USR IOT
Be honest,Do best

USR-N5X0 Series

Serial to Ethernet Device Server

User Manual V1.0.0

USR-N510, USR-N520, USR-N540, USR-N580

Build a Smarter IoT world, Your Trustworthy Partner

Content

1. Introduction

1.1. Overview

The USR-N5X0 Series are network-based serial device servers that connect RS-232/422/485 serial devices, such as PLC, meters, sensors, weigh scale, barcode scanner, card reader and serial printer directly to a TCP/IP network. Data coming from the Ethernet port is sent to the designated RS-232/RS-422/RS-485 port, and data received from RS-232/RS-422/RS-485 port is sent to the Ethernet port, allowing bi-directional communication.

In the computer-aided manufacturing or industrial automation areas, field devices can directly connect to an Ethernet network via the USR-N5X0 modbus gateway. In normal PCs or laptops, a virtual COM port can be created using our virtual COM software to fetch serial data from USR-N5X0 remotely over Ethernet. This extends the traditional COM ports of a PC,with access over a TCP/IP network. Through networking, you can control and monitor remote serial devices over the LAN or even over the Internet.

The specific models of this series of industrial serial server are as follows. Please contact our sales for more information.

Table 1 USR-N5X0 series models

Model name	Description
USR-N510	1 RS232/485/422 to Ethernet device server
USR-N510-4	1 RS485 to Ethernet device server
USR-N520	2 RS232/485/422 to Ethernet device server
USR-N520-6	2 RS232/485 to Ethernet device server
USR-N540	4 RS232/485/422 to Ethernet device server
USR-N540-4	4 RS485 to Ethernet device server
USR-N580	8 RS485 to Ethernet device server

1.2. Features

The USR-N5X0 field-mount serial device server series share the same software platform on different available hardware components. It provides

- High-performance CPU processing ability,using 32-bit Arm Cortex-M7 core CPU, up to 400MHz frequency
- Provides remote serial access over the Internet for industrial serial devices
- 10/100Mbps Ethernet port and support Auto MDI/MDIX
- Software selectable RS-232/422/485 3-in-1 serial port(N5X0 models)
- Rugged metal housing with IP30 protection for wall or optional DIN-Rail mount
- Built-in 15KV ESD serial port protection
- Supports a wide industrial operating temperature,-40℃~85℃
- Baud rate: 0.6~921.6 Kbps(maximum 230.4Kbps for N520-6 model), and any baud rate setting, support None, Odd, Even, Mark, Space Parity bit(firmware V2.0.0 or later)
- Supports Hardware and Software flow control
- Flexible serial port data framing setting, which can satisfy user's various demands for data packets segmentation
- Versatile operation modes: TCP Server, TCP Client, UDP, HTTP client, Websocket server
- Support virtual COM ,COM Port Redirector USR-VCOM(windows)
- Modbus Ethernet-to-Serial support (Modbus/TCP, Modbus/RTU) for seamless integration of serial Modbus devices
- Provides rich configuration access, including: Windows configuration tool, and Web Browser

- Firmware upgrading via Web Browser and Windows configuration tool
- Easy-to-use Windows configuration tool for auto discovery, multiple device setting and monitoring
- Choice of power input: AC-DC adapter(DC Jack) or DC direct(Terminal Block)
- High security via certificate verification SSL/TLS encryption for serial data transmission,HTTPS,TCPS,MQTTS(firmware V2.0.0 or later)
- Support modbus RTU master,edge computing, modbus gateway,MQTT gateway(firmware V2.0.0 or later)
- Support SNMP V1/V2c(firmware V2.0.0 or later)