs and the SFP+ ports have one LED to indicate port and/or PoE status.

LED	Condition	Meaning
PHO ON	LED green	On = PoE Hardware Override enabled, Off = PoE Hardware Override disabled. **Note**: PHO is currently disabled by default; do not override until fully supported.
S1 (System)	LED green	On = connected to cloud. Blinking = re-establishing cloud connection.
	LED yellow	On = no cloud connection. Blinking = cloud provisioning in progress.
PWR (Power)	LED green	On = Power on. At power up, Blinking = boot up or re-boot in progress. After successful boot, Blinking = Firmware update in progress.
BLE LED	LED Off	BLE broadcast is disabled.
	LED Amber	BLE broadcast is enabled but BLE is not paired.
	LED Green	BLE is paired.
	LED Blinking Amber	BLE firmware update in progress.
Each RJ-45 TP port	Left LED green	On = Link at 1G, Blinking = Link Activity.
	Left LED yellow	On = Link at 10Mbps or 100Mbps, Blinking = Link Activity.
	Right LED green	On = 802.3bt Powered, Blinking = Error.
	Right LED yellow	On = 802.3at or 802.3af Powered, Blinking = Error.
Each SFP Fiber port	LED green	On = Link at 10G, Blinking = Link Activity.
	LED yellow	On = Link at 1G/2.5G/5G, Blinking = Link Activity.
PS #1	LED green	On = Power from power supply PS #1. Off = No power from PS #1.
PS #2	LED green	On = Power from power supply PS #2. Off = No power from PS #1.
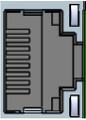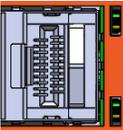
Mounting

Note for all mounting options: Do not block air vents. A minimum of 1 inch clearance is required on all sides of the unit when mounting either vertically or horizontally. Do not stack heat-dissipating objects on top of the unit. Adequate clearance is required to access cable connections. Clearance is required to attach and mount the unit regardless of the mounting option used (DIN rail, desk or shelf, wall mount, etc.).

Mounting the Switch on a Table, Desk, Shelf or Other Flat Surface

Four adhesive-backed rubber feet are included in a poly bag. Remove them from the poly bag, remove the protective adhesive covering, and place the rubber feet as required.

Mounting the Switch on a Wall

A wall mount bracket kit (WMB-LSS, optional, sold separately) with two 4-40 x 1/4 screws included can be used to attach the bracket to the switch (surface mounting screws not provided). When mounting on a wall or other flat surface:
1. Consider device weight, grounding, power, cable limitations, and wall structure ahead of time. Note that the minimum of one inch clearance is not required if shelf mounting using the rubber feet. **2.** Verify that the surface is sturdy and reliably grounded. **3.** Attach the four adhesive rubber feet to the bottom of the switch. **4.** Use appropriate screws (not provided) for mounting to desired type of wall surface.

DIN Rail Mount

1. Attach DIN Rail bracket with screws provided and ensure screws are securely tightened prior to mounting. **2.** Hook the unit over the DIN rail**. 3.** Push the bottom of the unit towards the DIN Rail until it snaps into place.

Grounding the LSS2200-8P

The front panel grounding screw is used for grounding. Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface <u>before</u> connecting devices. **Note**: Both the switch and Power Supply must have their ground terminals connected to earth ground. **ATTENTION**: This case must be earth grounded. No DC input may be earth grounded. Use Isolated Power Supply.

Connecting to the CONSOLE Port

The RJ-45 serial port on the switch front panel is used to connect to the switch for out-of-band console configuration. The command line interface can be accessed from a terminal or a PC running a terminal emulation program. Use the provided Cisco Blue RJ-45 to DB9 cable.

Connecting to a Management Port

Use any RJ-45 PoE++ port on the switch front panel to connect the switch to a PC for web management. The management port lets you access, configure, and manage the switch via any current web browser. Connect the management port of the switch to the RJ45 port of the PC with an Ethernet cable (Cat 5 or better).

Installing SFP+ Modules

Note: see the related SFP device manual for important Safety warnings. **Note**: The SFP+ ports should use UL Listed Optional Transceiver products, Rated 3.3Vdc, Class 1 Laser. **1.** Insert the module into the SFP+ port. **2.** Press firmly to ensure that the module seats into the connector. See the Install Guide for more information.

DIP Switch Settings

The front panel 4-Position DIP Switch (SW1) is shown and described below. The figure below shows SW1 default settings. The factory default setting is DIPs 1-4 set to (UP=1=OPEN=Left=default setting).
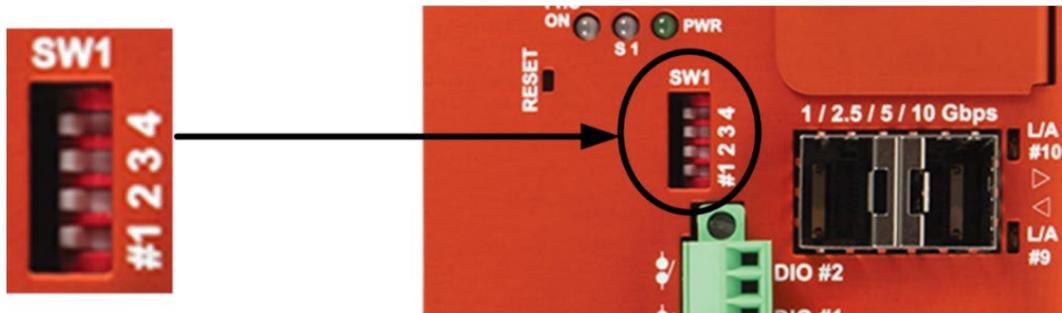
DIP #	Description	Position (Up = 1, Down =0)
1	Enable/Disable PHO to PoE-Power interlock.	**1** = PHO (PoE Hardware Override) function is Disabled (default). Leave in the Up (1) position. **0** = PHO Enabled. PHO provides a turn-off of the PoE power delivery in the event of an external trigger. **Note** that enabling the PHO function using DIP switch #1 dedicates both DIO interfaces to the PHO function. The CPU then no longer has any control over the DIOs; the CPU can then only monitor DIO/PHO status. **Note**: Do not enable until this feature is fully supported. PHO is currently Disabled by default; do not override until fully supported.
2	Input 1 relay normal state (not active)	**1** = Relay is normally open (default). **0** = Relay is normally closed.
3 and 4	PoE power down selection	**11** = Power down all TP ports. (default). **10** = Power down just TP Ports 1-4. **01** = Power down just TP Ports 5-8. **00** = Power down just Expansion slots (not currently used)

Package Contents

Carefully unpack the contents and verify that you have received the following items: one switch, a Poly bag with a DIN rail bracket, two screws, and four rubber feet, one printed Quick Start Guide, and one support postcard. **Note**: A power supply is required and ordered separately. A second (back-up) power supply is optional (ordered and packaged separately).

Digital I/O (DIO1 & DIO2) Terminal Block

The front panel terminal block provides two programmable Digital I/O with 12V power output. Digital I/O can be used for dedicated PHO (PoE Hardware Override) to turn on or off banks of PoE ports in response to an external DI event. (**Note**: PHO is currently Disabled by default; do not override until fully supported.)

The digital input and output terminal block provides two configurable DIOs for external events to be monitored (input) or provide internal events to external functions (output). The terminal block also provides a 12VDC supply output that can be used to energize the DIO circuits.
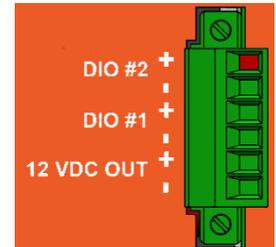
The Digital I/O can be configured via the Web UI or the CLI. See the related manual for more information.

Power Supply Information

Important: Read all power supply information and powering examples before proceeding.

The LSS2200-8P can be powered by these Lantronix power supply options:

- 25172 Weidmuller PRO MAX 960W 48V 20A DIN Rail Power Supply (recommended for full PoE output). The 25172 is set to 48V at the factory; set the Adjust screw to the voltage required by your application (see below).
- 25160 Hardened 480W DIN Rail Mounted Power Supply

Power Input

The LSS2200-8P has a 4-pin terminal block that allows for two power inputs. The switch can be powered by a single isolated power supply that meets power input and total power output requirements, or it can be powered by dual isolated power supplies for redundant power. However, one power supply should never be used to power multiple PSE switches (see Power Supply Isolation Requirement on next page). The power input required is 46 – 56VDC, depending on the PoE output level required. Note that the input power must be set to one of the following voltages if *any* of the ports require the corresponding PoE levels: IEEE 802.3af = min 46VDC, IEEE 802.3at = min 52VDC, IEEE 802.3bt = min 54VDC.

Setting the Power Supply Values in Switch Software

CAUTION: Always match the PS#x input supply to the Power Supply 1 and Power Supply 2 software setting. Mismatching will cause the LSS2200-8P to think it can draw more power from the external supply than it is capable of providing and results could be detrimental.

Note: You must set the power supply wattage value(s) manually in the software to match the connected external power supply(ies). The LSS2200-8P uses this wattage as the "PSE Power Available" to determine if enough power is available during PoE PD classification to power up connected PDs.

Single Power Supply Applications

If using a single power supply, either terminal block input (PS #1 or PS #2) can be used to power the switch. In the case of power supply failure, there is no backup power, and the switch will not operate until power is restored.

Dual Power Supply Applications

Same Power Rating on Each Supply: If using dual power supplies with the same power rating (wattage), the output voltage of each supply should be set to the same nominal voltage (within 0.5V) for current sharing. If there is a 2V difference in the setting of the power supplies, most (or all) of the power will be sourced from the higher voltage supply.

Different Power Ratings: If using dual power supplies with different power ratings (wattage), the higher wattage supply must be set as the primary supply (PS #1) and must be set at least 2V above the backup or lower wattage supply (PS #2). Most or all of the power will be sourced from the primary supply.

Power Supply Isolation Requirement

Per IEEE 802.3af/at/bt, PoE power must be isolated from mains power. This is accomplished through the requirement for one isolated power supply per PSE device.
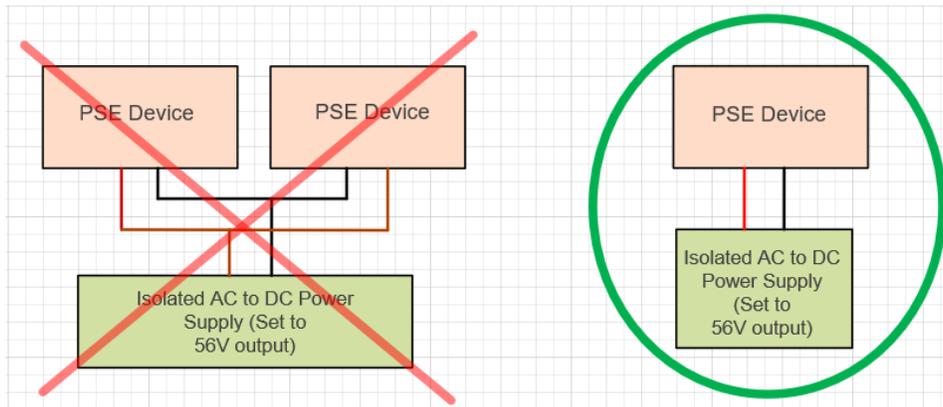
Connecting to DC Power

The front panel terminal block allows connection of one or two supported 56VDC power supplies.

1. Ground the enclosure before you install the terminal block connector into the network switch.
2. Use wire size of 14 AWG.
3. Insert the negative DC power wire into the V- port on the terminal block connector and tighten the wire clamp screws.
4. Insert the positive DC power wire into the V+ port on the terminal block connector and tighten the wire clamp screws.
5. Insert the terminal block connector into the 4-pin terminal block on the switch.
6. Screw down the terminal block securely to the switch.
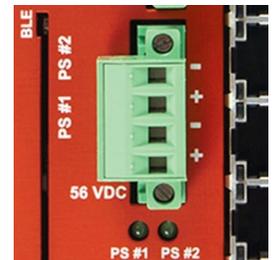
Connecting the AC Power Cord

1. Connect the AC power cord to the AC power receptacle of the Power Supply.
2. Connect the other end of the AC power cord to a known good AC power outlet.
3. Check the PS #1 and/or PS #2 LED. If it is On, the power connection is correct. If Off, check polarity.
4. Check the PWR LED. If it is On, the power connection is correct.

Initial Switch Configuration

You can perform an initial configuration prior to power up using a web browser, using the Command Line Interface (CLI) or the NFC Configuration feature on the LSS2200-8P Mobile App.

Connect and Log In to the Switch Using a Web Browser

You can perform an initial configuration prior to power up using the NFC Configuration feature on the LSS2200-8P Mobile App (see the LSS2200-8P Mobile App User Guide for more information). Or, after powering up the switch for the first time, you can perform the initial switch configuration using a web browser (you must use https://).

To begin the initial configuration stage, you must reconfigure your PC's IP address and subnet mask so as to make sure the PC can communicate with the switch. The switch default IP address is 192.168.60.1, so the PC needs a different IP address in that subnet, as described in step 2 in the procedure below. The initial Username is admin and the initial Password is ltrx-admin. You must change the password immediately after a successful initial Login or after a reboot.

Initial Switch Configuration Procedure:

1. Power up the PC that you will use for the initial configuration. Make sure the PC has the Ethernet RJ45 connector to be connected to the switch via standard Ethernet LAN cable.

2. Reconfigure the PC's IP address and Subnet Mask so that it can communicate with the switch.

3. Power up the switch to be initially configured and wait until it has finished its start-up processes. Startup is complete when the PWR LED changes from flashing green to solid green.

4. Connect the PC to any port on the switch using a standard Ethernet cable, and check the port LED on the switch to make sure the link status of the PC is OK.

5. Run your Web browser on the PC and enter https:// and the factory default IP address (192.168.60.1) to access the switch Web UI. If your PC is configured correctly, the switch Sign in page displays.

6. Enter the factory default username (admin) and password (ltrx-admin) in the Login page and click "Login" to log into the switch. See the Web User Guide for more information.

Update Password

After a successful initial login, you are prompted to change the password as shown and described below. Note that all fields are required.

Username * : Enter the current Username.
Password * : Enter the current Password.
New Password * : Enter the new Password (minimum length 6 characters).
Confirm New Password * : Enter the new Password again; it must match the previous entry.

Click SIGN IN when all fields are complete. After a successful initial login, it is recommended that you save to startup (`copy running-config startup-config`).

Connect and Log In to the Switch via the CLI

Access to the switch via the CLI is also protected by logon security system. You can log in to the switch with the default user name (admin) and password (ltrx-admin). You must change the password as soon as you initially log in.

1.   Use the provided Blue RJ-45 to DB9 cable to connect a terminal or PC/terminal emulator to the switch port.
2.   Attach the other end of the DB-9 cable to a PC running Telnet or a terminal emulation program.
3.   Use Console port settings Baud rate: 115200bps, Data bit: 8, Parity: None, Stop bit: 1 Flow control: none.
4.   Perform initial switch configuration using the CLI (Command Line Interface). See the CLI Reference for details.

CLI Login Procedure

```
LSS2200-8P login: admin <Enter>
LSS2200-8P login: ltrx-admin <Enter>
--: LSS2200-8P :--
LSS2200-8P login:
Login timed out Please press Enter to activate this console.

LSS2200-8P login: admin
Password:
--: EOS :--

*** Password change required ***
New password:
Confirm password:
Password change succeeded.  Please login again.
Please press Enter to activate this console.
```

Note: wait about 20 seconds for the login to complete. After the initial login you are prompted to change the password.

Related Information: For Lantronix Drivers, Firmware, Manuals, etc. go to the Lantronix Technical Resource Center.

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