

Self-Enclosed Managed Hardened Gigabit Ethernet PoE++ Switch

SESPM1040-541-LT-xx Series 4+1 Port PoE++ Switch

Q: What are some applications for using the switch?

A. The switch comes in 3 different configurations: An AC-powered PSE, a DC-powered PSE and a PoE-powered PSE/PD and can be used to connect and provide power to advanced security and surveillance cameras such as PTZ, dome and high-speed cameras, PoE lighting, digital signage, and building access and control systems

Q: How much power does the switch provide?

A. Up to 90W per port on any individual port; up to 240W total on all ports simultaneously. The PD-powered version provides up to 85W total but also includes a 12V auxiliary power port for powering heaters, fans and other misc. accessory items.

Q: If the IEEE 802.3bt Spec says a PSE can send up to 90 Watts and a PD can receive 71.3 Watts, why do you say your Self-Enclosed Switch can receive 85 Watts?

A. The IEEE 802.3bt standard has an Annex Clause 145.3.8.2.1 for input average power exceptions. In closed systems (ex: one in which a Transition Networks' SESPM1040-541-LT-AC or -DC versions unit is providing power to a Transition Networks' SESPM1040-541-LT-PD Switch) this clause allows the PD to determine resistance and draw power up to, but not exceeding, the amount the PSE puts out.

Q: Does the switch have a fiber port?

A. The switch comes with (1) 10/100/1000Base-T RJ-45 or 100/1000Base-X Combo Port. In addition, an optional second 10/100/1000Base-T RJ-45 maintenance or 1000Base-X uplink Combo Port is available.

Q. What is the 24V Passive PoE Module?

A. The optional 24V Passive PoE Module provides 24VDC power to non-standard PoE powered devices such as wireless radios, eliminating the need for an additional external power source for those devices.

Q. Can all the ports be used at once?

A. Ports 1-4, the PoE output ports, can all be used simultaneously as long as the total PoE budget does not exceed 180W for the AC version, 240W for the DC version, or 85W for the PD version.

For the additional ports:

- On the PoE-powered PD version, the 5th port is normally used for PoE power input, therefore, the SFP option is not available if you are using that PoE port. However, if you are using fiber cable running in parallel with copper cable as the power input, then the 5th port can be used as a copper or fiber port instead of as the PoE input port.
- The additional combo port module cannot be used along with the 24V Passive PoE module because they both access the optional 6th port on the switch

Q. What does the NFC feature do?

A. The near field communication antenna located inside the cover of the switch allows the user to configure the switch on a mobile device prior to connecting or powering it up simply by holding a NFC-enabled smart device with the Switch App installed over the NFC antenna and transferring data. It also allows the user to duplicate the configuration across multiple switches. All of this saves the customer time and money, as well as simplifying setup and installation of the switch(es).

Q. How can you configure the switch without it being powered up?

A. When the NFC-enabled device (smartphone or tablet) and the NFC “tag” or antenna on the switch are in close proximity, a magnetic field is formed and the power from that magnetic field uses modulation to transfer data. The NFC antenna/tag contains a nonvolatile EEPROM which retains the data transferred from the smartphone or tablet even after it moves out of proximity, and the configuration is transferred into the switch’s memory once the switch is fully powered up.

Q. What does the BLE feature do?

A. The Bluetooth Low Energy feature allows remote access to the switch without having to physically connect with a cable, so monitoring and troubleshooting and changes can be made prior to leaving the job site or after ladders or scissor lifts have been removed. The range is approximately 100m.

Q. Are these features safe and secure enough for my network?

A. NFC is considered very secure and is frequently used for contactless payments (ex. Apple Pay). A secure channel is established and uses encryption for sending sensitive information. However, we always recommend users have anti-virus software and passwords on their devices in case they are lost or stolen. BLE uses Advanced Encryption Standard (AES) 128/256, SHA-1, SHA-2 (SHA-224 and SHA-256) and ECC (Elliptic Curve Cryptology) encrypt. It uses an

authenticated encryption algorithm designed to provide both authentication and confidentiality. AES was adopted by the US Government in 2002 and is used worldwide.

Q. Does the switch need to be mounted in a cabinet?

A. No, the switch is housed in its own NEMA 4X/IP66 rated enclosure and can be wall-mounted or pole mounted (requires optional brackets). It also includes 6kV surge protection for lightning protection or other surges in current and additional fuse protection to protect from unintentional intrusions from outside power lines

Q. How does the hybrid power fiber connection work?

A. To extend the Ethernet signals beyond the 100m Ethernet cable limitation, a combined hybrid power fiber (or composite) cable can be used with the PD version. Alternatively, a fiber cable for the data can be run alongside a typical 16 AWG cable for the power.

Q. Are there any management features?

A. Yes, the switch can be managed through a user-friendly web interface, SNMP, and CLI. It has port management and PoE management including the ability to preserve and schedule power, as well as Auto Power Reset (APR) to re-boot remote devices and reduce service dispatches. Other integrated management software features include management of devices and cable diagnostics for finding cable faults or connection issues.

Q. What is the app used for?

A. The Switch Manager mobile app interfaces with the NFC and BLE features to allow switch configuration, remote diagnosis and troubleshooting without having to climb a ladder or scissor lift to physically connect to the switch.

Q. What is the Digital I/O feature used for?

A. The digital input/digital output is four optical isolators independently configurable as either inputs or outputs and includes an isolated 12V DC power source and can be used for alarms, event notifications, or other customer-designated items (ex: door open alarms, glass breakage alarms, etc.).

Q. How can I tell if someone is tampering with the switch?

A. The switch includes tamper detection. A 3-axis linear accelerometer detects if the switch has exceeded user-selected vibration limits, indicating someone may be tampering with the switch or that the switch mount has somehow been compromised.