

## Model Information



### ■ Main Features

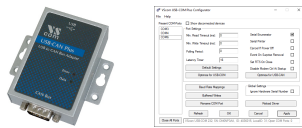
- Connects CAN-Bus via USB
- Supports CAN 2.0A / 2.0B, up to 1 Mbit/s
- CANopen supported by CANFestival
- SAE J1939 protocol supported by Vscom's J1939 API
- Drivers for Windows, Linux and Mac OS X
- LEDs for CAN and Error
- 16kV ESD surge protection
- 2.5kV electrical isolation (ISO version only)
- DIN-Rail and wall mountable
- Small metal case

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## USB-CAN Plus ISO (Vscom USB-CAN, Vscom USB-CAN ISO)

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### ■ More Pictures



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### ■ Overview

USB-CAN Plus is an USB to CAN Bus 2.0A/B adapter. Higher layer protocols, such as CANopen, can be assembled using the available development tools for complex automation control applications. Its low power consumption (0.5W typical), its extended temperature range (−20°C - +70°C), and the solid MTBF (23 Years at 45°C) make it an ideal system for industrial automation. A small footprint metal case, available with a DIN-Rail mounting option, makes the device flexible and convenient to use.

### Usage Options

USB-CAN Plus provides various software tools to interface each level of user applications:

- The ASCII conversion protocol is handy for developing and testing any CAN-BUS configuration. Users simply connect using the virtual COM port, setting up a straightforward way to talk to the CAN controller. The device can also be used to manually transmit and receive CAN frames.
- Applications programmed by users should use the VScan API library (DLL), which handles the communication and ASCII conversion for the CAN frames in a transparent manner. In their applications, programmers have to handle only the CAN frames and status information, without taking care of the ASCII conversion. The VScan API is supported in C/C++, C#, VB.NET, Delphi and LabVIEW. Under Linux SocketCAN can be used as alternative to the VScan API. All VScom CAN devices support the standard Serial Line CAN (slcan) driver.

- The USB-CAN Plus series also supports CANFestival, an Open Source CANopen Framework. CANopen is a CAN-based higher layer protocol that is used in various application areas to unburden the developer from dealing with CAN-specific details. CANopen provides standardised communication objects for real-time data, configuration data, as well as network management data.
- The SAE J1939 protocol, resting upon the CAN hardware layer, is commonly used in the commercial vehicle area. A lot of other modern protocols are based on it, like NME200, ISOBUS, MilCAN or FMS. Vscom's J1939 API also includes support for the so called Transport Protocol, which will bypass the limit of 8 data bytes per message. It's available on J1939-enabled devices. Supports Windows, Linux, .NET [read more ...](#)

## ESD protection and electrical Isolation

For usage in hazardous industrial environments, the CAN-Bus interface and USB port are  $\pm 16\text{kV}$  (air) and  $\pm 8\text{kV}$  (contact) ESD surge protected. Because noisy CAN-Bus connections with unbalanced ground loops could seriously damage the equipment, an ISO version is available and offers 2.5kV electrical isolation.

### ■ USB Interface

<b>USB-Input</b>	USB 2.0 Full Speed, USB 1.1 compliant
<b>Connector</b>	USB type B
<b>Driver</b>	Virtual COMs, 3Mbit/s max
<b>Operating Systems</b>	<ul style="list-style-type: none"> <li>• Windows 2000 up to Windows 10</li> <li>• Windows Server 2000 up to 2012</li> <li>• Linux kernel 2.6+</li> <li>• Mac OS X support available</li> </ul>
<b>Installation</b>	The driver is already installed (Linux), or installs by automatic Download after Device connection (Windows).
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### ■ CAN Bus

<b>No. of Ports/Type</b>	1 × CAN Bus
<b>Connector</b>	DB9 male
<b>Protection</b>	<ul style="list-style-type: none"> <li>• 16kV ESD surge protection</li> <li>• 2.5kV Electrical isolation on ISO version</li> </ul>
<b>Signals</b>	CAN_H, CAN_L, CAN_GND
<b>Speed</b>	CAN 2.0A / 2.0B 1Mbit/s
<b>Controller</b>	SJA1000 (NXP)
<b>Transceiver</b>	SN65HVD233 (Texas Instruments)
<b>LED</b>	CAN-Data, CAN-Error
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### ■ Software

<b>VSCAN API</b>	<ul style="list-style-type: none"> <li>• Unified API for control all VScom CAN-Adapters.</li> <li>• Supported OS: Windows, CE, Linux (x86, x86-64, ARM) targets.</li> <li>• Supported Dev.Env: C/C++, C#, VB.NET, Delphi and LabVIEW.</li> </ul>
<b>Linux OS</b>	Supports SocketCAN (slcan driver) since kernel 3.4+ Also see <a href="#">this FAQ</a>
<b>CANopen</b>	Open source CANfestival framework fully implements CANopen functionality.
<b>SAE J1939</b>	Automotive protocol suite supported by Vscom's J1939 API. Supports NME200, ISOBUS, MilCAN and FMS protocols for Windows, Linux and .NET
<b>Monitoring Tools</b>	Bosch BUSMASTER v3.2.0 and above

<b>Data Coding</b>	ASCII format
<b>CAN Modes</b>	Standard Mode Normal operation on CAN bus
	Listen Mode Passive receive of CAN Frames, neither ACK bits nor Error Frames are sent
	Self Reception (Echo Mode) For testing: Transmitted Frames are also received by the adapter
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<b>■ Power Requirement</b>	
<b>Input Voltage</b>	5V (USB)
<b>Power Consumption</b>	max 80mA @ 5V, 400mW
<b>Connector</b>	USB Type B, bus powered, no external supply
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<b>■ Housing and Mounting</b>	
<b>Case</b>	0.8mm sheet metal
<b>Weight</b>	w/o box 150g; w/h box 200g
<b>Dimensions</b>	50×72×22 mm <sup>3</sup> (W×L×H) Case 72×72×22 mm <sup>3</sup> (W×L×H) with mounting wings
<b>Packaged</b>	85×122×55 mm <sup>3</sup>
<b>Mounting</b>	<ul style="list-style-type: none"> <li>DIN-Rail (optional)</li> <li>Wall mount</li> </ul>
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<b>■ Environmental Data</b>	
<b>Operating Temp</b>	-25°C - 75°C
<b>Storage Temp</b>	-30°C - 85°C
<b>Ambient Humidity</b>	5-95% non condensing
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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>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>	IEC 61000-4-2 4kV contact 8kV air for <ul style="list-style-type: none"> <li>CAN Bus Port</li> <li>USB</li> </ul>
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<b>■ MTBF (Mean Time Between Failures)</b>	
<b>MTBF</b>	23 Years at 45°C
<b>Standard</b>	Telcordia (Bellcore) Standard; RelCalc. 5.0 BELL-7
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<b>■ Warranty</b>	
<b>Warranty Period</b>	2 years
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<b>■ Ordering Information</b>	

**427**

USB-CAN PLUS

**430**

USB-CAN PLUS ISO

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DK 35A DIN-Rail mounting kit

**412**

Purchase-time option to enable protocol J1939

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- USB-CAN PLUS
- High-Speed USB cable
- Rubber Feet

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## USB-COM Plus Configurator for USB-CAN Plus

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The screenshot shows the 'VScom USB-COM Plus Configurator' window. It features a menu bar with 'File' and 'Help'. On the left, a list of 'Present COM-Ports' includes COM3, COM4, and COM6, with COM6 selected. A 'Show disconnected devices' checkbox is present. The main area is divided into 'Port Settings' and 'Global Settings'. 'Port Settings' includes input fields for 'Min. Read Timeout (ms)', 'Min. Write Timeout (ms)', 'Polling Period', and 'Latency Timer', along with checkboxes for 'Serial Enumerator', 'Serial Printer', 'Cancel If Power Off', 'Event On Surprise Removal', 'Set RTS On Close', and 'Disable Modem Ctrl At Startup'. There are buttons for 'Default Settings', 'Optimize for USB-COM', and 'Optimize for USB-CAN'. 'Global Settings' includes a checkbox for 'Ignore Hardware Serial Number' and a 'Reload Driver' button. At the bottom, there are 'Refresh', 'OK', 'Cancel', and 'Apply' buttons, and a status bar showing 'VScom USB-COM 232, SN: DN6NP3AA, ID: 4036015, LocalID: 31; Open COM Ports: 0'.

VScom USB-COM Plus Configurator

File Help

Present COM-Ports  Show disconnected devices

COM3  
COM4  
COM6

Port Settings

Min. Read Timeout (ms): 0

Min. Write Timeout (ms): 0

Polling Period: 0

Latency Timer: 16

Serial Enumerator

Serial Printer

Cancel If Power Off

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

(2021 Mar 19)