

# User Manual: PC-IA402 Industrial Switch

Version 5.2019

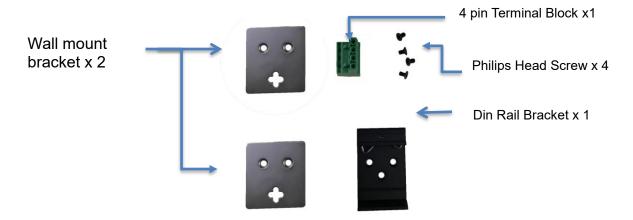


### Introduction

This Industrial Fast Ethernet Switch is designed for IP surveillance, traffic monitoring and for a broad range of applications. It accepts 3 power input sources: PW1, PW2, and Power DIN (for external power adapter) to power the device from 12-56VDC. It can be used as a stand-alone device for buses, trucks, and other vehicles for surveillance purposes. It can also be cascaded/daisy-chained to other devices to cover wider areas through TX/SC connection.

## Installation package

This unit can be din-rail mounted or wall-mounted. Din-rail brackets and wall-mounted brackets are included.



### **Power connection**

This unit provides a 6 pin terminal block. It can be operated using 12-56VDC power source. Always make sure your input voltage is within this supported voltage range.

**WARNING** -- Any exceeded input voltage will not make this unit function and may damage this unit.

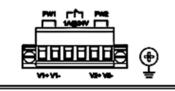
**To connect power**: Follow the printed polarity for P1+, P1-, P2+, P2-, and ground. Connect positive wires to P1+ and/or P2+, connect negative wires to P1- and/or P2-, and connect the neutral wire to the ground screw as shown.

**Power DIN**: This unit contains an extra P3 port for power DIN. This power DIN can power the unit via external power adapter

**Relay**: This unit includes an additional 24V@1A relay circuit for special purpose. When 2 powers are connected, the relay is in OPEN mode. If only one of the power sources is connected, the relay changes to SHORT mode. This relay will only work with PW1 and PW2. It is independent from PW3.



#### Power connecting procedure:



STEP 1 – Pull out 6 pin terminal block.

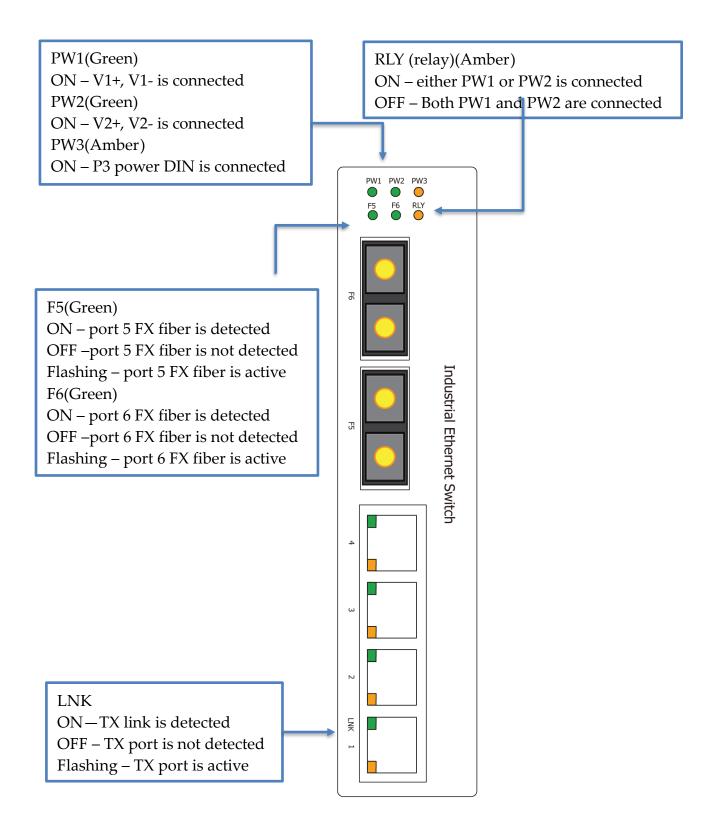
STEP 2 – Connect wire to V1+, V1-, or V2+, V2- and the neutral wire to the ground screw. STEP 3 – Plug back 6 pin terminal block to its place.

WARNING -- Always SHUT OFF power source to connect power wire.

WARNING -- Always ground the power source to maintain a clean power input. Cheaply made power supplies create too much noise and will cause the power input to fluctuate when connect to this unit. To avoid this, always ground the power source to maintain a clean power input.



## **LED** indicator





# Specifications

IEEE StandardIEEE 802.3 u 10Base-T Ethernet IEEE 802.3 u 100Base-T Ethernet IEEE 802.3 u 100Base-T Ethernet IEEE 802.3 u 100Base-T Ethernet IEEE 802.3 u 100Base-T Fast Ethernet IEEE 802.3 S Flow Control and Back PressureSwitch ArchitectureBack-plane (Switching Fabric): 1.6GbpsData ProcessingStore and ForwardFlow Control:IEEE 802.3 x Flow Control and Back PressureMAC address Table Size1KPacket Buffer Size1MNetwork Connector4xRJ-45 10/100BaseT(X) auto negotiation, 2 FX MM/SM SC 2km/30km Auto MDI/MDI-X function, Full/Half duplexNetwork CableUTP/STP above Cat.5e CableNetwork CableEIA/TIA-568 10-ohm (100m)Fiber Cable (Single-mode): 50/125um,62.5/125um Fiber Cable (Single-mode): 9/125um ON ~ P3 power DIN is connected PW2(Green) ON ~ V2+, V2- is connected PW2(Green) ON ~ P3 power DIN is connected PW2(Single-mode): 9/125um Single-mode): 9/125um<									
Data Processing       Store and Forward         Flow Control:       IEEE 802.3x Flow Control and Back Pressure         MAC address Table Size       1K         Packet Buffer Size       1M         Network Connector       2 FX MW/SM SC 2km/30km Auto MDI/MDI-X function, Full/Half duplex         Network Cable       UTP/STP above Cat.5e Cable         EIA/TIA-568 10-ohm (100m)       Fiber Cable (Multi-mode):50/125um,62.5/125um Fiber Cable (Single-mode): 9/125um         Protocol       CSMA/CD         Pwtl(Green) ON - V1+, V1- is connected Pw2(Green) ON - V2+, V2- is connected         ON - V2+, V2- is connected       PW3(Amber) ON - P3 power DIN is connected         PW3(Amber) ON - P3 power DIN is connected       PW3(Amber) ON - V2+, V2- is connected         DEF = Both PW1 or PW2 is connected       OFF - Both PW1 and PW2 are connected         DFF - Both PW1 and PW2 are connected       OFF - TX port is not detected         OFF - port 5 FX fiber is not detected       Flashing - Tx port is not detected         Flashing - Tx port is not detected       OFF - port 5 FX fiber is not detected         OFF - port 5 FX fiber is not detected       Flashing - Tx port is active         F6(Green) ON - port 5 FX fiber is not detected       OFF - port 6 FX fiber is not detected         Paster port 6 FX fiber is not detected       Pasting - port 6 FX fiber is not detected         Flashing - port 6	IEEE Standard	IEEE 802.3u 100Base-TX Fast Ethernet							
Flow Control:       IEEE 802.3x Flow Control and Back Pressure         MAC address Table Size       1K         Packet Buffer Size       1M         Network Connector       2 FX MM/SM SC 2km/30km Auto MDI/MDI-X function, Full/Half duplex         Network Cable       UTP/STP above Cat.5e Cable         EIA/TIA-568 10-ohm (100m)       EIA/TIA-568 10-ohm (100m)         Protocol       CSMA/CD         Protocol       CSMA/CD         Pwti(Green) ON - V1+, V1- is connected PW3(Green) ON - V2+, V2- is connected PW3(Green) ON - P3 power DIN is connected RLY (relay)(Amber) ON - P3 power DIN is connected         LED       LED         LED       LNK ON-TX link is detected OFF - Both PW1 and PW2 are connected         OFF - TX port is not detected Flashing - TX port is not detected         ON - port 5 FX fiber is detected       OFF - port 5 FX fiber is active F6(Green) ON - port 5 FX fiber is not detected         ON - port 6 FX fiber is not detected       Fishing - TX port is not detected         Flashing - TX port 6 FX fiber is not detected       F6(Green) ON - port 5 FX fiber is not detected         ON - port 6 FX fiber is not detected       Fishing - port 6 FX fiber is not detected         Flashing - port 6 FX fiber is not detected       Fishing - port 6 FX fiber is not detected         Fishing - port 6 FX fiber is not detected       Fishing - port 6 FX fiber is active         F6(Green)	Switch Architecture	Back-plane (Switching Fabric): 1.6Gbps							
MAC address Table Size       1K         Packet Buffer Size       1M         Network Connector       4xRJ-45 10/100BaseT(X) auto negotiation, 2 FX MM/SM SC 2km/30km Auto MDI/MDL-X function, Full/Half duplex         Network Cable       UTP/STP above Cat.5e Cable         EIA/TIA-568 10-ohm (100m)       Fiber Cable (Multi-mode):50/125um,62.5/125um Fiber Cable (Single-mode): 9/125um         Protocol       CSMA/CD         Pw1(Green) ON - V1+, V1- is connected PW2(Green) ON - V2+, V2- is connected PW3(Amber)         ON - V2+, V2- is connected PW3(Amber)         ON - either PW1 or PW2 is connected         RLY (relay)(Amber) ON - either PW1 or PW2 is connected         DFF - Both PW1 and PW2 are connected         OFF - TX port is not detected         OFF - TX port is not detected         OFF - port 5 FX fiber is not detected         OFF - port 5 FX fiber is not detected         OFF - port 5 FX fiber is not detected         Fishing - port 5 FX fiber is not detected         Fishing - port 5 FX fiber is not detected         Fishing - port 6 FX fiber is not detected         OFF - port 6 FX fiber is not detected         Fishing - port 6 FX fiber is not detected         OFF - port 6 FX fiber is not detected         OFF - port 6 FX fiber is not detected         Fishing - port 6 FX fiber is not detected         Fishing - port 6 FX fi	Data Processing	Store and Forward							
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Network Connector       2 FX MM/SM SC 2km/30km         Auto MDI/MDI-X function, Full/Half duplex         Network Cable       UTP/STP above Cat.5e Cable         EIA/TIA-568 10-ohm (100m)         Fiber Cable (Multi-mode):50/125um,62.5/125um         Fiber Cable (Single-mode): 9/125um         Protocol       CSMA/CD         Pw1(Green)         ON – V1+, V1- is connected         PW3(Green)         ON – V2+, V2- is connected         PW3(Amber)         ON – P3 power DIN is connected         PW3(Amber)         ON – either PW1 or PW2 is connected         OFF – Both PW1 and PW2 are connected         OFF – TX port is not detected         OFF – TX port is not detected         Pishing – TX port is not detected         Flashing – TX port is not detected         OFF – port 5 FX fiber is not detected         Flashing – port 5 FX fiber is not detected         Flashing – port 5 FX fiber is not detected         Flashing – port 5 FX fiber is not detected         Flashing – port 6 FX fiber is not detected         Flashing – port 6 FX fiber is not detected         Flashing – port 6 FX fiber is not detected         Flashing – port 6 FX fiber is not detected         Flashing – port 6 FX fiber is not detected         Flashing – port 6 FX fib	Packet Buffer Size	1M							
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Fiber Cable (Single-mode): 9/125umProtocolCSMA/CDON - V1+, V1- is connected PW2(Green) ON - V2+, V2- is connected PW3(Amber) ON - V2+, V2- is connected PW3(Amber) ON - P3 power DIN is connected RLY (relay)(Amber) ON - either PW1 or PW2 is connected OFF - Both PW1 and PW2 are connectedLEDLNK ON-TX link is detected OFF - TX port is not detected Flashing - TX port is active F5(Green) ON - port 5 FX fiber is not detected F6(Green) ON - port 5 FX fiber is not detected Flashing - port 5 FX fiber is not detected Flashing - port 5 FX fiber is not detected Flashing - port 6 FX fiber is not detected Flashing - p	Network Cable	EIA/TIA-568 10-ohm (100m)							
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	LED	<ul> <li>ON – V1+, V1- is connected</li> <li>PW2(Green)</li> <li>ON – V2+, V2- is connected</li> <li>PW3(Amber)</li> <li>ON – P3 power DIN is connected</li> <li>RLY (relay)(Amber)</li> <li>ON – either PW1 or PW2 is connected</li> <li>OFF – Both PW1 and PW2 are connected</li> <li>LNK</li> <li>ON—TX link is detected</li> <li>OFF – TX port is not detected</li> <li>Flashing – TX port is active</li> <li>F5(Green)</li> <li>ON – port 5 FX fiber is detected</li> <li>OFF –port 5 FX fiber is not detected</li> <li>Flashing – port 5 FX fiber is active</li> <li>F6(Green)</li> <li>ON – port 6 FX fiber is detected</li> <li>OFF –port 6 FX fiber is not detected</li> </ul>							
Overload current protection Present	Reserve polarity protection	Present							
	Overload current protection	Present							



Power Supply	Redundant Dual DC 9V-56V Power Input,
Power Consumption	3.76W@48 VDC full load
Alarm Relay Contact	Relay outputs with current carrying capacity of 1 A @24VDC, Relay in OPEN mode when 2 powers are connected. in SHORT mode when only one power supply is connected
POE power	n/a
Removable Terminal Block	Provide 2 Redundant power, Alarm relay contact ,6 Pin Wire range: 0.34mm^2 to 2.5mm^2 Solid wire (AWG):12-24/14-22 Stranded wire (AWG): 12-24/14-22 Torque:5lb-In/0.5Nm/0.56Nm Wire Strip length: 7-8mm

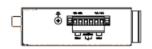
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Operating Temperature	-40℃ to 75℃
Operating Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40℃ to 85℃
Housing	Rugged Metal, IP30 Protection
Case Dimension (L x W x D)	142mmx36.2mmx105mm (LxWxD)
Installation mounting	DIN-Rail and wall mount brackets included
Certificates	
Safety	IEC EN60950-1
EMC/EMS	CE, FCC, VCCI
EMI	FCC Part 15 Subpart B Class A
EN 60068-2-6	Vibration
EN 60068-2-27	Shock

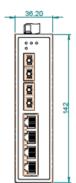
Free Fall

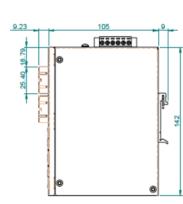
EN 60068-2-32

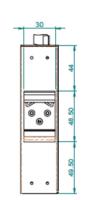


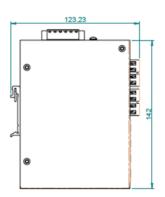
## Housing Dimension (mm)











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