LANTRONIX®

SISPM1040-3xxx-L

Managed Hardened Gigabit Ethernet PoE+ Rack Mountable Switches

SISPM1040-3166-L Managed Hardened PoE+ Switch, (16) 10/100/1000Base-T PoE+ ports + (4) 100/1000Base-X SFP + (2) 1G/10G SFP+

SISPM1040-3248-L Managed Hardened PoE+ Switch, (24) 10/100/1000Base-T PoE+ ports + (4) 100/1000Base-X SFP + (4) 1G/10G SFP+

Install Guide

Part Number 33762

Revision G April 2022

Intellectual Property

Warranty

For details on the Lantronix warranty policy, go to our web site at http://www.lantronix.com/support/warranty.

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Revision History

Date	Rev.	Comments
12/18/20	E	Correct humidity specs.
3/15/21	F	FW v8.50.0012: Include one step FW version update. Modify "Always On PoE" behavior to be enabled and displayed on Web UI after upgrade to FW v8.50.0018 or above. Fix API issues.
4/12/22	G	Initial Lantronix rebrand. Update port descriptions.

Safety Warnings and Cautions

These products are not intended for use in life support products where failure of a product could reasonably be expected to result in death or personal injury. Anyone using this product in such an application without express written consent of an officer of Lantronix does so at their own risk and agrees to fully indemnify Lantronix for any damages that may result from such use or sale.


Attention: this product, like all electronic products, uses semiconductors that can be damaged by ESD (electrostatic discharge). Always observe appropriate precautions when handling.


NOTE: Emphasizes important information or calls your attention to related features or instructions.


WARNING: Alerts you to a potential hazard that could cause personal injury.


CAUTION: Alerts you to a potential hazard that could cause loss of data or damage the system or equipment.

Contents

Chapter 1 - Introduction

The SISPM1040-3xxx-L switches are next-generation rack mount industrial grade Ethernet switches offering powerful L2 and basic L3 features with advanced functionality and usability. In addition to extensive management features, the SISPM1040-3xxx-L also provide Carrier Ethernet features such as OAM, CFM, ERPS, EPS, and PTPv2 which makes it suitable for industrial and Carrier Ethernet applications.

The **SISPM1040-3248-L** is a managed Hardened PoE+ Switch provides (24) 10/100/1000 PoE+ ports, (4) 100/1000 dual speeds SFP ports with additional (4) 1G/10G SFP+ slots; it supplies up to 370W PoE budget over 24 PoE+ ports.

The **SISPM1040-3166-L** is a managed Hardened PoE+ Switch provides (16) 10/100/1000 PoE+ ports, (4) 100/1000 dual speeds SFP ports with additional (2) 1G/10G SFP+ slots; it supplies up to 250W PoE budget over 16 PoE+ ports.

About This Manual

This manual describes how to install, initially configure, and troubleshoot the switch, including how to:

- Install the switch,
- Check switch status by reading the LEDs,
- Reset the switch or restore the switch to factory defaults,
- Use a Web browser or the CLI to initially configure the switch, and
- Troubleshoot the switch.

Note that this manual provides links to third party web sites for which Lantronix is not responsible.

Related Manuals

A printed Quick Start Guide is shipped with each device.
For Lantronix Drivers, Firmware, etc. go to the Product Support webpage (logon required).
For Lantronix Manuals, Brochures, Data Sheets, etc. go to the Support Library (no logon required).
For SFP manuals see Lantronix SFP webpage**.**

Other related manuals are listed below.

- SISPM1040-3xxx-L Quick Start Guide, 33761
- SISPM1040-3xxx -L Web User Guide, 33763
- SISPM1040-3xxx -L CLI Reference, 33764
- PS-DC-DUAL-56xxT 340W Standalone Power Supply Install Guide, 33788
- PS-DC-DUAL-56xxT 340W Standalone Power Supply Quick Start Guide, 33792
- SISPM1040-3248-L and 3166-L API User Guide, 33831
- Release Notes (version specific)

Key Features

- DMS (Device Management System) built in
- Compliant with IEEE 802.3af PoE and 802.3at PoE+
- PoE Configuration, PoE Scheduling, PoE Power Delay, and PoE Auto Power Reset, Always on PoE
- IEEE 1588v2 PTP (TC)
- IEEE 802.3ah OAM and IEEE 802.1ag CFM
- ITU-T Y.1564 (RFC2544) Ethernet Service Activation Test
- ITU-T G.8031 Ethernet Linear Protection Switching (EPS)
- ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)
- DHCP Server, DHCP per Port, DHCP Relay, and DHCP Snooping
- IPv4/IPv6 L3 Static route
- SCP (Secure Copy Protocol)
- Shared and Independent VLAN Learning (SVL and IVL)
- Rapid Ring, MRP, and MRP Rings

Benefits

- **Feature-rich Carrier Ethernet Switch for Metro Ethernet**: The switch delivers advanced functionality including IEEE 1588v2, OAM, CFM, etc. It also has enhanced security features such as IP source guard and Access Control List to guard your network from unwanted or unauthorized access.
- **Exceptional Precision with IEEE 1588v2 (TC)**: The switch performs IEEE1588v2 with transparent clock capability, implementations in hardware, so there is no performance penalty on packet processing. The hardware architecture ensures low latency and high time accuracy, which is critical for delay-sensitive financial and mobile applications.
- **ITU-T G.8032 (ERPS)**: Ethernet Ring Protection Switching (ERPS) is an effort at ITU-T under G.8032 Recommendation to provide sub-50ms protection and recovery switching for Ethernet traffic in a ring topology and at the same time ensuring that there are no loops formed at the Ethernet layer.
- **Superior reliability via OAM and CFM for Service Assurance**: Service assurance is provided through a rich feature set of operations, administration, and maintenance (OAM) functionalities. This Ethernet access device also offers standards-based fault and performance management in adherence with 1731 PM and 802.1ag connectivity fault management (CFM) standards. It comes with RFC 2544 and Y.1564 support and includes both traffic generation and traffic reflection. These features significantly reduce operational expenditures and allow for troubleshooting without expensive truck rolls.

Ordering Information

Model	Description
SISPM1040-3248-L	24-port Gigabit PoE+, 4 100/1000 Base-X SFP, 4 1G/10G SFP+, 370 Watts
SISPM1040-3166-L	16- port Gigabit PoE+, 4 100/1000 Base-X SFP, 2 1G/10G SFP+, 250 Watts
Optional Accessories (sold separately)	
PS-DC-DUAL-5624T	Hardened 340 Watt Isolated Power Supply with 56VDC and 24VDC Dual Output
25104	Input 85-264 VAC, 124-370 VDC; Output: 48 ~ 55 VDC, 5A, 240 Watts (Optional Second Power Supply)
25160	Input: 90-264 VAC, 127-370 VDC; Output: 48 ~ 55 VDC, 10A, 340 Watts (Optional Second Power Supply)
SISPM1040-3248-L-xx	Optional Power Cord; order separately where xx = NA, JP, etc.
EDCA-DIO-01	Enclosure Door Contact Alarm
SFPs	See Lantronix SFP webpage.

Specifications

Port Configuration

Model	Total Ports	RJ45 (10M/100M/1G)	SFP (100/1000 Base-X)	Uplinks SFP+ (1G/10G)	Console
SISPM1040-3248-L	32	24	4	4	RJ45
SISPM1040-3166-L	22	16	4	2	RJ45

Hardware Performance

Model	Forwarding Capacity	Switching Capacity	Mac Table	Jumbo Frames
SISPM1040-3248-L	101.19Mpps	136 Gbps	32 K	10056 Bytes
SISPM1040-3166-L	59.523Mpps	80Gbps	32 K	10056 Bytes

Environmental Range

Model	Operating Temp.	Operating Humidity	Storage Temp	Storage Humidity	Altitude
SISPM1040-3248-L SISPM1040-3166-L	-40°C to +75°C (with 1G SFPs) -40°C to +60°C (with 10G SFPs)	10 to 95% RH	-40 to 85°C	10 to 95% RH	< 3000m

Dimensions, Weights, Humidity

Model	Dimensions (WxHxD)	Weight	Operating Humidity
	Inches / Millimeters	Pounds / Kilograms	
SISPM1040-3248-L	17.4 x 1.73 x 11.81” 442 x 44 x 300 mm	11.02 lbs. / 5 kg.	10 to 95% Non-condensing
SISPM1040-3166-L	17.4 x 1.73 x 11.81” 442 x 44 x 300 mm	10.58 lbs. / 4.8 kg.	10 to 95% Non-condensing

Voltage and Frequency

Model	AC Input Voltage and Frequency	DC Input Voltage
SISPM1040-3248-L SISPM1040-3166-L	100-250 VAC, 50~60 Hz	52 – 57 VDC

PoE Power

Model	Available PoE Power	# of Ports that Support PoE (15.4W) and PoE+ (30.0W)
SISPM1040-3248-L	370W (DC Input)	Each of port 1- 24 supports PoE/ PoE+ within available PoE Power
	Max PoE Budget	370 Watts (PoE power not available with use of AC power supply). 15 Watts for (24) ports simultaneously. 30 Watts for (12) ports simultaneously.
SISPM1040-3166-L	250W (DC Input)	Each of port 1- 16 support PoE/ PoE+ within available PoE Power
	Max PoE Budget	Max PoE Budget 250 Watts (PoE power not available with use of AC power supply) 15 Watts for (16) ports simultaneously 30 Watts for (8) ports simultaneously

Regulatory Compliance

Regulatory Compliance	
EMS	EN61000-4-2 ESD, EN61000-4-3 RS, EN61000-4-4 EFT, EN61000-4-5 (for RJ45 Port, Surge 6KV), EN61000-4-6 CS, EN61000-4-8 PFMF
EMI	FCC Part 15 Class A 47 CFR FCC Part 15 Subpart B. ANSI C63.4: 2014. ICES-003 Issue 6. ANSI C63.4:2014.
Harmonized Standards	EN 55032: 2015+AC: 2016 (Class A) CISPR 32: 2015+COR1 2016 (Class A) EN 55024: 2010+A1: 2015 EN 55035: 2017 EN 61000-3-2: 2014 EN 61000-3-3: 2013
(CE DoC Test Report)	**Emission**: EN 55032: 2015+AC: 2016 CISPR 32: 2015+COR1: 2016 EN 61000-3-2: 2014 EN 61000-3-3: 2013 AS/NZS CISPR 32: 2015 **Immunity**: EN 55024: 2010+A1: 2015 EN 55035: 2017 (IEC 61000-4-2: 2008. IEC 61000-4-3: 2006+A1: 2007+A2: 2010. IEC 61000-4-4: 2012. IEC 61000-4-5: 2014+A1: 2017. IEC 61000-4-6: 2013+COR1: 2015. IEC 61000-4-8: 2009. IEC 61000-4-11: 2004+A1: 2017.)
Safety	CE, EN60950, EN62368, IEC 62368-1:2014, UL Listed

Compliance	
Agency	FCC Class A; CE; Safety: EN60950, NEMA TS-2 and UL NEMA TS 2-2016 (2.2.7 Transients Temperature and Humidity). 2.2.8 Vibration. 2.2.9 Shock).
Compliant	
Agency	IEC61850-3, IEEE 1613, UL, Class 1 Div 2
Mechanical Stability	
Vibration	IEC 60068-2-6
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32

Industry Standards

Standard	IEEE 802.3, IEEE 802.3u, IEEE 802.3z, IEEE 802.3ae, IEEE 802.3x, IEEE 802.3ad, IEEE 802.3D, IEEE 802.3w, IEEE 802.3s, IEEE 802.3Q, IEEE 802.3p, IEEE 802.3ad, IEEE 802.3AB, IEEE 802.3af, IEEE 802.3at

MTBF

Model	**MTBF at 25.00 deg.** Environment GB, GC - Ground Benign, Controlled	**MTBF at 75.00 deg.** Environment GB, GC - Ground Benign, Controlled
SISPM1040-3248-L SISPM1040-3166-L	229,072 Hours	46,858 Hours

Power Consumption:

SISPM1040-3166-L Maximum Power Consumption (without PoE): 36 Watts

SISPM1040-3248-L Maximum Power Consumption (without PoE): 36 Watts

No Load:

Voltage	Current	Watt
12V	1.2A	14.4W

Full Load:

Test Voltage	Current	Watt
12V	2.22A	26.64W

DC Power Consumption:

DC power consumption measured after 60 minutes under full loading with wire speed forwarding.

Switch Power: 12V

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)	BTU/hr
Non-loading	None	0.90	12.13	10.92	37.24
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1.63	12.13	19.77	67.42
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1.86	12.13	22.56	76.93

PoE Power:

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)	BTU/hr
Non-loading	None	0.07	54.7	3.83	13.06
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	6.80	54.7	371.96	1268.38
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	6.81	54.7	372.51	1270.26

Only DC Power□

52V DC

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)
Non-loading	None	0.43	52	22.36
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.01	52	416.52
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.10	52	421.20
Non-PoE Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.61	52	31.72
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.70	52	36.40

54V DC

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)
Non-loading	None	0.43	54	23.22
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	7.96	54	429.84
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.05	54	434.70
Non-PoE Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.60	54	32.40
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.67	54	36.18

57V DC

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)
Non-loading	None	0.41	57	23.37
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	7.92	57	451.44
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.01	57	456.57
Non-PoE Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.57	57	32.49
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.64	57	36.48

AC Power Consumption:

AC power consumption measured after 60 minutes under full loading with wire speed forwarding.

1. 100V AC Input

Status	Operating Interface	AC Voltage (V)	AC Current Consumption (A)	Power Factor	Apparent Power (VA)	Real Power (W)
Non-loading	None	100	0.14	1.00	14.00	14.00
Non-PoE Standby mode 1 minute	1G TP Port x 24 1G SFP x 4 10G SFP x 4	100	0.31	0.96	31.00	29.76
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	100	0.35	1	35.00	35.00

Note: Apparent Power (VA) = AC Voltage x AC Current Consumption.
Real Power (W) = Apparent Power (VA) x Power Factor.

2. 110V AC Input

Status	Operating Interface	AC Voltage (V)	AC Current Consumption (A)	Power Factor	Apparent Power (VA)	Real Power (W)
Non-loading	None	110	0.14	0.93	15.40	14.32
Non-PoE Standby mode 1 minute	1G TP Port x 24 1G SFP x 4 10G SFP x 4	110	0.28	1	30.80	30.80
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	110	0.32	1	35.20	35.20

Note: Apparent Power (VA) = AC Voltage x AC Current Consumption.
Real Power (W) = Apparent Power (VA) x Power Factor.

3. 220V AC Input

Status	Operating Interface	AC Voltage (V)	AC Current Consumption (A)	Power Factor	Apparent Power (VA)	Real Power (W)
Non-loading	None	220	0.10	0.72	22.00	15.84
Non-PoE Standby mode 1 minute	1G TP Port x 24 1G SFP x 4 10G SFP x 4	220	0.17	0.81	37.40	30.29
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	220	0.18	0.89	39.60	35.24

Note: Apparent Power (VA) = AC Voltage x AC Current Consumption.
Real Power (W) = Apparent Power (VA) x Power Factor.

4. 240V AC Input

Status	Operating Interface	AC Voltage (V)	AC Current Consumption (A)	Power Factor	Apparent Power (VA)	Real Power (W)
Non-loading	None	240	0.10	0.58	24.00	13.92
Non-PoE Standby mode 1 minute	1G TP Port x 24 1G SFP x 4 10G SFP x 4	240	0.15	0.83	36.00	29.88
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	240	0.17	0.87	40.80	35.50

Note: Apparent Power (VA) = AC Voltage x AC Current Consumption.
Real Power (W) = Apparent Power (VA) x Power Factor.

AC and DC Power

AC 110V + DC 52V

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)
Non-loading	None	0.43	52	23.22
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	7.96	52	429.84
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.05	52	434.70
Non-PoE Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1.02	52	53.04
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1.18	52	61.36

AC110 + DC 54V

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)
Non-loading	None	0.43	54	23.22
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	7.96	54	429.84
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.05	54	434.70
Non-PoE Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1	54	54.00
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1.14	54	61.56

AC 110V + DC 57V

Status	Operating Interface	DC Current Consumption (A)	DC Voltage (V)	DC Power Consumption (W)
Non-loading	None	0.43	57	23.22
Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	7.96	57	429.84
Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	8.05	57	434.70
Non-PoE Standby mode	1G TP Port x 24 1G SFP x 4 10G SFP x 4	0.92	57	52.44
Non-PoE Full-loading 60 minutes later	1G TP Port x 24 1G SFP x 4 10G SFP x 4	1.08	57	61.56

Software Features

Layer 2 Switching	
Spanning Tree Protocol (STP)	• Standard Spanning Tree 802.1d • Rapid Spanning Tree (RSTP) 802.1w • Multiple Spanning Tree (MSTP) 802.1s
Trunking	Link Aggregation Control Protocol (LACP) IEEE 802.3ad
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) • Port-based VLAN • 802.1Q tag-based VLAN • MAC-based VLAN • Management VLAN • Private VLAN Edge (PVE) • Q-in-Q (double tag) VLAN • Voice VLAN • GARP VLAN Registration Protocol (GVRP)
DHCP	• DHCP Snooping used to block intruders on untrusted ports. • Relay of DHCP traffic to DHCP server in different VLAN. • Works with DHCP Option 82
IGMP v1/v2/v3 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups
IGMP Querier	IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router
IGMP Proxy	IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router
MLD v1/v2 Snooping	Delivers IPv6 multicast packets only to the required receivers
Layer 3 Switching	
IPv4 Static routing	IPv4 Unicast: Static routing
IPv6 Static routing	IPv6 Unicast: Static routing
Security	
Secure Shell (SSH)	SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported
Secure Sockets Layer (SSL)	SSL encrypts http traffic, allowing advanced secure access to the browser-based management GUI in the switch
IEEE 802.1X	• IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions • Supports IGMP-RADIUS based 802.1X • Dynamic VLAN assignment
Layer 2 Isolation Private VLAN Edge	PVE (also known as *protected ports*) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks

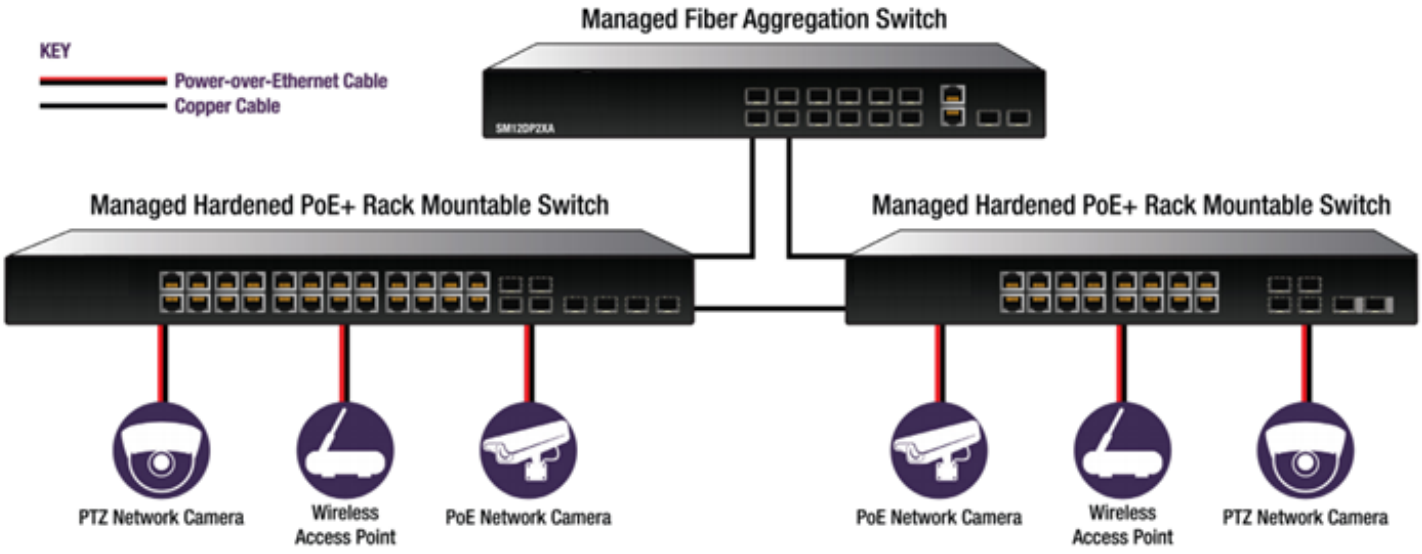
Port Security	Locks MAC addresses to ports, and limits the number of learned MAC addresses
IP Source Guard	Prevents illegal IP address from accessing to specific port in the switch
RADIUS/ TACACS+	Supports RADIUS and TACACS+ authentication. Switch as a client
Storm Control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port
DHCP Snooping	A feature acts as a firewall between untrusted hosts and trusted DHCP servers
ACLs	Supports up to 256 entries. Drop or rate limitation based on: ● Source and destination MAC, VLAN ID or IP address, protocol, port ● Differentiated services code point (DSCP) / IP precedence ● TCP/ UDP source and destination ports ● 802.1p priority ● Ethernet type ● Internet Control Message Protocol (ICMP) packets ● TCP flag
Quality of Service (QoS)	
Hardware Queue	Supports 8 hardware queues
Scheduling	● Strict priority and weighted round-robin (WRR) ● Queue assignment based on DSCP and class of service
Classification	● Port based ● 802.1p VLAN priority based ● IPv4/IPv6 precedence / DSCP based ● Differentiated Services (DiffServ) ● Classification and re-marking ACLs
Rate Limiting	● Ingress policer ● Egress shaping and rate control ● Per port
HQoS	Provides the ability to guarantee the quality of service for key users
Management	
DHCP Server	Support DHCP server to assign IP addresses to DHCP clients
Remote Monitoring (RMON)	Embedded RMON agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis
Port Mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to *N*-1 (where *N* is the number of Switch Ports) ports can be mirrored to single destination port. A single session is supported.
UPnP	Universal Plug and Play enables device-to-device interoperability
s-Flow	The industry standard for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats

IEEE 802.1ab (LLDP)	● Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network ● Support LLDP-MED extensions
Web GUI Interface	Built-in switch configuration utility for browser-based device configuration
CLI	Configure/manage switches in command line interface modes
Dual Image	Independent primary and secondary images for backup while upgrading
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)
Firmware Upgrade	Web browser upgrade HTTP/ HTTPs), TFTP, and CLI
NTP	Network Time Protocol (NTP) for clock synchronization between computer systems over packet-switched
Other Management	● HTTP/HTTPs; SSH ● DHCP Client/ DHCPv6 Client ● Cable Diagnostics ● Ping, Syslog ● Telnet Client ● IPv6 Management
Synchronization	
IEEE 1588v2 PTP	Support IEEE 1588 v2 PTP (Precision Time Protocol)
Loop Protection	
ITU-T G.8031	Supports ITU-T G.8031 Ethernet Linear Protection (EPS)
ITU-T G.8032	Supports ITU-T G.8032 Ethernet Ring Protection Switching (ERPS)
Loop Detection	Supports Loop Detection and Protection
Rapid Ring (R-Ring)	Rapid Ring is a redundancy network protocol used to recover the network system from critical links. Provides recovery time of less than 20ms on up to 250 switches.
MRP and MRP Rings	A recovery protocol based on ring topology, designed to react deterministically on a single switch failure.
Carrier Ethernet	
E-LINE	Ethernet Virtual Private Line: it is a service connecting two customer Ethernet ports over a WAN.
E-LAN	Ethernet Virtual Private LAN: it is a multipoint service connecting a set of customer endpoints, giving the appearance to the customer of a bridged Ethernet network connecting the sites.
E-TREE	Ethernet Virtual Private Tree: it is a multipoint service connecting one or more roots and a set of leaves but preventing inter-leaf communication.
E-ACCESS	An E-Access Service is an OVC-based service with at least one UNI OVC End Point and one ENNI End Point.

Carrier Ethernet	1588v2 PTP. OAM (IEEE802.3ah), CFM (IEEE802.1ag), PM (ITU-T Y.1731), ELPS (ITU-T G.8031), ERPS (ITU-T G.8032), Y.1564
Ethernet OAM	
IEEE 802.3ah Link OAM	Supports IEEE 802.3ah Ethernet OAM (Operations, Administration & Management)
IEEE 802.1ag & ITU-T Y.1731 Flow OAM	Supports IEEE 802.1ag Ethernet CFM (Connectivity Fault Management) Supports ITU-T Y.1731 PM (Performance Monitoring)
ITU-T Y.1564	Support RFC2544 Ethernet Service Activation Test Benchmarking Methodology: Throughput, Latency, Frame loss rate, Back-to-back frames Test
Power over Ethernet (PoE)	
Port Configuration	Supports per port PoE configuration function
PoE Scheduling	Supports per port PoE scheduling to turn on/off the PoE devices (PDs).
PoE Auto Checking	Auto Power Reset checks the link status of PDs. Reboot PDs if there are no responses.
Power Delay	The switch provides power to PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs.
Device Management System (DMS)	
Graphical Monitoring	● Topology view: Intuitive way to configure and manage switches and devices visually ● Floor view: Easily drag and drop PoE devices to help you build a smart workforce ● Map view: Effectively drag and drop devices and monitor operation on Google Maps
Find my Switch	Search for and locate a specific switch quickly
Traffic Monitoring	Display visual chart of network traffic of all devices and monitor every port at any time from switches
Troubleshooting	● Network diagnostic between master switch and devices ● Support protection mechanism, such as rate-limiting to protect your devices from brute-force downloading ● Support performance management and link management through IEEE 802.3ah and IEEE 802.1ag (Y.1731)
Google Map API Key	Set up Google Map API Key from https://developers.google.com/maps/documentation/directions/get-api-key to use DMS Map View for enterprise applications

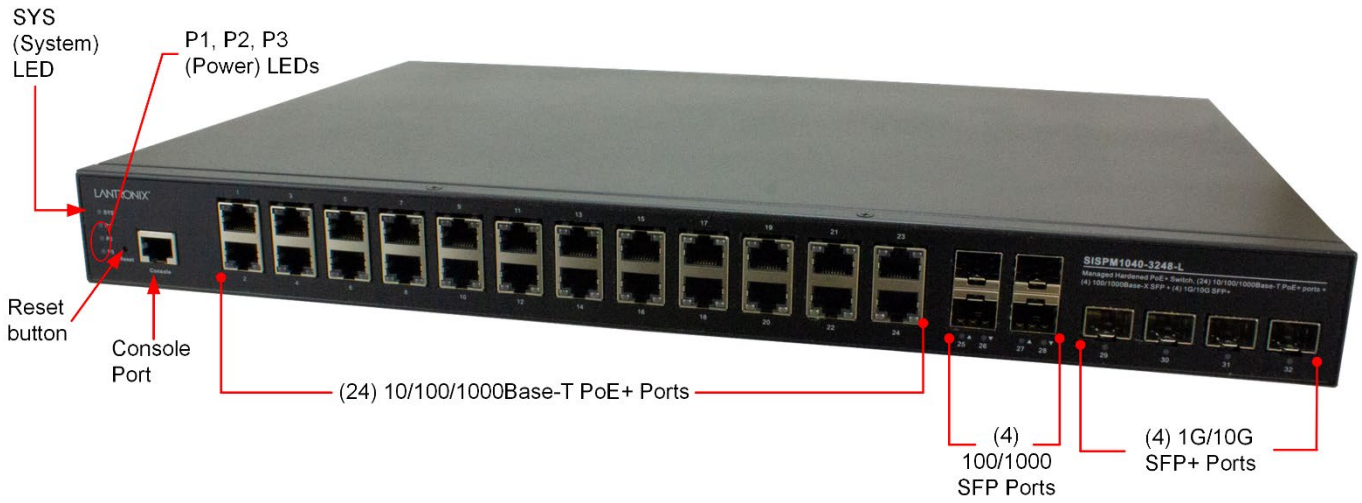
Applications

- High-resolution IP camera, IP PTZ camera
- High-performance wireless access points
- Intelligent Transportation System (ITS)
- Oil and gas field sites

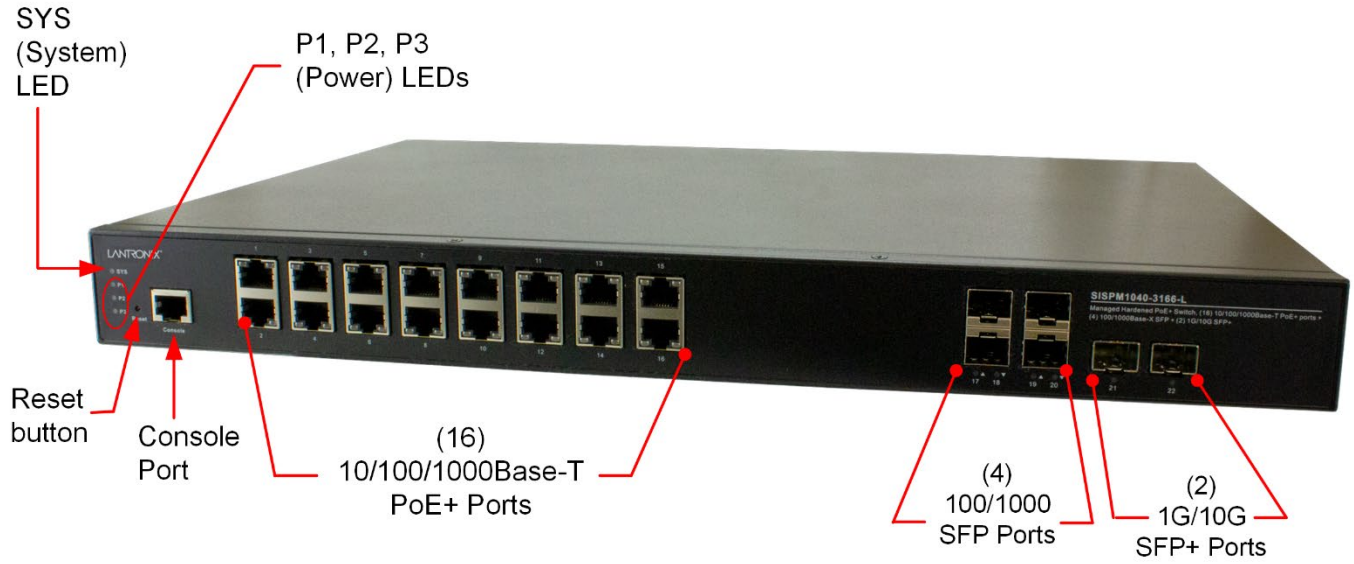


Front Panels

The **SISPM1040-3248-L** front panel is shown below:



The **SISPM1040-3166-L** front panel is shown below:



LED Descriptions

The LEDs on the front panel provide switch status checking and monitoring. There are three types of LEDs:

System LED: Indicates if the switch is powered up correctly or not, or, indicates if there is a system alarm triggered for troubleshooting.
Power LEDs (P1/P1: DC LED, P3: AC LED): Indicate if the switch is powered up correctly or not.
Port Status LEDs: Indicate the current status of each port.

System LEDs:

LED	Color	Function
SYS (System)	Green/Red	LED off: All Power Off Green Light: Switch FW Bootup is Ready Green Blinking: System Booting Red Light: Minor Alarms Red Blinking: Major Alarms: an abnormal state, such as exceeding operating temperature range, has been detected in the switch.
P1 (DC Power 1)	Green	LED off: Power 1 Off; The switch is not receiving power from DC power. Green LED on: Power 1 on; the switch is powered ON correctly.
P2 (Dc Power 2)	Green	LED off: Power 2 Off; The switch is not receiving power from DC power. LED on: Power 2 on
P3 (AC Power 1)	Green	LED off: Power 3 Off; Power 3 on; the switch is not receiving power from AC power. LED on: The switch is powered ON correctly.

At SISPM1040-3166-L FW v8.40.985:

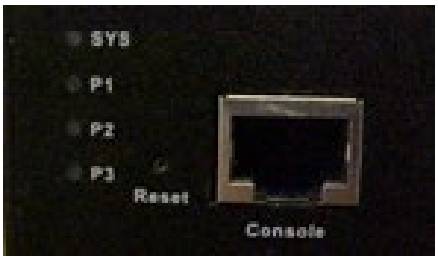
AC-DC Power Input model LED Alarm light initial behavior update:
A - after switch power on, if initially detected only AC or DC input, the alarm LED does not turn on.
B - after switch power on, if initially detected AC and DC input and System Ready, then the AC or DC drops power.

Event A is with only AC or DC connected; the system LED remains green when system ready.
Event B is with AC and DC both connected, and then power off AC or DC; the System LED changes from green to red.

Port Status LEDs:

LED	Color	Function
TP Port	Green/Amber	Light off: port disconnected or link failed Green Light on: link-up (1G) Amber Light on: link-up (10/100M) Blinking: activity (receiving or transmitting data)
SFP Port	Green/Amber	Light off: port disconnected or link failed Green Light on: link-up (1G) Amber Light on: link-up (100M) Blinking: activity (receiving or transmitting data)
SFP+ Port	Blue/Green	Light off: port disconnected or link failed Blue Light on: link-up (10G) Green Light on: link-up (1G) Blinking: activity (receiving or transmitting data)

Reset Button



Press to toggle the LED indicators to display Link/Activity/Speed or just display PoE port status.

By pressing the Reset button for certain period of time, you can:

- **Reset** the Switch: to reboot and get the switch back to the previous configuration settings saved.
- **Restore** the Switch to Factory Defaults: To restore the original factory default settings back to the switch.

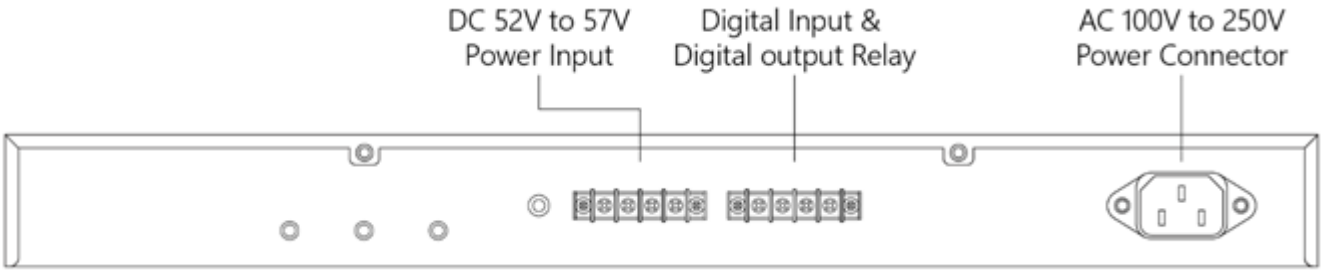
Note: Based on the table below, determine which task is being performed by reading the LED behaviors while pressing the **Reset** button. When LED behaviors are correctly displayed, just release the **Reset** button.
The front panel LEDs flash in a sequence that takes approximately 15-30 seconds. When the front panel LEDs quit flashing you can continue operation.

Table 4: Reset Button Operation

Task to Perform	Press Reset for	SYS LED Behavior	Port Status LED Behavior
Reset the Switch	2 ~ 7 seconds	Blinking Green	All LEDs Off
Restore to Defaults	7 ~ 12 seconds	Blinking Green	All LEDs On

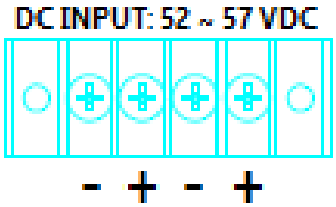
Back Panels

The back panel of the -3166 and -3248 are shown below.

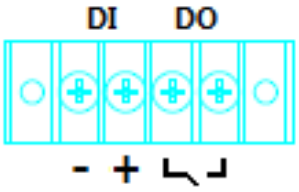


AC Input: 100~ 250 VAC 50/60Hz:
AC Input Voltage and Frequency: 100-250 VAC, 50~60 Hz

DC INPUT 52-57 VDC (P1 and P2) and Ground Screw:



DI/DO: Digital Input / Digital Output.



Chapter 2 – Installing the Switch

Package Contents

Check the package contents to make sure you have received the following items. Contact your sales representative if any item is damaged or missing. Please save the packaging for possible future use.

- One Switch
- One DB-9 to RJ45 Cable
- AC Power Cord (Option)
- Four adhesive-backed rubber feet
- One printed Quick Start Guide
- Rack Mount Brackets

Caution: The switch is an indoor device. If it is to be used with outdoor devices such as outdoor IP cameras or outdoor Wi-Fi APs, then you are strongly suggested to install a surge protector or surge suppressor in order to protect the switch. The switch is compliant with 802.3at in Environment A when using an isolated power supply. For 802.3at Environment B applications, i.e., building to building, copper to copper endpoint connections: 1) use an Ethernet network isolator module (PoE disabled), or 2) use mid-span injector(s), such as Lantronix' MIL-L100 or, L1000i-at, between this switch's PSE port and link partner PD port.

Regional Versions of Power Cords

These regional versions of the power cords and power supplies are available: -NA = North America, -LA = Latin America, -EU = Europe, -UK = United Kingdom, -SA = South Africa, -JP = Japan, -OZ = Australia, and -BR = Brazil.

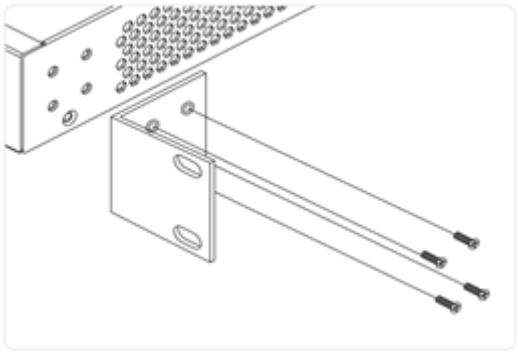
Safety Instructions for Rack Mount Installations

The instructions below (or similar) are intended for rackmount installation environments:

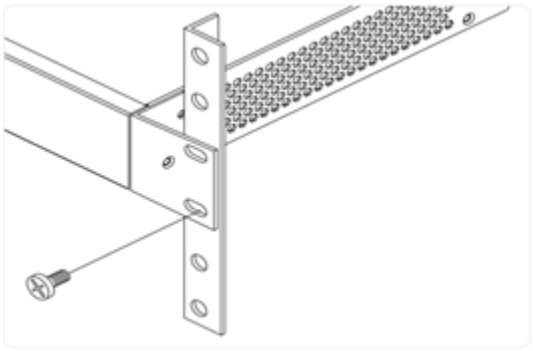
1. Elevated Operating Ambient Temperature: if installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may exceed room ambient. Install the equipment in an environment compatible with the maximum ambient temperature (Tma) specified.
2. Reduced Air Flow: install the equipment in a rack so that the amount of air flow required for safe operation is not compromised.
3. Mechanical Loading: Mount the equipment in the rack so that a hazardous condition does not occur due to uneven mechanical loading (weight distribution/rack balance).
4. Circuit Overloading: give consideration to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Consider all equipment nameplate ratings when addressing this concern.
5. Reliable Earthing: maintain reliable earthing of rack-mounted equipment; pay particular attention to supply connections other than direct connections to the branch circuit (e.g., use of power strips).

Mounting the Switch in a 19-inch Rack

1. Attach the mounting brackets to both sides of the chassis. Insert screws and tighten with a screwdriver to secure the brackets.



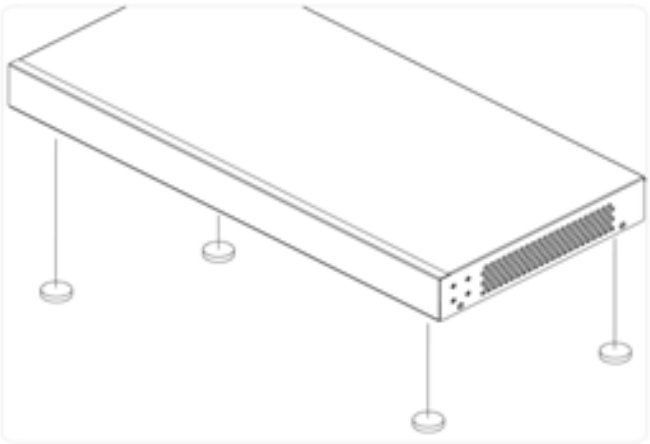
2. Place the switch on a rack shelf in the rack. Push it in until the oval holes in the brackets align with the mounting holes in the rack posts.



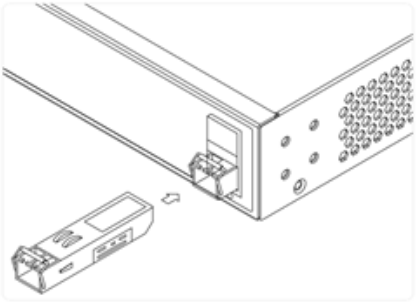
3. Attach the brackets to the posts. Insert screws and tighten them.

Mounting the Switch on Desk or Shelf

1. Verify that the workbench is sturdy and reliably grounded.
2. Attach the four adhesive rubber feet to the bottom of the switch.



Installing SFP Modules



You can install or remove a mini-GBIC SFP module from an SFP port without having to power off the switch.
Note: The SFP ports should use UL Listed Optional Transceiver product, Rated 3.3Vdc, Laser Class 1.
See the SFP manual for specific cautions, warnings, and instructions.
See the SFP page for our full range of Optical Devices.

1. Insert the module into the SFP port.
2. Press firmly to ensure that the module seats into the connector.

Connecting Powered Devices (PDs)

Note that this device does not comply with IEEE 802.3at at 48-51.4 VDC, or with IEE 802.3bt at 48-53.4 VDC. The old device label states 48-57 VDC. The latest device label indicates:

- 802.3af: 48-57VDC
- 802.3at: 52-57VDC
- 802.3bt: 54-57VDC

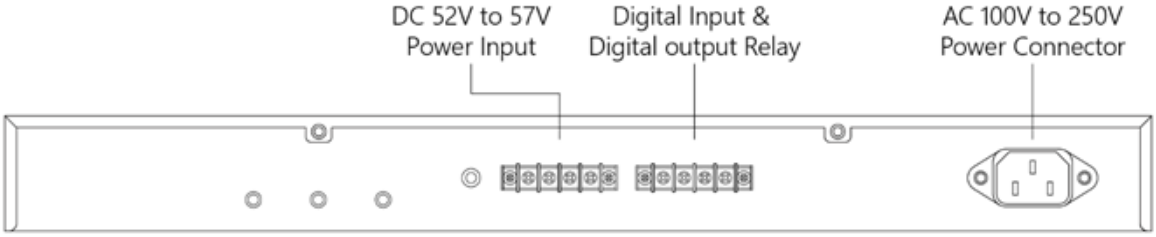
This device drops ~1.3V from Vin to PSEout. IEEE requires these PSEout voltages at the PSE output into the cable:

- 802.3af: 44VDC
- 802.3at: 50VDC
- 802.3bt: 52VDC

Not meeting this PSEout requirement may cause power up failures or power cycling with devices drawing maximum power with maximum cable loss.

Connecting Power

The SISPM1040-3248-L/SISPM1040-3166-L has one AC power input and Dual DC power inputs. It doesn't support a secondary AC Power Supply option. It provides redundancy between AC and dual DC power inputs and the AC power input has high priority. The switch can use DC and AC at the same time. For redundancy, AC takes priority over DC; see the Install Guide.



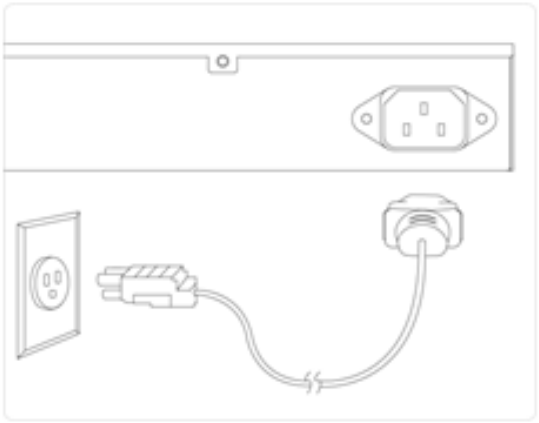
Power Connection: **Warning**: Connect the power supply to the switch first, and then connect the power supply to power. Otherwise catastrophic product failure may occur. **1.** Verify that power is off to the DC circuit that you are going to attach to the switch PoE DC-input connector. This can be either of the two power supplies (AC-input or DC-input) or site source DC. **2.** As an added precaution, place an appropriate safety flag and lockout device at the source power circuit breaker, or place a piece of adhesive tape over the circuit breaker handle to prevent accidental power restoration while you are working on the circuit.

Power Disconnection: To disconnect power from the switch after a successfully boot: **1.** Turn off power to the switch. **2.** Disconnect the cables.

Connecting the AC Power Cord

The SISPM1040-3xxx-L ships with one standard Power Supply installed. You can order one AC Power cord as a separate option.

1. Connect the AC power cord to the AC power receptacle of switch.
2. Connect the other end of the AC power cord to the AC power outlet.
3. Check the **SYS** LED. If it is On, the power connection is correct.



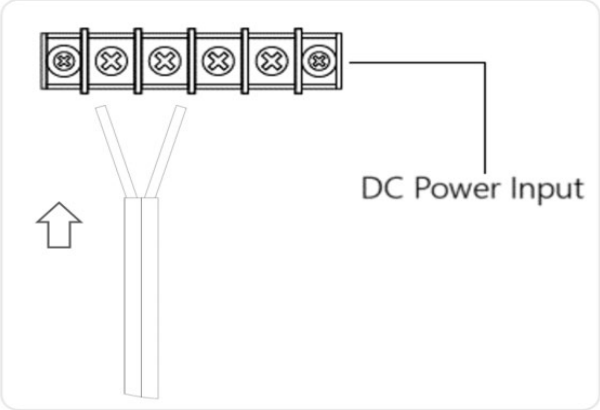
ATTENTION: This case must be earth grounded.
No DC input may be earth grounded.
Use Isolated Power Supply.

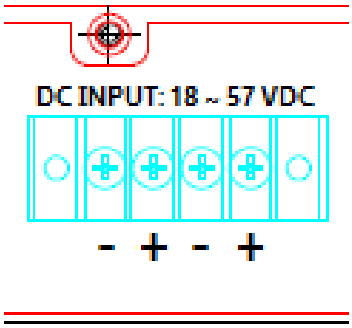
WARNING: Hot Surface Do Not Touch.

Connecting the DC Power Cord

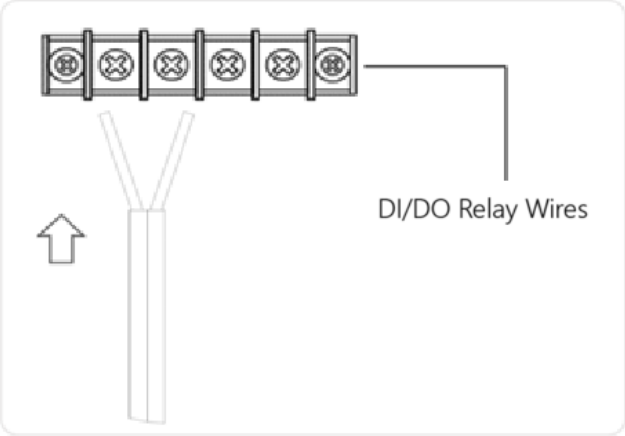
The SISPM1040-3248-L/SISPM1040-3166-L has one AC power input and Dual DC power input. It doesn't support a secondary AC Power Supply option. It provides redundancy between AC and dual DC power inputs and the AC power input has high priority. The switch can use DC and AC at the same time, in which case the AC has priority over the DC.

1. Insert the negative/positive DC wires into the V-/V+ terminals, respectively.
2. To keep the DC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.
3. Check the SYS LED. If it is ON, the power connection is correct.





Connecting the DI/DO Relay Wires



1. Insert the negative (ground)/positive DI/DO Relay wires into the +/- terminals, respectively.
2. To keep the DI/DO Relay wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

Note:

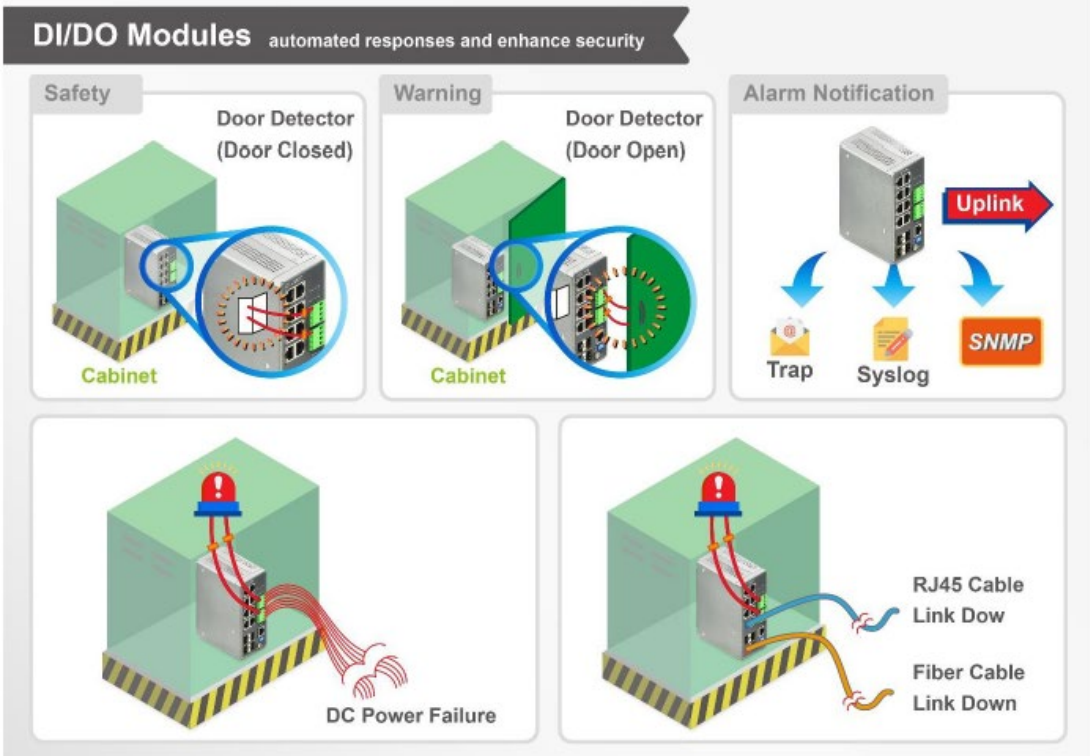
- Digital output (relay): 24VDC/1A
- Digital input: level 0(Low) -> 0V to 6V, level 1 (High) -> 10V to 24V

FAULT: The two contacts of the terminal block connector are used to detect user-configured events.
The two wires attached to the fault contacts form an open circuit when a user-configured event is triggered.
If a user-configured event does not occur, the fault circuit remains closed.

Digital Input and Digital Output Use Case

The switch supports Digital Input and Digital Output. The Digital Input enables the switch to detect and log external device status (such as door intrusion detector). The Digital Output could be used to tell administrators if the switch port shows link down, link up or power failure. **Note**:

Digital output (relay): 24VDC/1A
Digital input: level 0(Low) -> 0V to 6V, level 1 (High) -> 10V to 24V



DI: Use for receiving external signal and trigger DO. You may set the voltage input as high or low as DI normal, when DI stays in normal (assume it's set as low), then DO will not response. But the voltage input change to high, DI will show high/ abnormal and at the same time, DO will automatically switch to "abnormal" and send a signal to connected devices, switch will have system recorded.

For example, water level application:

Setting: low water level: DI normal. High water level: DI abnormal, DIO connected to external alarm notification.

DI will show "normal" when the water level is low. DI will not send signal to DO.

DI will show "abnormal" when sensor senses high water level and will send signal to DO at the same time. DO will turn to abnormal and send signal to external alarm notification to trigger the alarm LED.

DI is used for connecting external alarm devices and once it is triggered the switch can send the trap. An external alarm device (for example: power supply, IP camera) can activate this input pin.
Level 0 (Low): 0V to 6V
Level 1 (High): 10V to 24V

For DO, it's similar but the switch is the alarm device, when the switch has temperature or voltage alarm, it will trigger the digital output (24V/1A) to the external device such as a contact relay.

Power Supply Specifications

Power supply options include:

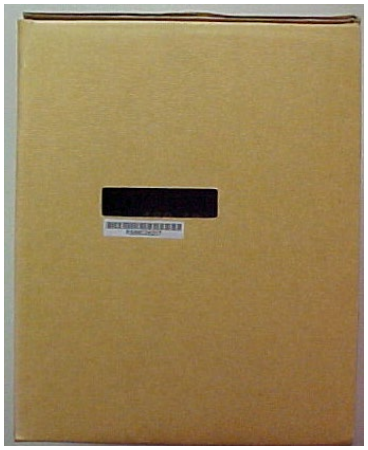
- 25160
- 25104
- PS-DC-DUAL-56xxT Standalone Power Supply

25160 - 480W Din Rail Power Supply (SDR-480-48)

Part number: 25160; see the 25160 webpage for product details.
Rated Power: 480W
Input 90 – 264VAC or 127 – 370VDC
Output 48 – 55V
Operating temp. – 25 - +70◦C

Description: AC-DC Industrial DIN rail power supply;
Output 48Vdc at 10A; Metal casing; Ultra slim width 85.5mm
Net weight (grams): 1820
Format: DIN rail
Application: Installation UL 508; ITE EN/UL/IEC 60950
Output Power (W): 480
Output Voltage (V): 48
Output Current (A): 10
Input Voltage (V): 90-264V; Universal Input 110/230V
IP Rating: No IP
Format: DIN rail
Control Signals: DC OK
Dimming Technology: No Dimming

DC OK Relay Contact
Contact Closed: PSU turns on / DC OK.
Contact Open: PSU turns off / DC Fail.
Contact Ratings (max.) 30V/1A resistive load.

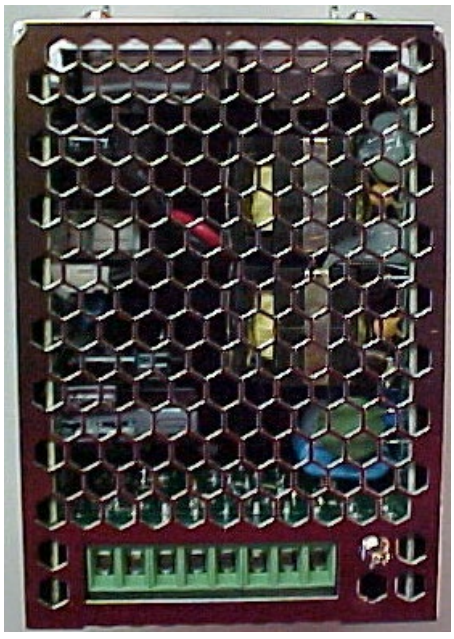


Power Supply Views (25160)

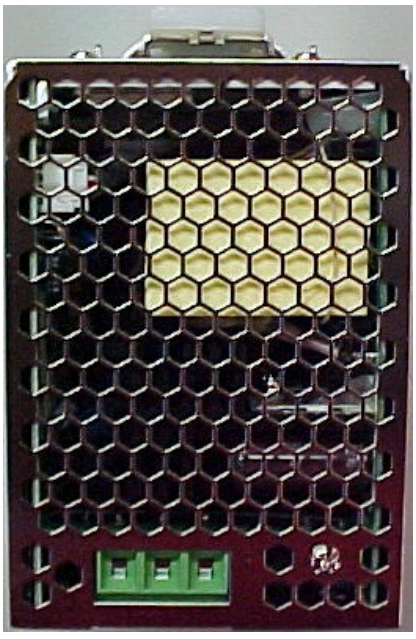
Front:

Back:

Top:

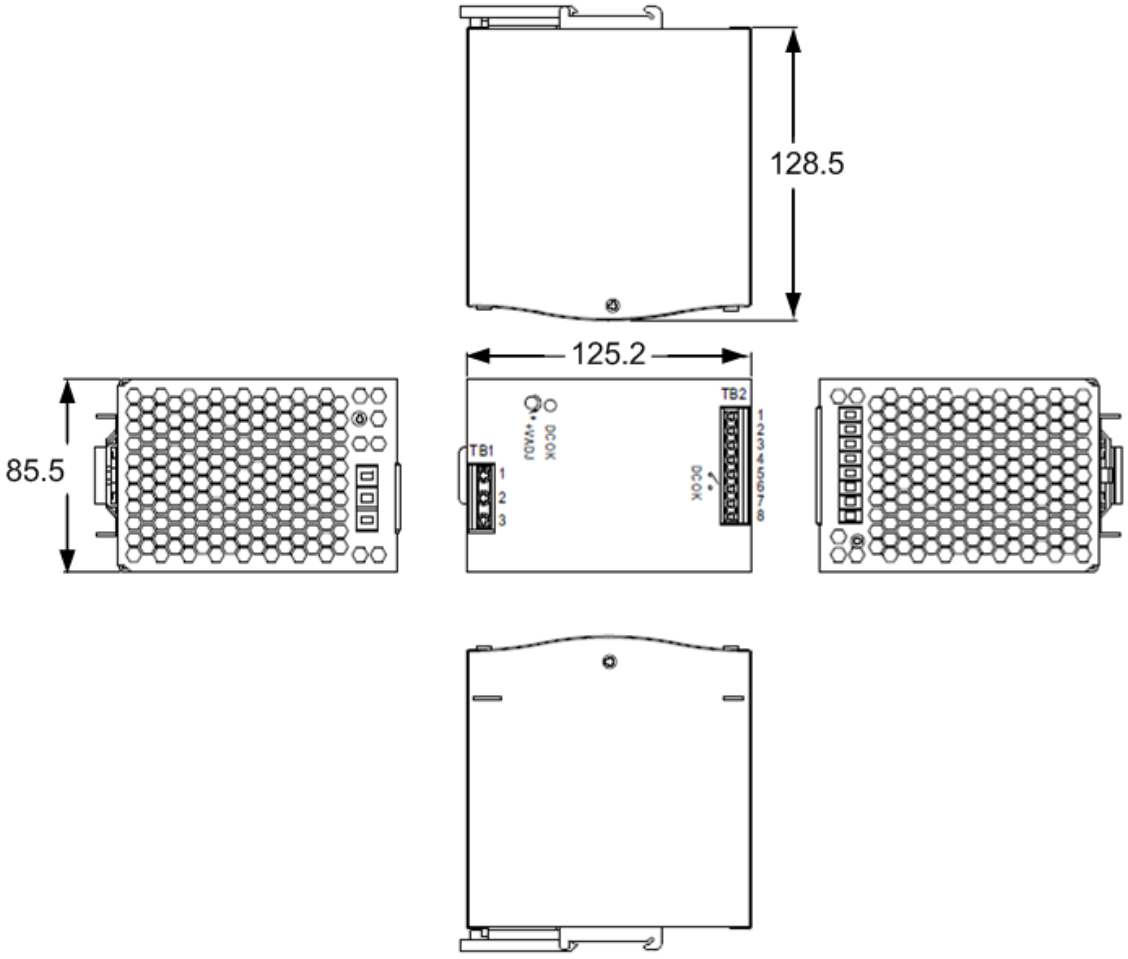


Bottom:

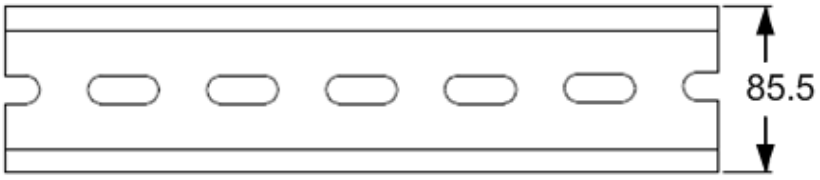


Power Supply Dimensions (25160)

Width: 85.5 mm (3.36 in.)
Height: 125.2 mm (4.92 in.)
Depth: 128.5 mm (5.05 in.)



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15



Power Supply Pin Descriptions (25160)

Terminal Pin No. Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N
3	AC/L

Terminal Pin No. Assignment (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7,8	NC

DC OK Relay Contact

Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

25104 - Industrial DIN Rail Mounted Power Supply

Input: 85-264 VAC, 124-370 VDC

Output: 48 ~ 55 VDC, 5.0A, 240 Watts

Features

- 94% High Efficiency
- 150% Peak Load
- Protected against Short Circuit, Overload, Over Voltage, and Overheating
- Convection air cooling
- DIN rail mountable
- UL 508 approved
- Full load burn in test
- RoHS compliant
- MTBF 169.3 Khrs

See https://www.transition.com/products/accessory/25104a/ for more information.

PS-DC-DUAL-56xxT 340W Standalone Power Supply

Lantronix PS-DC-DUAL-56xxT Standalone Power Supplies are designed to provide power to the Lantronix SISPM1040-384-LRT-C. This standalone power supply can be installed in a 19" Rack with 1RU high.

The Power Supply provides 340W at 56VDC and is targeted for PoE applications.

The Power Supply is fully compliant with IEEE 802.3af, at, and bt PoE standards for isolation. It will provide a secondary fully-isolated 12V at 2.5A (30W) or 24V at 1.25W (30W) output for other equipment. The 12V or 24V on the secondary output are separate model numbers.

See the "PS-DC-DUAL-56xxT Power Supply Install Guide" PN 33788 on its webpage for more information.

Chapter 3 - Initial Switch Configuration

Initial Switch Configuration via Web Browser

After powering up the switch for the first time, you can perform the initial switch configuration using a web browser. For managing other switch features, see the *Web User Guide* for details.

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. After changing PC's IP address (for example, 192.168.1.250), then you can access the Web interface of the switch using the switch's default IP address as described below.

Note: The switch factory default IP address is 192.168.1.77. The switch factory default Subnet Mask is 255.255.255.0.

1. Power up the PC that you will use for the initial configuration. Please 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 as below, so that it can communicate with the switch. The method to change the PC's IP address (e.g., for a PC running Windows® 7/8.x/10) is as follows:

   2a: Type "network and sharing" into the Search box in the Start Menu.

   2b: Select Network and Sharing Center.

   2c: Click on **Change adapter settings** on the left of PC screen.

Note: You can skip step 2a to 2c, by pressing WinKey+R and type "ncpa.cpl" command to get to step 2d directly.

   2d: Right-click on your local adapter and select Properties

   2e: In the Local Area Connection Properties window highlight Internet Protocol Version 4 (TCP/IPv4) then click the Properties button.

Note: Be sure to record all your PC's current IP settings to be able to restore them later.

   2f: Select the radio button **Use the following IP addres**s and enter in the IP for the PC (e.g., any IP address not in use, and in between 192.168.1.2 and 192.168.1.254), Subnet mask (e.g., 255.255.255.0), and Default gateway that corresponds with your network setup. Then enter your Preferred and Alternate DNS server addresses.

   2g: Click **OK** to change the PC's IP address.

3. Power up the switch to be initially configured and wait until it has finished its start-up processes.
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; enter the factory default IP address to access the switch's Web interface.

If your PC is configured correctly, you will see the Login page of the switch as shown below.

If you do not see the above Login page, try these steps:

- Refresh the web page.
- Check to see if there is an IP conflict issue.
- Clear browser cookies and temporary internet files.
- Check your PC settings again and repeat step 2.

6. Enter the factory default username (**admin**) and password (**admin**) on login page.
7. Click "Login" to log into the switch. See the *Web User Guide* for additional information.

Initial Switch Configuration via CLI

1. Use an RJ-45 cable to connect a terminal or PC/terminal emulator to the switch port to access the CLI.
2. Attach the RJ-45 serial port on the switch front panel to the cable for Telnet/CLI configuration.
3. Attach the other end of the DB-9 cable to a PC running Telnet or a terminal emulation program such as HyperTerminal or TeraTerm.
4. After powering up the switch for the first time, you can perform the initial switch configuration using the CLI (Command Line Interface). For managing other switch features, see the *CLI Reference* for details.

Chapter 4 - Troubleshooting

Basic Troubleshooting

1. Make sure your switch model supports the feature or function attempted; see Key Features on page 6 and check the Release Notes for your particular firmware version.
2. Verify the install process; see Chapter 2 – Installing the Switch on page 26.
3. Verify the initial switch configuration; see Chapter 3 - Initial Switch Configuration on page 38.
4. Troubleshoot connected network devices to pinpoint the problem to the switch.
5. Run the System Diagnostics. See the *Web User Guide* or the *CLI Reference*.
6. Reset the switch; see Reset Button on page 24.
7. Restore the switch to its factory default settings; see Reset Button on page 24.
8. If using the CLI, try configuring / testing via the Web UI and vice versa. See the *Web User Guide* or *the CLI Reference.*

Troubleshooting PoE Problems

1. Note that PoE devices initially draw more power during their boot up sequence than during normal operation.
2. Turn LLDP off and turn CDP on.
3. Verify that PoE capability is enabled for the interface.
4. Make sure the cable is properly seated in the port socket.
5. Ensure that you have the right and qualified Cat 5 or above Ethernet cable plugged into the right port on the PD, and that the length of the Ethernet cable is not over 100m.
6. Confirm the power supply mode (Alternative A vs. Alternative B) with the PD vendor. Note that PoE support requires both the AC and DC power supplies.
7. For PD power up failures or power cycling, verify that the power supply is set to Vout of 56 V. See Power Supply Specifications on page 33.

Troubleshooting Table

The following table provides information to help troubleshoot problems by taking actions based on the suggested solutions.

Table 5: Troubleshooting Table

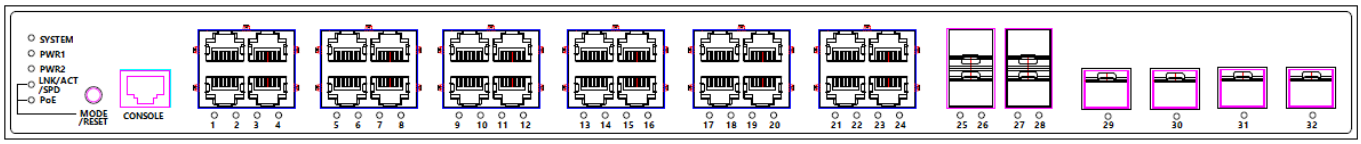
Symptom	Possible Cause	Suggested Solution
SYSTEM LED is Off	The switch is not receiving power.	1. Check if correct power cord is connected firmly to the switch and to the AC/DC outlet socket. 2. Perform power cycling the switch by unplugging and plugging the power cord back into the switch. 3. If the LED is still off, try to plug power cord into different AC/DC outlet socket to make sure correct AC/DC source is supplied.
SYSTEM LED is RED	An abnormal state has been detected by the switch.	Check the system log within the switch from WEB UI to understand the abnormal state (e.g., exceeding operating temperature range) and take corresponding actions to resolve.
RJ45 Ports Left Side SFP Ports SFP+ Ports LED is Off	The port is not connected or the connection is not working.	1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and the connected device. 2. Make sure the connected device is up and running correctly. 3. If the symptom still exists, try different cable or different port, in order to identify if it is related to the cable or specific port. 4. Check if the port is disabled in the configuration settings via WEB user interface.
RJ45 Ports Right Side LED is Off	The port is not supplying power	1. Check if the cable connector plug is firmly inserted and locked into the port at both the switch and the connected device. 2. Make sure the correct Ethernet cables are used. 3. If the symptom still exists, try different cable or different port, in order to identify if it is related to the cable or specific port. 4. Check if the port is disabled in the configuration settings via WEB user interface.

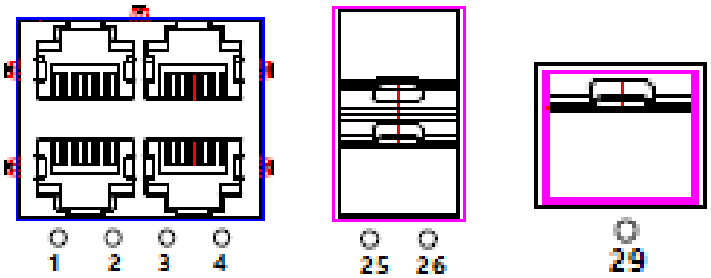
LED Troubleshooting

Table 6: LED Troubleshooting

LED	Color	State	Description
RJ45 Ports Left side	Green	On	The port is enabled and established a link to connected device, and the connection speed is 1000Mbps.
	Green	Blinking	The port is transmitting/receiving packets, and the connection speed is 1000Mbps.
	Amber	On	The port is enabled and established a link to connected device, and the connection speed is 10/100Mbps.
	Amber	Blinking	The port is transmitting/receiving packets, and the connection speed is 10/100Mbps.
	--	Off	The port has no active network cable connected, or it is not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface.
RJ45 Ports Right Side	Green	On	The port is enabled and supplying power to connected device.
	Amber	On	An abnormal state, such as overload status, has been detected in the switch.
	--	Off	The port has no active network cable connected, or it is not connected a PoE PD device. Otherwise, the port may have been disabled through the switch user interface.
SFP Ports	Green	On	The port is enabled and established a link to connected device, and the connection speed is 1000Mbps.
	Green	Blinking	The port is transmitting/receiving packets, and the connection speed is 1000Mbps.
	Amber	On	The port is enabled and established a link to connected device, and the connection speed is 100Mbps.
	Amber	Blinking	The port is transmitting/receiving packets, and the connection speed is 100Mbps.
	--	Off	The port has no active network cable connected, or it is not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface.

LED	Color	State	Description
SFP+ Ports	Blue	On	The port is enabled and established a link to connected device, and the connection speed is 10Gbps.
	Blue	Blinking	The port is transmitting/receiving packets, and the connection speed is 10Gbps.
	Green	On	The port is enabled and established a link to connected device, and the connection speed is 1Gbps.
	Green	Blinking	The port is transmitting/receiving packets, and the connection speed is 1Gbps.
	--	Off	The port has no active network cable connected, or it is not established a link to connected device. Otherwise, the port may have been disabled through the switch user interface.





Device Label and Packaging Label

In addition to the device CLI and Web GUI, you can find device information on the box label and device label.

Box Label

Device Label

Record Device and System Information

After performing the troubleshooting steps, and before calling or emailing Technical Support, please record as much information as possible in order to help the Lantronix Tech Support Specialist.

1. Select the **Switch** > **System** > **System Information** menu path. From the CLI, use the **show** commands needed to gather the information below or as requested by the Support Specialist.

2. Record Model #: _____ Power Supply Model #: _____

Serial Number: _____ Firmware Version: _____

3. Record the LED Status: _____

_____

_____

4. Provide additional information to your Tech Support Specialist. See the "Troubleshooting" section above.

Your Lantronix service contract number: _____

Describe the failure: _____

_____

_____

Describe any action(s) already taken to resolve the problem (e.g., changing mode, rebooting, etc.): _____

_____

_____

_____

The model and serial numbers of other Lantronix products in the network: _____

_____

_____

Describe your network environment (layout, cable type, etc.): _____

_____

_____

Network load and frame size at the time of trouble (if known): _____

PD equipment used: _____

_____

The device history (i.e., have you returned the device before, is this a recurring problem, etc.): _____

_____

_____

_____

Any previous Return Material Authorization (RMA) numbers: _____

Chapter 5 - Regulatory and Safety Information

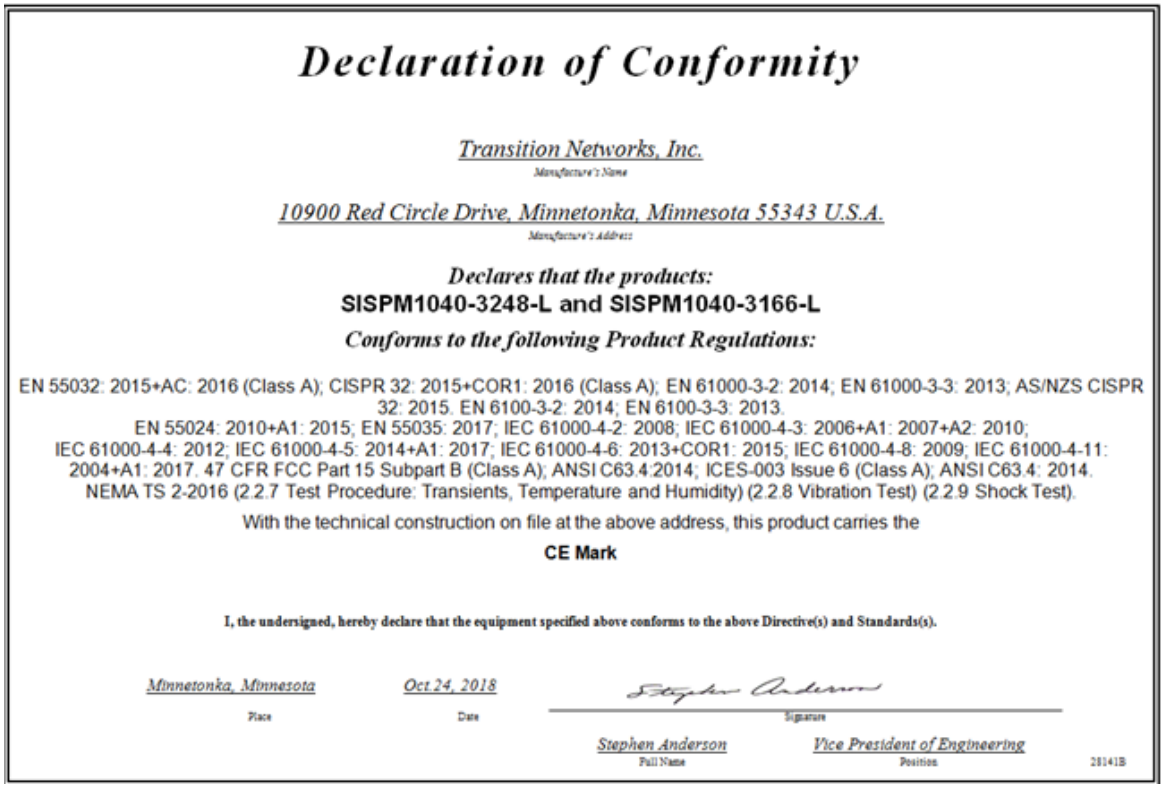
Compliance and Safety Statements

FCC, Class A: This product has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this product in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:
1) This device may not cause harmful interference.
2) This device must accept any interference received, including interference that may cause undesired operation.

CE MARK DECLARATION OF CONFORMANCE FOR EMI AND SAFETY (EEC): This equipment has been tested and found to comply with the protection requirements of European Emission Standard EN55022/EN61000-3 and the Generic European Immunity Standard EN55024.

Declaration of Conformity



Declaration of Conformity

Transition Networks, Inc.
Manufacture's Name

10900 Red Circle Drive, Minnetonka, Minnesota 55343 U.S.A.
Manufacture's Address

Declares that the products:
SISPM1040-3248-L and SISPM1040-3166-L
Conforms to the following Product Regulations:

EN 55032: 2015+AC: 2016 (Class A); CISPR 32: 2015+COR1: 2016 (Class A); EN 61000-3-2: 2014; EN 61000-3-3: 2013; AS/NZS CISPR 32: 2015. EN 6100-3-2: 2014; EN 6100-3-3: 2013.
EN 55024: 2010+A1: 2015; EN 55035: 2017; IEC 61000-4-2: 2008; IEC 61000-4-3: 2006+A1: 2007+A2: 2010; IEC 61000-4-4: 2012; IEC 61000-4-5: 2014+A1: 2017; IEC 61000-4-6: 2013+COR1: 2015; IEC 61000-4-8: 2009; IEC 61000-4-11: 2004+A1: 2017. 47 CFR FCC Part 15 Subpart B (Class A); ANSI C63.4:2014; ICES-003 Issue 6 (Class A); ANSI C63.4: 2014.
NEMA TS 2-2016 (2.2.7 Test Procedure: Transients, Temperature and Humidity) (2.2.8 Vibration Test) (2.2.9 Shock Test).

With the technical construction on file at the above address, this product carries the
CE Mark

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standards(s).

Minnetonka, Minnesota — Place
Oct.24, 2018 — Date
Signature
Stephen Anderson — Full Name
Vice President of Engineering — Position
28141B

Class I, Division 2 / classe I, division 2

Warning and Caution - Proper Installation and Operation (English)

These devices are open-type devices that are to be installed in an enclosure only accessible with the use of a tool, suitable for the environment. This equipment is suitable for use in Class I, Division 2, Groups A, B, C, and D or non-hazardous locations only. WARNING – EXPLOSION HAZARD. DO NOT DISCONNECT WHILE THE CIRCUIT IS LIVE OR UNLESS THE AREA IS FREE OF IGNITIBLE CONCENTRATIONS.

Avertissement et mise en garde - Installation et fonctionnement corrects (français)

Ces périphériques sont des périphériques de type ouvert qui doivent être installés dans un enceinte uniquement accessible à l'aide d'un outil, adapté à environnement. Cet équipement peut être utilisé dans la classe I, division 2, groupes A, B, C, et D ou des emplacements non dangereux seulement. AVERTISSEMENT - RISQUE D'EXPLOSION. NE PAS SE DÉCONNECTER LORSQUE LE CIRCUIT EST VIVANT OU À MOINS QUE LA ZONE NE SOIT LIBRE DE CONCENTRATIONS IGNIFIABLES.

High Risk Activities Disclaimer

Components, units, or third-party products used in the product described herein are NOT fault-tolerant and are NOT designed, manufactured, or intended for use as on-line control equipment in the following hazardous environments requiring fail-safe controls: the operation of Nuclear Facilities, Aircraft Navigation or Aircraft Communication Systems, Air Traffic Control, Life Support, or Weapons Systems ("High Risk Activities"). Lantronix and its supplier(s) specifically disclaim any expressed or implied warranty of fitness for such High Risk Activities.

Cautions and Warnings

Definitions

Cautions indicate that there is the possibility of poor equipment performance or potential damage to the equipment. **Warnings** indicate that there is the possibility of injury to person.

Cautions and Warnings appear here and may appear throughout this manual where appropriate. Failure to read and understand the information identified by this symbol could result in poor equipment performance, damage to the equipment, or injury to persons.

Cautions

While installing or servicing the power module, wear a grounding device and observe all electrostatic discharge precautions. Failure to observe this caution could result in damage to, or failure of the power module.

Warnings

Warning: Do not connect the power module to an external power source before installing it into the chassis. Failure to observe this warning could result in an electrical shock, even death.

WARNING: The power module has a provision for grounding. Equipment grounding is vital to ensure safe operation. The installer must ensure that the power module is properly grounded during and after installation. Failure to observe this warning could result in an electric shock, even death.

WARNING: A readily accessible, suitable National Electrical Code (NEC) or local electrical code approved disconnect device and branch-circuit protector must be part of the building's installed wiring to accommodate permanently connected equipment. Failure to observe this warning could result in an electric shock, even death.

WARNING: Turn the external power source OFF and ensure that the power module is disconnected from the external power source before performing any maintenance. Failure to observe this warning could result in an electrical shock, even death.

WARNING: Ensure that the disconnect device for the external power source is OPEN *(turned OFF)* before disconnecting or connecting the power leads to the power module. Failure to observe this warning could result in an electric shock, even death.

See Electrical Safety Warnings below for Electrical Safety Warnings translated into multiple languages.

Electrical Safety Warnings

Electrical Safety
IMPORTANT: This equipment must be installed in accordance with safety precautions.

Elektrische Sicherheit
WICHTIG: Für die Installation dieses Gerätes ist die Einhaltung von Sicherheitsvorkehrungen erforderlich.

Elektrisk sikkerhed
VIGTIGT: Dette udstyr skal installeres i overensstemmelse med sikkerhedsadvarslerne.

Elektrische veiligheid
BELANGRIJK: Dit apparaat moet in overeenstemming met de veiligheidsvoorschriften worden geïnstalleerd.

Sécurité électrique
IMPORTANT: Cet équipement doit être utilisé conformément aux instructions de sécurité.

Sähköturvallisuus
TÄRKEÄÄ: Tämä laite on asennettava turvaohjeiden mukaisesti.

Sicurezza elettrica
IMPORTANTE: questa apparecchiatura deve essere installata rispettando le norme di sicurezza.

Elektrisk sikkerhet
VIKTIG: Dette utstyret skal installeres i samsvar med sikkerhetsregler.

Segurança eléctrica
IMPORTANTE: Este equipamento tem que ser instalado segundo as medidas de precaução de segurança.

Seguridad eléctrica
IMPORTANTE: La instalación de este equipo deberá llevarse a cabo cumpliendo con las precauciones de seguridad.

Elsäkerhet
OBS! Alla nödvändiga försiktighetsåtgärder måste vidtas när denna utrustning används.

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Technical Support
Online: http://www.transition.com/support.

Sales Offices
For a current list of our domestic and international sales offices, go to the Lantronix web site at www.lantronix.com/about/contact.