

User Manual

Revision 1.001
English

Gateway / Bridge CAN bus to DeviceNet

(Order Code: HD67135)

for Website information:

www.adfweb.com?Product=HD67135

for Price information:

www.adfweb.com?Price=HD67135

Benefits and Main Features:

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



HD67135

For others Gateways / Bridges:

CANopen to DeviceNET

See also the following links:

www.adfweb.com?Product=HD67134

CAN bus to Modbus

See also the following links:

www.adfweb.com?Product=HD67011 (Modbus RTU Master)
www.adfweb.com?Product=HD67012 (Modbus RTU Slave)
www.adfweb.com?Product=HD67014 (Modbus TCP Master)
www.adfweb.com?Product=HD67515 (Modbus TCP Slave)

CAN bus to CAN bus

See also the following link:

www.adfweb.com?Product=HD67221

Do you have an your customer protocol?

See the following link:

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

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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 update.

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	22/01/2008	Av	All	First release version
1.001	10/05/2010	MI Dp	All	Revision

WARNING:

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CHARACTERISTICS:

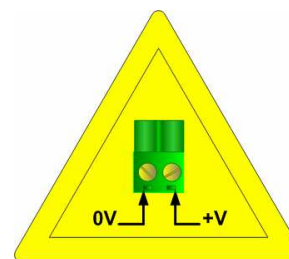
The CAN bus DeviceNet Gateway allows the following characteristics:

- Two-directional information between networks CAN bus and DeviceNet;
- Electrical isolation between two BUSES;
- Read CAN bus frame from DeviceNet frame;
- Write CAN bus frame from DeviceNet frame,
- Temperature range -30°C to 70°C.

POWER SUPPLY:

Recommended Power Supply	
VDC	VAC
24v	12v

Caution: Not reverse the polarity power .



HD67135

VDC		VAC	
Vmin	Vmax	Vmin	Vmax
10v	35v	10v	19v



CONFIGURATION:

To configure the Gateway, use the available software that runs with Windows, called SW67135. It is downloadable on the site www.adfweb.com and its operation is described in this document.

The Gateway CAN bus to DeviceNet can be configured up to a maximum of 128 bytes in reading and 128 bytes in writing.

CONNECTION SCHEME:

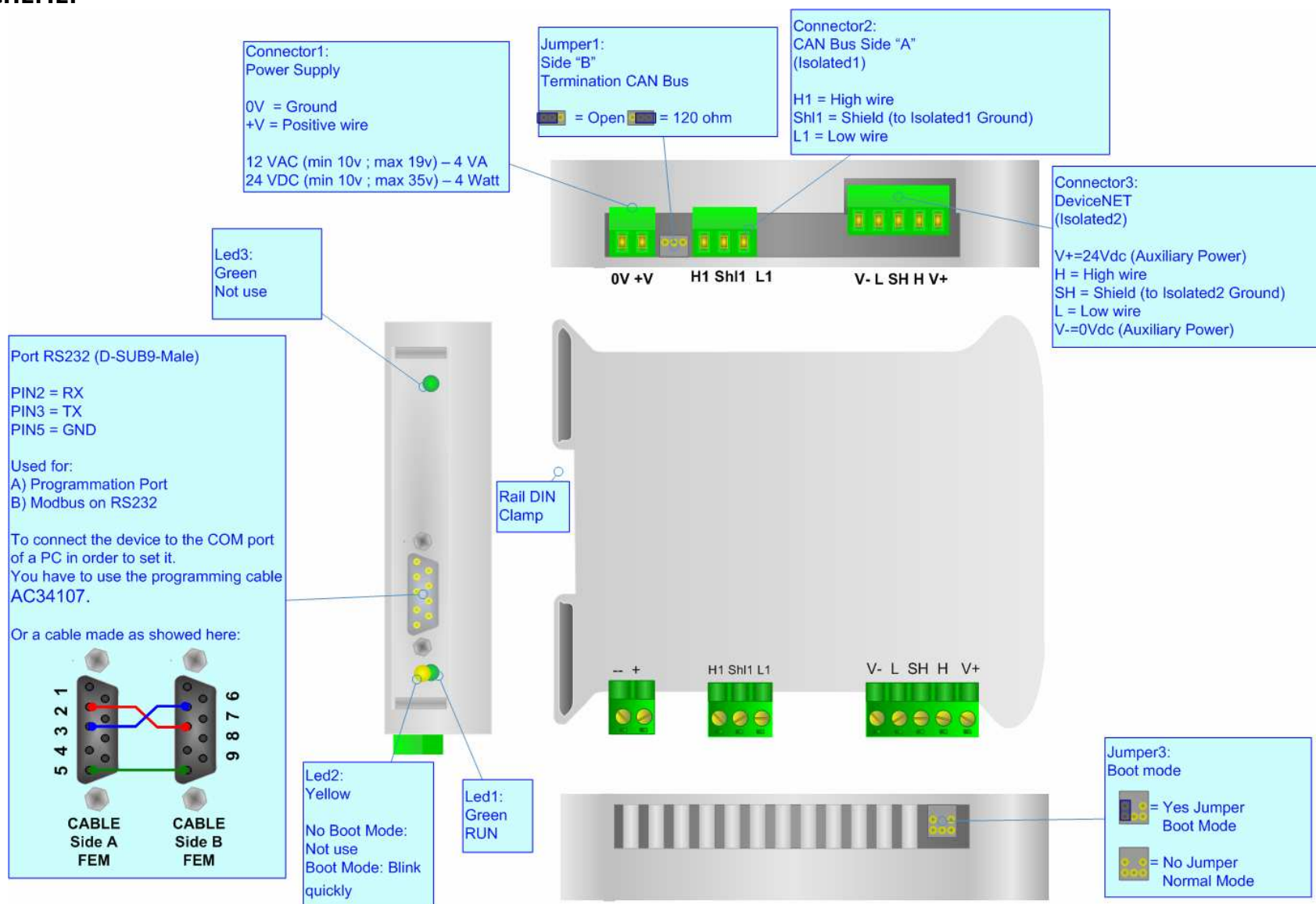


Figure 1: Connection scheme for HD67135

INTRODUCTION:

The "Gateway CANbus to DeviceNet" allows a CANbus network to communicate with a DeviceNet network. You need Compositor SW67135 software on your PC in order to perform the following:

- Define that the CANbus frame is reading from the DeviceNet;
- Define that the CANbus frame is writing from the DeviceNet.

USE OF COMPOSITOR SW67135:

When launching the SW67135 the following window appears. The SW67135 is downloadable on the site <http://www.adfweb.com/home/download/download.asp> (This manual is referenced to the last version of the software present on our web site).

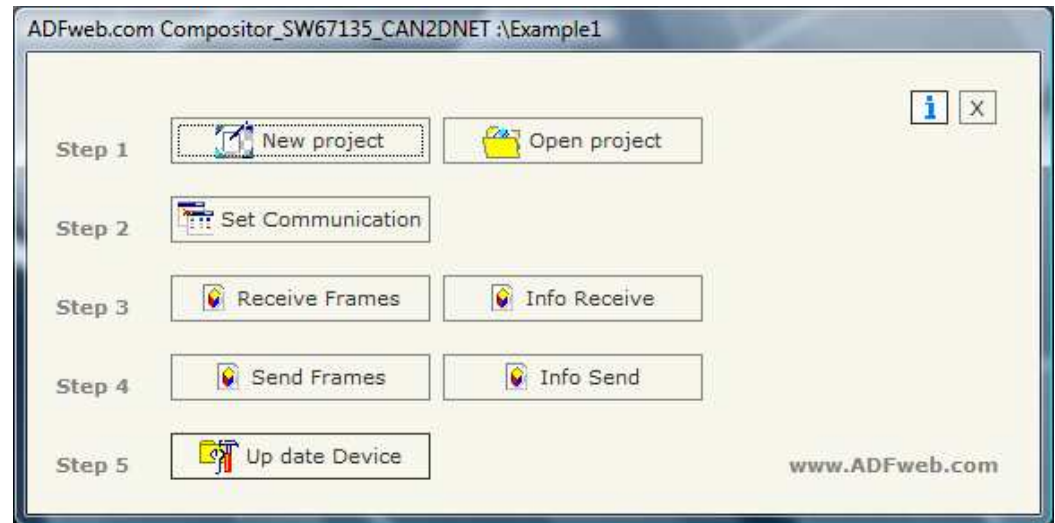


Figure 2: Main window for SW67135

The following explains the function of the buttons:

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 CANopen to DeviceNet Gateway 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".

When a new project is created or an existent project is open, it will be possible to access the various configuration sections of the software:

- **"Set Communication"**;
- **"Receive frames"**;
- **"Send frames"**.

SET COMMUNICATION:

This section defines the fundamental communication parameters of two Buses CANopen and DeviceNet.

By pressing the "Set Communication" button from the main window for SW67135 (Fig. 2) the "SET COMMUNICATION" window appears (Fig. 3).

The means of the fields for the "CAN" section are:

- In the "Baud rate" field you define the CANbus baud rate;
- In the field "CAN Type" you can select the type of CAN bus (CAN 2.0A 11Bit or CAN 2.0B 29Bit);
- If the field "Send Frame on Data Change" is checked, the frame is sent when the data change; otherwise if the field "Send Frame Every xx ms" is checked the frame defined in the "Send Frames" table is sent after the time that you will insert in the field;
- In the field "TimeOut Data" insert a time; when this time is elapsed and the data are not more reliable, the data are setted to 0x00. It is possible to enable this function for each Receive CAN Frame by checking the delete option in the Receive Frames section.

The means of the fields for the "DeviceNet" section are:

- In the "ID Dev." field you define the Gateway address of the DeviceNet.
- In the "Baud rate" field you define the DeviceNet baud rate;
- In the field "Number Byte IN" the number of byte from the DeviceNet to the gateway is defined (at maximum it is possible to use 128 byte);
- In the field "Number Byte OUT" the number of byte from the gateway to the DeviceNet is defined (at maximum it is possible to use 128 byte).

The screenshot shows the "SET COMMUNICATION" dialog box. It is titled "SET COMMUNICATION" and has a blue border. The dialog is divided into two main sections: "CAN" and "DeviceNET".

CAN Section:

- Baud rate:** A dropdown menu set to "250K".
- CAN Type:** Two radio buttons: "CAN 2.0A 11Bit" (selected) and "CAN 2.0B 29Bit".
- Send Data:** Two radio buttons: "Send Frame on Data Change" (selected) and "Send Frame Every" (with a text box containing "500").
- TimeOut DATA:** A "TimeOut Data" text box containing "5" and a unit "s".

DeviceNET Section:

- ID Dev.:** A text box containing "1".
- Baud rate:** A dropdown menu set to "250K".
- Number Byte IN:** A text box containing "128".
- Number Byte OUT:** A text box containing "128".

At the bottom of the dialog are two buttons: "OK" (with a green checkmark icon) and "Cancel" (with a red X icon).

Figure 3: "Set Communication" window

RECEIVE FRAMES:

By pressing the "Receive Frames" button from the main window for SW67135 (Fig. 2) the "Receive Frames" window appears (Fig. 4).

The COB inserted in this table is the data read from the DeviceNet.

The data of the columns have the following meanings:

- In the field "COB ID" insert the COB of the CANbus frame;
- In the field "Dimension" insert the number of byte of the COB;
- If the field "Delete" is checked the data "TimeOut Data" is expired;
- In the field "Mnemonic" you can insert a brief description.

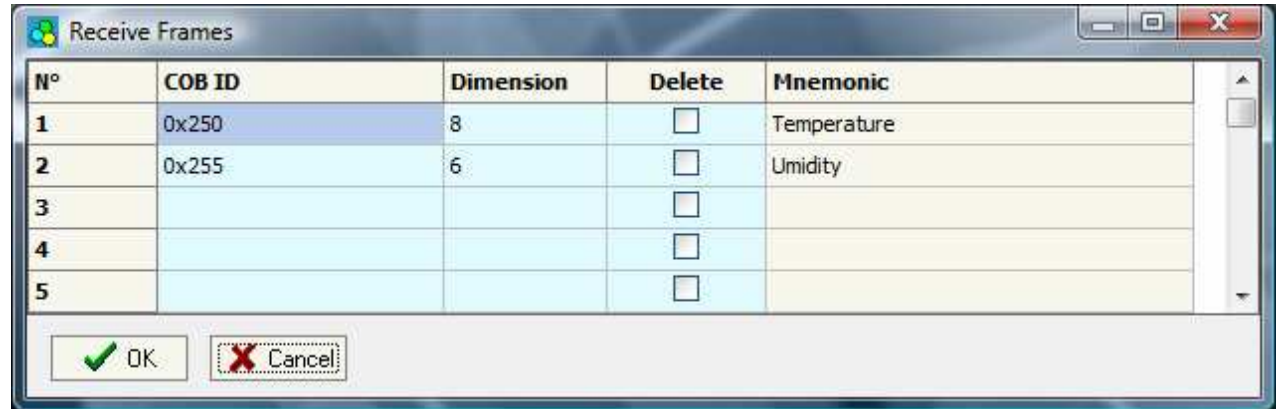


Figure 4: "Receive Frames" window

in the frame will be erased after the

INFO RECEIVE:

By pressing the "Info Receive" button from the main window for SW67135 (Fig. 2) the "Receive Frames Info" window appears (Fig. 5).

- In the "COB ID" field there are the COB ID that you insert in the "Receive Frames" window;
- In the "Bytes" field select the correspondence of the byte in DeviceNet.

For Example:

Byte 1 of frame CAN go to byte 0 in DeviceNet, for example if the first byte of CAN frame is 0x11 in the byte 00 of DeviceNet will read 0x11.

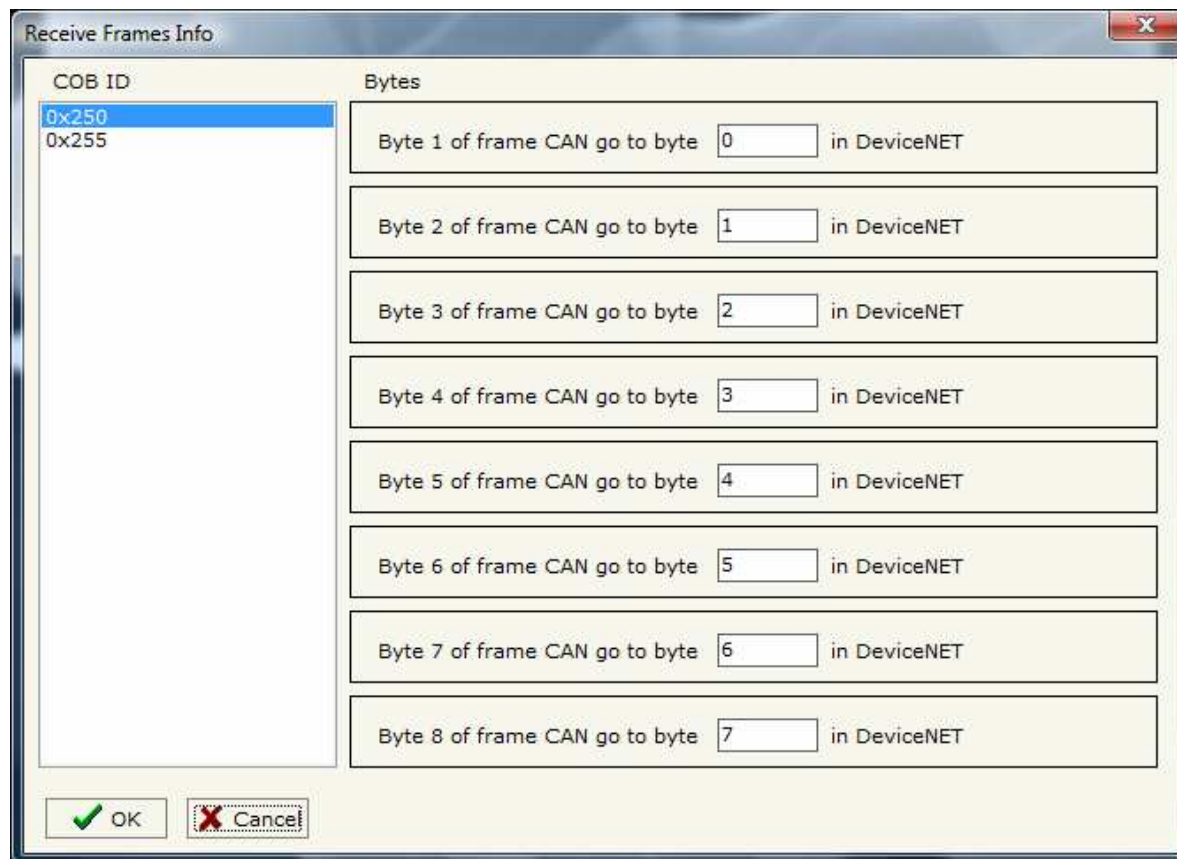


Figure 5: "Receive Frames Info" window

SEND FRAMES:

By pressing the "Send Frames" button from the main window for SW67135 (Fig. 2) the "Send frames" window appears (Fig. 6).

The COB inserted in this table are the data written from the DeviceNet.

The data of the columns have the following meanings:

- In the "COB ID" field insert the COB of the CAN bus frame
- In the "Dimension" field insert the number of byte of the COB;
- In the field "Mnemonic" you can insert a brief description.

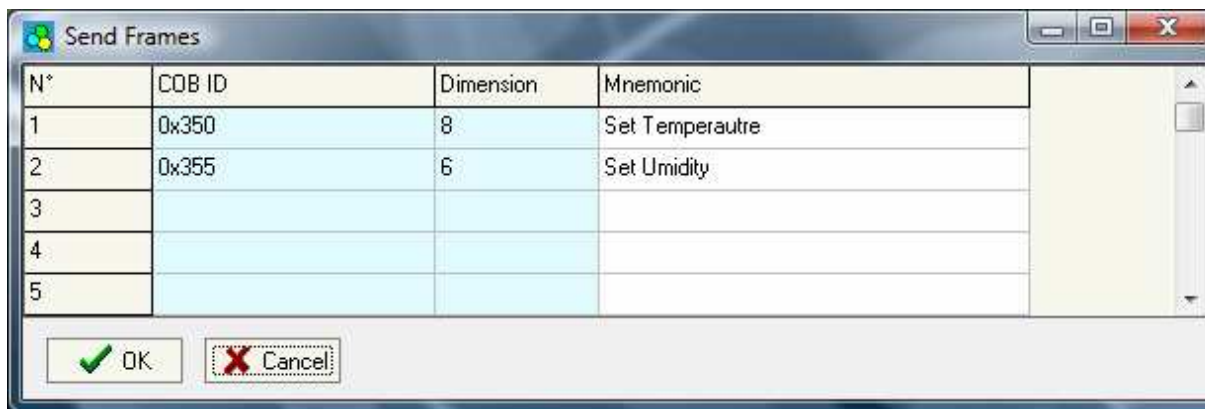


Figure 6: "Send Frames" window

INFO SEND:

By pressing the "Info Send" button from the main window for SW67135 (Fig. 2) the "Send Frames Info" window appears (Fig. 7).

- In the "COB ID" field there are the COB ID that you insert in the "Send frames" window;
- In the field "Bytes" select the correspondence of the byte in DeviceNet

For Example:

Byte 1 of frame CAN go to byte 0 in DeviceNet, for example if the byte 00 of DeviceNet is 0x22, the first byte of CAN frame with COB=0x350 will be 0x22.

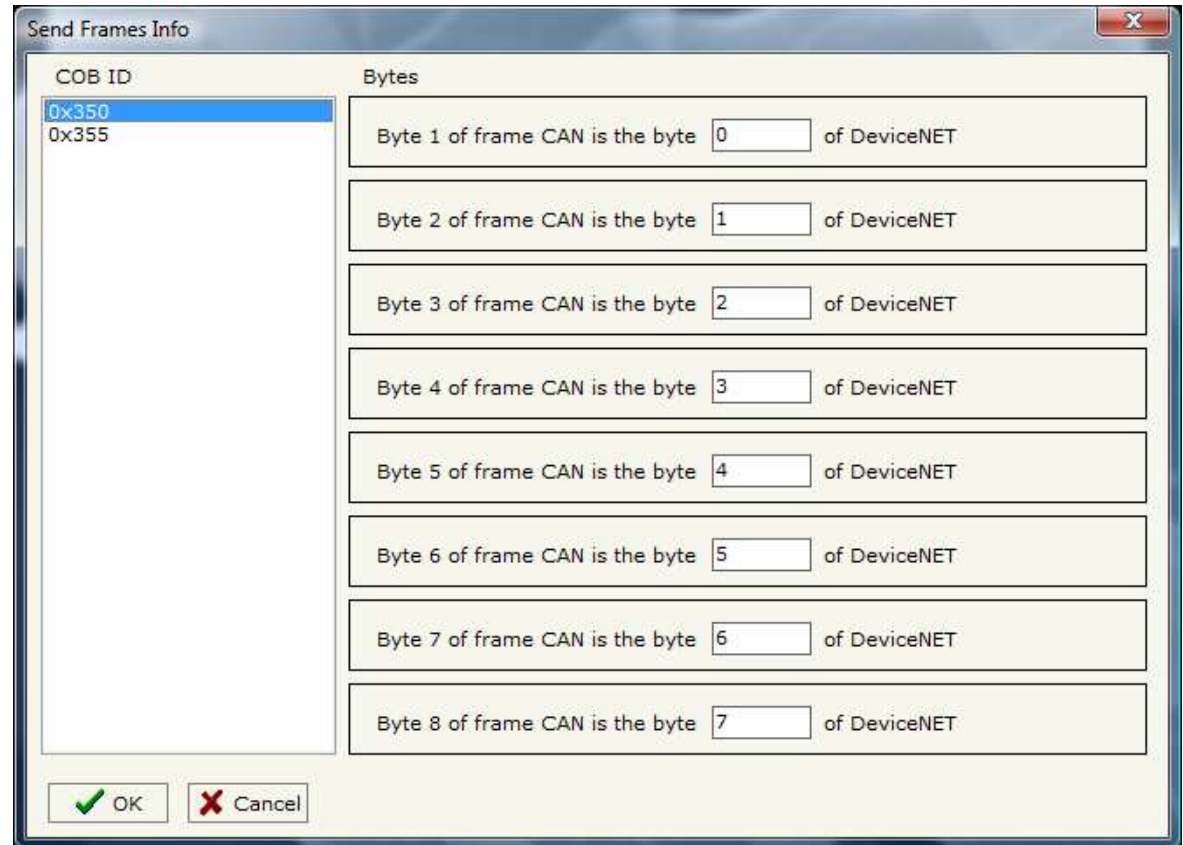


Figure 7: "Send Frames Info" window

UPDATE DEVICE:

Section "Update Device":

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

- Turn OFF the device;
- Connect the Null Modem cable from your PC to the Gateway;
- Insert the Boot Jumper (For more info see the "Connection scheme" of the gateway);
- Turn ON the device;
- Check the "BOOT Led". It must blink quickly (more info see the "Connection scheme" of the gateway);
- Select the COM port and press the "Execute update firmware" button;
- When the operation is finished turn OFF the device;
- Disconnect the Boot Jumper;
- Turn ON the device.

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

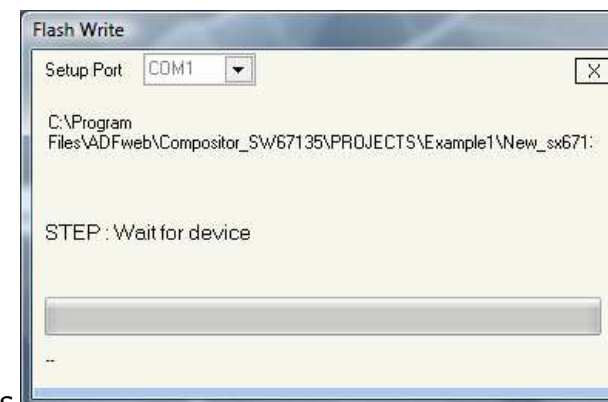
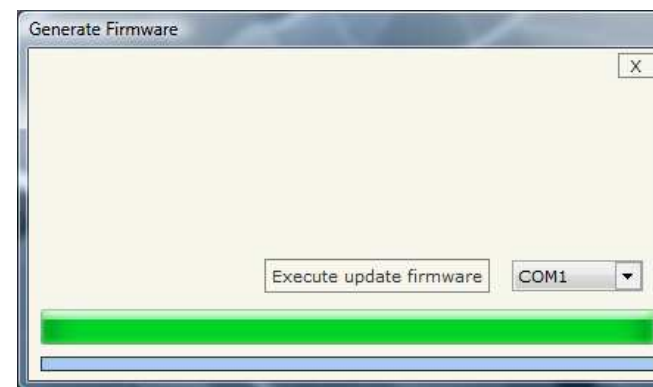
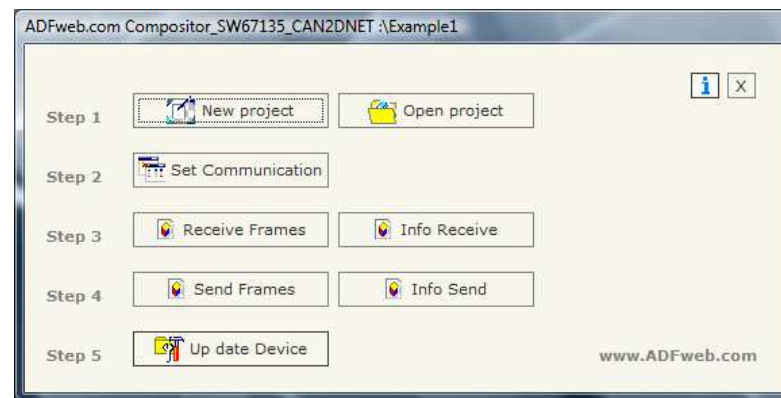


Figure 8: "Update device" windows

CHARACTERISTICS OF THE CABLES:

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.

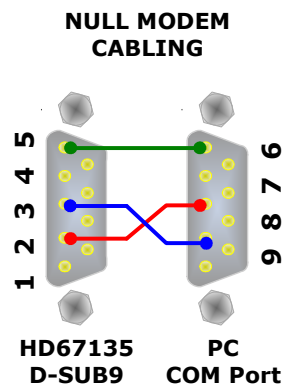


Figure 9: Null modem cabling

CAN BUS CABLE CHARACTERISTICS:

DC parameter:	Resistenza	70 Ohm/m
AC parameters:	Impedance	120 Ohm/m
	Delay	5 ns/m
Length:	Baud Rate [bps]	MAX Length [m]
	10 K	5000
	20 K	2500
	50 K	1000
	100 K	650
	125 K	500
	250 K	250
	500 K	100
	800 K	50
	1000 K	25

MECHANICAL DIMENSIONS:

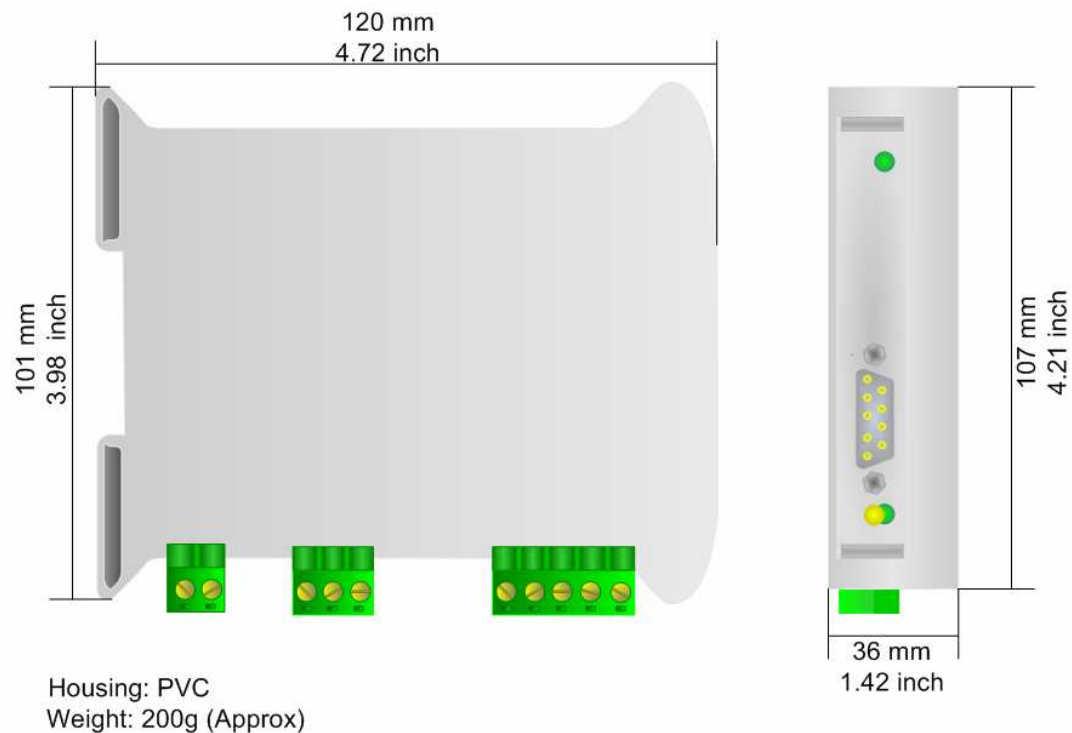


Figure 10: Mechanical dimensions scheme

ORDER CODE:

Order Code: **HD67135** - Gateway – CAN bus to DeviceNet

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



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).
- 3) 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
HD67117	CAN Repeater/Isolator	www.adfweb.com?Product=HD67117
HD67116	Can Analyzer	www.adfweb.com?Product=HD67116
HD67221	Translate CAN bus Gateway	www.adfweb.com?Product=HD67221