![ADFweb logo] Industrial Electronic Devices

User Manual

Revision 1.012
English

Modbus Slave / Modbus TCP Master - Converter

(New Order Codes: HD67510-A1 – HD67510-B2)
(Old Order Codes: HD67510 – HD67510M)

for Website information:
www.adfweb.com?Product=HD67510

for Price information:
www.adfweb.com?Price=HD67510-A1
www.adfweb.com?Price=HD67510-B2

Benefits and Main Features:

▶ Very easy to configure
▶ Low Cost
▶ 32mm Rail DIN mount
▶ Wide supply input range
▶ Galvanic Isolation of RS485
▶ Industrial temperature range:
-40°C / +85°C (-40°F / +185°F)

HD67510-A1

HD67510-B2

For others products, see also the following links:

RS232 / RS485 / USB / Ethernet

www.adfweb.com?Product=HD67118 (RS232 / RS485 - Converter)
www.adfweb.com?Product=HD67119 (USB / RS485 - Converter)
www.adfweb.com?Product=HD67038 (RS485 / RS232 / Ethernet - Converter)

CAN / CANopen / Modbus / Modbus TCP

www.adfweb.com?Product=HD67001 (CANopen / Modbus Master - Converter)
www.adfweb.com?Product=HD67502 (CANopen / Modbus Slave - Converter)
www.adfweb.com?Product=HD67011 (CAN / Modbus Master - Converter)
www.adfweb.com?Product=HD67012 (CAN / Modbus Slave - Converter)
www.adfweb.com?Product=HD67514 (CAN / Modbus TCP Master – Converter)
www.adfweb.com?Product=HD67515 (CAN / Modbus TCP Slave – Converter)

Modbus TCP Slave / Modbus RTU Master - Converter

www.adfweb.com?Product=HD67507

Do you have an your customer protocol?
www.adfweb.com?Product=HD67003

Do you need to choose a device? do you want help?
www.adfweb.com?Cmd=helpme

Industrial Electronic Devices

INDEX:

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.

To obtain the updated documentation for the product that you own, note the "Document Code" (Abbreviated written "Doc. Code" on the label on the product) and download the updated from our web site www.adfweb.com/download/

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	06/02/2009	Fl	All	First release version
1.001	06/05/2010	Ml Dp	All	Revision
1.010	04/09/2012	Fl	All	Software changed (v1.300)
1.011	18/12/2012	Fl	All	Revision
1.012	24/01/2013	Nt	All	Added new chapters

WARNING:

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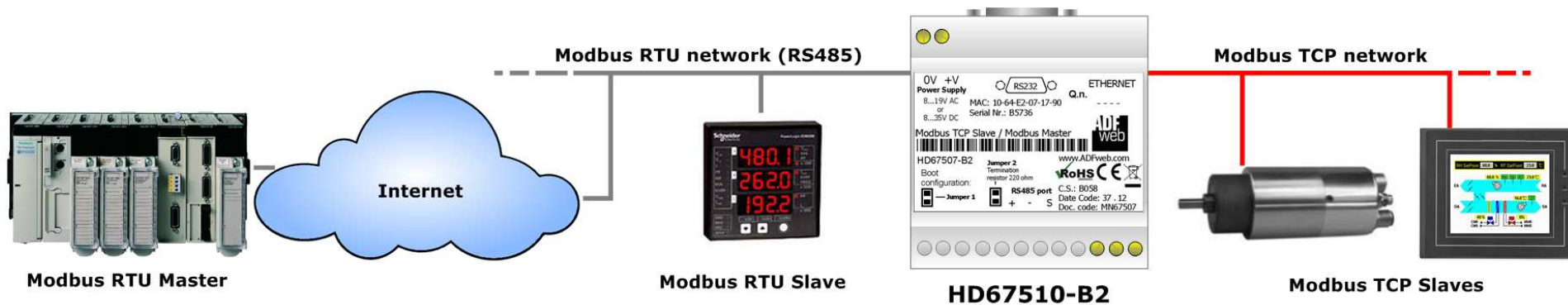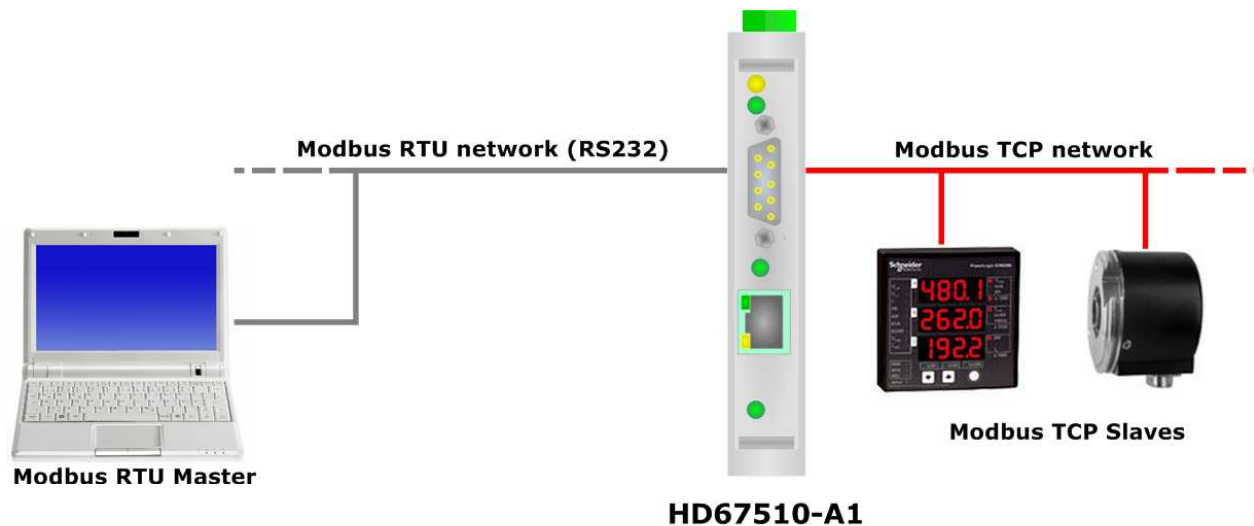
RESIDUAL RISKS
The device is state of the art and is safe. The instrument can represent a potential hazard if they are inappropriately installed and operated by personnel untrained. These instructions refer to residual risks with the following symbol:

⚠ 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.

EXAMPLES OF CONNECTION:

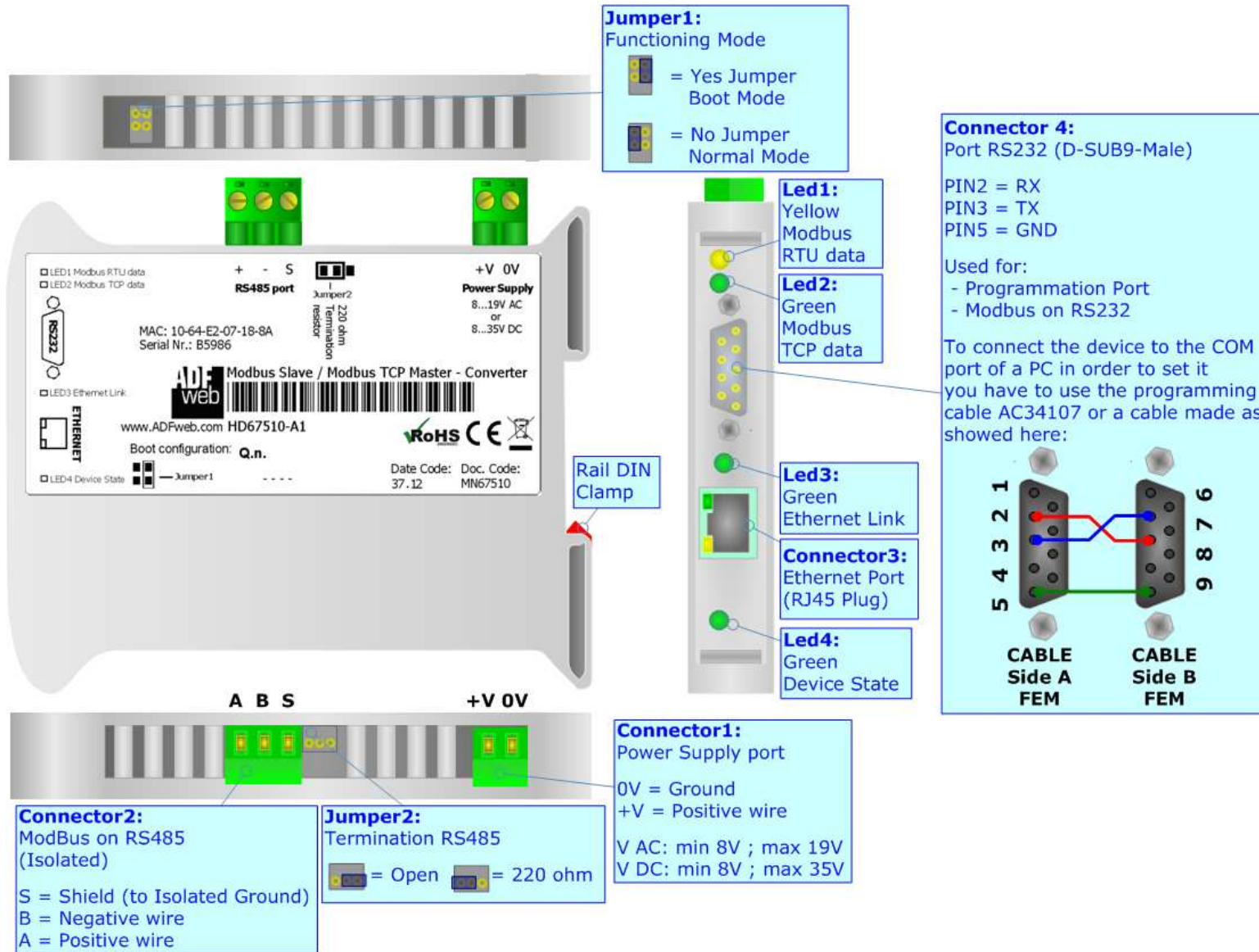Modbus RTU network (RS232)

Modbus TCP network

Modbus RTU Master

Modbus TCP Slaves

HD67510-A1

Modbus RTU network (RS485)

Modbus TCP network

Internet

Modbus RTU Master

Modbus RTU Slave

HD67510-B2

Modbus TCP Slaves

Industrial Electronic Devices

CONNECTION SCHEME:

Jumper1:
Functioning Mode

= Yes Jumper
Boot Mode

= No Jumper
Normal Mode

Connector 4:
Port RS232 (D-SUB9-Male)

PIN2 = RX
PIN3 = TX
PIN5 = GND

Used for:
- Programmation Port
- Modbus on RS232

To connect the device to the COM port of a PC in order to set it you have to use the programming cable AC34107 or a cable made as showed here:

CABLE Side A FEM   CABLE Side B FEM

Led1:
Yellow
Modbus
RTU data

Led2:
Green
Modbus
TCP data

Led3:
Green
Ethernet Link

Connector3:
Ethernet Port
(RJ45 Plug)

Led4:
Green
Device State

Rail DIN Clamp

Connector1:
Power Supply port

0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

Connector2:
ModBus on RS485
(Isolated)

S = Shield (to Isolated Ground)
B = Negative wire
A = Positive wire

Jumper2:
Termination RS485

= Open   = 220 ohm

Figure 1a: Connection Scheme for HD67510-A1, HD67510

Industrial Electronic Devices

Jumper1:
Functioning Mode

= Yes Jumper
Boot Mode

= No Jumper
Normal Mode

Led1:
Yellow
Modbus
TCP data

Led2:
Green
Modbus
RTU data

Jumper2:
Termination RS485

= Open   = 220 ohm

Connector 2:
Modbus on RS485
(Isolated port)

S = Shield (to Isolated Ground)
B = Negative wire
A = Positive wire

A B S

Connector 4:
Port RS232 (D-SUB9-Male)

PIN2 = RX
PIN3 = TX
PIN5 = GND

Used for:
- Programmation Port
- Modbus on RS232

To connect the device to the
COM port of a PC in order to set
it you have to use the
programming cable AC34107 or
a cable made as showed here:

CABLE
Side A
FEM

CABLE
Side B
FEM

0V +V
Power Supply
8...19V AC
or
8...35V DC
MAC: 10-64-E2-07-17-90
Serial Nr.: B5736
RS232
Q.n.
ETHERNET

Modbus Slave / Modbus TCP Master

HD67510-B2   Jumper 2
Termination
resistor 220 ohm
Boot
configuration:
Jumper 1
RS485 port
+   -   S
www.ADFweb.com
RoHS
C.S.: B058
Date Code: 37 . 12
Doc. code: MN67510

A B S

Led3:
Green
Ethernet Link

Connector3:
Ethernet Port
(RJ45 Plug)

0V +V

Connector1:
Power Supply port

0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

Led4:
Green
Device State

Figure 1b: Connection Scheme for HD67510-B2, HD67510M

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CHARACTERISTICS:

The "Modbus Slave / Modbus TCP Master – Converter" allows the following characteristics:

- Opto-isolated RS485;
- Choice possibility between RS232 or RS485 on Modbus RTU;
- Ethernet 10Base-T / 100Base-T, autosensing for Modbus TCP ;
- Mountable on 35mm Rail DIN;
- Temperature range -40°C / +85°C;
- EMS EN 61000-6-2.

To configure the Converter, use the available software that runs with Windows, called SW67510. It is downloadable on the site www.adfweb.com and its operation is described in this document.

Industrial Electronic Devices

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]
HD67510-A1	4
HD67510-B2	5

⚠ **Warning: Not reverse the polarity power**
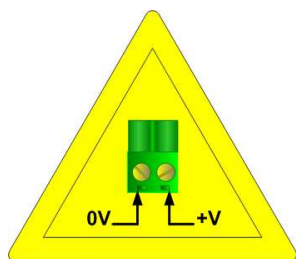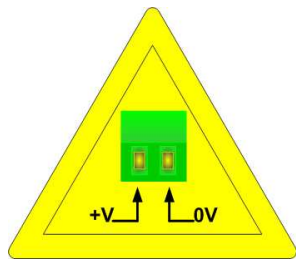
HD67510-A1   HD67510-B2

Connector1:
Power Supply port
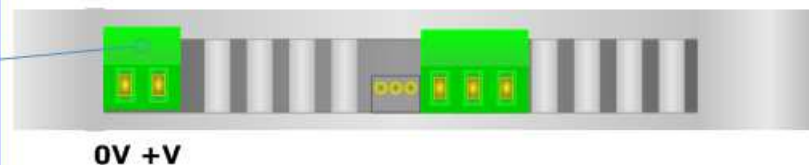
0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

0V +V

Connector1:
Power Supply port

0V = Ground
+V = Positive wire

V AC: min 8V ; max 19V
V DC: min 8V ; max 35V

+V 0V

Industrial Electronic Devices

FUNCTION MODES:

The devices has got two functions mode depending of the position 'Jumper1':

- The first, without Jumper1 (factory setting), is used for the normal working of the device;
- The second, with Jumper1, is used for upload the Project/Firmware into the device.

For the operations to follow for the updating, see 'UPDATE DEVICE' section.

According to the functioning mode, the LEDs will have specifics functions, see 'LEDS' section.

Industrial Electronic Devices
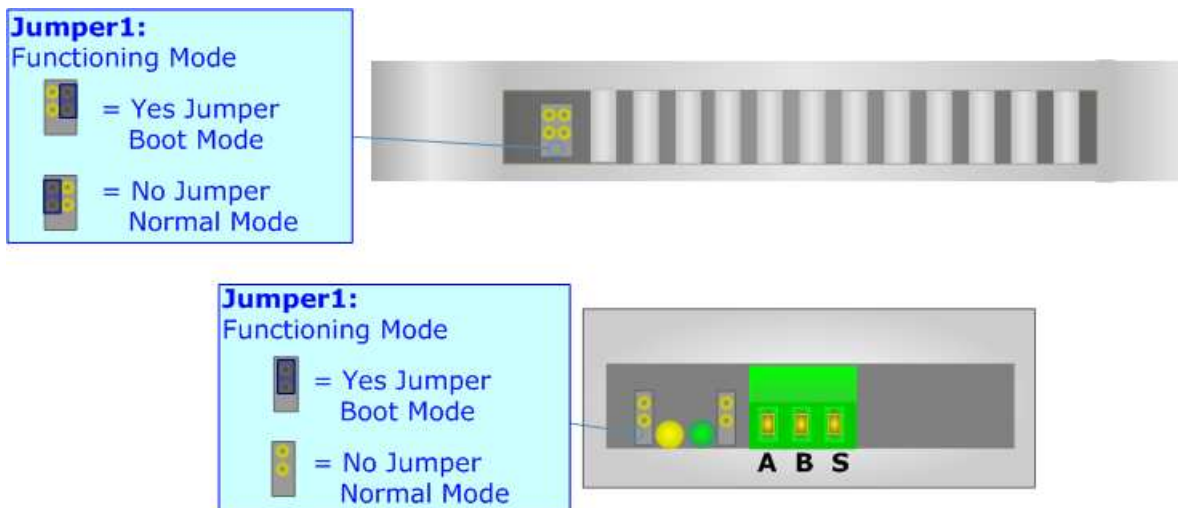
LEDS:

The devices has got four LEDs that are used to give information of the functioning status.
The various meanings of the LEDs are described in the table below.

LED	Normal Mode	Boot Mode
1: Device State (green)	Blinks slowly (~1Hz)	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
2: Ethernet Link (green)	**ON:** Ethernet cable connected **OFF:** Ethernet cable disconnected	**ON:** Ethernet cable connected **OFF:** Ethernet cable disconnected
3: Modbus TCP data (green)	Change state when send a Modbus request	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
4: Modbus RTU data (green)	Change state when receive a Modbus request	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
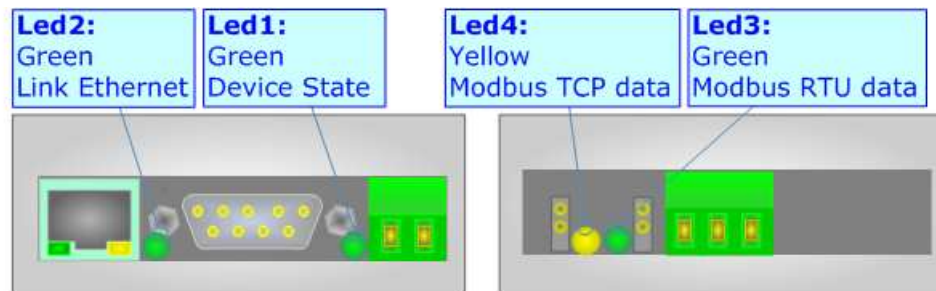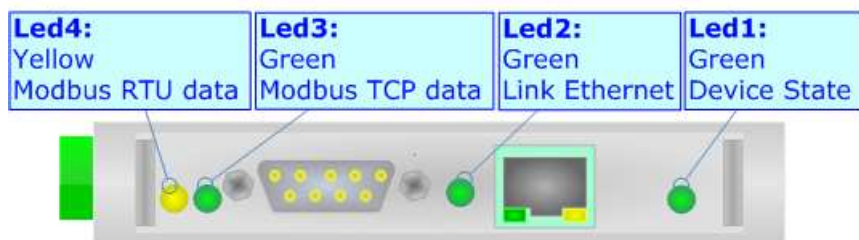
ETHERNET:

The Ethernet connection must be made using Connector3 of HD67510-A1/HD67510-B2 with at least a Category 5E cable. The maximum length of the cable should not exceed 100m. The cable has to conform to the T568 norms relative to connections in cat.5 up to 100 Mbps. To connect the device to an Hub/Switch is recommended the use of a straight cable, to connect the device to a PC/PLC/other is recommended the use of a cross cable.
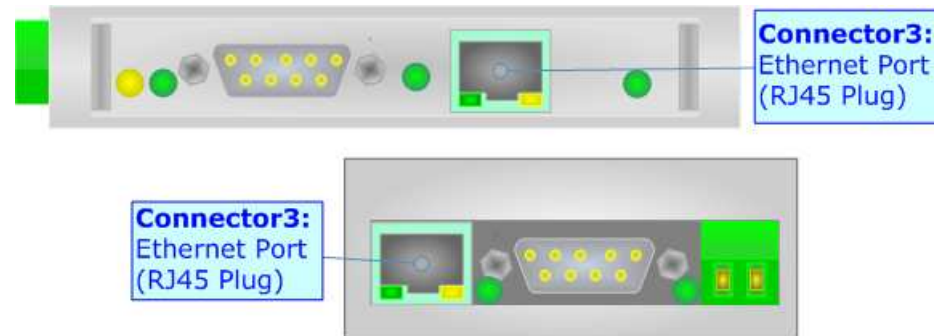
RS232:

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 RS232C Cable not exceed 15 meters.
The serial port is used for programming the device or for Modbus communication.

Industrial Electronic Devices

RS485:

For terminate the RS485 line with a 220Ω resistor it is necessary to insert the Jumper2 like in figure.
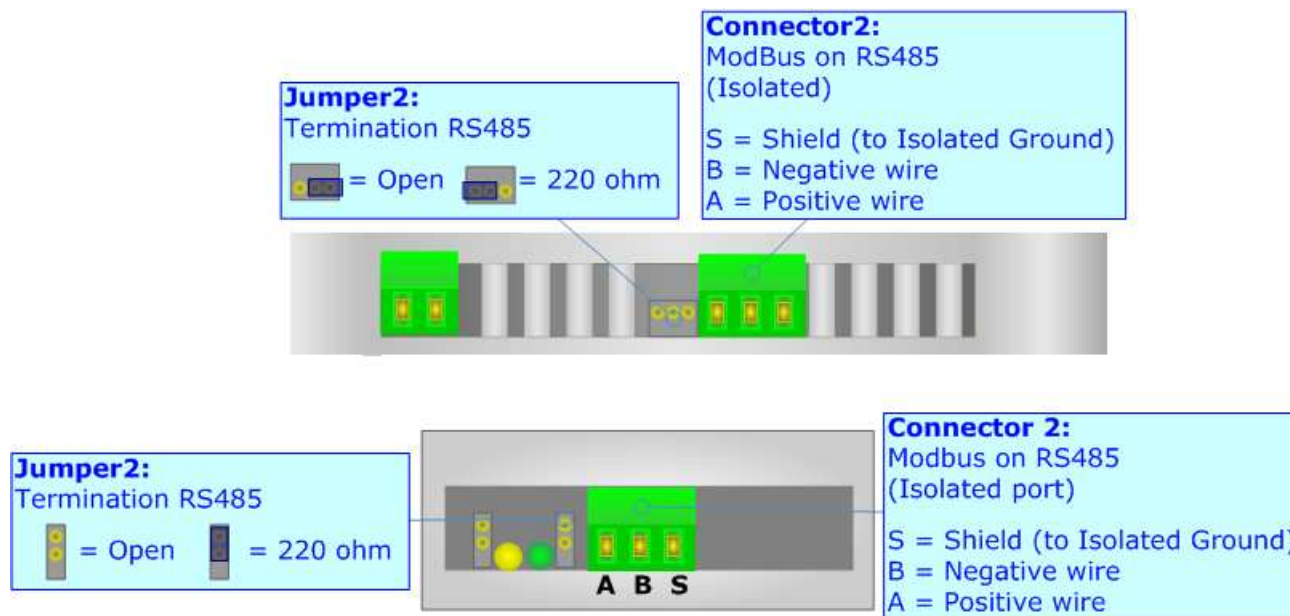
The maximum length of the cable should be 1200m (4000 feet).

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.

Industrial Electronic Devices

USE OF COMPOSITOR SW67510:

To configure the "Modbus Slave / Morbus TCP Master - Converter", use the available software that runs with Windows, called SW67510. 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 SW67507 the right window appears (Fig. 2).
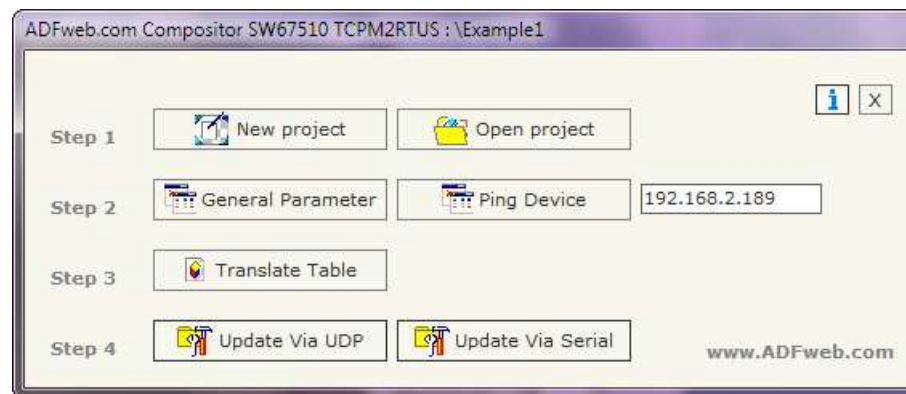
Figure 2: Main window for SW67510

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 "Modbus Slave / Morbus TCP Master - 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 button "**Open Project**".

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GENERAL PARAMETER:

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

By pressing the "**General Parameter**" button from the main window for SW67510 (Fig. 2) the window "General Parameter" appears (Fig. 3).

The means for the fields of "MODBUS TCP" are:

➤ In the field "**IP Address**" insert the IP address that you want to give to the Master Modbus TCP;

➤ In the field "**Subnet Mask**" insert the Subnet Mask;

➤ In field "**Gateway**" insert the Defualt Gateway IP address for use the Converter in WAN or Internet. For enable this feature is necessary to check the Gateway option.

➤ In the field "**Port**" insert the number of port;

➤ If the field "**Don't disconnect the socket**" is checked, when the gateway receives the TCP response it does not disconnect the opened socket (open the socket only at the first RTU request and then the socket remains opened); otherwise for every RTU requests the gateway opens the socket and when it receives the TCP response it closes it;

➤ If the field "**Normal Mode (Translate Table)**" is checked, the address of RTU request is compared with the list defined in the "Translate Table" section; and if is present the Converter sends the request in TCP using the IP address and the Address TCP defined in that table (see 'TRANSLATE TABLE → NORMAL MODE (TRANSLATE TABLE)' section);

➤ If the field "**Work with Fix IP**" is checked, the gateway does not see the "Translate Table" but it sends every request to a fixed IP defined in the field below (see 'WORK WITH FIX IP' section);

➤ If the field "**Routing Slave Address**" is checked, the address of RTU request is compared with the list defined in the "Translate Table" section; and if is present the Converter sends the request in TCP using the IP address and the TCP slave address (see 'TRANSLATE TABLE → ROUTING SLAVE ADDRESS' section);
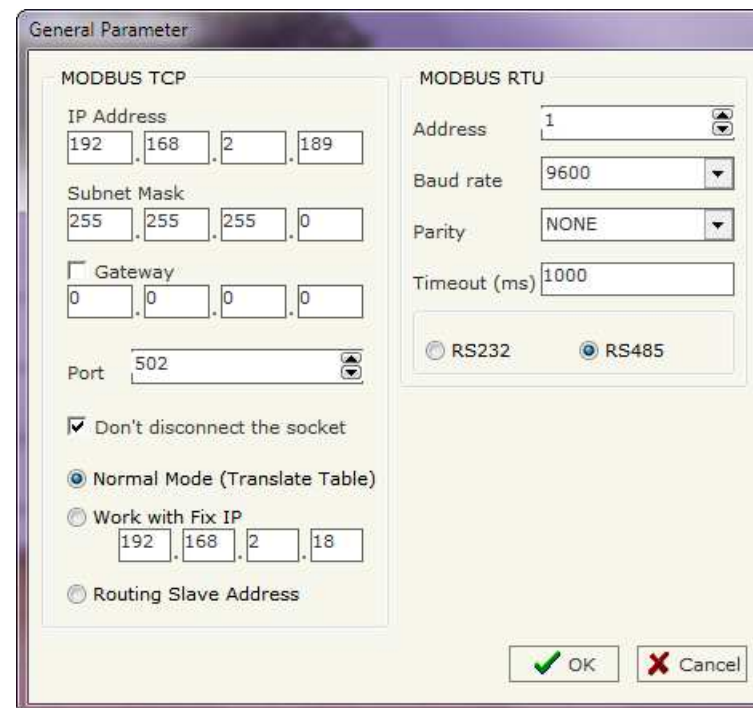

Figure 3: "General Parameter" window

Industrial Electronic Devices

The means for the fields of "MODBUS RTU" are:

- In the field "**Address**" the address of the device is defined. This field can be compiled only if is checked the field "Normal Mode (Translate Table)" or "Work with Fix IP" ;
- In the field "**Baud rate**" the velocity of the Modbus RTU is defined;
- In the field "**Parity**" the Modbus RTU parity is defined. It is possible to use "NONE" or "EVEN" or "ODD" parity;
- In the field "**Timeout (ms)**" insert the maximum time that the device has to attend for the answer from the Slave interrogated;
- If the field "**RS232**" is checked the serial line in use for Modbus RTU is the RS232; otherwise is the "**RS485**".

PING DEVICE:

If it is necessary to do a Ping on the net, before pressing the "**Ping Device**" button insert a value in the field on the right and then press the button. To use this feature in Vista and 7 you have to open the software with Administrator right.

Note:
In order to do this, the Converter must be in Normal Mode.

Industrial Electronic Devices

TRANSLATE TABLE → NORMAL MODE (TRANSLATE TABLE):

Using this function, the Converter can be seen like a single Slave RTU. The Address of RTU is assigned in the "General Parameter" section.

By pressing the "**Translate Table**" button from the main window for SW67510 (Fig. 2) the window "Set Translate Table" appears (Fig. 4).

The data of the columns have the following meanings:

+ In the field "**Data Type**" it is possible to select the type of data that is being considered;
+ In the field "**Address RTU**" insert the virtual address of the present data in a device in the TCP Modbus;
+ In the field "**Address Device TCP**" insert the IP address of the device on the Modbus TCP that contains the data;
+ In the field "**Address TCP**" insert the address of the data on the TCP device;
+ In the field "**N° Point**" insert the number of consecutive data that you want to configure. For example, you create Address TCP=44, Address RTU=30 and N° point = 3, the following gets set-up automatically**:** addresses TCP 44, 45, 46 and the variables RTU 30, 31, 32;
+ In the field "**Mnemonic**" you can insert a brief description.
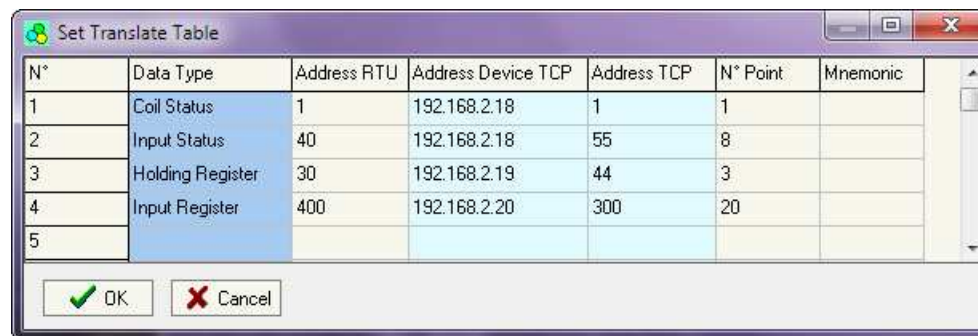
Figure 4: "Set Translate Table" window

EXAMPLE 1:

Taking the first row of Figure 4:

Step 1: A Master Modbus RTU do the request to the Converter for read the "Coil Status" address 1;

Step 2: The Converter sends to the TCP Slave 192.168.2.18 the read request of "Coil Status" address 1;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

EXAMPLE 2:

Taking the second row of Figure 4:

Step 1: A Master Modbus RTU do the request to the Converter for read the "Input Status" address 40 for 8 consecutive points;

Step 2: The Converter sends to the TCP Slave 192.168.2.18 the read request of "Input Status" address 55 for 8 consecutive points;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

Figure 5: Chart of Request data from Modbus TCP

EXAMPLE 3:

Taking the third row of Figure 4:

Step 1: A Master Modbus RTU do the request to the Converter for read the "Holding Register" address 40 for 3 consecutive points;

Step 2: The Converter sends to the TCP Slave 192.168.2.19 the read request of "Holding Register" address 44 for 3 consecutive points;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

Note:
   If the TCP slave responds with an exception, that exception code will be transmitted to the RTU master. If the TCP slave does not respond within the estimated time defined by the Timeout parameter, an exception response will be given: error code $36.
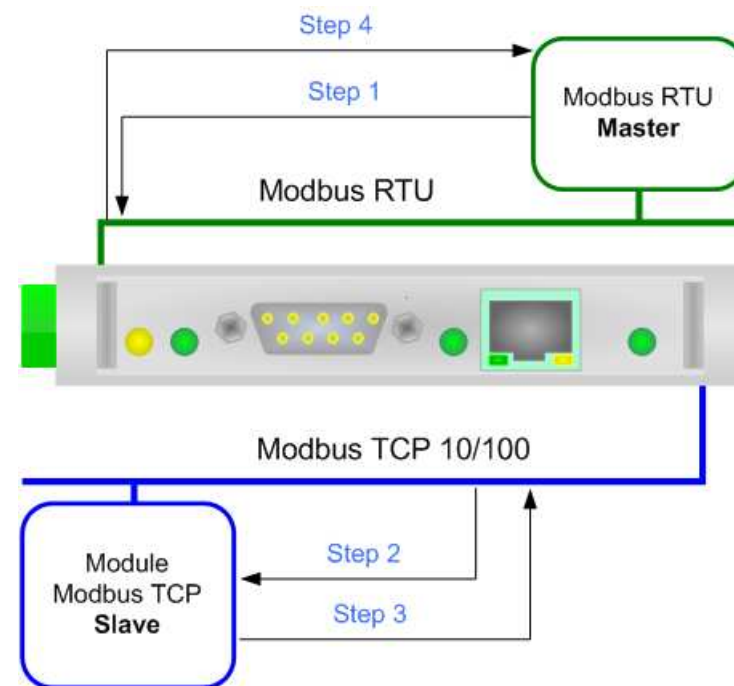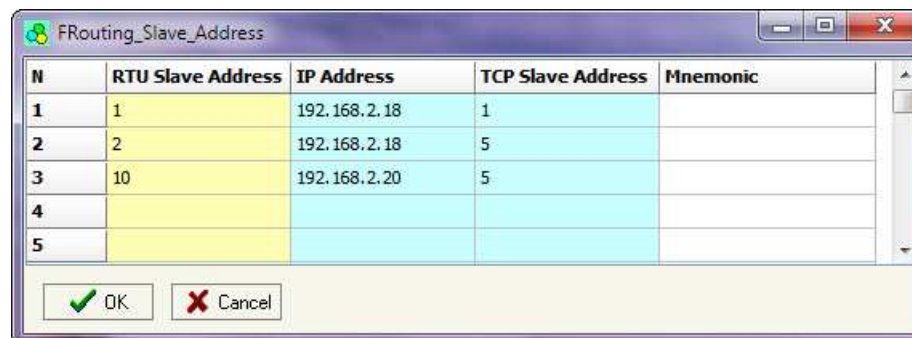

Industrial Electronic Devices

TRANSLATE TABLE → ROUTING SLAVE ADDRESS:

Using this function, the Converter can be seen like more than one Slave RTU. Each Slave RTU is a row of the table, and it is possible to assign to which TCP device is linked.

By pressing the "**Translate Table**" button from the main window for SW67510 (Fig. 2) the window "FRouting_Slave_Address" appears (Fig. 6).

The data of the columns have the following meanings:

- In the field "**RTU Slave Address**" insert the virtual address of the device (will be the Converter);
- In the field "**IP Address**" insert the IP address of the device on the Modbus TCP that contains the data;
- In the field "**TCP Slave Address**" insert the address of the device at TCP device;
- In the field "**Mnemonic**" you can insert a brief description.

N	RTU Slave Address	IP Address	TCP Slave Address	Mnemonic
1	1	192.168.2.18	1	
2	2	192.168.2.18	5	
3	10	192.168.2.20	5	
4				
5				

Figure 6: "FRouting_Slave_Address" window

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Industrial Electronic Devices

EXAMPLE 1:

Taking the first row of Figure 6:

Step 1: A Master Modbus RTU do the request to the Converter for read/write a register from the RTU Slave Address 1;

Step 2: The Converter sends to the TCP Slave 192.168.2.18 the read/write request using the TCP Slave Address 1;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

EXAMPLE 2:

Taking the second row of Figure 4:

Step 1: A Master Modbus RTU do the request to the Converter for read/write a register from the RTU Slave Address 2;

Step 2: The Converter sends to the TCP Slave 192.168.2.18 the read/write request using the TCP Slave Address 5;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

Figure 7: Chart of Request data from Modbus TCP

EXAMPLE 3:

Taking the third row of Figure 4:

Step 1: A Master Modbus RTU do the request to the Converter for read/write a register from the RTU Slave Address 10;

Step 2: The Converter sends to the TCP Slave 192.168.2.20 the read/write request using the TCP Slave Address 5;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

Note:

If the TCP slave responds with an exception, that exception code will be transmitted to the RTU master. If the TCP slave does not respond within the estimated time defined by the Timeout parameter, an exception response will be given: error code $36.
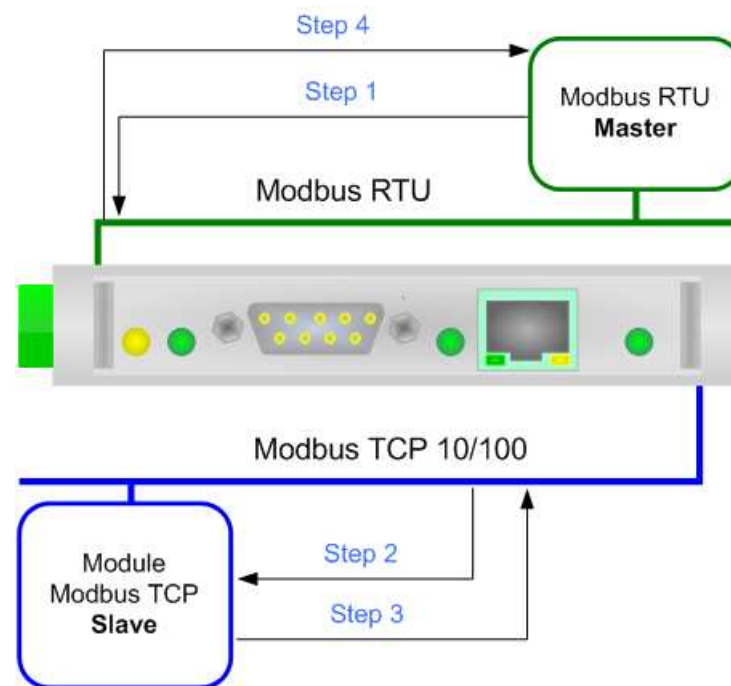
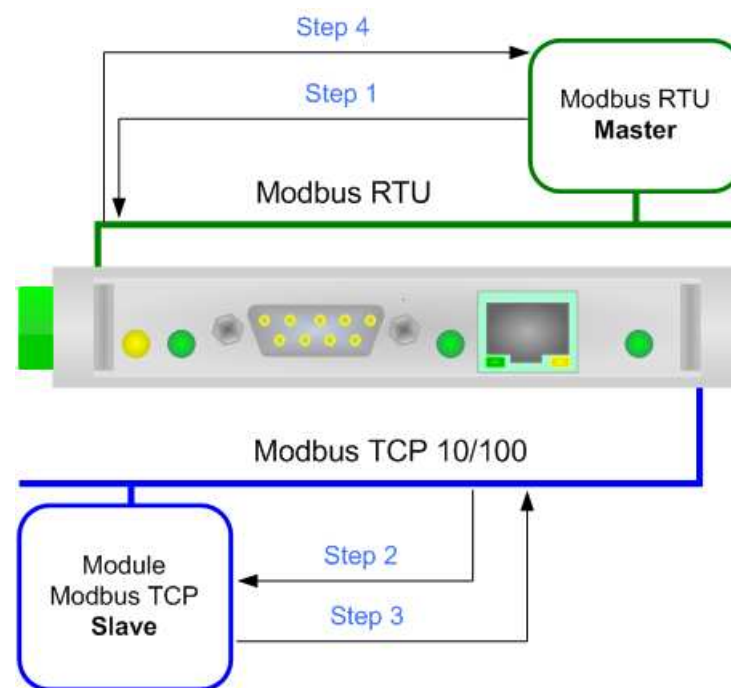Industrial Electronic Devices

WORK WITH FIX IP:

Using this function, the Converter can be seen like a single Slave RTU. The Address of RTU is assigned in the "General Parameter" section.

In this mode of working is not necessary to compile a Translate Table; every request that arrives on RTU is transferred on TCP (using TCP format of frame) to the Slave with the IP address defined in the "General Parameter" section.

EXAMPLE 1:

Using the configuration of Figure 3:

Step 1: A Master Modbus RTU do the request to the Converter for read/write a register from the RTU Slave Address 1;

Step 2: The Converter sends to the TCP Slave 192.168.2.18 the read/write request;

Step 3: The Slave TCP replies to the Converter with the data;

Step 4: The Converter sends back the data on RTU.

Note:
     If the TCP slave responds with an exception, that exception code will be transmitted to the RTU master. If the TCP slave does not respond within the estimated time defined by the Timeout parameter, an exception response will be given: error code $36.

Industrial Electronic Devices

UPDATE VIA SERIAL:

By pressing the "**Update Via Serial**" button it is possible to load the created Configuration into the device, and also the Firmware if is necessary, using the RS232 port.

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

- Turn off the Device;
- Connect the RS232 Null Modem Cable form your PC to the Converter;
- Insert the Boot Jumper (see "FUNCTION MODES" section);
- Select the "**COM port**" and press the "**Connect**" button;
- Turn on the device;
- Check the "Device State" Led. It must blink quickly (see "LEDS" section);
- 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;
- Remove the Boot jumper;
- Disconnect the RS232 Cable;
- Turn on the device.

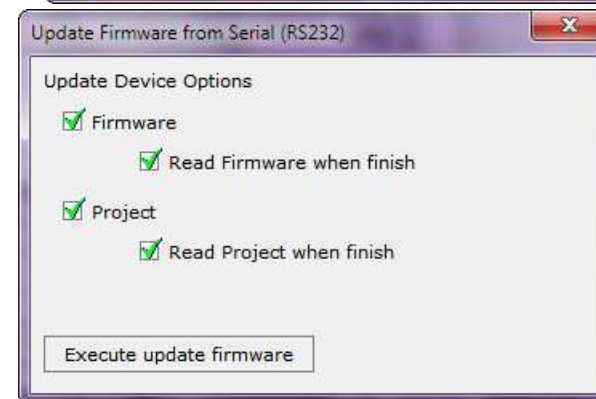At this point the configuration/firmware on the device is correctly updated.
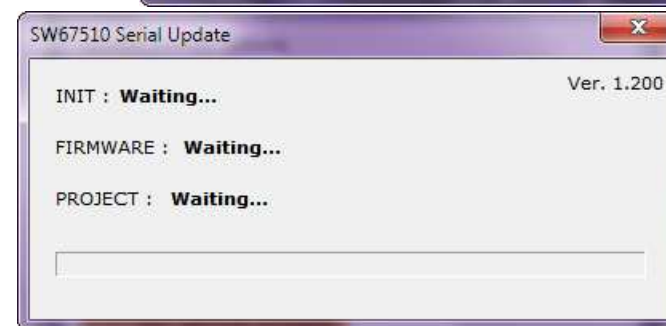
Figure 8: "Update Device" windows

Industrial Electronic Devices

UPDATE VIA UDP:

By pressing the "**Update Via UDP**" button it is possible to load the created Configuration into the device, and also the Firmware if is necessary, using the Ethernet port.

If you don't know the actual IP address of the device you have to use this procedure:

+ Turn off the Device;
+ Insert the Boot Jumper (see "FUNCTION MODES" section);
+ Insert the IP "**192.168.2.66**";
+ Turn on the device;
+ Press the "**Ping**" button, must appear "Device Found!";
+ 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;
+ Remove the Boot jumper;
+ Turn on the device.

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

If you know the actual IP address of the device you have to use this procedure:

+ Turn on the Device with the Ethernet cable inserted;
+ Insert the actual IP of the Gateway;
+ Press the "**Ping**" button, must appear "Device Found!";
+ 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" the device automatically goes at Normal Mode.

At this point the configuration/firmware on the device is correctly update.
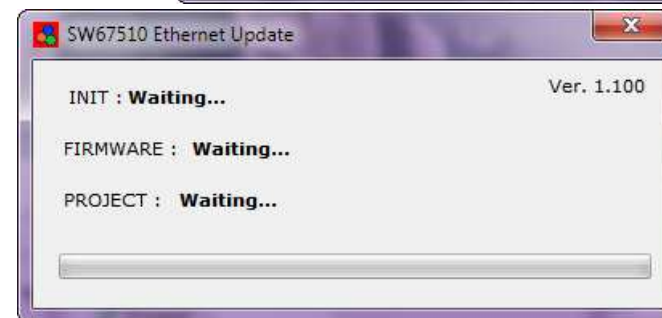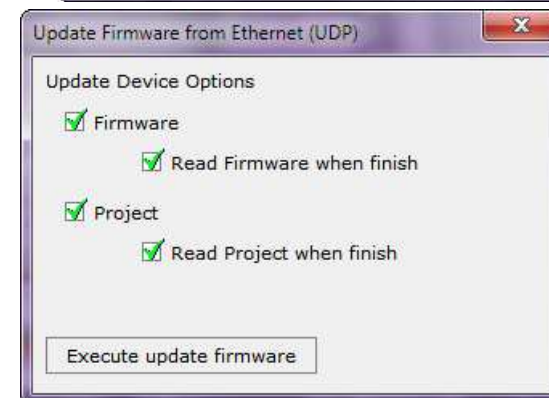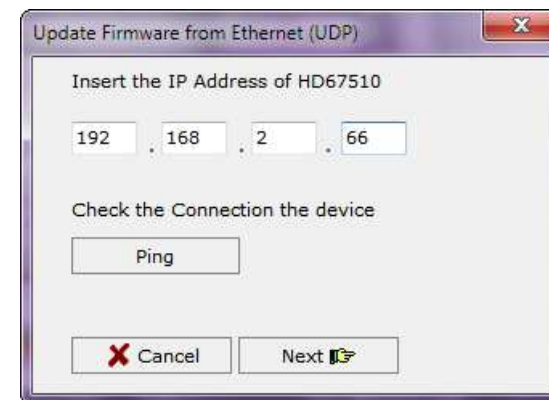
Figure 9: "Update device" windows

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 HD67510-A1 or HD67510-B2 device.

Note:
When you receive the device, for the first time, you have to update also the Firmware in the HD67510-A1 or HD67510-B2 device.

Warning:
If the Fig. 10 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 cable is connected between the PC and the device;
- Try to repeat the operations for the updating;
- If you are using a USB←→RS232 converter try with a native COM port or change the converter;
- Try to repeat the operations for the updating;
- 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, make sure that you have the administrator privileges;
- Take attention at Firewall lock.

Figure 10: "Protection" windows

In the case of HD67510-A1 or HD67510-B2 you have to use the software "SW67510":
www.adfweb.com\download\filefold\SW67510.zip.

Note:
The "**Update via UDP**" can be used only with Hardware HD67510-A1 or HD67510-B2, and only with Software version from 1.200;
The "**Update via TCP**" can be used only with Hardware HD67510 or HD67510M, and only with Software version up to 1.100;
The "**Update via Serial**" can be used with all hardware, and with all Software versions.

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Industrial Electronic Devices

MECHANICAL DIMENSIONS:
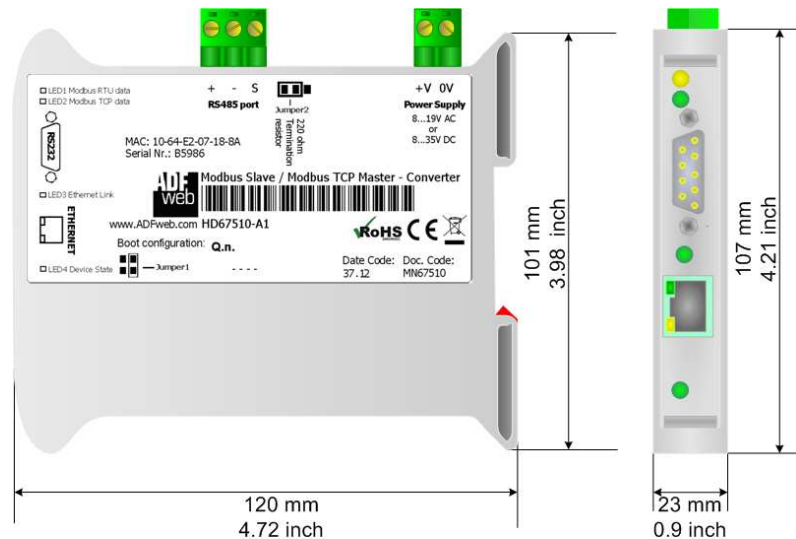
Figure 11: Mechanical dimensions scheme for HD67510-A1 (and Old Model HD67510)
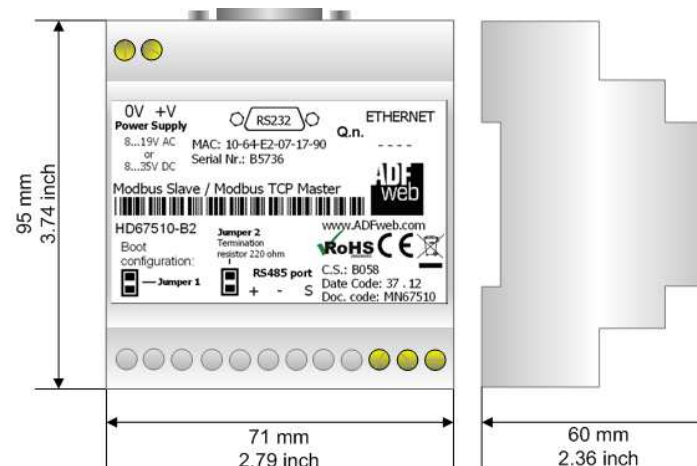
Figure 12: Mechanical dimensions scheme for HD67510-B2 (and Old Model HD67510M)

ORDER CODES:

Order Code: **HD67510-A1-**   Modbus Slave / Modbus TCP Master - Converter (Housing type: A, Terminal Blocks Connectors)

Order Code: **HD67510-B2-**   Modbus Slave / Modbus TCP Master - Converter (Housing type: B, Terminal Blocks Connectors)

ACCESSORIES:

Order Code: **AC34107**   -   Null Modem Cable Fem/Fem DSub 9 Pin 1,5 m

Order Code: **AC34114**   -   Null Modem Cable Fem/Fem DSub 9 Pin 5 m

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

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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.

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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.

PRODUCTS AND RELATED DOCUMENTS:

Part	Description	URL
HD67118	Converter RS232 to RS485 Isolated	www.adfweb.com?Product=HD67118
HD67119	Converter USB 2.0 to RS485 Isolated	www.adfweb.com?Product=HD67119
HD67507	Gateway Modbus TCP Server to RTU Master	www.adfweb.com?Product=HD67507
HD67510	Gateway Modbus TCP Client to RTU Slave	www.adfweb.com?Product=HD67510