

## Model Information



### ■ Main Features

- Ethernet to serial 4 port RS232
- Virtual Com Port driver for Windows
- Secure Server with latest SSL/AES-256 encryption
- Operation in Driver Mode, TCP/IP and many other
- Quick Configuration over Driver and Browser
- ESD protection on serial ports, Ethernet, DC power
- 19"Rack and Wall mount options
- Optional: Wireless network IEEE 802.11b/g/n
- Optional: 3G/4G Modem for mobile networks
- Optional: Power supply via Ethernet (model POE)
- Port expansion over USB

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# NetCom Plus 411 POE

## (NetCom 411, NetCom 411 PRO)

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### ■ More Pictures



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### ■ Overview

The Ethernet to Serial Gateways NetCom Plus connect RS232 or RS485 devices to a network running TCP/IP. These Serial Device Servers are rugged industrial devices with metal case and wall or 19"-Rack mounting, further supported by ESD protection on serial ports, power input and USB. The NetCom+ 411 provides four RS232 ports.

#### Windows Driver installs Com Ports

The driver for Windows operating system installs Virtual Com Ports. These operate in the same way as built-in ports, but via Ethernet or optional WLAN 802.11b/g/n. Easy-to-use Installation and Management software guides users through the configuration.

#### High Speed Serial Ports, Low Power

The serial ports allow data rates of up to 12Mbps in RS422/485 or 1000kbps in RS232 modes. The ports also allow every non-standard bitrate up to 3.5Mbps, and many more (e.g. 5Mbps). See [FAQ](#). The USB 2.0 port supports [USB-COM Plus modules](#), to add more standard or isolated serial ports. The USB port may also connect external WLAN.

The gateways demand 6W of power or less. The flexible input allows for various sources of customers choice. This includes Power-over-Ethernet in POE-models.

#### Easy Configuration, versatile Operation Modes

NetCom+ are configured over Driver Panels and WEB Browser. This is also possible via serial Port, Telnet or SNMP. NetCom+ provide Driver Mode, TCP/IP or UDP connection, and many operation modes beyond those.

## Secure Remote Access for Monitoring

For NetCom Plus series there is a software option using the viaVPN Cloud system ([www.viaVPN.com](http://www.viaVPN.com)) to be remotely accessed and monitored over Internet. viaVPN provides secure and strongly encrypted access, without any reconfiguration of existing firewalls. The access to the firmware via Ethernet or WLAN is extended by viaVPN over Internet, protected by a VPN tunnel. If the Com ports are not occupied by local access, also remote operation over Internet is possible.

### ■ Ethernet Interface

<b>Speed/Type</b>	100Mbps/10Mbps Auto-detecting
<b>Connector</b>	RJ45 (8P8C) 8 pin
<b>LEDs</b>	Power, WLAN, Ready, Ethernet Link / Speed

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### ■ Serial Interface

<b>No. of Ports/Type</b>	4 × RS232
<b>Connector</b>	DB-9 male
<b>Protection</b>	16kV ESD surge protection
<b>Signals</b>	TxD,RxD, RTS,CTS, DTR,DSR, DCD, GND
<b>Data bits</b>	7, 8
<b>Stop bits</b>	1, 2
<b>Parity</b>	None, Even, Odd, Mark, Space
<b>Flow Control</b>	RTS/CTS, XON/XOFF
<b>Baudrate</b>	200 bps to 921.6/1000 kbps POE version: 200 bps to 460.8/500 kbps Supports non-standard baudrates
<b>LEDs</b>	TxD/RxD for each port

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### ■ Serial Port Expansion

<b>Connector</b>	USB 2.0 High Speed type A, 500mA @5V at rear side Not available on PoE version NetCom Plus 411 POE
<b>Expansion Options</b>	Connect USB-4COM Plus (4 ports) or USB-8COM Plus (8 ports) devices to add more serial ports to NetCom Plus server, even electrically isolated versions

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### ■ Software

<b>Network Protocols</b>	TCP, UDP, Telnet, PPP, DHCP, ICMP, UPnP, HTTP, LPD, SNMP V1/2c/3, DNS, openVPN
<b>Virtual-COM Mode</b>	Driver creates virtual COM ports via NetCom protocol © for Windows XP/7/8/10, Win-Server 2003 to 2008 R2 (x86/x64)
<b>Socket Modes</b>	TCP RAW Server, TCP RAW Client, UDP Mode, Print Server Automatic switching between Virtual-COM and TCP-RAW Server modes.
<b>Tunnel Modes</b>	Null Modem Tunnel and IP Modem
<b>Fixed TTY Drivers</b>	socat Tool, Linux OS

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### ■ Installation & Configuration

<b>Installation</b>	NetCom Plus Manager automatically finds NetCom Plus devices in the local network.
<b>UPnP</b>	With Network discovery enabled NetCom Plus servers announce their presence via UPnP making their IP visible.
<b>Configuration</b>	via WEB-Browser, Driver Panels, NetCom Manager, serial console, Telnet console or SNMP
<b>Firewall</b>	Virtual-COM mode works through firewalls
<b>Firmware Update</b>	via WEB Browser

## ■ Security

<b>Password Protection</b>	for all available configuration options e.g. via WEB-Browser
<b>Secure Server</b>	create openVPN™ tunnels, for encrypted transmission of all serial and configuration data using high security SSL/TLS standards.

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## ■ viaVPN Remote Access (option)

<b>Connect via Internet</b>	<a href="#">viaVPN</a> technology provides easy and secure access to remotely installed NetCom Plus servers for their configuration or for connecting their virtual COM ports through Internet. With the viaVPN option the NetCom Plus servers are no more limited to only work inside of a local network.
<b>Security</b>	All communications use openVPN-tunnels encrypted by SSL/TLS and AES-256 standards.
<b>Firewall friendly</b>	No Reconfiguration of firewalls is required for viaVPN remote access.

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## ■ Wireless interface (option)

<b>Standards</b>	2.4GHz Radio, supports IEEE Std. 802.11b/g/n
<b>WLAN Modes</b>	Access Point (AP) or Client (Station)
<b>TX Power</b>	802.11b: Typ. 15.5dBm ±1.5 dBm @ 1Mbps (DSSS) Typ. 15.5dBm ±1.5 dBm @ 11Mbps (OFDM) 802.11g: Typ. 15.6dBm ±1.5 dBm @ 6Mbps (CCK) Typ. 13.5dBm ±1.5 dBm @ 54Mbps (OFDM) 802.11n: Typ. 13.4dBm ±1.5 dBm @ 6.5Mbps (OFDM) Typ. 13.3dBm ±1.5 dBm @ 150 Mbps(OFDM)

<b>RX Sensitivity</b>	802.11b: -95.6dBm @ 1Mbps, -88dBm @ 11Mbps 802.11g: -91.3dBm @ 6Mbps, -74.2dBm @ 54 Mbps 802.11n: -88.8dBm @ 6.5Mbps (20 MHz), -72dBm @ 72.2Mbps (20 MHz)
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<b>Transmission Rate</b>	802.11b: 11Mbps 802.11g: 6 to 54Mbps 802.11n: 6.5 to 150Mbps
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<b>Transmission Distance</b>	Up to 100m in open areas
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<b>Wireless security</b>	<ul style="list-style-type: none"><li>• WEP</li><li>• WPA</li><li>• WPA2</li><li>• WPA2-Enterprise (IEEE 802.1X/RADIUS)</li></ul>
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<b>Antenna Connector</b>	RP (Reverse-Polarity) SMA
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## ■ 3G/4G Modem Interface (option, not on POE version)

<b>mPCIe Slot</b>	Built-in internal Mini PCI Express Slot connected to USB 2.0 HS 3.3V at mPCIe slot is switched ON/OFF via firmware to securely reset 3G/4G modems
<b>SIM Slot</b>	Built-in internal SIM Card slot
<b>3G/4G Modems</b>	Different 3G/4G Modem models are supported by NetCom Plus firmware

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## ■ Power Requirements

<b>Input Voltage</b>	9 - 54V DC POE: 15 - 54V DC
<b>Power Consumption</b>	0.3A @ 12V, 4W max POE: 0.4A @ 19V, 8W max
<b>Connector</b>	3-pin Terminal Block
<b>Power over Ethernet</b>	PoE Class 0 Device, IEEE 802.3.af, 8W max. Automatic switch between PoE and local power for POE Version only

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## ■ Housing and Mounting

<b>Case</b>	0.8mm sheet metal
<b>Weight</b>	w/o box 0.9kg; w/h box 1.5kg
<b>Dimensions</b>	196×147×44 mm <sup>3</sup> (W×L×H)
<b>Packaged</b>	310×192×60 mm <sup>3</sup>
<b>Mounting</b>	<ul style="list-style-type: none"><li>• 19-inch Rack</li><li>• Wall mount</li></ul>

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## ■ Environmental Data

<b>Operating Temp</b>	-20°C - 65°C
<b>Storage Temp</b>	-20°C - 85°C
<b>Ambient Humidity</b>	5-95% non condensing

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## ■ Standards

<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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## ■ MTBF (Mean Time Between Failures)

<b>MTBF</b>	24.8 Years @ 25°C 9.9 Years @ 45°C
<b>MTBF POE version</b>	23.6 Years @ 25°C 9.4 Years @ 45°C
<b>Standard</b>	Telcordia (Bellcore) Standard; RelCalc. 5.0 BELL-7

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## ■ Warranty

<b>Warranty Period</b>	2 years
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## ■ Ordering Information

**6670**

NetCom Plus 411 (4x RS232, expandable)

**6671**

NetCom Plus 411 POE (4x RS232, supply via Ethernet)

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#### ■ Options

**6031**

Power adapter 110-230V AC to 12V @1A, DC, EU plug

**6034**

Power adapter 110-230V AC to 12V @1A, DC, US plug

**6030**

Power adapter 110-230V AC to 15V @1A, DC, EU plug

**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

**3304**

3G-Modem GSM/UMTS/HSDPA for mPCIe incl. IPEX cable & SMA Antenna

**6061**

DB9F-to-RJ45 for changing from DB9 to CAT5 wiring  
(Optimised for RS422/485 operating modes)

**6062**

RJ45-to-DB9M for changing back from CAT5 to DB9 wiring  
(Required to match the DB9 pinout at NetCom Plus)

**661**

Serial Null-Modem adapter 9PF-9PF, change male to female

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#### ■ Packaging

##### Packing list

- NetCom Plus Serial Device Server
- Terminal block for Power Supply
- 19-inch Rack Mounting brackets
- Wall mounting kit

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## NetCom Plus back side

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## External WLAN (demonstrated on Baltos iR 2110)

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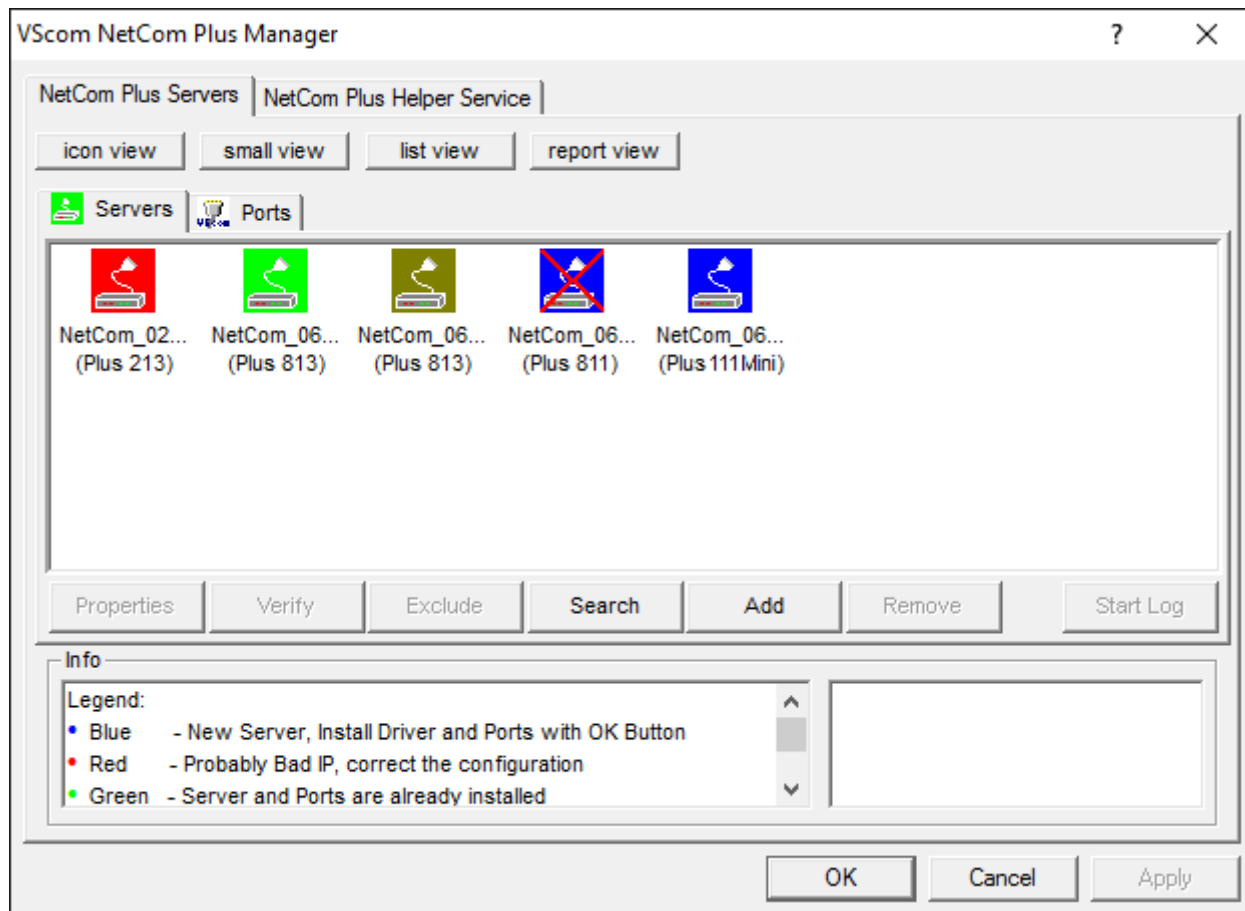
## Rackmount Kit

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# NetCom Plus Manager

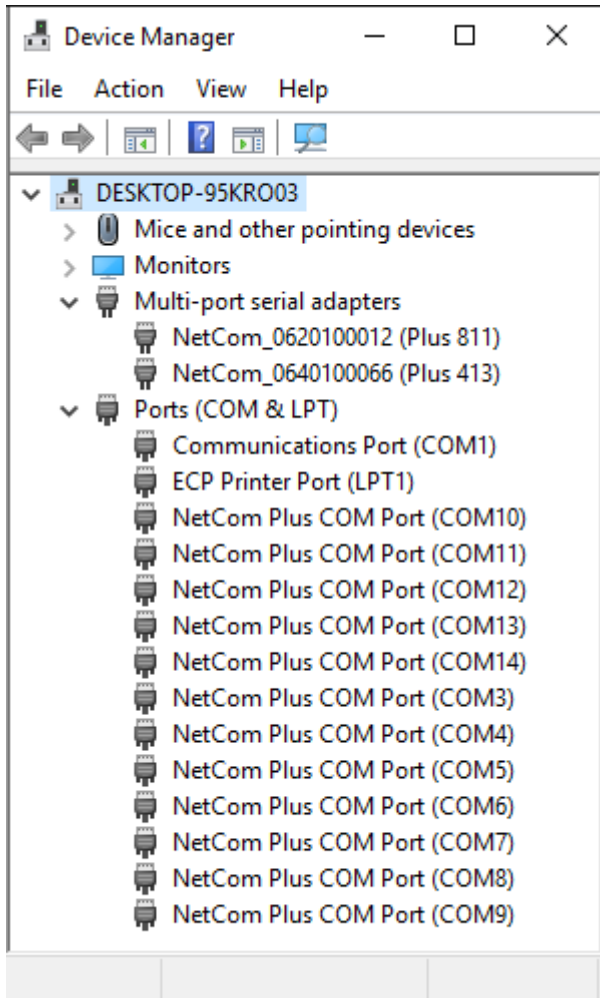
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## Serial Port in Web Interface

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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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## Remote Access option

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(2018 Jan 17)