User Manual

Revision 1.000
English

Gateway
Datalogger Modbus/JBus Slave

(Order Code: HD67123-C2)

for Website information:
www.adfweb.com?Product=HD67123-C2

for Price information:
www.adfweb.com?Price=HD67123-C2

Benefits and Main Features:

- Very easy to configure
- Low cost
- Wide supply input range
- Galvanic isolation
- Industrial temperature range:
  -30°C / 70°C (-22°F / 158°F)

For others Gateways / Bridges:

CANopen to Modbus

See also the following links:
www.adfweb.com?Product=HD67001 (Modbus RTU Master)
www.adfweb.com?Product=HD67502 (Modbus RTU Slave)
www.adfweb.com?Product=HD67004 (Modbus TCP Master)
www.adfweb.com?Product=HD67505 (Modbus TCP Slave)

For others Gateways / Bridges:
For **CAN bus 2.0A** and/or **CAN bus 2.0B** to **Modbus**

See also the following links:
www.adfweb.com?Product=HD67011 (Modbus RTU Slave)
www.adfweb.com?Product=HD67012 (Modbus RTU Master)
www.adfweb.com?Product=HD67514 (Modbus TCP Slave)
www.adfweb.com?Product=HD67515 (Modbus TCP Master)

Do you have an your customer protocol?
See the following links:
www.adfweb.com?Product=HD67003

Do you need to choose a device? do you want help?
Ask it to the following link:
www.adfweb.com?Cmd=helpme

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	21/09/2010	FI	All	First release version

WARNING:

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CONNECTION SCHEME:

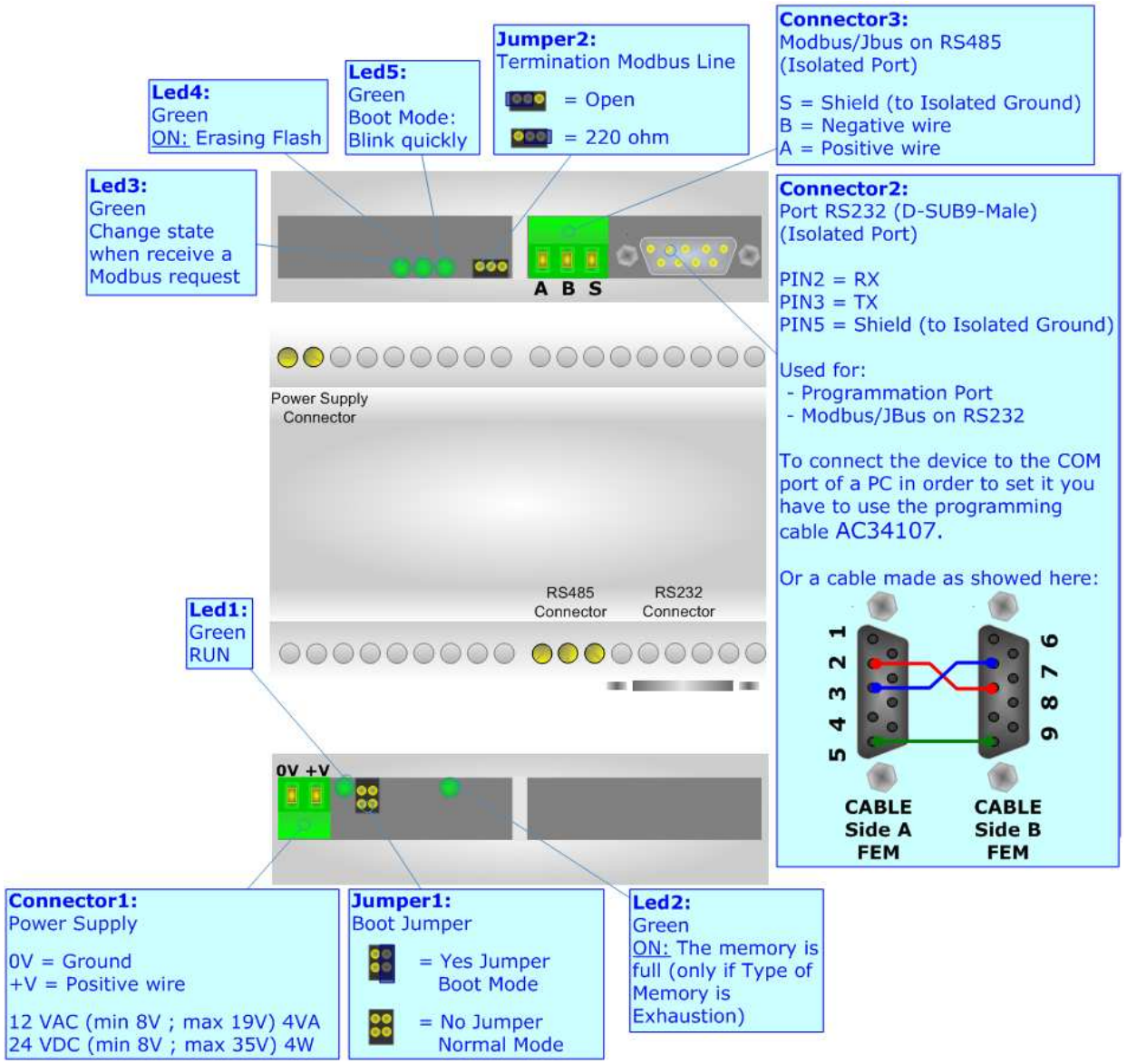


Figure 1: Connection scheme for HD67123-C2

CHARACTERISTICS:

The Configurable Datalogger Modbus/Jbus allows the following characteristics:

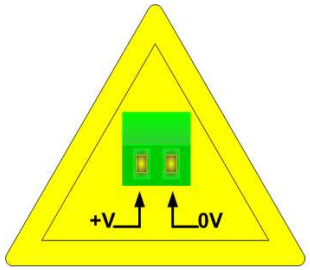
- An internal Real-Time-Clock;
- An internal memory of 4 MByte;
- Export data in MSExcel format (.csv file)
- Mountable on Rail DIN;
- Temperature range -30°C to 70°C.

POWER SUPPLY:

Recommended Power Supply	
VDC	**VAC**
24	**12**

VDC		VAC	
Vmin	**Vmax**	**Vmin**	**Vmax**
8v	**35v**	**8v**	**19v**

Caution: Not reverse the polarity power.



CONFIGURATION:

You need Compositor SW67123 software on your PC in order to perform the following:

- Define the parameter of Modbus/JBus;
- Programming the time of the Datalogger;
- Downloading the acquired data to the Datalogger;
- Exporting the downloaded data into a format compatible with Excel;
- Cancelling the Datalogger memory.

USE OF COMPOSITOR SW67123:

To configure the Gateway, use the available software that runs with Windows, called SW67123. It is downloadable on the site www.adfweb.com and its operation is described in this document.

When launching the SW67123 the right window appears (Fig. 2).

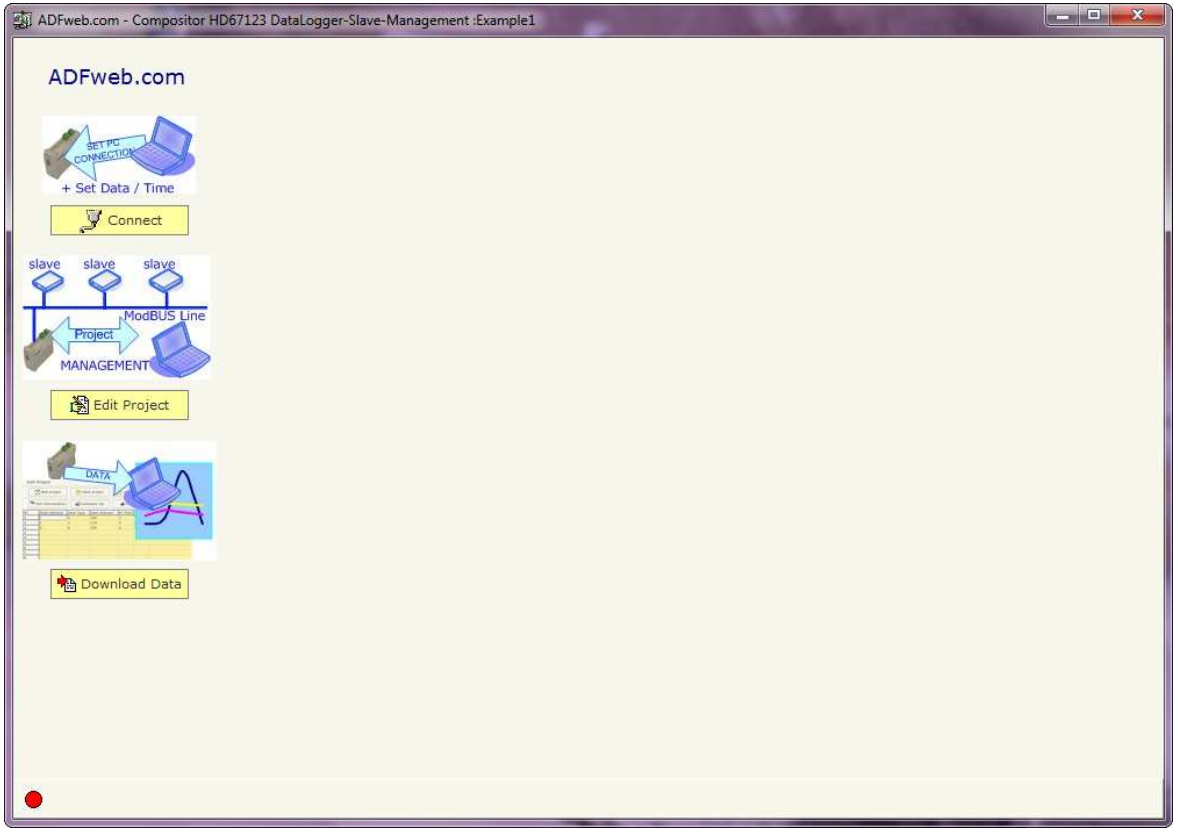


Figure 2: Main window for SW67123

CONNECT:

Figure 3: Connection of the RS232 port

By Pressing the "Connect" button from the main window for SW67123 (Fig. 2) the window "Connection of the RS232 port" appears (Fig. 3).

This allows to connects a Personal Computer with the Datalogger through the RS232 port.

In this section it is possible to:

- Select the COM Port used for connecting to the device;
- Read the Date/Time;
- Set a new Date/Time;
- Close the communication COM Port previously opened.

Note:
The device must be in Normal Mode (Boot Jumper not inserted) when you use this section of software.

SET COMMUNICATION PORT:

By pressing "Set Communication Port" button the right window appears (Fig.4). It is necessary to select the CON Port used to connect the DataLogger device to Personal Computer.

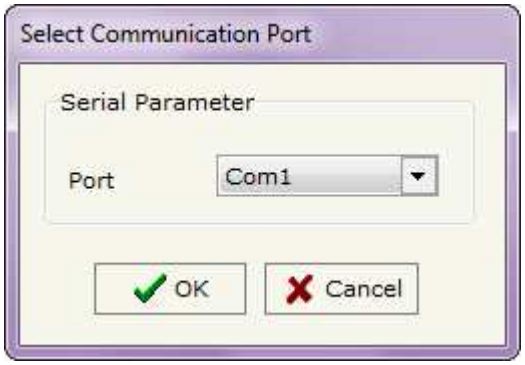


Figure 4: "Set Communication Port" window

READ DATE TIME:

By pressing "Read Date Time" button, close to it, the Date/Time used in the Datalogger appears (Fig.5).

Figure 5: Read Date Time

SET DATE TIME:

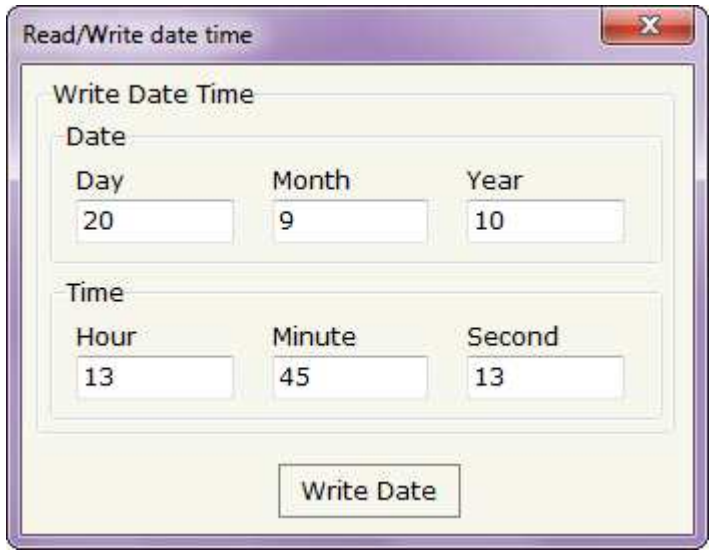


Figure 6: "Read/Write date time" window

By pressing "Set Date Time" button the upper window appears (Fig.6). Automatically the date and time of your Operating System will used to fill the fields. However it is possible to change them manually. By pressing the "Write Date" button the Date/Time will be updated into the device.

CLOSE COMMUNICATION PORT:

By pressing "Close Communication Port" button the COM Port previously opened will be closed.

EDIT PROJECT:

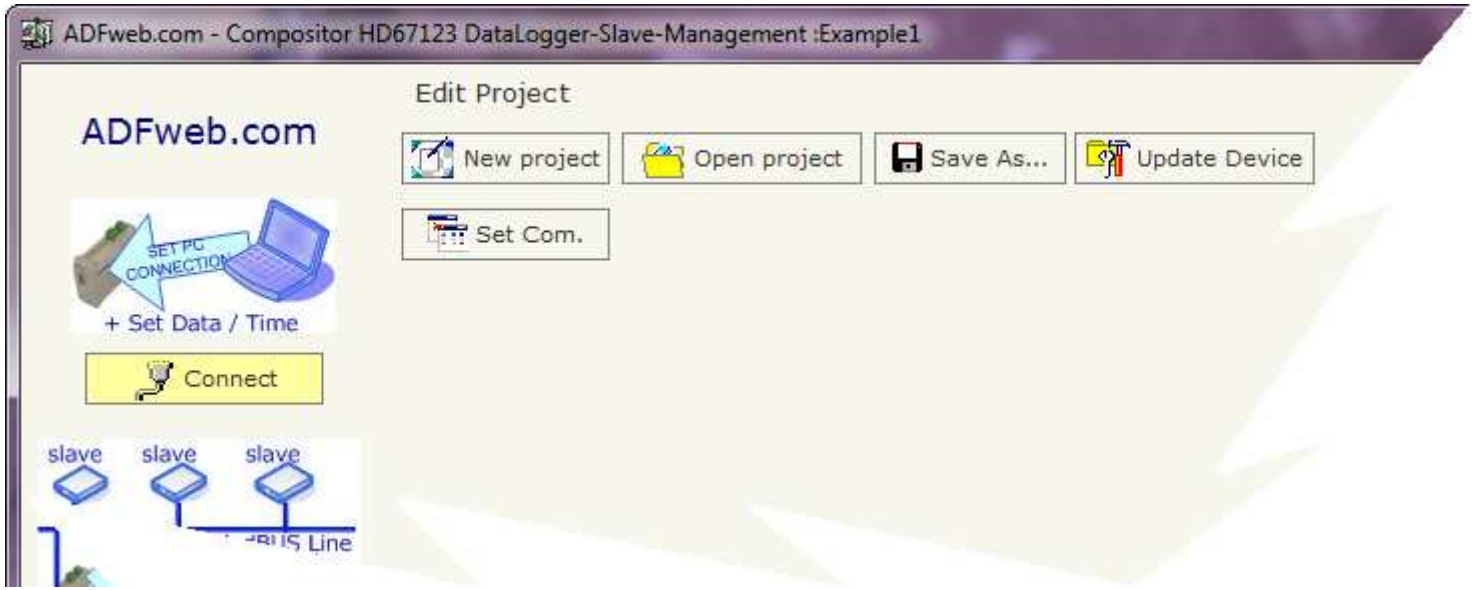


Figure 7: Edit Project

By Pressing the "Edit Project" button from the main window for SW67123 (Fig. 2) the window "Edit Project" appears (Fig. 7).

In this section it is possible to:

- Create a new project;
- Open an existing project;
- Save a modified project;
- Modify the Communication Parameters of Modbus/Jbus;
- Update the Firmware/Project or both.

Note:
The device must be in Boot Mode (Boot Jumper inserted in Boot Position) when you use this section of software.

NEW PROJECT – OPEN PROJECT – SAVE AS...

These three buttons are used to create a new project, open an existing one and save the modifications of the opened one into another new project.

The "New Project" button creates the folder which contains all the project files: the project is the complex of files that define a particular configurations of the Datalogger device.
To clone the configurations of a Datalogger ModBUS 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 click on "Save as..." button and choose a name, or you can duplicate the project folder with another name and open the new folder with the button "Open Project".
When the project is created or open, it is possible to access the various configuration sections of the device.

Figure 8: "New Project" / "Save As" windows

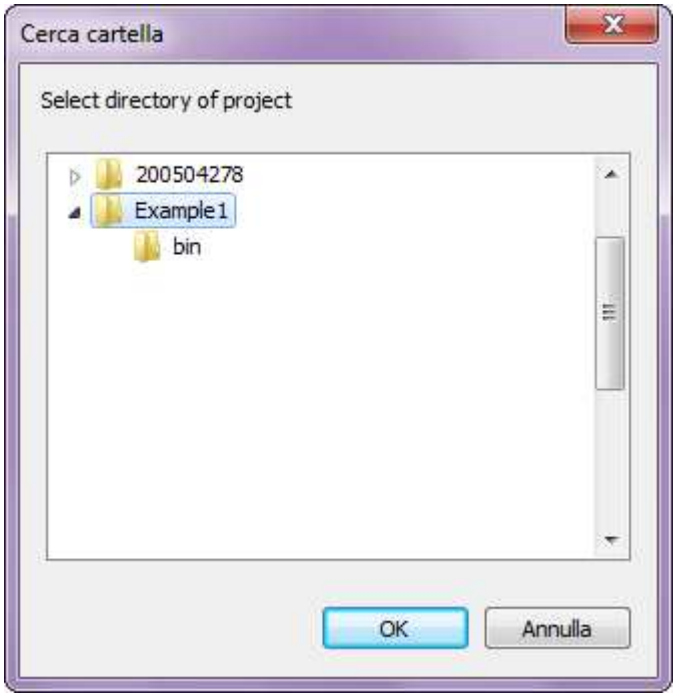


Figure 9: "Open Project" window

SET COMMUNICATION:

This section defines the fundamental communication parameter of Modbus/JBus.

By Pressing the "Set Com." button the window "Set Communication" appears (Fig. 10).

The means of the fields for Serial are:

- If the field "*RS232*" is checked the serial line in use is the RS232, otherwise is the RS485;
- In the field "*Baudrate*" the baudrate of the serial line in use is defined;
- In the field "*Parity*" the parity of the serial line is defined;
- In the field "*DevID.*" the ID for the Modbus/JBus side is defined.
- In the subsection "Protocol" it is possible to select the protocol to use in Modbus/JBus line from the following:
  - *Modbus RTU*;
  - *Modbus ASCII*;
  - *JBUS*;
  - *Binary*: simple protocol defined by Us, whose functions are described in the document "Simple Protocol" downloadable at www.adfweb.com/download/filefold/Simple_Protocol_ENG.pdf;
  - *ASCII*: simple protocol defined by Us, whose functions are described in the document "Simple Protocol" downloadable at www.adfweb.com/download/filefold/Simple_Protocol_ENG.pdf.
- If the field "Memory Type" is "*Cyclic*" the gateway when arrives at the end of the memory restart and overwrite the items, otherwise if the Type of Memory is "*Exhausted*" the gateway when arrives at the end of the memory don't save any other Modbus frame since the command "Erase memory" is sent and the Flash will erased;
- In the field "*Offset*" if you need to shift the fixed Modbus registers used for read/write the informations, you can insert the number of shift.

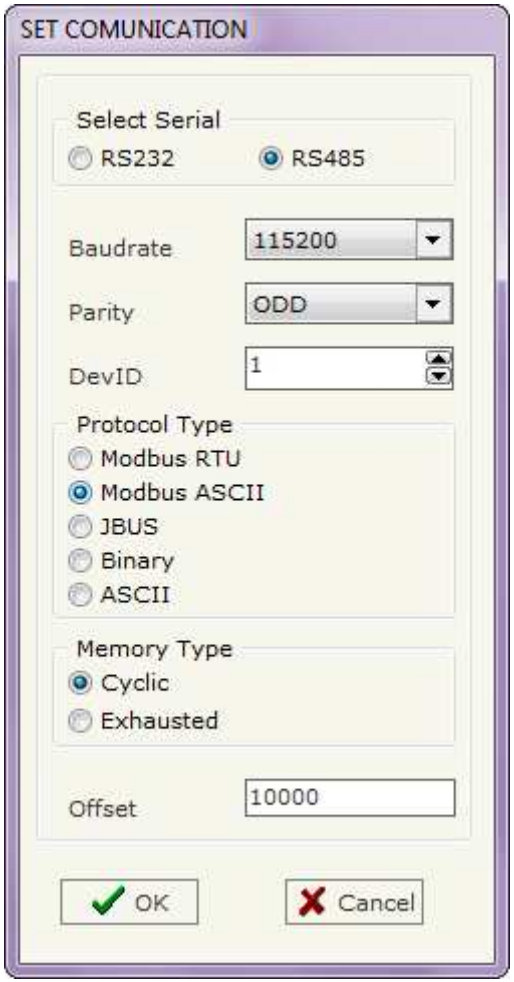


Figure 10: "Set Communication" window

UPDATE DEVICE:

Section "Update Firmware" (Fig. 11):
In order to load the parameters or update the firmware in the device, 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. 23);
- 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 update.

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 HD67123-C2 device.

Warning:
If the Fig. 12 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.

Figure 12: "Protection" window

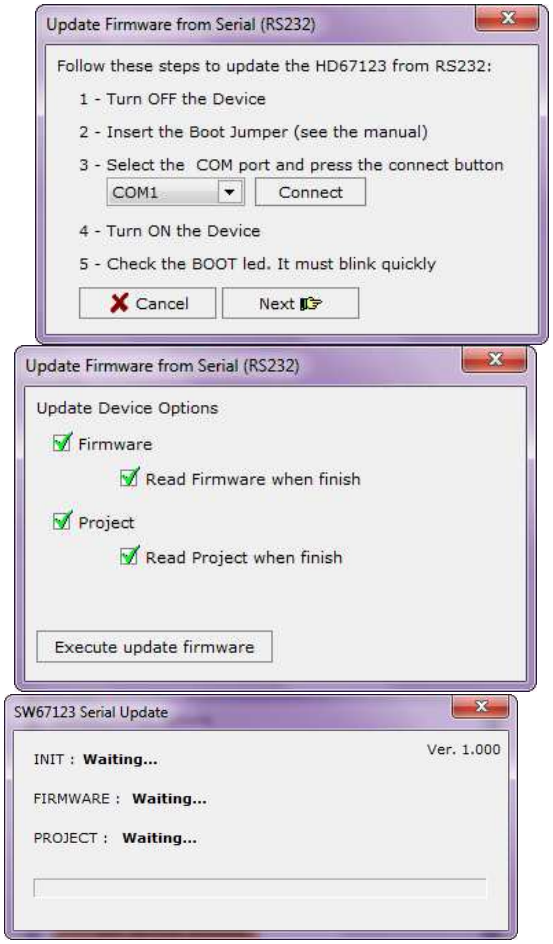


Figure 11: "Update Firmware" windows

DOWNLOAD DATA:

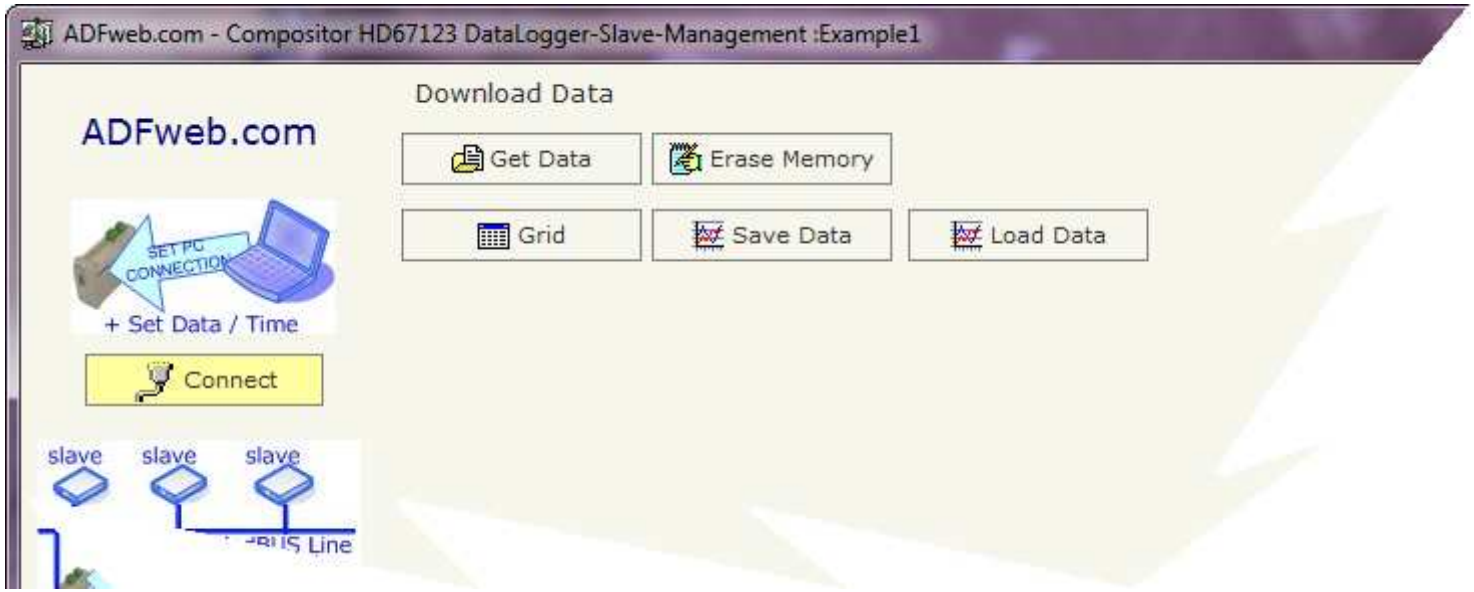


Figure 13: Download Data

By Pressing the "Download Data" button from the main window for SW67123 (Fig. 2) the window "Download Data" appears (Fig. 13).

In this section it is possible to:

- Get the stored data;
- Erase the Flash memory;
- Shows the data into a grid;
- Save the data;
- Load saved data.

Note:
The device must be in Normal Mode (Boot Jumper not inserted) when you use this section of software.

GET DATA:

By pressing "Get Data" button the software download the stored data of the gateway and the right window appear (Fig. 14).

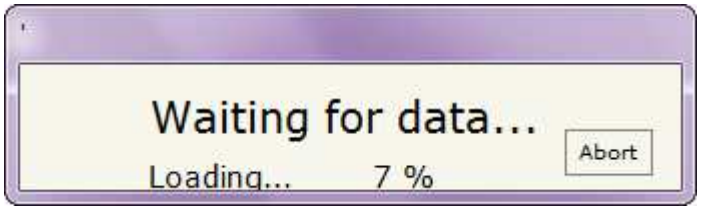


Figure 13: "Waiting" window

ERASE MEMORY:

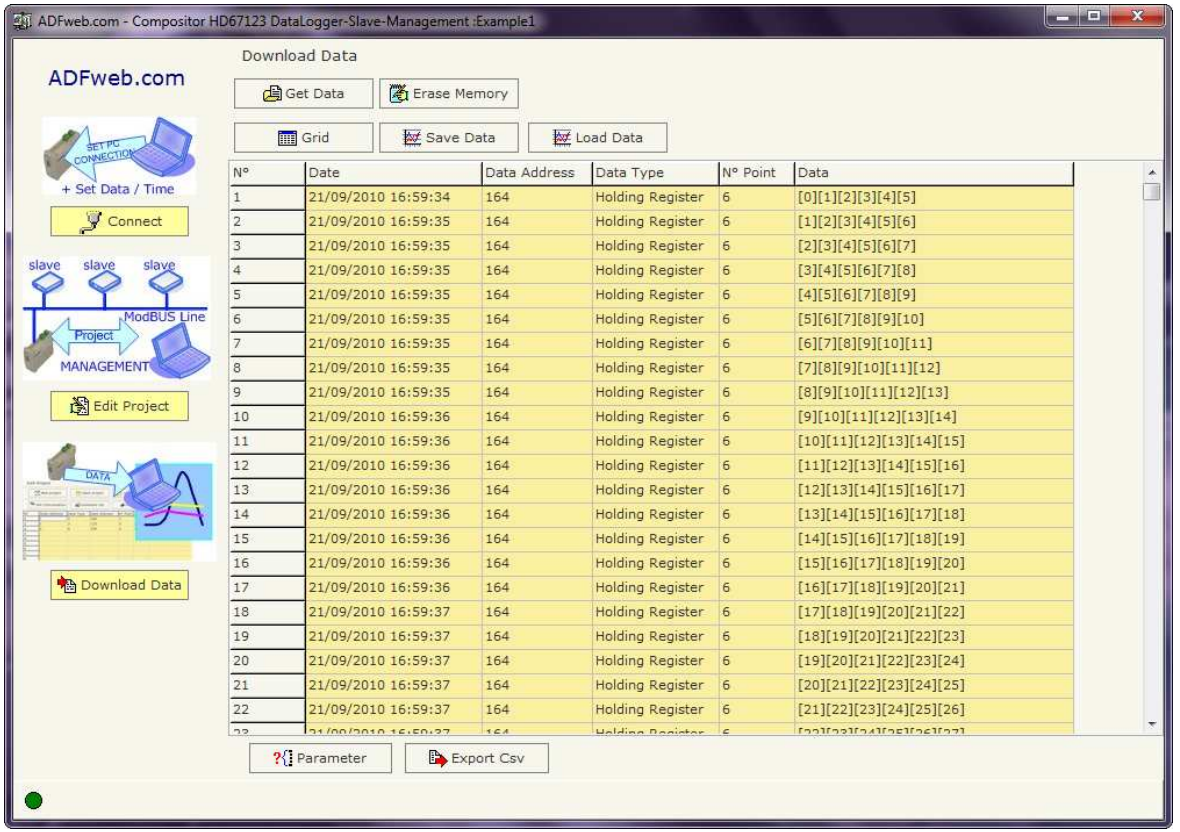
By pressing "Erase memory" button it is possible to erase the whole flash memory that contain the stored data.

Figure 14: "Erase Memory" windows

GRID:

By pressing the "Grid" button, or automatically when the data are finished to download a table will be filled. The fields of the columns are:

- In the field "N°" there is the progressive number of the records;
- In the field "Date" there is the Date and Time when the write records are arrived to the Datalogger;
- In the field "Data Address" there is the Modbus Address;
- In the field "Data Type" there is the type of data arrived;
- In the field "N° Point" there is the number of consecutive Status (in case of "Coil Status") or Register (in case of "Holding Register");
- In the field "Data" there are the data.



N°	Date	Data Address	Data Type	N° Point	Data
1	21/09/2010 16:59:34	164	Holding Register	6	[0][1][2][3][4][5]
2	21/09/2010 16:59:35	164	Holding Register	6	[1][2][3][4][5][6]
3	21/09/2010 16:59:35	164	Holding Register	6	[2][3][4][5][6][7]
4	21/09/2010 16:59:35	164	Holding Register	6	[3][4][5][6][7][8]
5	21/09/2010 16:59:35	164	Holding Register	6	[4][5][6][7][8][9]
6	21/09/2010 16:59:35	164	Holding Register	6	[5][6][7][8][9][10]
7	21/09/2010 16:59:35	164	Holding Register	6	[6][7][8][9][10][11]
8	21/09/2010 16:59:35	164	Holding Register	6	[7][8][9][10][11][12]
9	21/09/2010 16:59:35	164	Holding Register	6	[8][9][10][11][12][13]
10	21/09/2010 16:59:36	164	Holding Register	6	[9][10][11][12][13][14]
11	21/09/2010 16:59:36	164	Holding Register	6	[10][11][12][13][14][15]
12	21/09/2010 16:59:36	164	Holding Register	6	[11][12][13][14][15][16]
13	21/09/2010 16:59:36	164	Holding Register	6	[12][13][14][15][16][17]
14	21/09/2010 16:59:36	164	Holding Register	6	[13][14][15][16][17][18]
15	21/09/2010 16:59:36	164	Holding Register	6	[14][15][16][17][18][19]
16	21/09/2010 16:59:36	164	Holding Register	6	[15][16][17][18][19][20]
17	21/09/2010 16:59:36	164	Holding Register	6	[16][17][18][19][20][21]
18	21/09/2010 16:59:37	164	Holding Register	6	[17][18][19][20][21][22]
19	21/09/2010 16:59:37	164	Holding Register	6	[18][19][20][21][22][23]
20	21/09/2010 16:59:37	164	Holding Register	6	[19][20][21][22][23][24]
21	21/09/2010 16:59:37	164	Holding Register	6	[20][21][22][23][24][25]
22	21/09/2010 16:59:37	164	Holding Register	6	[21][22][23][24][25][26]

Figure 14: "Grid" window

SAVE DATA – LOAD DATA:

With these two buttons it is possible to Save/Load the items that are in the table. The format of the Exported/Imported file is .xml.

PARAMETER:

By pressing "Parameter" button the right window appears (Fig. 15).

- In the field "Type of Data" it is possible to select which type of representation of data using between "Decimal", "Hexadecimal" and "Binary";
- If the field "Visible Index" is checked the column "N°" is showed otherwise is hidden;
- In the subsection "Visible Type Data" it is possible to select which data display in the table. It is possible to select only "Status Coil", only "Holding Register", both of them or none of them;
- If the field "Data Type in String" is checked the data type is expressed by the string "Holding Register" and "Coil Status". Otherwise if isn't checked by the numbers "0=Holding Register" and "1=Coil Status".

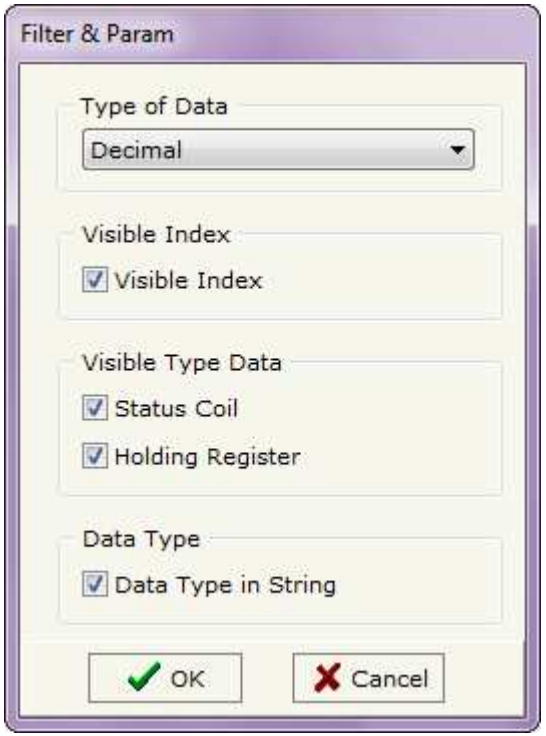


Figure 15: "Filter & Param" window

EXPORT CVS:

With this buttons it is possible to Export the table into a .csv file

CHARACTERISTICS OF THE CABLES:

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.

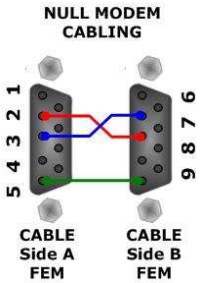


Figure 16: Null modem cabling

Rs485:

The connection at RS485 socket must be done with twisted and shielded cable.

The terminal resistor must be inserted when the RS485 is at the end of the line, using the Terminator jumper.

MECHANICAL DIMENSIONS:

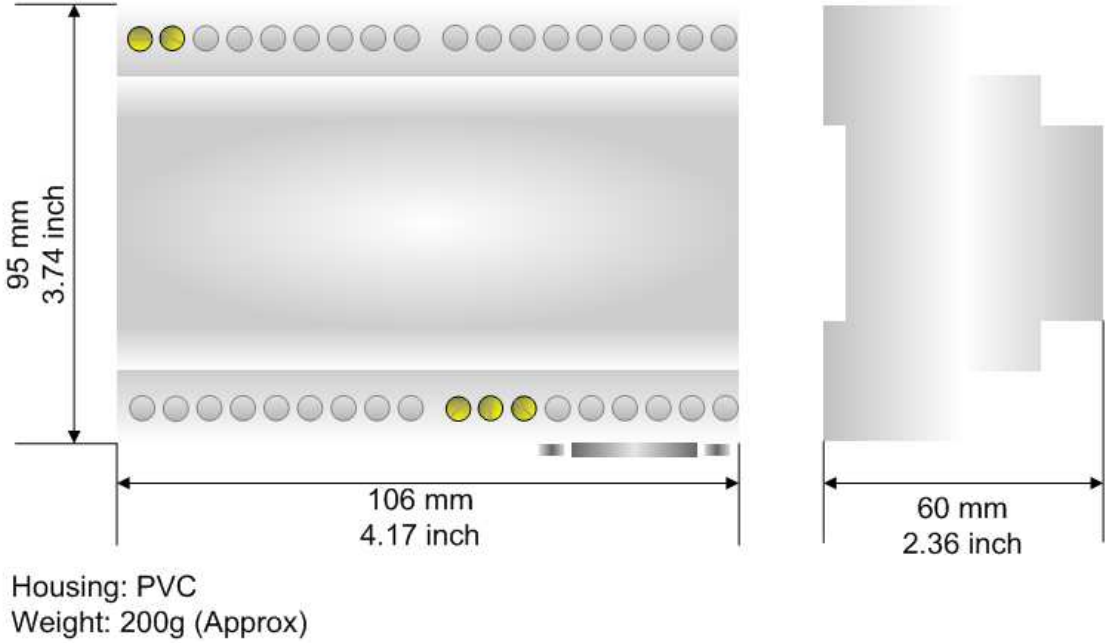


Figure 17: Mechanical dimensions scheme

ORDER CODE:

Order Code: **HD67123-C2** **-** Gateway – Datalogger Modbus/Jbus Slave

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

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
HD67121	Gateway CANopen / Canopen	www.adfweb.com?product=HD67121
HD67502	Gateway CANopen / Modbus - RTU	www.adfweb.com?product=HD67502
HD67505	Gateway CANopen / Modbus – Ethernet TCP	www.adfweb.com?product=HD67505
HD67134	Gateway CANopen / DeviceNet	www.adfweb.com?product=HD67134
HD67117	CAN bus Repeater	www.adfweb.com?product=HD67117
HD67216	CAN bus Analyzer	www.adfweb.com?product=HD67216