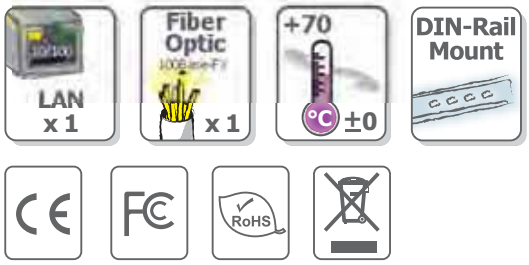
NS-200F Series

Industrial 10/100 Base-TX to 100 Base-FX Media Converter

Highlight Information



NS-200FC/FCS Series

NS-200FT Series

Introduction

The NS-200F series is a Ethernet (10/100 Base-TX) to Media (100 Base-FX) converter. The Ethernet supports 10/100M auto negotiation feature and auto MDI/MDI-X function.
The NS-200F series operates at either half or full duplex mode.
It contains "soft start" function with overload protection, high-low voltage protection.
The width of the NS-200F series is just 33 mm, so it can be used where space is important.

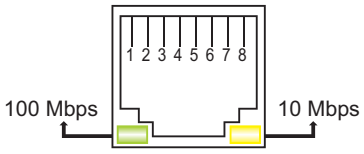
Features

- Automatic MDI/MDI-X crossover for plug-and-play
- Supports both 10/100 Mbps speed auto negotiation
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 1.4 Gbps high performance memory bandwidth
- Frame buffer memory: 256 Kbit
- Integrated look-up engine with dedicated 1024 unicast MAC addresses
- Supports +10 V_{DC} ~ +30 V_{DC} Reverse Polarity Protection
- Supports operating temperatures from 0 °C ~ +70 °C
- DIN-Rail mount for industrial usage

Specifications

Technology	
Standards	IEEE 802.3, 802.3u, 802.3x
Processing Type	Store & forward, wire speed switching
MAC Addresses	1024
Memory Bandwidth	1.4 Gbps
Frame Buffer Memory	256 Kbit
Flow Control	IEEE 802.3x flow control, back pressure flow control
Interface	
RJ-45 Port	10/100 Base-TX auto negotiation speed, F/H duplex mode, and auto MDI/MDI-X connection
Fiber Port	100 Base-FX
LED Indicators	10/100M, Link/Act, Full duplex/Half duplex (Fiber Port)
Ethernet Isolation	1500 V_{rms} 1 minute
Frame Ground for EMS Protection	Yes
Multi Mode	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
	RX Sensitivity: -34 ~ -31 dBm
Single Mode	Single Mode Fiber Cables: 8.3/125, 8.7/125, 9/125 or 10/125 µm
	Distance: 15 km, (9/125 µm recommended) for full duplex
	Wavelength: 1300 or 1310 nm
	Min. TX Output: -15 dBm
	Max. TX Output: -8 dBm
	RX Sensitivity: -36 ~ -31 dBm
Ethernet Transmission Distance	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	+10 V_{DC} ~ +30 V_{DC} (Non-isolation)
Power Consumption	0.12 A @ 24 V_{DC}, +/-5% arrowed with 100M Full duplex
LED Indicator	Yes
Protection	Power reverse polarity protection
Frame Ground for EMS Protection	Yes
Mechanical	
Casing	Plastic (Flammability UL 94V-0)
Dimensions (W x L x H)	33 mm x 85 mm x 107 mm
Installation	DIN-Rail
Environmental	
Operating Temperature	0 °C ~ +70 °C
Storage Temperature	-20 °C ~ +85 °C
Ambient Relative Humidity	10% ~ 90% RH, non-condensing

LED Functions

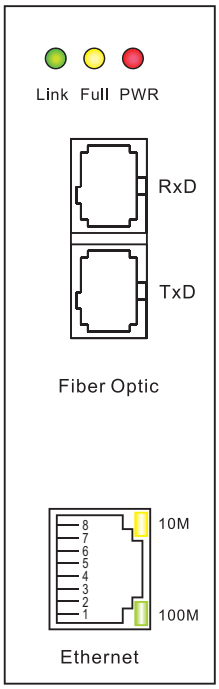


LED Indicator Functions

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

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

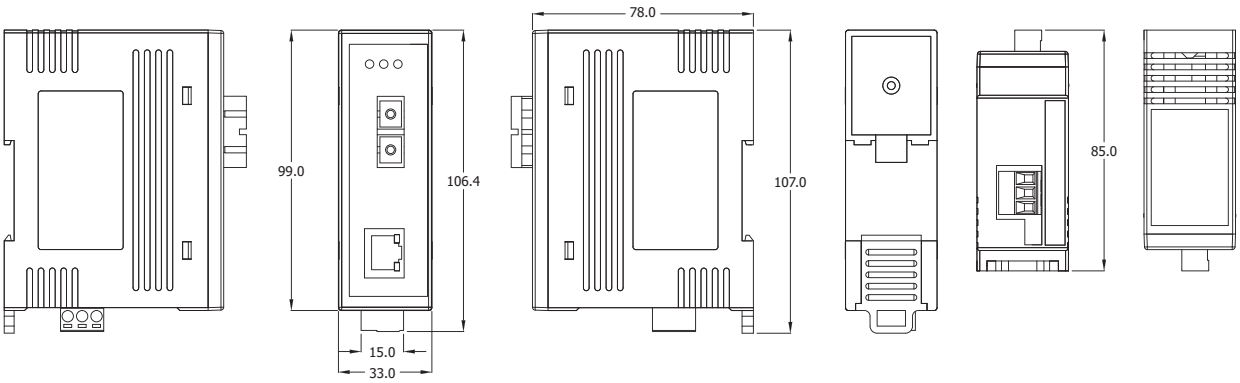


Pin Function for Terminal Block

External power supply is connected using the removable terminal block:
+Vs : Power input +10 V_{DC} ~ +30 V_{DC}
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.

Appearance

Dimensions (Unit: mm)



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

Ordering Information

NS-200 [**A**] **F** [ ][ ] - [**4**][**0**] - [ ]

A: Power Input +12 V_{DC} ~ +48 V_{DC}

Single Mode Distance
40: 40 km
Standard Models: 15 km

	Fiber Port Connector	Operating Temperature
Ordering Code Definition	**T**: Multi Mode ST Connector **C**: Multi Mode SC Connector **CS**: Single Mode SC Connector	0 °C ~ +70 °C
Models	Art. No. 116198 NS-200FT Art. No. 115606 NS-200FC Art. No. 116330 NS-200FCS	

Accessories

GPSU06-6	24V/0.25A, 6 W Power Supply
KWM020-1824F	24V/0.75A, 18 W Power Supply
DIN-KA52F	24V/1.04A, 25 W Power Supply with DIN-Rail Mounting

spectra

75W Single Output Industrial DIN Rail Power Supply DR-75 series

■ Features :

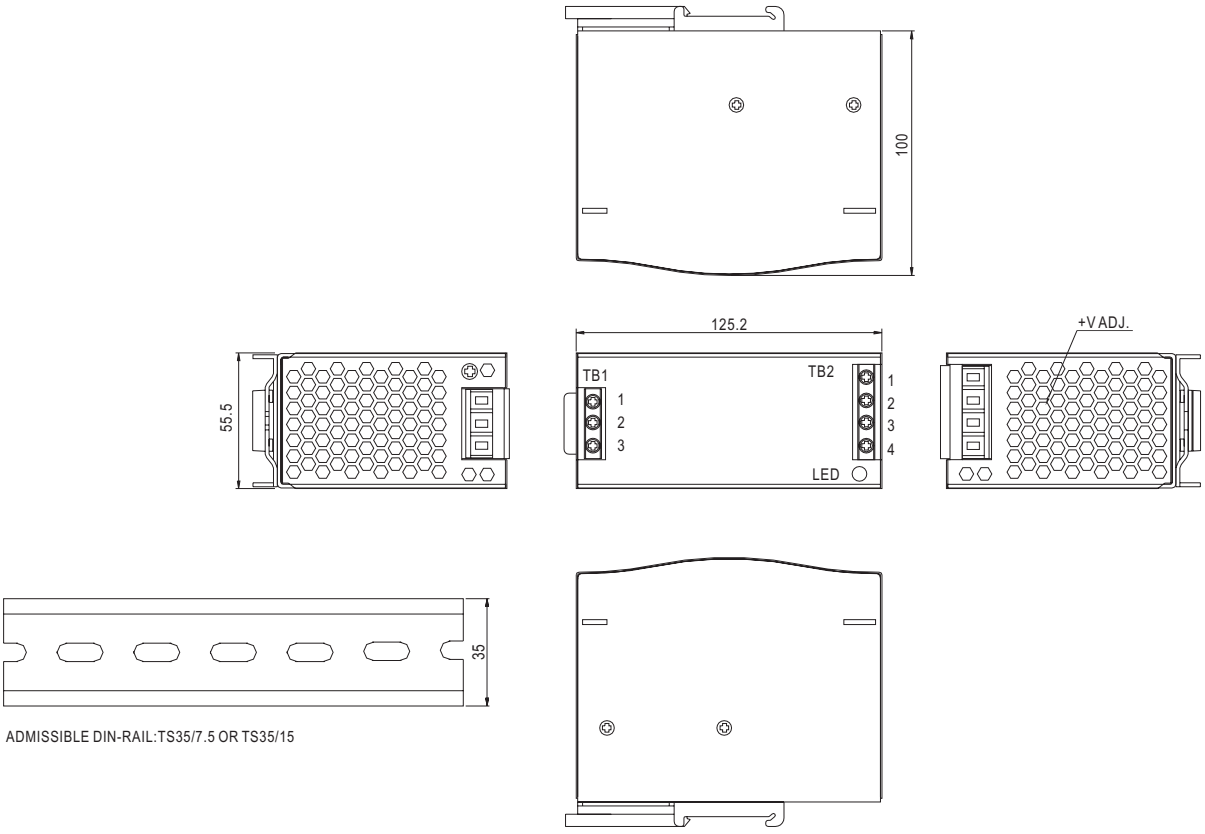
- Universal AC input/Full range
- Protections:Short circuit/Over load/Over voltage/Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508(industrial control equipment)approved
- LED indicator for power on
- 100% full load burn-in test
- Fix switching frequency at 50KHz

SPECIFICATION

MODEL		DR-75-12	DR-75-24	DR-75-48
OUTPUT	DC VOLTAGE	12V	24V	48V
	RATED CURRENT	6.3A	3.2A	1.6A
	CURRENT RANGE	0 ~ 6.3A	0 ~ 3.2A	0 ~ 1.6A
	RATED POWER	76W	76.8W	76.8W
	RIPPLE & NOISE (max.) Note.2	100mVp-p	150mVp-p	240mVp-p
	VOLTAGE ADJ. RANGE	12 ~ 14V	24 ~ 28V	48 ~ 53V
	VOLTAGE TOLERANCE Note.3	±2.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	1000ms, 60ms/230VAC 1800ms, 60ms/115VAC at full load		
	HOLD TIME (Typ.)	60ms/230VAC 12ms/115VAC at full load		
INPUT	VOLTAGE RANGE	85 ~ 264VAC 120 ~ 370VDC		
	FREQUENCY RANGE	47 ~ 63Hz		
	EFFICIENCY (Typ.)	76%	80%	81%
	AC CURRENT (Typ.)	1.6A/115V 0.96A/230V		
	INRUSH CURRENT (Typ.)	COLD START 20A/115VAC 40A/230VAC		
	LEAKAGE CURRENT	<1mA / 240VAC		
PROTECTION	OVER LOAD	105 ~ 150% rated output power		
		Protection type : Constant current limiting, recovers automatically after fault condition is removed		
	OVER VOLTAGE	15 ~ 16.5V	29 ~ 34V	58 ~ 65V
		Protection type : Hiccup mode, recovers automatically after fault condition is removed		
	OVER TEMPERATURE	85℃±5℃ (TSW1) Detect on heat sink of power transistor		
		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down		
ENVIRONMENT	WORKING TEMP.	-10 ~ +60℃ (Refer to output load derating curve)		
	WORKING HUMIDITY	20 ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-20 ~ +85℃, 10 ~ 95% RH		
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes		
SAFETY & EMC (Note 4)	SAFETY STANDARDS	UL508, TUV EN60950-1 Approved		
	WITHSTAND VOLTAGE	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		
	ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC		
	EMI CONDUCTION & RADIATION	Compliance to EN55011,EN55022 (CISPR22) Class B		
	HARMONIC CURRENT	Compliance to EN61000-3-2,-3		
	EMS IMMUNITY	Compliance to EN61000-4-2,3,4,5,6,8,11, ENV50204, EN55024, EN61000-6-2 (EN50082-2) Heavy industry level, criteria A		
OTHERS	MTBF	123.1K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION	55.5*125.2*100mm (W*H*D)		
	PACKING	0.6Kg; 20pcs/13Kg/1.1CUFT		
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and load regulation. 4. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.			

■ Mechanical Specification

Case No. 923 Unit:mm



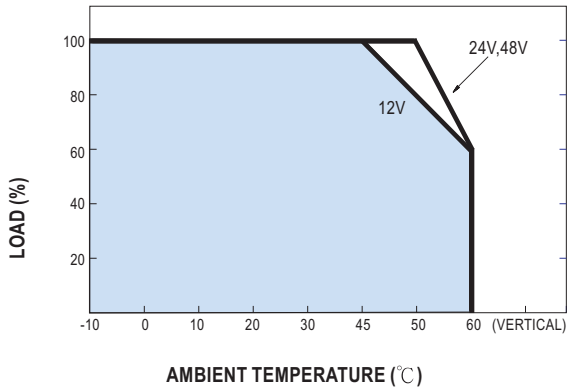
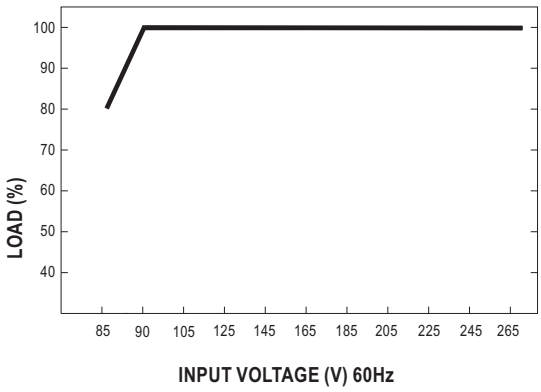
Terminal Pin. No Assignment (TB1)

Pin No.	Assignment
1	FG ⏚
2	AC/N(DC+)
3	AC/L(DC-)

Terminal Pin. No Assignment (TB2)

Pin No.	Assignment
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V

■ Output Derating



■ Output Derating Vs Input Voltage