

User Manual

Revision 1.004
English

PROFIBUS Slave / Modbus TCP Slave - Converter

(to connect Modbus TCP Clients)

(Order Code: HD67565M)

for Website information:

www.adfweb.com?Product=HD67565M

for Price information:

www.adfweb.com?Price=HD67565M

Benefits and Main Features:

- ▶ Mountable on Rail DIN
- ▶ Easy to use with software configuration
- ▶ Galvanic isolation
- ▶ Industrial temperature range:
-40 °C / 85°C (-40°F / 185°F)



HD67565M

Similar Products

For others Gateway / Adapters:

PROFIBUS to

See also the following link:

www.adfweb.com?Product=HD67551
www.adfweb.com?Product=HD67552
www.adfweb.com?Product=HD67553
www.adfweb.com?Product=HD67554
www.adfweb.com?Product=HD67563M
www.adfweb.com?Product=HD67564M

(CANopen)
(CAN)
(J1939)
(DeviceNet)
(Ethernet)
(Modbus TCP Client)

For others Converter / Adapter:

Ethernet to

See also the following link:

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(CANopen)
(CAN)
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Do you have an your customer protocol?

See the following link:

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Do you need to choose a device? do you want help?

Ask it to the following link:

www.adfweb.com?Cmd=helpme

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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/ 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
1.001	01/04/2010	Ft	All	Revision
1.002	13/12/2012	Dp	SetAccess	Revision
1.003	11/01/2013	Nt & Fl	All	Added new chapters
1.004	04/11/2013	Fl	All	Revision

WARNING:

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TRADEMARKS:

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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 support@adfweb.com or give us a call if you need it.

CONNECTION SCHEME:

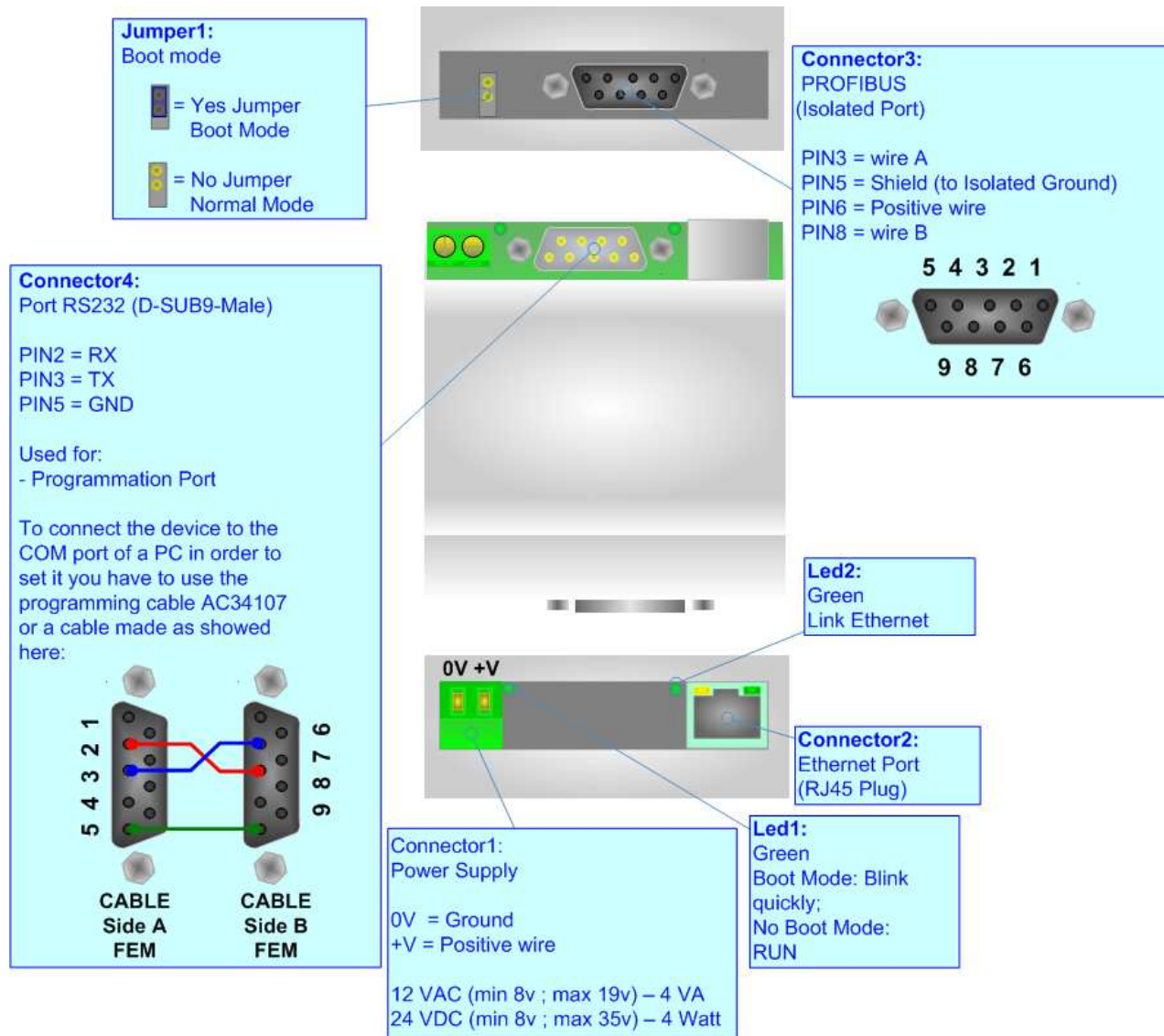


Figure 1: Connection scheme for HD67565M

CHARACTERISTICS:

The Configurable PROFIBUS to Modbus TCP Server gateway allows the following characteristics:

- Two-directional information between Modbus TCP network and PROFIBUS;
- Electrical isolation between two buses;
- Up to 244 bytes in reading and 244 bytes in writing;
- Power Supply 8...19V AC or 8...35V DC;
- Mountable on 35mm Rail DIN;
- Temperature range -40°C to 85°C.



CONFIGURATION:

You need Compositor SW67565 software on your PC in order to perform the following:

- Define the parameter of the PROFIBUS;
- Define the parameter of Modbus TCP;
- Define which Modbus registers save in the PROFIBUS arrays;
- Create a GSD file;
- Update the device.

POWER SUPPLY:

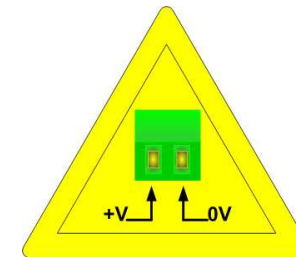
The devices can be powered at 8...19V AC and 8...35V DC. The consumption depends to the code of the device. For more details see the two tables below.

VAC 		VDC 	
Vmin	Vmax	Vmin	Vmax
8V	19V	8V	35V

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67565M	3.5

Caution: Not reverse the polarity power



HD67565M

USE OF COMPOSITOR SW67565:

To configure the Converter, use the available software that runs with Windows, called SW67565. It is downloadable on the site www.adfweb.com and its operation is described in this document. (*This manual is referenced to the last version of the software present on our web site*). The software works with MSWindows (MS 2000, XP, Vista, Seven, 8; 32/64bit).

When launching the SW67565 the right window appears (Fig. 2).

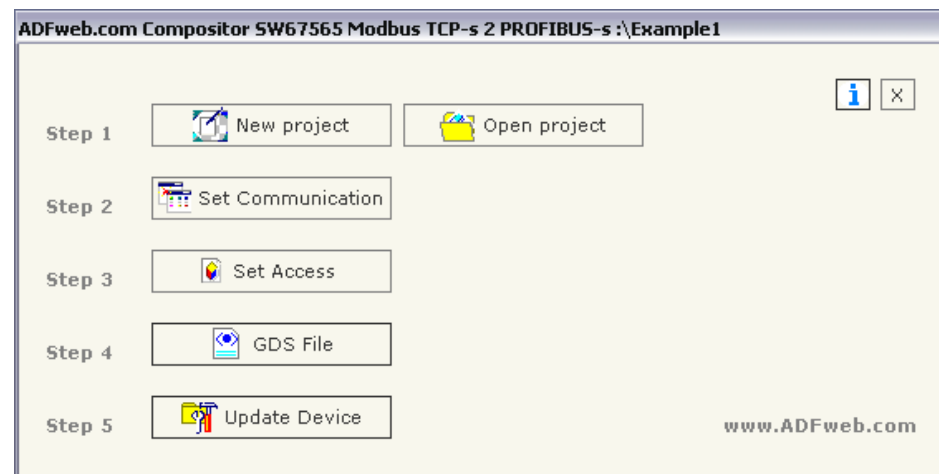
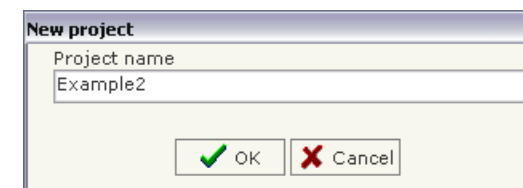
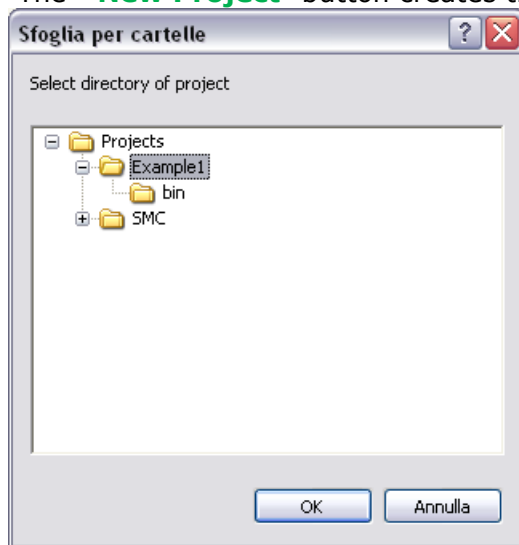


Figure 2: Main window for SW67565

NEW PROJECT / OPEN PROJECT:

The **“New Project”** button creates the folder which contains the entire device configuration.



A device configuration can also be imported or exported:

- To clone the configurations of a programmable “PROFIBUS Slave / Modbus TCP Slave – Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to duplicate the project folder with another name and open the new folder with the **“Open Project”**.

SET COMMUNICATION:

This section defines the fundamental communication parameters of two buses, PROFIBUS and Modbus TCP.

By pressing the **"Set Communication"** button from the main window for SW67565 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The window is divided in two sections, one for the Modbus TCP (Ethernet) and the other for the PROFIBUS.

The means of the fields for "Ethernet" are:

- In the field **"IP Address"** insert the IP address that you want give to the HD67565M;
- In the field **"Subnet Mask"** insert the Subnet Mask of your network;
- If the field **"Use Gateway"** is checked in the fields under it is possible to insert the IP address used for going out to the net;
- In the field **"Port"** insert the number of the port that Modbus TCP use.

The means of the fields for "PROFIBUS" are:

- In the field **"ID Dev."** the address of the PROFIBUS side is defined;
- In the field **"N Byte IN"** the number of byte writable from Ethernet is defined (at maximum it is possible to use 244 byte);
- In the field **"N Byte OUT"** the number of byte readable from Ethernet is defined (at maximum it is possible to use 244 byte).

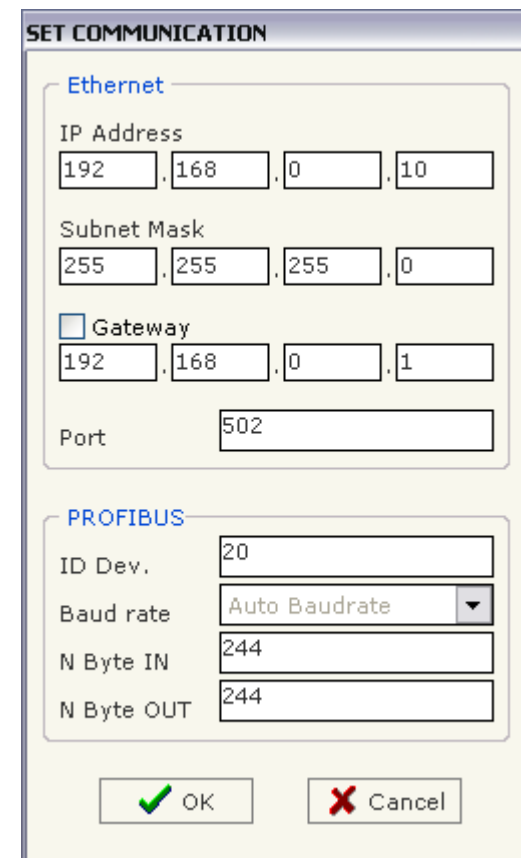


Figure 3: "Set Communication" window

SET ACCESS:

By pressing the **Set Access** button from the main window for SW67565 (Fig. 2) the window "Set Access" appears.

The window is divided in two parts, the "PROFIBUS IN --> Serial Read" (Fig. 4) and the "Serial Write --> PROFIBUS OUT" (Fig. 5).

The first part (PROFIBUS IN --> Serial Read) is used to make available the data that is sent from the PROFIBUS Master to the Modbus TCP Client when it perform the read request.

The second part (Serial Write --> PROFIBUS OUT) is used to create the Modbus registers which are updated by the Modbus TCP Client (when it perform the write request) to be transferred to the PROFIBUS.

PROFIBUS IN --> Serial Read

The means for the fields are:

- In the field **Address Register** the address of the register to be read from Modbus TCP Client is defined;
- In the field **Address PROFIBUS High** the number of PROFIBUS byte which compose the Modbus register High;
- In the field **Address PROFIBUS Low** the number of PROFIBUS byte which compose the Modbus register Low;
- In the field **Mnemonic** you can insert a brief description.

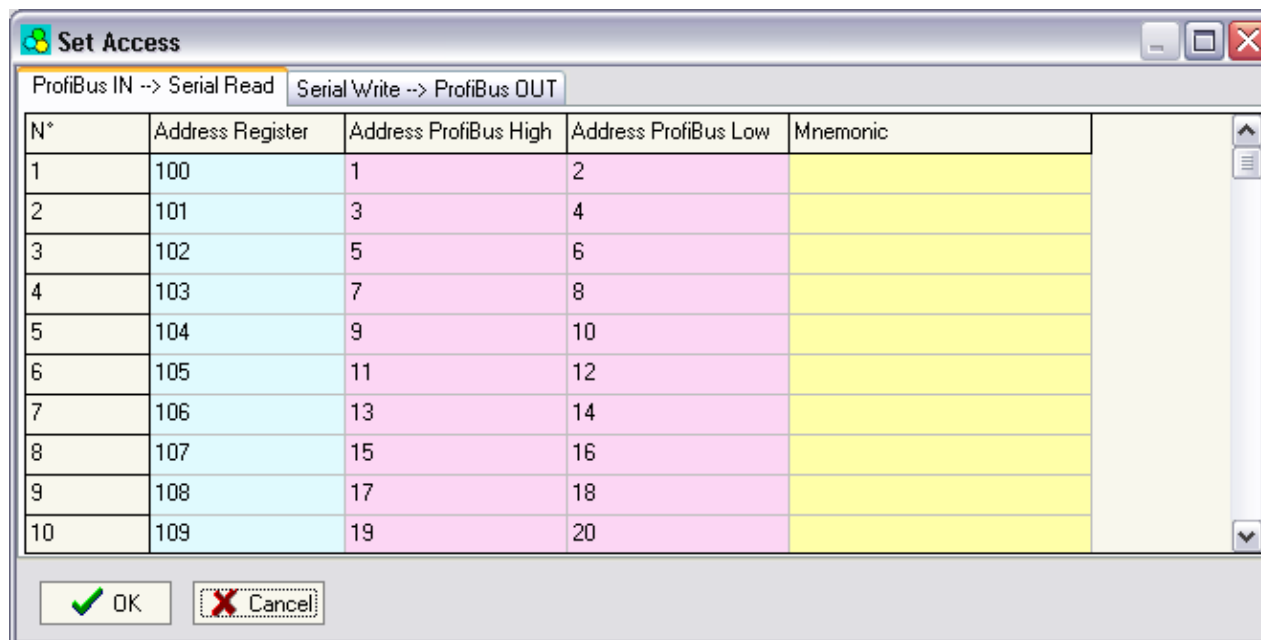


Figure 4: "Set Access / PROFIBUS IN --> Serial Read" window

Serial Write --> PROFIBUS OUT

The means for the fields are:

- In the field "Address Register" the address of the register to be write from Modbus TCP Client is defined;
- In the field "Address PROFIBUS High" the position where the data High of Modbus register will be saved in the PROFIBUS array is defined;
- In the field "Address PROFIBUS Low" the position where the data Low of Modbus register will be saved in the PROFIBUS array is defined;
- In the field "Mnemonic" you can insert a brief description.

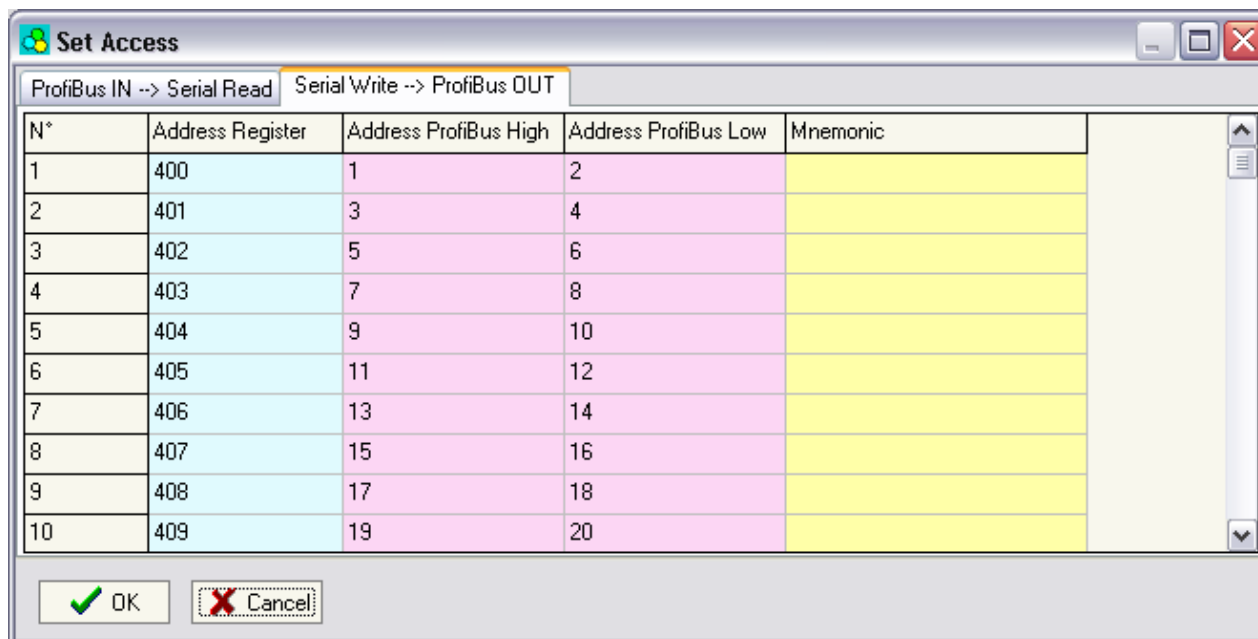


Figure 5: "Set Access / Serial Write -->PROFIBUS OUT" window

GSD FILE:

By pressing the "GSD File" button it is possible to save the GSD file for the PROFIBUS side. With this feature you can save the configuration of the gateway of the PROFIBUS side.



Note:

When you import the .gsd file on your Master PROFIBUS you have to add all the modules that are present inside it.

UPDATE DEVICE:

By pressing the **Update Device** button it is possible to load the created Configuration into the device; and also the Firmware, if is necessary.


In order to load the parameters or update the firmware in the converter, follow these instructions:


- Turn off the Device;
- Connect the Null Modem Cable form your PC to the Gateway;
- Insert the Boot Jumper (For more info see Fig. 1);
- Select the COM port and press the **Connect** button;
- Turn on the device;
- Check the BOOT Led. It must blink quickly (For more info see Fig. 1);
- Press the **Next** button;
- Select which operations you want to do.
- Press the **Execute update firmware** button to start the upload;
- When all the operations are "OK" turn off the device;
- Disconnect the Boot jumper;
- Disconnect the RS232 Cable;
- Turn on the device.


At this point the configuration/firmware on the device is correctly updated.



Figure 6: "Update Device" windows

 **Note:**
When you install a new version of the software it is better if the first time you do the update of the Firmware in the HD67565M device.

 **Note:**
When you receive the device, for the first time, you have to update also the Firmware in the HD67565M device.

 **Warning:**
If the Fig. 5 appears when you try to do the Update before require assistance try these points:

- Check if the serial COM port selected is the correct one;
- Check if the serial is connected between the PC and the device;
- Try to repeat the operations for the updating;
- If you are using a dongle try with a native COM port or change the dongle;
- Try with another PC;
- Try to restart the PC;
- If you are using the program inside a Virtual Machine, try to use in the main Operating System;
- If you are using Windows Seven or Vista or 8, make sure that you have the administrator privileges;
- Take attention at Firewall lock.



Figure 5: "Protection" window

CHARACTERISTICS OF THE CABLES:

Modbus TCP:

The connection at Ethernet socket must be with a Ethernet Cable with a RJ45 plug.

RS232:

The connection from RS232 socket to a serial port (example one from a personal computer) must be made with a Null Modem cable (a serial cable where the pins 2 and 3 are crossed).

It is recommended that the RS232 Cable not exceed 15 meters.

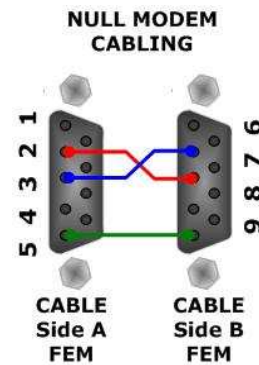
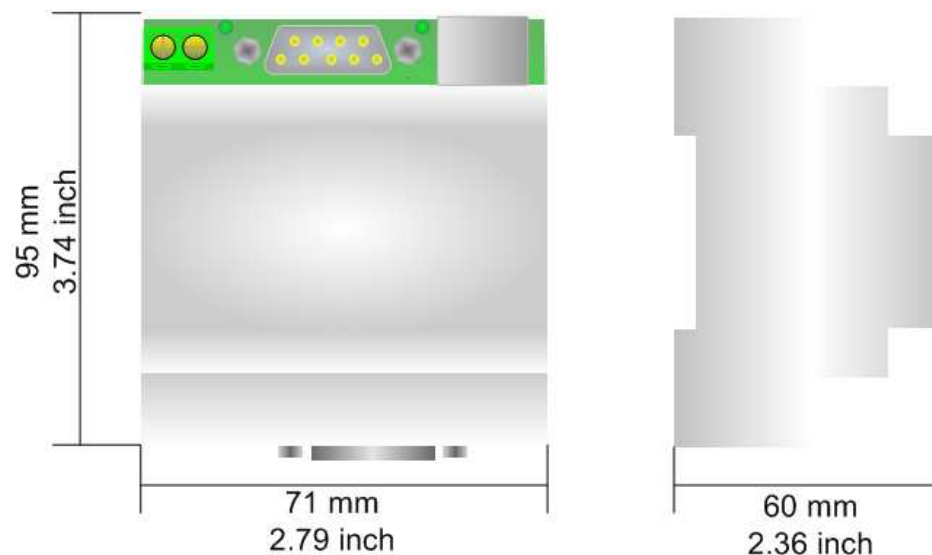


Figure 7: Null modem cabling

MECHANICAL DIMENSIONS:



Housing: PVC
Weight: 200g (Approx)

Figure 8: Mechanical dimensions scheme

ORDER CODE:

Order Code: **HD67565M** - PROFIBUS Slave / Modbus TCP Slave - Converter

ACCESSORIES:

Order Code: **AC34001** - Rail DIN - Power Supply 220/240V AC 50/60Hz – 12 V AC

Order Code: **AC34002** - Rail DIN - Power Supply 110V AC 50/60Hz – 12 V AC

Order Code: **AC34104** - European Input - Power Supply 230V AC 50Hz – 12 V DC

DISCLAIMER

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.
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. 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.