

# User Manual

Revision 2.011  
English

## USB / RS485 - Converter

(Order Code: HD67119)

### Benefits and Main Features:

Ready to use USB 2.0

Electrical isolation between PC and RS485 bus.

SCADA/HMI and the connection to a Personal Computer.



Easy plug-and-play installation.



Installed as a standard COM port



Compatible with:



Windows 98/ME/2000/XP/Vista/Seven/8 Linux (kernel



2.4.20 or greater) Mac-OS, Windows CE (ver 4.2 and



later required)



MAX baud rate 115kb.



Similar  
Products



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**UPDATED DOCUMENTATION:**

Dear customer, we thank you for your attention and we remind you that you need to check that the following document is:

- Updated
- Related to the product you own

To obtain the most recently updated document, note the "document code" that appears at the top right-hand corner of each page of this document.

With this "Document Code" go to web page [www.adfweb.com/download/](http://www.adfweb.com/download/) and search for the corresponding code on the page. Click on the proper "Document Code" and download the updates.

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**REVISION LIST:**

Revision	Date	Author	Chapter	Description
2.001	05/09/2007	Av	All	Revision
2.002	15/07/2009	MI	All	Revision
2.003	06/04/2010	Ft	All	Revision
2.010	19/06/2012	Fl	All	New driver version
2.011	13/02/2013	Nt	All	Added new chapters

**WARNING:**

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**TRADEMARKS:**

All trademarks mentioned in this document belong to their respective owners.

**SECURITY ALERT:****GENERAL INFORMATION**

To ensure safe operation, the device must be operated according to the instructions in the manual. When using the device are required for each individual application, legal and safety regulation. The same applies also when using accessories.

**INTENDED USE**

Machines and systems must be designed so the faulty conditions do not lead to a dangerous situation for the operator (i.e. independent limit switches, mechanical interlocks, etc.).


**QUALIFIED PERSONNEL**

The device can be used only by qualified personnel, strictly in accordance with the specifications.

Qualified personnel are persons who are familiar with the installation, assembly, commissioning and operation of this equipment and who have appropriate qualifications for their job.

**RESIDUAL RISKS**

The device is state of the art and is safe. The instrument can represent a potential hazard if they are inappropriately installed and operated by personnel untrained. These instructions refer to residual risks with the following symbol:

 This symbol indicates that non-observance of the safety instructions is danger for people to serious injury or death and / or the possibility of damage.

**CE CONFORMITY**

The declaration is made by us. You can send an email to or give us a call if you need it.

**CONNECTION SCHEME:**

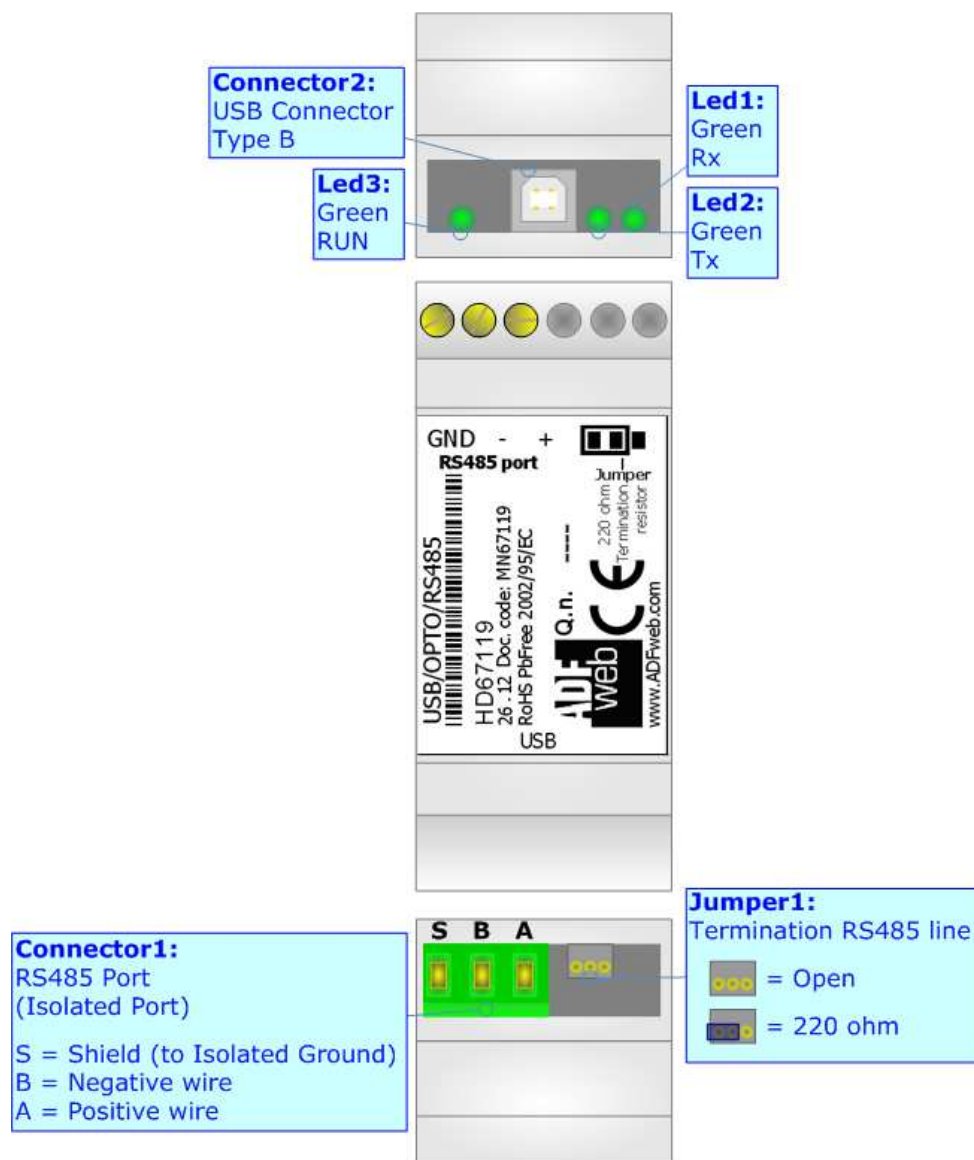


Figure 1: Connection scheme for HD67119

**CHARACTERISTICS:**

This device allows the following characteristics:

- It allows an RS485 serial port to be added directly to the USB port of a PC;
- It allows an RS485 serial port to be added to a USB port on the computer also through a HUB USB;
- You can connect it directly to serial 485 lines without adding a converter;
- It includes optical isolation up to 2000 DC volts. This protects your computer/notebook from possible line disturbances;
- There are no conflicts between the IRQ, DMA and computer memory;
- It is automatically recognized and installed by connecting the device to the PC;
- Temperature range -40°C to 70°C.


**FIELD APPLICATIONS:**

Industrial contexts: SCADA, HMI, PLC etc.


SOHO (Small Office Home Office) contexts for bar code readers, access points, etc.

Industrial contexts for controlling machinery, interfacing between devices, etc.

**DRIVERS:**

 For the devices with Date Code less than 20.10, so purchased before the 20/05/2010 is necessary to use the drivers downloadable at:

[www.adfweb.com/download/filefold/SW67119\\_old.zip](http://www.adfweb.com/download/filefold/SW67119_old.zip).

 For the devices with Date Code from 20.10, so purchased from the 20/05/2010 is necessary to use the drivers downloadable at:

[www.adfweb.com/download/filefold/SW67119.zip](http://www.adfweb.com/download/filefold/SW67119.zip).

**INSTALLATION DRIVER WINDOWS 2000/XP:**

You have to install the drivers the first time you use USB to RS485 on a PC. The drivers are available on our website ([www.adfweb.com](http://www.adfweb.com)) for Windows(98/ME/2000/XP), MacOS-8 or higher and for WinCE 4.2 or higher. Instead, Linux with Kernel 2.4 or higher are already installed. So, the first step is to download the drivers from our site.

These are the steps to follow to install the drivers on the Windows XP System:

1. Connect the RS485 USB to the computer's port with a standard USB cable;
2. At this point, the Operating System recognizes the presence of a new USB device (Fig. 2);
3. Select "Install from a list or specific location (Advanced)" and press the button "Next >" (Fig. 3);



Figure 2: Connection of HD67119



Figure 3: "Found New Hardware Wizard" window

4. Leave the “Include this location in the search:” box checked and insert the folder where the drivers were formerly downloaded from the site [www.adfweb.com](http://www.adfweb.com) (or select by pushing the button “Browse”); then push the button “Next >” (Fig. 4) and wait for the installation of the software (Fig. 5);

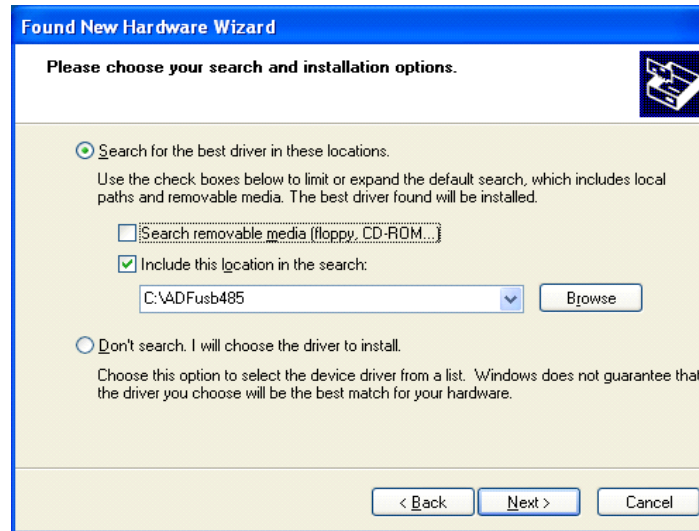


Figure 4: “Found New Hardware Wizard” window

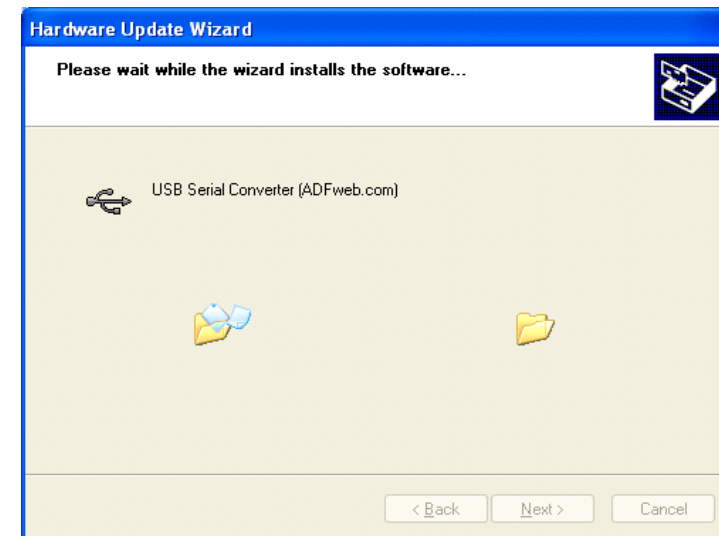


Figure 5: “Hardware Update Wizard” window

- At this point of the installation the window "Hardware Installation" appears. Press the "Continue Anyway" button to continue (Fig. 6);



Figure 6: "Hardware Installation" window

- The installation of the drivers is finished (Fig. 7);



Figure 7: "Hardware Update Wizard" window



7. Now you should install the USB Serial Port (ADFweb.com) driver (Fig. 8);

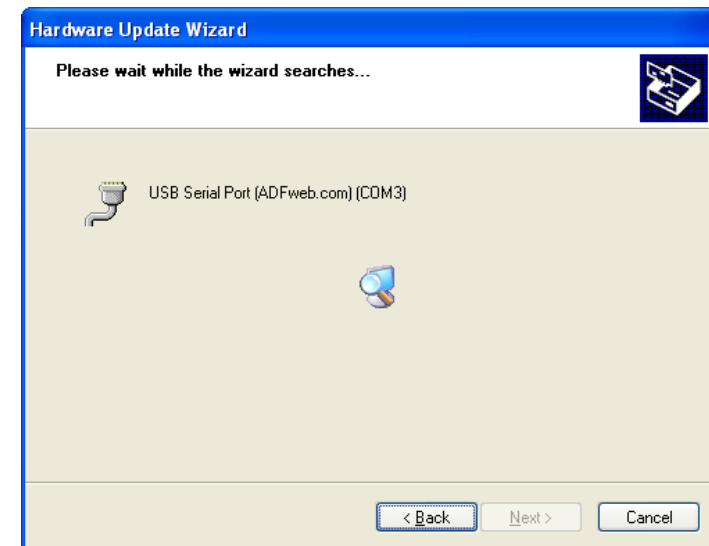


Figure 8: "Hardware Update Wizard" window

8. In the "Hardware Installation" window press the "Continue Anyway" button (Fig. 9);



Figure 9: "Hardware Installation" window

9. The installation of the USB Serial Port (ADFweb.com) drivers is finished (Fig. 10).

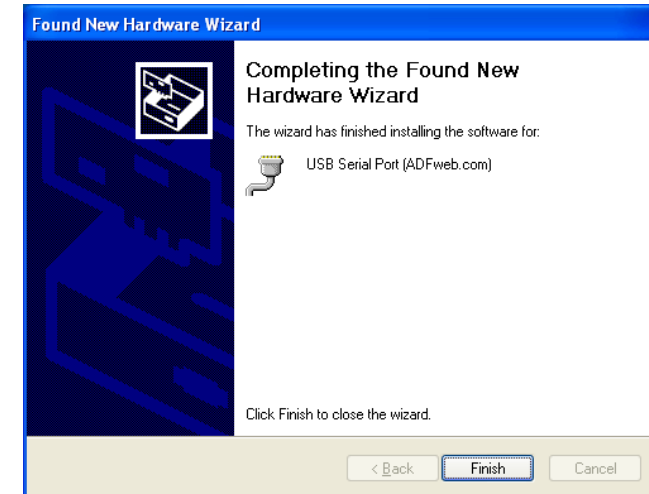


Figure 10: "Found New Hardware Wizard" window

## CHECKING FOR THE CORRECT INSTALLATION OF THE DEVICE:

You can use the utility "Computer Management" in Windows XP to check whether the driver installation was performed correctly.

Follow these steps:

1. Open the "Control Panel";
2. Double click on "Administrative Tools";
3. Double click on "Computer Management";
4. Click on "Device Manager", that you find on the left of the window;
5. Click on the plus sign "+" of the "Ports (COM & LPT)" on the right side of the window;
6. Check that there is another USB COM port. The installed port is treated like a common 232 serial port. The description is "USB Serial Port (ADFweb.com)".

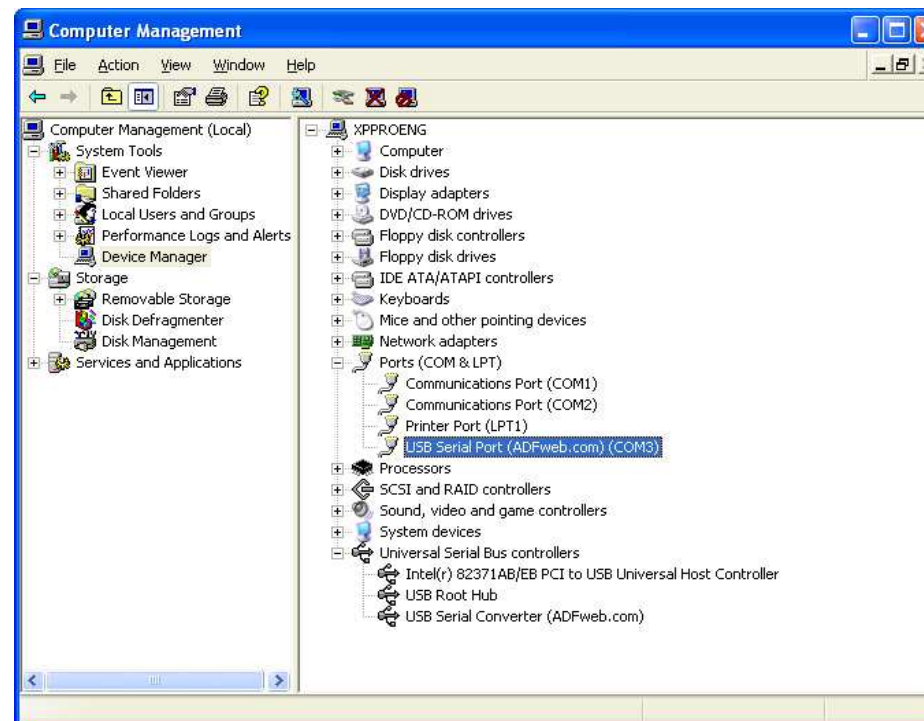


Figure 11: "Computer Management" window

### INSTALLATION DRIVER WINDOWS CE.NET 4.2 OR LATER:

To install Virtual Com Port drivers for HD67119 USB to RS485 device under Windows CE 4.2 or later, follow the instructions below:

- Download the latest available drivers from the ADFweb.com site and unzip them. If your processor model is not listed, please e-mail ADFweb support with your target processor model;
- The critical files in the driver package are:
  - ftdi\_ser.dll - the VCP driver file;
  - FTDIPOINT.inf - user changeable file to allow devices with custom VID and PID combinations to be installed.
- Copy all the unzipped files to the \\Windows directory on the PDA;
- If the PDA requires a host adaptor (e.g. USB host cable, presentation pack or Compact Flash host card), make sure that it is connected and installed before proceeding;
- Connect the HD67119 Usb to RS485 device to a host USB port on the PDA. This will provide a dialog box to direct Windows CE to the driver files;
- Type the full name of the VCP driver file into the dialog box as shown below. If the file name is incorrect, the driver will not be found and the device will not function;
- The device installation is now complete.



Figure 12: "Unidentified USB" window

**RS485 PORT:**

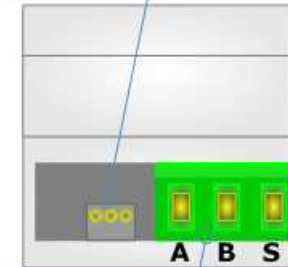
For terminate the RS485 line with a 220Ω resistor it is necessary that the 'Jumper1' is like the label over the device.

The maximum length of the cable should be 1200m (4000 feet).

Here some codes of cables:

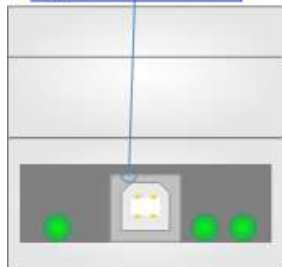
- Belden: p/n 8132 - 2x 28AWG stranded twisted pairs conductor + foil shield + braid shield;
- Belden p/n 82842 - 2x 24AWG stranded twisted pairs conductor + foil shield + braid shield;
- Tasker: p/n C521 - 1x 24AWG twisted pair conductor + foil shield + braid shield;

Tasker: p/n C522 - 2x 24AWG twisted pairs conductor + foil shield + braid shield.



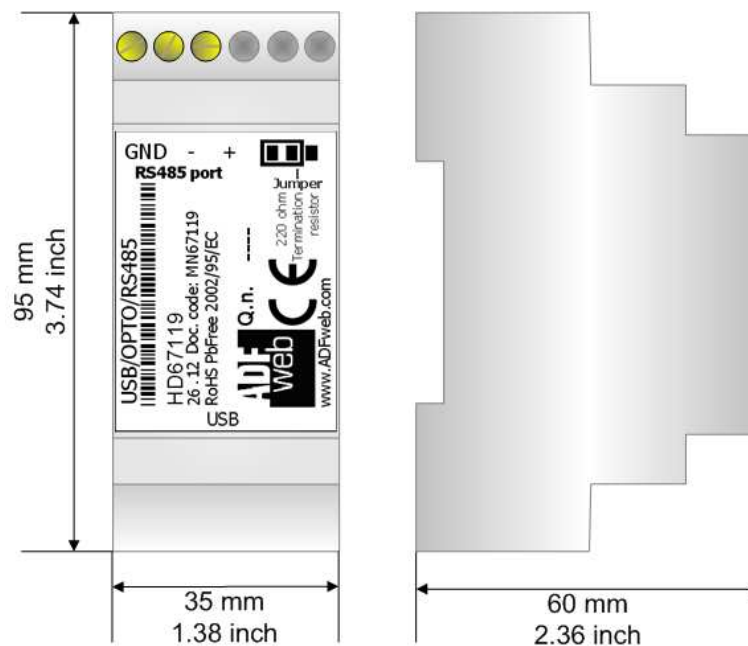
**USB PORT:**

**Connector2:**  
USB Connector  
Type B



The USB connector (Connector2) of HD67074-B2 is a Type-B Female. So the cable must be a Type-B Male.

**MECHANICAL DIMENSIONS:**



Housing: PVC  
Weight: 200g (Approx)

Figure 12: Mechanical dimensions scheme

**ORDER CODE:**

**HD67119** - USB / RS485 - Converter

**ACCESSORY:**

**AC34002** - USB Cable A/B 1.8 Meters

**AC34112** - USB Cable A/B 3.0 Meters

**AC34113** - USB Cable A/B 5.0 Meters

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All technical content within this document can be modified without notice. The content of the document content is a recurring audit. For losses due to fire, earthquake, third party access or other accidents, or intentional or accidental abuse, misuse, or use under abnormal conditions repairs are charged to the user. ADFweb.com S.r.l. will not be liable for accidental loss of use or inability to use this product, such as loss of business income. ADFweb.com S.r.l. shall not be liable for consequences of improper use.

## OTHER REGULATIONS AND STANDARDS

### WEEE INFORMATION



Disposal of old electrical and electronic equipment (as in the European Union and other European countries with separate collection systems).

■ This symbol on the product or on its packaging indicates that this product may not be treated as household rubbish. Instead, it should be taken to an applicable collection point for the recycling of electrical and electronic equipment. If the product is disposed correctly, you will help prevent potential negative environmental factors and human health, which could otherwise be caused by inappropriate disposal. The recycling of materials will help to conserve natural resources. For more information about recycling this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

### RESTRICTION OF HAZARDOUS SUBSTANCES DIRECTIVE



The device respects the 2002/95/EC Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (commonly referred to as Restriction of Hazardous Substances Directive or RoHS).

### CE MARKING



The product conforms with the essential requirements of the applicable EC directives.

**WARRANTIES AND TECHNICAL SUPPORT:**

For fast and easy technical support for your ADFweb.com SRL products, consult our internet support at [www.adfweb.com](http://www.adfweb.com). Otherwise contact us at the address support@adfweb.com

**RETURN POLICY:**

If while using your product you have any problem and you wish to exchange or repair it, please do the following:

- 1) Obtain a Product Return Number (PRN) from our internet support at [www.adfweb.com](http://www.adfweb.com). Together with the request, you need to provide detailed information about the problem.
- 2) Send the product to the address provided with the PRN, having prepaid the shipping costs (shipment costs billed to us will not be accepted).

If the product is within the warranty of twelve months, it will be repaired or exchanged and returned within three weeks. If the product is no longer under warranty, you will receive a repair estimate.

**PRODUCTS AND RELATED DOCUMENTS:**

Part	Description	URL
HD67121	Gateway CANopen / Canopen	<a href="http://www.adfweb.com?product=HD67121">www.adfweb.com?product=HD67121</a>
HD67502	Gateway CANopen / Modbus - RTU	<a href="http://www.adfweb.com?product=HD67502">www.adfweb.com?product=HD67502</a>
HD67505	Gateway CANopen / Modbus - Ethernet TCP	<a href="http://www.adfweb.com?product=HD67505">www.adfweb.com?product=HD67505</a>
HD67134	Gateway CANopen / DeviceNet	<a href="http://www.adfweb.com?product=HD67134">www.adfweb.com?product=HD67134</a>
HD67216	CAN Analyzer	<a href="http://www.adfweb.com?product=HD67216">www.adfweb.com?product=HD67216</a>