

# NS-209F/NSM-209F Series



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

## Highlight Information ▶▶▶

NS-209F/NSM-209F Series



For NSM-209F Series



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## ● 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 is used 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  $\mu$ m fiber cables.

The Ethernet supports 10/100M auto negotiation feature and auto MDI/MDI-X function.

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 acts as a backup to automatically support the NSM-209F's power needs.

## ● Features

- Automatic MDI/MDI-X crossover for plug-and-play
- Each port supports both 10/100 Mbps speed auto negotiation
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 2 Gbps high performance memory bandwidth
- Integrated look-up engine with dedicated 2048 unicast MAC addresses
- Power Input, +12 ~ +48 V<sub>dc</sub>
- Operating Temperatures, 0 °C ~ +70 °C
- DIN-Rail for NS-209F series
- DIN-Rail or Wall Mounting for NSM-209F series

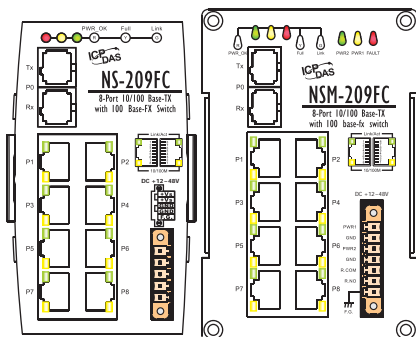
## ● Specifications

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	
Interface		
RJ-45 Ports	10/100 Base-TX auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection	
Fiber Optics Port	100 Base-FX	
LED Indicators	10/100M, Link/Act, Full duplex/Half duplex (Fiber Port)	
Ethernet Isolation	1500 V <sub>rms</sub> 1 minute	
Frame Ground for EMS Protection	Yes	
Multi Mode (NS-209FT/NS-209FC/NSM-209FT/ NSM-209FC)	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	
Single Mode (NS-209FCS/NSM-209FCS)	RX Sensitivity: -32 dBm	
	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	
Ethernet Transmission distance	Max. TX Output: -8 dBm	
	RX Sensitivity: -34 dBm	
	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	
Power		
Input Voltage Range	+12 ~ +48 V <sub>DC</sub> (Non-isolated)	+12 ~ +48 V <sub>DC</sub> (Non-isolated) Redundant Inputs with one relay output (1 A @ 24 V <sub>DC</sub> ) for alarm
Power Consumption	0.26 A @ 24 V <sub>DC</sub>	
LED Indicator	Yes	
Protection	Power reverse polarity protection	
Frame Ground for EMS 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	DIN-Rail or Wall Mounting
Environmental		
Operating Temperature	0 °C ~ +70 °C	
Storage Temperature	-20 °C ~ +85 °C	
Ambient Relative Humidity	10% ~ 90% RH, non-condensing	

#### LED Functions

##### NSM-209F Series LED Indicator Functions

LED	Color	Description
PWR_OK	Red On	Core Power is OK
	Red Off	Core Power is Off
Full for P0	Yellow On	Full Duplex
	Yellow Off	Half Duplex
Link for P0	Green On	Link/Act
	Green Off	Not Networking
Ethernet Port (P1 ~ P8)	Green On	Link/Act
	Green Off	Not Networking
	Yellow On	Link to 100 Mbps
	Yellow Off	Link to 10 Mbps
PWR2	Green On	Power is being supplied to power input PWR2
	Green Off	Power is not being supplied to power input PWR2
PWR1	Yellow On	Power is being supplied to power input PWR1
	Yellow Off	Power is not being supplied to power input PWR1
FAULT	Red On	Power is not being supplied to power input PWR1 and PWR2
	Red Off	Power is being supplied to power input PWR1 and PWR2



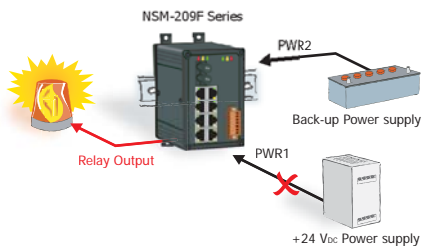
##### NS-209F Series LED Indicator Functions

LED	Color	Description
Power	Red On	Power is On
	Red Off	Power is Off
	Yellow On	Full Duplex Mode
Fiber Port (P0)	Yellow Off	Half Duplex Mode
	Green On	Link/Act
	Green Off	Not Networking
	Green On	Link/Act
Ethernet Port (P1 ~ P8)	Green Off	Not Networking
	Yellow On	Link to 100 Mbps
	Yellow Off	Link to 10 Mbps

#### Redundant Power Inputs

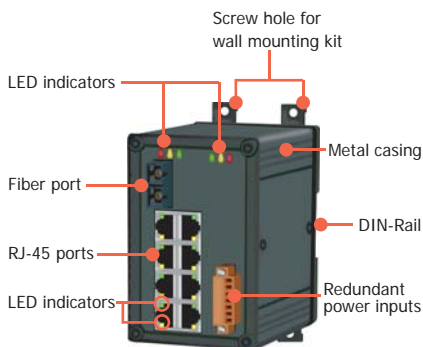
Both power inputs can be connected simultaneously to live DC power sources.

If one power source fails, the other live source acts as a backup, and automatically supplies all of NSM-209F series power needs.

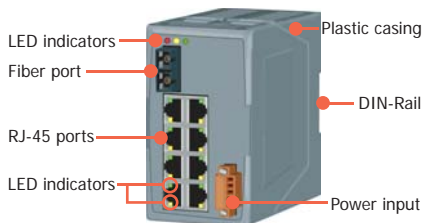


#### Appearance

##### NSM-209F Series

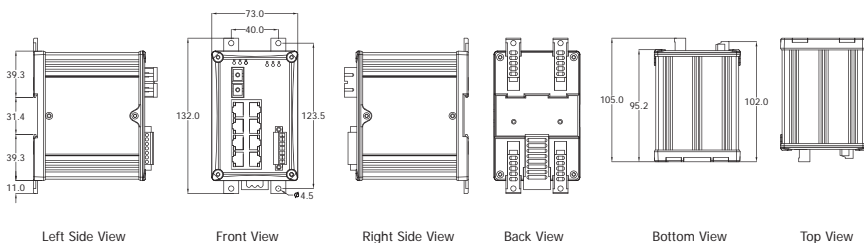


##### NS-209F Series

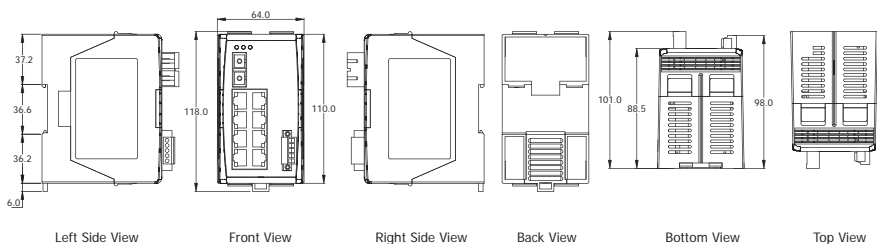


## ● Dimensions (Unit: mm)

### NSM-209F Series



### NS-209F Series



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

## ● Accessories

GPSU06U-6 CR	24V/0.25A, 6 W Power Supply (RoHS)
KWM020-1824F CR	24V/0.75A, 18 W Power Supply (RoHS)
DIN-KA52F CR	24V/1.04A, 25 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-20-24 CR	24V/1A, 24 W Power Supply with DIN-Rail Mounting (RoHS)
MDR-60-24 CR	24V/2.5A, 60 W Power Supply with DIN-Rail Mounting (RoHS)