3onedata
Reliable Connections



NP5100 Series

Rack Mounting

8/16/32 RS-232/485/422 3IN1 Serial Server

- Support 8/16/32 3IN1 serial port to 2 10/100Base-T(X) self-adaptive Ethernet interface
- Support network modes such as redundant mode, switching mode and dual IP mode to meet the needs of various network environments
- Support RealCom, Reverse RealCom, TCP Server, TCP Client, UDP Server, UDP Client, Pair Master, Pair Slave, UDP Rang, UDP Multicast, Telnet, Reverse Telnet, RFC2217, Redundant COM, DRDAS RealCom, DRDAS TCP Server and other operating modes
- Support dual power supply 85~265VAC wide voltage input range
- Support -40~75℃ wide operating temperature range
- Support optional OLED display, its device information could be configured

Industrial Grade RPS IP40

CONNECTING FOR A BETTER FUTURE

3onedata Co.,Ltd.

Introduction

NP5100 series are the serial device servers that can make serial device be equipped with networking capability instantly and centrally manage the scattered serial devices and hosts via network. This product supports 8/16/32 RS-232/485/422 serial ports to 2 100M Ethernet copper ports. It adopts rack mounting to meet the requirements of different application scenes.

Serial device server supports multiple network protocols, such as TCP, UDP, RFC2217, TELNET, ARP, ICMP, HTTP, HTTPS, SNMP, SSH, SMTP, SNTP, DNS, BOOTP and DHCP protocol. It also possesses complete management functions, including Access Control, Rapid Configuration, Online Upgrading and so on. Each serial port supports 4 TCP or UDP session connections, and it also supports RealCom, Reverse RealCom, TCP Server, TCP Client, UDP Server, UDP Client, Pair Master, Pair Slave, UDP Rang, UDP Multicast, Telnet, Reverse Telnet, RFC2217, Redundant COM, DRDAS RealCom and DRDAS TCP Server work modes and TELNET, WEB and SSHD access modes. Furthermore, supplied management configuration tool based on Windows platform can guide the user to manage and configure the device, achieving immediate networking of serial device via simple settings. Network management system could bring you great user experience through its friendly interface design and easy and convenient operation.

This product supports optional OLED display, which could conduct IP address configuration without using external device. SD card can achieve software upgrade of the device. The device supports one-click restart and factory reset. The cover DIP switch of the 8/16 3IN1 serial port supports adjusting the pull-up resistor and termination resistor of the serial port. Hardware adopts fanless, low power consumption, wide temperature and voltage design and has passed rigorous industrial standard tests, which can adapt to the industrial scene environment with harsh requirements for EMC. It can be widely used in custom checkpoint system, smart gas station, data center and industrial automation, etc.

Features and Benefits

- Support 2 10/100Base-T(X) self-adaptive Ethernet interfaces and provide dual IP and MAC addresses to meet the requirements of multi-network management or network backups
- Support 110bps- 921600bps line speed and non-blocking communication
- Support RealCom, Reverse RealCom, TCP Server, TCP Client, UDP Server, UDP Client, Pair Master, Pair Slave, UDP Rang, UDP Multicast, Telnet, Reverse Telnet, RFC2217, Redundant COM, DRDAS RealCom, DRDAS TCP Server and other operating modes
- Support OLED display that could configure device IP address
- Support cross-gateway and cross-router communication
- Support multiple hosts polling mode, which allows multiple hosts to access the same

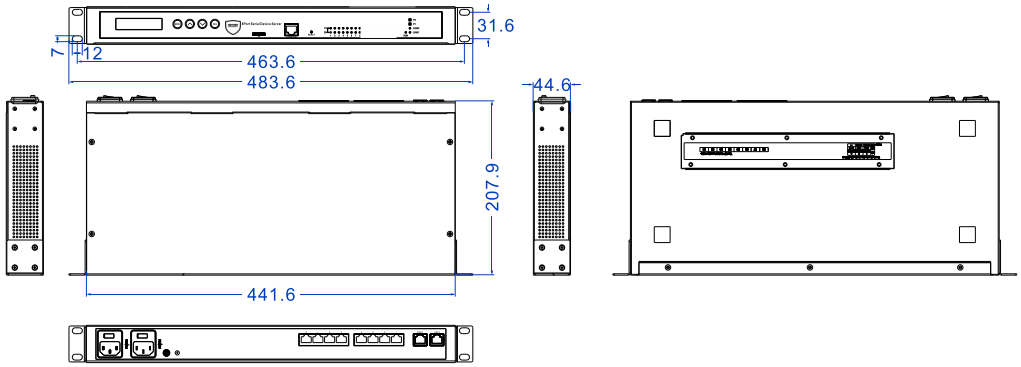
serial port

- Support delimiter matching communication, achieving various demands for serial port packaging
- Support FIFO, compatible with various old type terminal devices
- Support IP address and MAC address filtering, which can achieve accurate access control easily
- Support classification of user management to realize humanized permission management
- Support serial port status, parameters, and communication statistical monitoring, making the communication status easy to read
- Support RTS/CTS, DTR/DSR and XON/XOFF flow control
- Support virtual serial port drive access mode and automatic connection recovery after network interruption
- Flexible serial port data framing setting, which can satisfy user's various demands for data packets segmentation
- Support standard TCP/IP SOCKET application access
- TCP supports multi-connection, which allows maximum 4 users to monitor or manage the serial device simultaneously
- UDP supports single machine or multi-machine communication, which allows multiple users to monitor or manage the serial device simultaneously
- Support TELNET and Reverse TELNET modes, build TELNET protocol session to realize the conversion of serial port data and Ethernet data between terminal device and server
- Support RFC2217 protocol, which can make serial port present in the host as local COM port
- Support multiple configuration forms like Windows configuration tool, TELNET, SSHD and WEB
- SSHD and HTTPS can guarantee the access security of data
- Support multiple alarm methods, including e-mail alarm, log alarm and system alarm
- Support multiple alarm events including power supply connection, warm start, cold start, DCD and DSR
- Conduct network diagnosis and troubleshooting via Ping and Traceroute
- Support ARP function, which can avoid the failure of communication due to the MAC address of serial server being aged by switch or router.
- Support static routing, routing table could be added manually

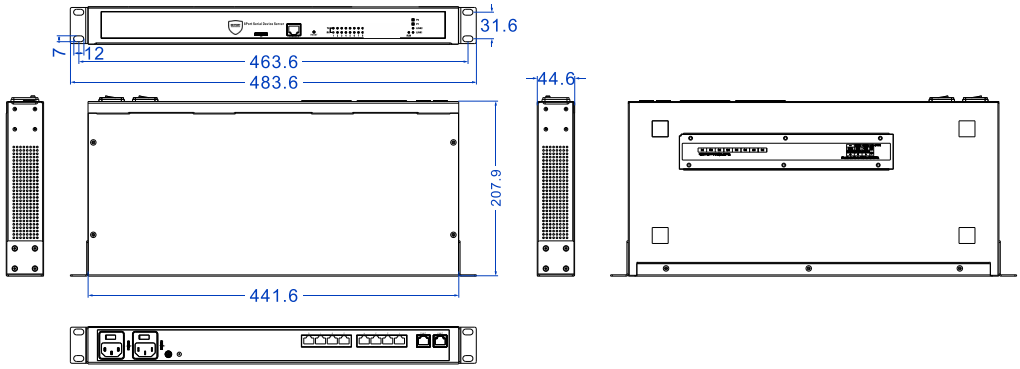
Dimension

Unit: mm

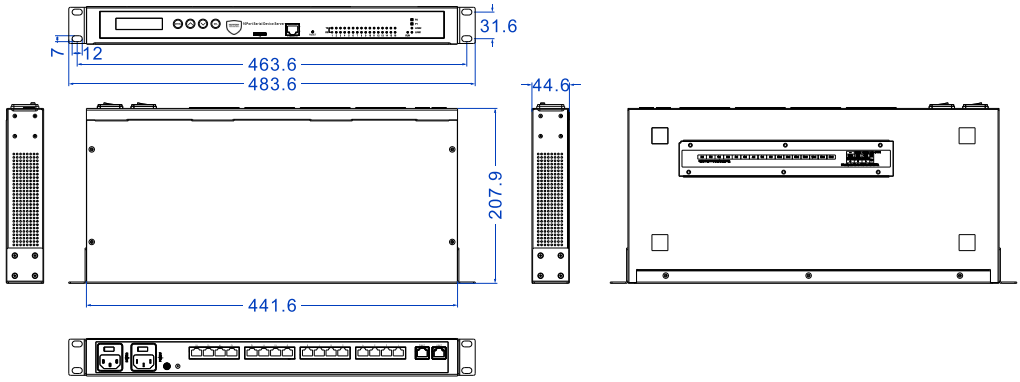
- NP5100-2T-8DI(3IN1)-RJ-OLED-2P(85-265VAC)



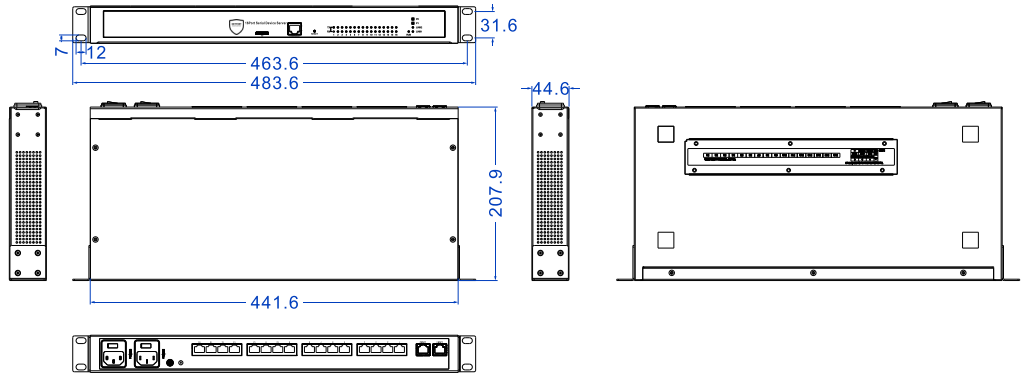
- NP5100-2T-8DI(3IN1)-RJ-2P(85-265VAC)



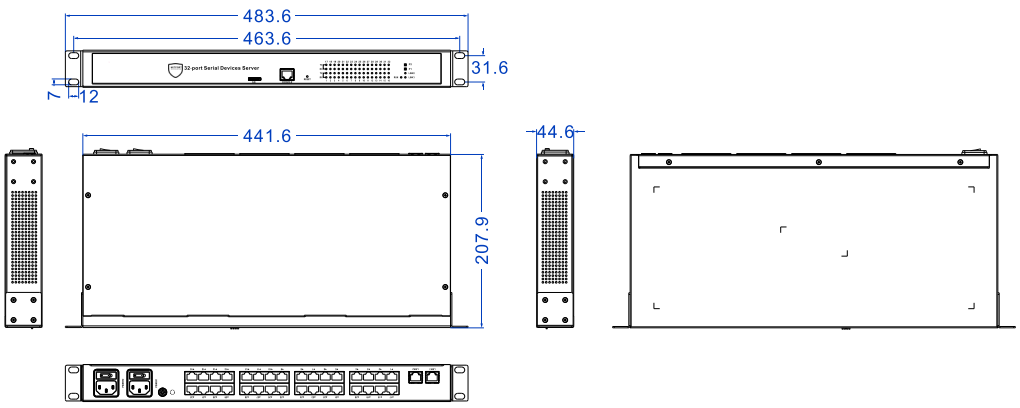
- NP5100-2T-16DI(3IN1)-RJ-OLED-2P(85-265VAC)



- NP5100-2T-16DI(3IN1)-RJ-2P(85-265VAC)



- NP5100-2T-32DI(3IN1)-RJ-2P(85-265VAC)



Specification

Ethernet	Standard: 10Base-T, 100Base-TX Protocol: TCP, UDP, ARP, HTTP, HTTPS, TELNET, ICMP, SMTP, SNTP, DHCP, DNS Rate: 10/100M Automatic Flow Control, MDI/MDI-X Autotuning Interface form: RJ45 Interface quantity: 2 Duplex mode: full/half duplex mode self-adaption Work mode: each serial port can simultaneously establish up to 4 TCP/UDP session connections, support work modes such as RealCom, Reverse RealCom, TCP Server, TCP Client, UDP Server, UDP Client, Pair Master, Pair Slave, UDP Rang, UDP Multicast, Telnet, Reverse Telnet, RFC2217, Redundant COM, DRDAS RealCom and DRDAS TCP Server
Serial Port	Standard: EIA RS-232C, RS-485, RS-422 Quantity of serial port: 8/16/32 3IN1 serial ports RS-232 signal: RXD, TXD, DTR, GND, DSR, RTS, CTS, DCD RS-485 signal: D+, D-, GND RS-422 signal: T+, T-, GND, R+, R- Baud rate: 110bps-921600bps Data bit: 5bit, 6bit, 7bit, 8bit Parity bit: None, Even, Odd, Space, Mark Stop bit: 1bit, 1.5bit, 2bit Interface form: RJ45 Flow control: RTS/CTS, DTR/DSR, XON/XOFF Direction control: RS-485 direction adopts Automatic Data Direction Control (ADDC) Transmission distance: RS-232, 15m; RS-485/422, 1200m

	Electromagnetic isolation strength: 2kVDC Load Capacity and Resistance (8/16 3IN1 serial port): ● Pull up/down resistance for RS-485: 1kΩ or 150kΩ, controlled by DIP switch ● Terminating resistance for RS-485: 120Ω, controlled by DIP switch ● Load capacity: RS-485/422 supports 256-node polling environment Load Capacity Resistance (32 3IN1 serial port): ● Pull up/down resistance for RS-485: 10kΩ ● Load capacity: RS-485/422 supports 32-node polling environment
Console Port	CLI command line management port (RS-232), RJ45
RESET	Short press with a needle shaped tool to restore factory configuration
OLED Display	Menu/Exit, page up, page down, select/confirm
Configuration Method	WEB configuration management, TELNET configuration, Windows configuration tool, SSHD configuration
Security	User rights classification, IP address filtering, MAC address filtering, SNMP/mail/System Log alarm, HTTP/HTTPS/SSHD/TELNET access control
Indicator	Power indicator, Ethernet port indicator, serial port transmission indicator, serial port receiving indicator, running indicator
Power Supply	85~265VAC dual power supply redundancy, AC power supply socket with switch
Power Consumption	NP5100-2T-8DI(3IN1)-RJ-OLED-2P(85-265VAC), NP5100-2T-8DI(3IN1)-RJ-2P(85-265VAC), NP5100-2T-16DI(3IN1)-RJ-OLED-2P(85-265VAC), NP5100-2T-16DI(3IN1)-RJ-2P(85-265VAC): ● No-load: 5.6W@220VAC ● Full-load: 13.2W@220VAC NP5100-2T-32DI(3IN1)-RJ-2P(85-265VAC): ● No-load: 7.3W@220VAC ● Full-load: 7.97W@220VAC
Working Environment	Operating temperature: -40~75℃

	Storage temperature: -40~85℃ Relative humidity: 5%~95% (no condensation)
Mechanical Structure	Housing: IP30 protection, metal Installation: rack mounting Dimension (W x H x D): 441.6mm×44.6mm×207.9mm (without lugs) Weight: 3.04kg
Industrial Standard	IEC 61000-4-2 (ESD, electronic static discharge), Level 4 ● Air discharge: ± 15kV ● Contact discharge: ±8kV IEC 61000-4-4 (EFT, electrical fast transient), Level 4 ● Power supply: ±4kV ● Ethernet port: ±2kV ● Serial port: ±2kV IEC 61000-4-5 (Surge), Level 4 ● Power supply: common mode ±4kV, differential mode ±2kV ● Network port: common mode±4kV, differential mode±2kV ● Serial port: common mode±4kV, differential mode±2kV Shock: IEC 60068-2-27 Free fall: IEC 60068-2-31 Vibration: IEC 60068-2-6
Authentication	CE, FCC, RoHS
Warranty	3 years

Ordering Information

Model	100M Copper Port	3IN1(RS-232/485/422)	OLED Display	Power Supply
NP5100-2T-8DI(3IN1)-RJ-OLED-2P(85-265VAC)	2	8	1	85~265 VAC dual power supply
NP5100-2T-8DI(3IN1)-RJ-2P(85-265VAC)	2	8	-	
NP5100-2T-16DI(3IN1)-RJ-OLED-2P(85-265VAC)	2	16	1	
NP5100-2T-16DI(3IN1)-RJ-2P(85-265VAC)	2	16	-	
NP5100-2T-32DI(3IN1)-RJ-2P(85-265VAC)	2	32	-	

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