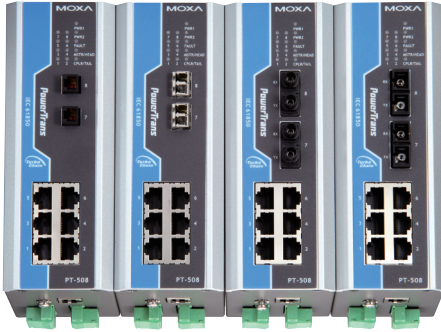


# PT-508 Series

## IEC 61850-3 8-port DIN-Rail managed Ethernet switches



- > IEC 61850-3 and IEEE 1613 (power substations) compliant
- > Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), RSTP/STP, and MSTP for network redundancy
- > Easy network management by web browser, CLI, Telnet/serial console, windows utility, and ABC-01
- > Isolated redundancy for universal 24/48 VDC power inputs
- > Wide 110/220 VDC/VAC power supply range support
- > Modbus/TCP, LLDP, SNMP Inform, QoS, IGMP snooping, VLAN, IEEE 802.1X, HTTPS, SNMPv3, and SSH supported
- > -40 to 85°C operating temperature range



### Introduction

The PowerTrans PT-508 is designed to meet the demands of power substation automation systems (IEC 61850-3, IEEE 1613). The PT-508's optical fiber Fast Ethernet backbone, redundant ring, and dual isolated redundant power supplies increase the reliability of your communications and save on cabling/wiring costs. In addition, the

DIN-Rail and wallmount designs of the PT-508 make network planning easy, and allow greater flexibility by letting you install up to 8 Fast Ethernet ports for power distribution applications.

### General Features and Benefits

- Command Line Interface (CLI) for quickly configuring major managed functions
- IPv6 Ready logo awarded (IPv6 Logo Committee certified)
- Software-based IEEE 1588 PTP V2 (Precision Time Protocol) for precise time synchronization of networks
- VLAN Unaware: Supports priority-tagged frames to be received by specific IEDs
- DHCP Option 82 for IP address assignment with different policies
- EtherNet/IP and Modbus/TCP industrial Ethernet protocols supported
- Turbo Ring and Turbo Chain (recovery time < 20 ms @ 250 switches), RSTP/STP, and MSTP for network redundancy
- IGMP snooping and GMRP for filtering multicast traffic from industrial Ethernet protocols
- IEEE 802.3ad, LACP for optimum bandwidth utilization
- Bandwidth management prevents unpredictable network status
- Multi-port mirroring for online debugging
- Automatic warning by exception through email, relay output
- RMON for efficient network monitoring and proactive capability
- Automatic recovery of connected device's IP addresses
- Line-swap fast recovery
- Configurable by Web browser, Telnet/Serial console, CLI, Windows utility, and ABC-01 automatic backup configurator

### Cyber-security Features

- User passwords with multiple levels of security protect against unauthorized configuration
- SSH/HTTPS is used to encrypt passwords and data
- Lock switch ports with 802.1x port-based network access control so that only authorized clients can access the port
- Disable one or more ports to block network traffic
- 802.1Q VLAN allows you to logically partition traffic transmitted between selected switch ports
- Secure switch ports so that only specific devices and/or MAC addresses can access the ports
- Radius/TACACS+ allows you to manage passwords from a central location
- SNMPv3 provides encrypted authentication and access security

## Specifications

### Technology

#### Standards:

IEEE 802.3 for 10BaseT  
 IEEE 802.3u for 100BaseT(X) and 100Base FX  
 IEEE 802.3x for Flow Control  
 IEEE 802.1D for Spanning Tree Protocol  
 IEEE 802.1w for Rapid Spanning Tree Protocol  
 IEEE 802.1D-2004 for Spanning Tree Protocol  
 IEEE 802.1Q for VLAN Tagging  
 IEEE 802.1p for Class of Service  
 IEEE 802.1X for Authentication  
 IEEE 802.3ad for Port Trunk with LACP  
 IEEE 802.1s for Multiple Spanning Tree Protocol

**Protocols:** IGMPv1/v2, GMRP, GVRP, SNMPv1/v2c/v3, DHCP Server/Client, DHCP Option 66/67/82, BootP, TFTP, SNMP, SMTP, RARP, RMON, HTTP, HTTPS, Telnet, SSH, Syslog, EtherNet/IP, Modbus/TCP, SNMP Inform, LLDP, IEEE 1588 PTP V2, IPv6, NTP Server/Client  
**MIB:** MIB-II, Ethernet-like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, Bridge MIB, RSTP MIB, RMON MIB Group 1, 2, 3, 9  
**Flow Control:** IEEE 802.3x flow control, back pressure flow control

### Switch Properties

**Priority Queues:** 4

**Max. Number of Available VLANs:** 64

**VLAN ID Range:** VID 1 to 4094

**IGMP Groups:** 256

**MAC Table Size:** 8 K

**Packet Buffer Size:** 1 Mbit

### Interface

**RJ45 Ports:** 10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection

**Fiber Ports:** 100BaseFX ports (SC/ST/LC/MTRJ connector)

**Console Port:** RS-232 (RJ45)

**LED Indicators:** PWR1, PWR2 (DC models only), FAULT, MSTR/HEAD, CPLR/TAIL

**Alarm Contact:** 1 relay output with current carrying capacity of 1 A @ 24 VDC

### Power Requirements

#### Input Voltage:

- 24 VDC (18 to 36 V)
- 48 VDC (36 to 72 V)
- 110/220 VDC/VAC (88 to 300 VDC, 85 to 264 VAC)

#### Input Current: (all ports are equipped with fiber)

- Max. 0.286 A @ 24 VDC
- Max. 0.13 A @ 48 VDC
- Max. 0.075/0.038 A @ 110/220 VDC
- Max. 0.06/0.031 A @ 110/220 VAC

**Overload Current Protection:** Present

**Connection:** 5-pin terminal blocks

**Reverse Polarity Protection:** Present

### Physical Characteristics

**Housing:** IP40 protection

**Dimensions:** 60 x 160 x 110 mm (2.36 x 6.30 x 4.33 in)

**Weight:** 995 g

**Installation:** DIN-Rail mounting, wall mounting (with optional kit)

### Environmental Limits

**Operating Temperature:** -40 to 85°C (-40 to 185°F), cold start requires min. of 100 VAC at -40°C

**Storage Temperature:** -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity:** 5 to 95% (non-condensing)

### Standards and Certifications

**Safety:** UL 508 (Pending)

**EMI:** FCC Part 15 Subpart B Class A, EN 55022 Class A

**Power Automation:** IEC 61850-3, IEEE 1613

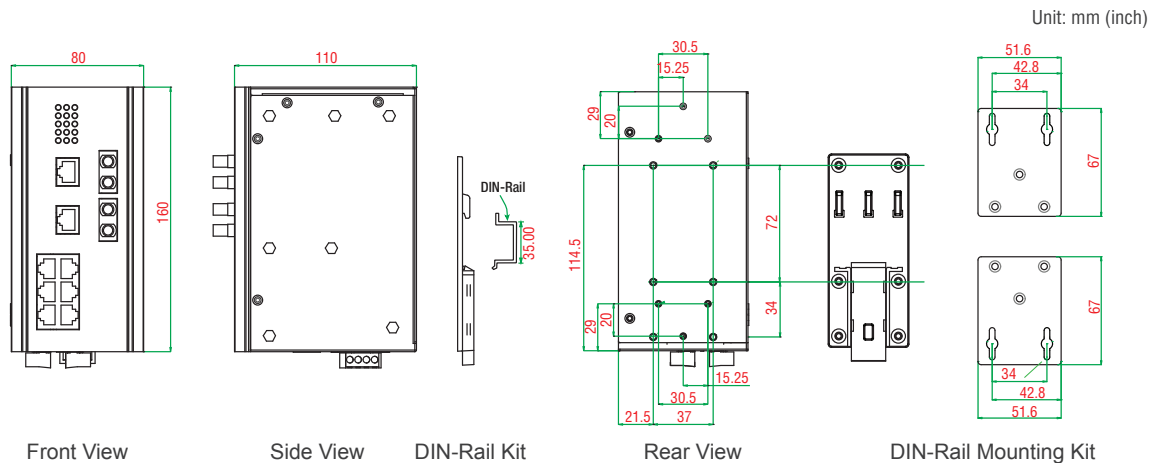
*Note: Please check Moxa's website for the most up-to-date certification status.*

### Warranty

**Warranty Period:** 5 years

**Details:** See [www.moxa.com/warranty](http://www.moxa.com/warranty)

## Dimensions



## Ordering Information

DIN-Rail, Front Cabling, Front Display	Available Models			10/100 BaseT(X)	Port Interface					
	Power Supply				100BaseFX					
	24 VDC (18 to 36 V)	48 VDC (36 to 72 V)	HV: 88 to 300 VDC and 85 to 264 VAC		Multi-mode, SC Connector	Multi-mode, ST Connector	Multi-mode, LC Connector	Multi-mode, MTRJ Connector	Single- mode, SC Connector	Single- mode, LC Connector
PT-508-MM-SC-24	1	–	–	6	2	–	–	–	–	–
PT-508-MM-SC-48	–	1	–	6	2	–	–	–	–	–
PT-508-MM-SC-HV	–	–	1	6	2	–	–	–	–	–
PT-508-MM-ST-24	1	–	–	6	–	2	–	–	–	–
PT-508-MM-ST-48	–	1	–	6	–	2	–	–	–	–
PT-508-MM-ST-HV	–	–	1	6	–	2	–	–	–	–
PT-508-MM-LC-24	1	–	–	6	–	–	2	–	–	–
PT-508-MM-LC-48	–	1	–	6	–	–	2	–	–	–
PT-508-MM-LC-HV	–	–	1	6	–	–	2	–	–	–
PT-508-2MTRJ-24	1	–	–	6	–	–	–	2	–	–
PT-508-2MTRJ-48	–	1	–	6	–	–	–	2	–	–
PT-508-2MTRJ-HV	–	–	1	6	–	–	–	2	–	–
PT-508-SS-SC-24	1	–	–	6	–	–	–	–	2	–
PT-508-SS-SC-48	–	1	–	6	–	–	–	–	2	–
PT-508-SS-SC-HV	–	–	1	6	–	–	–	–	2	–
PT-508-SS-LC-24	1	–	–	6	–	–	–	–	–	2
PT-508-SS-LC-48	–	1	–	6	–	–	–	–	–	2
PT-508-SS-LC-HV	–	–	1	6	–	–	–	–	–	2

Note: Additional switch configurations with 3 or 4 fiber ports are available upon special request.

### Optional Accessories (can be purchased separately)

**MXview:** Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes

**EDS-SNMP OPC Server Pro:** OPC server software that works with all SNMP devices

**ABC-01:** Configuration backup and restoration tool for managed Ethernet switches, 0 to 60°C operating temperature

### Package Checklist

- PT-508 switch
- RJ45-to-DB9 console port cable
- DIN-Rail kit or wall mount ears (optional)
- 1 grounding cable
- Protective caps for unused ports
- Documentation and software CD
- Hardware installation guide
- Warranty card