

Model Information



■ Main Features

- USB 2.0 to 16 x RS232/422/485
- High-Speed serial ports 921.6kbps
- Driver for Windows, Linux, Mac OS X
- LEDs for Power and TxD/RxD activity
- ESD protection on USB and serial ports
- 2.5kV electrical isolation (ISO version only)
- Bus powered (4P), self powered (8P)
- Wide range of power input 9 - 54V DC
- Metal housing
- 19-inch rack and wall mounts
- Wide range of operating temperatures

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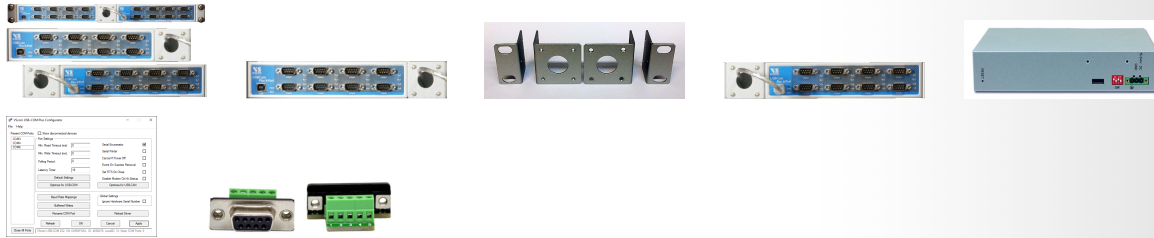
USB-16COM Plus

USB-16COM Plus ISO

(USB-16COM-RM, USB-16COMi-RM)

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■ More Pictures



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■ Overview

The USB-16COM Plus provides easy serial port expansion over USB 2.0 connecting to high speed RS232 or RS422/485 devices. The device is fully ESD and surge protected, bus powered and accommodated in a ruggedized metal housing. Furthermore, it can operate across a large range of temperature levels to cope with harsh operating conditions. The ISO version is 2.5kV electrically isolated to withstand unbalanced ground loops that arise in hazardous industrial environment. Lastly, both DIN-Rail and wall-mounting options are available.

Flexible Three-Way Serial Ports

The serial ports allow different operating modes — which are easily configured via a single DIP switch — to fully support RS232, RS422 and RS485 protocols. The operating mode of serial ports chosen via DIP switch is either same for all ports or individually for each port by "USBCOM Configuration Utility" software. The differential line termination for RS485 (120Ω) is automatically controlled by choosing the appropriate operating mode. High/Low biasing resistors are not needed; as such, hassle-free usage is guaranteed for the user.

Models marked with "232" are fixed to the RS232 mode. Com Port drivers are available for Windows, Linux and Mac OS X. A configuration tool allows easy access to special Windows driver options.

High Speed and Isolation

USB 2.0 High Speed connection allows serial data rates of up to 12Mbps for RS422/485 and 921.6kbps for RS232. Every non-standard bitrate (e.g. 500kbps) can easily be set up in the range of up to 3.5Mbps.

USB-xCOM Plus adapters are 16kV ESD and surge protected at USB and serial ports interfaces. Additionally, the serial ports are 2.5kV electrically isolated (ISO version only), making them ideal for deployment in harsh industrial environments.

Power and Port Expansion

Multiple USB-xCOM Plus devices can be concatenated via the USB Type A at the rear side, creating up to 32 serial ports. In concatenated configuration, the local power input of each expansion module must be used.

Standard drivers are available for all major operating systems.

The USB 2.0 High-Speed enables serial data rates of up to 1000kbps in RS232. The device also allows every non-standard bitrate up to max. speed.

A USB-out (type A) connector at the rear side allows easy expansion of serial ports by simple concatenation of further USB-COM Plus modules; we call it "USB-Through" feature.

The really small and robust embedded system! Low Power Consumption, Professional construction inside!

■ USB Interface

USB-Input	USB 2.0 High Speed, USB 1.1 compliant
Connector	USB type B

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■ Serial Interface

No. of Ports/Type	16 x RS232/422/485 configurable by DIP switch and software
Connector	DB-9 male

Protection	<ul style="list-style-type: none">• 16kV ESD surge protection• 2.5kV Electrical isolation on ISO version
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Operating Modes	<ul style="list-style-type: none">• RS232• RS422 full duplex (120Ω on/off)• RS485 4 wire, full duplex (120Ω on/off)• RS485 2 wire, half duplex (120Ω on/off)
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The single DIP switch at rear side configures all ports in the same operating mode or individually via software:

Configuration	<ul style="list-style-type: none">• Windows: using "VScom USB Configurator" Utility• All OS: using Terminal emulation
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The operating mode controls termination.
No High/Low biasing resistors needed

Signals non-ISO	<ul style="list-style-type: none">• RS232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND• RS422: Tx+/-, Rx+/-, GND• RS485 4-wire: Tx+/-, Rx+/-, GND• RS485 2-wire: Data+/-, GND
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Signals ISO	<ul style="list-style-type: none">• RS232: TxD, RxD, RTS, CTS, GND• RS422: Tx+/-, Rx+/-, GND• RS485 4-wire: Tx+/-, Rx+/-, GND• RS485 2-wire: Data+/-, GND
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All signals isolated for 2.5kV

RS485 Data Direction Control	ARTc (Automatic Receive Transmit control)
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Data Bits	7, 8
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Stop Bits	1, 2
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Parity	None, Even, Odd, Mark, Space
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Flow Control	RTS/CTS, XON/XOFF
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Baudrate	<ul style="list-style-type: none">• RS232: 180bps - 921.6/1000kbps• RS422: up to 12Mbps• RS485: up to 12Mbps
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LEDs	TxD/RxD for each port
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■ Serial Port Expansion

Connector	USB 2.0 High Speed type A, 500mA @5V at rear side
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Expansion Ports	connect USB-xCOM Plus to add more serial ports, also electrically isolated
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■ Software

Drivers

- Windows 2000 to Windows 10 (x86 and x64)
- Windows Server 2000 to 2012 (x86 and x64)
- Linux (Kernel 2.6 and later built-in)
- Mac OS X

Installation

The driver is already installed (Linux), or installs by automatic Download after Device connection (Windows).

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■ Power Requirement

Input Voltage

9-54V Dcin

Power Consumption

Self powered: DCin 9 - 54V, 10W
Sum of both USB-8COM Plus modules
Plus 3W for Port Expansion

Connector

- Bus powered: USB Type B, no external supply
- Self powered: 3-Pin Terminal Block

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■ Housing and Mounting

Case

0.8mm sheet metal

Weight

1.9kg

Dimensions

437×147×44 mm³ (W×L×H)

Mounting

19-inch Rack

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■ Environmental Data

Operating Temp

-25°C - 75°C

Storage Temp

-30°C - 85°C

Ambient Humidity

5-95% non condensing

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■ Standards and Certifications

Declarations

CE, FCC

EMI

- EN 55022 Class B
- EN 61000-3-2: Limits of harmonic current emissions
- EN 61000-3-3: Limitation of voltage changes
- 47 CFR FCC Part 15 Subpart B

EMS (EN 55024)

- EN 61000-4-3: Radiated RFI
- EN 61000-4-4: Electrical Fast Transient
- EN 61000-4-5: Surge
- EN 61000-4-6: Induced RFI
- EN 61000-4-8: Power Frequency Magnetic Field
- EN 61000-4-11: Power supply dips

ESD

EN 61000-4-2 4kV contact 8kV air for

- Serial Ports
- USB
- DCin Power connector

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■ MTBF (Mean Time Between Failures)

MTBF

available soon

Standard

Telcordia (Bellcore) Standard; RelCalc. 5.0 BELL-7

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■ Warranty

Warranty Period

2 years

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■ Ordering Information

624

USB-16COM Plus consists of

- 2 x USB-8COM Plus (8x RS232/422/485, non-isolated, expandable)
- 1 x RK-NCP Mounting kit

625

USB-16COM Plus ISO consists of

- 2 x USB-8COM Plus ISO (8x RS232/422/485, isolated, expandable)
- 1 x RK-NCP Mounting kit

6624

USB-16COM Plus 232 consists of

- 2 x USB-8COM Plus 232 (8x RS232, non-isolated, expandable)
- 1 x RK-NCP Mounting kit

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■ **Options**

6031

DC Power supply adapter 12V @ 1A

[663](#)

DB9F-to-TB/5Pins for free wiring option

[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 USB-xCOM Plus)

[661](#)

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

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■ **Packaging**

Packing list

- 2x USB-8COM Plus devices
- 2x USB 2.0 High-Speed cable
- 1x RK-NCP Mounting kit for 19-inch rack
- 2x Terminal block for Power Supply
- 8 rubber feet for table mode

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USB-16COM Plus
USB-16COM Plus ISO

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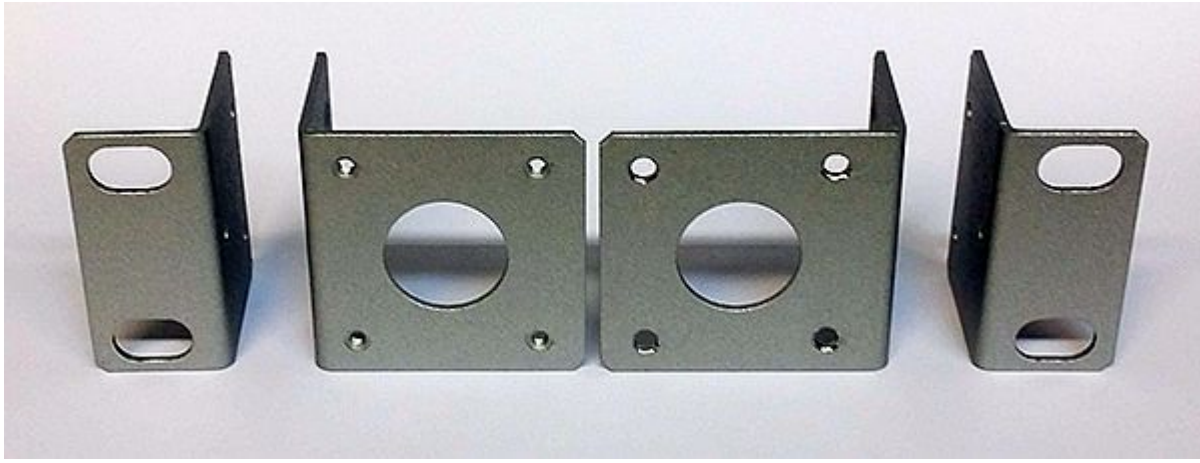
USB-16Com Plus Left Part=USB-8Com Plus

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RK-NCP

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USB-16Com Plus Right Part=USB-8COM Plus

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USB-8COM Plus back side

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USB-COM Plus Configurator

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VScom USB-COM Plus Configurator

File Help

Present COM-Ports Show disconnected devices

COM3
COM4
COM6

Port Settings

Min. Read Timeout (ms): Serial Enumerator

Min. Write Timeout (ms): Serial Printer

Polling Period: Cancel If Power Off

Latency Timer: Event On Surprise Removal

Set RTS On Close

Disable Modem Ctrl At Startup

Default Settings

Optimize for USB-COM

Optimize for USB-CAN

Baud Rate Mappings

Buffered Writes

Rename COM Port

Global Settings

Ignore Hardware Serial Number

Reload Driver

Refresh OK Cancel Apply

Close All Ports VScom USB-COM 232, SN: DN6NP3AA, ID: 4036015, LocalID: 31; Open COM Ports: 0

Terminal Block Adapter

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