

## Model Information



### ■ Features

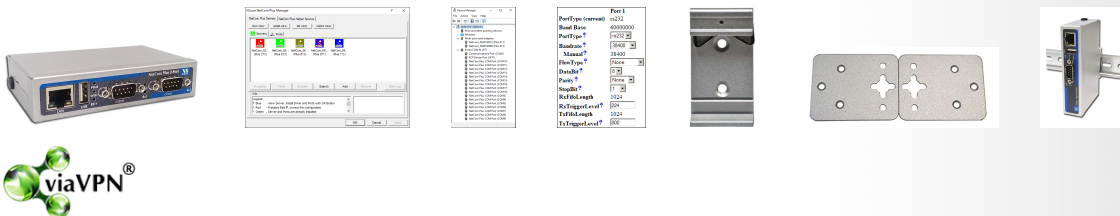
- Controls 2 RS232/422/485 devices located virtually anywhere via Ethernet, WLAN or Internet
- Easy selection of RS232, RS422 or RS485 by single DIP switch or individually by software
- Port expansion over USB A connector
- **New:** Secure Access over Internet by [viaVPN](#)
- LAN 1000/100/10 Ethernet auto-detect
- NetCom Manager automatically finds NetCom+ devices in the network
- Configuration over Driver Panels, serial Port, Telnet, WEB Browser, SNMP
- Automatic mode switching between Driver and Raw Mode
- Supports TCP/IP, UDP, Telnet, DHCP, ICMP, UPnP, HTTP, SNMP V1/2c/3, DNS, PPP, openVPN
- SSL/AES-256 encryption on Ethernet, WLAN and Internet
- Optional: Wireless network IEEE 802.11b/g/n

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# NetCom Plus 213

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### ■ Overview

The NetCom+ 213 is an industrial-strength network-based serial device server for connecting two RS232 devices (or RS485 communication lines) like CNC, PLC, weighting scale, scanner and others directly to a network running TCP/IP. The driver for Windows operating system installs Virtual Com Ports. The network is Gigabit Ethernet or optionally wireless by WLAN 802.11b/g/n.

Implemented in the NetCom+ Servers is an option to use [the viaVPN system](#) for Remote Access and Monitoring over Internet. [viaVPN](#) provides secure and strong encrypted access, without any re-configuration of firewalls. Once installed in the local network the NetCom+ are used exactly as without the option viaVPN. But at the same time the operation can be monitored from remote locations. If the serial port is not occupied by local access, also Virtual Com Port operation is possible from remote.

The NetCom+ Servers use a state-of-the art RISC processor for low power and cost effective design. The 1 and 2 port models are very similar, including the case size. Power supply is via DC adapter.

The serial ports enable data rates of up to 3.7Mbps in RS422/485 or 1000kbps in RS232 modes. The ports also allow every non-standard bitrate up to 150kbps, and many above that (e.g. 1Mbps). See the [FAQ](#).

The USB 2.0 port supports [USB-COM Plus modules](#), to add more non-isolated and also isolated serial ports. The USB port may also connect external WLAN.

NetCom+ can be configured over Driver Panels, WEB Browser, serial Port, Telnet, SNMP and serves as a transparent serial channel without platform and distance limitation. As modern devices the NetCom+ provide encryption for all communication.

## ■ Application

- Secure Remote Monitoring
- SCADA system
- Building automation system
- Self-service banking system
- Industrial / Factory / Laboratory automation
- Automatic warehouse control system
- Wafer fabrication system
- Other remote and distributed serial devices control

## ■ Interface

<b>Ethernet interface</b>	Auto-detecting 1000BaseT/100BaseTx/10BaseT (GigaLAN) Connector 8P8C (RJ45)
<b>Wireless interface</b>	Optional via internal module or external USB stick IEEE 802.11b/g/n operation in Access Point or Client Mode
<b>Protocols</b>	TCP/IP, UDP, Telnet, PPP, DHCP, ICMP, UPnP, HTTP, LPD, SNMP V1/2c/3, DNS, openVPN
<b>No. of serial ports</b>	2x DSUB 9 male connector (as PC) Expandable by <a href="#">USB-COM Plus modules</a>
<b>Serial interface</b>	RS232/422/485 individually selected by software or common by DIP-switch
<b>Available Modes</b>	<ul style="list-style-type: none"><li>• RS232 full duplex</li><li>• RS422 full duplex (120Ω on/off)</li><li>• RS485 4 wire, full duplex (120Ω on/off)</li><li>• RS485 2 wire, half duplex (120Ω on/off)</li></ul> Internal Termination, controlled by operation mode BIAS resistors not required
<b>Signals</b>	<ul style="list-style-type: none"><li>• RS232: TxD,RxD, RTS,CTS, DTR,DSR, DCD, RI, GND</li><li>• RS422: Tx+/-, Rx+/-, GND</li><li>• RS485 2 wire: Data+/-, GND</li><li>• RS485 4 wire: Tx+/-, Rx+/-, GND</li></ul>
<b>RS485 Data control</b>	Controlled by ART (Automatic Receive Transmit control)
<b>USB port</b>	USB 2.0 High Speed, for WLAN and serial port expansion

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## ■ Remote Access

<b>Connect via Internet</b>	The <a href="#">system viaVPN</a> provides secure and easy access to remotely installed devices. The installation is quickly done and provides convenient tools to get access from all locations
<b>Security</b>	All connections use VPN-tunnels encrypted by SSL and AES-256. And even when remote access to a NetCom Plus Server is possible, this does not provide access to the network the Server is installed in.
<b>Firewall friendly</b>	Access to the viaVPN Cloud Servers is done like https protocol in a browser. If web pages can be viewed from a location, access to the Cloud is also possible. No re-configuration of firewalls required.

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## ■ Serial Performance

<b>Speed</b>	RS232: 200 bps to 921.6/1000 kbps RS422/485: 200 bps to 3.7Mbps Supports non-standard baudrates
<b>Parity</b>	None, even, odd, mark, space
<b>Data bits</b>	5, 6, 7, 8
<b>Stop bits</b>	1, 2

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## ■ Operating Modes

<b>Driver Mode</b>	VScom Driver for Windows up to 10, Server up to 2008 R2, both x86 and x64 Editions. The Driver creates a virtual Com port, using VScom NetCom protocol.
<b>Other Modes</b>	TCP Raw Server, TCP Raw Client, Null Modem Tunnel, UDP Mode, Print Server and IP Modem
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<b>■ Power and Environment</b>	
<b>Connector</b>	3-pin Terminal Block with Protective Earth
<b>Power requirements</b>	9 - 54V DC, 0.3A @ 12V, 4W
<b>Dimension</b>	115×73×25 mm <sup>3</sup> (W×L×H)
<b>Operating Temp</b>	-20°C - 65°C
<b>Storage Temp</b>	-20°C - 85°C
<b>Case</b>	SECC sheet metal (1mm)
<b>Weight</b>	0.25kg
<b>Mounting</b>	<ul style="list-style-type: none"> <li>• DIN-Rail (optional)</li> <li>• Wall mount (optional)</li> </ul>
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<b>■ Standards</b>	
<b>Declarations</b>	CE, FCC
<b>EMI</b>	<ul style="list-style-type: none"> <li>• EN 55022 Class B</li> <li>• EN 61000-3-2: Limits of harmonic current emissions</li> <li>• EN 61000-3-3: Limitation of voltage changes</li> <li>• 47 CFR FCC Part 15 Subpart B</li> </ul>
<b>EMS (EN 55024)</b>	<ul style="list-style-type: none"> <li>• EN 61000-4-3: Radiated RFI</li> <li>• EN 61000-4-4: Electrical Fast Transient</li> <li>• EN 61000-4-5: Surge</li> <li>• EN 61000-4-6: Induced RFI</li> <li>• EN 61000-4-8: Power Frequency Magnetic Field</li> <li>• EN 61000-4-11: Power supply dips</li> </ul>
<b>ESD</b>	EN 61000-4-2 4kV contact 8kV air for <ul style="list-style-type: none"> <li>• Serial Ports</li> <li>• USB</li> <li>• Ethernet</li> <li>• DC Power connector</li> </ul>
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<b>■ Special Features</b>	
<b>Installation</b>	For easy installation the configuration utility NetCom Plus Manager automatically finds NetCom+ devices in the network
<b>Operating mode</b>	Automatic mode switching between Driver and TCP RAW Server mode.
<b>Configuration</b>	Configuration over Driver Panels, NetCom Manager, WEB Browser, serial console, Telnet, SNMP
<b>Firewall</b>	Special precautions for Firewall environments
<b>Firmware</b>	Firmware update over WEB Browser
<b>LEDs</b>	LEDs for Power, Ready, WLAN, serial Tx, Rx, Ethernet Link, Speed
<b>UPnP</b>	The NetCom Plus Serial Device Servers announce their presence in the network using the protocol UPnP. This way it is most easy to know the IP Address and to open the web interface for configuration.
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<b>■ Security</b>	
<b>Password access</b>	Every capabilities of configuration use the same password including SNMP V3

## Secure communication

[OpenVPN™](#) SSL tunnel provides security on Ethernet and Internet. The tunnel protects configuration and serial data, especially convenient to use across the Internet. OpenVPN software is available for many systems, including Windows, Linux and Mac OS. Strong encryption by AES up to 256 bit keys.

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## ■ Ordering Information

**6655** NetCom Plus 213 (2x RS232/422/485, expandable)

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## ■ Options

**6679** Activate option [viaVPN](#) for secure remote access over Internet

**6689** WLAN Kit internal  
internal module 802.11b/g/n, pigtail and antenna  
Purchase time option, not for later retrofitting

**6690** WLAN Kit external  
USB stick 802.11b/g/n, antenna

**6031** Power supply adapter 12V DC, 1A

[661](#) Serial Null-Modem adapter 9PF-9PF, change male to female

[663](#) 5-pin Terminal block adapter to DB9 female

[6061](#) RJ45 adapter to DB9 female

**6692** DK-NCP  
DIN-Rail mounting kit

[6693](#) WK-NCP  
Wallmount kit

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## ■ Packaging

### Packing list

- NetCom Plus Serial Device Server
- Terminal block for Power Supply

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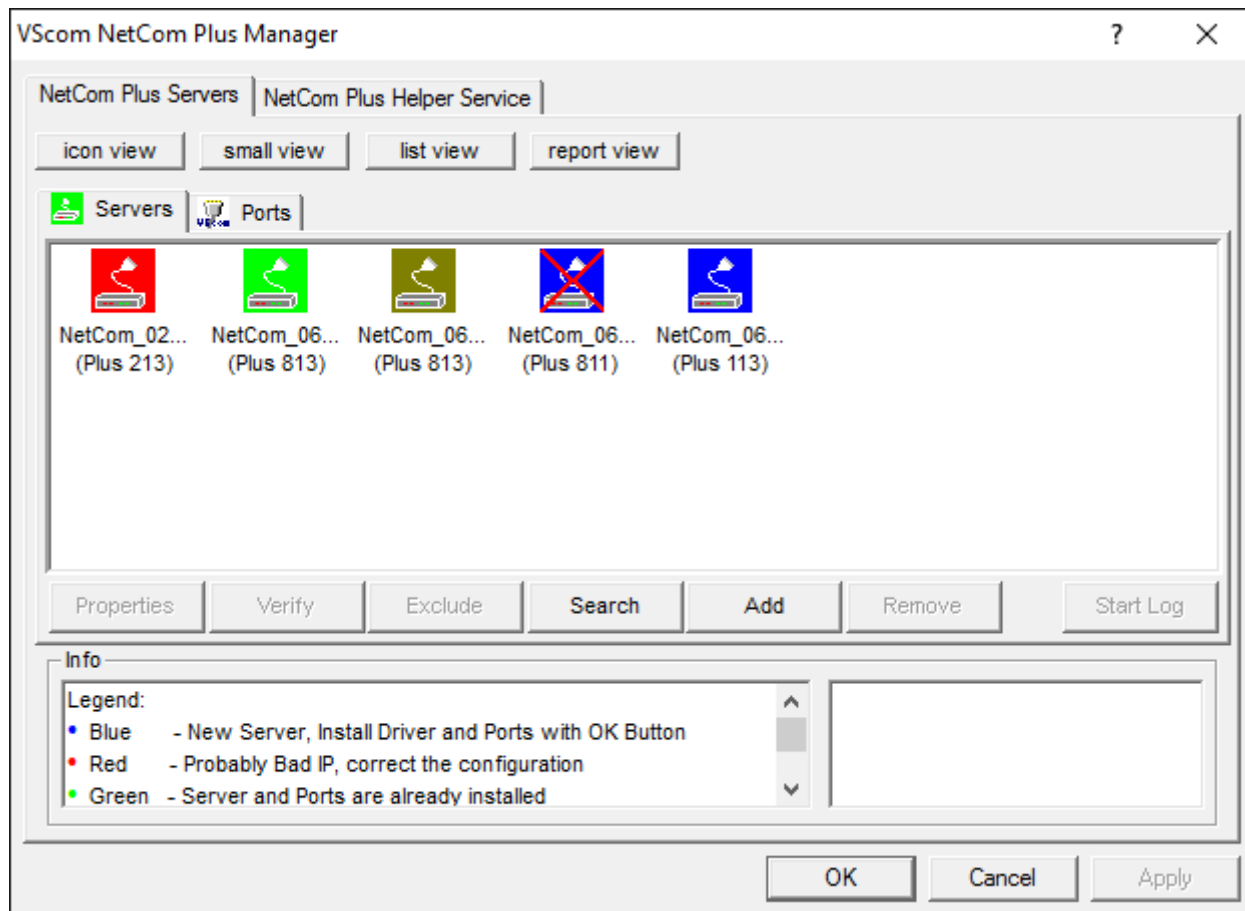
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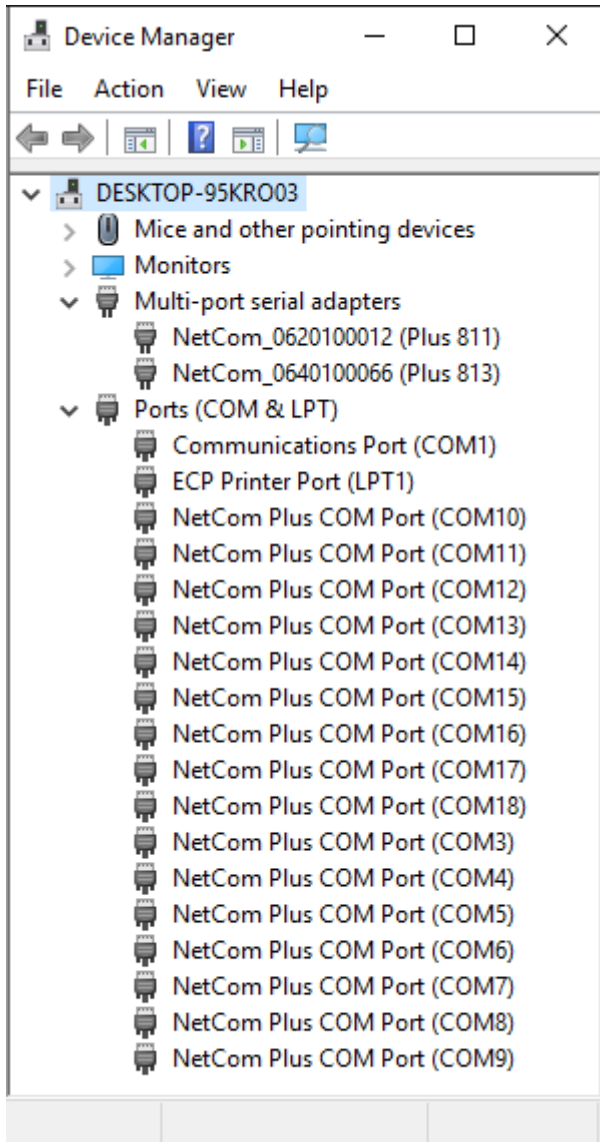
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## NetCom Plus in Device Manager

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## Serial Port in Web Interface

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Port 1	
PortType (current)	rs232
Baud Base	60000000
PortType ?	<input type="text" value="rs232"/>
Baudrate ?	<input type="text" value="38400"/>
Manual ?	38400
FlowType ?	<input type="text" value="None"/>
DataBit ?	<input type="text" value="8"/>
Parity ?	<input type="text" value="None"/>
StopBit ?	<input type="text" value="1"/>
RxFifoLength	1024
RxTriggerLevel ?	<input type="text" value="224"/>
TxFifoLength	1024
TxTriggerLevel ?	<input type="text" value="800"/>

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## Wall Mounting Kit

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