

# User Manual

Revision 1.100  
English

## GSM I/O and Alarms Modem

for Website information:

[www.adfweb.com?Product=HD67302](http://www.adfweb.com?Product=HD67302)

for Price information:

[www.adfweb.com?Price=HD67302-B2-02](http://www.adfweb.com?Price=HD67302-B2-02)

[www.adfweb.com?Price=HD67302-B2-20](http://www.adfweb.com?Price=HD67302-B2-20)

[www.adfweb.com?Price=HD67302-B2-11](http://www.adfweb.com?Price=HD67302-B2-11)

### Benefits and Main Features:

- ✦ Very easy to configure
- ✦ SMS / Call to get/trigger an input/output
- ✦ Wide power input range
- ✦ Temperature range: -20°C / +70°C (-4°F / +158°F)



HD67302-B2-xx



### Analyzer / Scanner /Sniffer, M-Bus

[www.adfweb.com?Product=HD67031](http://www.adfweb.com?Product=HD67031)

### Multi-Drop Converter RS232/RS485 to Optic Fiber

[www.adfweb.com?Product=HD67033M](http://www.adfweb.com?Product=HD67033M) (RS232, SL)

[www.adfweb.com?Product=HD67034M](http://www.adfweb.com?Product=HD67034M) (RS232, DL)

[www.adfweb.com?Product=HD67035M](http://www.adfweb.com?Product=HD67035M) (RS485, SL)

[www.adfweb.com?Product=HD67036M](http://www.adfweb.com?Product=HD67036M) (RS485, DL)

### Isolator & Repeater, RS485

[www.adfweb.com?Product=HD67149-A1](http://www.adfweb.com?Product=HD67149-A1)

### CAN, CANopen, J1939, DeviceNet, NMEA2000 Analyzer

[www.adfweb.com?Product=HD67316](http://www.adfweb.com?Product=HD67316)

### CAN, CANopen, J1939, DeviceNet, NMEA2000 from/to USB

[www.adfweb.com?Product=HD67390](http://www.adfweb.com?Product=HD67390)

Do you have an your customer protocol?

See the following links:

[www.adfweb.com?Product=HD67003](http://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](http://www.adfweb.com?Cmd=helpme)



User Manual

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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.

**REVISION LIST:**

Revision	Date	Author	Chapter	Description
0.900	26/05/2011	Fl	All	First Release
1.000	03/09/2012	Fl	All	Software changed (v1.008)
1.001	08/02/2013	Nt	All	Added new chapters
1.100	15/06/2017	Ff	All	New hardware version

**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, legal and safety regulation are required for each individual application. 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 instruments can represent a potential hazard if they are inappropriately installed and operated by untrained personnel. These instructions refer to residual risks with the following symbol:

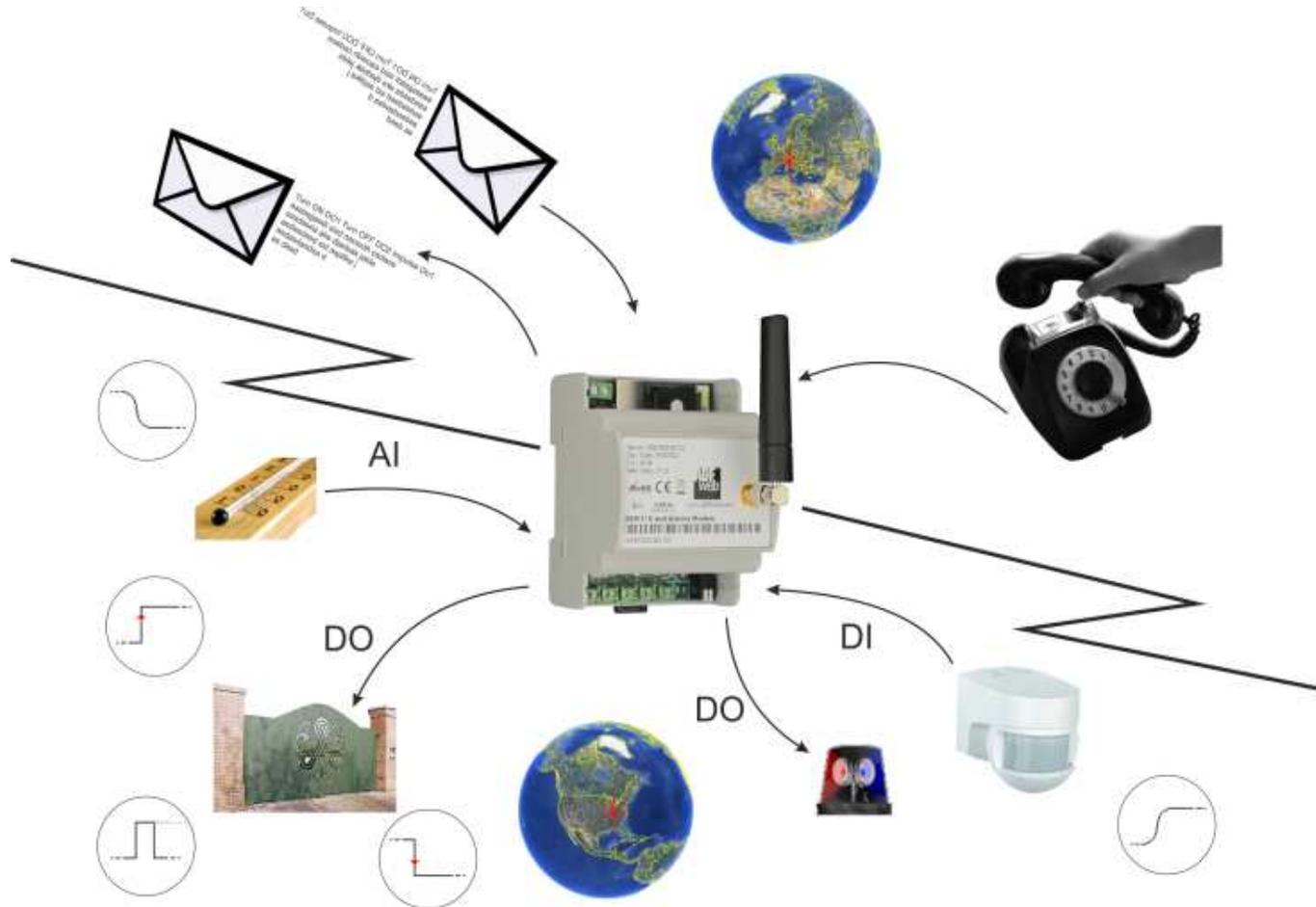


This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

**CE CONFORMITY**

The declaration is made by our company. You can send an email to [support@adfweb.com](mailto:support@adfweb.com) or give us a call if you need it.

**EXAMPLE OF CONNECTION:**



**CONNECTION SCHEME:**

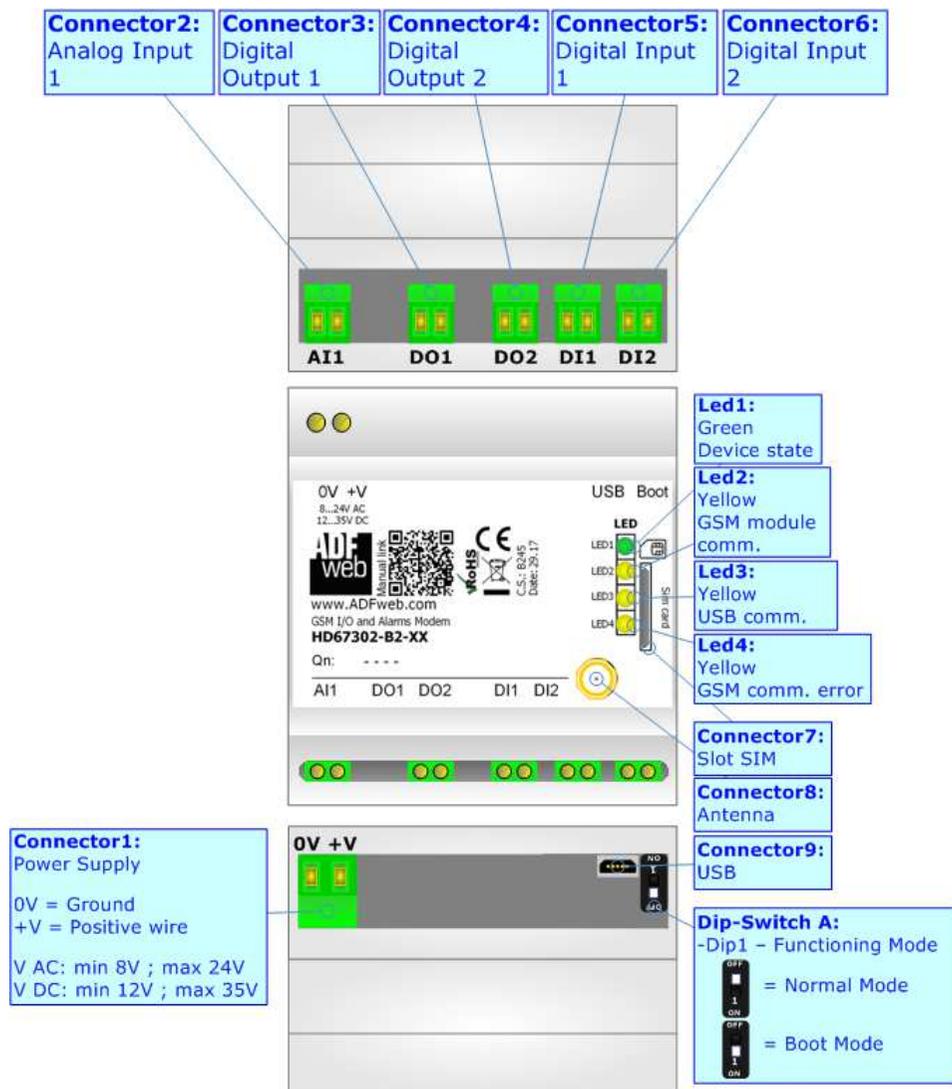


Figure 1: Connection scheme for HD67302-B2-xx

**CHARACTERISTICS:**

The GSM I/O and Alarms Modem is a powerful, flexible and economic instrument which is used to control Digital and Analog I/O by SMS or Phone Call.

It allows the following characteristics:

- 2 Digital Output (standard version);
- 2 Digital Input (standard version);
- 1 Analog Input (standard version);
- SMS alert for state's changing of the Digital/Analog Input;
- Setting Output via SMS and/or call;
- Mountable on 35mm Rail DIN;
- Power Supply 8...24V AC or 12...35V DC;
- Temperature range -20°C / +70°C (-4°F / +158°F).

**CONFIGURATION:**

You need Compositor SW67302 software on your PC in order to perform the following:

- Define the Digital Input settings;
- Define the Analog Input settings;
- Define the Digital Output settings;
- Set Date and Time;
- Update the device.

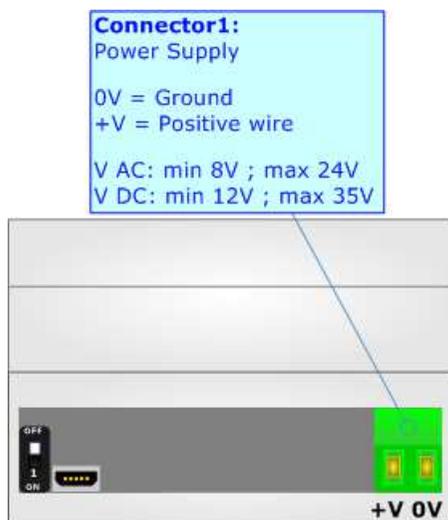
**POWER SUPPLY:**

The devices can be powered at 8...24V AC and 12...35V DC. The consumption depends to the code of the device. For more details see the two tables below.

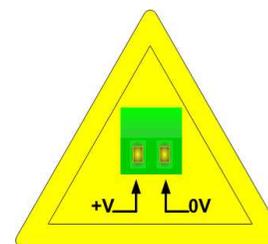
VAC		VDC	
Vmin	Vmax	Vmin	Vmax
8V	24V	12V	35V

Consumption at 24V DC:

Device	[W/VA]
HD67302-B2-xx	3.5



**Caution: Not reverse the polarity power**



HD67302-B2-xx

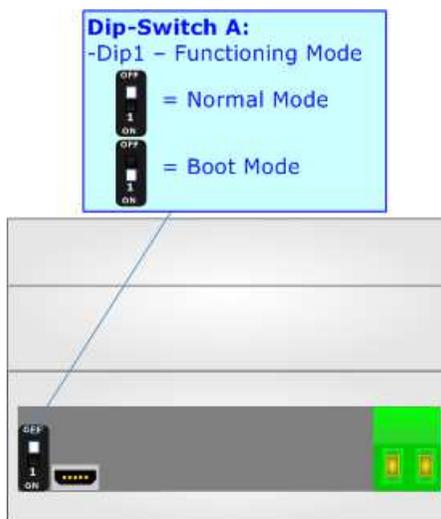
**FUNCTION MODES:**

The device has got two functions mode depending of the position of the 'Dip1 of Dip-Switch A':

- The first, with 'Dip1 of Dip-Switch A' at "OFF" position, is used for the normal working of the device;
- The second, with 'Dip1 of Dip-Switch A' at "ON" position, is used for uploading the Project and/or Firmware.

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.

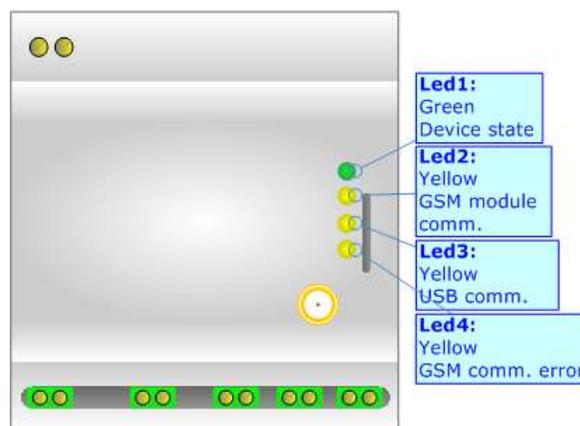
**Warning:**

Dip2 of 'Dip-Switch A' must be at ON position to work even if the Ethernet cable isn't inserted.

**LEDS:**

The device 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)	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress
2:GSM module comm. (yellow)	Blinks quickly the GSM module is communicating	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress
3: USB comm. (yellow)	Blinks quickly when USB messages are received	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress
4: GSM comm. error (yellow)	<b>OFF:</b> GSM connected <b>ON:</b> GSM not connected	<b>Blinks quickly:</b> Boot state <b>Blinks very slowly (~0.5Hz):</b> update in progress

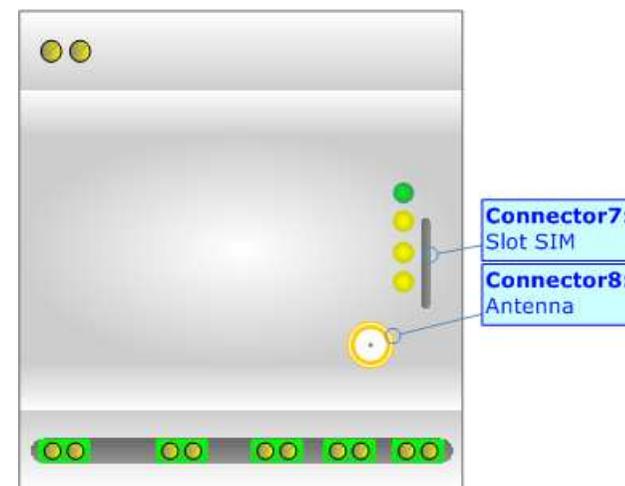


**GSM:**

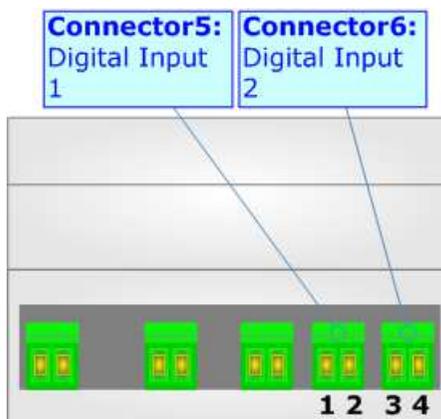
The HD67302 uses a Quad-band GSM/GPRS module and allows to send/receive SMS and phone call.

The Antenna connector is a SMA Female ('Female Outer Shell' and 'Female Receptacle') so the Antenna must have a SMA Male connector.

The SIM type is Micro-Sim.



**DIGITAL INPUTS:**



Depending on the product code, you can identify what kind of inputs you have:

- HD67302-B2-02: 2 Digital Inputs with driving on Positive wire;
- HD67302-B2-20: 2 Digital Inputs with driving on Negative wire;
- HD67302-B2-11: 1 Digital Input with driving on Positive wire and 1 Digital Input with driving on Negative wire.

Pin	Description	Port
1	Positive wire	Digital Input 1 (DI1)
2	Negative wire	
3	Positive wire	Digital Input 2 (DI2)
4	Negative wire	



Warning: Maximum voltage applied: 48V DC



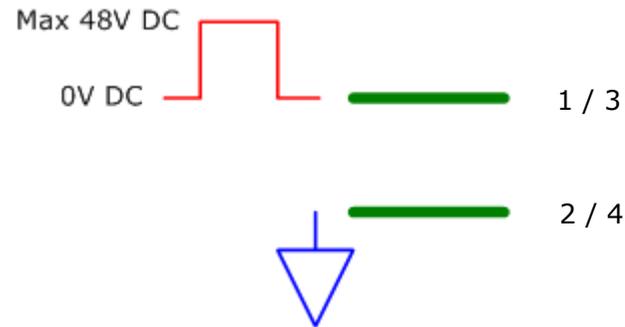
Warning: Minimum voltage applied: 5V DC



Warning: In the case of HD67302-B2-11 Digital Input Port 1 (Connector 5) is Positive wire driving and Digital Input Port 2 (Connector 6) is Negative wire driving

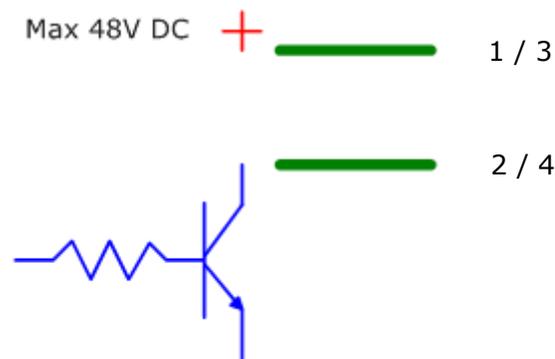
POSITIVE WIRE CONTROL:

In this case the Input have a fixed signal that is the ground of the signal (Pin 2 / 4) and to the other Pin (1 / 3) there is the positive signal that can be applied or not.



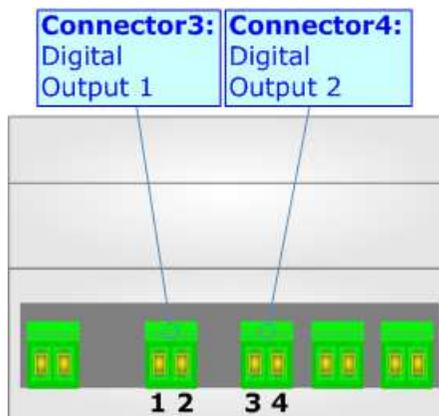
NEGATIVE WIRE CONTROL:

In this case the Input have the fixed signal in the Positive wire (Pin 1 / 3) and the other Pin (2 / 4) is driven, for example, by an Open Collector output.



**DIGITAL OUTPUT:**

The Digital Output are clean contact relay NO (normally opened).



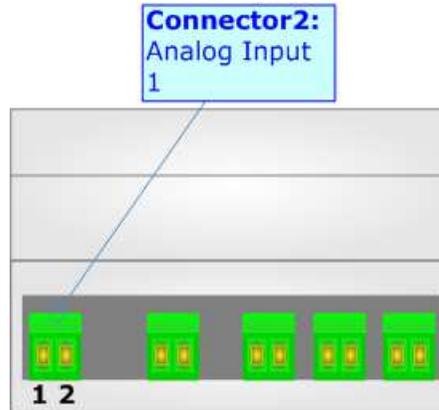
Pin	Description	Port
1	Relay contact	Digital Output 1 (DO1)
2	Relay contact	
3	Relay contact	Digital Output 2 (DO2)
4	Relay contact	

Warning: Maximum current: 250mA.

Warning: Maximum voltage: 48V DC

**ANALOG INPUT:**

The Analog Input is 0...10V DC type. The conversion is made by a 10-bit ADC.

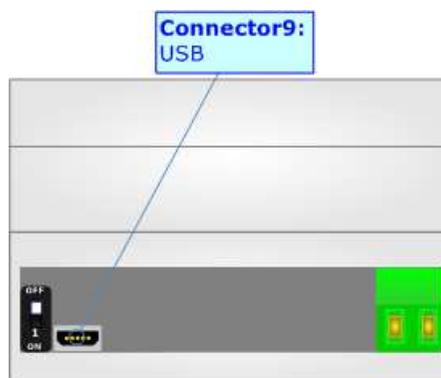


Pin	Description	Port
1	Negative wire	Analog Input (AI)
2	Positive wire (max 10V DC)	

 **Warning:** Maximum voltage applied: 10V DC

**USB:**

The USB port is used to program the module. It is necessary to use a Micro USB type B cable.



### USE OF COMPOSITOR SW67302:

To configure the Alarm Modem use the available software that runs with Windows called SW67302. It is downloadable on the site [www.adfweb.com](http://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 (XP, Vista, Seven, 8, 10; 32/64bit).

When launching the SW67302, the window below appears (Fig. 2).



**Note:**

It is necessary to have installed .Net Framework 4.

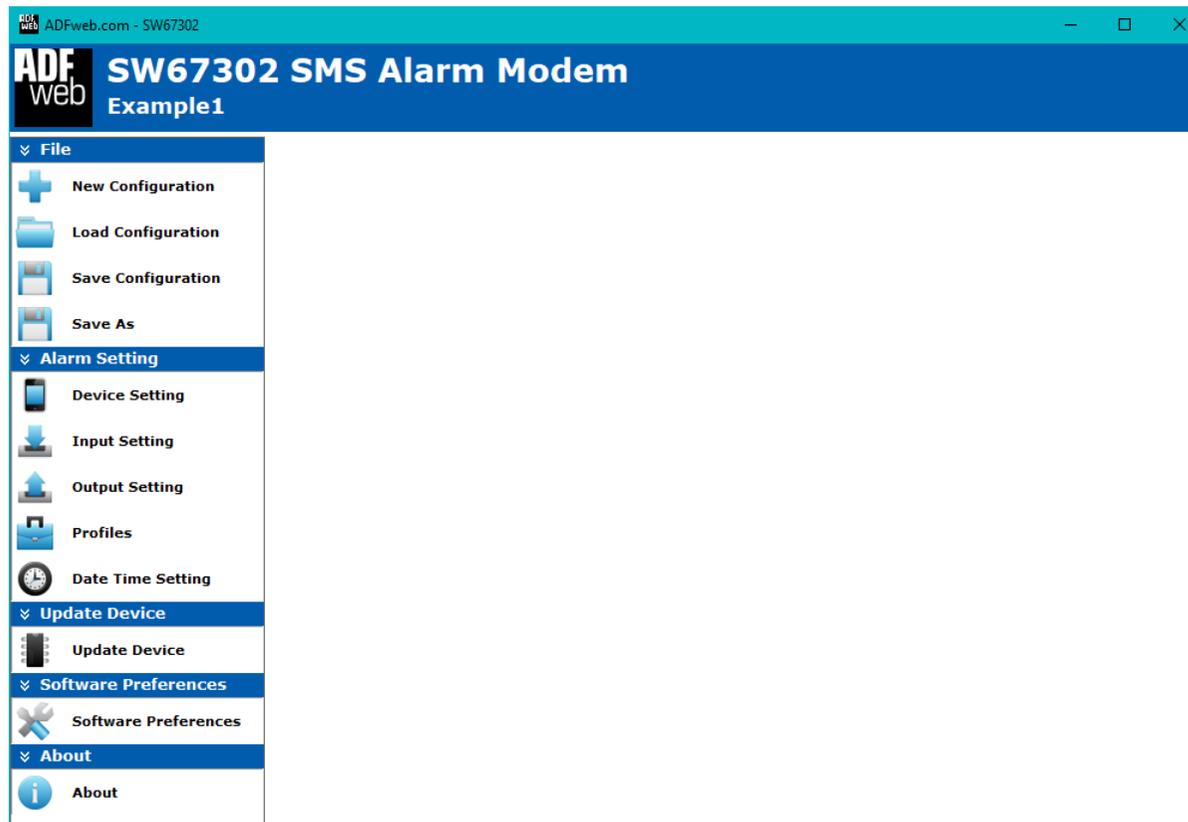
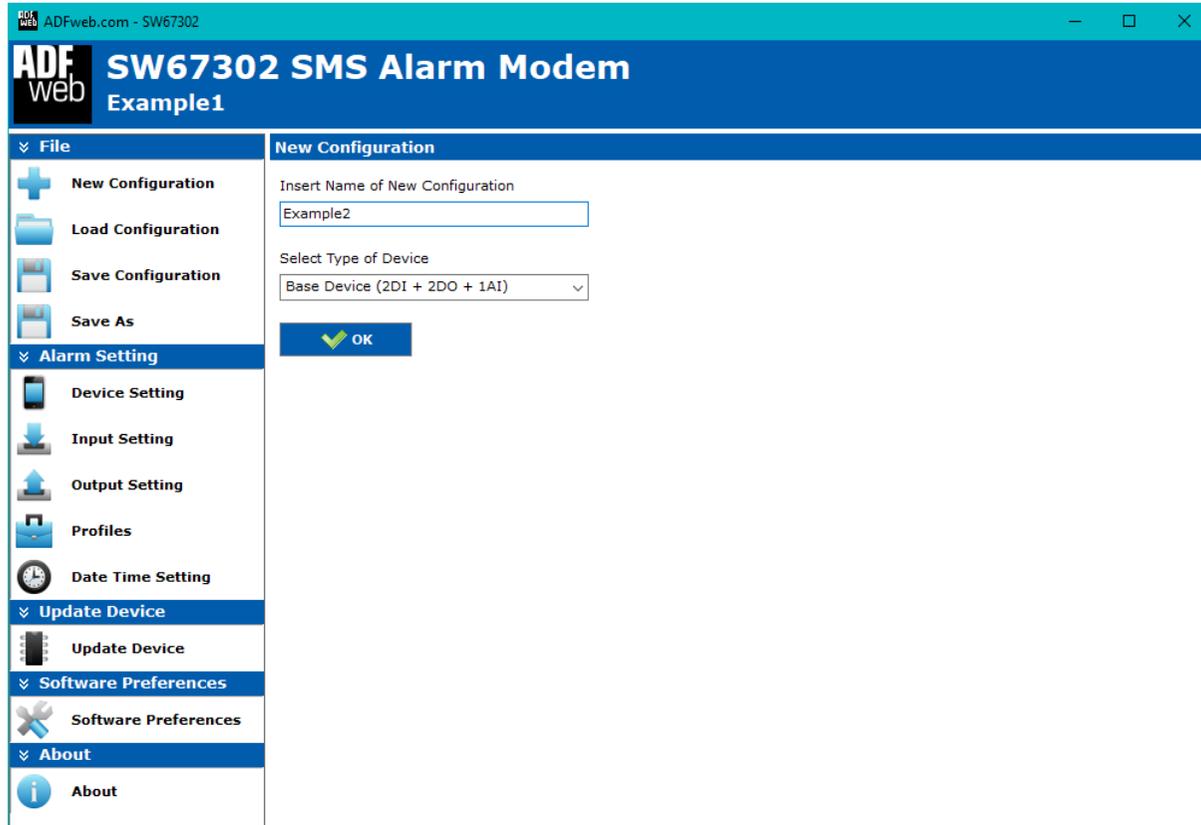


Figure 2: Main window for SW67302

**NEW CONFIGURATION:**

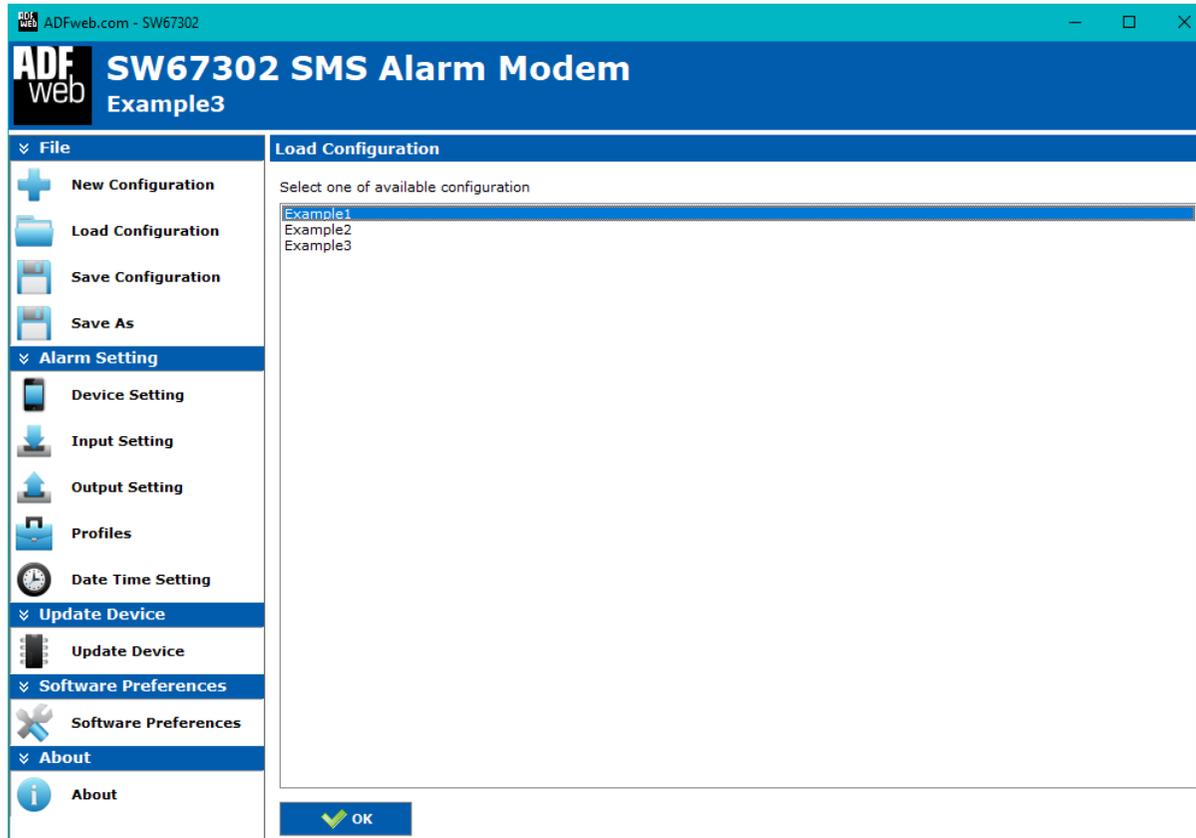


By pressing the **"New Configuration"** button it is possible to create a new project. It is possible to define the name and the device type. Press **"OK"** to create it.

It is possible to save a configuration by pressing the **"Save Configuration"** button or save it as a new one by pressing **"Save as"** button.

Figure 3: "New Configuration" window

**LOAD CONFIGURATION:**



By pressing the **“Load Configuration”** button it is possible to load an existing project by selecting one of the list that appears.

A device configuration can also be imported or exported:

- To clone the configurations of a GSM I/O and Alarms Modem 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 **“Load Configuration”**.

Figure 4: “Load Configuration” window

**DEVICE SETTING:**

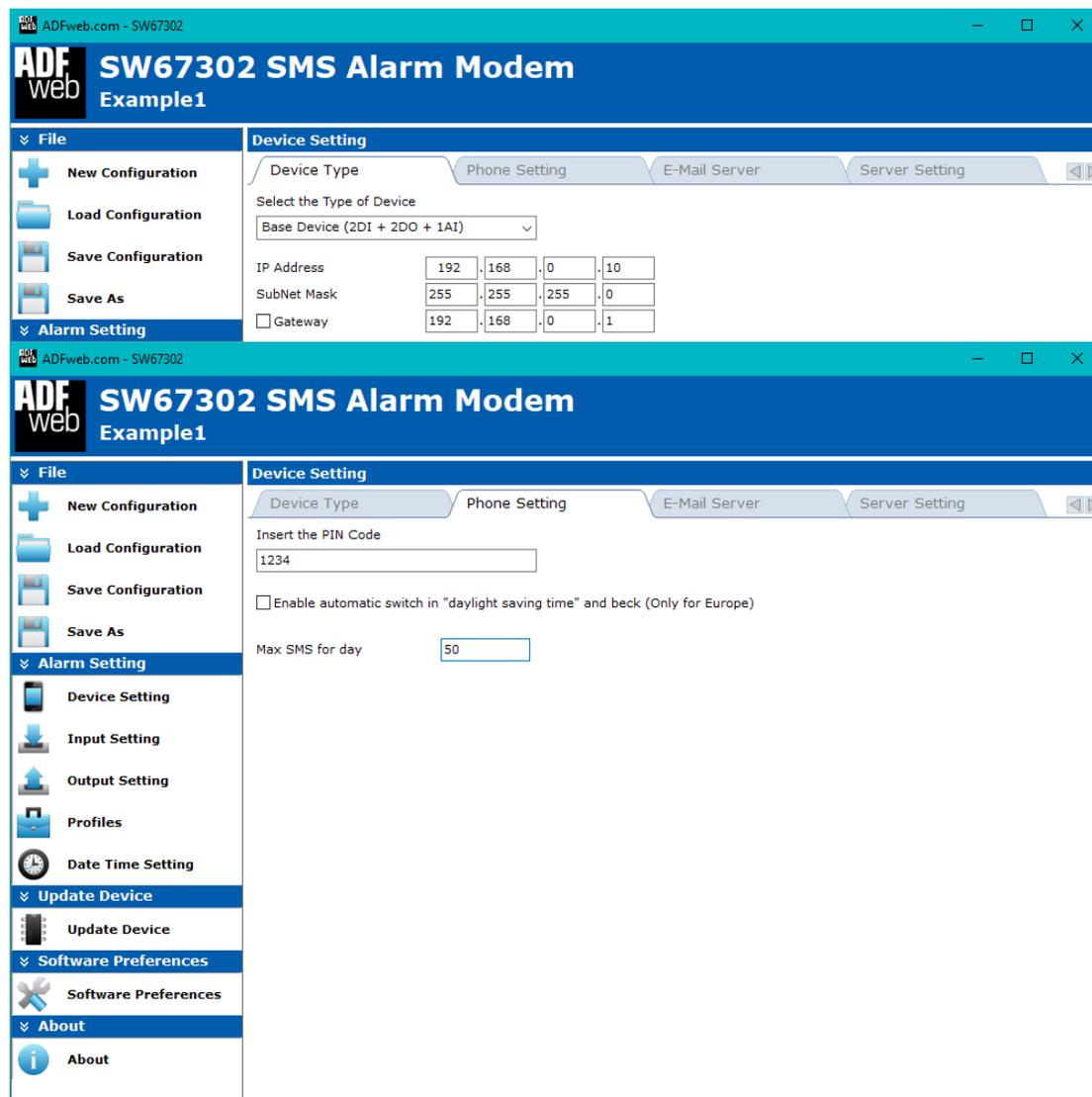


Figure 5: "Device Setting" window

By pressing the **"Phone Setting"** button, it is possible to select the device type and the general setting for the management of the SIM card.

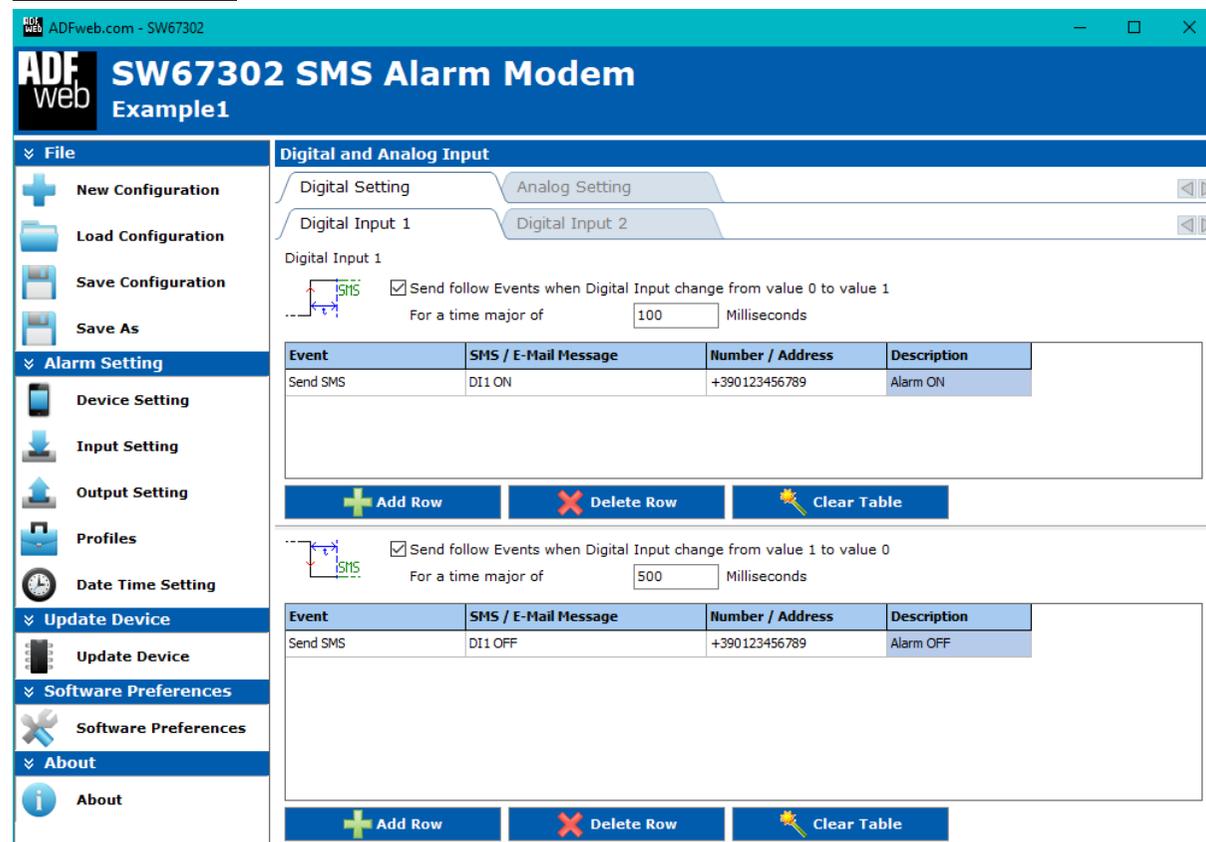
Under the section "Device Type", it is possible to define the device type and the general Ethernet settings (incoming version).

Under the section "Phone Setting", it is possible to define:

- in the field **"Insert the PIN Code"** the PIN code of the SIM card;
- if the field **"Enable automatic switch in "daylight saving time" and back (Only for Europe)"** is checked to enable the automatic time setting described;
- in the field **"Max SMS for day"** the maximum number of SMS sent by the Alarm Modem.

**INPUT SETTING:**

**DIGITAL SETTING**



The Alarm Modem has two Digital Input. For both of them it is possible to define the alert by SMS.

There are two possibilities:

- Sending a SMS when the Input changing from 0 to 1 by checking the field **“Send follow SMS when Digital Input change from value 0 to value 1”**;



- Sending a SMS when the Input changing from 1 to 0 by checking the field **“Send follow SMS when Digital Input change from value 1 to value 0”**.



For both cases, there is the possibility to insert different phone numbers and different SMS texts. The SMS will be sent only when the Input is set to the other state for at least the time inserted in the field **“For a time major of ..... Milliseconds”**.

Figure 6: "Input Setting → Digital Setting"

**ANALOG SETTING**

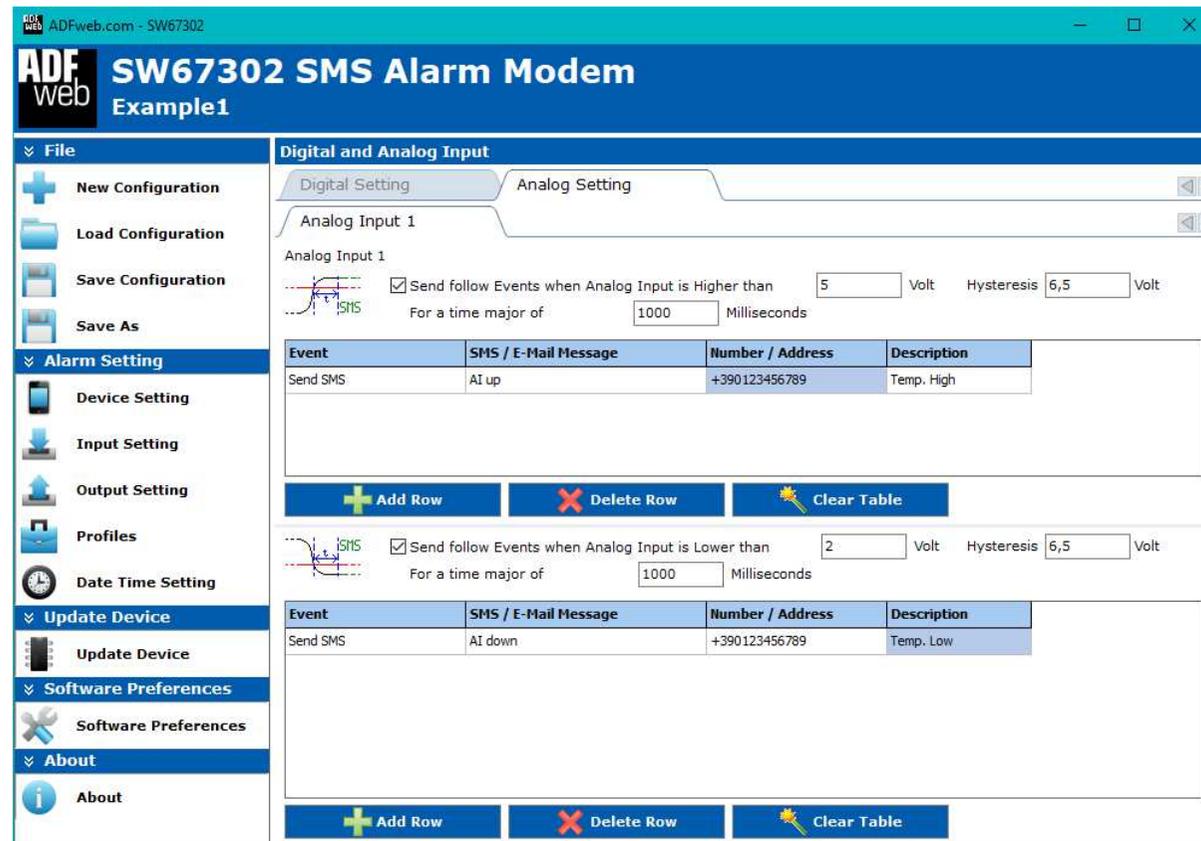


Figure 7: "Input Setting → Analog Setting" window

The Alarm Modem has an Analog Input. It is possible to define the alert by SMS.

There are two possibilities:

- Sending a SMS when the Input goes above a certain threshold voltage by checking the field **"Send follow SMS when Analog Input is Higher than ..... Volt"**;



- Sending a SMS when the Input goes below a certain threshold voltage by checking the field **"Send follow SMS when Analog Input is Lower than ..... Volt"**.



For both cases there is the possibility to insert different phone numbers, different SMS texts and the hysteresis of the signal. The SMS will be sent only when the Input is above or below for at least the time inserted in the field **"For a time major of ..... Milliseconds"**.

## OUTPUT SETTING:

The device has two Digital Output. For both of them it is possible to define the modality of setting (SMS or phone call).

### SMS

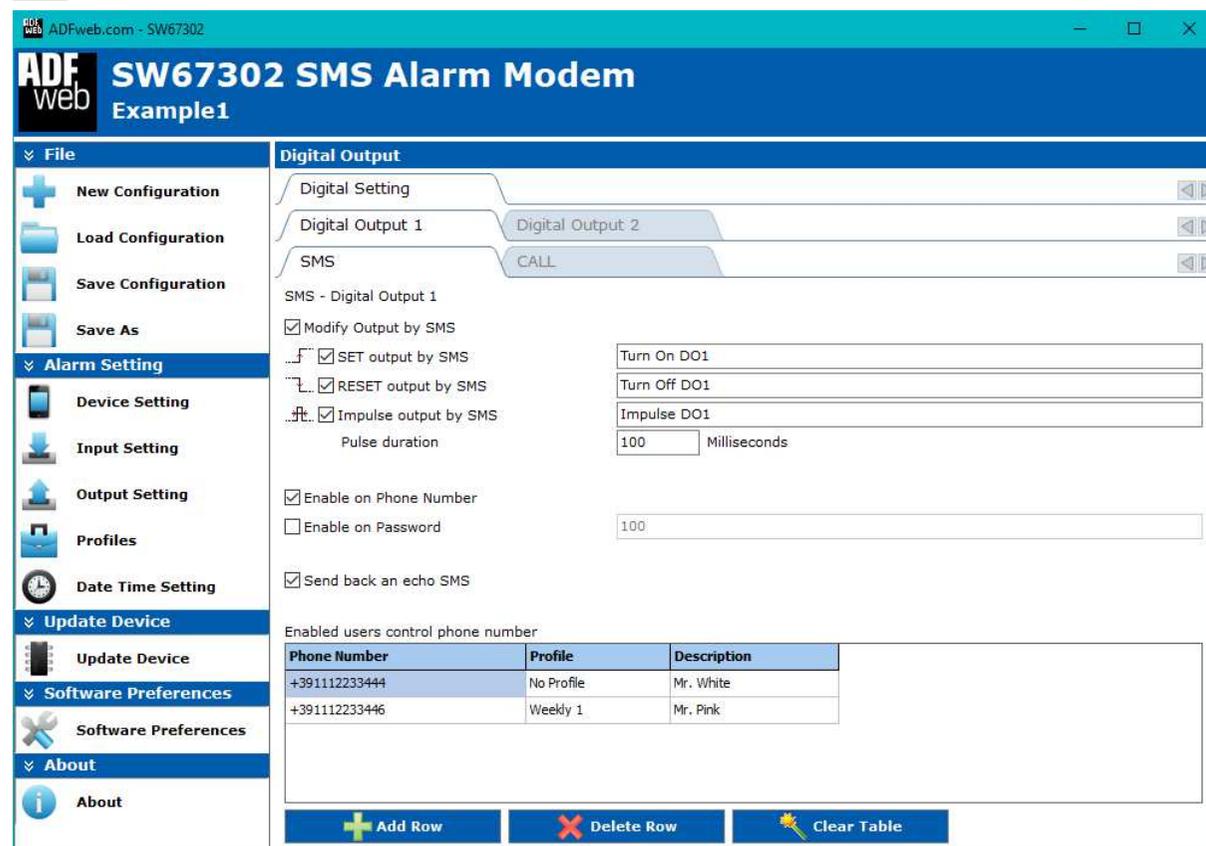


Figure 8: "Output Setting → SMS" window

By pressing the field "SMS" it is possible to enable the function of change the state of output using a SMS.

There are three possibilities:

- "SET output by SMS", used for closing the relay contact;



- "RESET output by SMS", used for opening the relay contact;



➤ "IMPULSE Output by SMS", used for sending a pulse with a defined duration. The duration of the impulse is defined with the field "Pulse duration ..... Milliseconds". The maximum value that the impulse can have is 60000ms.



For all cases there is the possibility to insert, in the field on right, the text of the SMS used to trigger the event.

If the field "**Enabled on Phone Number**" is checked, only the phone number written in the table is able to do the operation to the Digital Output; otherwise all numbers that send the defined SMS are able to do the operation.

If the field "**Enabled on Password**" is checked, the SMS sent must contain the password written in the field near the command.



It is possible to write also other words in the SMS, it is just necessary that the SMS text contains exactly the text defined in the compositor.



The Password can have a maximum length of 16 characters. All characters are accepted.

If the field "**Send back an echo SMS**" is checked, the device sends back to the sender the same SMS if the event is successful done.

In the table "Enabled users control phone number" it is possible to insert the various 'Phone Numbers' and for each Number give a 'Profile'. The possible 'Profile' are:

- 0: Always enabled;
- 1: Weekly 1;
- 2: Weekly 2;
- 3: Weekly 3;
- 4: Daily 1;
- 5: Daily 2;
- 6: Daily 3.

**CALL**

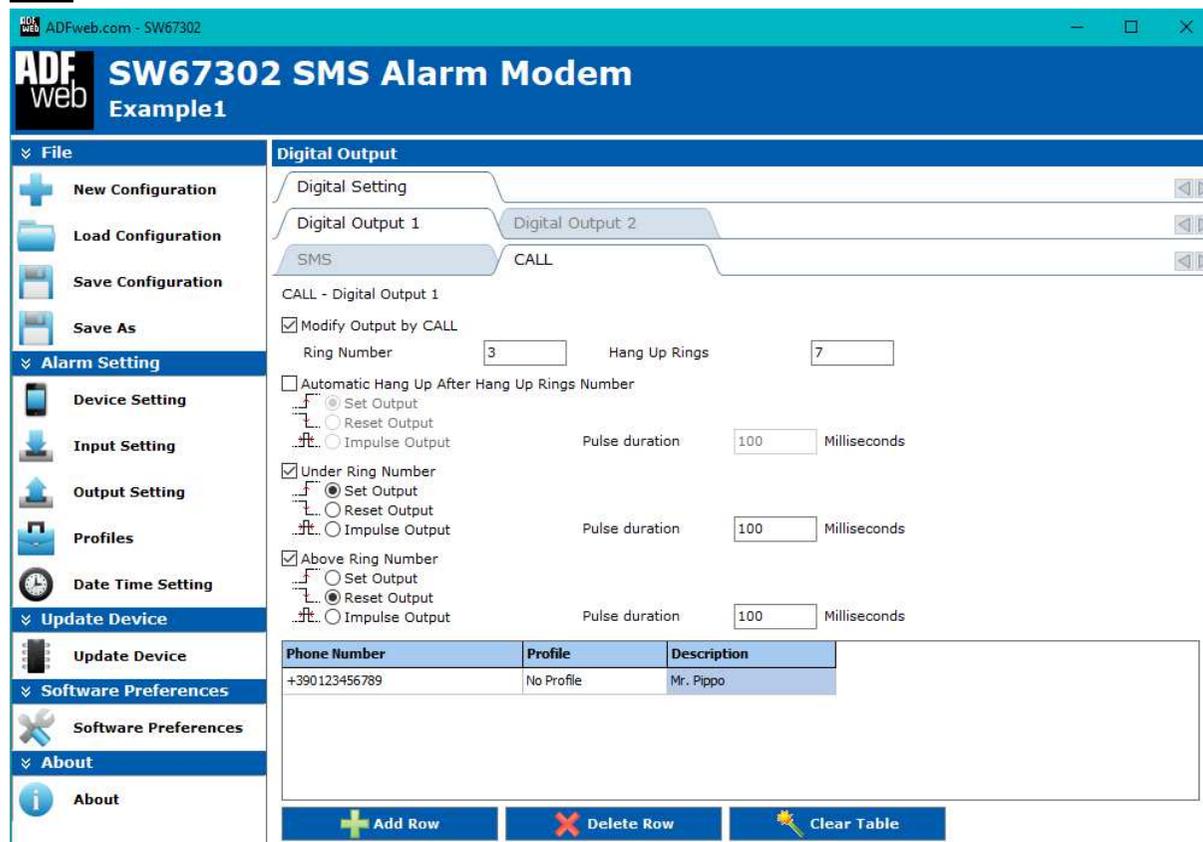


Figure 9: "Output Setting → SMS" window

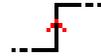
By pressing the field "CALL" it is possible to enable the function of change the state of output using a phone call.

There are three types of operations:

- "Automatic hang Up after Hang Up Risings Number", used to hang up after the numbers of rings expressed in the field "Hang Up Rings";
- "Under Ring Number", used to trigger an event if the number of rings is under the value expressed in the field "Ring Number";
- "Above Ring Number", used to trigger an event if the number of rings is above the value expressed in the field "Ring Number".

For all operations, there are the three possibilities:

- **"Set output"**, used for closing the relay contact;



- **"Reset output"**, used for opening the relay contact;



- **"Impulse output"**, used for making an impulse with a defined duration. The duration of the impulse is defined with the field **"Pulse duration ..... Milliseconds"**.

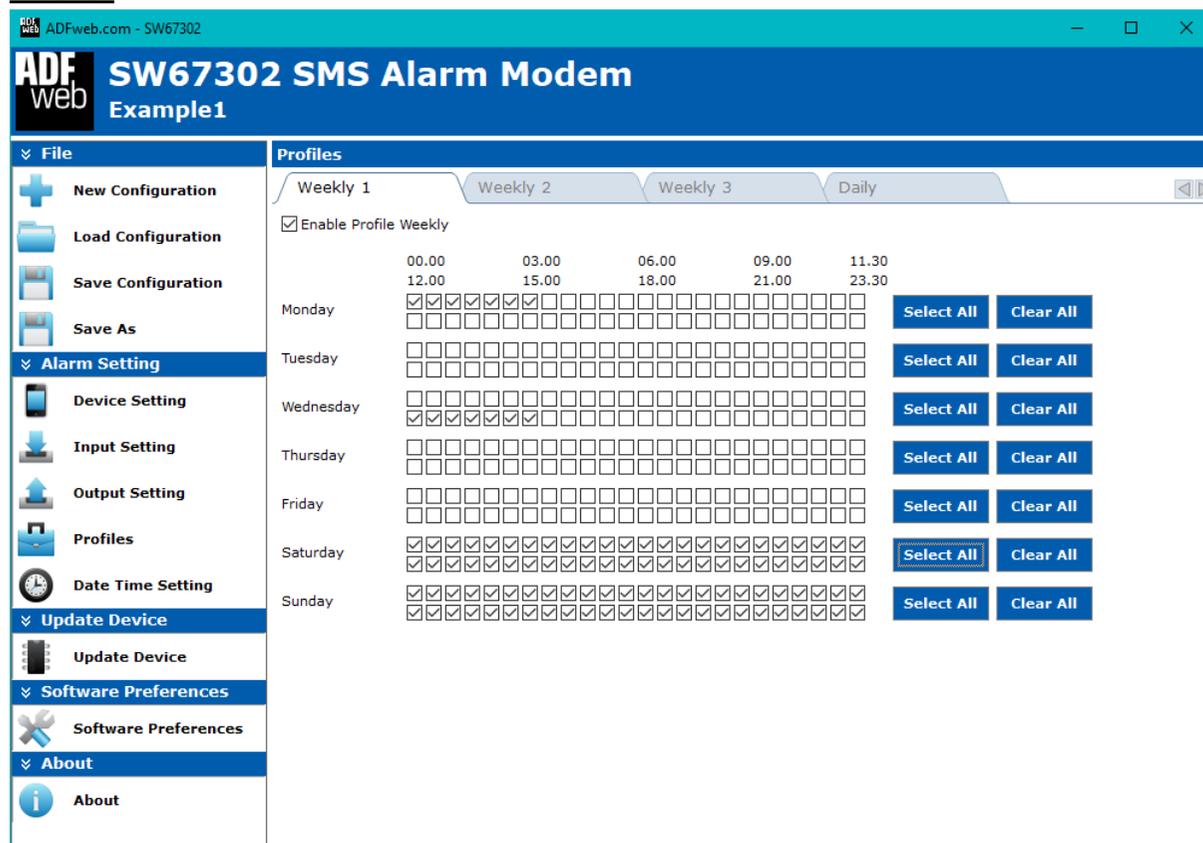


In the table it is possible to insert the various 'Phone Numbers' and for each Number give a 'Profile'. The possible 'Profile' are the same described in the subsection 'SMS' of section 'Output Setting'.

**PROFILES:**

By pressing the “**Prfoiles**” button it is possible to set the Profiles inside the Alarm Modem. The Profiles are used to define which phone numbers can control the Digital Outputs in which day/time.

**WEEKLY**



There is the possibility to define up to three Weekly Profile “**Weekly 1**”, “**Weekly 2**”, “**Weekly 3**”.

For enabling the Profile, the field “**Enable Profile Weekly X**” must be checked.

For each day there are 48 time slot of 30 minutes each.

In order to use one of Weekly Profiles, it is necessary to select them in the “Output Setting→SMS” or “Output Setting→CALL” sections.

Figure 10: “Profiles → Weekly” window

**DAILY**

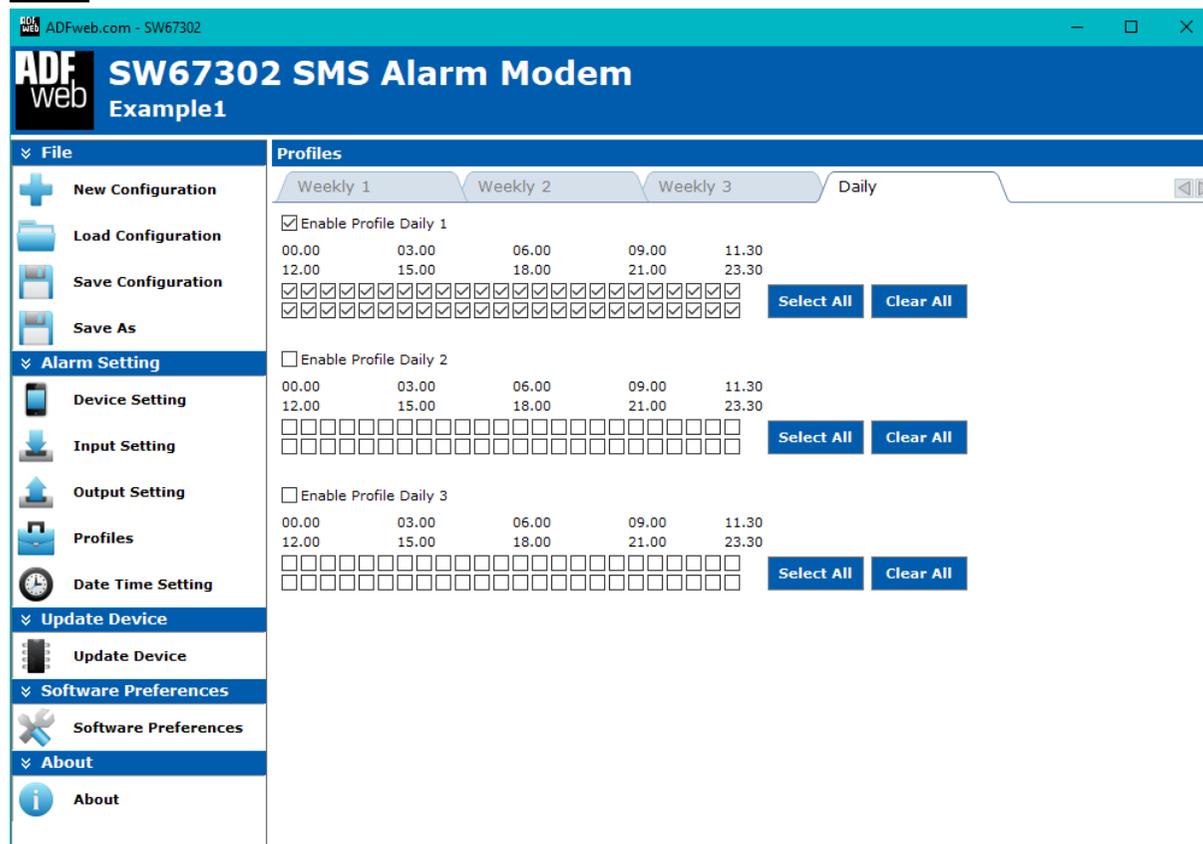


Figure 11: "Profiles → Daily" window

There is the possibility to define up to three Daily Profile "Daily".

For enabling the Profile, the field "Enable Profile Daily X" must be checked.

For each day there are 48 time slot of 30 minutes each.

 In order to use one of Weekly Profiles, it is necessary to select them in the "Output Setting→SMS" or "Output Setting→CALL" sections.

## DATE & TIME SETTING:

By pressing the **"Date Time Setting"** button it is possible to change the Date & Time of the device.

### DATE & TIME

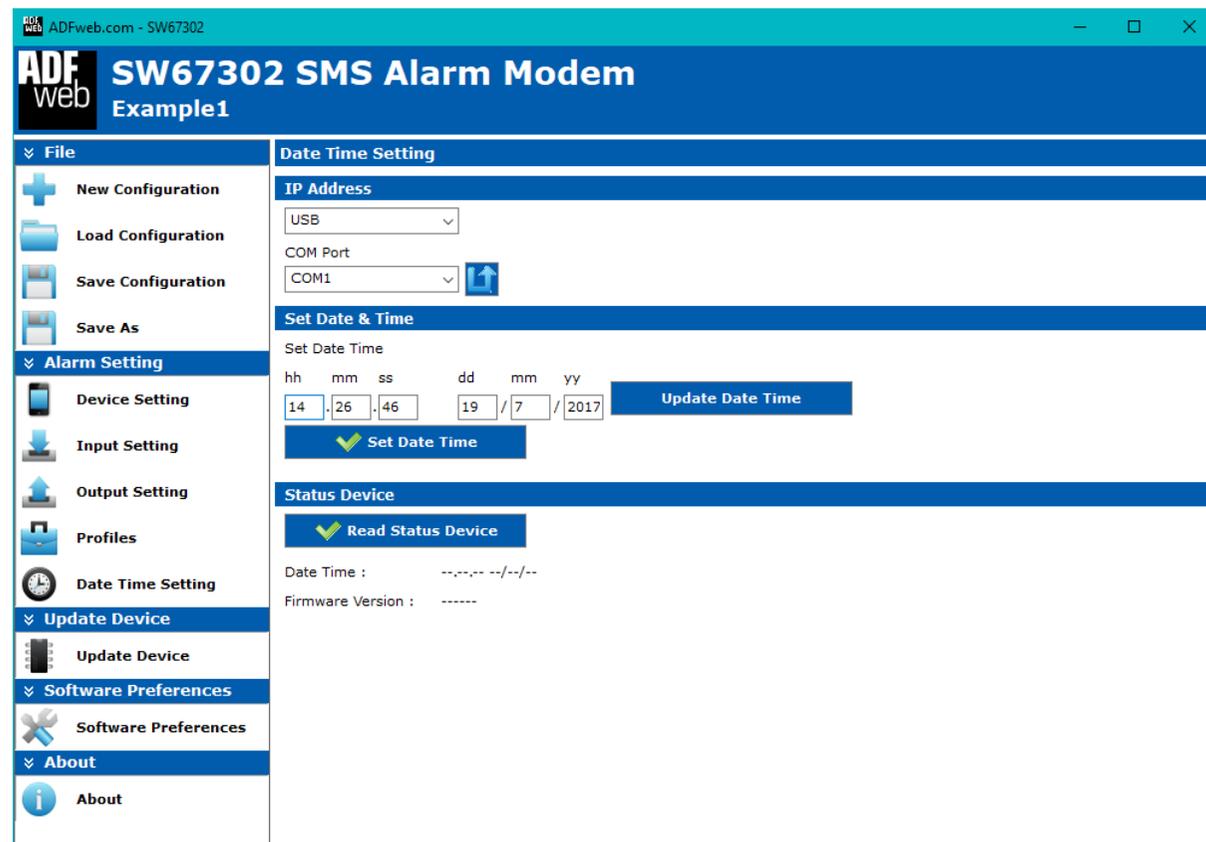


Figure 12: "Date Time Setting → Date Time" window

In this section it is possible to change the Date & Time of the device.

There are two possibilities:

- Insert an own Date & Time, by compiling the fields **"hh"**, **"mm"**, **"ss"**, **"dd"**, **"mm"**, **"yy"**; and then pressing the button **"Set Custom Date & Time"**;
- Insert the PC date & Time, by pressing the button **"Set PC Date & Time"**.

It is possible also read the Date & Time of the device and also the Firmware Version by pressing the **"Read Status Device"** button.

For doing these operations it is necessary to connect the device through the USB to the PC and select the COM port.

The device must be at Normal Mode.

For the year (yy) only the last two digits must be inserted.

**UPDATE DEVICE:**

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

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

- Connect the USB cable from your PC to the Converter;
- Select the **“COM port”**;
- Select which operations you want to do.
- Press the **“Update Device”** button to start the upload;
- When all the operations are **“OK”**, disconnect the USB cable.

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

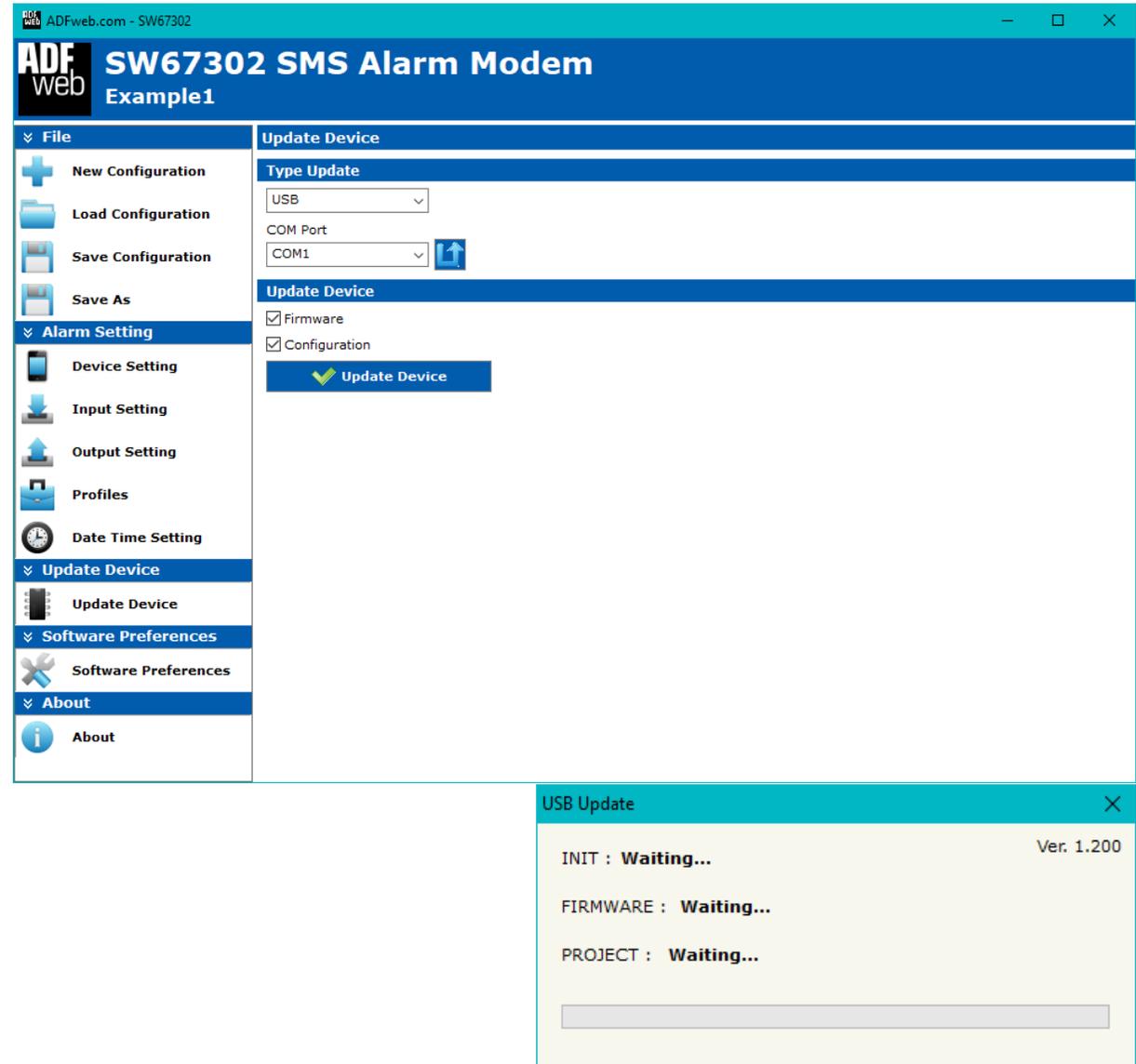


Figure 13: “Update device” windows

 **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 HD67302 device.

 **Note:**  
When you receive the device, for the first time, you have to update also the Firmware in the HD67302 device.

 **Warning:**  
If the Fig. 14 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 USB cable is connected between the PC and the device;
- 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 or 8 or 10, make sure that you have the administrator privileges;
- Pay attention to Firewall lock.



Figure 14: "Protection" window

**SOFTWARE PREFERENCES:**

By pressing the “**Software preferences**” button it is possible to define the preferences of the software.

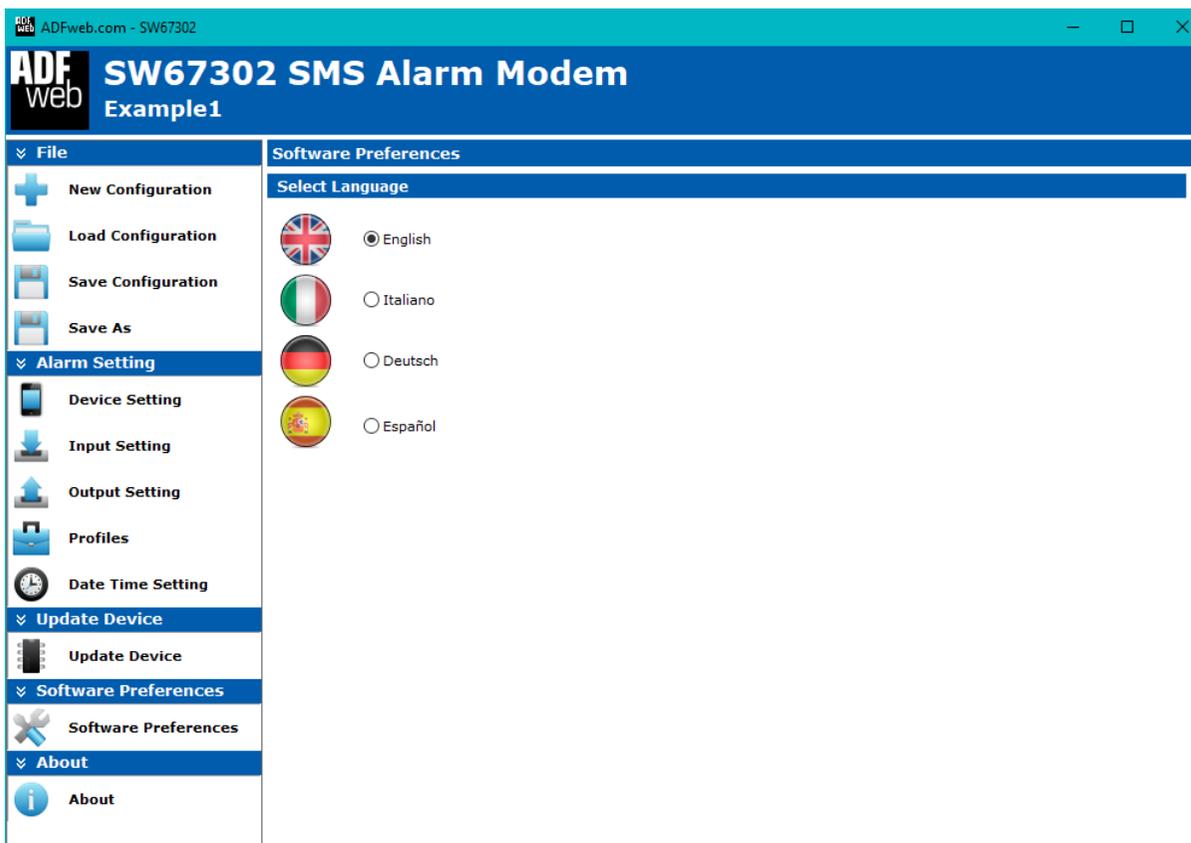
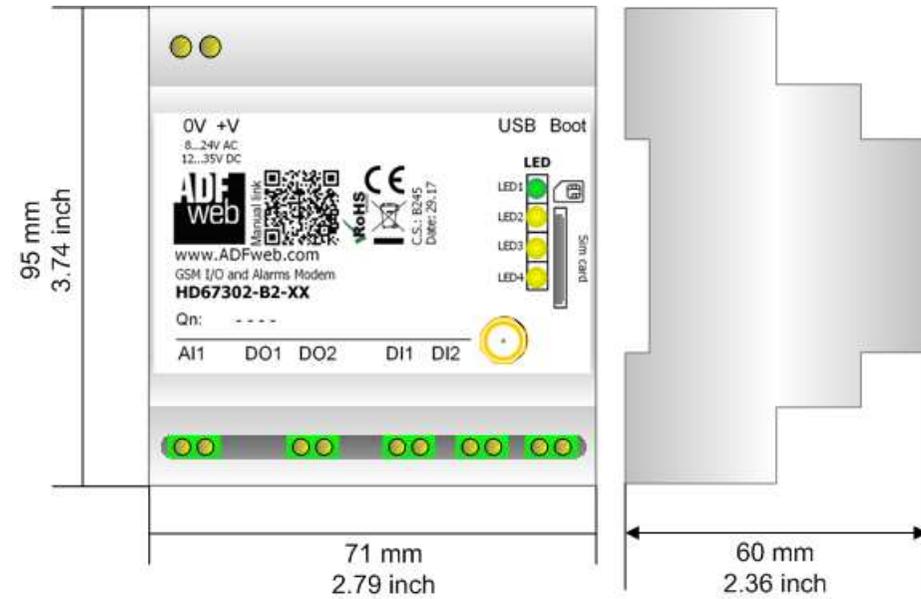


Figure 15: “Software preferences” window

**MECHANICAL DIMENSIONS:**



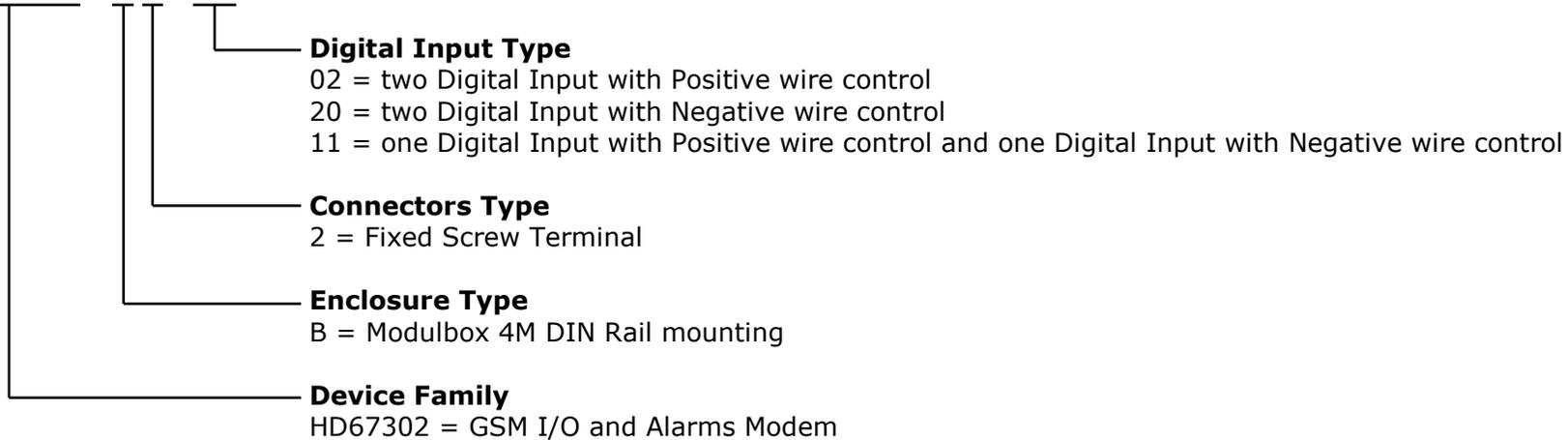
Housing: PVC  
Weight: 200g (Approx)

Figure 16: Mechanical dimensions scheme for HD67302-B2-xx

**ORDERING INFORMATIONS:**

The ordering part number is formed by a valid combination of the following:

**HD67302 - B 2 - xx**



- Order Code: **HD67302-B2-02** - GSM I/O and Alarms Modem with two Digital Input with Positive wire control
- Order Code: **HD67302-B2-20** - GSM I/O and Alarms Modem with two Digital Input with Negative wire control
- Order Code: **HD67302-B2-11** - GSM I/O and Alarms Modem with one Digital Input with Positive wire control and one Digital Input with Negative wire control

**DISCLAIMER:**

All technical content within this document can be modified without notice. The content of the document is a under continual renewal. 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 impact of 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](mailto: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:

- 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.
- 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.

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