PT-7528
Hardware Installation Guide

Moxa PowerTrans Switch

First Edition, May 2012

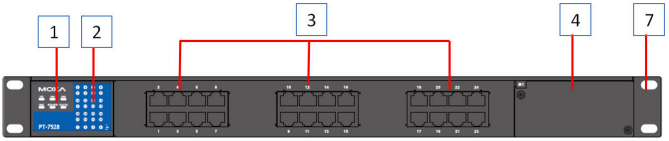
P/N: 1802075280010

Package Checklist

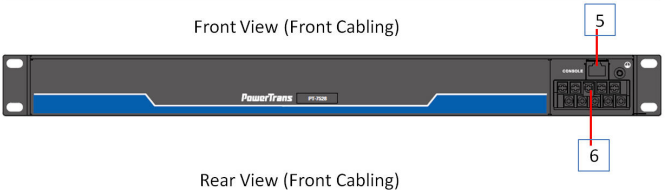
The Moxa PowerTrans switch is shipped with the following items. If any of these items are missing or damaged, please contact your customer service representative for assistance.

- 1 Moxa PowerTrans Switch
- Hardware Installation Guide
- CD-ROM with User's Manual and SNMP MIB file
- Moxa Product Warranty Statement
- RJ45 to DB9 console port cable
- Protective caps for unused ports
- 2 rack-mount ears

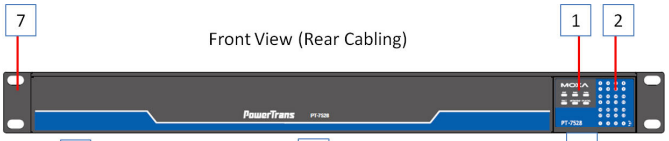
Panel Layout



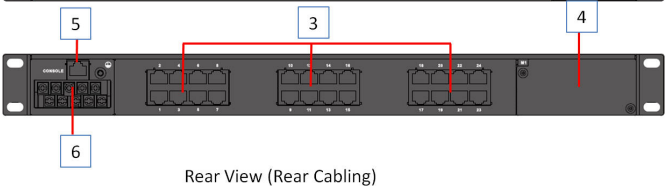
Front View (Front Cabling)



Rear View (Front Cabling)



Front View (Rear Cabling)



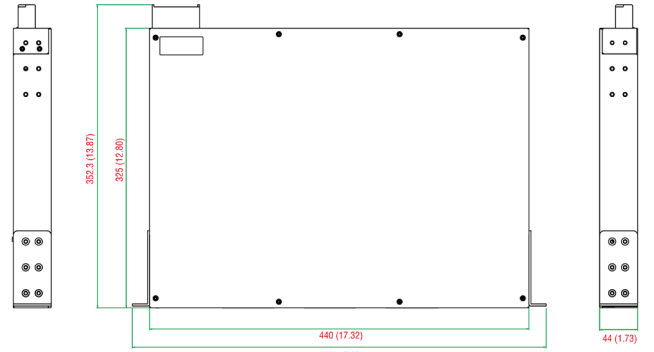
Rear View (Rear Cabling)

1. System status LEDs
2. Ethernet port LEDs
3. Fast Ethernet port
4. Fiber Ethernet interface module slot
5. Serial console port
6. 10-pin terminal block for power inputs, and relay output
7. Rack Mounting Kit

Dimensions (unit = mm)

Front Cabling model

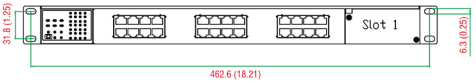
Rear View



Side View

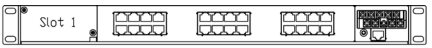
Top View

Side View

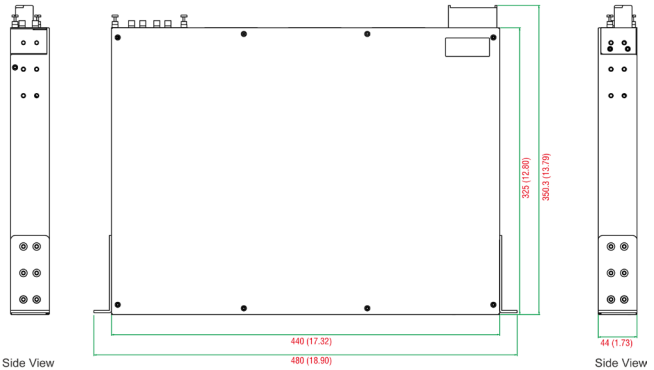


Front View

Rear Cabling Model



Rear View



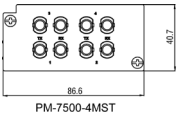
Side View

Top View

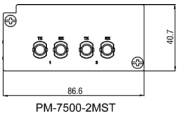
Side View

Front View

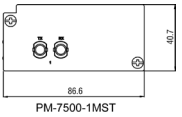
Fiber Ethernet Interface Modules



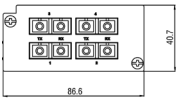
PM-7500-4MST



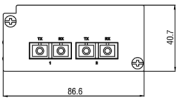
PM-7500-2MST



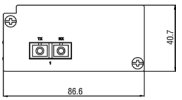
PM-7500-1MST



PM-7500-4MSC
PM-7500-4SSC



PM-7500-2MSC
PM-7500-2SSC

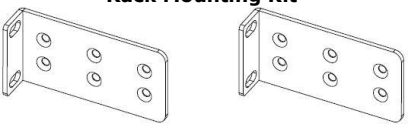


PM-7500-1MSC
PM-7500-1SSC

Rack Mounting

Use six screws to attach the PT switch to a standard rack.

Rack Mounting Kit



PT-7528 Side View

NOTE Two additional rack-mount ears can be ordered as an option. Use them to secure the rear of the chassis in high-vibration environments.

Wiring Requirements

WARNING

Safety First!

Be sure to disconnect the power cord before installing and/or wiring your Moxa PowerTrans Switch.

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

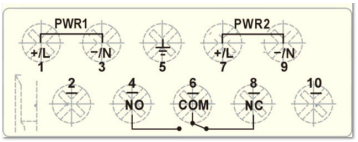
If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

Grounding Moxa PowerTrans Switch

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 prior to connecting devices.

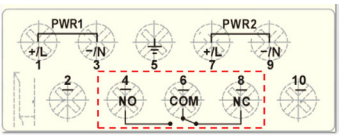
Wiring the Power Inputs

The PT-7528 switches support dual redundant power supplies: "Power Supply 1 (PWR1)" and "Power Supply 2 (PWR2)". The connections for PWR1, PWR2 and the RELAY are located on the terminal block. The front view of the terminal block connectors are shown below.



Wiring the Relay Contact

Each PT-7528 switch provides two types of relay output, at the user's option. Refer below for detailed instructions on how to connect the wires to the terminal block connector, and how to attach the terminal block connector to the terminal block receptor.



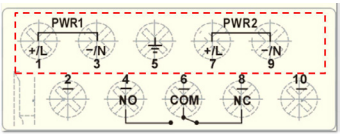
*Normal contact state **without** power applied to device*

The relay contact is used to detect user-configured events. Two wires are attached to the relay pins. The PT-7528 provides normal open and normal close circuit at the user's option. For pin definitions refer to the table below

Relay pin connection	Power on state	Event trigger
Pin 4 and 6	Close circuit	Open circuit
Pin 8 and 6	Open circuit	Close circuit

Wiring the Redundant Power Inputs

Each PT switch has two sets of power inputs: power input 1 and power input 2.



STEP 1: Insert the dual set positive/negative DC wires into PWR1 and PWR2 terminals (+ → pins 1, 7; - → pins 3, 9). Or insert the L/N AC wires into PWR1 and PWR2 terminals (L → pin 1, 7; N → pin 3, 9)

STEP 2: To keep the DC or AC wires from pulling loose, use a screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

LED Indicators

System LEDs			
LED	**Color**	**State**	**Description**
STAT	GREEN	On	System has passed self-diagnosis test on boot-up and is ready to run.
		Blinking	System is undergoing the self-diagnosis test.
	RED	On	System failed self-diagnosis on boot-up.
PWR1	AMBER	On	Power is being supplied to the main module's power input PWR1.
		Off	Power is not being supplied to the main module's power input PWR1.
PWR2	AMBER	On	Power is being supplied to the main module's power input PWR2.
		Off	Power is not being supplied to the main module's power input PWR2.
FAULT	RED	On	The corresponding PORT alarm is enabled and a user-configured event has been triggered.
		Off	The corresponding PORT alarm is enabled and a user-configured event has not been triggered, or the corresponding PORT alarm is disabled.
MSTR/HEAD	GREEN	On	This PT switch is set as the Master of the Turbo Ring, or as the Head of the Turbo Chain.
		Blinking	The PT switch has become the Ring Master of the Turbo Ring, or the Head of the Turbo Chain, after the Turbo Ring or the Turbo Chain went down.
		Off	The PT switch is not the Master of this Turbo Ring or is set as a Member of the Turbo Chain.
CPLR/TAIL	GREEN	On	The PT switch coupling function is enabled to form a back-up path, or it is set as the Tail of the Turbo Chain.
		Blinking	Turbo Chain is down.
		Off	This PT switch disabled the coupling function, or is set as a Member of the Turbo Chain.

Port LED table			
LED	**Color**	**State**	**Description**
Ports 1 to 24	GREEN	On	Port's 100 Mbps link is active
		Blinking	Data is transmitting at100 Mbps
		Off	Port's link is inactive
	AMBER	On	Port's 10 Mbps link is active
		Blinking	Data is transmitting at10 Mbps
		Off	Port's link is inactive
M1 Port 1 to 4	GREEN	On	Port's highest speed link is active
		Blinking	Data is transmitting at highest speed
		Off	Port's link is inactive
	AMBER	On	Port's non-highest speed link is active
		Blinking	Data is transmitting at non-highest speed
		Off	Port's link is inactive

Specifications

Technology	
Standards	IEEE 802.3, 802.3u, 802.3x, 802.1D, 802.1w, 802.1Q, 802.1p, 802.1X, 802.3ad
Flow control	IEEE 802.3x flow control, back pressure flow control
Interface	
Fast Ethernet	10/100BaseT(X) or 100BaseFX (SC/ST connector)
System LED Indicators	STAT, PWR1, PWR2, FAULT, MSTR/HEAD, CPLR/TAIL
Alarm Contact	One relay output with current carrying capacity of 3A @ 30 VDC or 3A @ 240 VAC
Optical Fiber (100BaseFX)	
Distance	Multi-mode: 0 to 5 km, 1300 nm (50/125μm, 800 MHz*km) 0 to 4 km, 1300 nm (62.5/125μm, 500 MHz*km) Single-mode: 0 to 40 km, 1310 nm (9/125μm, 3.5 PS/(nm*km))
Min. TX Output	Multi-mode: -20 dBm; Single-mode: -5 dbm
Max. TX Output	Multi-mode: -10 dBm; Single-mode: 0 dbm
RX Sensitivity	Multi-mode: -32 dBm; Single-mode: -34 dbm
Power	
Input Voltage	WV: 24/48 VDC (18 to 72V) HV: 110/220 VDC/VAC (88 to 300 VDC and 85 to 264 VAC)
Input Current	Max. 0.689A @ 24VDC Max. 0.338A @ 48VDC Max. 0.134/0.069A @ 110/220VDC Max. 0.332/0.2A @ 110/220VAC

Physical Characteristics	
Housing	IP40 protection, metal case
Dimensions (W x H x D)	440 x 44 x 325 mm (17.32 x 1.73 x 12.76 in.)
Weight	4900 g
Installation	19” rack mounting
Regulatory Approvals	
Safety	UL60950-1, CSA C22.2 No. 60950-1, EN60950-1
Power Automaton	IEC61850-3, IEEE 1613
EMI	FCC Part 15, CISPR (EN55022) class A
Environmental Limits	
Operating Temp.	-40 to 85°C (-40 to 185°F) Cold start of min. 100 VAC at -40° C
Storage Temp.	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity.	5 to 95% (non-condensing)
Warranty	5 years

Technical Support Contact Information
www.moxa.com/support

Moxa Americas:
Toll-free: 1-888-669-2872
Tel: 1-714-528-6777
Fax: 1-714-528-6778

Moxa China (Shanghai office):
Toll-free: 800-820-5036
Tel: +86-21-5258-9955
Fax: +86-21-5258-5505

Moxa Europe:
Tel: +49-89-3 70 03 99-0
Fax: +49-89-3 70 03 99-99

Moxa Asia-Pacific:
Tel: +886-2-8919-1230
Fax: +886-2-8919-1231