

NS-205

Unmanaged 5-port Industrial 10/100 Mbps Ethernet Switch

NS-105A/NS-205A *NEW*

Unmanaged 5-port Industrial 10/100 Mbps Ethernet Switch



Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Slim packaging fits on your DIN-Rail Mounting
- Each port supports both 10/100 Mbps speed auto negotiation
- Supports +12 V_{dc} ~ +56 V_{dc} for NS-105A/NS-205A
- Supports operating temperatures from -40 °C ~ +75 °C

Introduction

The NS-205/NS-205A/NS-105A has 5 Ethernet Switching ports that support 10/100 Base-TX, with a 10/100M auto-negotiation feature and auto MDI/MDI-X function. It can connect 5 workstations and automatically switches the transmission speed (10 Mbps or 100 Mbps) for corresponding connections. The flow control mechanism is also negotiated. There is activity/link/data rate LEDs for each port to aid trouble-shooting. Port connectors are shielded RJ-45. **It contains "soft start" function with overload protection, high-low voltage protection.** The width of the NS-205/NS-205A is just 33 mm, so it can be used where space is limited.

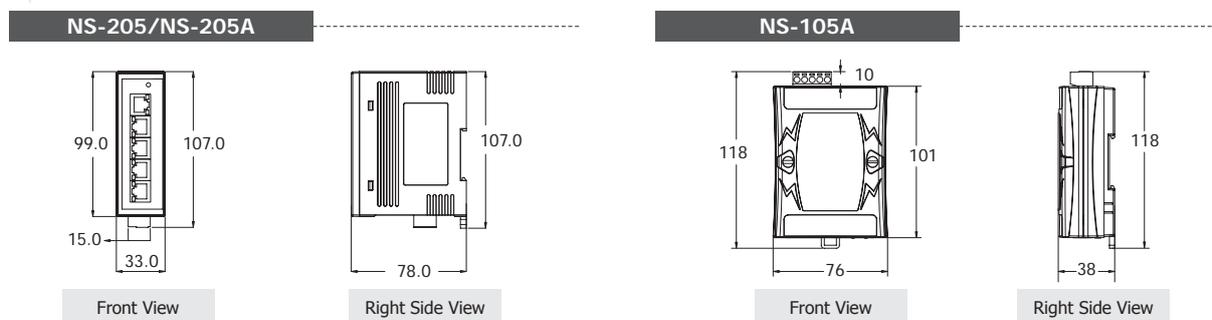
The NS-205A/NS-105A provides +12 V_{dc} ~ +56 V_{dc} power input to fit various power source.



Specifications

Models	NS-205	NS-205A	NS-105A
Technology			
Standards	IEEE 802.3, 802.3u, 802.3x		
Processing Type	Store & forward; wire speed switching		
MAC Addresses	1024		
Memory Bandwidth	1.4 Gbps	3.2 Gbps	
Frame Buffer Memory	256 Kbit	512 Kbit	
Flow Control	IEEE 802.3x flow control	IEEE 802.3x flow control, back pressure flow control	
Interface			
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection		
LED Indicators	Power, Link/Act, 10/100M		
Ethernet Isolation	1500 V _{rms} 1 minute		
Frame Ground for EMS Protection	Yes		
Cable	Ethernet	2-pair UTP/STP Cat.3, 4, 5, EIA/TIA-568 100 Ω	
	Fast Ethernet	2-pair UTP/STP Cat. 5, EIA/TIA-568 100 Ω	
Redundant Power			
Input Voltage Range	+10 V _{dc} ~ +30 V _{dc} (Non-isolated)	+12 V _{dc} ~ +56 V _{dc} (Non-isolated)	
Power Consumption	0.1 A @ 24 V _{dc}		
Protection	Power reverse polarity protection		
Frame Ground for EMS Protection	Yes		
Connector	3-Pin Removable Terminal Block		5-Pin Removable Terminal Block
Mechanical			
Casing	Plastic		
Flammability	UL 94V-0		
Dimensions (W x L x H)	33 mm x 78 mm x 107 mm		76 mm x 38 mm x 118 mm
Installation	DIN-Rail Mounting		
Environment			
Operating Temperature	-40 °C ~ +75 °C		
Storage Temperature	-40 °C ~ +85 °C		
Ambient Relative Humidity	10% ~ 90% RH, non-condensing		

Dimensions (Units: mm)



Ordering Information

NS-205 CR	Unmanaged 5-port Industrial Ethernet Switch (RoHS)
NS-205A CR	Unmanaged 5-port Industrial Ethernet Switch with Power Input +12 V _{dc} ~ +56 V _{dc} (RoHS)
NS-105A CR	Unmanaged 5-port Industrial Ethernet Switch with Power Input +12 V _{dc} ~ +56 V _{dc} (RoHS)

Accessories

GPSU06U-6 CR	24 V/0.25 A, 6 W Power Supply (RoHS)
GPSU06E-6 CR	24 V/0.25A, 6 W Power Supply with 2 pole EURO plug (RoHS)
DIN-KA52F CR	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
DIN-KA52F-48 CR	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-20-24 CR	24 V/1 A, 24 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-48 CR	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting (RoHS)



Features ▶▶▶

- 5-port RJ-45 Ethernet Switch
- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Automatic MDI/MDI-X crossover for plug-and-play
- 3.2 Gbps high performance memory bandwidth
- 512 Kbit frame buffer memory

Introduction

The I-8135W is a flexible and high performance five-port Ethernet switch module. It can be installed in PAC (XPAC, WinPAC, LinPAC, iPAC, ViewPAC, ...) and directly gets power from the backplane. An extra power adapter for an Ethernet switch is not need any more.

In your PAC solutions, if you want to expand Ethernet connection, I-8135W is good to replace regular Ethernet switches to save installation space and power adapter.

Specifications

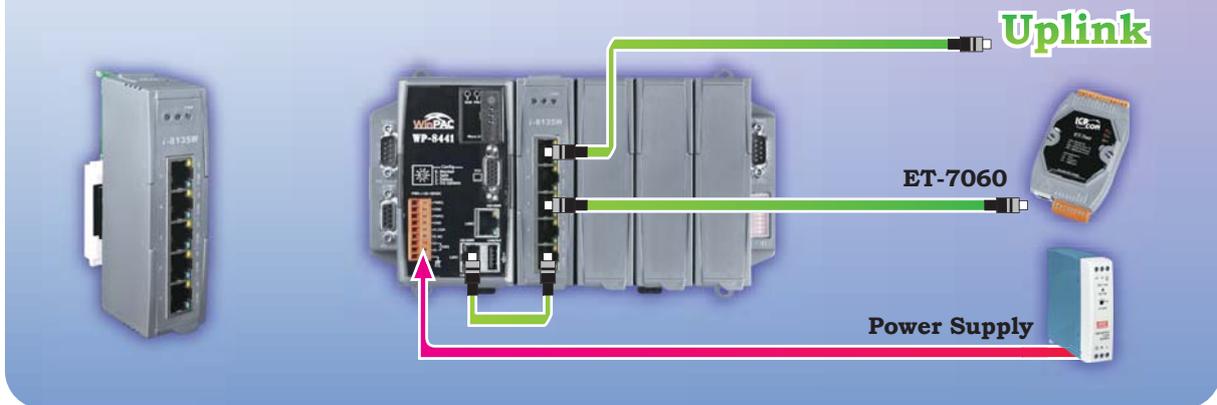
Technology	
Standards	IEEE 802.3, 802.3u, 802.3x
Processing Type	Store & forward, wire speed switching
MAC Addresses	1024
Memory Bandwidth	3.2 Gbps
Frame Buffer Memory	512 Kbit
Flow Control	IEEE802.3x flow control, back pressure flow control
Ethernet Switch	No external software required (for iP-8000, WP-8000, XP-8000, VP-23/25W)
Interface	
LED Indicators	1 LED as power indicator; 10 LEDs as speed and Link/Act indicators
Redundant Power	
Power Consumption	3 W
Mechanical	
Dimensions (W x H x D)	30 mm x 82 mm x 114 mm
Environment	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-30 °C ~ +85 °C
Ambient Relative Humidity	5% ~ 90% RH, non-condensing

Applications

NS-205 with PAC (For standard Ethernet Switch application)



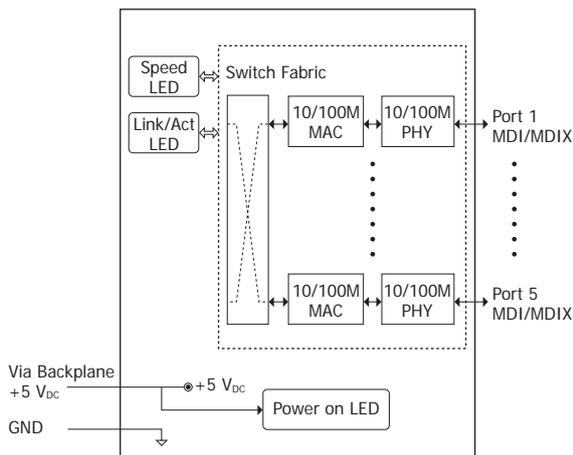
I-8135W with PAC



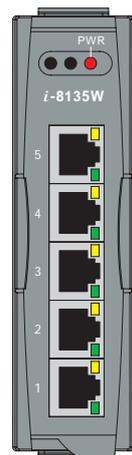
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Unmanaged Ethernet Switches

Internal I/O Structure

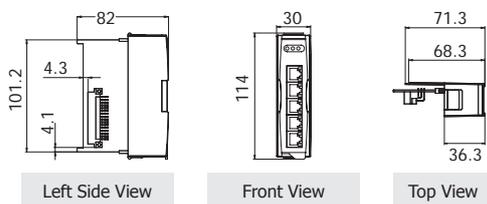


LED Functions



LED	Color	Description
PWR	Red	Power is ON
	Off	Power is Off
10/100M (Port 1)	Green	Link/Act
	Yellow	10/100M
10/100M (Port 2)	Green	Link/Act
	Yellow	10/100M
10/100M (Port 3)	Green	Link/Act
	Yellow	10/100M
10/100M (Port 4)	Green	Link/Act
	Yellow	10/100M
10/100M (Port 5)	Green	Link/Act
	Yellow	10/100M

Dimensions (Units: mm)



Ordering Information

I-8135W-G CR	5-port 10/100 Mbps Fast Ethernet Switch Module (RoHS)
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Features ▶▶▶

- Cost-effective
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Each port supports both 10/100 Mbps speed auto negotiation
- Supports +12 V_{DC} ~ +48 V_{DC} power input
- Supports operating temperatures from -40 °C ~ +75 °C
- DIN-Rail Mounting

Introduction

The NS-208A/NSM-208A has 8 Ethernet ports that support 10/100 Base-TX, with a 10/100M auto negotiation feature and auto MDI/MDI-X function.

All Ethernet ports have memory buffers that support the store-and-forward mechanism, which assures that data can be transmitted properly. The NS-208A/NSM-208A supports advanced network standards to optimize network performance, reduce maintenance costs, and secure network safety.

The flow control mechanism is also negotiated. There is link/data rate LEDs for each port to aid troubleshooting. Port connectors are shielded RJ-45.

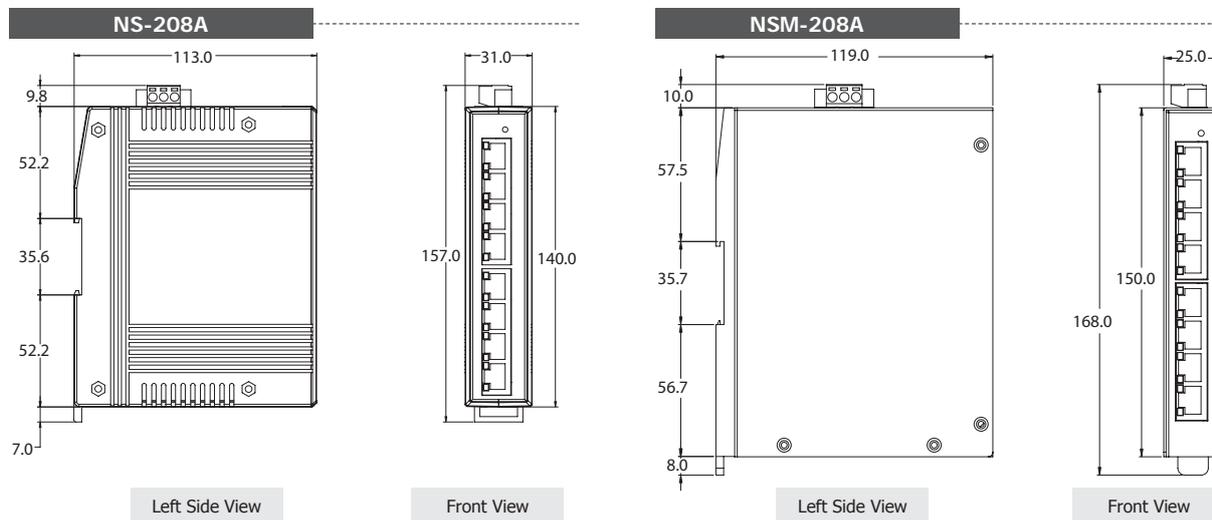
Comparison Table of 8-port 10/100 Mbps Ethernet Switch

					
Mode Name	NS-208	NSM-108	NS-208A	NSM-208A	NS-208R
Input Voltage Range	+10 V _{DC} ~ +30 V _{DC}		+12 V _{DC} ~ +48 V _{DC}		
Casing	Plastic	Metal	Plastic	Metal	Plastic
Installation	DIN-Rail Mounting	DIN-Rail Mounting or Wall Mounting		DIN-Rail Mounting	
Dimensions (W x L x H) (Unit: mm)	64 x 98 x 118	73 x 102 x 132	31 x 113 x 157	25 x 119 x 168	64 x 98 x 118
Remarks	-		Cost-effective		EN50155-certified

Specifications

Models	NS-208A	NSM-208A
Technology		
Standards	IEEE 802.3, 802.3u, 802.3x	
Processing Type	Store & forward; wire speed switching	
MAC Addresses	1024	
Memory Bandwidth	2 Gbps	
Frame Buffer Memory	512 Kbit	
Flow Control	IEEE 802.3x flow control, back pressure flow control	
Interface		
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
LED Indicators	Power, Link/Act, 10/100M	
Ethernet Isolation	1500 V _{rms} 1 minute	
EMS Protection	Yes	
Power Input		
Input Voltage Range	+12 V _{dc} ~ +48 V _{dc}	
Power Consumption	0.2 A @ 24 V _{dc}	
Protection	Power reverse polarity protection	
EMS Protection	Yes	
Connector	3-Pin Removable Terminal Block	
Mechanical		
Casing	Plastic (Flammability UL 94V-0)	Metal (IP30 Protection)
Dimensions (W x L x H)	31 mm x 113 mm x 157 mm	25 mm x 119 mm x 168 mm
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-40 °C ~ +75 °C	
Storage Temperature	-40 °C ~ +85 °C	
Ambient Relative Humidity	10% ~ 90% RH, non-condensing	

Dimensions (Units: mm)



Ordering Information

NS-208A CR	Unmanaged 8-port Industrial 10/100 Mbps Ethernet Switch (RoHS)
NSM-208A CR	Unmanaged 8-port Industrial 10/100 Mbps Ethernet Switch with Metal Casing (RoHS)

Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
KA52F-48	48 V/0.52 A, 25 W Power Supply



Features ▶▶▶

- EN50155-certified for harsh railway standards
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Each port supports both 10/100 Mbps speed auto negotiation
- Supports +12 V_{DC} ~ +48 V_{DC} power input
- Supports operating temperatures from -40 °C ~ +75 °C
- DIN-Rail Mounting

Introduction

NS-208R Ethernet switch is designed for industrial applications, such as rolling stock, vehicle, and railway applications. The NS-208R is an unmanaged Ethernet switch with 8 x 10/100 Base-T(X) ports which is compliant with EN50155 request.

NS-208R provides a wide +12 V_{DC} ~ +48 V_{DC} power range to fit all the common power standards found in industrial automation, without external power converters. The wide power input lowers installation and maintenance costs.

The flow control mechanism is also negotiated. There is link/data rate LEDs for each port to aid troubleshooting. Port connectors are shielded RJ-45.

Comparison Table of 8-port 10/100 Mbps Ethernet Switch

Mode Name	NS-208	NSM-108	NS-208A	NSM-208A	NS-208R
Input Voltage Range	+10 V _{DC} ~ +30 V _{DC}		+12 V _{DC} ~ +48 V _{DC}		
Casing	Plastic	Metal	Plastic	Metal	Plastic
Installation	DIN-Rail Mounting	DIN-Rail Mounting or Wall Mounting		DIN-Rail Mounting	
Dimensions (W x L x H) (Unit: mm)	64 x 98 x 118	73 x 102 x 132	31 x 113 x 157	25 x 119 x 168	64 x 98 x 118
Remarks	-		Cost-effective		EN50155-certified

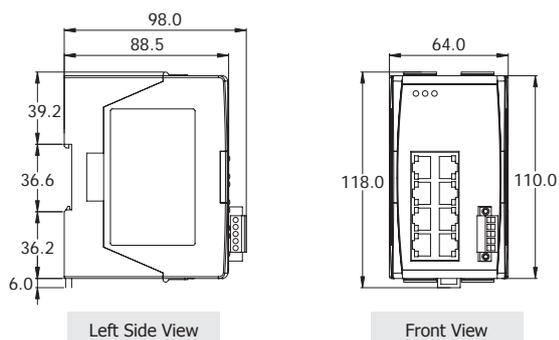
Specifications

Technology	
Standards	IEEE 802.3, 802.3u, 802.3x
Processing Type	Store & forward; wire speed switching
MAC Addresses	2048
Memory Bandwidth	3.2 Gbps
Frame Buffer Memory	512 Kbit
Flow Control	IEEE 802.3x flow control, back pressure flow control
Interface	
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection
LED Indicators	Power, Link/Act, 10/100M
Ethernet Isolation	1500 V _{rms} 1 minute
EMS Protection	Yes
Power Input	
Input Voltage Range	+12 V _{dc} ~ +48 V _{dc}
Power Consumption	0.15 A @ 24 V _{dc}
Protection	Power reverse polarity protection
EMS Protection	Yes
Connector	5-Pin Removable Terminal Block
Mechanical	
Casing	Plastic (Flammability UL 94V-0)
Dimensions (W x L x H)	64 mm x 98 mm x 118 mm
Installation	DIN-Rail Mounting
Environment	
Operating Temperature	-40 °C ~ +75 °C
Storage Temperature	-40 °C ~ +85 °C
Ambient Relative Humidity	10% ~ 90% RH, non-condensing

Applications



Dimensions (Units: mm)



Ordering Information

NS-208R CR	Unmanaged EN50155 8-port Industrial 10/100 Mbps Ethernet Switch (RoHS)
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Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
KA52F-48	48 V/0.52 A, 25 W Power Supply

NS-205G

Unmanaged 5-port Industrial 10/100/1000 Base-T Ethernet Switch

NS-205AG *Available soon*

NS-205G with +48 V_{DC} Input



NS-205G/NS-205AG

Gigabit LAN
x 5

-40 ~ +75
Wide Temperature

DIN-Rail Mount

CE

FCC

RoHS

WEEE

For NS-205AG

+12 ~ +48
Wide Input Voltage

Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Each port supports 10/100 and 1000 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Supports operating temperatures from -40 °C ~ +75 °C
- 10 Gbps high performance memory bandwidth
- Power saving technology
- Supports +12 V_{DC} ~ +48 V_{DC} power input (NS-205AG)
- Store-and-forward architecture
- Slim packaging fits on your DIN-Rail Mounting

Introduction

The NS-205G/NS-205AG is 5-port unmanaged gigabit switches that support 10/100/1000 Base-T, with a 10/100/1000M auto negotiation feature and auto MDI/MDI-X function. It can connect 5 workstations and automatically switches the transmission speed (10 Mbps or 100 Mbps or 1000 Mbps) for corresponding connections.

That is an ideal solution for bandwidth-hungry applications (such as high resolution digital image transmission, video/audio file streaming/downloading, and server farm connectivity).

The flow control mechanism is also negotiated. There is link/data rate LEDs for each port to aid troubleshooting. Port connectors are shielded RJ-45.

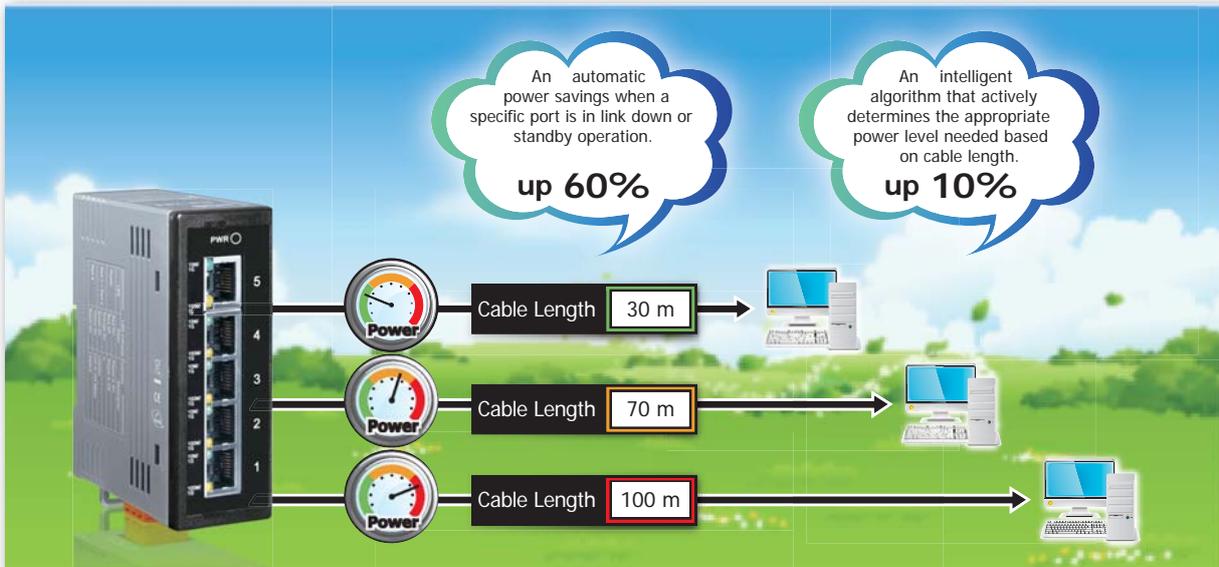
Power Savings by Number of Connected Ports and Link Status: Computers do not require Internet access all the time; neither do switches utilize all ports at all times. When a computer or network equipment is shutdown, switches often remain on and continue to consume considerable amount of power. With Green Ethernet technology, NS-205G/NS-205AG can automatically detect link status and reduce power usage of ports that are idle. Computers or any connecting parties set to standby mode (not power off), however, will not provide significant power savings.

Specifications

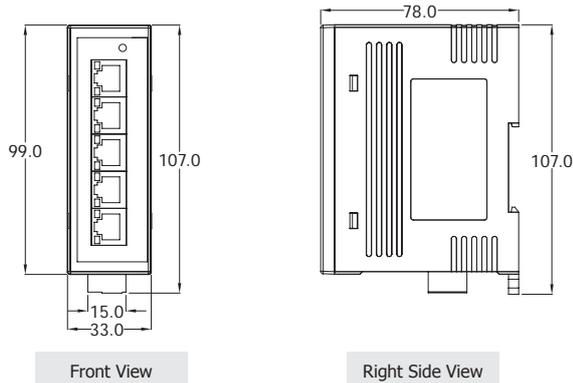
Models	NS-205G	NS-205AG
Technology		
Standards	IEEE 802.3, 802.3u, 802.3ab and 802.3x	
Processing Type	Store & forward, wire speed switching	
MAC Addresses	8192	
Memory Bandwidth	10 Gbps	
Frame Buffer Memory	1 Mbit	
Jumbo Frames	9K for Speed 1000M	
Flow Control	IEEE 802.3x flow control, back pressure flow control	

Models	NS-205G	NS-205AG
Interface		
RJ-45 Ports	10/100/1000 Base-T auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
LED Indicators	Power, 10/100/1000M, Link/Act	
Ethernet Isolation	1500 V _{rms} 1 minute	
Frame Ground for EMS Protection	Yes	
Cable	Ethernet	2-pair UTP/STP Cat.3, 4, 5, EIA/TIA-568 100 Ω
	Fast Ethernet	2-pair UTP/STP Cat. 5, EIA/TIA-568 100 Ω
	Gigabit Ethernet	4-pair UTP/STP Cat.5, EIA/TIA-568 100 Ω
Power		
Input Voltage Range	+10 V _{dc} ~ +30 V _{dc} (Non-isolated)	+12 V _{dc} ~ +48 V _{dc} (Non-isolated)
Power Consumption	0.1 A @ 24 V _{dc}	
Protection	Power reverse polarity protection	
Frame Ground for EMS Protection	Yes	
Connector	3-Pin Removable Terminal Block	
Mechanical		
Casing	Plastic (Flammability UL 94V-0)	
Flammability	UL 94V-0	
Dimensions (W x L x H)	33 mm x 78 mm x 107 mm	
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-40 °C ~ +75 °C	
Storage Temperature	-40 °C ~ +85 °C	
Ambient Relative Humidity	10% ~ 90% RH, non-condensing	

Power Saving Application



Dimensions (Units: mm)



Ordering Information

NS-205G CR	Unmanaged 5-port Industrial 10/100/1000 Base-T Ethernet Switch (RoHS)
NS-205AG CR	NS-205G with +48 V _{dc} Input (RoHS)

Accessories

GPSU06U-6 CR	24 V/0.25 A, 6 W Power Supply (RoHS)
DIN-KA52F CR	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting (RoHS)

NS-208G/NS-208AG

NSM-208G/NSM-208AG



Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Supports +12 V_{DC} ~ +48 V_{DC} power input for NS-208AG and NSM-208AG
- Each port supports 10/100 and 1000 Mbps speed auto negotiation
- 16 Gbps high performance memory bandwidth
- Supports 9K Jumbo Frames for Speed 1000M
- Supports operating temperatures from -40 °C ~ +75 °C
- DIN-Rail Mounting

Introduction

The NS-208G/NSM-208G has 8 Ethernet Switching ports that support 10/100/1000 Base-T, with a 10/100/1000M auto negotiation feature and auto MDI/MDI-X function. It can connect 8 workstations and automatically switches the transmission speed (10 Mbps or 100 Mbps or 1000 Mbps) for corresponding connections.

The flow control mechanism is also negotiated. There is link/data rate LEDs for each port to aid troubleshooting. Port connectors are shielded RJ-45.

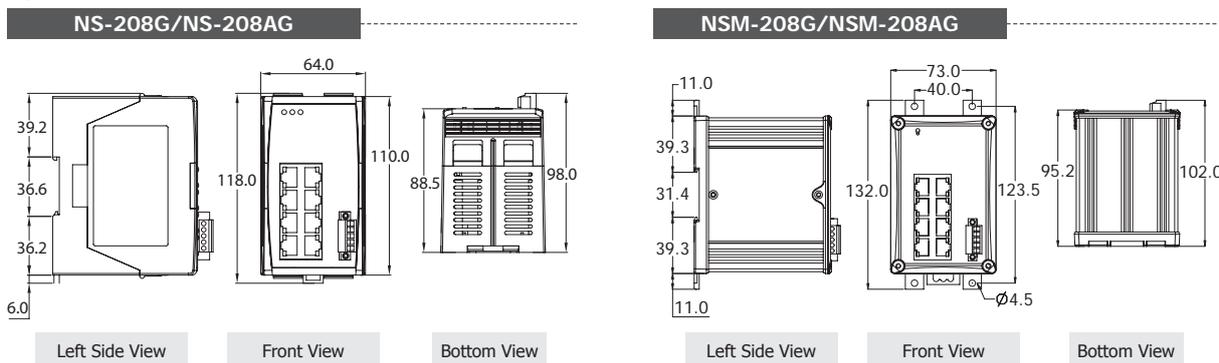
NS-208AG/NSM-208AG is exactly the same as NS-208G/NSM-208G except for the power input.

Specifications

Models	NS-208G	NS-208AG	NSM-208G	NSM-208AG
Technology				
Standards	IEEE 802.3, 802.3u, 802.3x			
Processing Type	Store & forward; wire speed switching			
MAC Addresses	8192			
Memory Bandwidth	16 Gbps			
Frame Buffer Memory	1 Mbit			
Jumbo Frames	9K for Speed 1000M			
Flow Control	IEEE 802.3x flow control, back pressure flow control			

Models	NS-208G	NS-208AG	NSM-208G	NSM-208AG
Interface				
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection			
LED Indicators	Power, 10/100/1000M, Link/Act			
Ethernet Isolation	1500 V _{rms} 1 minute			
EMS Protection	Yes			
Cable	Ethernet	2-pair UTP/STP Cat.3, 4, 5, EIA/TIA-568 100 Ω		
	Fast Ethernet	2-pair UTP/STP Cat. 5, EIA/TIA-568 100 Ω		
	Gigabit Ethernet	4-pair UTP/STP Cat.5, EIA/TIA-568 100 Ω		
Power Input				
Input Voltage Range	+10 V _{dc} ~ +30 V _{dc}	+12 V _{dc} ~ +48 V _{dc}	+10 V _{dc} ~ +30 V _{dc}	+12 V _{dc} ~ +48 V _{dc}
Power Consumption	0.3 A @ 24 V _{dc}			
Protection	Power reverse polarity protection			
EMS Protection	Yes			
Connector	5-Pin Removable Terminal Block			
Mechanical				
Casing	Plastic (Flammability UL 94V-0)		Metal (IP20 Protection)	
Dimensions (W x L x H)	64 mm x 98 mm x 119 mm		73 mm x 102 mm x 132 mm	
Installation	DIN-Rail Mounting		DIN-Rail Mounting or Wall Mounting	
Environment				
Operating Temperature	-40 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +75 °C			
Ambient Relative Humidity	10% ~ 90% RH, non-condensing			

Dimensions (Units: mm)



Ordering Information

NS-208G CR	Unmanaged 8-port 10/100/1000 Base-T Ethernet Switch with Power Input +10 V _{dc} ~ +30 V _{dc} (RoHS)
NSM-208G CR	Unmanaged 8-port 10/100/1000 Base-T Ethernet Switch with Power Input +10 V _{dc} ~ +30 V _{dc} , metal casing (RoHS)
NS-208AG CR	Unmanaged 8-port 10/100/1000 Base-T Ethernet Switch with Power Input +12 V _{dc} ~ +48 V _{dc} (RoHS)
NSM-208AG CR	Unmanaged 8-port 10/100/1000 Base-T Ethernet Switch with Power Input +12 V _{dc} ~ +48 V _{dc} , metal casing (RoHS)

Accessories

DIN-KA52F	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
KA52F-48	48 V/0.52 A, 25 W Power Supply without DIN-Rail Mounting
MDR-20-24	24 V/1 A, 24 W Power Supply with DIN-Rail Mounting
MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting



Features ▶▶▶

- Provides 16 10/100 Mbps Ethernet ports
- Each port supports both 10/100 Mbps speed auto negotiation
- Supports 4 kV Ethernet ESD protection and 1 kV EFT protection
- Supports operating temperatures from -40 °C ~ +75 °C
- DIN-Rail Mounting, Wall Mounting
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Supports Dual +12 V_{DC} ~ +48 V_{DC} power input and 1 relay output

Introduction

The NSM-216 has 16 Ethernet ports that support 10/100 Base-TX, with a 10/100M auto negotiation feature and auto MDI/MDI-X function. It can connect 16 workstations and automatically switches the transmission speed (10 Mbps or 100 Mbps) for corresponding connections.

All Ethernet ports have memory buffers that support the store-and-forward mechanism, which assures that data can be transmitted properly. The NSM-216 supports advanced network standards to optimize network performance, reduce maintenance costs, and secure network safety.

The flow control mechanism is also negotiated. There is link/data rate LEDs for each port to aid troubleshooting. Port connectors are shielded RJ-45.

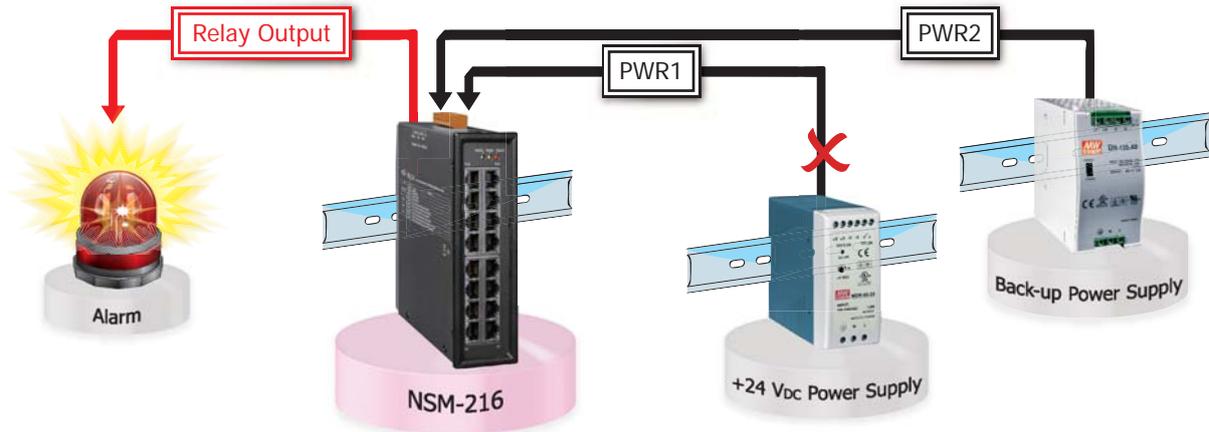
Specifications

Technology	
Standards	IEEE802.3, 802.3u, 802.3x
Processing Type	Store & forward, wire speed switching
MAC Addresses	8K
Memory Bandwidth	3.2 Gbps
Frame Buffer Memory	3 Mbit
Flow Control	IEEE 802.3x flow control, back pressure flow control

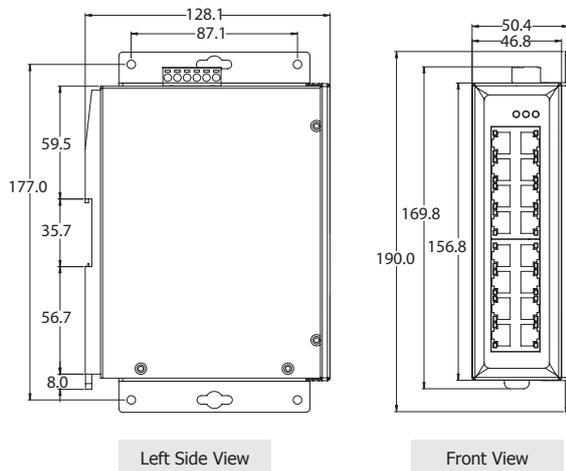
Interface	
RJ-45 Ports	10/100 Base-TX auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection
LED Indicators	PWR1, PWR2, Power fail, 10/100M, Link/Act
Ethernet Isolation	1500 V _{rms} 1 minute
Power	
Redundant Input Range	+12 V _{dc} ~ +48 V _{dc} (Non-isolated)
Power Consumption	0.6 A @ 24 V _{dc}
Alarm Contact	One relay output with current carrying capacity of 1A @ 30 V _{dc}
Protection	Power reverse polarity protection
Connector	6-Pin Removable Terminal Block (Power & Relay)
Mechanical	
Casing	Metal (IP30 Protection)
Dimensions (W x L x H)	47 mm x 128 mm x 160 mm
Installation	DIN-Rail Mounting or Wall Mounting
Environmental	
Operating Temperature	-40 °C ~ +75 °C
Storage Temperature	-40 °C ~ +85 °C
Ambient Relative Humidity	10 ~ 90% RH, non-condensing

Redundant Power Input

Both power inputs can be connected simultaneously to live DC power sources. If one power source fails, the other live source will act as a backup, and automatically supplies all of NSM-216 series power needs.



Dimensions (Units: mm)



Ordering Information

NSM-216 CR	Unmanaged 16-port Industrial 10/100 Base-TX Ethernet Switch with metal casing (RoHS)
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Accessories

MDR-20-24	24 V/1 A, 24 W Power Supply with DIN-Rail Mounting
DIN-KA52F	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting

NS-205AFC-T/FCS-T/FCS-60T

NS-206AFT-T

NSM-205AFC-T/FCS-T/FCS-60T

NSM-206AFT-T



NS(M)-205AF/NS(M)-206AF Series

LAN x4	Wide Temperature (-30 ~ +75 °C)	DIN-Rail Mount	Wide Input Voltage (+12 ~ +48 Vdc)	CE	FCC	RoHS	WEEE	For NS(M)-205AF 100Base-FX Fiber Optic x1	For NS(M)-206AF 100Base-FX Fiber Optic x2
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Features ▶▶▶

- Provides 1 x 100-FX fiber port for NS-205AF/NSM-205AF series
- Provides 2 x 100-FX fiber ports for NS-206AF/NSM-206AF series
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Supports operating temperatures from -30 °C ~ +75 °C
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Redundant dual +12 V_{dc} ~ +48 V_{dc} power inputs
- DIN-Rail Mounting

Introduction

The NS-206AF/NSM-206AF is a 4-port unmanaged Ethernet with 2 fiber ports switch. Using fiber optics, you can prevent noise from interfering with your system and supports high-speed (100 Mbps) and high-distance (up to 60 km) transmissions.

The NS-205AF/NSM-205AF/NS-206AF/NSM-206AF provides a wide +12 V_{dc} ~ +48 V_{dc} power range to fit all the common power standards found in industrial automation, without external power converters. The wide power input lowers installation and maintenance costs.

Comparison Table of Fiber Switch

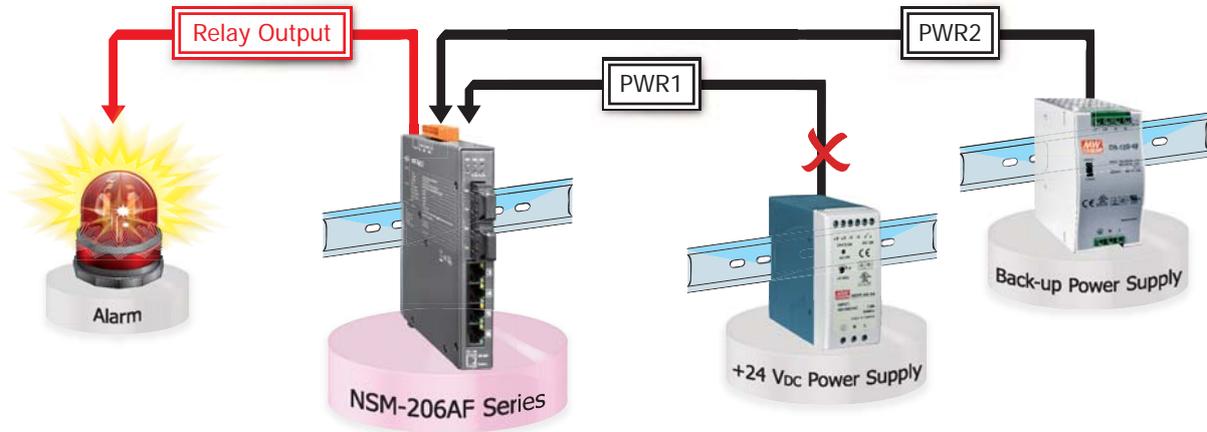
Mode Name	NS-205F NS-206F	NSM-205F NSM-206F	NS-205AF NS-206AF	NSM-205AF NSM-206AF
PoE	-			
Input Voltage Range	+10 V _{dc} ~ +30 V _{dc}		+12 V _{dc} ~ +48 V _{dc}	
Operating Temperature	0 °C ~ +70 °C		-30 °C ~ +75 °C	
Casing	Plastic	Metal (IP20)	Plastic	Metal (IP30)
Installation	DIN-Rail Mounting	DIN-Rail Mounting or Wall Mounting	DIN-Rail Mounting	
Dimensions (W x L x H) (Unit: mm)	64 x 98 x 110	73 x 102 x 110	31 x 127 x 157	25 x 133 x 168


Specifications

Models	NS-205AF Series	NS-206AF Series	NSM-205AF Series	NSM-206AF Series
Technology				
Standards	IEEE 802.3, 802.3u, 802.3x			
Processing Type	Store & forward; wire speed switching			
MAC Addresses	1024			
Memory Bandwidth	2.0 Gbps			
Frame Buffer Memory	512 Kbit			
Flow Control	IEEE 802.3x flow control			
Ethernet Interface				
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection			
LED Indicators	Power, Link/Act, 10/100M			
Ethernet Isolation	1500 V _{rms} 1 minute			
+/-4 kV ESD Protection	Yes			
Fiber Interface (100 Base-FX; SC/ST type)				
Multi-Mode	NS-205AFT-T NS-205AFC-T NSM-205AFT-T NSM-205AFC-T NS-206AFT-T NS-206AFC-T NSM-206AFT-T NSM-206AFC-T	Multi mode fiber cables: 50/125, 62.5/125 or 100/140 μ m Distance: 2 km, (62.5/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -20 dBm Max. TX Output: -14 dBm Max. RX Sensitivity: -32 dBm Min. RX Overload: -8 dBm Budget: 12 dBm		
Single-Mode	NS-205AFCS-T NSM-205AFCS-T NS-206AFCS-T NSM-206AFCS-T	Single-mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Distance: 30 km, (9/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -15 dBm Max. TX Output: -8 dBm Max. RX Sensitivity: -34 dBm Min. RX Overload: -5 dBm Budget: 19 dBm		
Single-Mode	NS-205AFCS-60T NSM-205AFCS-60T NS-206AFCS-60T NSM-206AFCS-60T	Single-mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Distance: 60 km, (9/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -5 dBm Max. TX Output: 0 dBm Max. RX Sensitivity: -35 dBm Min. RX Overload: -5 dBm Budget: 30 dBm		
Power Input				
Input Voltage Range	+12 V _{dc} ~ +48 V _{dc} (Redundant input)			
Power Consumption	0.12 A @ 24 V _{dc}	0.14 A @ 24 V _{dc}	0.12 A @ 24 V _{dc}	0.14 A @ 24 V _{dc}
Protection	Power reverse polarity protection			
+/-4 kV ESD Protection	Yes			
Connector	6-Pin Removable Terminal Block			
Mechanical				
Casing	Plastic (Flammability UL 94V-0)		Metal (IP30 Protection)	
Dimensions (W x L x H)	31 mm x 127 mm x 157 mm		25 mm x 133 mm x 168 mm	
Installation	DIN-Rail Mounting			
Environmental				
Operating Temperature	-30 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +85 °C			
Ambient Relative Humidity	10% ~ 90% RH, non-condensing			

☛ Redundant Power Input

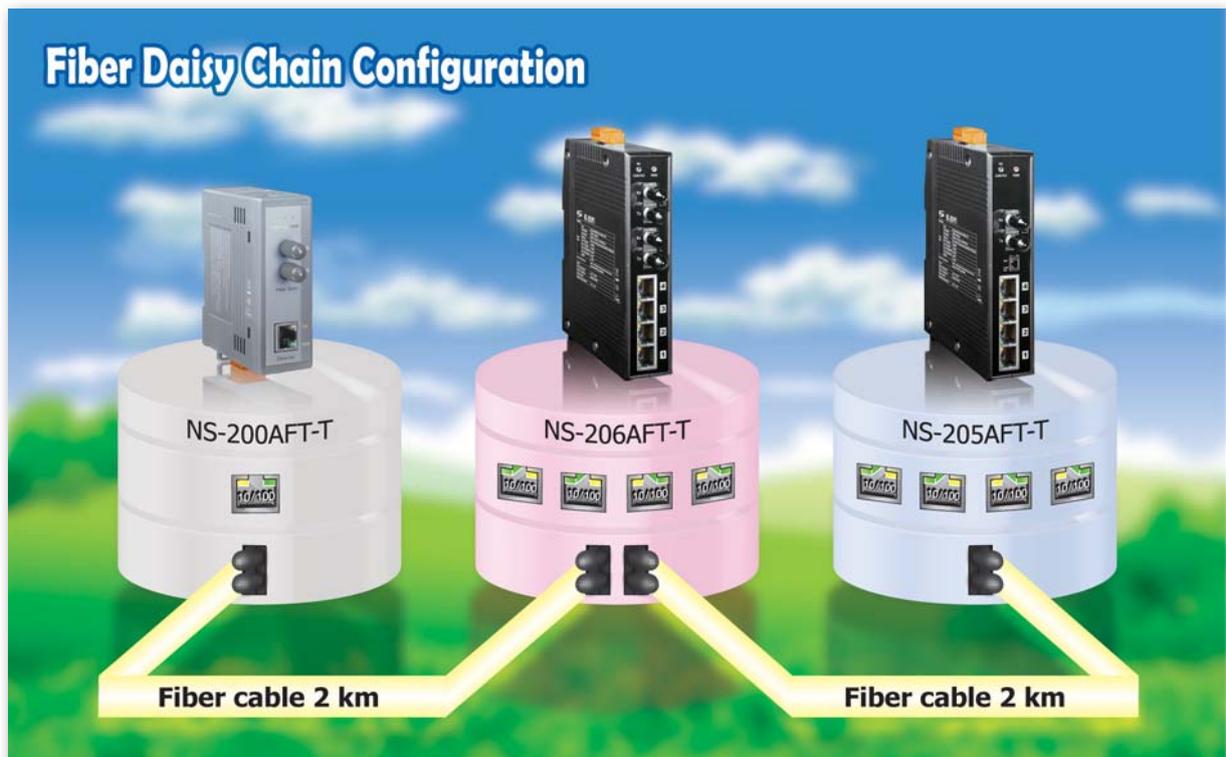
Both power inputs can be connected simultaneously to live DC power sources. If one power source fails, the other live source will act as a backup, and automatically supplies all of NSM-205AF/NSM-206AF series power needs.



☛ Pin Functions for Power Input

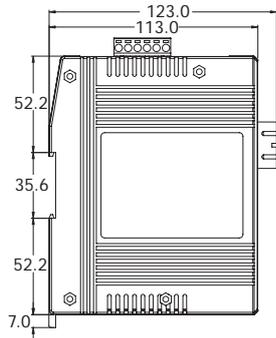
External power supply is connected using the removable terminal block:
 PWR: Power input and should be connected to the power supply (+)
 GND: Ground and should be connected to the power supply (-)
 F.G. : F.G. stands for Frame Ground (protective ground). It is optional. If you use this pin, it can reduce EMI radiation; improve EMI performance and ESD protection.

☛ Applications

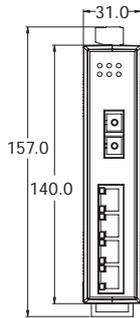


Dimensions (Units: mm)

NS-205AFC-T/NS-205AFCS-T/NS-205AFCS-60T

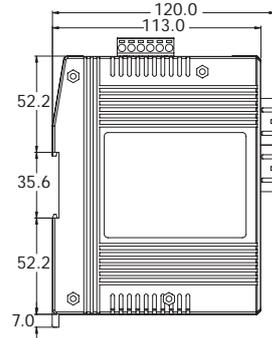


Left Side View

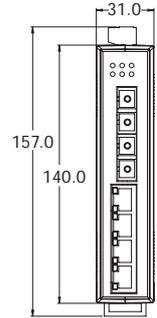


Front View

NS-206AFC-T/NS-206AFCS-T/NS-206AFCS-60T

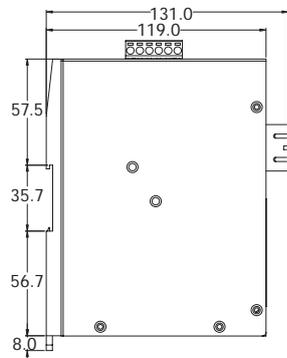


Left Side View

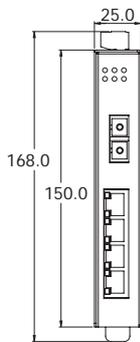


Front View

NSM-205AFC-T/NSM-205AFCS-T/NSM-205AFCS-60T

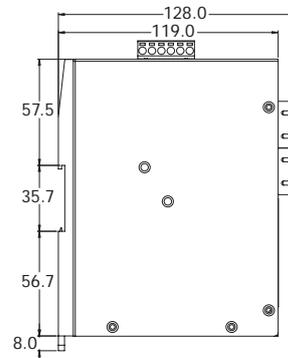


Left Side View

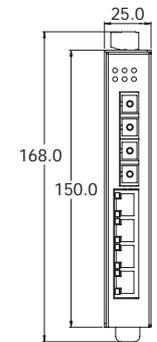


Front View

NSM-206AFC-T/NSM-206AFCS-T/NSM-206AFCS-60T



Left Side View



Front View

Ordering Information

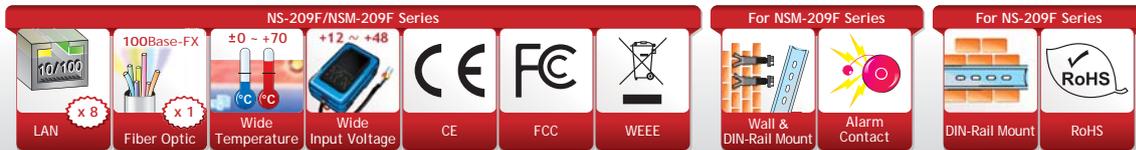
NS-205AFT-T CR	Multi-mode, ST Connector, 4-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NS-205AFC-T CR	Multi-mode, SC Connector, 4-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NS-205AFCS-T CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NS-205AFCS-60T CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NSM-205AFT-T CR	Multi-mode, ST Connector, 4-port 10/100 Mbps with 1 Fiber port Switch; metal case (RoHS)
NSM-205AFC-T CR	Multi-mode, SC Connector, 4-port 10/100 Mbps with 1 Fiber port Switch; metal case (RoHS)
NSM-205AFCS-T CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps with 1 Fiber port Switch; metal case (RoHS)
NSM-205AFCS-60T CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps with 1 Fiber port Switch; metal case (RoHS)
NS-206AFT-T CR	Multi-mode, ST Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch (RoHS)
NS-206AFC-T CR	Multi-mode, SC Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch (RoHS)
NS-206AFCS-T CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch (RoHS)
NS-206AFCS-60T CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch (RoHS)
NSM-206AFT-T CR	Multi-mode, ST Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch; metal case (RoHS)
NSM-206AFC-T CR	Multi-mode, SC Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch; metal case (RoHS)
NSM-206AFCS-T CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch; metal case (RoHS)
NSM-206AFCS-60T CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps with 2 Fiber ports Switch; metal case (RoHS)

NS-209F Series/NSM-209F Series

Unmanaged 8-port Industrial 10/100 Base-TX with 100 Base-FX Fiber Switch

NS-209F Series

NSM-209F Series



Features ▶▶▶

- Each port supports both 10/100 Mbps speed auto negotiation
- Automatic MDI/MDI-X crossover for plug-and-play
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- DIN-Rail Mounting or Wall Mounting for NSM-209F series
- MAC address 2048
- Store-and-forward architecture
- Supports +12 V_{DC} ~ +48 V_{DC} power input
- DIN-Rail Mounting for NS-209F series

Introduction

The NS-209F/NSM-209F series is a Unmanaged 8-port Industrial 10/100 Base-TX with 100 Base-FX Switch that secures data transmission by using fiber optic transmission to provide immunity from EMI/RFI interference. It uses Ethernet for transmitting a signal up to 30 km, and is the perfect solution for applications where transmission must be protected from electrical exposure, surges, lightning or chemical corrosion.

The NS-209F/NSM-209F series operates at full duplex mode. In full duplex mode, range is 30 km with 8.3/125, 8.7/125, 9/125 or 10/125 μm fiber cables.

NSM-209F provides two power inputs that can be connected simultaneously to live DC power sources. If one of the power inputs fails, the other live source will act as a backup to automatically support the NSM-209F's power needs.

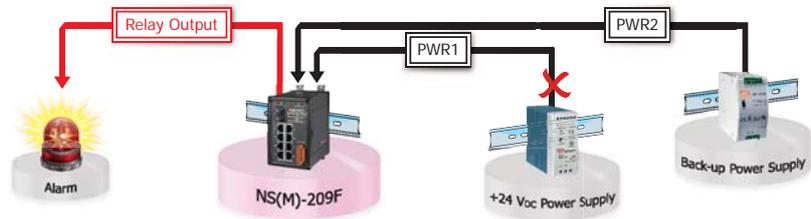
Specifications

Models	NS-209F Series	NSM-209F Series
Technology		
Standards	IEEE 802.3, 802.3u, 802.3x	
Processing Type	Store & forward; wire speed switching	
MAC Addresses	2048	
Memory Bandwidth	2 Gbps	
Frame Buffer Memory	512 Kbit	
Flow Control	IEEE 802.3x flow control, back pressure flow control	
Ethernet Interface		
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
LED Indicators	Power, Link/Act, 10/100M	
Fiber Optics Port	100 Base-FX	
Ethernet Isolation	1500 V _{rms} 1 minute	
EMS Protection	Yes	

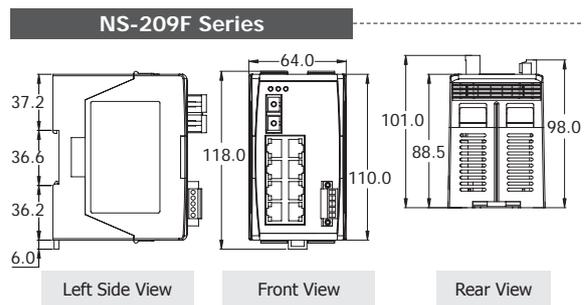
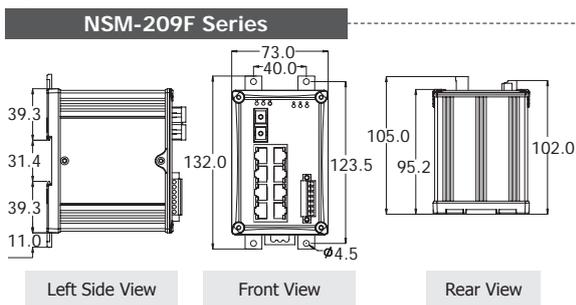
Models		NS-209F Series	NSM-209F Series
Fiber Interface (100 Base-FX; SC/ST type)			
Multi-Mode	NS-209FT/FC NSM-209FT/FC	Multi mode fiber cables: 50/125, 62.5/125 or 100/140 μ m Distance: 2 km, (62.5/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -20 dBm Max. TX Output: -14 dBm Max. RX Sensitivity: -32 dBm	
Fiber Interface (100 Base-FX; SC/ST type)			
Single-Mode	NS-209FCS NSM-209FCS	Single-mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Distance: 30 km, (9/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -15 dBm Max. TX Output: -8 dBm Min. RX Sensitivity: -34 dBm	
Power Input			
Input Voltage Range	+12 Vdc ~ +48 Vdc (Non-isolated)	+12 Vdc ~ +48 Vdc (Non-isolated) Redundant Inputs with one relay output (1 A @ 24 Vdc) for alarm	
Power Consumption	0.26 A @ 24 Vdc		
LED Indicator	Yes		
Protection	Power reverse polarity protection		
+/-4 kV ESD Protection	Yes		
Mechanical			
Casing	Plastic (Flammability UL 94V-0)	Metal (IP20 Protection)	
Dimensions (W x L x H)	64 mm x 101 mm x 118 mm	73 mm x 105 mm x 132 mm	
Installation	DIN-Rail Mounting	DIN-Rail Mounting or Wall Mounting	
Environmental			
Operating Temperature	0 °C ~ +70 °C		
Storage Temperature	-20 °C ~ +85 °C		
Ambient Relative Humidity	10% ~ 90% RH, non-condensing		

Redundant Power Input

Both power inputs can be connected simultaneously to live DC power sources. If one power source fails, the other live source will act as a backup, and automatically supplies all of NSM-209F series power needs.



Dimensions (Units: mm)



Ordering Information

NS-209FT CR	Multi-mode, ST Connector, 8-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NS-209FC CR	Multi-mode, SC Connector, 8-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NS-209FCS CR	Single-mode 30 km, SC Connector, 8-port 10/100 Mbps with 1 Fiber port Switch (RoHS)
NSM-209FT	Multi-mode, ST Connector, 8-port 10/100 Mbps with 1 Fiber port Switch; metal case
NSM-209FC	Multi-mode, SC Connector, 8-port 10/100 Mbps with 1 Fiber port Switch; metal case
NSM-209FCS	Single-mode 30 km, SC Connector, 8-port 10/100 Mbps with 1 Fiber port Switch; metal case

Accessories

DIN-KA52F	24V/1.04A, 25 W Power Supply with DIN-Rail Mounting
MDR-20-24	24V/1A, 24 W Power Supply with DIN-Rail Mounting
MDR-60-24	24V/2.5A, 60 W Power Supply with DIN-Rail Mounting

How PoE Works

There are two basic components in an IEEE 802.3af compliant PoE network:

- Power Sourcing Equipment (PSE)
A device that supplies power
- Powered Device (PD)
A device that receives and utilizes the power

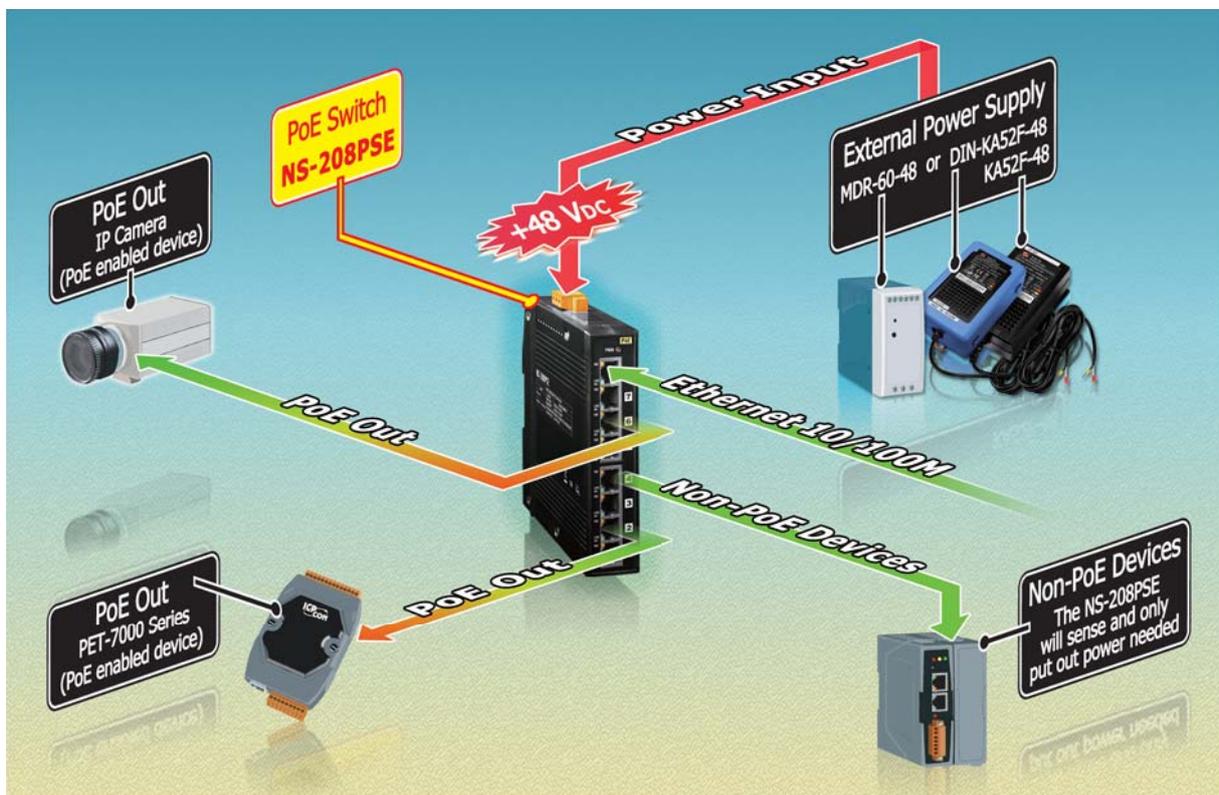
When the PSE connects to a network device, the PSE determines or “discovers” if the device is a PD or not. This prevents non-PoE enabled Ethernet equipment from receiving power, which could cause damage. The PSE applies two small current-limited voltage signals across the cable as it checks for the presence of a characteristic resistance. If resistance is detected, power is provided. A PD may also classify how much power it will require from the PSE. This feature supports the PSE by helping it supply power in an efficient way.

After the PSE has discovered a PD, it supplies 48 V and a maximum current of 350 mA. Voltage may be lost along the cable, depending on length of cable. However, a minimum of about 13 W is available to each PD, which is adequate power for numerous applications including VoIP telephones, WAPs, security cameras and building automation systems.

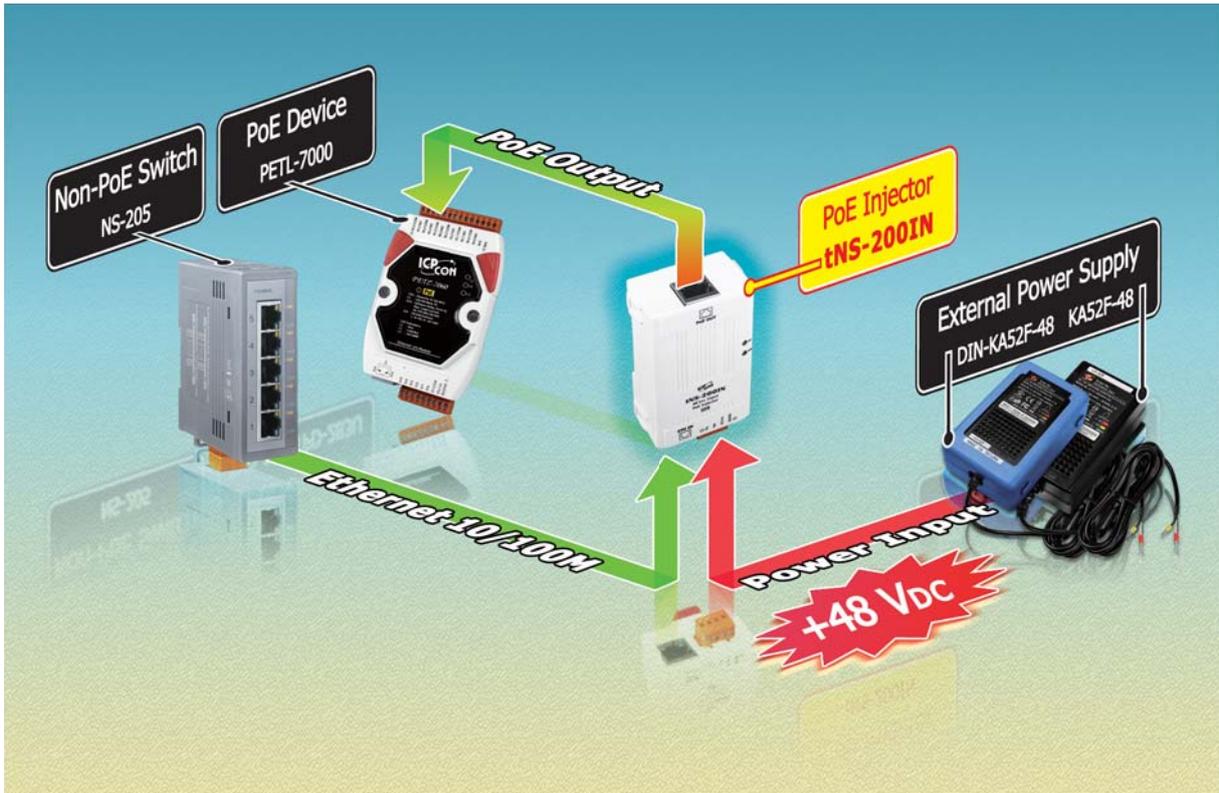
Once the PSE begins to provide power, it continuously monitors the PD current draw. If the PD current consumption drops below a minimum value, for example when the device is unplugged, the PSE discontinues supplying power and the discovery process begins again.

The IEEE 802.3af standard defines two different types of PSEs: endspan and midspan.

An endspan PSE - Integrates the power sourcing functionality with a network switch. Endspans available today look and function exactly the same as any other Ethernet switch, except they can provide PoE in addition to routing data. Since Ethernet data pairs use transformers coupled at each end of the link, DC power can easily be added to the center tap of the transformer without disrupting the data. In this mode of operation, an endspan injects both power and data on pin-pairs 3 and 6 and pin-pairs 1 and 2.

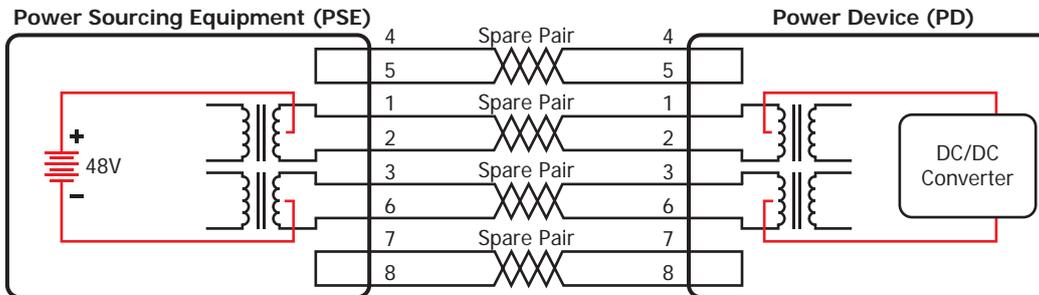


A midspan PSE - Fits in between the switch and the PD. It supplies power over the unused cable pin-pairs 4 and 5 and pin-pairs 7 and 8. Data is routed through the midspan device without modification. These devices are usually mounted adjacent to the Ethernet switch in an equipment rack. It is important to note that although the PSE can only use pin-pairs assigned from an endspan or a midspan, the PD must have the capability to accept power from both.

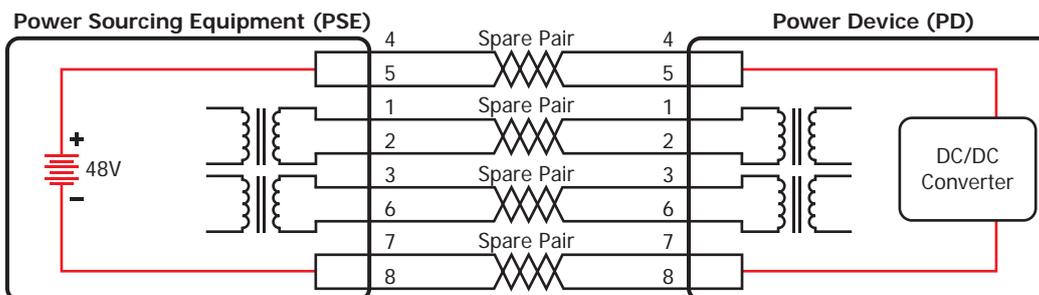


Power is carried over the cabling using two techniques: Mode A and Mode B

Mode A: Power is carried on the same conductors as data. CAT-5 cabling for standard 10 BaseT and 100 Base-TX Ethernet uses two data/signal pairs connected to pins 1 and 2 and pins 3 and 6 on RJ-45 connectors. Power sourcing equipment superimposes power onto these pins via the center tap of internal signal coupling transformers. In the powered device (PD) the power is derived from these lines using the reverse technique.



Mode B: The twisted pair on pins 4 and 5 is connected to form the positive electric power supply, while the pair on pins 7 and 8 is connected to form the negative supply. Each pair can accommodate either polarity.



The IEEE 802.af standard specifies that all power sourcing equipment and powered devices must be compatible with both methods above. However, only one of the methods may be used at a time.

NS-205PSE

NS-105PSE



LAN

x 1



PoE + LAN

x 4



Wide Temperature



DIN-Rail Mount



Input Voltage



CE



FCC



RoHS



WEEE

Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Supports operating temperatures from -40 °C ~ +75 °C
- Each port supports both 10/100 Mbps speed auto negotiation
- Power Inputs +46 V_{DC} ~ +55 V_{DC}
- Store-and-forward architecture
- 3.2 Gbps high performance memory bandwidth
- IEEE 802.3af compliant PoE ports
- Slim packaging fits on your DIN-Rail Mounting

Introduction

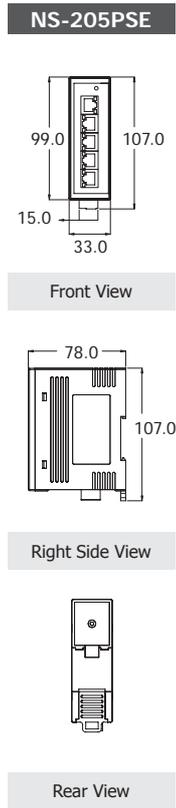
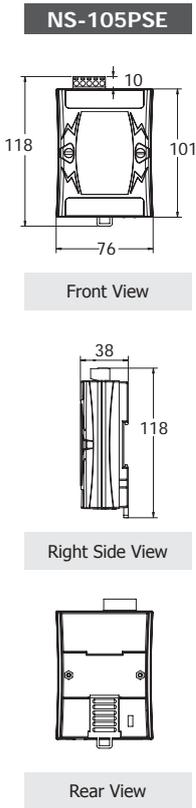
The NS-105PSE/NS-205PSE is a 5-port unmanaged PoE (Power over Ethernet) Industrial Ethernet switch; it supports 4 PoE ports which are classified as power source equipment (PSE). The NS-105PSE/NS-205PSE makes centralized power supply come true and provides up to 15.4 watts of power per PSE port.

Specifications

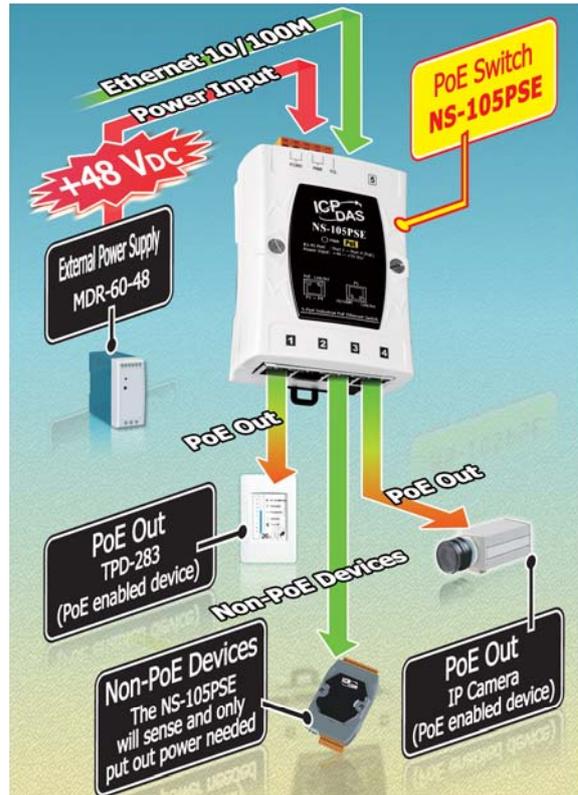
Models	NS-105PSE	NS-205PSE
Technology		
Standards	IEEE 802.3, 802.3u, 802.3x, 802.3af (Power over Ethernet)	
Processing Type	Store & forward; wire speed switching	
MAC Addresses	1024	
Memory Bandwidth	3.2 Gbps	
Frame Buffer Memory	512 Kbit	
Flow Control	IEEE 802.3x flow control, back pressure flow control	
Interface		
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
LED Indicators	Power, Link/Act, 10/100M, Power Device is detected	
Ethernet Isolation	1500 V _{rms} 1 minute	
EMS Protection	Yes	

Models	NS-105PSE	NS-205PSE
Power Input		
Input Voltage Range	+46 Vdc ~ +55 Vdc	
Power Consumption	0.05 A @ 48 Vdc without PD loading 1.45 A @ 48 Vdc with PD full loading	
Protection	Power reverse polarity protection	
EMS Protection	Yes	
Connector	3-Pin Removable Terminal Block	
PoE Technology		
PoE Compliance	100% IEEE 802.3af compliant	
PoE Classification	PSE (Power Sourcing Equipment)	
PoE Power	Up to 15.4 watts per channel	
PoE Operation	Automatic detection and power management	
PoE Pin Assignments	V+ (Pin 1, 3), V- (Pin 2, 4)	
PoE Disconnect Mode	DC disconnect	
Mechanical		
Casing	Plastic (Flammability UL 94V-0)	
Dimensions (W x L x H)	76 mm x 38 mm x 118 mm	33 mm x 78 mm x 107 mm
Installation	DIN-Rail Mounting	
Environment		
Operating Temperature	-40 °C ~ +75 °C	
Storage Temperature	-40 °C ~ +85 °C	
Ambient Relative Humidity	10% ~ 90% RH, non-condensing	

Dimensions (Units: mm)



Applications



Ordering Information

NS-105PSE CR	Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch (RoHS)
NS-205PSE CR	Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch (RoHS)

Accessories

DR-120-48	48V/2.5A, 120 W Power Supply with DIN-Rail Mounting
MDR-60-48	24V/1.25A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48V/0.52A, 25 W Power Supply with DIN-Rail Mounting

NS-105PSE-24V *Available soon*

NS-205PSE-24V/NSM-205PSE-24V *NEW*

5-port 10/100 Mbps PoE (PSE) Ethernet Switch with +24 V_{DC} Input

NSM-210PSE-24V *Available soon*

10-port 10/100 Mbps PoE (PSE) Ethernet Switch with +24 V_{DC} Input



NS-105PSE-24V/NS-205PSE-24V/NSM-205PSE-24V						For NS(M)-105/205PSE-24V		For NSM-210PSE-24V	
-40 ~ +75 °C						x 1	x 4	x 2	x 8
Wide Temperature	DIN-Rail Mount	CE	FCC	RoHS	WEEE	LAN	PoE + LAN	LAN	PoE + LAN

Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Supports operating temperatures from -40 °C ~ +75 °C
- Each port supports both 10/100 Mbps speed auto negotiation
- Power Inputs +18 V_{DC} ~ +32 V_{DC}
- Store-and-forward architecture
- 3.2 Gbps high performance memory bandwidth
- IEEE 802.3af compliant PoE ports
- DIN-Rail Mounting

Introduction

The NS-105PSE-24V/NS-205PSE-24V/NSM-205PSE-24V is a 5-port unmanaged PoE (Power over Ethernet) Industrial Ethernet switch; it supports 4 PoE ports which are classified as power source equipment (PSE). The NS-105PSE-24V/NS-205PSE-24V/NSM-205PSE-24V makes centralized power supply come true and provides up to 15.4 watts of power per PSE port.

The NSM-210PSE-24V is a 10-port unmanaged Ethernet switch; it supports 8 PoE ports which are classified as power source equipment (PSE).

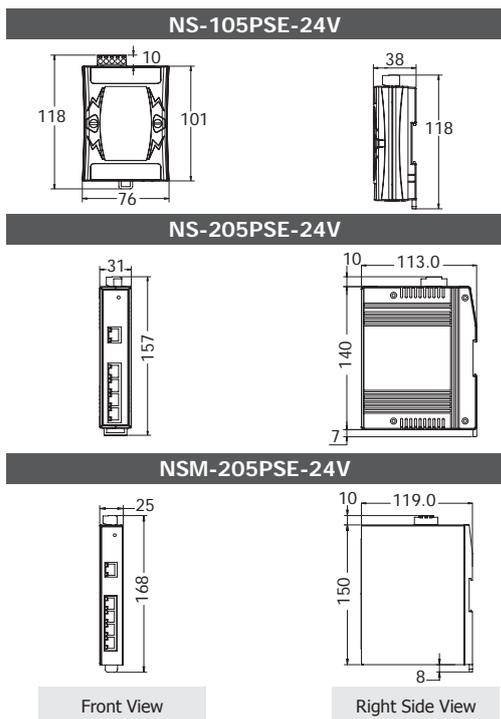
Ethernet switches are designed with +24 V_{DC} to +48 V_{DC} boost for PoE application where +48 V_{DC} power supply is not available.

Specifications

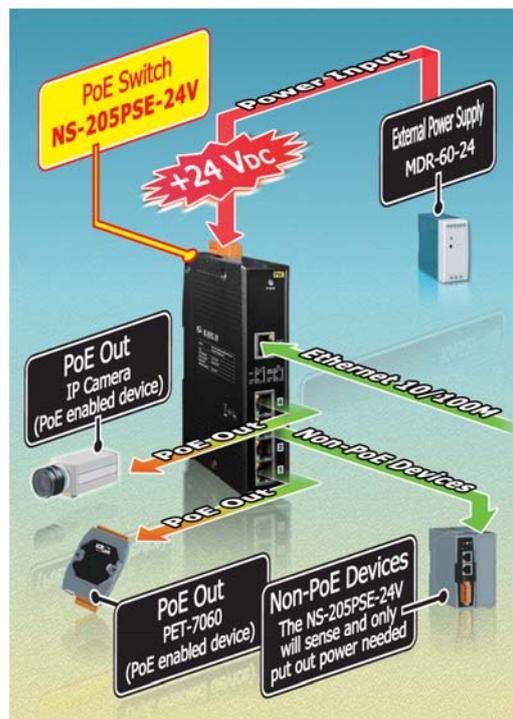
Models	NS-105PSE-24V	NS-205PSE-24V	NSM-205PSE-24V	NSM-210PSE-24V
Technology				
Standards	IEEE 802.3, 802.3u, 802.3x, 802.3af (Power over Ethernet)			
Processing Type	Store & forward; wire speed switching			
MAC Addresses	1024			
Memory Bandwidth	3.2 Gbps			
Frame Buffer Memory	512 Kbit			
Flow Control	IEEE 802.3x flow control, back pressure flow control			
Interface				
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection			
LED Indicators	Power, Link/Act, 10/100M, Power Device is detected			
Ethernet Isolation	1500 V _{rms} 1 minute			
EMS Protection	Yes			

Models	NS-105PSE-24V	NS-205PSE-24V	NSM-205PSE-24V	NSM-210PSE-24V
Power Input				
Input Voltage Range	+18 Vdc ~ +32 Vdc			
Power Consumption	0.24 A @ 24 Vdc without PD loading 3.2 A @ 24 Vdc with PD full loading		0.6 A @ 24 Vdc without PD loading 6.5 A @ 24 Vdc with PD full loading	
Protection	Power reverse polarity protection			
EMS Protection	Yes			
Connector	5-Pin Removable Terminal Block	3-Pin Removable Terminal Block		
PoE Technology				
PoE Compliance	100% IEEE 802.3af compliant			
PoE Classification	PSE (Power Sourcing Equipment)			
PoE Power	Up to 15.4 watts per channel			
PoE Operation	Automatic detection and power management			
PoE Pin Assignments	V+ (Pin 1, 3), V- (Pin 2, 4)			
PoE Disconnect Mode	DC disconnect			
Mechanical				
Casing	Plastic (Flammability UL 94V-0)		Metal (IP30 Protection)	
Dimensions (W x L x H) (Units: mm)	76 x 38 x 118	31 x 113 x 157	25 x 119 x 168	25 x 119 x 168
Installation	DIN-Rail Mounting			
Environment				
Operating Temperature	-40 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +85 °C			
Ambient Relative Humidity	10% ~ 90% RH, non-condensing			

Dimensions (Units: mm)



Applications



Ordering Information

NS-105PSE-24V CR	Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch; +24 Vdc Input (RoHS)
NS-205PSE-24V CR	Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch; +24 Vdc Input (RoHS)
NSM-205PSE-24V CR	Unmanaged 5-port 10/100 Mbps PoE (PSE) Ethernet Switch with Metal Casing; +24 Vdc Input (RoHS)
NSM-210PSE-24V CR	Unmanaged 10-port 10/100 Mbps PoE (PSE) Ethernet Switch with Metal Casing; +24 Vdc Input (RoHS)

Accessories

DP-1200	24V/5A, 120 W Power Supply with DIN-Rail Mounting
MDR-60-24	24V/2.5A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F	24V/1.04A, 25 W Power Supply with DIN-Rail Mounting

NS-208PSE/NSM-208PSE *NEW*

8-port Industrial 10/100 Mbps Ethernet with 8-PoE (PSE) Switch

NS-208PSE-4/NSM-208PSE-4 *NEW*

8-port Industrial 10/100 Mbps Ethernet with 4-PoE (PSE) Switch

NS-208PSE

NS-208PSE-4

NSM-208PSE

NSM-208PSE-4



Features ▶▶▶

- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Auto-detection of PD (powered devices) and automatic power management
- Over-temperature, over-current and over/under-voltage detection
- Supports operating temperatures from -40 °C ~ +75 °C
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- 8 PoE ports for NS-208PSE/NSM-208PSE; 4 PoE ports for NS-208PSE-4/NSM-208PSE-4
- Supports +46 V_{DC} ~ +55 V_{DC} power input
- DIN-Rail Mounting

Introduction

The NS-208PSE/NS-208PSE-4 is an 8-port unmanaged PoE (Power over Ethernet) Industrial Ethernet switch, it supports 8/4 PoE ports which are classified as power source equipment (PSE). The NS-208PSE/NS-208PSE-4 makes centralized power supply come true and provides up to 15.4 W of power per port. The NS-208PSE/NS-208PSE-4 can be used to power IEEE802.3af compliant powered devices (PD) by Ethernet cable and eliminates the need for additional power wiring.

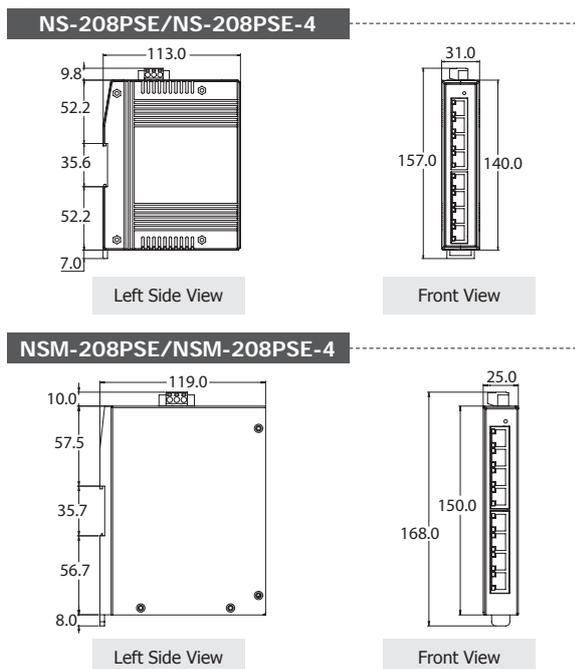
The NS-208PSE/NSM-208PSE is exactly the same as the NS-208PSE-4/NSM-208PSE-4, except for the PoE ports.

Specifications

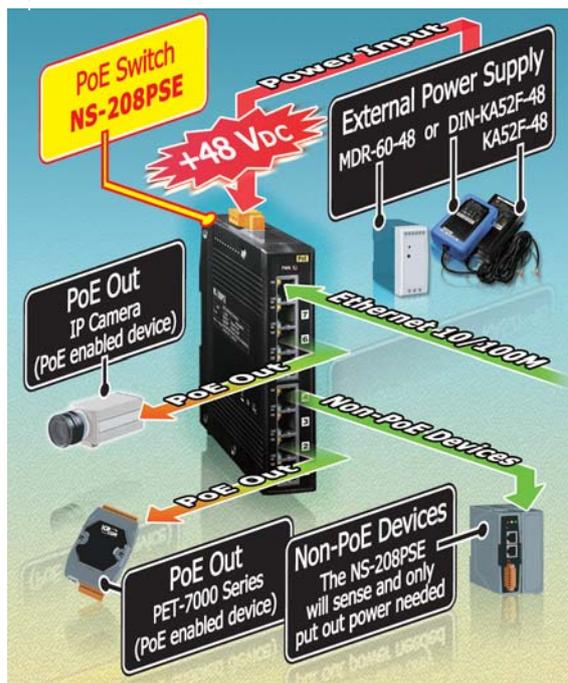
Models	NS-208PSE	NSM-208PSE	NS-208PSE-4	NSM-208PSE-4
Technology				
Standards	IEEE 802.3, 802.3u, 802.3x, 802.3af (Power over Ethernet)			
Processing Type	Store & forward; wire speed switching			
MAC Addresses	1024			
Memory Bandwidth	3.2 Gbps			
Frame Buffer Memory	512 Kbit			
Flow Control	IEEE 802.3x flow control, back pressure flow control			
Interface				
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection			
LED Indicators	Power, Link/Act, Power Device is detected			
Ethernet Isolation	1500 V _{rms} 1 minute			
EMS Protection	Yes			

Models	NS-208PSE	NSM-208PSE	NS-208PSE-4	NSM-208PSE-4
Power Input				
Input Voltage Range	+46 Vdc ~ +55 Vdc for PoE output			
Power Consumption	0.1 A @ 48 Vdc without PD loading 2.8 A @ 48 Vdc with PD full loading		0.09 A @ 48 Vdc without PD loading 1.45 A @ 48 Vdc with PD full loading	
Protection	Power reverse polarity protection			
ESD Protection	Yes			
Connector	3-Pin Removable Terminal Block			
PoE Technology				
PoE Compliance	100% IEEE 802.3af compliant			
PoE Classification	PSE (Power Sourcing Equipment)			
PoE Voltage	+46 Vdc ~ +55 Vdc depending on power input			
PoE Power	Up to 15.4 watts per channel			
PoE Operation	Automatic detection and power management			
PoE Pin Assignments	V+ (Pin 1, 2), V- (Pin 3, 6)			
PoE Disconnect Mode	DC disconnect			
Mechanical				
Casing	Plastic (Flammability UL 94V-0)	Metal (IP30 Protection)	Plastic (Flammability UL 94V-0)	Metal (IP30 Protection)
Dimensions (W x L x H)	31 mm x 113 mm x 157 mm	25 mm x 119 mm x 168 mm	31 mm x 113 mm x 157 mm	25 mm x 119 mm x 168 mm
Installation	DIN-Rail Mounting			
Environment				
Operating Temperature	-40 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +85 °C			
Ambient Relative Humidity	10% ~ 90% RH, non-condensing			

Dimensions (Units: mm)



Applications



Ordering Information

NS-208PSE CR	8-port Industrial 10/100 Mbps Ethernet with 8-PoE (PSE) Switch (RoHS)
NS-208PSE-4 CR	8-port Industrial 10/100 Mbps Ethernet with 4-PoE (PSE) Switch (RoHS)
NSM-208PSE CR	8-port Industrial 10/100 Mbps Ethernet with 8-PoE (PSE) Switch; Metal Casing (RoHS)
NSM-208PSE-4 CR	8-port Industrial 10/100 Mbps Ethernet with 4-PoE (PSE) Switch; Metal Casing (RoHS)

Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
KA52F-48	48 V/0.52 A, 25 W Power Supply

NS-205PF Series/NSM-205PF Series

4-port 10/100 Mbps PoE (PSE) with 1 Fiber Port Switch

NS-205PF-24V Series/NSM-205PF-24V Series

4-port 10/100 Mbps PoE (PSE) with 1 Fiber Port and +24 V_{dc} Input Switch *Available soon*

NS-205PFC/FCS/FCS-60
NS-205PFC-24V/FCS-24V/FCS-60-24V

NS-205PFT
NS-205PFT-24V

NSM-205PFC/FCS/FCS-60
NSM-205PFC-24V/FCS-24V/FCS-60-24V

NSM-205PFT
NSM-205PFT-24V



Features ▶▶▶

- Provides 1 x 100-FX fiber port plus 4 x Ethernet ports
- Each port supports both 10/100 Mbps speed auto negotiation
- Supports operating temperatures from -30 °C ~ +75 °C
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 4 PoE ports with Power Sourcing Equipment (PSE) operation
- Over-temperature, over-current and over/under-voltage detection
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Auto-detection of PD (powered devices) and automatic power management
- DIN-Rail Mounting

Introduction

The NS-205PF/NSM-205PF is a 4-port unmanaged PoE (PSE) with 1 fiber port switch; it supports 4 PoE ports which are classified as power source equipment (PSE). The NS-205PF/NSM-205PF makes centralized power supply come true and provides up to 15.4 watts of power per PSE port. Using fiber optics, you can prevent noise from interfering with your system and supports high-speed (100 Mbps) and high-distance (up to 60 km) transmissions.

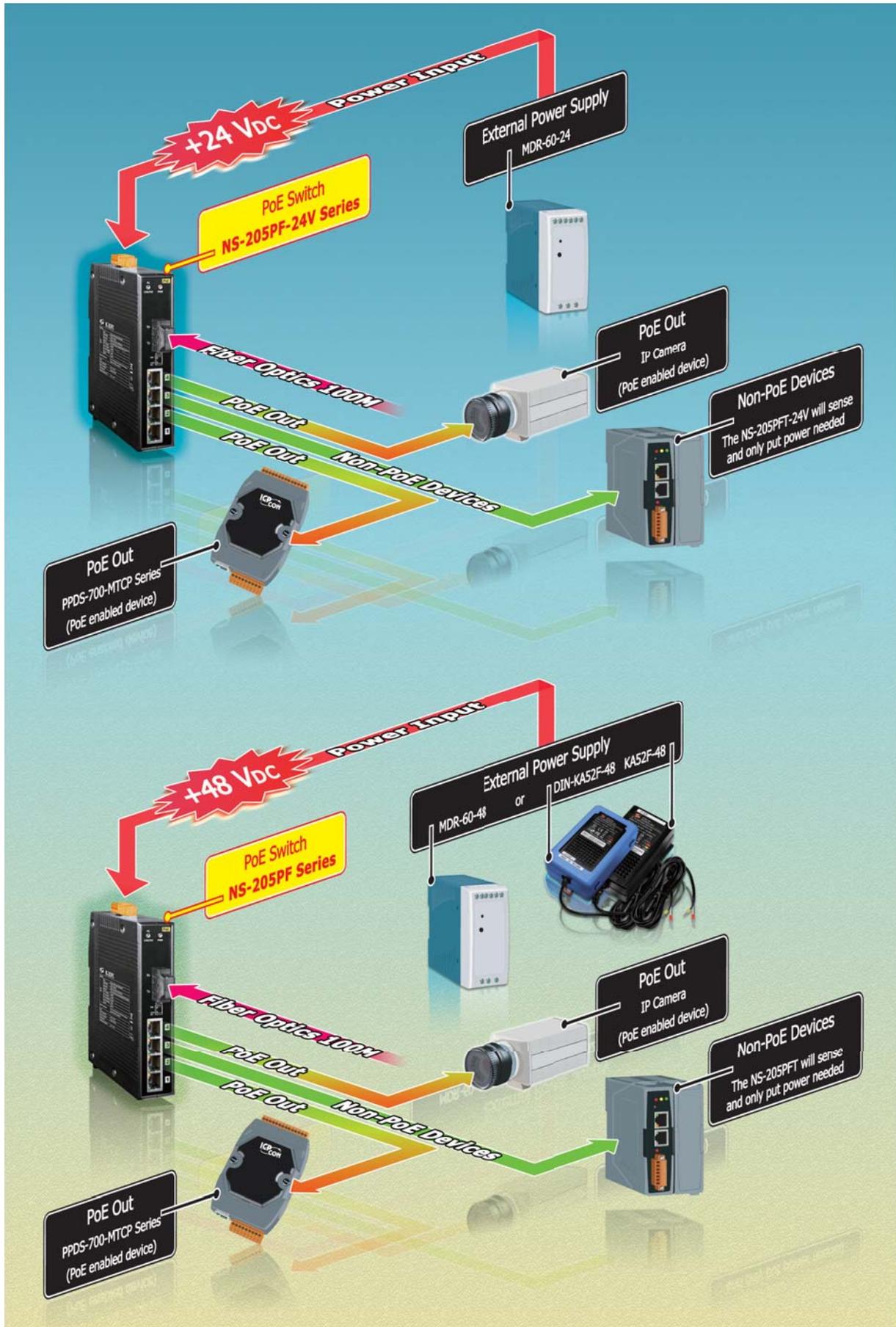
The NS-205PF-24V/NSM-205PF-24V series is designed with +24 V_{dc} to +48 V_{dc} boost for PoE application where +48 V_{dc} power supply is not available.

Comparison Table of 4-port 10/100 Mbps PoE (PSE) with 1 Fiber Port Switch

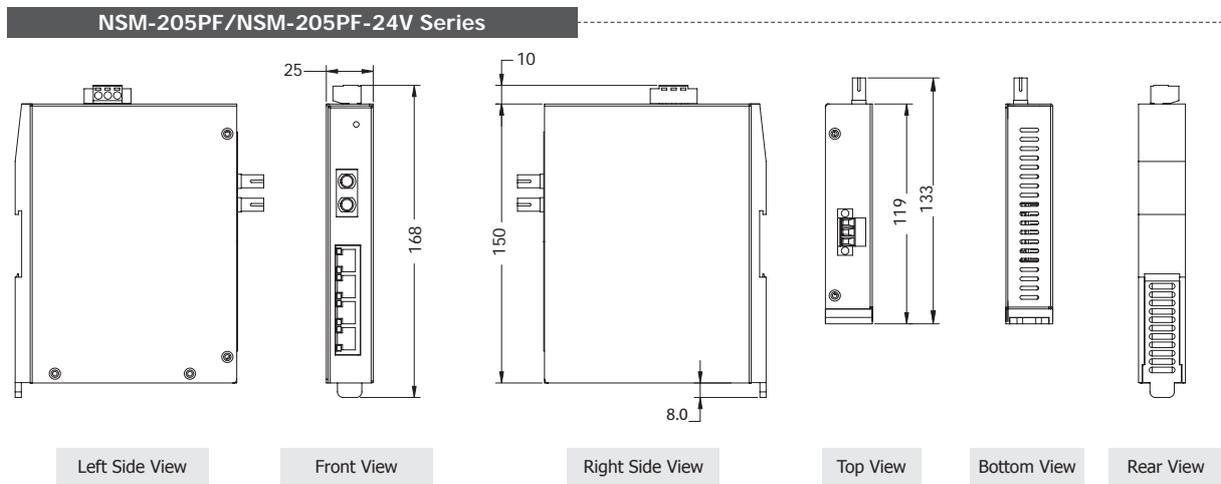
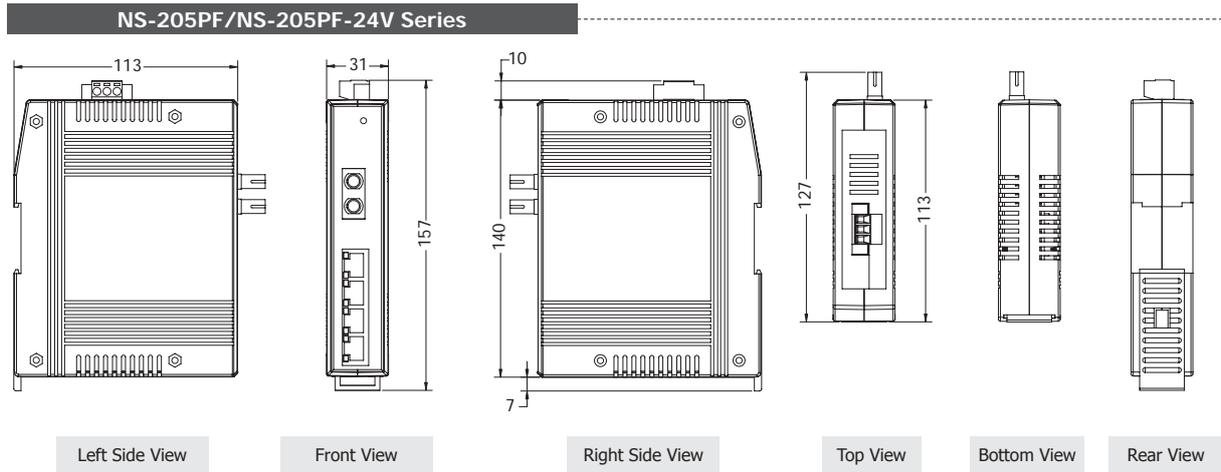
Mode Name	NS-205PF-24V	NSM-205PF-24V	NS-205PF	NSM-205PF
PoE	802.3af			
Input Voltage Range	+18 V _{dc} ~ +32 V _{dc}		+46 V _{dc} ~ +55 V _{dc}	
Operating Temperature	-30 °C ~ +75 °C			
Casing	Plastic	Metal (IP30)	Plastic	Metal (IP30)
Installation	DIN-Rail Mounting			
Dimensions (W x L x H)	31 mm x 127 mm x 157 mm	25 mm x 133 mm x 168 mm	31 mm x 127 mm x 157 mm	25 mm x 133 mm x 168 mm

Specifications

Models	NS-205PF Series	NSM-205PF Series	NS-205PF-24V Series	NSM-205PF-24V Series
Technology				
Standards	IEEE 802.3, 802.3u, 802.3x, 802.3af (Power over Ethernet)			
Processing Type	Store & forward; wire speed switching			
MAC Addresses	1024			
Memory Bandwidth	3.2 Gbps			
Frame Buffer Memory	512 Kbit			
Flow Control	IEEE 802.3x flow control, back pressure flow control			
Ethernet Interface				
RJ-45 Ports	10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection			
LED Indicators	Power, Link/Act, Power Device is detected			
Ethernet Isolation	1500 V _{rms} 1 minute			
+/-4 kV ESD Protection	Yes			
Fiber Interface (100 Base-FX; SC/ST type)				
Multi-Mode	NS-205PFT NS-205PFC NSM-205PFT NSM-205PFC	Multi mode fiber cables: 50/125, 62.5/125 or 100/140 μ m Distance: 2 km, (62.5/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -20 dBm Max. TX Output: -14 dBm Max. RX Sensitivity: -32 dBm Min. RX Overload: -8 dBm Budget: 12 dBm		
	NS-205PFT-24V NS-205PFC-24V NSM-205PFT-24V NSM-205PFC-24V			
Single-Mode	NS-205PFCS NSM-205PFCS	Single-mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Distance: 30 km, (9/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -15 dBm Max. TX Output: -8 dBm Max. RX Sensitivity: -34 dBm Min. RX Overload: -5 dBm Budget: 19 dBm		
	NS-205PFCS-24V NSM-205PFCS-24V			
Single-Mode	NS-205PFCS-60 NSM-205PFCS-60 NS-205PFCS-60-24V NSM-205PFCS-60-24V	Single-mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 μ m Distance: 60 km, (9/125 μ m recommended) for full duplex Wavelength: 1300 or 1310 nm Min. TX Output: -5 dBm Max. TX Output: 0 dBm Max. RX Sensitivity: -35 dBm Min. RX Overload: -5 dBm Budget: 30 dBm		
Power Input				
Input Voltage Range	+46 V _{dc} ~ +55 V _{dc} for PoE output		+18 V _{dc} ~ +32 V _{dc}	
Power Consumption	0.08 A @ 48 V _{dc} without PD loading; 1.5 A @ 48 V _{dc} with PD full loading		0.24 A @ 24 V _{dc} without PD loading; 3.2 A @ 24 V _{dc} with PD full loading; 4.6 A @ 18 V _{dc} with PD full loading	
Protection	Power reverse polarity protection			
+/-4 kV ESD Protection	Yes			
Connector	3-Pin Removable Terminal Block			
PoE Technology				
PoE Compliance	100% IEEE 802.3af compliant			
PoE Classification	PSE (Power Sourcing Equipment)			
PoE Voltage	+48 V _{dc} depending on power input			
PoE Voltage	Up to 15.4 watts per channel			
PoE Operation	Automatic detection and power management			
PoE Pin assignments	V+ (Pin 1,2), V- (Pin 3,6)			
PoE disconnect mode	DC disconnect			
Mechanical				
Casing	Plastic (Flammability UL 94V-0)	Metal (IP30 Protection)	Plastic (Flammability UL 94V-0)	Metal (IP30 Protection)
Dimensions (W x L x H) (Unit: mm)	31 x 127 x 157	25 x 133 x 168	31 x 127 x 157	25 x 133 x 168
Installation	DIN-Rail Mounting			
Environmental				
Operating Temperature	-30 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +85 °C			
Ambient Relative Humidity	10% ~ 90% RH, non-condensing			



Dimensions (Units: mm)



Ordering Information

NS-205PFT CR	Multi-mode, ST Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch (RoHS)
NS-205PFC CR	Multi-mode, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch (RoHS)
NS-205PFC CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch (RoHS)
NS-205PFC-60 CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch (RoHS)
NSM-205PFT CR	Multi-mode, ST Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch; metal case (RoHS)
NSM-205PFC CR	Multi-mode, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch; metal case (RoHS)
NSM-205PFC CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch; metal case (RoHS)
NSM-205PFC-60 CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port Switch; metal case (RoHS)
NS-205PFT-24V CR	Multi-mode, ST Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch (RoHS)
NS-205PFC-24V CR	Multi-mode, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch (RoHS)
NS-205PFC-24V CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch (RoHS)
NS-205PFC-60-24V CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch (RoHS)
NSM-205PFT-24V CR	Multi-mode, ST Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch; metal case (RoHS)
NSM-205PFC-24V CR	Multi-mode, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch; metal case (RoHS)
NSM-205PFC-24V CR	Single-mode 30 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch; metal case (RoHS)
NSM-205PFC-60-24V CR	Single-mode 60 km, SC Connector, 4-port 10/100 Mbps PoE (PSE) with 1 Fiber port and +24 V _{dc} Input Switch; metal case (RoHS)

Accessories

DR-120-24	24V/5 A, 120 W Single Output Industrial DIN Rail Power Supply
MDR-60-24	24V/2.5A, 60 W Power Supply with DIN-Rail Mounting
MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
KA52F-48	48 V/0.52 A, 25 W Power Supply

NS-205PSE-IP67 Series *Available soon*

Industrial 5-port Unmanaged IP67 Ethernet Switch with PoE

NS-205-IP67 Series

Industrial 5-port Unmanaged IP67 Ethernet Switch

NS-205PSE-IP67
NS-205-IP67



NS-205PSE-IP67/DIN
NS-205-IP67/DIN



NS-205PSE-IP67 Series/NS-205-IP67 Series							For NS-205PSE-IP67/ NS-205PSE-IP67/DIN		For NS-205-IP67/ NS-205-IP67/DIN		For NS-205-IP67/DIN/ NS-205PSE-IP67/DIN	
-10 ~ +60							+46 ~ +53	x1	x4	x5		

Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Rugged RJ-45 connector for anti-vibration and shock
- IP67 grade protection approval
- 4 PoE ports with Power Sourcing Equipment (PSE) operation (NS-205PSE-IP67 series)
- Auto-detection of PD (powered devices) and automatic power management (NS-205PSE-IP67 series)
- Over-temperature, over-current and over/under-voltage detection (NS-205PSE-IP67 series)

Introduction

The NS-205PSE-IP67/NS-205-IP67 is designed for industrial applications in harsh environments. The rugged RJ-45 ensure tight, robust connections, and guarantee reliable operation, even for applications that are subject to high vibration and shock.

The NS-205PSE-IP67 PoE switch provides 5 fast Ethernet with 4 IEEE 802.3af compliant PoE ports. The switch is classified as power source equipment (PSE) and provides up to 15.4 W of power per port.

The Ethernet switch supports IEEE 802.3/802.3u/802/3x with 10/100M, full/half-duplex, MDI/MDI-X auto-sensing, and provide an economical solution for your industrial Ethernet network.

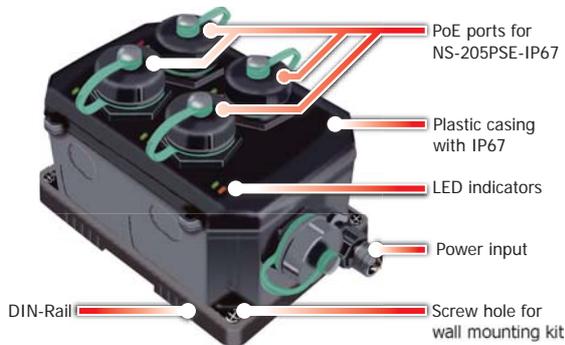
Comparison Table of 5/8-port IP67 Ethernet Switch

Mode Name	NS-205-IP67	NS-205-IP67/DIN	NS-205PSE-IP67	NS-205PSE-IP67/DIN	NS-208PSE-IP67	NS-208-IP67
PoE	-		802.3af x 4		802.3af x 8	-
Input Voltage Range	+10 Vdc ~ +30 Vdc (1 kV Isolated)		+46 Vdc ~ +53 Vdc			+12 Vdc ~ +53 Vdc
Installation	Wall Mounting	DIN-Rail Mounting or Wall Mounting	Wall Mounting	DIN-Rail Mounting or Wall Mounting	DIN-Rail Mounting or Wall Mounting	
Dimensions (W x L x H) (Unit: mm)	85 x 76 x 137	89 x 90 x 138	85 x 76 x 137	89 x 90 x 138	190 x 155 x 104	

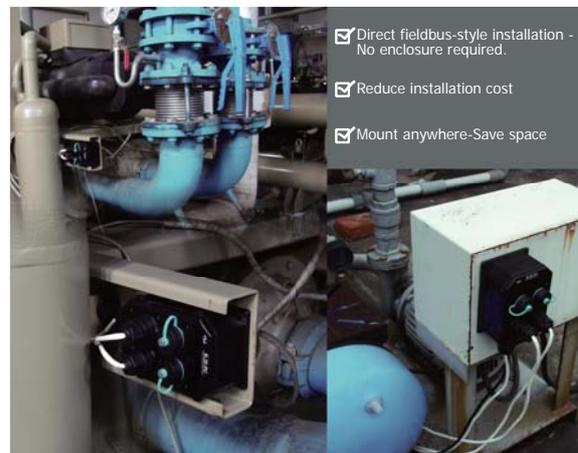
Specifications

Models	NS-205PSE-IP67	NS-205PSE-IP67/DIN	NS-205-IP67	NS-205-IP67/DIN
Technology				
Standards	IEEE 802.3, 802.3u, 802.3x, 10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection			
Processing Type	Store & forward; wire speed switching			
MAC Addresses	1024			
Memory Bandwidth	2 Gbps		1.4 Gbps	
Frame Buffer Memory	512 Kbit		256 Kbit	
Flow Control	IEEE 802.3x flow control, back pressure flow control			
Interface				
LED Indicators	PWR, Link/Act , Power Device is detected		PWR, 10/100M, Link/Act	
Ethernet Isolation	1500 V _{rms} 1 minute			
Connector	Rugged RJ-45			
Power Input				
Input Voltage Range	+46 V _{DC} ~ +53 V _{DC} for PoE output		+10 V _{DC} ~ +30 V _{DC} (1 kV Isolated)	
Power Consumption	0.05 A @ 48 V _{DC} without PD loading; 1.45 A @ 48 V _{DC} with PD full loading		0.12 A @ 24 V _{DC}	
Protection	Power reverse polarity protection			
Connector	IP67 PWR Plug			
PoE Technology				
PoE Compliance	100% IEEE 802.3af compliant		-	
PoE Classification	PSE (Power Sourcing Equipment)		-	
PoE Voltage	+48 V _{DC} depending on power input			-
PoE Power	Up to 15.4 watts per channel			-
PoE Operation	Automatic detection and power management			-
PoE Pin Assignments	V+ (Pin 1, 2), V- (Pin 3, 6)			-
PoE Disconnect Mode	DC disconnect			-
Mechanical				
Casing	Plastic (Flammability UL 94V-0)			
Environmental Rating	Protection rating IP67 for Operating Temperature -10 °C ~ +60 °C			
	Protection rating IP66 for Operating Temperature -40 °C ~ +75 °C			
Dimensions (W x L x H)	85 mm x 76 mm x 137 mm	89 mm x 90 mm x 138 mm	85 mm x 76 mm x 137 mm	89 mm x 90 mm x 138 mm
Installation	Wall mounting	DIN-Rail Mounting or Wall Mounting	Wall mounting	DIN-Rail Mounting or Wall Mounting
Environment				
Operating Temperature	-10 °C ~ +60 °C (Protection rating IP67)			
	-40 °C ~ +75 °C (Protection rating IP66)			
Storage Temperature	-10 °C ~ +60 °C (Protection rating IP67)			
	-40 °C ~ +75 °C (Protection rating IP66)			
Ambient Relative Humidity	100% RH for Operating Temperature -10 °C ~ +60 °C			
	10% ~ 90% RH, non-condensing for Operating Temperature -40 °C ~ +75 °C			

Appearance



Applications

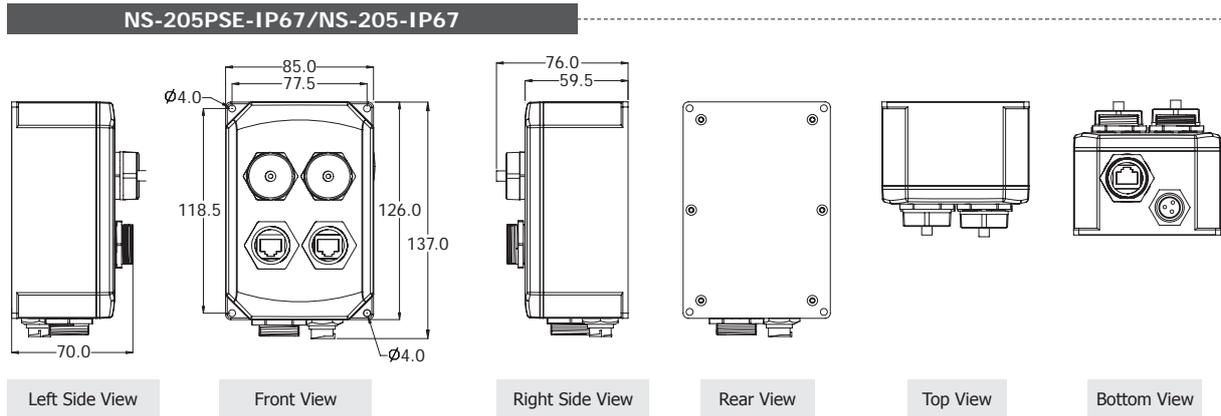


Industrial IP67 5-port Unmanaged Ethernet Switch

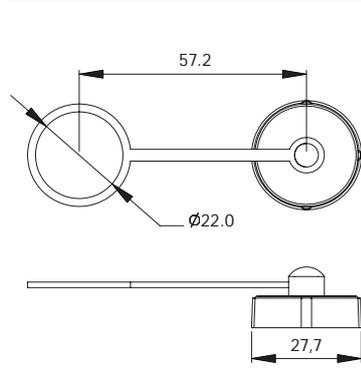
- NS-205PSE-IP67
- NS-205PSE-IP67/DIN
- NS-205-IP67
- NS-205-IP67/DIN

IP67 grade protection approval
Rugged RJ-45 connector for anti-vibration and shock

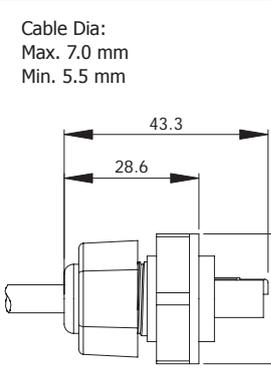
Dimensions (Units: mm)



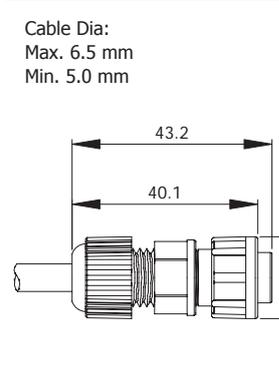
IP67 Ethernet Cap with Tether



IP67 Ethernet Plug



IP67 PWR Plug



Ordering Information

NS-205PSE-IP67 CR	Industrial 5-port unmanaged IP67 Ethernet switch with PoE Includes IP67 RJ-45 Plug x 5, IP67 Power Plug x 1, Cap with Tether x 5 (RoHS)
NS-205PSE-IP67/DIN CR	NS-205PSE-IP67 with DIN-Rail Mounting (RoHS)
NS-205-IP67 CR	Industrial 5-port unmanaged IP67 Ethernet switch Includes IP67 RJ-45 Plug x 5, IP67 Power Plug x 1, Cap with Tether x 5 (RoHS)
NS-205-IP67/DIN CR	NS-205-IP67 with DIN-Rail Mounting (RoHS)

Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
DR-120-48	48 V/2.5 A, 120 W Power Supply with DIN-Rail Mounting



NS-208PSE-IP67 *Available soon*

Industrial 8-port Unmanaged IP67 Ethernet Switch with PoE

NS-208-IP67 *NEW*

Industrial 8-port Unmanaged IP67 Ethernet Switch



3

Unmanaged Ethernet Switches

NS-208PSE-IP67/NS-208-IP67 Series							For NS-208PSE-IP67		For NS-208-IP67
-10 ~ +60 Wide Temperature	Wall & DIN-Rail Mount	IP67	CE	FCC	RoHS	WEEE	+46 ~ +53 Input Voltage	PoE + LAN x 8	LAN x 8

Features ▶▶▶

- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Rugged RJ-45 connector for anti-vibration and shock
- IP67 grade protection approval
- 8 PoE ports with Power Sourcing Equipment (PSE) operation (NS-208PSE-IP67 series)
- Auto-detection of PD (powered devices) and automatic power management (NS-208PSE-IP67 series)
- Over-temperature, over-current and over/under-voltage detection (NS-208PSE-IP67 series)

Introduction

The NS-208PSE-IP67/NS-208-IP67 is designed for industrial applications in harsh environments. The rugged RJ-45 ensures tight, robust connections, and guarantees reliable operation, even for applications that are subject to high vibration and shock.

The NS-208PSE-IP67 PoE switch provides 8 fast Ethernet with 8 IEEE 802.3af compliant PoE ports. The switch is classified as power source equipment (PSE) and provide up to 15.4 W of power per port.

The Ethernet switch supports IEEE 802.3/802.3u/802/3x with 10/100M, full/half-duplex, MDI/MDI-X auto-sensing, and provides an economical solution for your industrial Ethernet network.

Comparison Table of 5/8-port IP67 Ethernet Switch

Mode Name	NS-205-IP67	NS-205-IP67/DIN	NS-205PSE-IP67	NS-205PSE-IP67/DIN	NS-208PSE-IP67	NS-208-IP67
PoE	-	-	802.3af x 4	802.3af x 4	802.3af x 8	-
Input Voltage Range	+10 Vdc ~ +30 Vdc (1 kV Isolated)		+46 Vdc ~ +53 Vdc			+12 Vdc ~ +53 Vdc
Installation	Wall Mounting	DIN-Rail Mounting or Wall Mounting	Wall Mounting	DIN-Rail Mounting or Wall Mounting	DIN-Rail Mounting or Wall Mounting	
Dimensions (W x L x H) (Unit: mm)	85 x 76 x 137	89 x 90 x 138	85 x 76 x 137	89 x 90 x 138	190 x 155 x 104	

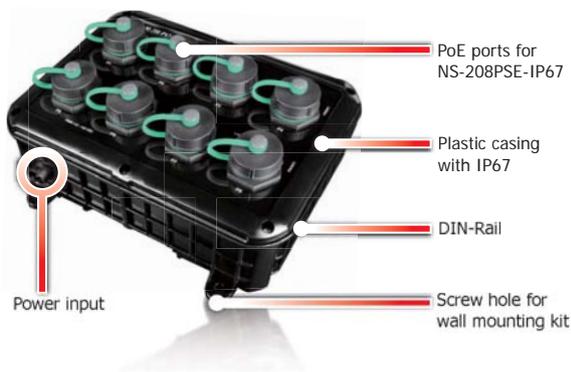
Specifications

Models	NS-208PSE-IP67	NS-208-IP67
Technology		
Standards	IEEE 802.3, 802.3u, 802.3x, 10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
Processing Type	Store & forward; wire speed switching	
MAC Addresses	1024	
Memory Bandwidth	2 Gbps	
Frame Buffer Memory	512 Kbit	
Flow Control	IEEE 802.3x flow control, back pressure flow control	
Interface		
LED Indicators	PWR, Link/Act , Power Device is detected	PWR, Link/Act
Ethernet Isolation	1500 V _{rms} 1 minute	
Connector	Rugged RJ-45	
Power Input		
Input Voltage Range	+46 V _{DC} ~ +53 V _{DC} for PoE output	+12 V _{DC} ~ +53 V _{DC}
Power Consumption	0.05 A @ 48 V _{DC} without PD loading; 1.45 A @ 48 V _{DC} with PD full loading	0.12 A @ 24 V _{DC}
Protection	Power reverse polarity protection	
Connector	IP67 PWR Plug	
PoE Technology		
PoE Compliance	100% IEEE 802.3af compliant	-
PoE Classification	PSE (Power Sourcing Equipment)	-
PoE Voltage	+48 V _{DC} depending on power input	-
PoE Power	Up to 15.4 watts per channel	-
PoE Operation	Automatic detection and power management	-
PoE Pin Assignments	V+ (Pin 1, 2), V- (Pin 3, 6)	-
PoE Disconnect Mode	DC disconnect	-
Mechanical		
Casing	Plastic (Flammability UL 94V-0)	
Environmental Rating	Protection rating IP67 for Operating Temperature -10 °C ~ +60 °C Protection rating IP66 for Operating Temperature -40 °C ~ +75 °C	
Dimensions (W x L x H)	190 mm x 155 mm x 104 mm	
Installation	DIN-Rail Mounting or Wall Mounting	
Environment		
Operating Temperature	-10 °C ~ +60 °C (Protection rating IP67) -40 °C ~ +75 °C (Protection rating IP66)	
Storage Temperature	-10 °C ~ +60 °C (Protection rating IP67) -40 °C ~ +75 °C (Protection rating IP66)	
Ambient Relative Humidity	100% RH for Operating Temperature -10 °C ~ +60 °C 10% ~ 90% RH, non-condensing for Operating Temperature -40 °C ~ +75 °C	

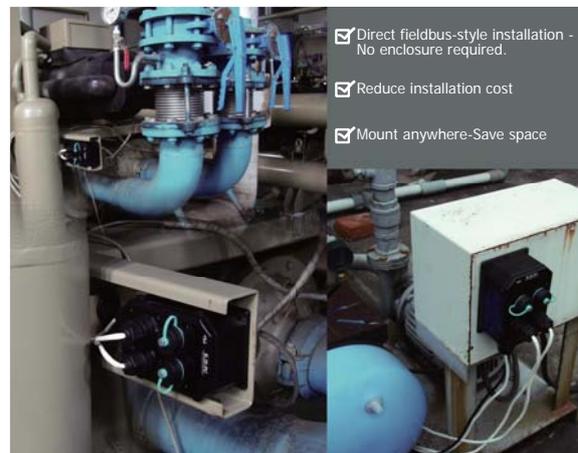
3

Unmanaged Ethernet Switches

Appearance

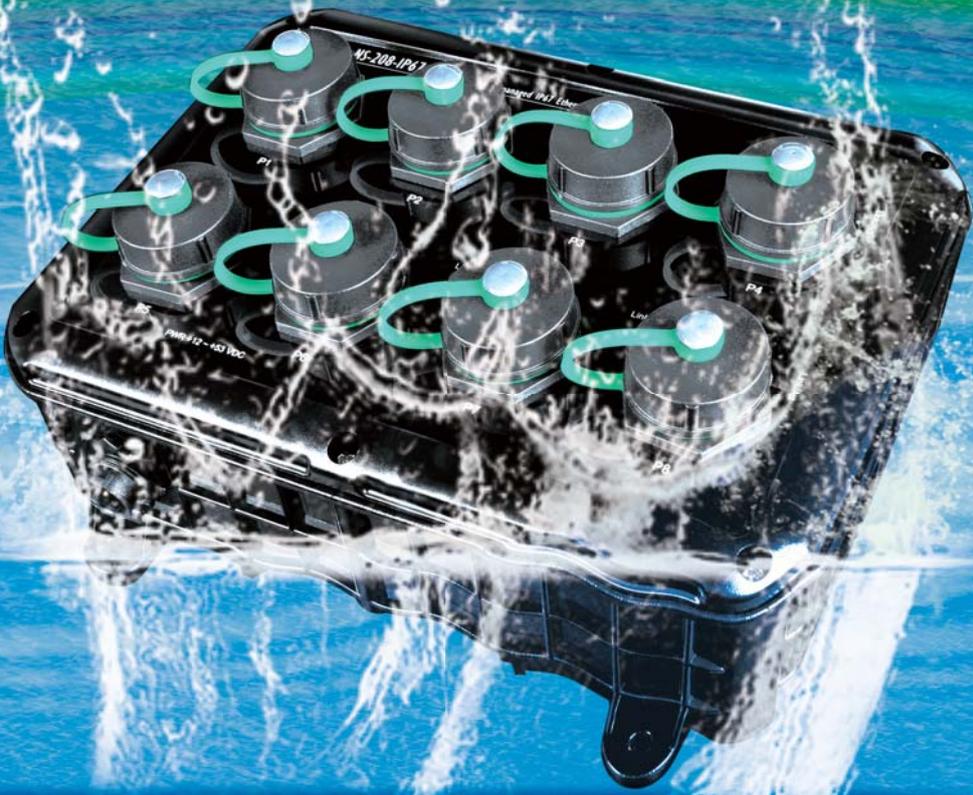


Applications



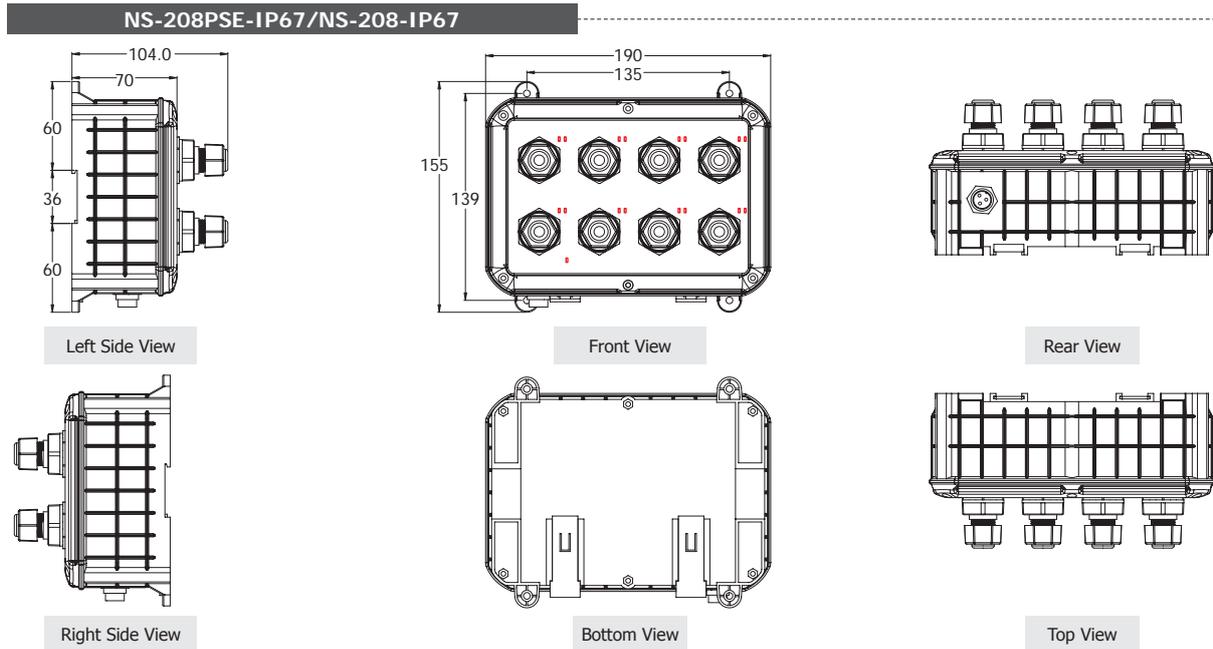
Industrial IP67 8-port Unmanaged Ethernet Switch

- NS-208-IP67
- NS-208PSE-IP67

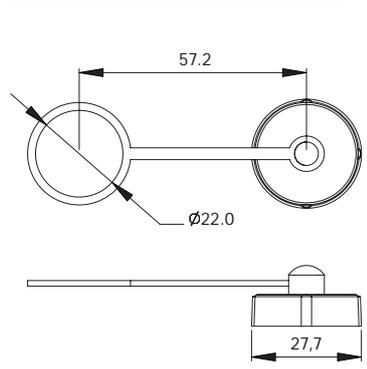


IP67 grade protection approval
Rugged RJ-45 connector for anti-vibration and shock

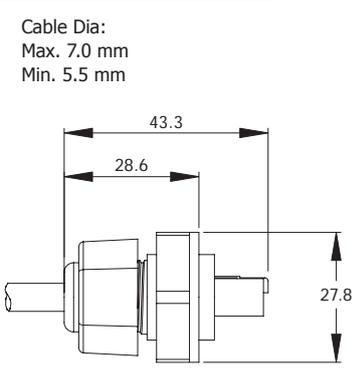
Dimensions (Units: mm)



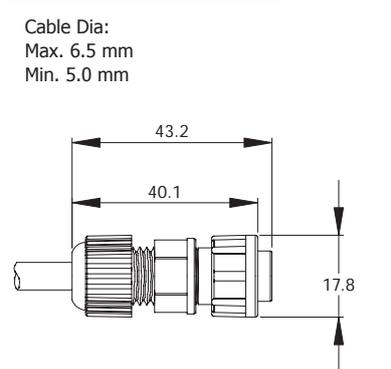
IP67 Ethernet Cap with Tether



IP67 Ethernet Plug



IP67 PWR Plug



Ordering Information

NS-208PSE-IP67 CR	Industrial 8-port unmanaged IP67 Ethernet switch with PoE Includes IP67 RJ-45 Plug x 8, IP67 Power Plug x 1, Cap with Tether x 8 (RoHS)
NS-208-IP67 CR	Industrial 8-port unmanaged IP67 Ethernet switch Includes IP67 RJ-45 Plug x 8, IP67 Power Plug x 1, Cap with Tether x 8 (RoHS)

Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
DR-120-48	48 V/2.5 A, 120 W Power Supply with DIN-Rail Mounting



NSM-208-M12 *NEW*

EN50155 8-port M12 Unmanaged Ethernet Switch

NSM-208PSE-M12 *NEW*

EN50155 8-port M12 Unmanaged PoE Ethernet Switch

NSM-208-M12

NSM-208PSE-M12



NSM-208-M12/NSM-208PSE-M12 Series					For NSM-208PSE-M12		For NSM-208-M12	
-40 ~ +75 Wide Temperature	Wall Mount	IP40	EN50155	CE	FCC	+46 ~ +53 Input Voltage	PoE + LAN x 8	LAN x 8

Features ▶▶▶▶

- Each port supports both 10/100 Mbps speed auto negotiation
- 8 PoE ports with Power Sourcing Equipment (PSE) operation (NSM-208PSE-M12)
- Over-temperature, over-current and over/under-voltage detection (NSM-208PSE-M12)
- 8-port 10/100 Mbps M12 type connector with IP40 protection
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- EN50155-certified for harsh railway standards
- Automatic MDI/MDI-X crossover for plug-and-play
- Store-and-forward architecture
- Auto-detection of PD (powered devices) and automatic power management (NSM-208PSE-M12)
- Supports operating temperatures from -40 °C ~ +75 °C

Introduction

The NSM-208PSE-M12/NSM-208-M12 is designed for industrial applications in harsh environments. The M12 connectors ensure tight, robust connections, and guarantees reliable operation, even for applications that are subject to high vibration and shock.

The NSM-208PSE-M12 PoE switch provides 8 fast Ethernet M12 ports with 8 IEEE 802.3af compliant PoE ports. The switch is classified as power source equipment (PSE) and provide up to 15.4 W of power per port.

The Ethernet switch supports IEEE 802.3/802.3u/802/3x with 10/100M, full/half-duplex, MDI/MDI-X auto-sensing, and provides an economical solution for your industrial Ethernet network.

The NSM-208-M12 provides a wide +12 V_{DC} ~ +53 V_{DC} power range to fit all the common power standards found in industrial automation, without external power converters. The wide power input lowers installation and maintenance costs.

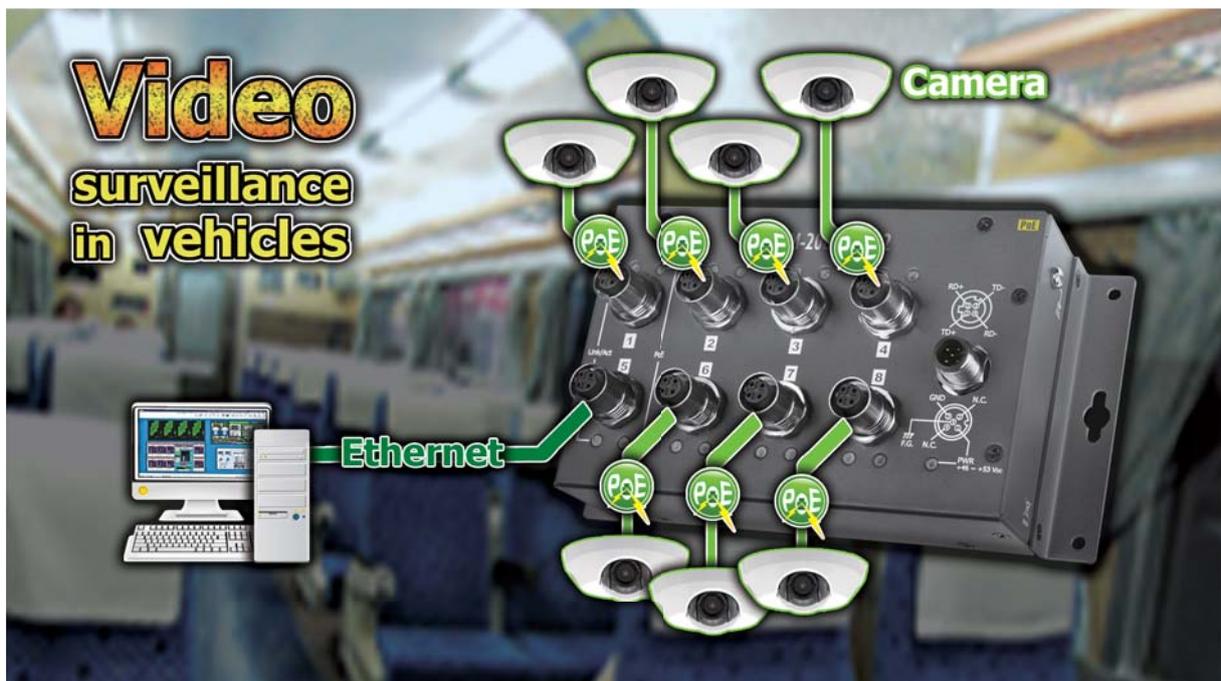
Comparison Table of 8-port M12/IP67 Ethernet Switch

Mode Name	NSM-208PSE-M12	NSM-208-M12	NS-208PSE-IP67	NS-208-IP67
PoE	802.3af x 8	-	802.3af x 8	-
Input Voltage Range	+46 V _{DC} ~ +53 V _{DC}	+12 V _{DC} ~ +53 V _{DC}	+46 V _{DC} ~ +53 V _{DC}	+12 V _{DC} ~ +53 V _{DC}
Operating Temperature	-40 °C ~ +75 °C	-40 °C ~ +75 °C	-10 °C ~ +60 °C	-10 °C ~ +60 °C
Casing	Metal with IP40	Metal with IP40	Plastic (Flammability UL 94V-0) with IP67	Plastic (Flammability UL 94V-0) with IP67
Installation	Wall Mounting	Wall Mounting	DIN-Rail Mounting or Wall Mounting	DIN-Rail Mounting or Wall Mounting
Dimensions (W x L x H)	190 mm x 56 mm x 100 mm	190 mm x 56 mm x 100 mm	190 mm x 155 mm x 104 mm	190 mm x 155 mm x 104 mm

Specifications

Models	NSM-208PSE-M12	NSM-208-M12
Technology		
Standards	IEEE 802.3, 802.3u, 802.3x, 10/100 Base-T(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
Processing Type	Store & forward	
MAC Addresses	1024	
Memory Bandwidth	3.2 Gbps	
Frame Buffer Memory	512 Kbit	
Flow Control	IEEE 802.3x flow control, back pressure flow control	
Interface		
LED Indicators	PWR, Link/Act, Power Device is detected	PWR, Link/Act
Ethernet Isolation	1500 V _{rms} 1 minute	
Connector	Female 4-Pin shielded M12 D-coding connector x 8	
Power Input		
Input Voltage Range	+46 V _{dc} ~ +53 V _{dc}	+12 V _{dc} ~ +53 V _{dc}
Power Consumption	0.12 A @ 48 V _{dc} without PD loading 3.0 A @ 48 V _{dc} with PD full loading	0.12 A @ 48 V _{dc}
Protection	Power reverse polarity protection	
Connector	Male 5-Pin shielded M12 A-coding connector x 1	
PoE Technology		
PoE Compliance	100% IEEE 802.3af compliant	-
PoE Classification	PSE (Power Sourcing Equipment)	-
PoE Voltage	+48 V _{dc} depending on power input	-
PoE Power	Up to 15.4 W per port	-
PoE Operation	Automatic detection and power management	-
PoE Pin Assignments	V+ (Pin 1, 3), V- (Pin 2, 4)	-
PoE Disconnect Mode	DC disconnect	-
Mechanical		
Casing	Metal with IP40	
Dimensions (W x L x H)	190 mm x 56 mm x 100 mm	
Installation	Wall Mounting	
Environmental		
Operating Temperature	-40 °C ~ +75 °C	
Storage Temperature	-40 °C ~ +85 °C	
Ambient Relative Humidity	10 ~ 95% RH, non-condensing	

Applications



EN50155 8-port M12 Unmanaged Ethernet Switch

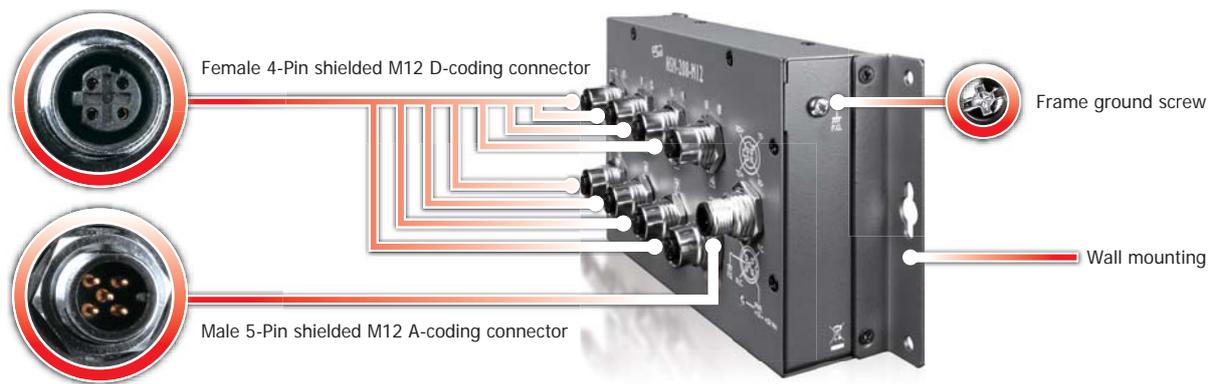
- NSM-208-M12
- NSM-208PSE-M12



Wide Range Temperature: -40 °C ~ +75 °C
EN50155-certified for harsh railway standard

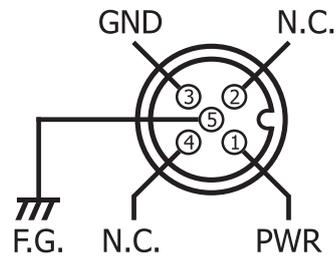


Appearance



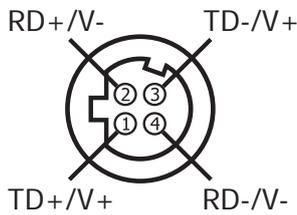
Pin Functions for Power Input

External power supply is connected using the M12 A-coding:
 PWR: Power input and should be connected to the power supply (+)
 GND: Ground and should be connected to the power supply (-)
 F.G.: F.G. stands for Frame Ground (protective ground). It is optional.
 If you use this pin, it can reduce EMI radiation; improve EMI performance and EMS protection.

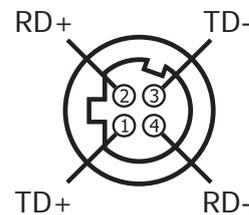


Pin Functions for Ethernet Port

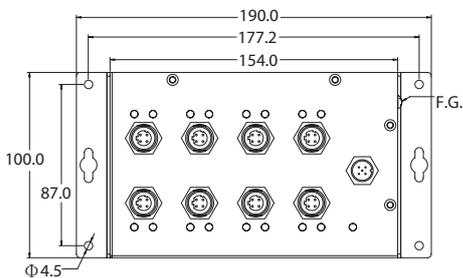
For NSM-208PSE-M12



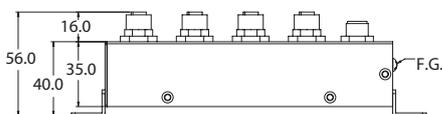
For NSM-208-M12



Dimensions (Units: mm)



Front View



Bottom View

Ordering Information

NSM-208-M12 CR	EN50155 8-port M12 Unmanaged Ethernet Switch (RoHS) Includes M12D-4P-IP68 x 8, A-CAP-M12M x 8, M12A-5P-IP68 and A-CAP-M12F x 1
NSM-208PSE-M12 CR	EN50155 8-port M12 Unmanaged PoE Ethernet Switch (RoHS) Includes M12D-4P-IP68 x 8, A-CAP-M12M x 8, M12A-5P-IP68 and A-CAP-M12F x 1

Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
KA52F-48	48 V/0.52 A, 25 W Power Supply

M12D-4P-IP68	A-CAP-M12M	M12A-5P-IP68	A-CAP-M12F
4PIO1K0000001	4PIO1K0000002	4PIO1K0000003	4PIO1K0000004
You need to choose high quality M12 cable, please refer to http://www.balluff.ca/Balluff			



tNS-200IN/tNS-200IN-24V							For tNS-200IN	
PoE + LAN x1	Wide Temperature -40 ~ +75	DIN-Rail Mount	CE	FCC	RoHS	WEEE	Input Voltage +46 ~ +53	Cost-effective

Features ▶▶▶

- Auto-detection of PD (powered devices)
- Over-temperature, over-current and over/under-voltage detection
- No user settings
- Power Sourcing Equipment (PSE) operation
- Supplies up to 15.4 W
- Tiny packaging fits on your DIN-Rail Mounting
- Cost-effective for tNS-200IN

Introduction

The tNS-200IN/tNS-200IN-24V Single Port PoE Injector supports PoE powered devices in industrial environments. The tNS-200IN/tNS-200IN-24V delivers both data and power over a single standard Ethernet cable to a PoE Powered Device designed to receive both Data and Power through its RJ-45 port connector.

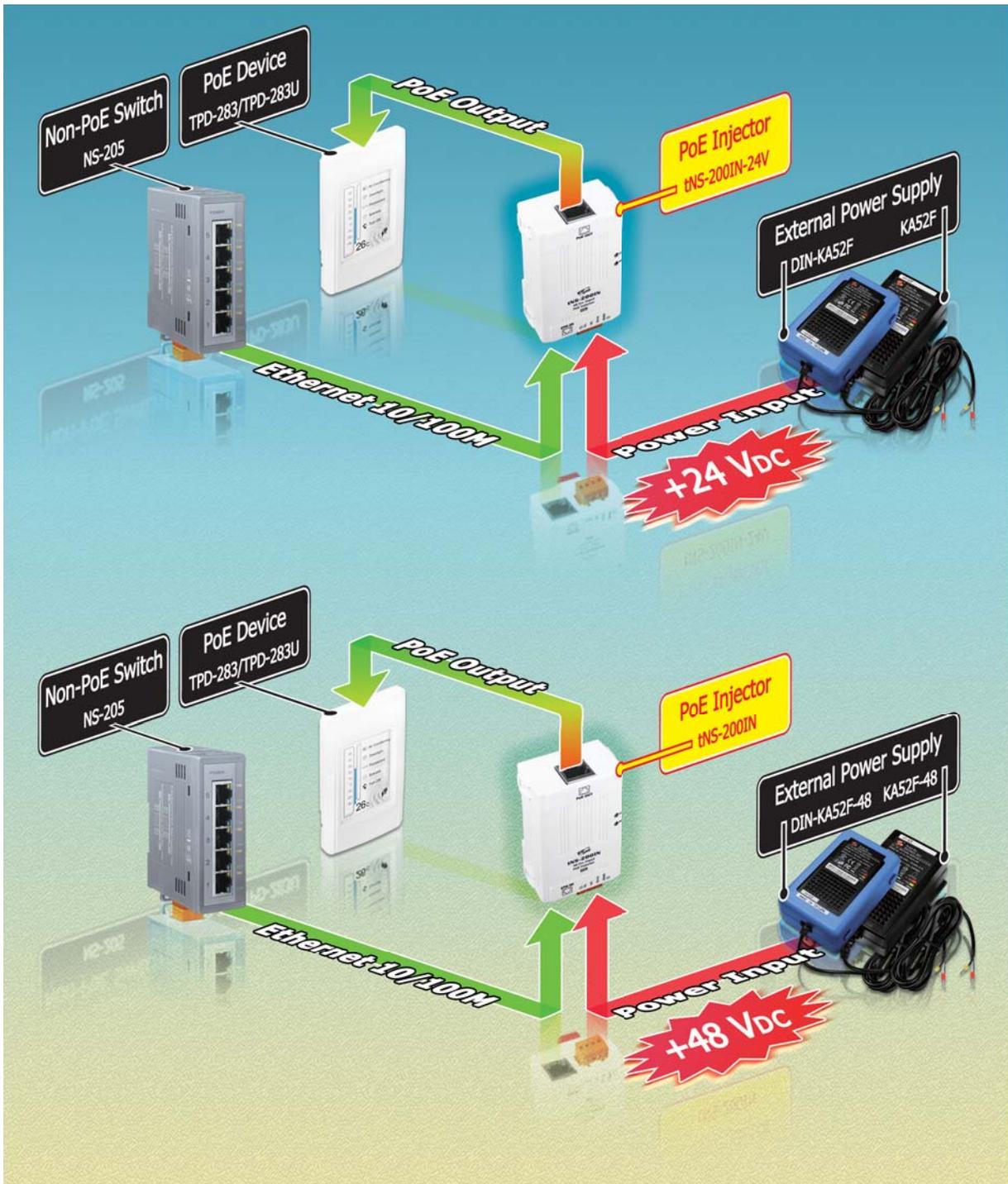
The tNS-200IN-24V is designed with +24 V_{DC} to +48 V_{DC} boost for PoE application where +48 V_{DC} power supply is not available.

Specifications

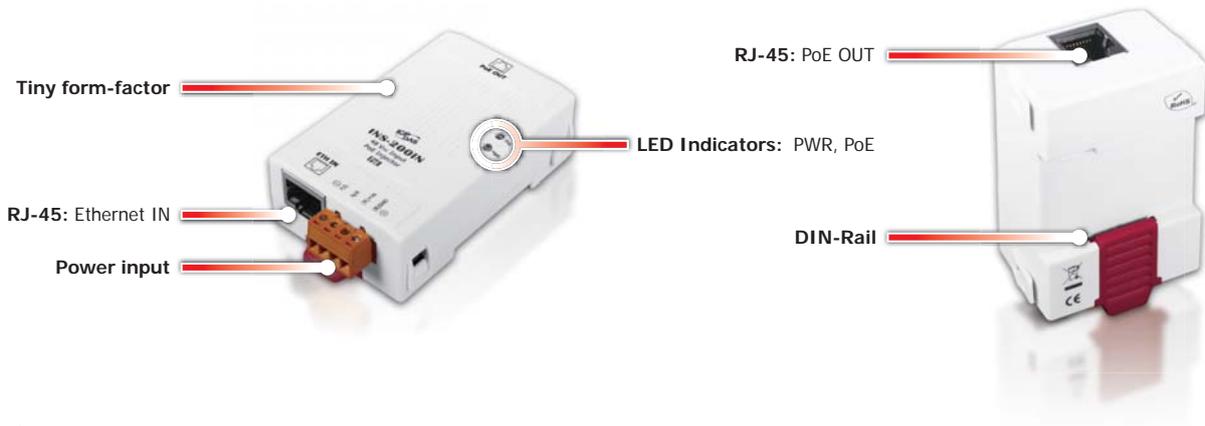
Models	tNS-200IN	tNS-200IN-24V
Interface		
RJ-45 Ports	1 for Ethernet in, 1 for PoE out	
LED Indicators	Power, Power Device is detected	
Power Input		
Input Voltage Range	+46 V _{DC} ~ +53 V _{DC}	+18 V _{DC} ~ +32 V _{DC}
Power Consumption	0.4 A @ 48 V _{DC} with PD full loading	0.9 A @ 24 V _{DC} with PD full loading
Protection	Power reverse polarity protection	
Frame Ground for EMS Protection	Yes	
Connector	4-Pin Removable Terminal Block	
PoE Technology		
PoE Compliance	100% IEEE 802.3af compliant	
PoE Classification	PSE (Power Sourcing Equipment)	
PoE Voltage	+48 V _{DC} depending on power input	
PoE Power	Up to 15.4 W	
PoE Operation	Automatic detection and power management	
PoE Pin Assignments	V+ (Pin 4, 5), V- (Pin 7, 8)	
PoE Disconnect Mode	DC disconnect	

Models	tNS-200IN	tNS-200IN-24V
Mechanical		
Casing	Plastic (Flammability UL 94V-0)	
Dimensions (W x L x H)	52 mm x 27 mm x 86 mm	
Installation	DIN-Rail Mounting	
Environmental		
Operating Temperature	-40 °C ~ +75 °C	
Storage Temperature	-40 °C ~ +85 °C	
Ambient Relative Humidity	10 ~ 90% RH, non-condensing	

Applications

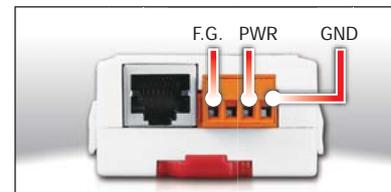


Appearance



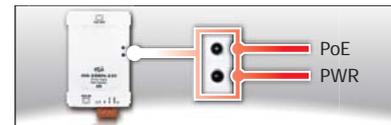
Pin Function for Terminal Block

External power supply is connected using the removable terminal block:
PWR: Power input and should be connected to the power supply (+)
GND: Ground and should be connected to the power supply (-)
F.G.: F.G. stands for Frame Ground (protective ground). It is optional. If you use this pin, it can reduce EMI radiation; improve EMI performance and ESD protection.

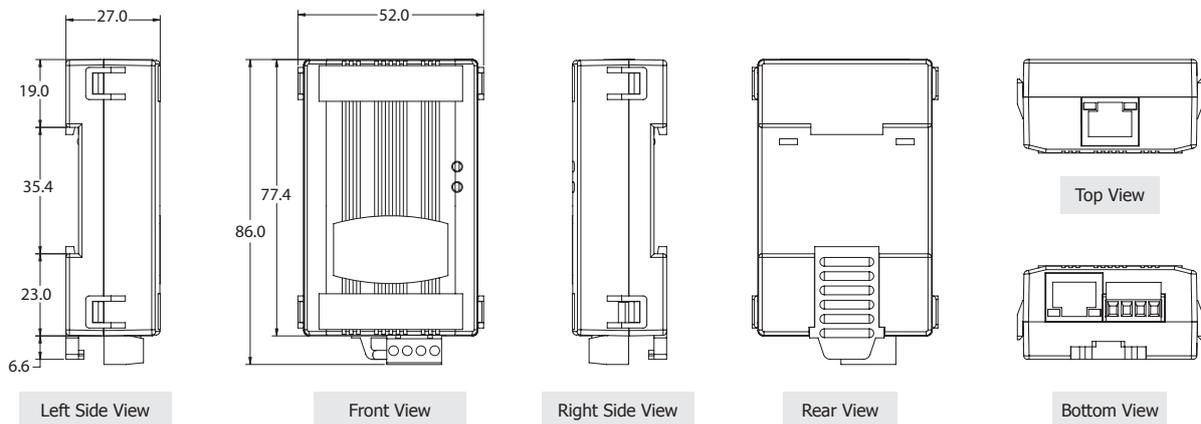


LED Indicator Functions

LED	Color	Description
PoE	Orange On	Power Device is detected
PWR	Red On	Power is On
	Red Off	Power is Off



Dimensions (Units: mm)



Ordering Information

tNS-200IN CR	PoE injector for 1 PoE port (uses spare pairs), +48 Vdc input (RoHS)
tNS-200IN-24V CR	PoE injector for 1 PoE port (uses unused pairs), +24 Vdc input (RoHS)

Accessories

MDR-60-48	48 V/1.25 A, 60 W Power Supply with DIN-Rail Mounting
DIN-KA52F-48	48 V/0.52 A, 25 W Power Supply with DIN-Rail Mounting
DIN-KA52F	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting