

PT-7828 Series

24+4G-port layer 3 modular managed Ethernet switch



The certification logos shown here apply to some or all of the products in this section. Please see the **Specifications** section or Moxa's website for details.

- > Static routing and RIP V1/V2 supported
- > IEC 61850-3, IEEE1613 (power substations), NEMA TS2 (traffic control systems), and EN50121-4 (railway applications) compliant
- > Turbo Ring and RSTP/STP for Ethernet redundancy
- > Isolated redundant power inputs with universal 24/48 VDC or 110/220 VDC/VAC power supply
- > Modular design lets you choose from a variety of media combinations
- > -40 to 85°C operating temperature range



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IEC-61850 Rackmount Ethernet Switches > PT-7828 Series

Introduction

The PowerTrans PT-7828 is a high performance layer 3 switch that supports IP routing protocols, including static routing and RIP V1/V2, which facilitate the deployment of mission-critical applications across networks. The PT-7828 is also designed to meet the demands of power substation automation systems (IEC 61850-3, IEEE1613), traffic control systems (NEMA TS2), and railway applications (EN50121-4).

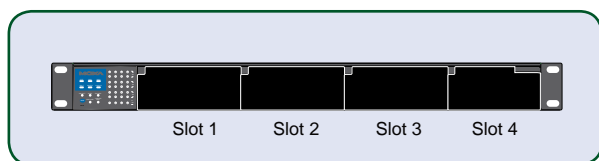
The PT-7828's Gigabit and fast Ethernet backbone, redundant ring, and 24/48 VDC or 110/220 VDC/VAC power supplies increase the reliability of your communications and save on cabling/wiring costs. The modular design of the PT-7828 makes network planning easy, and allows greater flexibility by letting you install up to 4 Gigabit ports and 24 fast Ethernet ports. Optional front or rear wiring makes the PT-7828 suitable for a variety of applications.

Features & Benefits

- Static routing, RIP V1/V2 to move data and information across networks
- Turbo Ring and RSTP/STP (IEEE 802.1W/D)
- IGMP Snooping and GMRP for filtering multicast traffic from industrial Ethernet protocols
- IEEE 802.1Q VLAN, and GVRP protocol to ease network planning
- QoS-IEEE802.1p/1Q and TOS/DiffServ to increase determinism
- 802.3ad, LACP for optimum bandwidth utilization
- IEEE 802.1X and https/SSL to enhance network security
- SNMP V1/V2c/V3 for different levels of network management
- ABC-01 for system configuration backup
- RMON for efficient network monitoring and proactive capability
- Bandwidth management prevents unpredictable network status with "Lock port" to restrict access to authorized MAC addresses
- Port mirroring for online debugging
- Automatic warning by exception through email, relay output
- Automatic recovery of connected device's IP addresses
- Line-swap fast recovery
- Configurable by Web browser, Telnet/Serial console, Windows utility, and ABC-01

Specifications

Modular Rackmount Switch System, PT-7828



IEEE 802.3x for Flow Control,
 IEEE 802.1D for Spanning Tree Protocol,
 IEEE 802.1W for Rapid STP,
 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

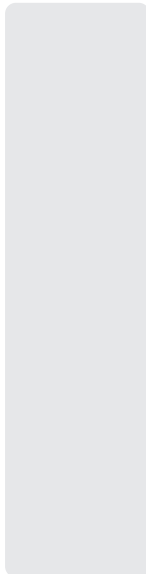
Protocols: IGMP V1/V2/V3 device, GMRP, GVRP, SNMP V1/V2c/V3, DHCP Server/Client, DHCP Option 82, BootP, TFTP, SNMP, SMTP, RARP, RMON, RIP V1/V2

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

Technology

Standards: IEEE 802.3 for 10BaseT,
 IEEE 802.3u for 100BaseT(X) and 100BaseFX,
 10/100BaseT(X) or 10/100/1000BaseT(X)
 IEEE 802.3ab for 1000BaseT(X),
 IEEE 802.3z for 1000BaseSX/LX/LHX/ZX,



Switch Properties

Priority Queues: 4
Max. Number of Available VLANs: 64
VLAN ID Range: VID 1 to 4094
IGMP Groups: 256

Interface

Fast Ethernet: Slot 1, 2, 3 for any combination of 8-, 7-, or 6-port with 10/100BaseT(X) or 100BaseFX (SC/ST connector)
Gigabit Ethernet: Slot 4 for 4- or 2-port PM-7200 Gigabit Ethernet combo module with 10/100/1000BaseT(X) and 1000BaseSX/LX/LHX/ZX (SFP slot, LC connector)
Console: RS-232 (RJ45)
System LED Indicators: STAT, PWR1, PWR2, FAULT, MASTER, COUPLER
Module LED Indicators: LNK/ACT, FDX/HDX, RING PORT, COUPLER PORT, SPEED
Alarm Contact: One relay output with current carrying capacity of 3A @ 30 VDC or 3A @ 240 VAC

Power Requirements

Input Voltage: 24 VDC (18 to 36 V), or 48 VDC (36 to 72 V), or 125/250 VDC (88 to 300 V) and 110/240 VAC (85 to 264 V)
Input Current: (all ports are equipped with Fiber)
 Max. 2.58A @ 24 VDC,

Max. 1.21A @ 48 VDC,
 Max. 0.53A @ 250 VDC or 240 VAC
Connection: 10-pin terminal block
Overload Current Protection: Present
Reverse Polarity Protection: Present

Physical Characteristics

Housing: IP30 protection
Dimensions (W x H x D): 440 x 44 x 325 mm (17.32 x 1.73 x 12.80 in.)
Installation: 19" rack mounting

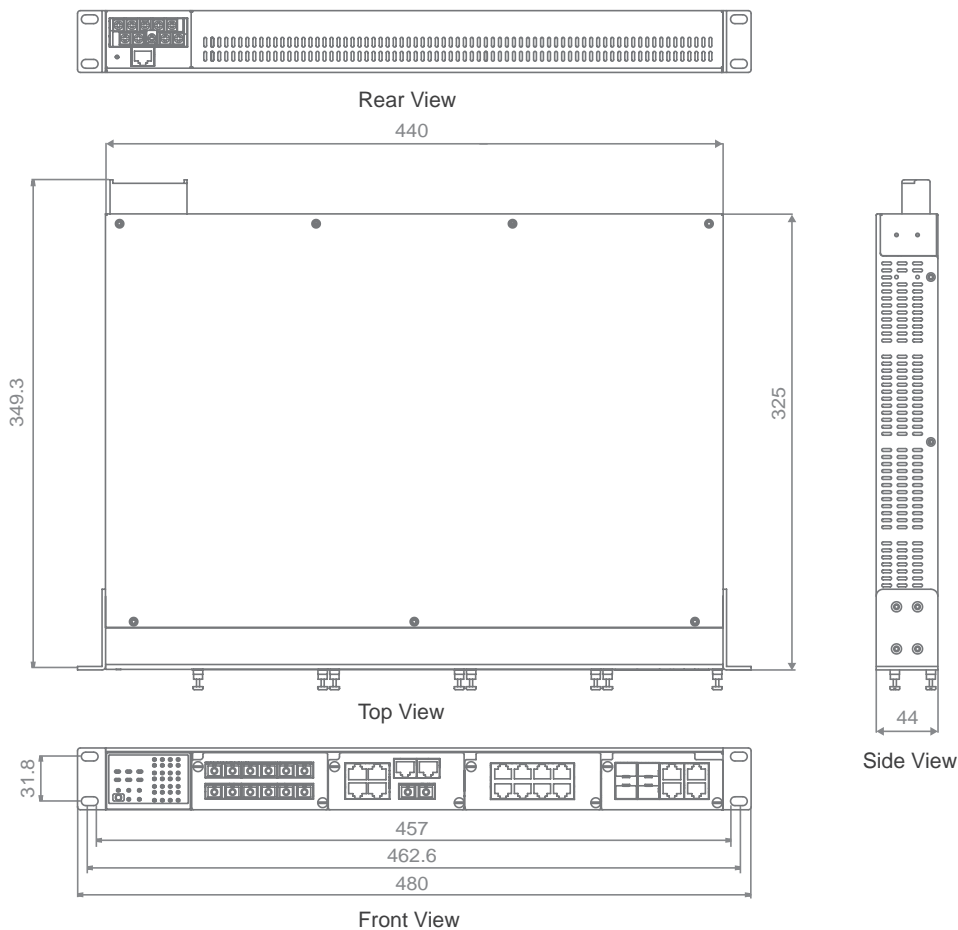
Environmental Limits

Operating Temperature: -40 to 85°C (-40 to 185°F)
 cold start of min. 100 VAC at -40°C
Storage Temperature: -40 to 85°C (-40 to 185°F)
Ambient Relative Humidity: 5 to 95% (non-condensing)

Warranty

5 years (see www.moxa.com/warranty for details)

Dimensions (unit = mm)



Ordering Information

Step 1: Select switch system

PT-7828 with power supply



Step 2: Select interface modules

PM-7200 series
(Gigabit or fast Ethernet)

*The PT-7828 switch system is delivered without interface module. Please refer to page 4-17 to choose PM-7200 interface modules.

Layer 3 Modular Rackmount Switch System, PT-7828

Layer 3 modular managed rackmount switch system with 3 slots for fast Ethernet modules, and 1 slot for Gigabit Ethernet modules, for a total of up to 24+4G ports, -40 to 85°C

Model Name		Power Supply					
Front Cabling, Front Display	Rear Cabling, Front Display	Isolated Power Supply 1			Isolated Power Supply 2		
		24 VDC (18 to 36 V)	48 VDC (36 to 72 V)	125/250 VDC (88 to 300 V) or 110/240 VAC (85 to 264 V)	24 VDC (18 to 36 V)	48 VDC (36 to 72 V)	125/250 VDC (88 to 300 V) or 110/240 VAC (85 to 264 V)
PT-7828-F-24	PT-7828-R-24	1	---	---	---	---	---
PT-7828-F-24-24	PT-7828-R-24-24	1	---	---	1	---	---
PT-7828-F-24-48	PT-7828-R-24-48	1	---	---	---	1	---
PT-7828-F-24-HV	PT-7828-R-24-HV	1	---	---	---	---	1
PT-7828-F-48	PT-7828-R-48	---	1	---	---	---	---
PT-7828-F-48-48	PT-7828-R-48-48	---	1	---	---	1	---
PT-7828-F-48-HV	PT-7828-R-48-HV	---	1	---	---	---	1
PT-7828-F-HV	PT-7828-R-HV	---	---	1	---	---	---
PT-7828-F-HV-HV	PT-7828-R-HV-HV	---	---	1	---	---	1

* The PT-7828 layer 3 Ethernet switch systems provide 1 slot for Gigabit Ethernet interface modules and 3 slots for fast Ethernet interface modules. Please refer to page 4-17 to select the PM-7200 Gigabit Ethernet and fast Ethernet interface modules that you need for your own application.

Optional Accessories

- ABC-01: Industrial RS-232, RJ45-based, automatic backup configurator
- EDS-SNMP OPC Server Pro: CD with EDS-SNMP OPC server software and manual

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