MOXA®

PowerTrans Switch
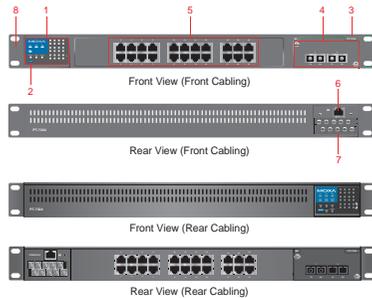# PT-7324 Series
Hardware Installation Guide

Third Edition, June 2008

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 Windows Utility
- Moxa Product Warranty Statement
- RJ45 to DB9 console port cable
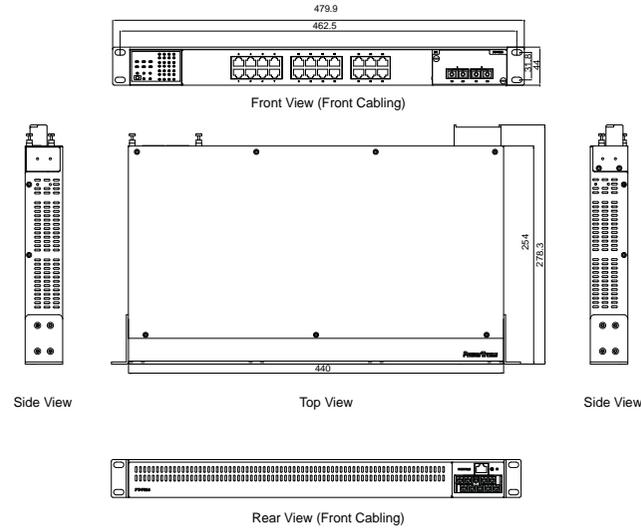- Protective caps for unused ports
- 2 rack-mount ears

Panel Layouts

Front View (Front Cabling)

Rear View (Front Cabling)

Front View (Rear Cabling)
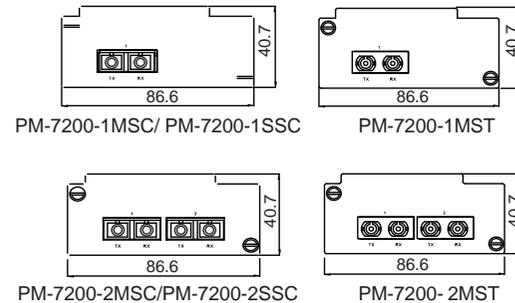
Rear View (Rear Cabling)

1. LED Indicators (System status, Interface Module mode, Interface Module port)
2. Push-button switch to select mode for Interface Module
3. Model Name
4. Fast Ethernet and Gigabit Ethernet Interface Modules
5. 10/100BaseT(X) port
6. Serial console port
7. 10-pin terminal block for power inputs, and relay output
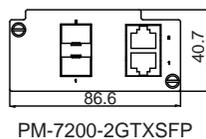8. Rack Mount Kit

P/N: 1802073240012

— 1 —

Dimensions (unit = mm)

479.9
462.5

Front View (Front Cabling)

254
278.3
440

Side View   Top View   Side View

Rear View (Front Cabling)

Fast Ethernet Interface Modules

40.7
86.6

PM-7200-1MSC/ PM-7200-1SSC

40.7
86.6

PM-7200-1MST

40.7
86.6

PM-7200-2MSC/PM-7200-2SSC

40.7
86.6

PM-7200- 2MST

Gigabit Ethernet Interface Module

40.7
86.6

PM-7200-2GTXSFP

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Rack Mounting

Use four screws to attach the PT switch to a standard rack
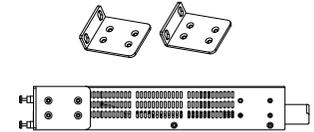
Wiring Requirements

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 the 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.
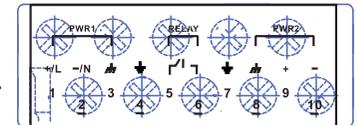
ATTENTION

This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.

Wiring the Power Inputs

The PT series supports dual redundant power supplies (DC power only): **VDC "Power Supply 1(PWR1)" and "Power Supply 2(PWR2)", or VAC "Power Supply 1(PWR1)".**

The connections for PWR1, PWR2 and the RELAY are located on the terminal block. The front view of the terminal block connectors is shown here.

Wiring the Relay Contact

The PT switch has one relay output. Refer to the next section 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.

— 3 —
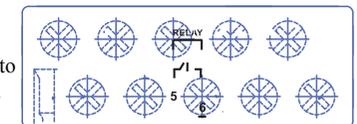
FAULT: The relay contacts of the 10-pin terminal block connector are used to detect user-configured events. The two wires attached to the RELAY contacts form an open circuit when a user-configured event is triggered. If a user-configured event does not occur, the RELAY circuit will be closed.

Wiring the Redundant Power Inputs

The PT switch has two sets of power input: power input 1 and power input 2.
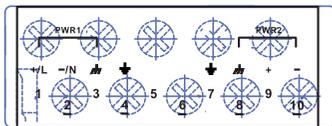
STEP 1: Insert the dual set positive/negative DC wires into the PWR1 and PWR2 terminals (+ → pins 1, 9, - → pins 2, 10), or insert the L/N AC wires into the PWR1 terminals (L → pin 1, N → pin 2).

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
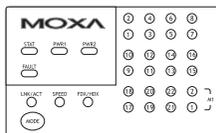
The front panel of the PT switch contains several LED indicators. The function of each LED is described in the table below.

LED	Color	State	Description
System LEDs			
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.
Mode LEDs			
LNK/ACT	GREEN	On	The corresponding module port's link is active.
		Blinking	The corresponding module port's data is being transmitted.
		Off	The corresponding module port's link is inactive.
SPEED	GREEN	On	The corresponding module port's data is being transmitted at 100 Mbps.
		Blinking	The corresponding module port's data is being transmitted at 1000 Mbps.
		Off	The corresponding module port's data is being transmitted at 10 Mbps.
FDX/HDX	GREEN	On	The corresponding module port's data is being transmitted at full duplex.
		Off	The corresponding module port's data is being transmitted in half duplex mode.

* Slot 2 (M2) is mainly used for Gigabit modules. If 100BaseFX modules are used in Slot 2 (M2), the modules will not support "Far End Fault". The Link/ACT LED indicator will stay at "Green (ON)" status when Fiber TX cable is unplugged.

Specifications

Technology

Standards	IEEE802.3, 802.3u, 802.3ab, 802.3z, 802.3x, 802.1p
Flow control	IEEE802.3x flow control, back pressure flow control

Interface

Fast Ethernet	10/100BaseT(X) or 100BaseFX (SC/ST connector)
Gigabit Ethernet	10/100/1000BaseT(X), 1000BaseSX/LX/LHX/ZX (SFP slot, LC connector)
System LED Indicators	STAT, PWR1, PWR2, FAULT
Module LED Indicators	LNK/ACT, FDX/HDX, SPEED
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)

<u>Single mode</u>

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	-36 to -32 dBm (Single), -34 to -30 dBm (Multi)

Power

Input Voltage	Low Voltage: 24/48 VDC (9 to 60V)
	High Voltage: 110/250 VDC (88 to 300V) and 100/240 VAC (85 to 264V)
Input Current	Max. 0.68A @ 24 VDC
	Max. 0.35A @ 48 VDC
	Max. 0.17/0.11A @ 110/220 VDC
	Max. 0.33/0.23A @ 110/220 VAC
Connection	10-pin Terminal Block
Overload Current Protection	6.3 A
Reverse Polarity Protection	Present

Physical Characteristics

Housing	Metal, with IP30 protection
Dimensions	440 x 44 x 254 mm (17.32 x 1.73 x 10.00 in.)
Weight	4700 g
Installation	19-inch rack mounting

Environmental Limits

Operating Temp.	-40 to 85°C (-40 to 185°F)
Storage Temp.	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Regulatory Approvals

Safety:	EN60950-1 (Pending)
Power Automation:	IEC 61850-3, IEEE 1613
Road Traffic:	NEMA TS2
Rail Traffic:	EN50121-4 (Pending)
Maritime:	DNV (Pending), GL (Pending)
EMI:	FCC Part 15, CISPR (EN55022) class A
Warranty	5 years

Click here for online support:
www.moxa.com/support

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