Media Converters
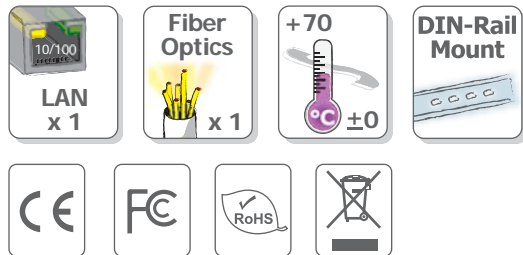
NS-200WDM NEW

Industrial Single-Strand 10/100 Base-T(X) to 100 Base-FX Media Converter

Highlight Information ▶▶▶▶

10/100 LAN x 1

Fiber Optics x 1

+70 °C ±0

DIN-Rail Mount

CE FC RoHS

NS-200WDM-A   NS-200WDM-B

● **Introduction**

Using the fiber optic medium for Ethernet applications has become more popular due to fiber optic's excellent physical features, especially for long distance networks. However, fiber optic cable is very expensive, so if we can apply a solution that uses only 1 cable instead of 2, the infrastructure cost can be cut in half. The NS-200WDM Series provides a solution that reduces your expense by 50%!

The NS-200WDM Series of Single-Strand Fiber Converters supports Wavelength Division Multiplexing (WDM) technology that allows two independent data communication channels to transmit and receive over one standard, single mode, fiber optic line. This not only doubles your existing bandwidth, but also effectively reduces the cost of creating a new fiber optic infrastructure.

50% Cost Saving for Fiber Optic Infrastructures

With a pair of NS-200WDM series products (NS-200WDM-A and NS-200WDM-B), you can double the utilization of your existing, costly fiber optic cable, and save 50% of the cost of a newly installed fiber optic application.

It contains "soft start" function with overload protection, high-low voltage protection.

The width of the NS-200WDM is just 32mm, so it can be used where space is important.

● **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
- 1.4Gbps high performance memory bandwidth

- Integrated look-up engine with dedicated 1 K unicast MAC addresses
- Supports +10~+30Vdc voltage Reverse Polarity Protection
- Supports operating temperatures from 0 ~ +70°C
- DIN-Rail

● Specifications

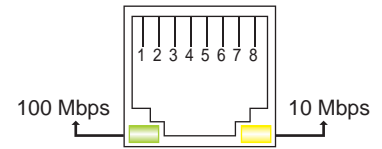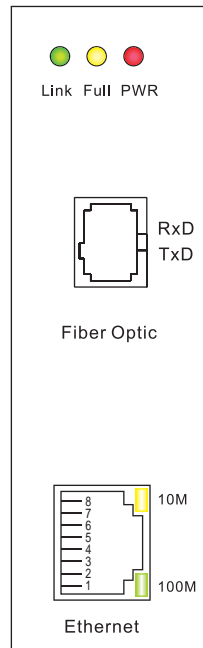| Technology	
Standards	IEEE802.3, 802.3u, 802.3x
Processing Type	Store & forward wire speed switching - no delays
MAC Addresses	1024
Memory Bandwidth	1.4 Gbps
Flow Control	IEEE802.3x flow control, back pressure flow control
Interface	
RJ-45 Port	10/100BaseT(X) auto negotiation speed, F/H duplex mode, and auto MDI/MDIX connection
Fiber Port	100 Base-FX(Single-mode; SC connector)
LED Indicators	10/100M, Link/Act, Full duplex/Half duplex(Fiber Port)
Ethernet Isolation	1500 Vrms 1 minute
Frame Ground for EMS Protection	Yes
Fiber Optic	Single-mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 µm
	Distance: 15 km, (9/125 µm mrecommended) for full duplex
	Wavelength: TX: 1310, RX: 1550 nm for NS-200WDM-A TX: 1550, RX: 1310 nm for NS-200WDM-B
	Min. TX Output: -14 dBm
	Max. TX Output: -8 dBm
	RX Sensitivity: -31 dBm
Ethernet Transmission distance	Ethernet: 2-pair UTP/STP Cat.3,4,5, EIA/TIA-568 100-ohm
	Fast Ethernet: 2-pair UTP/STP Cat. 5, EIA/TIA-568 100-ohm
Power	
Input Voltage Range	+10 ~ +30VDC (Non-isolation)
Power Consumption	0.12A@24VDC, +/- 5% arrowed with 100M Full duplex
LED Indicator	Yes
Protection	Power reverse polarity protection
Frame Ground for EMS Protection	Yes
Connection	3-Pin Removable Terminal Block
Mechanical	
Case	Plastic
Flammability	UL 94V-0
Dimensions (W x H x D)	33mm x 107mm x 85mm
Installation	DIN-Rail
Environmental	
Operating Temperature	0°C ~ +70°C
Storage Temperature	-20°C ~ +85°C
Ambient Relative Humidity	10% to 90% non-condensing

4

● LED Functions

Standard RJ-45 female connectors are provided. A standard RJ-45 plug cable is necessary to connect your device to the unit since switch that supports auto crossover.

LED Indicator Functions

LED	Color	Description
PWR	Red	Power is On
	Off	Power is Off
Fiber Optic	Yellow_On	Full Duplex Mode
	Yellow_Off	Half Duplex Mode
	Green_On	Link/Act
	Green_Off	Not Networking
Ethernet	Yellow	Link to 10 Mbps
	Green	Link to 100 Mbps
	Off	Not Networking

Link Full PWR

RxD
TxD

Fiber Optic

8 7 6 5 4 3 2 1   10M   100M

Ethernet

1 2 3 4 5 6 7 8

100 Mbps   10 Mbps

RJ-45 Pin-Out

Pin#	Signal Name	Function
1	TD+	Transmit Data
2	TD-	Transmit Data
3	RD+	Receive Data
4	NC	No Connection
5	NC	No Connection
6	RD-	Receive Data
7	NC	No Connection
8	NC	No Connection

● Pin Function for Terminal Block

External power supply is connected using the removable terminal block:
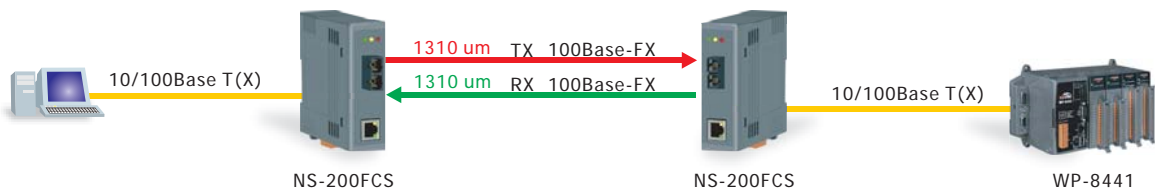**+Vs** : Power input +10 to +30V
GND: Ground
F.G. : F.G. stands for Frame Ground (protective ground). It is optional. If you use this pin, it can reduce EMI radiation; improve EMI performance and ESD protection.
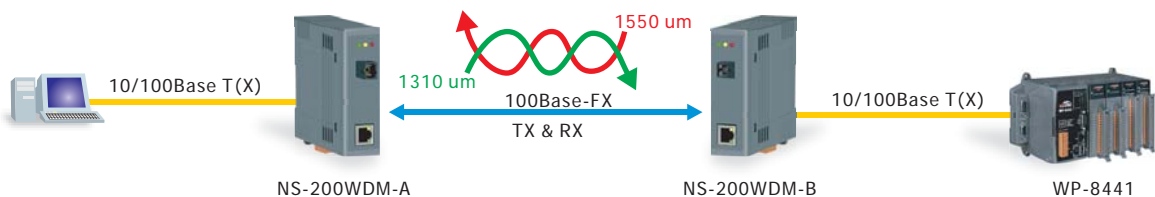
● Applications

General Media Converter Solution

A general media converter requires a pair of fiber optic cables for data transmission and receiving.

10/100Base T(X)

1310 um   TX 100Base-FX
1310 um   RX 100Base-FX

10/100Base T(X)

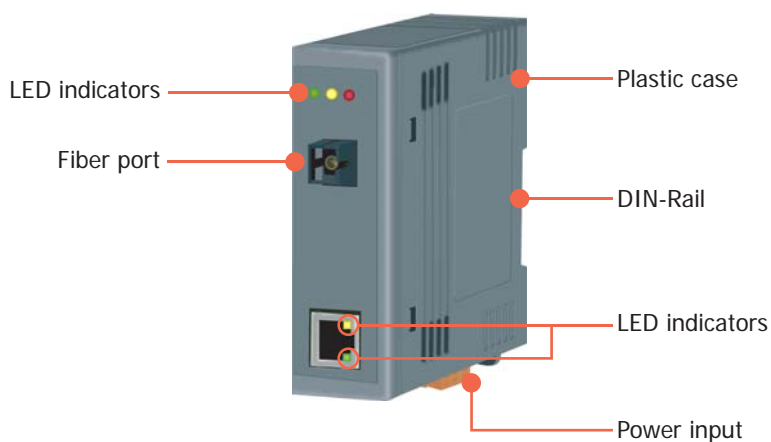NS-200FCS   NS-200FCS   WP-8441

Single-Strand Fiber Converter Solution

Wavelength Division Multiplexing (WDM) supports bi-directional data transmission and receiving using dual wavelengths (1310/1550 nm) over a single strand, of single-mode optical fiber.
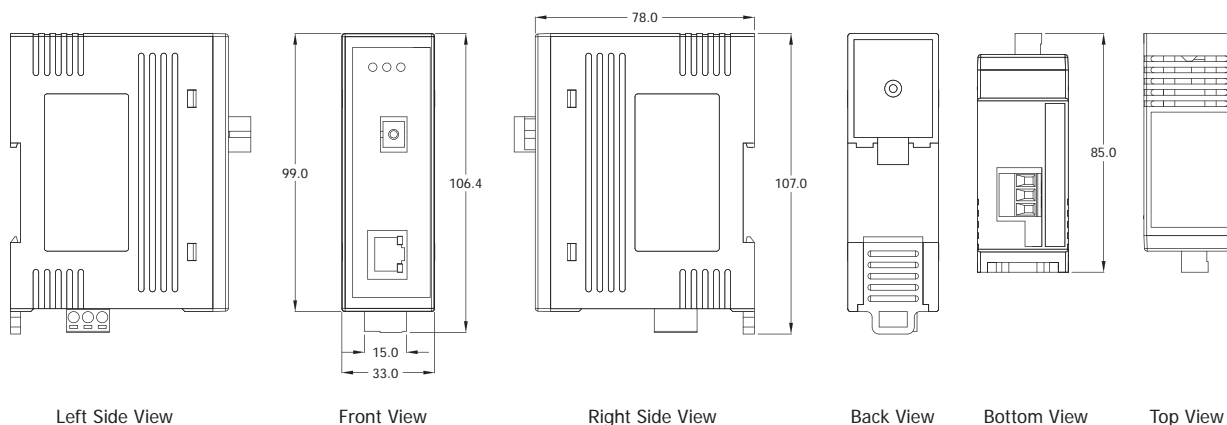
10/100Base T(X)

1550 um
1310 um
100Base-FX
TX & RX

10/100Base T(X)

NS-200WDM-A   NS-200WDM-B   WP-8441

High Reliability Industrial Ethernet Switch for Rugged Environment

● Appearance

LED indicators
Fiber port
Plastic case
DIN-Rail
LED indicators
Power input

● Dimensions (Unit: mm)

78.0
99.0
106.4
107.0
85.0
15.0
33.0

| Left Side View | Front View | Right Side View | Back View | Bottom View | Top View |

● Ordering Information

NS-200WDM-A CR	10/100BaseT(X) to 100BaseFX Single-Strand Media Converter, TX 1310 nm, RX 1550 nm, SC (RoHS)
NS-200WDM-B CR	10/100BaseT(X) to 100BaseFX Single-Strand Media Converter, TX 1550 nm, RX 1310 nm, SC (RoHS)

Important Note: You must purchase both NS-200WDM-A and NS-200WDM-B since these products work as a pair.

● Accessories

GPSU06-6	24V/0.25A Power Supply, (No-mounting)
KWM020-1824F	24V/0.75A Power Supply, (No-mounting)
DIN-KA52F	24V/1A Power Supply, (With DIN-Rail mounting)