PowerTrans Switch
PT-G7509 Series
Hardware Installation Guide

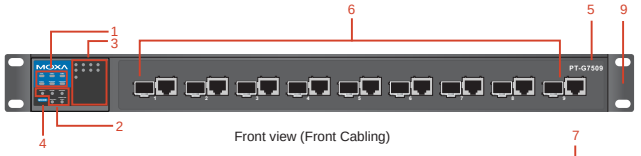
Second Edition, December 2009

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 Layouts



Front view (Front Cabling)

Rear view (Front Cabling)

Front view (Rear Cabling)

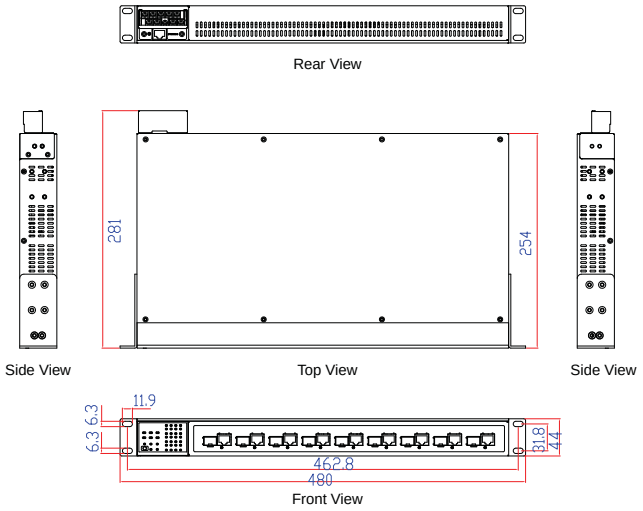
Rear view (Rear Cabling)

1. System status LEDs
2. Interface Module mode LEDs
3. 9 Gigabit Combo port LEDs
4. Push-button switch to select mode for Interface Module
5. Model Name
6. 9 Gigabit Combo ports
7. Serial Console port

P/N: 1802075090011

8. 10-pin terminal block for power inputs, and relay output
9. Rack Mounting Kit

Dimensions (unit = mm)



Rear View

Side View

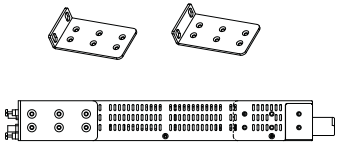
Top View

Side View

Front View

Rack Mounting

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



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.

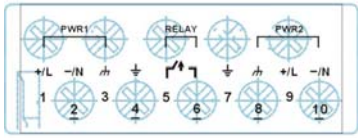
If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

Grounding 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.

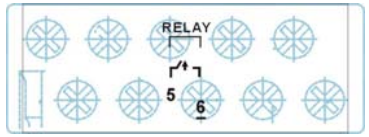
Wiring the Power Inputs

The PT series of switches supports 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

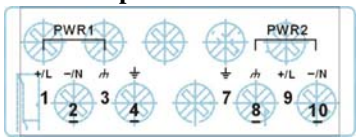
Each PT switch has one relay output. Refer to the next section for detailed instructions on how to connect the wires to the terminal block connector, and how to attach the terminal block connector to the terminal block receptor.



FAULT: The relay contact 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

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, 9; - → pins 2, 10). Or insert the L/N AC wires into PWR1 and PWR2 terminals (L → pin 1, 9; N → pin 2,10)

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.

Note 1: The PT switch with dual power supplies uses PWR2 as the first priority power input by default.

Note 2: For dielectric strength (HIPOT) test, users must remove the metal jumper located on terminals 3, 4, and 7, 8 of the terminal block to avoid damage.

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.
MASTER	GREEN	On	This PT switch is the Master of this Turbo Ring.
		Blinking	This PT switch has become Ring Master of this Turbo Ring after the Turbo Ring was broken.
		Off	This PT switch is not the Master of this Turbo Ring.
COUPLER	GREEN	On	When this PT switch enables the coupling function to form a back-up path.
		Off	When this PT switch disables the coupling function.
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	Off	The corresponding module port's data is being transmitted at 10 Mbps.
		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.
FDX/HDX	GREEN	On	The corresponding module port's data is being transmitted in full duplex mode.
		Off	The corresponding module port's data is being transmitted in half duplex mode.
RING PORT	GREEN	On	The corresponding module's port is the ring port of this PT switch.
		Off	The corresponding module's port is not the ring port of this PT switch.
COUPLER PORT	GREEN	On	The corresponding module's port is the coupler port of this PT switch.
		Off	The corresponding module's port is not the coupler port of this PT switch.

Specifications

Technology

Standards	IEEE 1588, 802.3, 802.3u, 802.3ab, 802.3z, 802.3x, 802.1D, 802.1w, 802.1Q, 802.1p, 802.1X, 802.3ad, 802.1ab
Flow control	IEEE 802.3x flow control, back pressure flow control

Interface

Fiber Ports	100/1000BaseSFP slot
RJ45 Ports	10/100/1000BaseT(X) auto negotiation speed
System LED Indicators	STAT, PWR1, PWR2, FAULT, MASTER, COUPLER
Module LED Indicators	LNK/ACT, FDX/HDX, SPEED, RING PORT, COUPLER PORT
Alarm Contact	One relay output with current carrying capacity of 3A @ 30 VDC or 3A @ 240 VAC

Power

Input Voltage	24 VDC (18 to 36V)or 48 VDC (36 to 72V)or 110/220 VDC/VAC (88 to 300 VDC and 85 to 264 VAC)
Input Current	Max. 1.17A @ 24VDC Max. 0.59A @ 48VDC Max. 0.27/0.16A @ 110/220VDC Max. 0.61/0.35A @ 110/220VAC

Physical Characteristics

Housing	IP 30 protection, metal case
Dimensions (W x H x D)	440 x 44 x 254 mm (17.32 x 1.73 x 10.00 in.)
Weight	3800 g
Installation	19" rack mounting

Regulatory Approvals

Safety	EN60950-1
Power Automaton	IEC61850-3, IEEE 1613
Road Traffic	NEMA TS2
Rail Traffic	EN50121-4, EN50155
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

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