

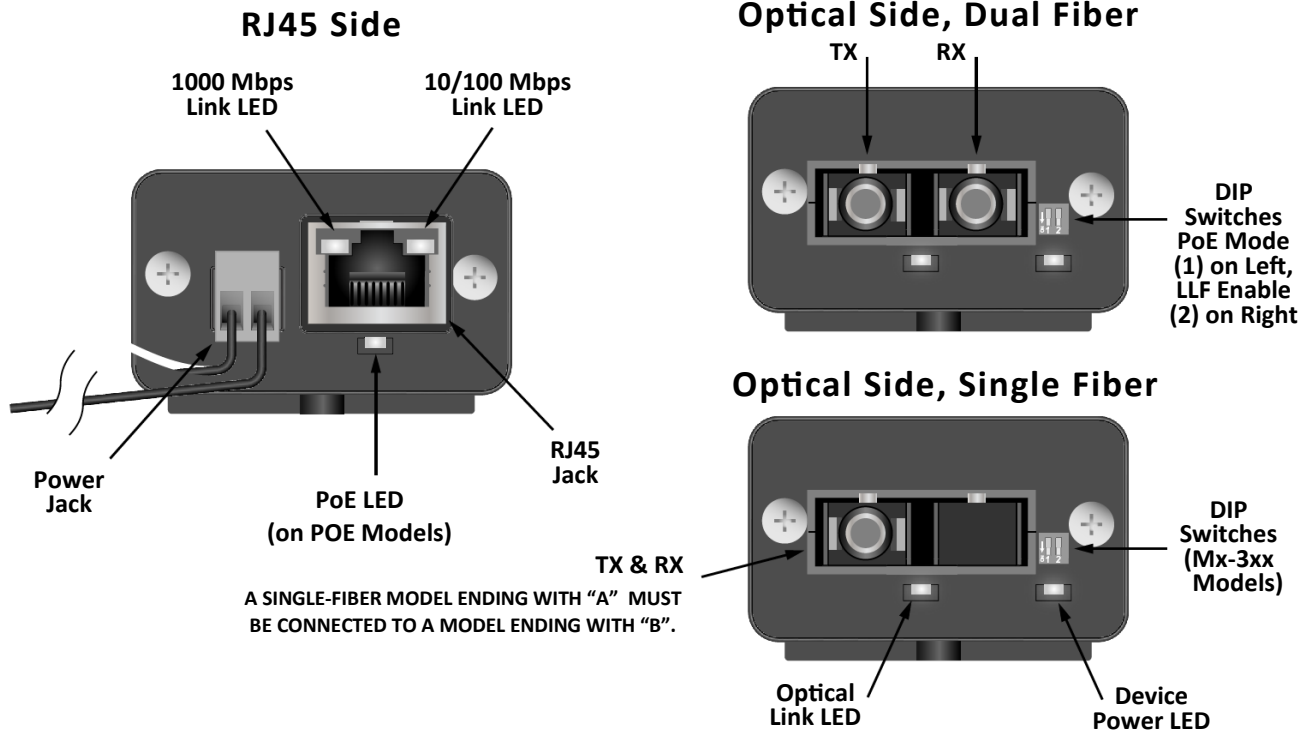
1x9 MEDIA CONVERTERS

MM/MS-1xx, MM/MS-2xx, MM/MS-3xx Models

Installation and Operation Manual

Introduction

See table on last page for included models.



POWER JACK OPTIONS

MODELS	*DC INPUT	AC INPUT
MM/MS-1xx (Non-PoE)	6-16V	6-12V
MM/MS-2xx (Non-PoE)	12-57V	12-30V
-PoE and -HPOE	48-56V	N/A

*POLARITY NOT IMPORTANT DUE TO INTERNAL BRIDGE

DIP SWITCH OPTIONS

MODEL TYPE	PoE MODE (Up/Down)	LLF ENABLE (Up/Down)
MM/MS-3xx-LLF	NOT USED	OFF / ON
MM/MS-3xx-PoE	AUTO / OFF	OFF / ON
MM/MS-3xx-HPoE	AUTO / ON	OFF / ON

LED FUNCTIONS

LED	OFF	GREEN	ORANGE	BLINK
DEVICE POWER	NO POWER	POWER	N/A	N/A
OPTICAL LINK	NO LINK	LINKED	N/A	ACTIVE LINK
10/100 Mbps LINK	NO LINK	100 Mbps LINK	10 Mbps LINK	ACTIVE LINK
1000 Mbps LINK	NO LINK	1000 Mbps LINK	N/A	ACTIVE LINK
PoE	PoE OFF	PoE ON	N/A	PoE FAULT

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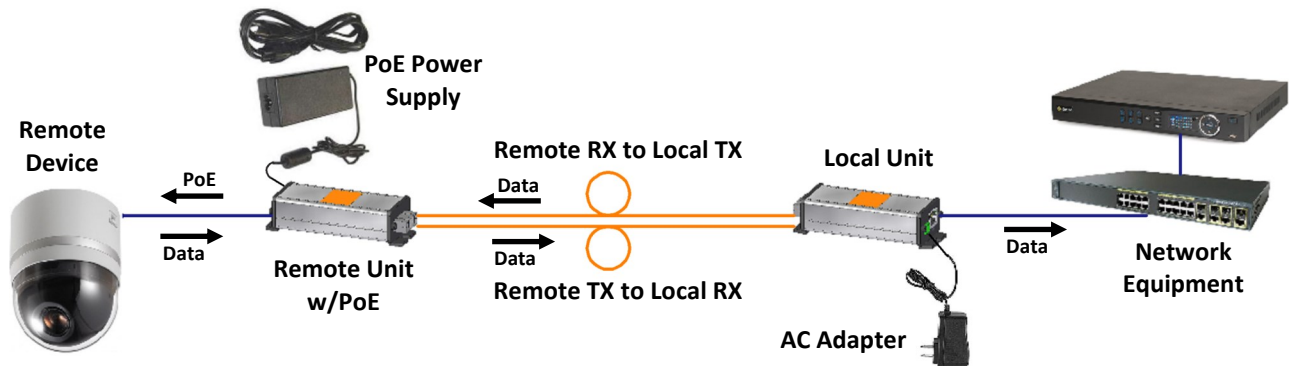
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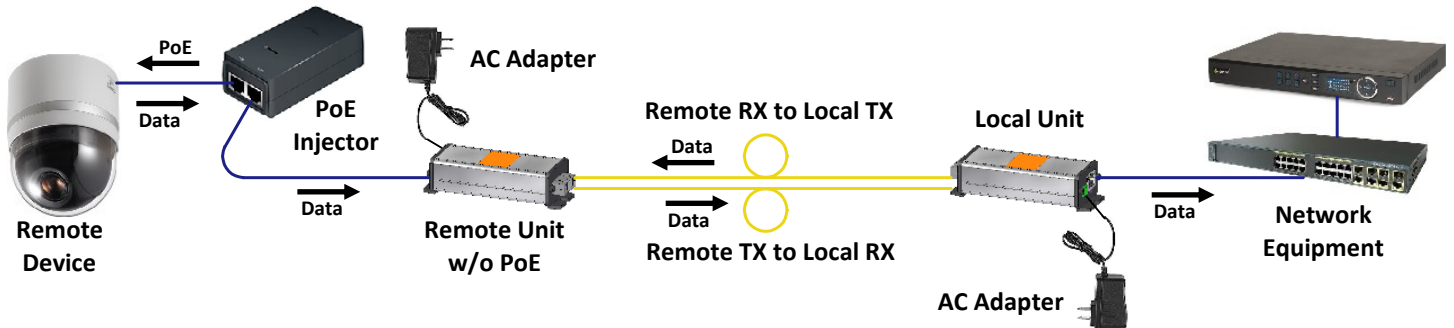
MM/MS-1xx, MM/MS-2xx, MM/MS-3xx Models

Installation and Operation Manual

PoE Media Converter Installation



Non-PoE Media Converter Installation



Installing the Media Converters

Refer to the diagrams above when installing. Use best industry practices and follow all local building codes.

1. Connect the provided AC adapter to the power jack of the local unit and confirm that its device power LED turns on.
2. Connect a network cable from the network equipment to the RJ45 jack of the local unit and confirm that a link LED on its RJ45 jack turns on.
3. Connect appropriate optical cables (see notes below) to the TX and RX ports of the local unit.
4. Connect the provided AC adapter or PoE power supply to the power jack of the remote unit and confirm that the device power LED turns on.
5. Connect the other ends of the optical cables from step 4 to the TX and RX ports of the remote unit.
6. If the remote optical link LED doesn't light, swap the cables between the TX and RX ports and confirm that it lights.
7. If the remote device will be powered by its own supply, connect that power supply as specified by its documentation and skip to step 10.
8. If the remote media converter is a non-PoE model and PoE is required:
 - A. Connect the RJ45 jack of the remote media converter to the Data In jack of the PoE injector.
 - B. Connect the PoE & Data Out jack of the PoE injector to the remote device and skip to step 10.
9. If the remote media converter will provide PoE, connect the RJ45 jack of the remote unit to the remote device and confirm that the PoE LED lights. If the remote unit has a PoE switch, leave it in the default/up position. If the remote device does not power up, set the unit's PoE switch to the down/ON position (60W models only).
10. Confirm that the remote device is powered and that a link LED on the RJ45 jack of the remote unit turns on.
11. If the remote device is active, confirm that a link LED is blinking on the RJ45 jack of the remote unit.
12. Confirm that the optical link LED lights on the local unit and verify data connectivity via the network equipment.

NOTES:

MM models require multi-mode SC or ST terminated fiber cables, which are orange.

MS models require single-mode SC or ST terminated fiber cables, which are yellow.

Single-fiber units with model names ending in "A" must be connected to units with model names ending with "B".

Link Loss Forwarding (LLF)

Link loss forwarding is a feature on some of the media converters that allows the head-end media converter to cycle the PoE power on a remote media converter. It works as follows:

- When the head-end (non-PoE) media converter has its Link Loss Forwarding feature enabled, it will disable its optical link in response to a loss of connection on its network port.
- When the remote PoE unit has its Link Loss Forwarding feature enabled, it will respond to a loss of its optical link by disabling its PoE output.

Therefore, with this configuration at both ends, the user can cycle power on a remote camera by disabling or disconnecting the Network feed to the head-end media converter. To simplify setup, make sure to disable the Link Loss Forwarding on both sides until an end-to-end link is established.

Troubleshooting Guide

Trouble	Possible Cause	Solution
Remote device isn't powered.	<p>Non-PoE remote device power is not connected.</p> <p>Remote device is connected to PoE from remote unit and to AC adapter.</p> <p>PoE injector is not plugged in to AC power.</p> <p>PoE DIP switch on remote unit is set to OFF.</p> <p>Remote device doesn't provide standard PoE signature.</p> <p>PoE injector is not connected properly.</p>	<p>Make sure remote device's power adapter is plugged into device and AC outlet.</p> <p>Cut a pair in the cable to the device used for PoE. Typically, the brown pair can be cut.</p> <p>Make sure PoE injector is plugged in to AC Outlet.</p> <p>Change PoE DIP switch from OFF to Auto (30W models only).</p> <p>Change PoE DIP switch from Auto to ON (60W models only).</p> <p>Make sure remote device is connected to PoE & Data Out port of injector (step 9 above).</p>
Link LEDs light, but don't blink.	Remote device is not active.	Access the remote device through the network equipment. For instances, view the video output of an IP camera.
No lights on local or remote unit.	Unit is not powered up.	Make sure AC adapter or PoE supply is plugged in to unit and AC outlet.
Optical link LED doesn't turn on.	<p>Optical cables not connected properly.</p> <p>Optical fibers are dirty.</p> <p>Incompatible single-fiber units are connected.</p> <p>Link loss forwarding (LLF) is enabled on one or both media converters.</p> <p>Wrong optical cables were used.</p>	<p>Swap RX and TX connections at local or remote unit.</p> <p>Clean fiber faces using cotton swab dipped in isopropyl alcohol. Dust off fiber face & barrel of optical module with canned duster.</p> <p>Single-fiber models ending with "A" (e.g. MS-210A) only link with single-fiber models ending with "B" (e.g. MS-210B).</p> <p>Disable LLF on both media converters until link is working. See section above for details about link loss forwarding.</p> <p>Use orange cables with MM units and yellow cables with MS units.</p>

Nitek 1x9 Media Converters

Product Category	Multi-Mode Commercial (100 Series) 50/62.5µm Fiber		Multi-Mode Industrial (200 Series) 50/62.5µm Fiber		Multi-Mode Industrial /PoE/LLF (300 Series)		Single-Mode Commercial (100 Series) 9µm Fiber		Single-Mode Industrial (200 Series) 9µm Fiber		Single-Mode Industrial /PoE/LLF (300 Series) 9µm Fiber		SC	ST	PoE 30W	PoE 60W
	MM-100	MM-110A MM-110B	MM-220	MM-210A MM-210B	MM-320-LLF	MM-310-LLFA	MS-100	MS-220	MS-210A MS-210B	MS-320-LLF	MS-310-LLFB	MS-320-LLF				
10/100 SC	MM-100		MM-220		MM-320-LLF		MS-100	MS-220	MS-320-LLF				X			
10/100 SC – Single Fiber	MM-110A MM-110B		MM-210A MM-210B		MM-310-LLFA			MS-210A MS-210B	MS-310-LLFB			X				
10/100 ST			MM-221		MM-321-LLF			MS-221	MS-321-LLF				X			
10/100 ST – Single Fiber			MM-211A MM-211B		MM-311-LLFA			MS-211A MS-211B	MS-311-LLFB				X			
10/100/1000 SC	MM-1000						MS-1000						X			
10/100 SC PoE 30W	MM-100-POE				MM-320-POE		MS-100-POE		MS-320-POE			X		X		
10/100 SC PoE 60W					MM-320-HPOE				MS-320-HPOE			X			X	
10/100 SC PoE 30W – Single Fiber					MM-310-POEA				MS-310-POEA			X			X	
10/100 SC PoE 60W – Single Fiber					MM-310-HPOEA				MS-310-HPOEA			X				X
10/100 ST PoE 30W					MM-321-POE				MS-321-POE				X		X	
10/100 ST PoE 60W					MM-321-HPOE				MS-321-HPOE				X			X
10/100 ST PoE 30W – Single Fiber					MM-311-POEA				MS-311-POEA				X		X	
10/100 ST PoE 60W – Single Fiber					MM-311-HPOEA				MS-311-HPOEA				X			X