

# User Manual

Revision 1.001  
English

## CANopen / KNX - Converter

(Order Code: HD67804-KNX-B2)

for Website information:

[www.adfweb.com?Product=HD67804](http://www.adfweb.com?Product=HD67804)

for Price information:

[www.adfweb.com?Price=HD67804-KNX-B2](http://www.adfweb.com?Price=HD67804-KNX-B2)

### Benefits and Main Features:

- ⊕ Very easy to configure
- ⊕ Electrical isolation
- ⊕ Temperature range: -40°C/85°C (-40°F/185°F)



For others KNX products, see also the following links:

#### Converter KNX to

[www.adfweb.com?Product=HD67801](http://www.adfweb.com?Product=HD67801)  
[www.adfweb.com?Product=HD67802](http://www.adfweb.com?Product=HD67802)  
[www.adfweb.com?Product=HD67803](http://www.adfweb.com?Product=HD67803)  
[www.adfweb.com?Product=HD67807](http://www.adfweb.com?Product=HD67807)  
[www.adfweb.com?Product=HD67808](http://www.adfweb.com?Product=HD67808)  
[www.adfweb.com?Product=HD67809](http://www.adfweb.com?Product=HD67809)  
[www.adfweb.com?Product=HD67810](http://www.adfweb.com?Product=HD67810)  
[www.adfweb.com?Product=HD67811](http://www.adfweb.com?Product=HD67811)  
[www.adfweb.com?Product=HD67812](http://www.adfweb.com?Product=HD67812)  
[www.adfweb.com?Product=HD67813](http://www.adfweb.com?Product=HD67813)  
[www.adfweb.com?Product=HD67814](http://www.adfweb.com?Product=HD67814)  
[www.adfweb.com?Product=HD67815](http://www.adfweb.com?Product=HD67815)  
[www.adfweb.com?Product=HD67818](http://www.adfweb.com?Product=HD67818)  
[www.adfweb.com?Product=HD67820](http://www.adfweb.com?Product=HD67820)

**(BACnet Master)**  
**(BACnet Slave)**  
**(CAN)**  
**(Ethernet/IP)**  
**(DeviceNet Master)**  
**(DeviceNet Slave)**  
**(J1939)**  
**(M-Bus Master/wM-Bus)**  
**(Modbus Master)**  
**(Modbus Slave)**  
**(Modbus TCP Master)**  
**(Modbus TCP Slave)**  
**(PROFINET Slave)**  
**(SNMP)**

Do you have an your customer protocol?  
[www.adfweb.com?Product=HD67004](http://www.adfweb.com?Product=HD67004)

Do you need to choose a device? do you want help?  
[www.adfweb.com?Cmd=helpme](http://www.adfweb.com?Cmd=helpme)



User Manual

## INDEX:

|                                  | Page |
|----------------------------------|------|
| INDEX                            | 2    |
| UPDATED DOCUMENTATION            | 2    |
| REVISION LIST                    | 2    |
| WARNING                          | 2    |
| TRADEMARKS                       | 2    |
| SECURITY ALERT                   | 3    |
| EXAMPLE OF CONNECTION            | 4    |
| CONNECTION SCHEME                | 5    |
| CHARACTERISTICS                  | 6    |
| CONFIGURATION                    | 6    |
| POWER SUPPLY                     | 7    |
| FUNCTION MODES                   | 8    |
| LEDS                             | 9    |
| CANOPEN                          | 10   |
| KNX                              | 11   |
| ETHERNET                         | 12   |
| USE OF COMPOSITOR SW67804        | 13   |
| NEW PROJECT / OPEN PROJECT       | 14   |
| SOFTWARE OPTIONS                 | 15   |
| SET COMMUNICATION                | 16   |
| KNX ACCESS                       | 17   |
| SET SDO SERVER                   | 19   |
| SET SDO CLIENT                   | 20   |
| SET PDO ACCESS                   | 22   |
| EDS FILE                         | 23   |
| UPDATE DEVICE                    | 24   |
| MECHANICAL DIMENSIONS            | 26   |
| ORDERING INFORMATIONS            | 27   |
| ACCESSORIES                      | 27   |
| DISCLAIMER                       | 28   |
| OTHER REGULATIONS AND STANDARDS  | 28   |
| WARRANTIES AND TECHNICAL SUPPORT | 29   |
| RETURN POLICY                    | 29   |

## 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   |
|----------|------------|--------|---------|---------------|
| 1.000    | 15/06/2015 | Ff     | All     | First Release |
| 1.001    | 26/02/2016 | Nt     | All     | Revision      |
|          |            |        |         |               |
|          |            |        |         |               |

## 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:

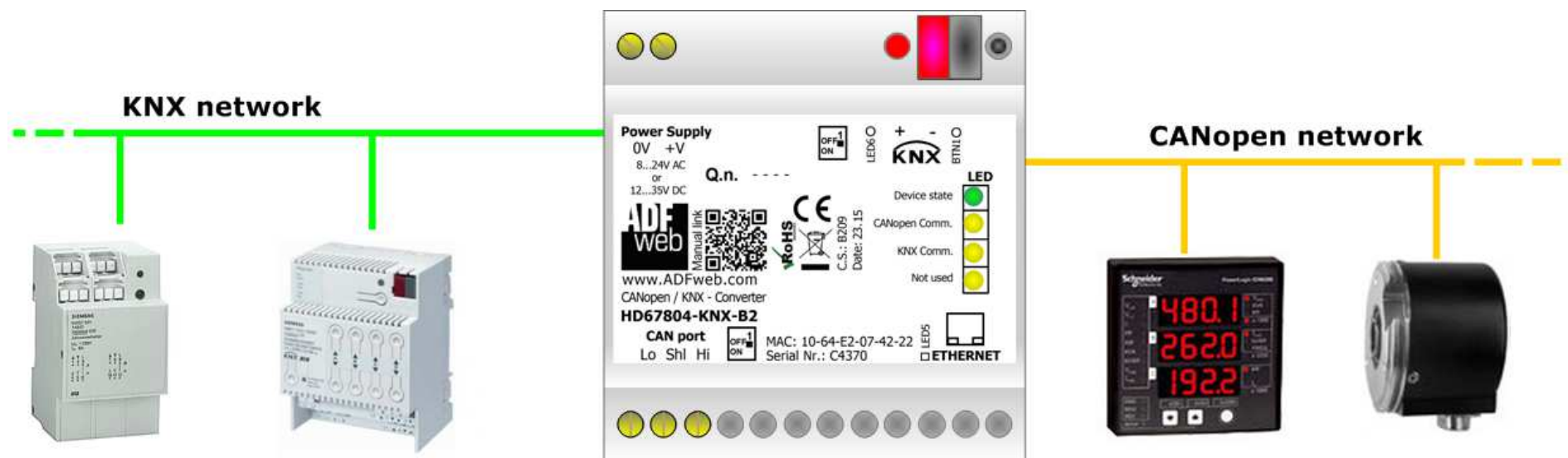


This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

**CE CONFORMITY**

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

## EXAMPLE OF CONNECTION:



## CONNECTION SCHEME:

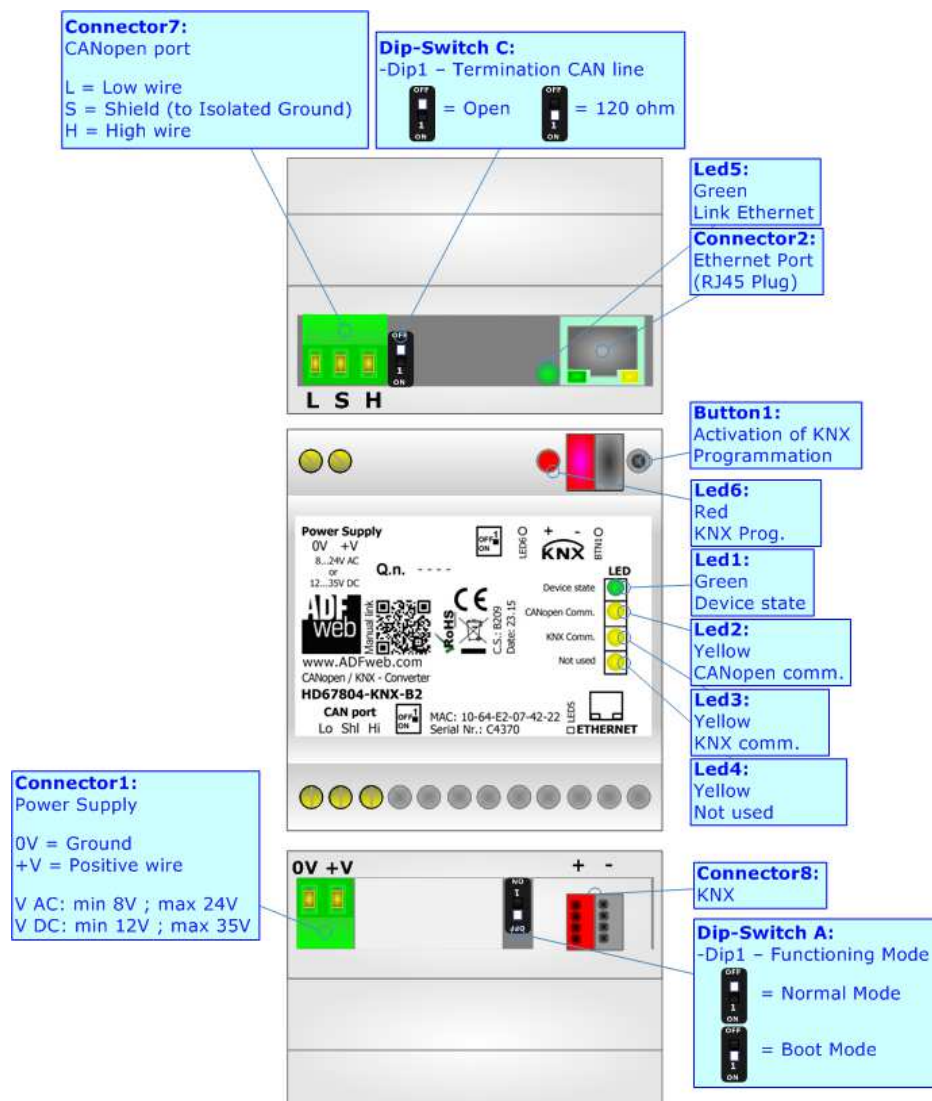


Figure 1: Connection scheme for HD67804-KNX-B2

**CHARACTERISTICS:**

The HD67804 is a CANopen / KNX Converter.

It has the following characteristics:

- Up to 1440 bytes in reading and 1440 bytes in writing;
- Triple isolation between KNX - Power Supply, KNX – CANopen, Power Supply - CANopen.
- Two-directional information between KNX bus and CANopen bus;
- Mountable on 35mm Rail DIN;
- Wide power supply input range: 8...24V AC or 12...35V DC;
- Wide temperature range: -40°C / 85°C [-40°F / +185°F].



**CONFIGURATION:**

You need Compositor SW67804 software on your PC in order to perform the following:

- Define the parameter of CANopen line;
- Define the parameter of KNX line;
- Define the KNX messages that the Converter can accept;
- Define the KNX frames that the Converter sends trough the KNX line;
- Define the map of KNX byte that must be written in the CANopen side;
- Define the map of which CANopen data must be written in KNX messages;
- Update the device.

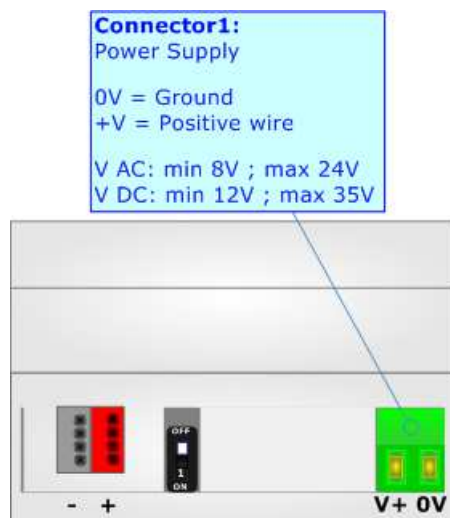
## POWER SUPPLY:

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

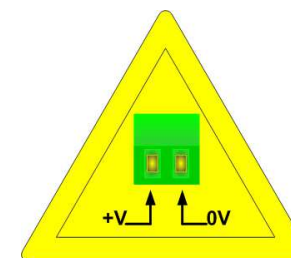
| VAC  |      | VDC  |      |
|---|------|---|------|
| Vmin  | Vmax | Vmin  | Vmax |
| 8V  | 24V  | 12V   | 35V  |

Consumption at 24V DC:

| Device         | Consumption [W/VA] |
|----------------|--------------------|
| HD67804-KNX-B2 | 3.5                |



**Caution: Not reverse the polarity power**



HD67804-KNX-B2

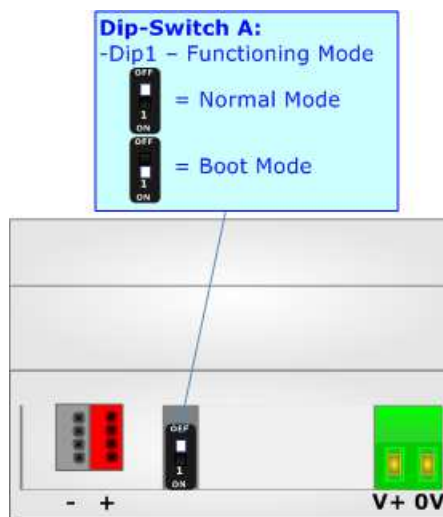
**FUNCTION MODES:**

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.

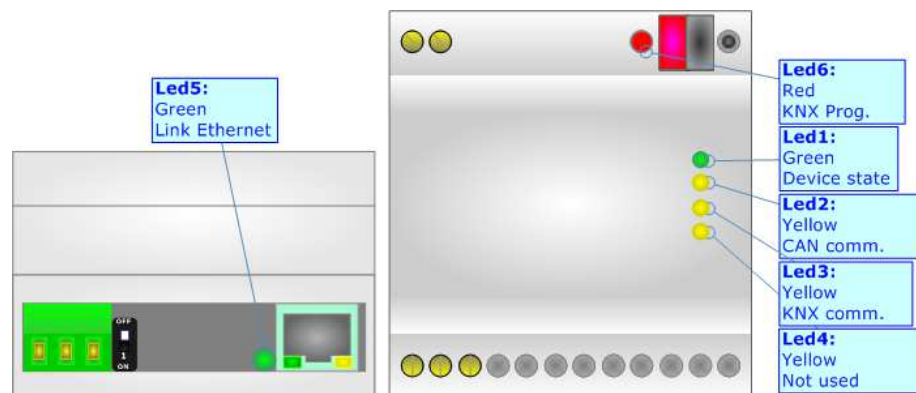




## LEDS:

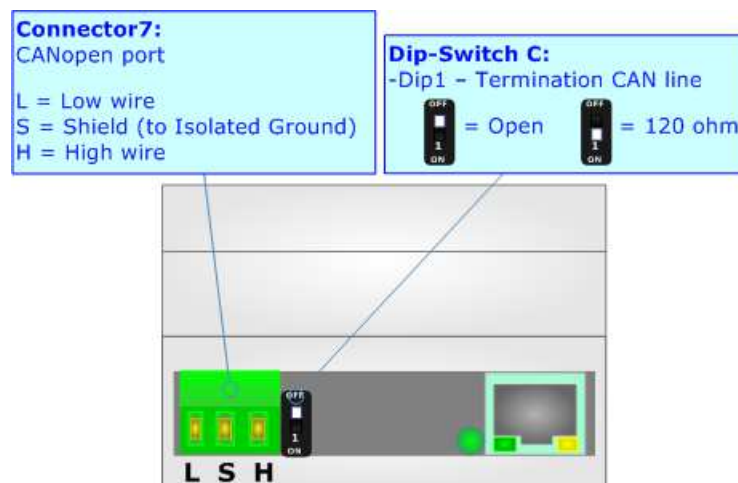
The device has got six LEDs that are used to give information of the functioning status.  
The various meanings of the LEDs are described in the table below.

| LED                               | Normal Mode   | Boot Mode   |
|-----------------------------------|---|---|
| 1: Device State (green)           | Blinks slowly ( $\sim 1\text{Hz}$ )   | <b>ON:</b> Device powered<br><b>OFF:</b> Device not powered   |
| 2: CANopen communication (yellow) | Blinks when CANopen frame is received   | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (<math>\sim 0.5\text{Hz}</math>):</b> update in progress |
| 3: KNX communication (yellow)     | Blinks when KNX frame is received   | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (<math>\sim 0.5\text{Hz}</math>):</b> update in progress |
| 4: Not used (yellow)              | <b>OFF</b>  | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (<math>\sim 0.5\text{Hz}</math>):</b> update in progress |
| 5: Ethernet Link (green)          | <b>ON:</b> Ethernet cable connected<br><b>OFF:</b> Ethernet cable disconnected    | <b>ON:</b> Ethernet cable connected<br><b>OFF:</b> Ethernet cable disconnected                                      |
| 6: KNX Programming (red)          | <b>ON:</b> KNX Programming activated<br><b>OFF:</b> KNX Programming not activated | <b>Blinks quickly:</b> Boot state<br><b>Blinks very slowly (<math>\sim 0.5\text{Hz}</math>):</b> update in progress |



## CANOPEN:

For terminate the CANopen line with a 120Ω resistor it is necessary that the Dip1 of 'Dip-Switch C' is at ON position.



Cable characteristics:

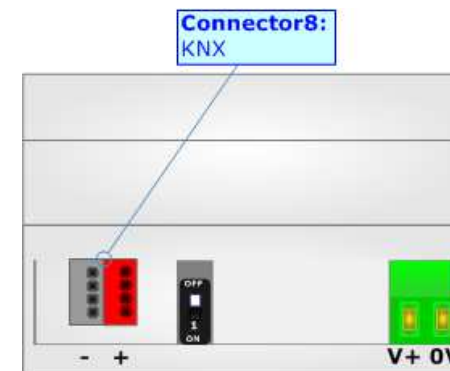
|                       |  |                        |                       |
|-----------------------|--|------------------------|-----------------------|
| <b>DC parameter:</b>  |  | Impedance              | 70 Ohm/m              |
| <b>AC parameters:</b> |  | Impedance              | 120 Ohm/m             |
|                       |  | Delay                  | 5 ns/m                |
| <b>Length</b>         |  | <b>Baud Rate [bps]</b> | <b>Length MAX [m]</b> |
|                       |  | 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                    |

## KNX:

KNX is the standard that allows the automated and decentralized management of the technologic plans of a big typology of structures: commercial buildings, factories, houses, public locals, schools and so on. KNX can be used in all the applications and functions for the building automations: from lighting to control dampers, to the security, to the heating monitoring, to the conditioning, to the hydric control and alarms, to energy management and so on.

| Characteristics                                    | Description TP1-256   |
|--|---|
| Medium   | Shielded Twisted Pair   |
| Topology   | Linear, Star, Tree or mixed                                     |
| Baudrate   | 9600 bps  |
| Device supplying                                   | Normal: bus powered devices<br>Optional: remote powered devices |
| Device power consumption                           | 3 mA- 12 mA   |
| Power Supply Unit (PSU)                            | DC 30 V   |
| Number of PSU's per physical Segment               | Max. 2  |
| Number of connectable devices per physical Segment | Max. 256  |
| Number of addressable devices per physical Segment | Max. 255  |
| Total cable length per physical Segment            | Max. 1000 m   |
| Distance between two devices                       | Max. 700 m  |

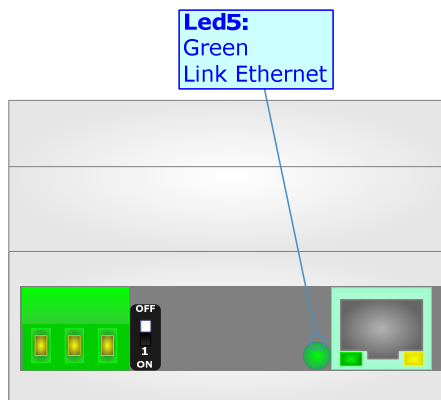
(\*) Taken from KNX specifications



**ETHERNET (PROGRAMMING PORT):**

The Ethernet ports are used for programming the device.

The Ethernet connection must be made using Connector2 of HD67804-KNX-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.



## USE OF COMPOSITOR SW67804:

To configure the Converter, use the available software that runs with Windows called SW67804. 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; 32/64bit).

When launching the SW67804, the window below appears (Fig. 2).



### Note:

It is necessary to have installed .Net Framework 4.

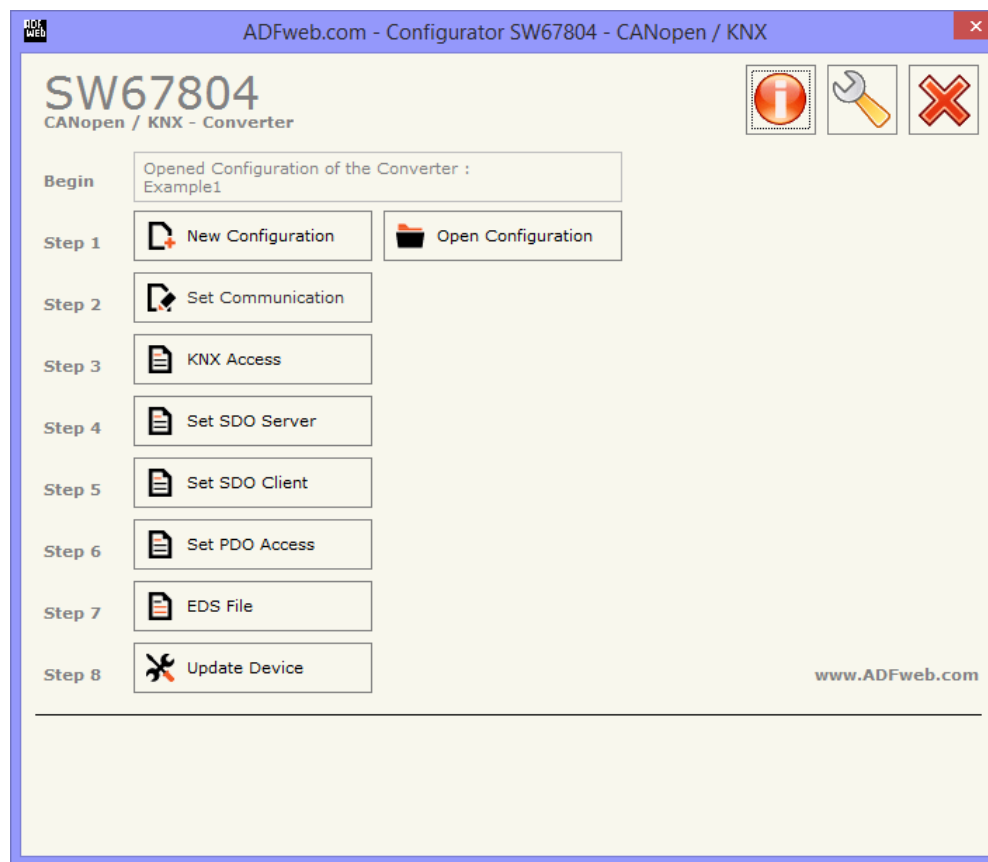
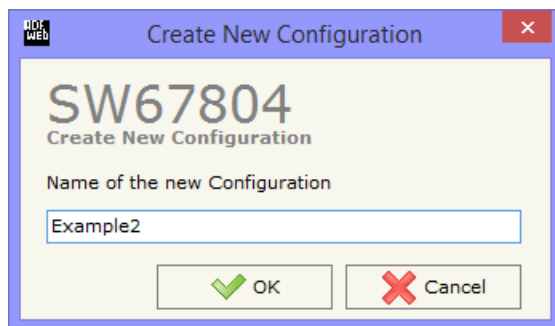


Figure 2: Main window for SW67804

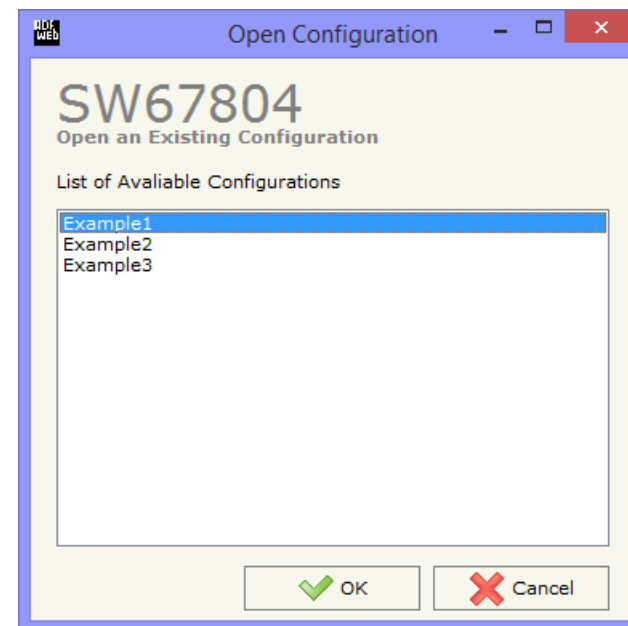
**NEW CONFIGURATION / OPEN CONFIGURATION:**

The “**New Configuration**” button creates the folder which contains the entire device’s configuration.




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

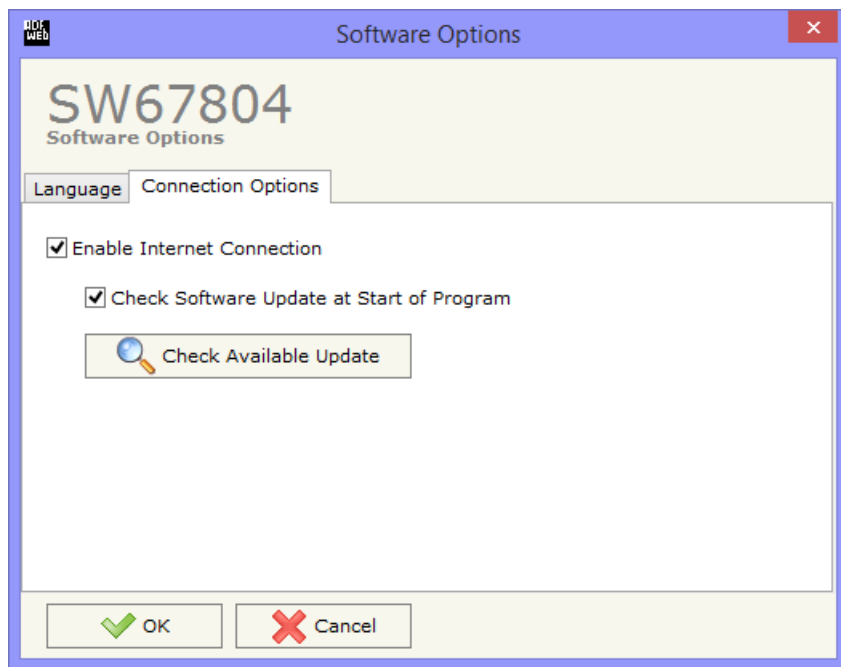
- To clone the configurations of a Programmable “CANopen / KNX - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient to duplicate the project folder with another name and open the new folder with the button “**Open Configuration**”.



## 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 SW67804 check automatically if there are updatings when it is launched.

## SET COMMUNICATION:

This section define the fundamental communication parameters of two buses, KNX and CANopen.

By Pressing the **"Set Communication"** button from the main window for SW67804 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The window is divided in three sections, one for the KNX, one for the CANopen and the other for Ethernet.

The means of the fields for "KNX" are:

- In the field **"Type"** the type of KNX is defined (fixd to 'KNX TP');
- In the field **"ID Device"** the ID of the KNX side of the converter is defined.

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

- In the field **"ID Device"** the ID of the CANopen side is defined;
- In the field **"Baudrate"** the baudrate for the serial line is defined;
- In the field **"Set Operational State at Start-up"** the state of the CANopen is defined. I.e. if it is checked the board starts in Operational State, else it starts in Preoperational;
- In the field **"Network Start at Start-up"** the state of the network CANopen is defined. I.e. if it is checked the board sends a command to set the Operational State of all the devices present in the network;
- In the field **"Delay (s)"** the delay before sending the network command for the CANopen is defined;
- If the field **"SDO Client TimeOut (1/10 ms)"** insert a time. It is the maximum time that the device attends for the answer from the Slave interrogated.

The means of the fields for "Ethernet" are:

- In the fields **"IP ADDRESS"** insert the IP address that you want to give to the Converter;
- In the fields **"SUBNET Mask"** insert the SubNet Mask;
- In the fields **"GATEWAY"** insert the default gateway that you want to use. This feature can be enabled or disabled pressing the Check Box field. This feature is used for going out of the net.

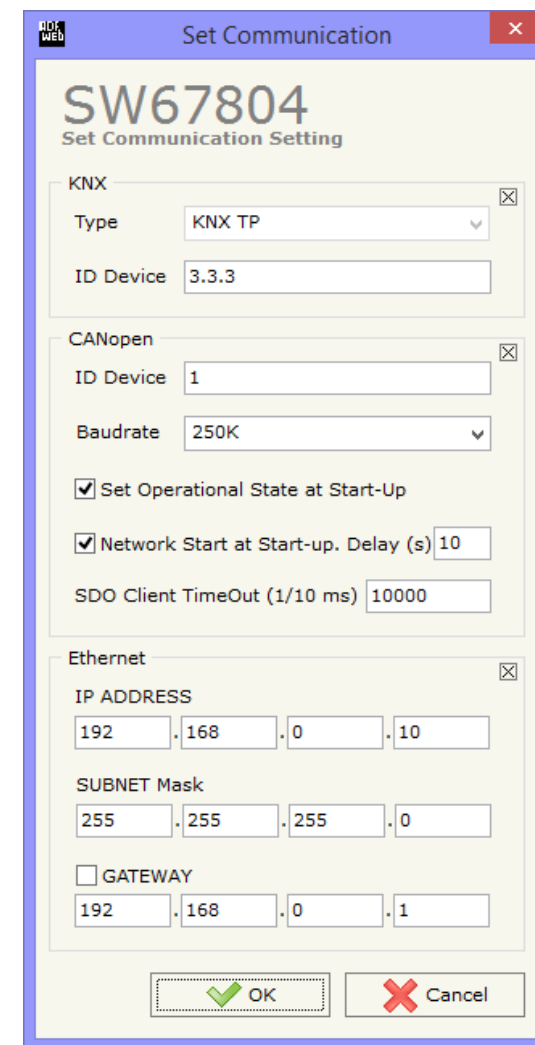


Figure 3: "Set Communication" window

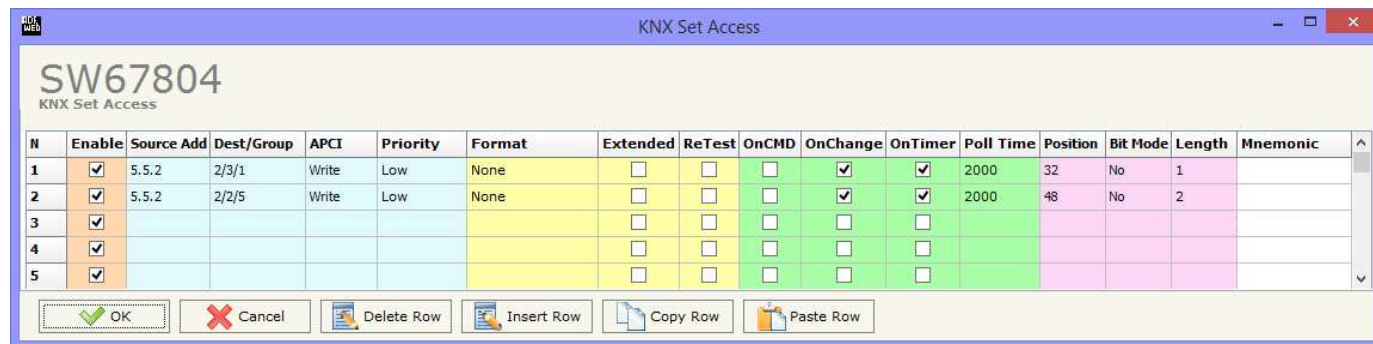


## KNX ACCESS:

By pressing the **"KNX Access"** button from the main window for SW67804 (Fig. 2) the **"KNX Access"** window appears (Fig. 4).

The means of the fields are:


- If the field **"Enable"** is checked, the KNX message is enabled;
- In the field **"Source Address"** the Source Address to assign to the KNX message is defined;
- In the field **"Dest/Group"** the Group address (2 level structure, 3 level structure or free address structure) or the device address is defined. In case of Group address, the levels must be separated by '/', in case of Device address, the parts of the address must be separated by '.';
- In the field **"APCI"** the APCI of the KNX message is defined. You can choose between the following:
  - Read: it is used to send a reading request to a KNX device;
  - Write: it is used to send a writing request to a KNX device;
  - Specific value (edited manually).
- In the field **"Priority"** the Priority of the KNX message is defined. You can choose between the following:
  - System (Highest);
  - Urgent;
  - Normal;
  - Low (Lowest).
- In the field **"Format"** the data format of the KNX message is defined;
- If the field **"Extended"** is checked, the extended format of the KNX message is used;
- If the field **"ReTest"** is checked, the KNX message is re-sent in case of not correct response;
- If the field **"OnCMD"** is checked, the KNX request is sent when a CANopen frame is received;
- If the field **"On Change"** is checked, the gateway sends the KNX command when the data on CANopen change the value;
- If the field **"On Timer"** is checked, the gateway sends the KNX command cyclically;




| N | Enable                              | Source Add | Dest/Group | APCI  | Priority | Format | Extended                 | ReTest                   | OnCMD                    | OnChange                            | OnTimer                             | Poll Time | Position | Bit Mode | Length | Mnemonic |
|---|-------------------------------------|------------|------------|-------|----------|--------|--------------------------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|-----------|----------|----------|--------|----------|
| 1 | <input checked="" type="checkbox"/> | 5.5.2      | 2/3/1      | Write | Low      | None   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2000      | 32       | No       | 1      |          |
| 2 | <input checked="" type="checkbox"/> | 5.5.2      | 2/2/5      | Write | Low      | None   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2000      | 48       | No       | 2      |          |
| 3 | <input checked="" type="checkbox"/> |            |            |       |          |        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |          |          |        |          |
| 4 | <input checked="" type="checkbox"/> |            |            |       |          |        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |          |          |        |          |
| 5 | <input checked="" type="checkbox"/> |            |            |       |          |        | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |           |          |          |        |          |

Figure 4: "KNX Set Access" window

- In the field "**Poll Time**" the delay in ms between two KNX commands is defined (if "On Timer" is checked);
- In the field "**Position**" insert the address of the internal array where placing the information;
- In the field "**Bit Mode**" insert the start bit of the first byte of the field "Position" where start to insert the data read;
- In the field "**Lenght**" the dimension of the KNX message is defined;
- In the field "**Mnemonic**" the description for the request is defined.

 Note:  
If the field "On change" is checked and the "Poll Time" is different from 0, the converter sends the KNX command cyclically and also when the data is changed.

 Note:  
If the field "OnCMD", "OnChange" and "OnTimer" are not checked, the converter only sniffs the bus in order to monitor the status of the KNX message.

## SET SDO SERVER:

By pressing the **"Set SDO Server"** button from the main window for SW67804 (Fig. 2) the window "Set SDO Server Access" appears (Fig. 5).

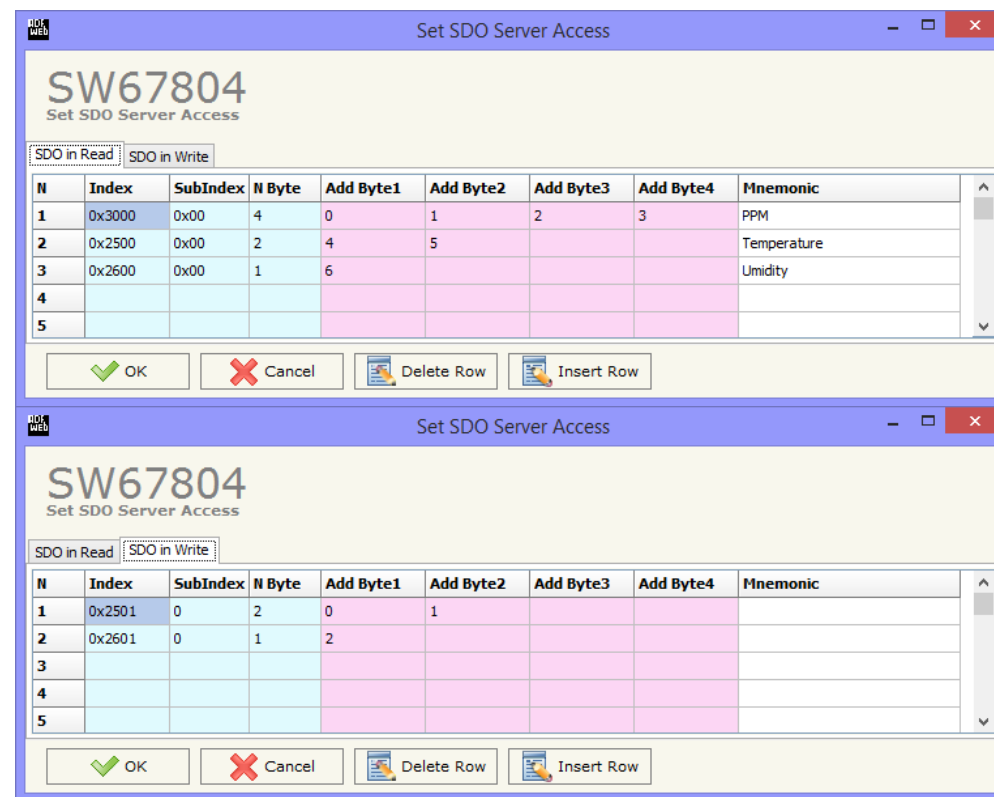
This window is made to create the SDO in read or write in the CANopen side, and to indicate which byte are associated to these SDOs.

It is divided in two parts, the "SDO in read" and the "SDO in Write". The first part is used to read, using the SDO, the data arrived from the KNX devices. The second is used to write, using SDO, the data that will be sent to the KNX devices.

The data of the columns have the following meanings:

- In the field **"Index"** the address of the SDO is defined;
- In the field **"SubIndex"** the second address of the SDO is defined;
- If the field **"N Byte"** the dimension of the SDO is defined (it can be 1, 2 or 4);
- In the field **"Address Byte1"** insert the address of the KNX arrays where read/write first byte of the SDO;
- In the field **"Address Byte2"** insert the address of the KNX arrays where read/write second byte of the SDO (only if N Byte is 2 or 4);
- In the field **"Address Byte3"** insert the address of the KNX arrays where read/write third byte of the SDO (only if N Byte is 4);
- In the field **"Address Byte4"** insert the address of the KNX arrays where read/write fourth byte of the SDO (only if N Byte is 4);
- In the field **"Mnemonic"** the description for the SDO is defined.

It is possible to configure a maximum of 1000 SDOs (500 in read and 500 in write) in the "Set SDO Server Access" section.



**SW67804 Set SDO Server Access**

SDO in Read | SDO in Write

| N | Index  | SubIndex | N Byte | Add Byte1 | Add Byte2 | Add Byte3 | Add Byte4 | Mnemonic    |
|---|--------|----------|--------|-----------|-----------|-----------|-----------|-------------|
| 1 | 0x3000 | 0x00     | 4      | 0         | 1         | 2         | 3         | PPM         |
| 2 | 0x2500 | 0x00     | 2      | 4         | 5         |           |           | Temperature |
| 3 | 0x2600 | 0x00     | 1      | 6         |           |           |           | Umidity     |
| 4 |        |          |        |           |           |           |           |             |
| 5 |        |          |        |           |           |           |           |             |

OK Cancel Delete Row Insert Row

**SW67804 Set SDO Server Access**

SDO in Read | SDO in Write

| N | Index  | SubIndex | N Byte | Add Byte1 | Add Byte2 | Add Byte3 | Add Byte4 | Mnemonic |
|---|--------|----------|--------|-----------|-----------|-----------|-----------|----------|
| 1 | 0x2501 | 0        | 2      | 0         | 1         |           |           |          |
| 2 | 0x2601 | 0        | 1      | 2         |           |           |           |          |
| 3 |        |          |        |           |           |           |           |          |
| 4 |        |          |        |           |           |           |           |          |
| 5 |        |          |        |           |           |           |           |          |

OK Cancel Delete Row Insert Row

Figure 5: "Set SDO Server Access" windows

## SET SDO CLIENT:

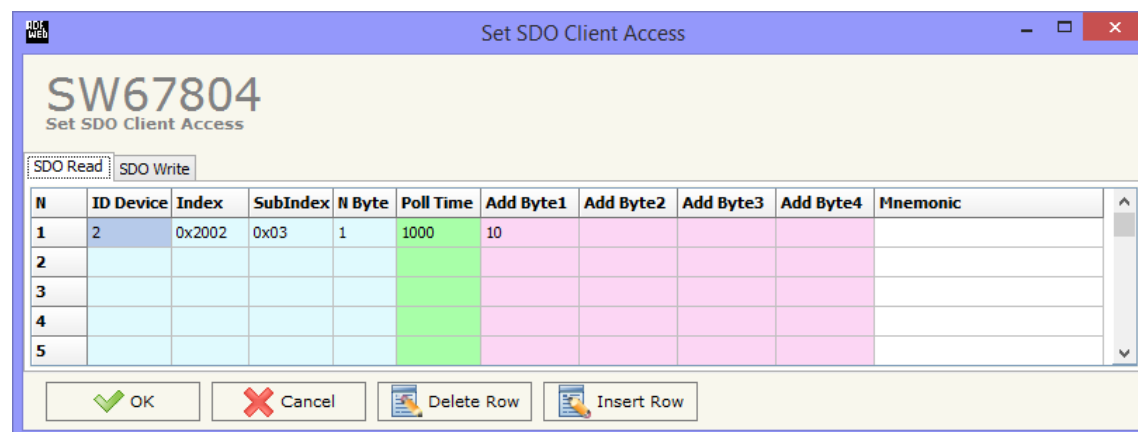
By pressing the **"Set SDO Client"** button from the main window for SW67804 (Fig. 2) the window "Set SDO Client Access" appears (Fig. 6a and 6b).

With the SDO Client the HD67804 Gateway can read and/or write the data from other devices connected in the network CANopen.

It is divided in two parts, the "SDO Read" and the "SDO Write". The first part is used to read, using the SDO, the data in another device and then put this data in the KNX array. The second part is used to write, using the SDO, the data present in the KNX array to other CANopen devices.

The data of the columns in the "SDO Read" have the following meanings:

- In the field **"Device ID"** insert the ID of the device used to read the data;
- In the field **"Index"** the address for the SDO is defined;
- In the field **"SubIndex"** the second address for the SDO is defined;
- In the field **"N Byte"** the dimension of the SDO is defined (it can be 1, 2, or 4);
- In the field **"Poll Time"** insert the time to make this request;
- In the field **"Address Byte1"** the address of the KNX array where to copy the first byte of the SDO read is defined;
- In the field **"Address Byte2"** the address of the KNX array where to copy the second byte of the SDO read is defined (only if N Byte is 2 or 4);
- In the field **"Address Byte3"** the address of the KNX array where to copy the third byte of the SDO read is defined (only if N Byte is 4);
- In the field **"Address Byte4"** the address of the KNX array where to copy the fourth byte of the SDO read is defined (only if N Byte is 4);
- In the field **"Mnemonic"** the description for the SDO is defined.



| N | ID Device | Index  | SubIndex | N Byte | Poll Time | Add Byte1 | Add Byte2 | Add Byte3 | Add Byte4 | Mnemonic |
|---|-----------|--------|----------|--------|-----------|-----------|-----------|-----------|-----------|----------|
| 1 | 2         | 0x2002 | 0x03     | 1      | 1000      | 10        |           |           |           |          |
| 2 |           |        |          |        |           |           |           |           |           |          |
| 3 |           |        |          |        |           |           |           |           |           |          |
| 4 |           |        |          |        |           |           |           |           |           |          |
| 5 |           |        |          |        |           |           |           |           |           |          |

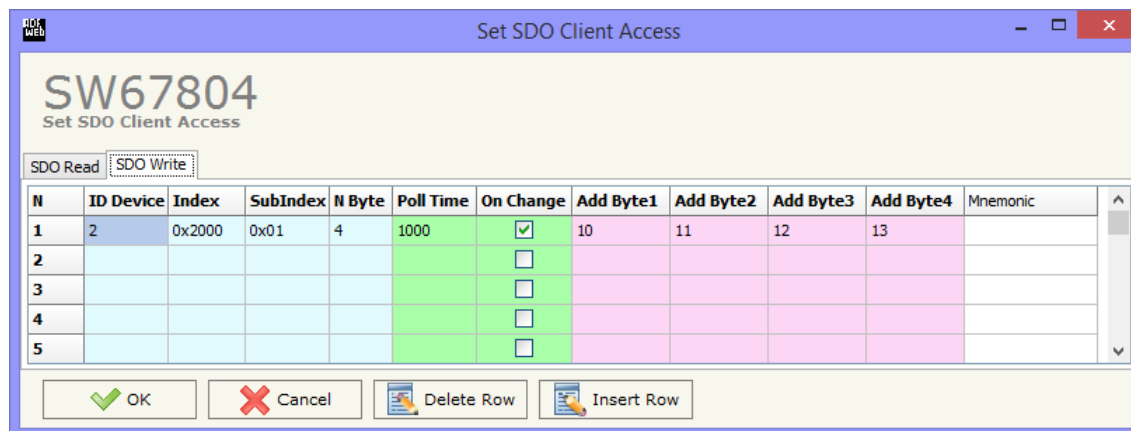
Figure 6a: "Set SDO Client Access – SDO Read" window

It is possible to configure a maximum of 256 read SDOs in the "Set SDO Client Access – SDO Read" section.

The data of the columns in the "SDO Write" have the following meanings:

- In the field "**Device ID**" insert the ID of the device used to write the data;
- In the field "**Index**" the address for the SDO is defined;
- In the field "**SubIndex**" the second address for the SDO is defined;
- In the field "**N Byte**" the dimension of the SDO is defined (it can be 1, 2, or 4);
- In the field "**Poll Time**" insert the time to make this request;
- If the field "**On Change**" is checked, the gateway send the Write SDO request when the data change the value
- In the field "**Address Byte1**" the address of the KNX array where to read the first byte of the SDO write is defined;
- In the field "**Address Byte2**" the address of the KNX array where to read the second byte of the SDO write is defined (only if N Byte is 2 or 4);
- In the field "**Address Byte3**" the address of the KNX array where to read the third byte of the SDO write is defined (only if N Byte is 4);
- In the field "**Address Byte4**" the address of the KNX array where to read the fourth byte of the SDO write is defined (only if N Byte is 4);
- In the field "**Mnemonic**" the description for the SDO is defined.

It is possible to configure a maximum of 256 write SDOs in the "Set SDO Client Access – SDO Write" section.



| N | ID Device | Index  | SubIndex | N Byte | Poll Time | On Change                           | Add Byte1 | Add Byte2 | Add Byte3 | Add Byte4 | Mnemonic |
|---|-----------|--------|----------|--------|-----------|-------------------------------------|-----------|-----------|-----------|-----------|----------|
| 1 | 2         | 0x2000 | 0x01     | 4      | 1000      | <input checked="" type="checkbox"/> | 10        | 11        | 12        | 13        |          |
| 2 |           |        |          |        |           | <input type="checkbox"/>            |           |           |           |           |          |
| 3 |           |        |          |        |           | <input type="checkbox"/>            |           |           |           |           |          |
| 4 |           |        |          |        |           | <input type="checkbox"/>            |           |           |           |           |          |
| 5 |           |        |          |        |           | <input type="checkbox"/>            |           |           |           |           |          |

Figure 6b: "Set SDO Client Access – SDO Write" window

## SET PDO ACCESS:

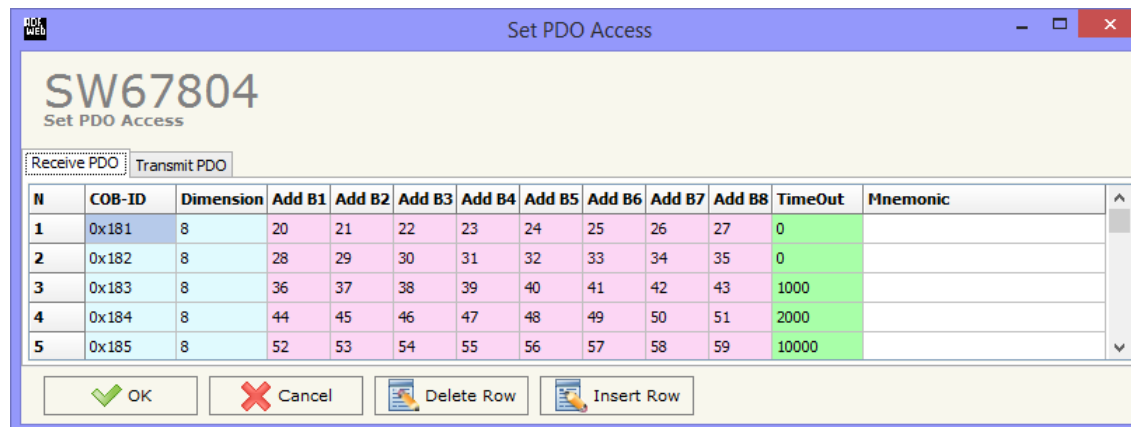
By pressing the "Set PDO Access" button from the main window for SW67804 (Fig. 2) the window "Set PDO Access" appears (Fig. 7a and 7b).

This window is made to create the Receive and the Transmit PDO in the CANopen side, and to indicate which bytes are associated to these PDO.

It is divided in two parts, the "Receive PDO" and the "Transmit PDO". The first part is used to receive PDO in the CANopen network and copy the data in the KNX array. The second part is used to transmit PDO in the CANopen network with the data of KNX array.

The data of the columns in the "Receive PDO" have the following meanings:

- In the Field "**Cob-ID**" the address for the PDO is defined;
- In the Field "**Dimension**" the dimension of the PDO is defined (it can be between 1 and 8);
- In the Field "**Add B1**" the first byte where the data will be saved in the KNX array is defined;
- In the Field "**Add B2**" the second byte where the data will be saved in the KNX array is defined (only if **Dimension** > 1);
- In the Field "**Add B3**" the third byte where the data will be saved in the KNX array is defined (only if **Dimension** > 2);
- In the Field "**Add B4**" the fourth byte where the data will be saved in the KNX array is defined (only if **Dimension** > 3);
- In the Field "**Add B5**" the fifth byte where the data will be saved in the KNX array is defined (only if **Dimension** > 4);
- In the Field "**Add B6**" the sixth byte where the data will be saved in the KNX array is defined (only if **Dimension** > 5);
- In the Field "**Add B7**" the seventh byte where the data will be saved in the KNX array is defined (only if **Dimension** > 6);
- In the Field "**Add B8**" the eighth byte where the data will be saved in the KNX array is defined (only if **Dimension** > 7);
- The field "**TimeOut**" is used for put at zero the data into KNX if the PDO doesn't arrive with a frequency less than the time expressed in the field. If the value in the field is 0, means that you don't want to use this feature, and so the value is never deleted;
- In the field "**Mnemonic**" the description for the PDO is defined.



| N | COB-ID | Dimension | Add B1 | Add B2 | Add B3 | Add B4 | Add B5 | Add B6 | Add B7 | Add B8 | TimeOut | Mnemonic |
|---|--------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|---------|----------|
| 1 | 0x181  | 8         | 20     | 21     | 22     | 23     | 24     | 25     | 26     | 27     | 0       |          |
| 2 | 0x182  | 8         | 28     | 29     | 30     | 31     | 32     | 33     | 34     | 35     | 0       |          |
| 3 | 0x183  | 8         | 36     | 37     | 38     | 39     | 40     | 41     | 42     | 43     | 1000    |          |
| 4 | 0x184  | 8         | 44     | 45     | 46     | 47     | 48     | 49     | 50     | 51     | 2000    |          |
| 5 | 0x185  | 8         | 52     | 53     | 54     | 55     | 56     | 57     | 58     | 59     | 10000   |          |

Figure 7a: "Set PDO Access – Receive PDO" window

It is possible to configure a maximum of 30 Receive PDO in the "Set PDO Access – Receive PDO"

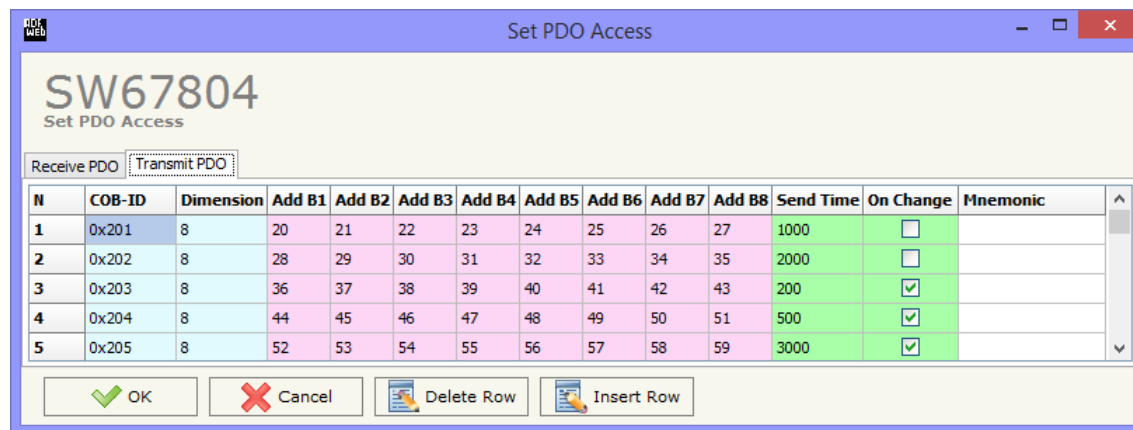
The data of the columns in the "Transmit PDO" have the following meanings:

- In the Field "**Cob-ID**" the address for the PDO is defined;
- In the Field "**Dimension**" the dimension of the PDO is defined (it can be between 1 and 8);
- In the Field "**Add B1**" the first byte where the data will be loaded in the KNX array is defined;
- In the Field "**Add B2**" the second byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 1);
- In the Field "**Add B3**" the third byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 2);
- In the Field "**Add B4**" the fourth byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 3);
- In the Field "**Add B5**" the fifth byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 4);
- In the Field "**Add B6**" the sixth byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 5);
- In the Field "**Add B7**" the seventh byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 6);
- In the Field "**Add B8**" the eighth byte where the data will be loaded in the KNX array is defined (only if **Dimension** > 7);
- In the Field "**Send Time**" insert the interval used to send the PDO. The time is in milliseconds;
- If the field "**On Change**" is checked, the gateway send the Transmit PDO when the data change the value;
- In the field "**Mnemonic**" the description for the PDO is defined.

It is possible to configure a maximum of 30 Transmit PDO in the "Set PDO Access – Transmit PDO"

## EDS FILE:

By pressing the "**EDS FILE**" button it is possible to save the EDS file for the CANopen side.  
With this feature you can save the configuration of the converter of the CANopen side.



| N | COB-ID | Dimension | Add B1 | Add B2 | Add B3 | Add B4 | Add B5 | Add B6 | Add B7 | Add B8 | Send Time | On Change                           | Mnemonic |
|---|--------|-----------|--------|--------|--------|--------|--------|--------|--------|--------|-----------|-------------------------------------|----------|
| 1 | 0x201  | 8         | 20     | 21     | 22     | 23     | 24     | 25     | 26     | 27     | 1000      | <input type="checkbox"/>            |          |
| 2 | 0x202  | 8         | 28     | 29     | 30     | 31     | 32     | 33     | 34     | 35     | 2000      | <input type="checkbox"/>            |          |
| 3 | 0x203  | 8         | 36     | 37     | 38     | 39     | 40     | 41     | 42     | 43     | 200       | <input checked="" type="checkbox"/> |          |
| 4 | 0x204  | 8         | 44     | 45     | 46     | 47     | 48     | 49     | 50     | 51     | 500       | <input checked="" type="checkbox"/> |          |
| 5 | 0x205  | 8         | 52     | 53     | 54     | 55     | 56     | 57     | 58     | 59     | 3000      | <input checked="" type="checkbox"/> |          |

Figure 7b: "Set PDO Access – Transmit PDO" window

**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.

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"**;
- Press the **"Ping"** button, "Device Found!" must appear;
- 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;
- Put Dip1 of 'Dip-Switch A' at OFF position;
- Turn on the device.

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

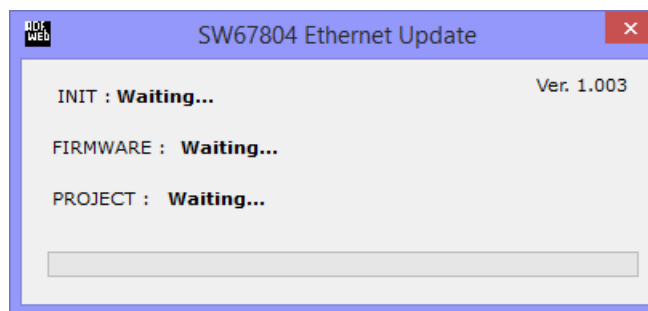
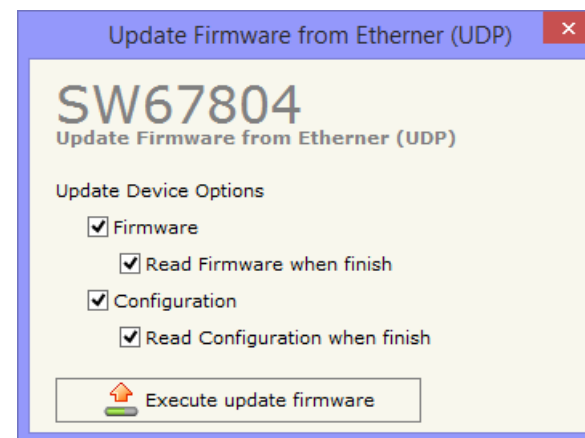
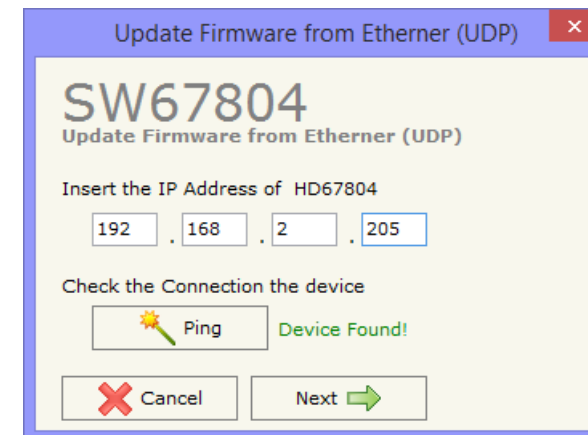


Figure 8: "Update device" windows



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;
- Press the "**Ping**" button, must appear "Device Found!";
- Press the "**Next**" button;
- Select which operations you want to do;
- Press the "**Execute update firmware**" button to start the upload;
- When all the operations are "OK" the device automatically goes at Normal Mode.

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



Note:

When you install a new version of the software, if it is the first time it is better you do the update of the Firmware in the HD67804 device.



Note:

When you receive the device, for the first time, you also have to update the Firmware in the HD67804 device.



Warning:

If Fig. 9 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;
- 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, make sure that you have the administrator privileges;
- Take attention at Firewall lock;
- Check the LAN settings.



In the case of HD67804 you have to use the software "SW67804": [www.adfweb.com/download/filefold/SW67804.zip](http://www.adfweb.com/download/filefold/SW67804.zip).

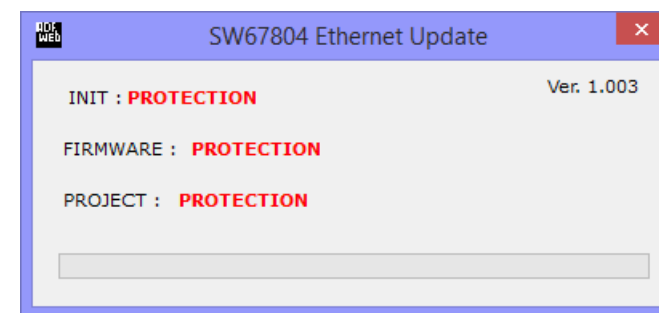


Figure 9: "Protection" window

## MECHANICAL DIMENSIONS:

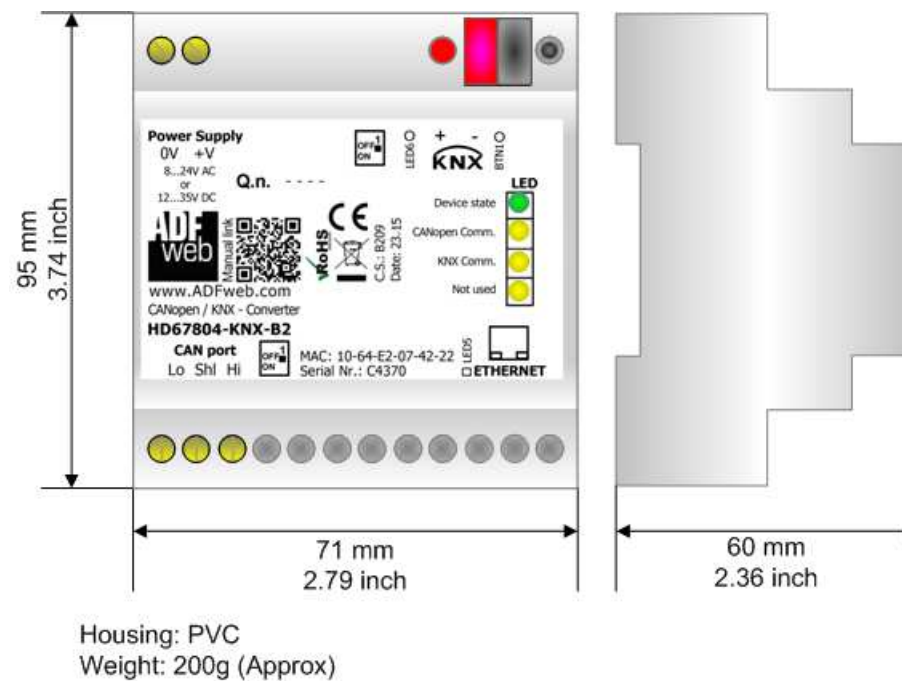
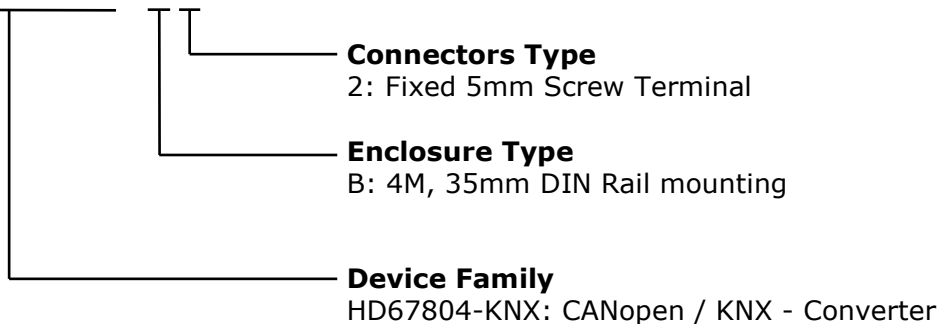


Figure 10: Mechanical dimensions scheme for HD67804-KNX-B2

## ORDERING INFORMATION:

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

### **HD67804 – KNX – B 2**



Order Code: **HD67804-KNX-B2** - CANopen / KNX – Converter

## ACCESSORIES:

Order Code: **AC34001** - 35mm Rail DIN - Power Supply 220/240V AC 50/60Hz – 12 V AC

Order Code: **AC34002** - 35mm Rail DIN - Power Supply 110V AC 50/60Hz – 12 V AC

**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.



### ADFweb.com S.r.l.

Via Strada Nuova, 17  
IT-31010 Marenno di Piave  
TREVISO (Italy)  
Phone +39.0438.30.91.31  
Fax +39.0438.49.20.99  
[www.adfweb.com](http://www.adfweb.com)

