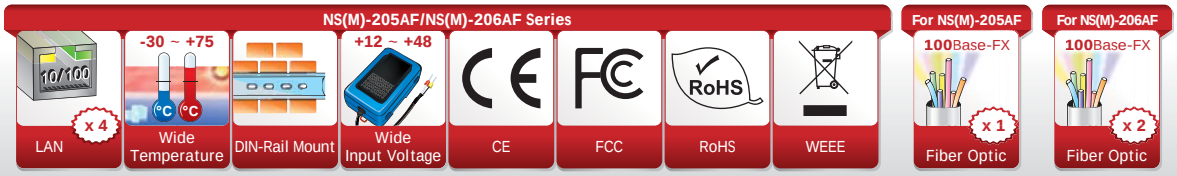
NS-205AF Series/NSM-205AF Series

4-port 10/100 Mbps Ethernet with 1 Fiber Port Switch

NS-206AF Series/NSM-206AF Series

4-port 10/100 Mbps Ethernet with 2 Fiber Ports Switch



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

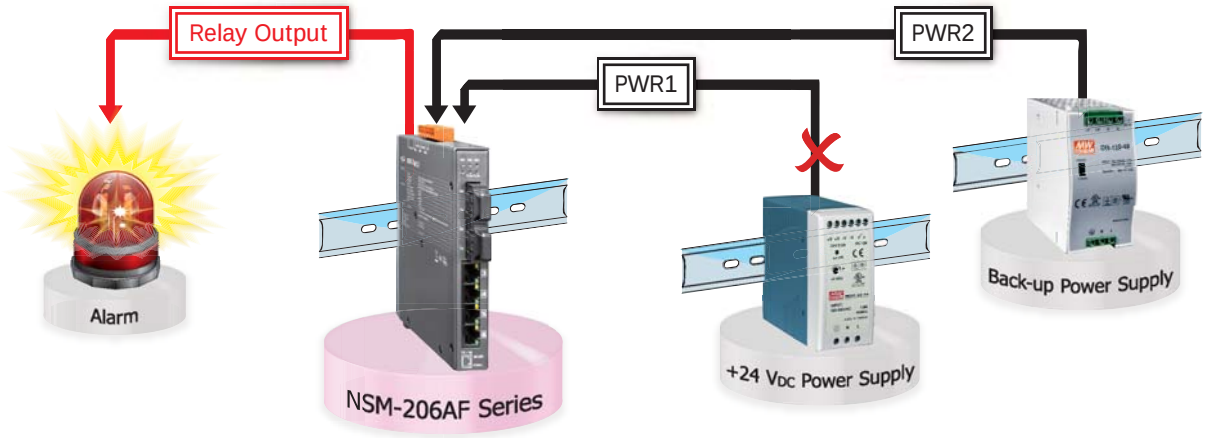
Mode Name	NS-205F NS-206F	NSM-205F NSM-206F	NS-205AF NS-206AF	NSM-205AF NSM-206AF
PoE	–			
Input Voltage Range	+10 V_{DC} ~ +30 V_{DC}		+12 V_{DC} ~ +48 V_{DC}	
Operating Temperature	0 °C ~ +70 °C		-30 °C ~ +75 °C	
Casing	Plastic	Metal (IP20)	Plastic	Metal (IP30)
Installation	DIN-Rail Mounting	DIN-Rail 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 μm Distance: 2 km, (62.5/125 μm 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 μm Distance: 30 km, (9/125 μm 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 μm Distance: 60 km, (9/125 μm 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		0.2 A @ 24 V_{DC}	0.14 A @ 24 V_{DC}	0.2 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

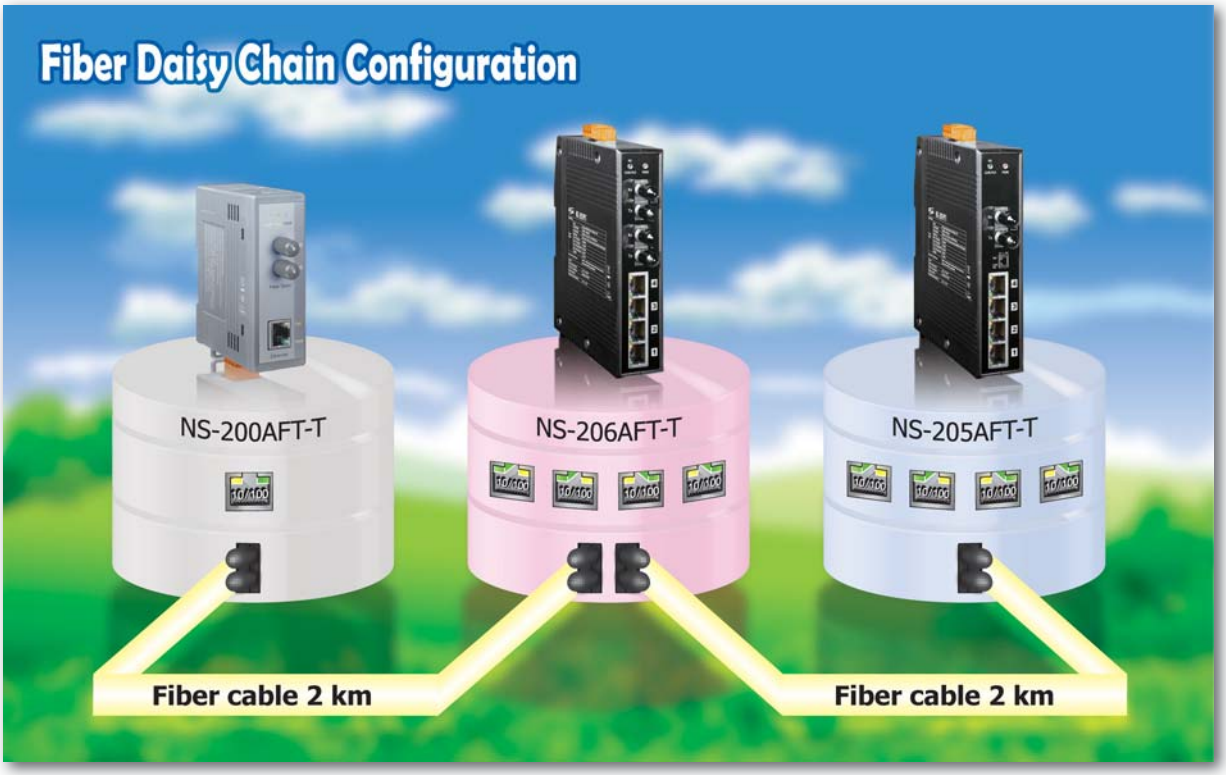
Both power inputs can be connected simultaneously to live DC power sources.
If one power source fails, the other live source will act as a backup, and automatically supplies all of NSM-205AF/NSM-206AF series power needs.



Pin Functions for Power Input

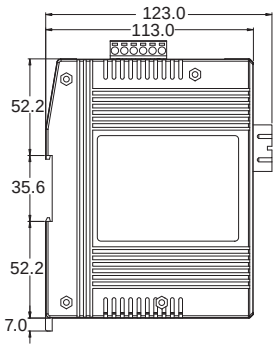
External power supply is connected using the removable terminal block:
PWR: Power input and should be connected to the power supply (+)
GND: Ground and should be connected to the power supply (-)
F.G. : F.G. stands for Frame Ground (protective ground). It is optional. If you use this pin, it can reduce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

Applications

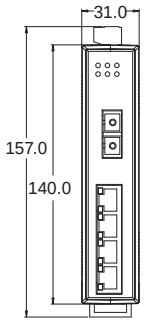


Dimensions (Units: mm)

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

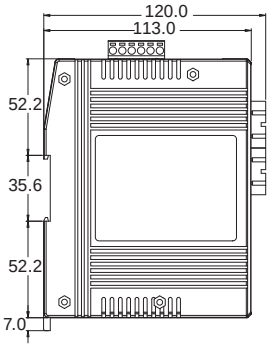


Left Side View

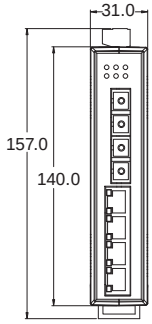


Front View

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

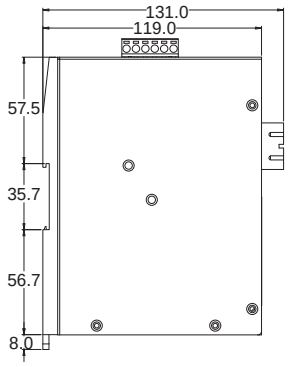


Left Side View

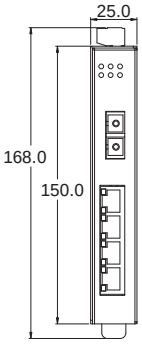


Front View

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

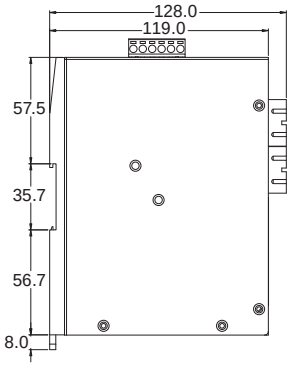


Left Side View

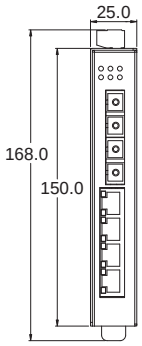


Front View

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)