Industrial Electronic Devices

User Manual
Revision 1.000
English

LoRaWAN / Modbus Master - Converter

(Order Code: HD67D01-2-B2-868MHz, HD67D01-5-B2-868MHz)

Benefits

⊕ Very easy to configure

⊕ Power Supply 18…35V DC and 8…24 V AC

⊕ Temperature range: -40°C/+85°C (-40°F/+185°F)

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.

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	04/12/2020	Ff	All	First release version

WARNING:

ADFweb.com reserves the right to change information in this manual about our product without warning.
ADFweb.com is not responsible for any error this manual may contain.

TRADEMARKS:

All trademarks mentioned in this document belong to their respective owners.

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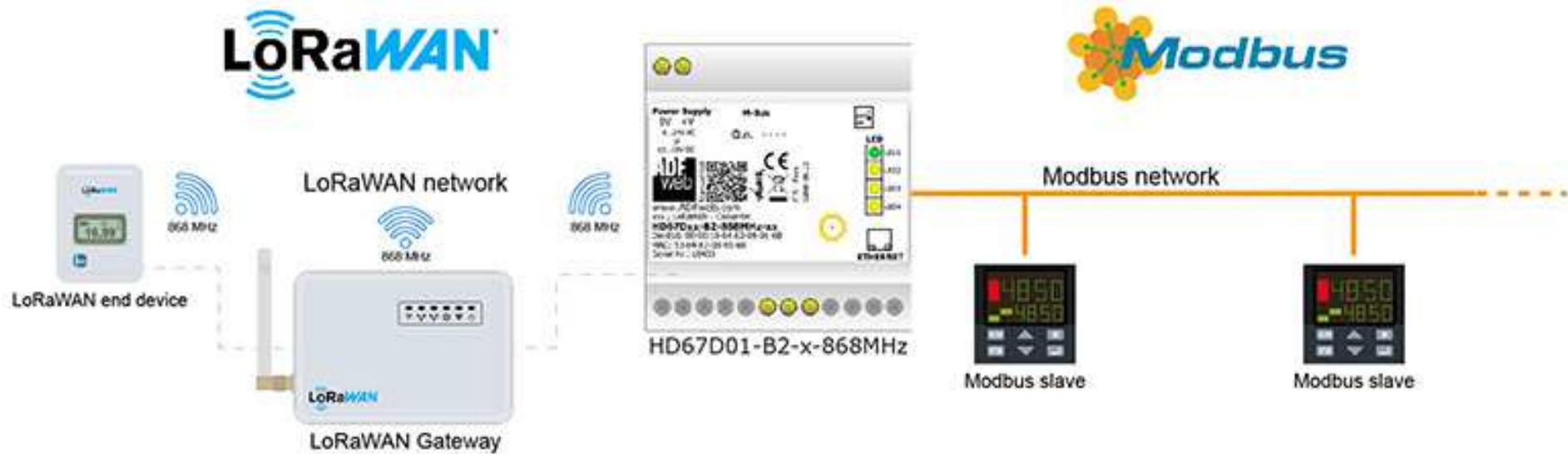
This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

CE CONFORMITY
The declaration is made by our company. You can send an email to   or give us a call if you need it.

Industrial Electronic Devices

EXAMPLE OF CONNECTION:

Modbus / LoRaWAN - Converter
HD67D01-B2

Industrial Electronic Devices

CONNECTION SCHEME:

Connector6:
RS232 port

Tx = Device Tx
Rx = Device Rx
Shl = Shield (to Isolated Ground)

Connector2:
Ethernet Port
(RJ45 Plug)

Tx Shl Rx

Power Supply
0V +V
8...24V AC
or
12...35V DC

Connector5:
Antenna

www.ADFweb.com
LoRaWAN / Modbus Master - Converter
HD67D01-2-B2-868MHz
DevEUI: 00:00:10-64-E2-08-96-EA
MAC: 10-64-E2-08-96-EA
Serial Nr.: L1840

RS232 port
Tx Shl Rx   ETHERNET

Led1:
Green
Device state

Led2:
Yellow
LoRaWAN comm.

Led3:
Yellow
Modbus comm.

Led4:
Yellow
Error state

0V +V

Connector1:
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 24V
V DC: min 12V ; max 35V

Dip-Switch A:
-Dip1 – Functioning Mode

= Normal Mode

= Boot Mode

Figure 1a: Connection scheme for HD67D01-2-B2-xxxMHz

![ADFweb logo] Industrial Electronic Devices

Dip-Switch B:
-Dip1 – Termination RS485 line

= Open   = 120 ohm

Connector6:
RS485 port

S = Shield (to Isolated Ground)
- = Negative wire
+ = Positive wire

Connector2:
Ethernet Port
(RJ45 Plug)

+ - S

Connector5:
Antenna

Power Supply
0V +V
8...24V AC
or
12...35V DC

Q.n. - - - -

LED

LED1
LED2
LED3
LED4

www.ADFweb.com
LoRaWAN / Modbus Master - Converter
HD67D01-5-B2-868MHz
DevEUI: 00:00:10-64-E2-08-96-EA
MAC: 10-64-E2-08-96-EA
Serial Nr.: L1840

RS485 port
+ - S   ETHERNET

Led1:
Green
Device state

Led2:
Yellow
LoRaWAN comm.

Led3:
Yellow
Modbus comm.

Led4:
Yellow
Error state

0V +V

Connector1:
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 24V
V DC: min 12V ; max 35V

Dip-Switch A:
-Dip1 – Functioning Mode

= Normal Mode

= Boot Mode

Figure 1b: Connection scheme for HD67D01-5-B2-xxxMHz

Industrial Electronic Devices

CHARACTERISTICS:

The HD67D01-B2 is a LoRaWAN / Modbus Master Converter.

It allows the following characteristics:

- Electrical isolation between Modbus and Power Supply;
- Mountable on 35mm Rail DIN;
- Wide power supply input range: 12…35V DC and 8…24V AC;
- Wide temperature range: -40°C / 85°C [-40°F / +185°F].

CONFIGURATION:

You need Compositor SW67D01 software on your PC in order to perform the following:

- Define the parameter of Modbus line;
- Define the parameter of LoRaWAN line;
- Define the list of LoRaWAN messages in uplink and downlink to the LoRaWAN gateway;
- Define the Modbus registers to read and write from/to the Modbus Slaves;
- Update the device.

Industrial Electronic Devices

POWER SUPPLY:

The devices can be powered at 8...24V AC and 12...35V DC. For more details see the two tables below.

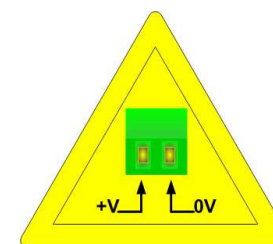| VAC 〜		VDC ▬▬	
Vmin	**Vmax**	**Vmin**	**Vmax**
8V	**24V**	**12V**	**35V**

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67D01-x-B2-xxxMHz	3.5

Connector1:
Power Supply

0V = Ground
+V = Positive wire

V AC: min 8V ; max 24V
V DC: min 12V ; max 35V
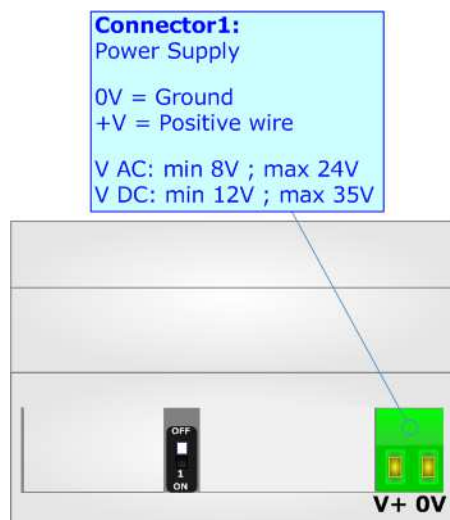
Caution: Not reverse the polarity power

HD67D01-x-B2-xxxMHz

ADFweb.com S.r.l.

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 upload 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.

Industrial Electronic Devices
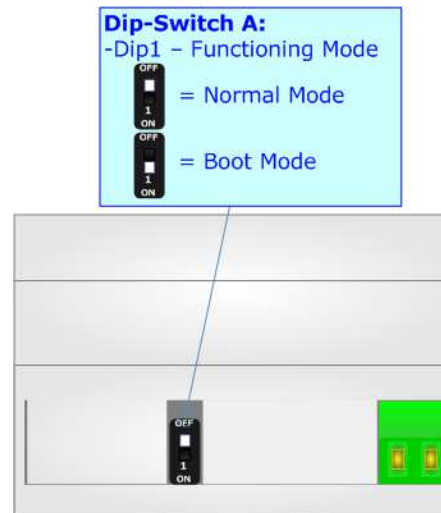
LEDS:

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)	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
2: LoRaWAN communication (yellow)	Blinks when LoRaWAN data is received	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
3: Modbus communication (yellow)	Blinks when a Modbus response is received	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress
4: Error state (yellow)	**ON:** An error in the communication busses occurs **OFF:** No errors are present	**Blinks quickly:** Boot state **Blinks very slowly (~0.5Hz):** update in progress

ADFweb.com S.r.l.

Industrial Electronic Devices
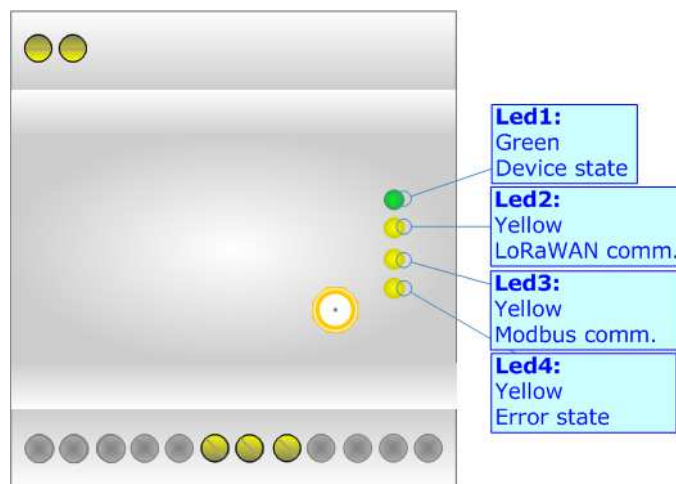
LORAWAN:

The LoRaWAN® specification is a Low Power, Wide Area (LPWA) networking protocol designed to wirelessly connect battery operated 'things' to the internet in regional, national or global networks, and targets key Internet of Things (IoT) requirements such as bi-directional communication, end-to-end security, mobility and localization services.

LoRaWAN® network architecture is deployed in a star-of-stars topology in which gateways relay messages between end-devices and a central network server.

The wireless communication takes advantage of the Long Range characteristics of the LoRa physical layer, allowing a single-hop link between the end-device and one or many gateways. All modes are capable of bi-directional communication, and there is support for multicast addressing groups to make efficient use of spectrum during tasks such as Firmware Over-The-Air (FOTA) upgrades or other mass distribution messages.

Converters from HD67D01 serie act as end-devices and they can communicate with one or more LoRwaWAN Gateways.
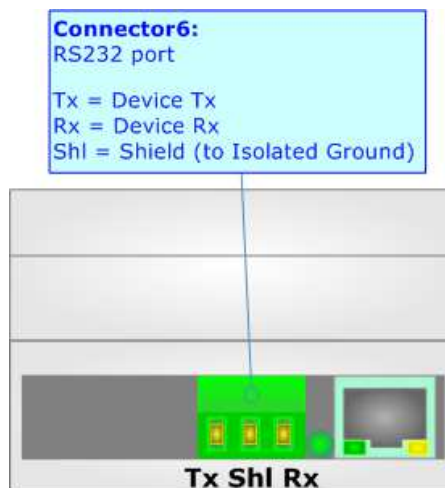
The converters support all the standard datarates and they work both on public and private networks.

Connector5:
Antenna

ADFweb.com S.r.l.

Industrial Electronic Devices
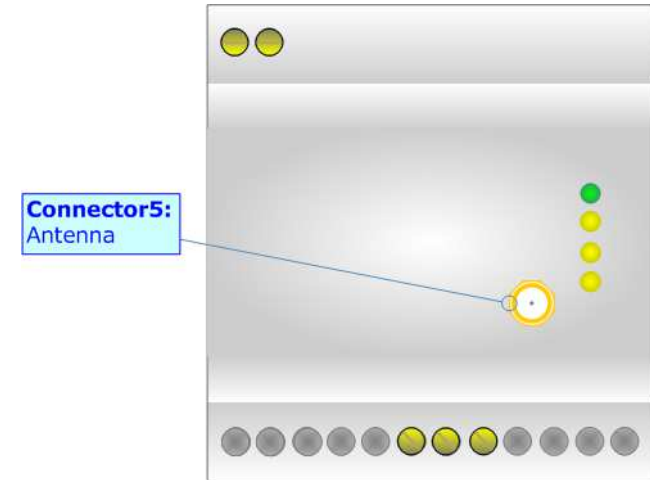
RS232:

The connection from RS232 socket to a serial port (example one from a personal computer) must be made with a NULL MODEM cable (a serial cable where the pins 2 and 3 are crossed).
It is recommended that the RS232 cable not exceed 15 meters.

Connector6:
RS232 port

Tx = Device Tx
Rx = Device Rx
Shl = Shield (to Isolated Ground)

Tx Shl Rx

Industrial Electronic Devices

RS485:

For terminating the RS485 line with a 120Ω resistor it is necessary to put ON dip 1, like in figure.
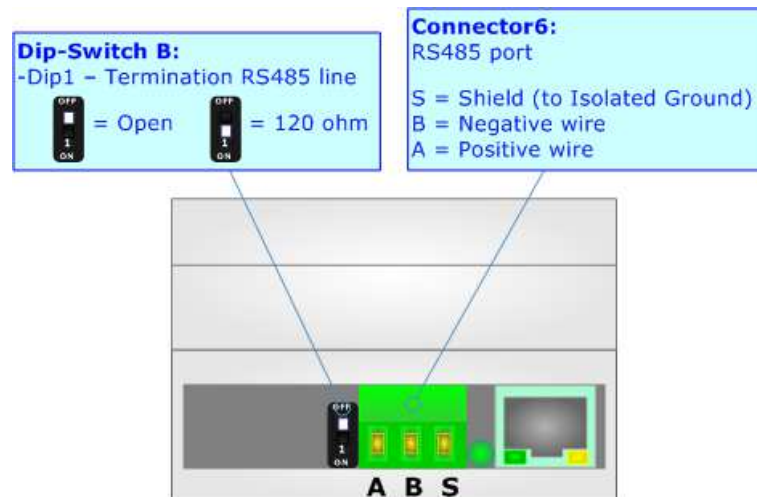
The maximum length of the cable should be 1200m (4000 feet).

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.

ETHERNET:

The Ethernet port is used for programming the device.

The Ethernet connection must be made using Connector2 of HD67D01-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 is recommended the use of a cross cable.

Industrial Electronic Devices

USE OF COMPOSITOR SW67D01:

To configure the Converter, use the available software that runs with Windows called SW67D01. It is downloadable on the site www.adfweb.com and its operation is described in this document. The software works with MS Windows (XP, Vista, Seven, 8, 10; 32/64bit).

When launching the SW67D01, the window below appears (Fig. 2).

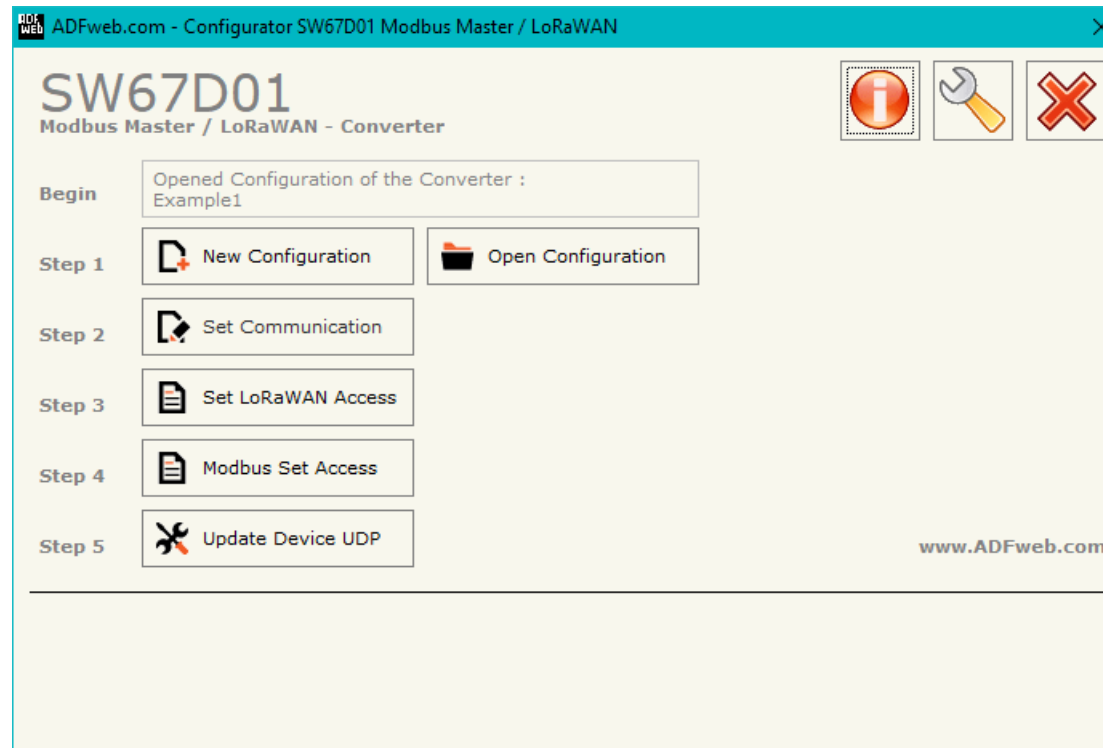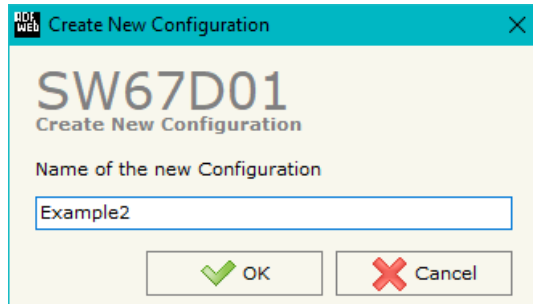Note:
   It is necessary to have installed .Net Framework 4.


Figure 2: Main window for SW67D01

Industrial Electronic Devices

NEW CONFIGURATION / OPEN CONFIGURATION:

The "**New Configuration**" button creates the folder which contains the entire device's configuration.

A device's configuration can also be imported or exported:

- To clone the configurations of a Programmable "LoRaWAN / Modbus 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 Configuration**".
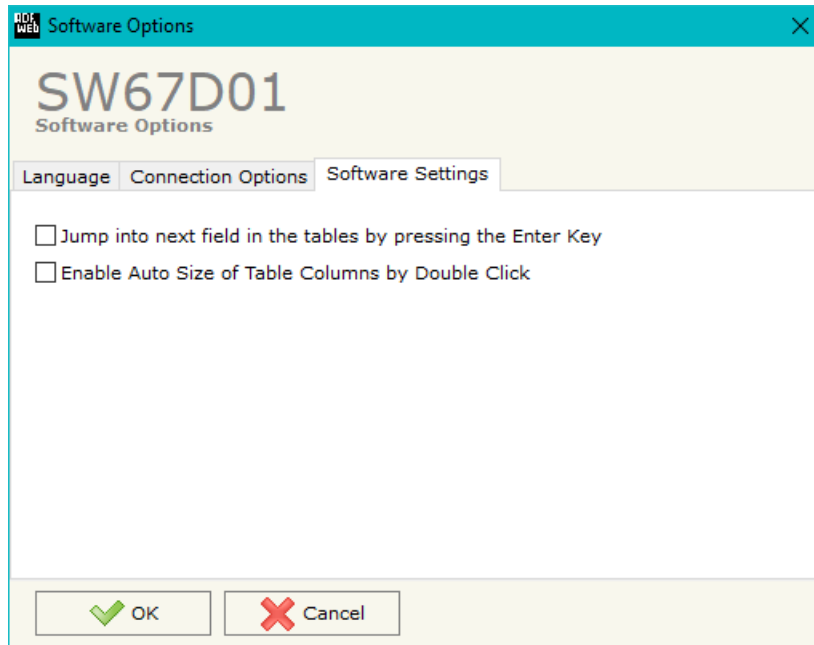
![ADF web logo]

Industrial Electronic Devices
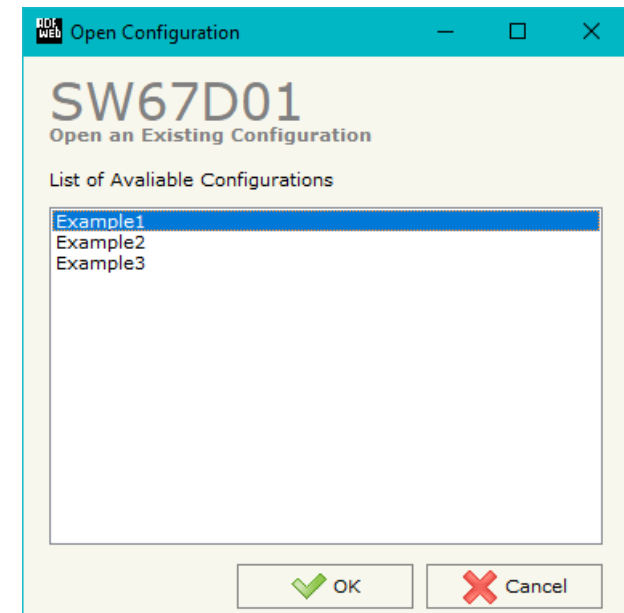
SOFTWARE OPTIONS:

By pressing the "**Settings**" (🔧) button there is the possibility to change the language of the software and check the updatings for the compositor.

In the section "Language" it is possible to change the language of the software.
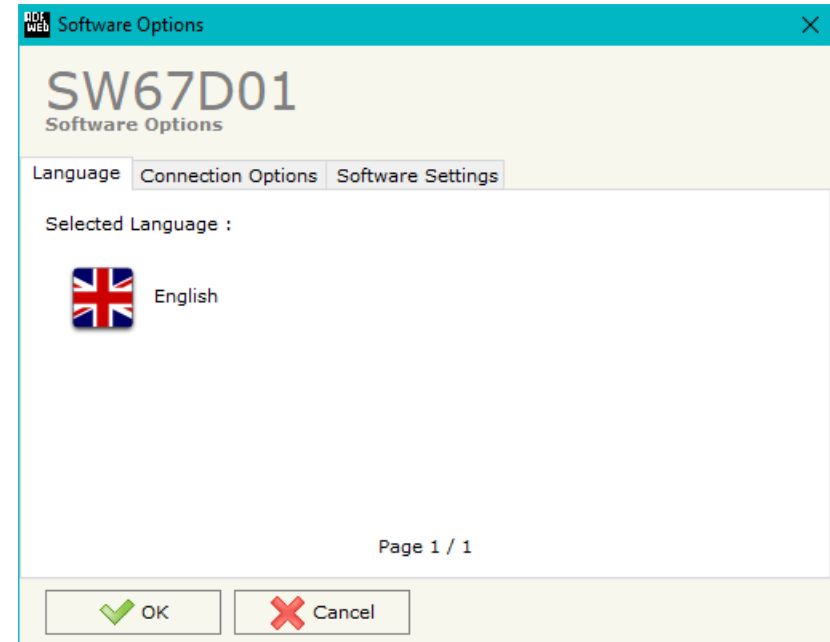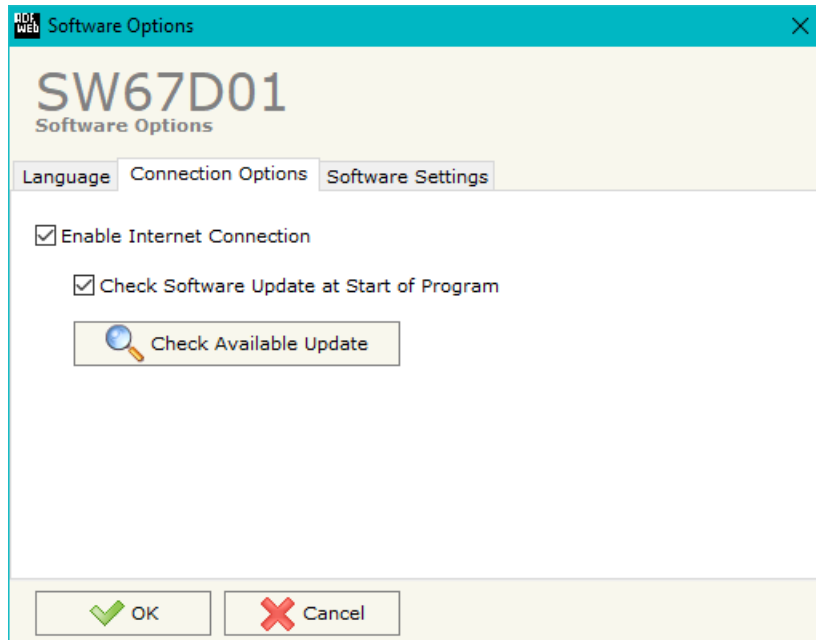
In the section "Connection Options", it is possible to check if there are some updatings of the software compositor in ADFweb.com website.
Checking the option "**Check Software Update at Start of Program**", the SW67D01 check automatically if there are updatings when it is launched.

Industrial Electronic Devices

SW67D01
Software Options

Language | Connection Options | Software Settings

☐ Jump into next field in the tables by pressing the Enter Key
☐ Enable Auto Size of Table Columns by Double Click

✓ OK   ✗ Cancel

In the section "Software Settings", it is possible to enable/disable some keyboard's commands for an easier navigation inside the tables contained in the different sections of the software.

![ADFweb logo] Industrial Electronic Devices

SET COMMUNICATION:

By Pressing the "**Set Communication**" button from the main window for SW67D01 (Fig. 2) the window "Set Communication" appears (Fig. 3).

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

- In the field "**RF Band**" the wireless band used for LoRaWAN communication is defined;
- In the field "**Network Type**" the type of LoRaWAN network is defined;
- If the field "Adaptive Data Rate" is checked, the converter will enable the ADR functionalities to select the best data rate to be used in relation to the environmental conditions;
- In the field "**Data Rate**" the data rate for LoRaWAN communication is defined;
- In the field "**Transmission Type**" the type of LoRaWAN communication is defined;
- In the field "**Max Payload Size**" the maximum dimension of the LoRaWAN messages is defined (fixed in relation to the data rate selected);
- In the field "**JoinEUI**" the ID of the application server is defined;
- In the field "**Activation Method**" the method used to join into a LoRaWAN network is defined;
- In the field "**Device Address**" the device identifier (DevEUI) is defined (only for ABP method);
- In the field "**Network Session Key**" the key used for the communication with the LoRaWAN gateway (NwkSKey) is defined (only for ABP method);
- In the field "**Application Session Key**" the key for encryption and decryption of the payload (AppSKey) is defined (only for ABP method);
- If OTAA method is selected, in the field "**Application Key**" the secret key for the dynamic activation of the converter in the LoRAWAN network is defined.
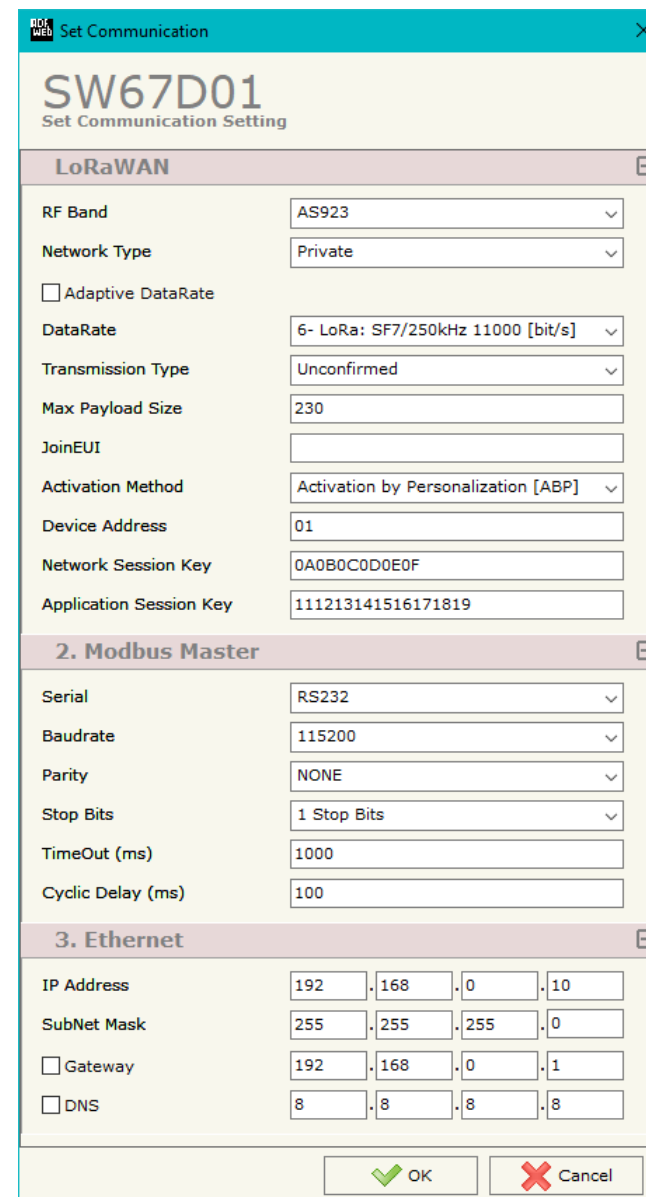

Figure 3: "Set Communication" window

Industrial Electronic Devices

The means of the fields for the "Modbus Master" section are:

- In the field "**Serial**" the serial port to use is defined;
- In the field "**Baudrate**" the baudrate for the serial line is defined;
- In the field "**Parity**" the parity of the serial line is defined;
- In the field "**Stop Bits**" the number of Stop Bits of the serial line is defined;
- In the field "**TimeOut (ms)**" the maximum time that the converter attends for the answer from the Slave interrogated is defined;
- In the field "**Cyclic Delay (ms)**" the delay (idle time) between two Modbus requests is defined.

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

- In the fields "**IP Address**" the IP address for Ethernet side of the converter is defined;
- In the fields "**SubNet Mask**" the SubNet Mask for Ethernet side of the converter is defined;
- In the fields "**Gateway**" the default gateway of the net is defined. This feature can be enabled or disabled pressing the Check Box field. This feature is used for going out of the net;
- In the fields "**DNS**" the IP address of the DNS server is defined

Industrial Electronic Devices

LORAWAN ACCESS:

By Pressing the "**LoRaWAN Access**" button from the main window for SW67D01 (Fig. 2) the window "Set LoRaWAN Access" appears (Fig. 4).

This section is used to define the LoRAWAN messages where the converter will place the data read from Modbus (Uplink) and the LoRAWAN messages that the converter will take (Downlink) for writing the data to Modbus.

LoRaWAN Uplink

Figure 4a: "LoRAWAN Access → LoRaWAN Uplink" window

The means of the fields are:

- If the field "**Enable**" is checked, the LoRaWAN message is enabled;
- In the field "**Start Byte**" the starting byte of the internal memory array where taking the data is defined;
- In the field "**Num. Byte**" the number of consecutive bytes to take from the internal array starting from "Start Byte" is defined;
- If the field "**On Change**" is checked, the LoRaWAN message is sent only when the data from Modbus change;
- If the field "**On CMD**" is checked, the LoRaWAN message is sent when a Modbus response is received;
- If the field "**On Timer**" is checked, the LoRaWAN message is sent cyclically with the delay defined in "**Time (s)**" field;
- In the field "**Mnemonic**" a description of the message is defined.

ADFweb.com S.r.l.

Industrial Electronic Devices

LoRaWAN Downlink

Figure 4b: "LoRAWAN Access → LoRaWAN Downlink" window

The means of the fields are:

- If the field "**Enable**" is checked, the LoRaWAN message is enabled;
- In the field "**Start Byte**" the starting byte of the internal memory array where placing the data is defined;
- In the field "**Num. Byte**" the number of consecutive bytes to write to the internal array starting from "Start Byte" is defined;
- In the field "**Mnemonic**" a description of the message is defined.

MODBUS SET ACCESS:

By pressing the "**Modbus Set Access**" button from the main window for SW67D01 (Fig. 2) the window "Set Modbus Master Access" appears.
This window is divided in two parts, the "Modbus Read" (Fig. 5a) and the "Modbus Write " (Fig. 5b).
The first part "Modbus Read" is used to read the data from the Modbus slaves and make them available on LoRaWAN side.
The second part "Modbus Write " is used to write the data that arrives from LoRaWAN side to the Modbus slaves.

MODBUS READ

The means of the fields are:

- If the field "**Enable**" is checked, the Modbus request is enabled;
- In the field "**Slave ID**" the address of the Modbus device to read is defined;
- In the field "**Type**" the data type of the register to read is defined. It is possible to choose between the following:
  - Coil Status;
  - Input Status;
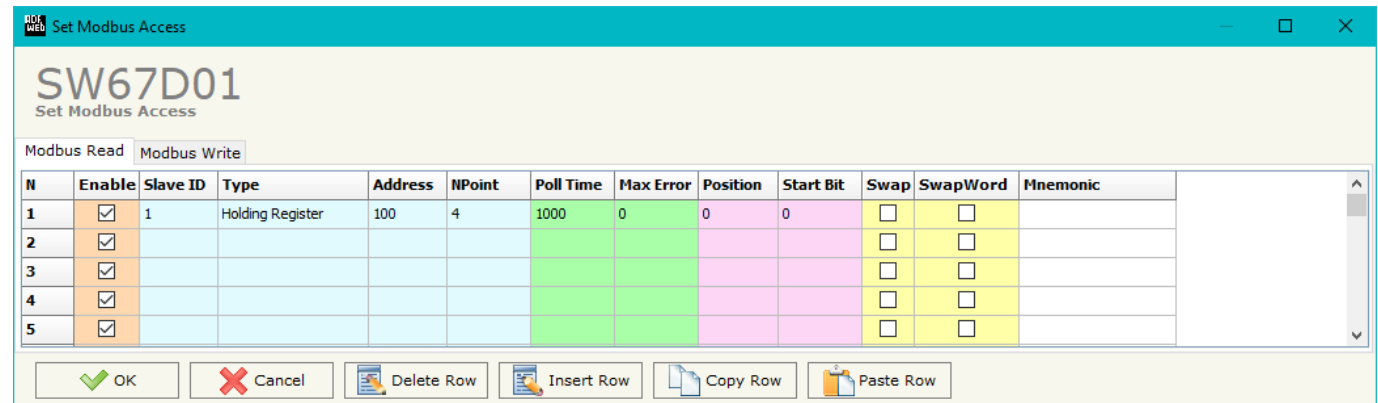 - Holding Register;
  - Input Register.

Figure 5a: "Set Access → Modbus Read" window

- In the field "**Address**" the starting address of the register to be read is defined;
- In the field "**NPoint**" the number of consecutive registers to be read is defined;
- In the field "**Poll Time**" the delay time to make the request is defined;
- In the field "**Max Error**" the number of consecutive errors that the converter waits before suspending the request is defined;
- In the field "**Position**" the address of the internal array where placing the information is defined;
- In the field "**Start Bit**" the starting bit of the first byte of the field "Position" is defined;
- If the field "**Swap**" is checked, the data from the Modbus registers are swapped;
- If the field "**Swap Word**" is checked, the Modbus words are swapped;
- In the field "**Mnemonic**" the description for the request is defined.

Industrial Electronic Devices

MODBUS WRITE

The means of the fields are:

- If the field "**Enable**" is checked, the Modbus request is enabled;
- In the field "**Slave ID**" the address of the Modbus device that you have to write is defined;
- In the field "**Type**" the data type of the register to write is defined. It is possible to choose between the following:
  - Coil Status;
  - Holding Register.

Figure 5b: "Set Access → Modbus Write" window

- In the field "**Address**" the start address of the register to be written is defined;
- In the field "**NPoint**" the number of consecutive registers to be written is defined;
- In the field "**Poll Time**" the delay time to make the request is defined;
- If the field "**On Change**" is checked, the converter sends the writing request when the data from LoRaWAN side change value;
- If the field "**On CMD**" is checked, the converter sends the writing request when the data from LoRaWAN is received;
- In the field "**Max Error**" the number of consecutive errors that the converter waits before suspending the request is defined;
- In the field "**Position**" the address of the internal array where taking the information is defined;
- In the field "**Start Bit**" the starting bit of the first byte of the field "Position" is defined;
- If the field "**Swap**" is checked, the data written the Modbus registers are swapped;
- If the field "**Swap Word**" is checked, the Modbus words are swapped;
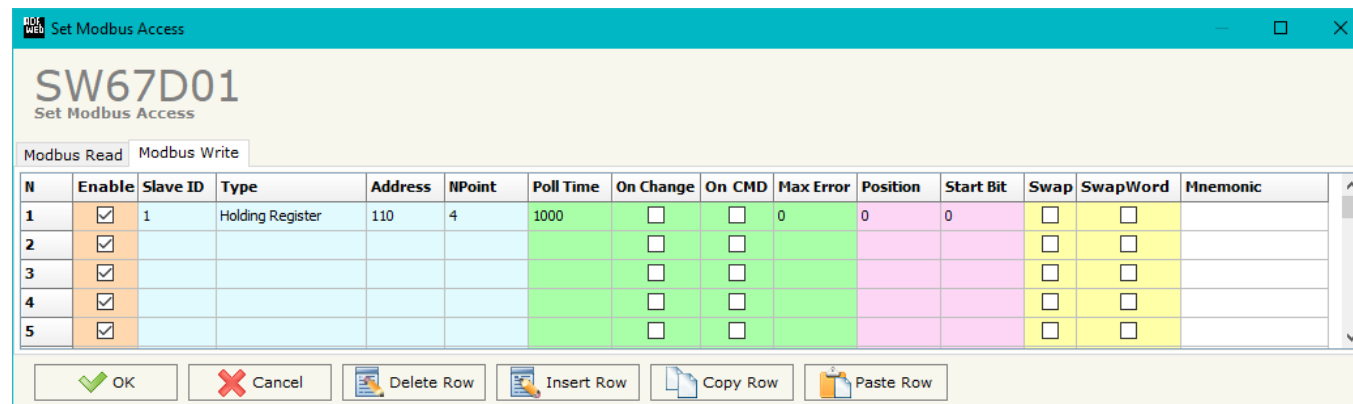- In the field "**Mnemonic**" the description for the request is defined.

UPDATE DEVICE:

By pressing the "**Update Device**" button, it is possible to load the created Configuration into the device; and also the Firmware, if necessary. This by 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;
- Put Dip1 of 'Dip-Switch A' in ON position;
- Turn ON the device
- Connect the Ethernet cable;
- Insert the IP "**192.168.2.205**";
- 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;
- Put Dip1 of 'Dip-Switch A' in OFF position;
- Turn ON the device.

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 Converter;
- 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 updated.
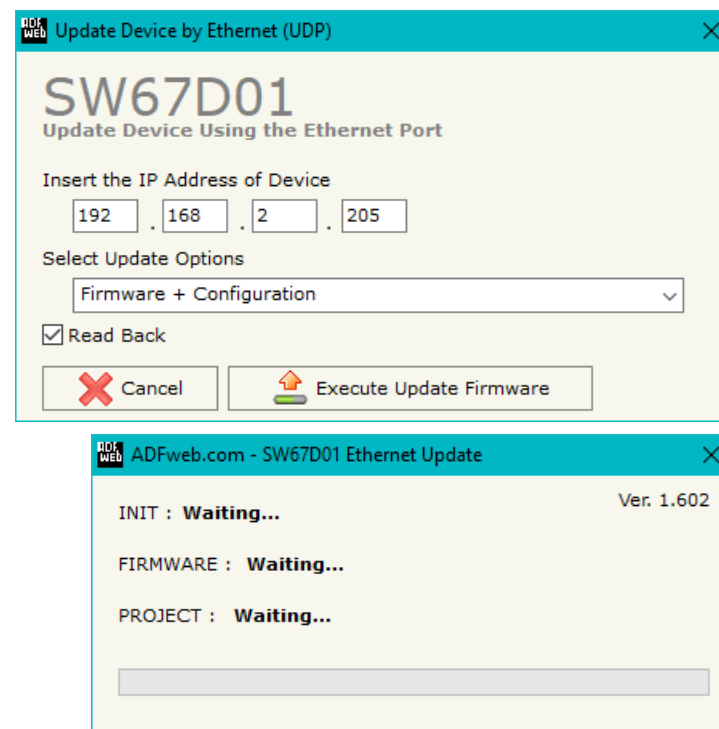
Figure 6: "Update device" windows

Note:
When you receive the device, for the first time, you also have to update the Firmware in the HD67D01 device.

Warning:
If Fig. 7 appears when you try to do the Update try these points before seeking assistance:

➜ Try to repeat the operations for the updating;
➜ Try with another PC;
➜ Try to restart the PC;
➜ Check the LAN settings;
➜ If you are using the program inside a Virtual Machine, try to use in the main Operating System;
➜ If you are using Windows Seven, Vista, 8 or 10 make sure that you have the administrator privileges;
➜ In case you have to program more than one device, using the "UDP Update", you have to cancel the ARP table every time you connect a new device on Ethernet. For do this you have to launch the "Command Prompt" and write the command "arp - d". Pay attention that with Windows Vista, Seven, 8, 10 you have to launch the "Command Prompt" with Administrator Rights;
➜ Pay attention at Firewall lock.

Figure 7: "Error" window

Warning:
In the case of HD67D01 you have to use the software "SW67D01": www.adfweb.com\download\filefold\SW67D01.zip.

Industrial Electronic Devices
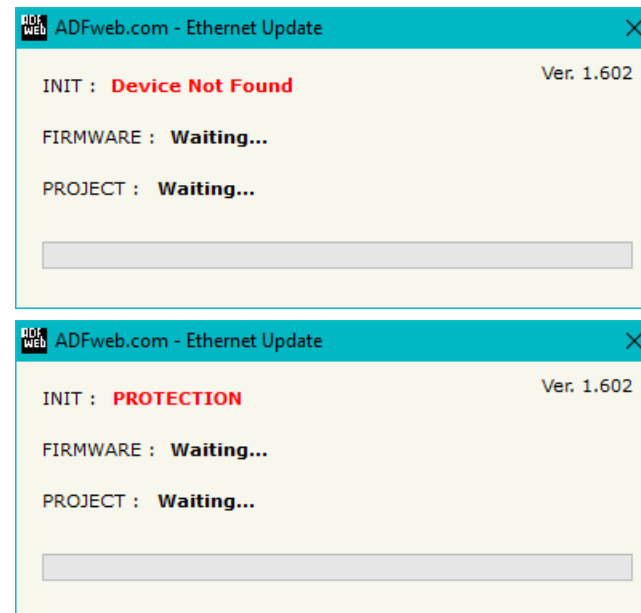
LORAWAN PAYLOAD

The LoRAWAN messages in Uplink and Downlink are structured into a defined format in order to recognize them from LoRaWAN gateway side and to understand to which Modbus requests they are associated.

The payload of the LoRaWAN messages is defined in Hex format:

- The first byte refers to the row of the tables defined into "LoRaWAN Access" section of SW67D01: it can have a value between 0 and 255 (0xFF);
- The following bytes will contain the data to be linked to the internal memory arrays of the converter (using "Start Byte" and "Num. Byte" of "LoRaWAN Access" section of SW67D01);

Example 1:

the converter is sending a LoRaWAN message related to row 4 of "LoRaWAN Access → LoRaWAN Uplink" table of "LoRaWAN Access" section of SW67D01 with a "Num. Byte" set of '4'. The data from these 4 bytes is "01 02 03 04" (hex).
The payload of the LoRaWAN message will look like "04 01 02 03 04" where:

- 04: index of the row of "LoRaWAN Access → LoRaWAN Uplink" table;
- 01 02 03 04: data taken from internal memory array of the converter.

Example 2:

The external LoRaWAN gateway needs to send a LoRaWAN message to the converter and link it to row 3 of "LoRaWAN Access → LoRaWAN Downlink" table of "LoRaWAN Access" section of SW67D01. The "Num. Byte" set is '4' and the data to be written is "55 66 77 88" (hex).
The payload of the LoRaWAN message will look like "03 55 66 77 88" where:

- 03: index of the row of "LoRaWAN Access → LoRaWAN Downlink" table;
- 55 66 77 88: data to be written to the internal memory array of the converter.

Industrial Electronic Devices
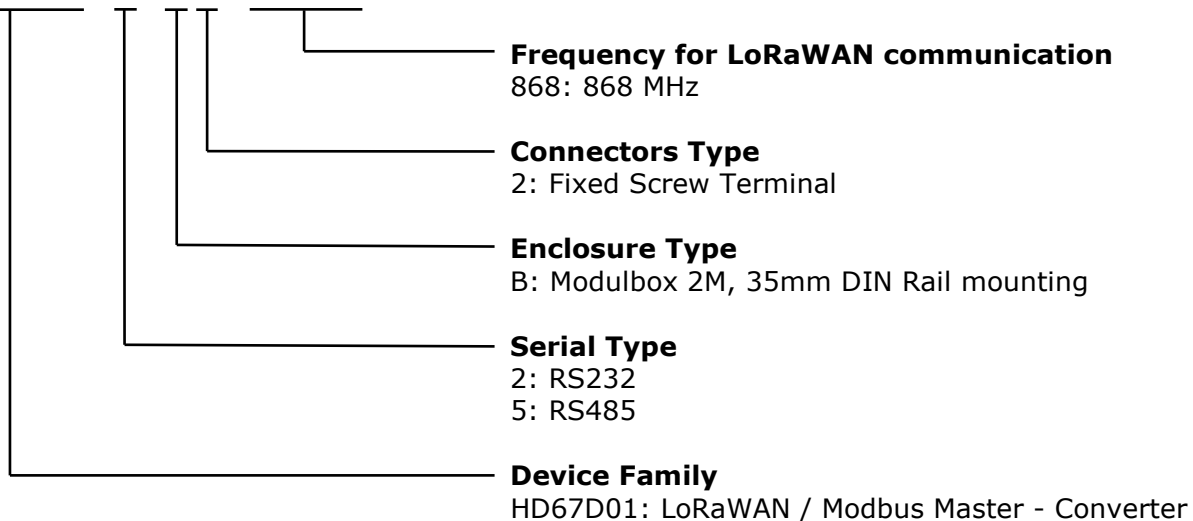
MECHANICAL DIMENSIONS:
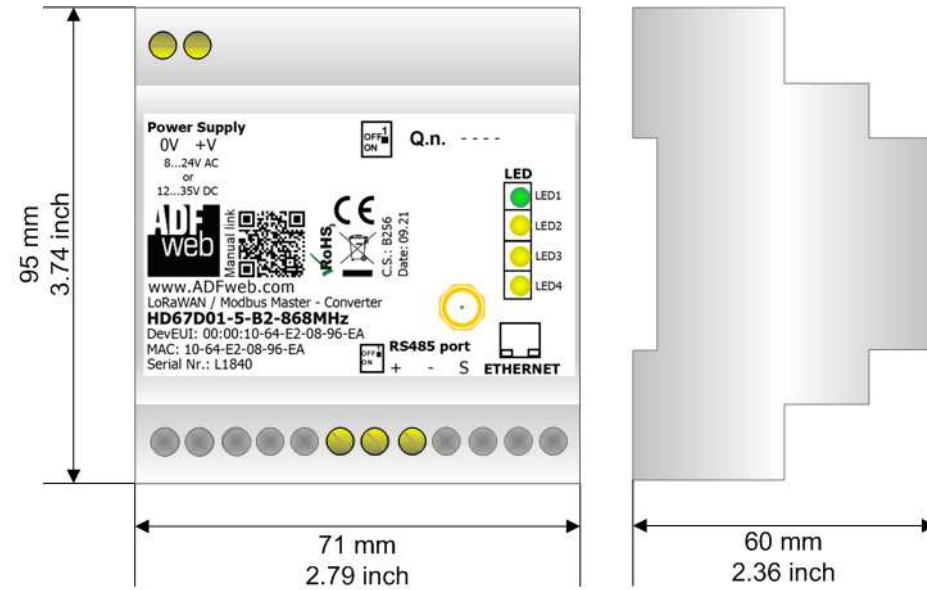
Housing: PVC
Weight: 200g (Approx)

Figure 8: Mechanical dimensions scheme for HD67D01-x-B2

Industrial Electronic Devices

ORDERING INFORMATIONS:

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

HD67D01 - x - B 2 - xxxMHz

Frequency for LoRaWAN communication
868: 868 MHz

Connectors Type
2: Fixed Screw Terminal

Enclosure Type
B: Modulbox 2M, 35mm DIN Rail mounting

Serial Type
2: RS232
5: RS485

Device Family
HD67D01: LoRaWAN / Modbus Master - Converter

Order Code: **HD67D01-2-B2-868MHz -**   LoRaWAN / Modbus Master – Converter (RS232)
Order Code: **HD67D01-5-B2-868MHz -**   LoRaWAN / Modbus Master – Converter (RS485)

ACCESSORIES:

Order Code: **AC34011**   **-**   35mm Rail DIN - Power Supply 220/240V AC 50/60Hz – 12 V DC

Order Code: **AC34012**   **-**   35mm Rail DIN - Power Supply 220/240V AC 50/60Hz – 24 V DC

Industrial Electronic Devices

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.

ADFweb.com S.r.l.

Industrial Electronic Devices

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:

- 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.
- 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.

ADFweb.com S.r.l.
Via Strada Nuova, 17
IT-31010 Mareno di Piave
TREVISO (Italy)
Phone +39.0438.30.91.31
Fax +39.0438.49.20.99
www.adfweb.com