

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

x 4	-30 ~ +75 °C		+12 ~ +48 Vdc					For NS(M)-205AF 100Base-FX x 1 Fiber Optic	For NS(M)-206AF 100Base-FX x 2 Fiber Optic
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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<sub>dc</sub> ~ +48 V<sub>dc</sub> 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<sub>dc</sub> ~ +48 V<sub>dc</sub> 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

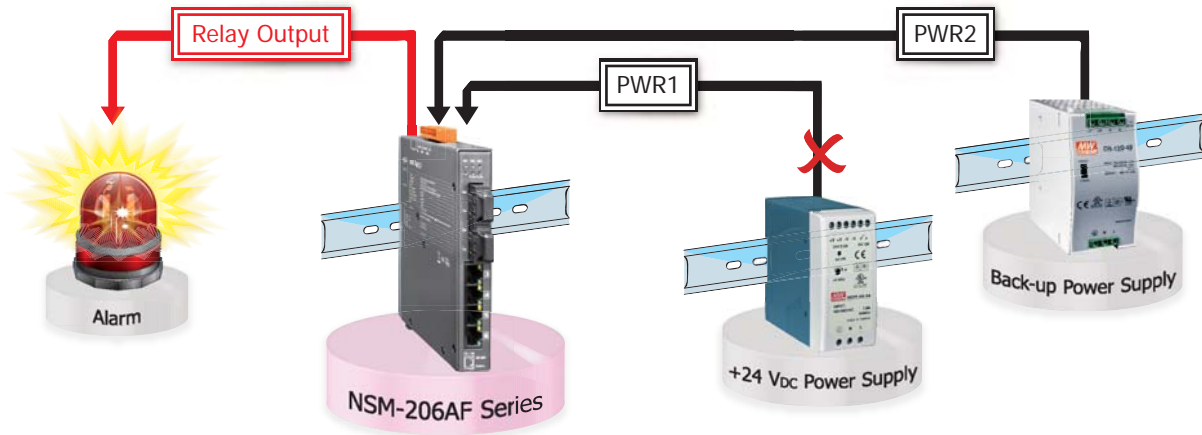
Mode Name	NS-205F NS-206F	NSM-205F NSM-206F	NS-205AF NS-206AF	NSM-205AF NSM-206AF
PoE	-			
Input Voltage Range	+10 V <sub>dc</sub> ~ +30 V <sub>dc</sub>		+12 V <sub>dc</sub> ~ +48 V <sub>dc</sub>	
Operating Temperature	0 °C ~ +70 °C		-30 °C ~ +75 °C	
Casing	Plastic	Metal (IP20)	Plastic	Metal (IP30)
Installation	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
<b>Technology</b>				
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			
<b>Ethernet Interface</b>				
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 <sub>rms</sub> 1 minute			
+/-4 kV ESD Protection	Yes			
<b>Fiber Interface (100 Base-FX; SC/ST type)</b>				
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 $\mu$ m Distance: 2 km, (62.5/125 $\mu$ 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 $\mu$ m Distance: 30 km, (9/125 $\mu$ 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 $\mu$ m Distance: 60 km, (9/125 $\mu$ 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		
<b>Power Input</b>				
Input Voltage Range	+12 V <sub>dc</sub> ~ +48 V <sub>dc</sub> (Redundant input)			
Power Consumption	0.2 A @ 24 V <sub>dc</sub>	0.14 A @ 24 V <sub>dc</sub>	0.2 A @ 24 V <sub>dc</sub>	0.14 A @ 24 V <sub>dc</sub>
Protection	Power reverse polarity protection			
+/-4 kV ESD Protection	Yes			
Connector	6-Pin Removable Terminal Block			
<b>Mechanical</b>				
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			
<b>Environmental</b>				
Operating Temperature	-30 °C ~ +75 °C			
Storage Temperature	-40 °C ~ +85 °C			
Ambient Relative Humidity	10% ~ 90% RH, non-condensing			

### ☛ Redundant Power Input

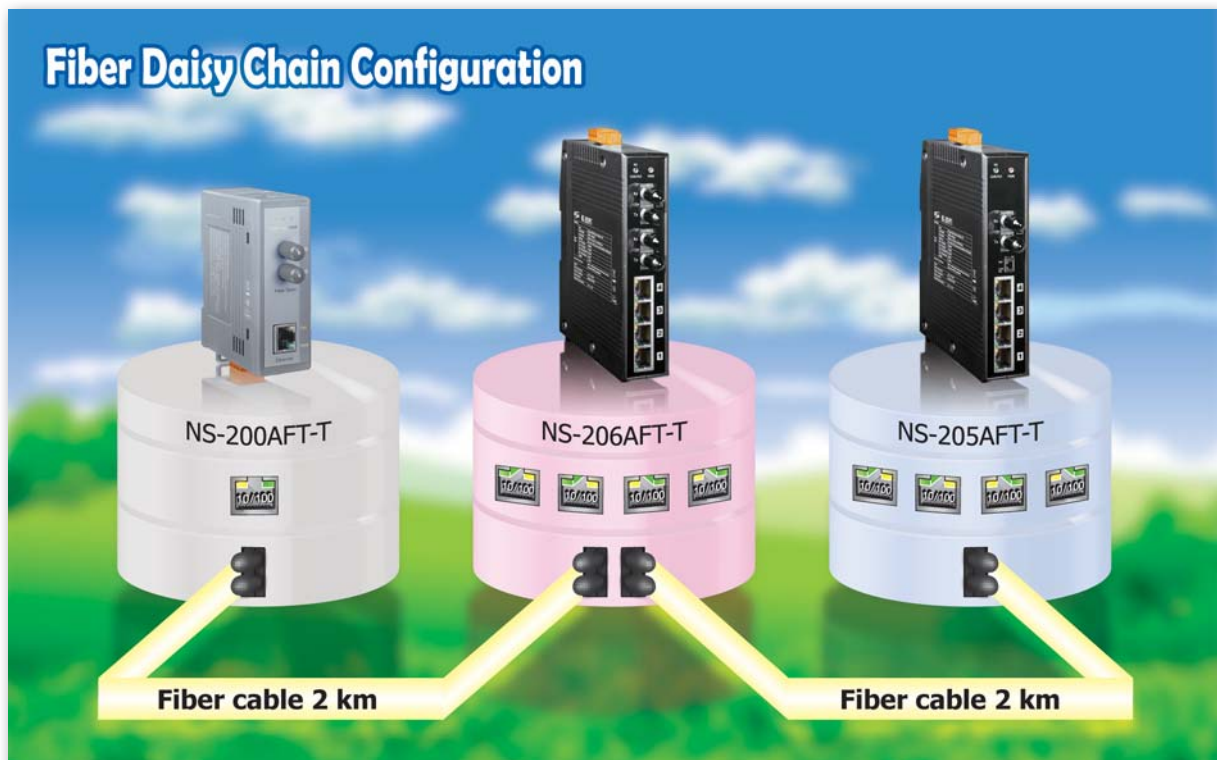
Both power inputs can be connected simultaneously to live DC power sources. If one power source fails, the other live source will act as a backup, and automatically supplies all of NSM-205AF/NSM-206AF series power needs.



### ☛ Pin Functions for Power Input

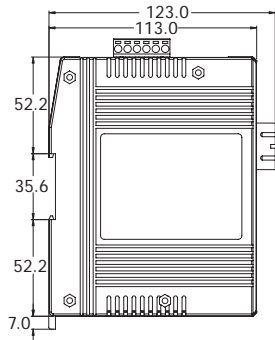
External power supply is connected using the removable terminal block:  
 PWR: Power input and should be connected to the power supply (+)  
 GND: Ground and should be connected to the power supply (-)  
 F.G. : F.G. stands for Frame Ground (protective ground). It is optional. If you use this pin, it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

### ☛ Applications

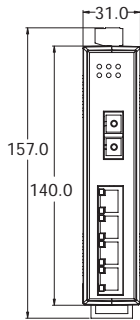


**Dimensions (Units: mm)**

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

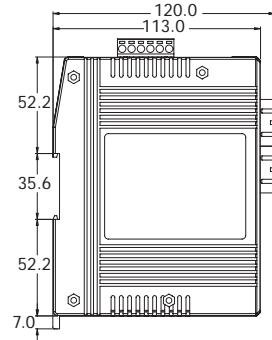


Left Side View

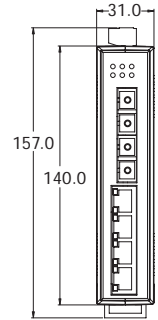


Front View

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

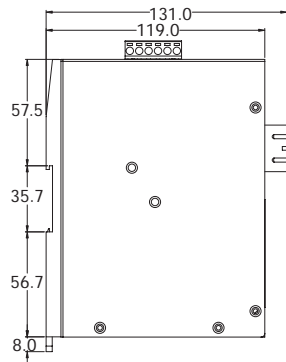


Left Side View

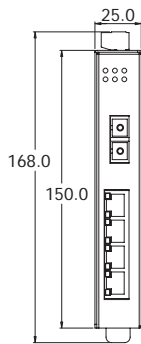


Front View

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

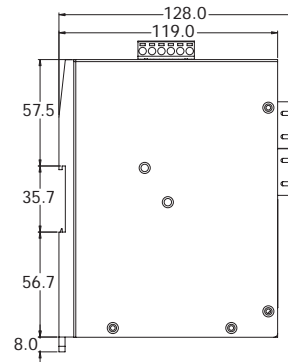


Left Side View

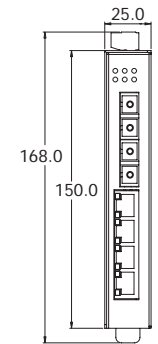


Front View

**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)