

User Manual

Revision 1.001

English

PROFIBUS Slave / SNMP Agent - Converter

(Order Code: HD67169-A1)

For Website information:

www.adfweb.com?Product=HD67169

For Price information:

www.adfweb.com?Price=HD67169-A1

Benefits and Main Features:

- ✦ Electrical isolation
- ✦ Temperature range: -40°C/+85°C (-40°F/+185°F)



User Manual

For others SNMP Agent products, see also the following links:

Converter SNMP to

www.adfweb.com?Product=HD67040
www.adfweb.com?Product=HD67155
www.adfweb.com?Product=HD67156
www.adfweb.com?Product=HD67159
www.adfweb.com?Product=HD67160
www.adfweb.com?Product=HD67161
www.adfweb.com?Product=HD67162
www.adfweb.com?Product=HD67163
www.adfweb.com?Product=HD67164
www.adfweb.com?Product=HD67165
www.adfweb.com?Product=HD67166
www.adfweb.com?Product=HD67167
www.adfweb.com?Product=HD67168
www.adfweb.com?Product=HD67613
www.adfweb.com?Product=HD67693
www.adfweb.com?Product=HD67726
www.adfweb.com?Product=HD67820

(DMX)
(CAN)
(CANopen)
(EtherNet/IP)
(DeviceNet Master)
(DeviceNet Slave)
(J1939)
(M-Bus Master)
(Modbus Master)
(Modbus Slave)
(Modbus TCP Master)
(Modbus TCP Slave)
(PROFIBUS Master)
(PROFINET)
(BACnet Slave)
(BACnet Master)
(KNX)

Do you have an your customer protocol?

www.adfweb.com?Product=HD67003

Do you need to choose a device? do you want help?

www.adfweb.com?Cmd=helpme

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UPDATED DOCUMENTATION:

Dear customer, we thank you for your attention and we remind you that you need to check that the following document is:

- ✚ Updated
- ✚ Related to the product you own

To obtain the most recently updated document, note the “document code” that appears at the top right-hand corner of each page of this document.

With this “Document Code” go to web page www.adfweb.com/download/ and search for the corresponding code on the page. Click on the proper “Document Code” and download the updates.

REVISION LIST:

Revision	Date	Author	Chapter	Description
1.000	09/12/2015	Ff	All	First Release
1.001	08/08/2025	Mdb	All	New design

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:

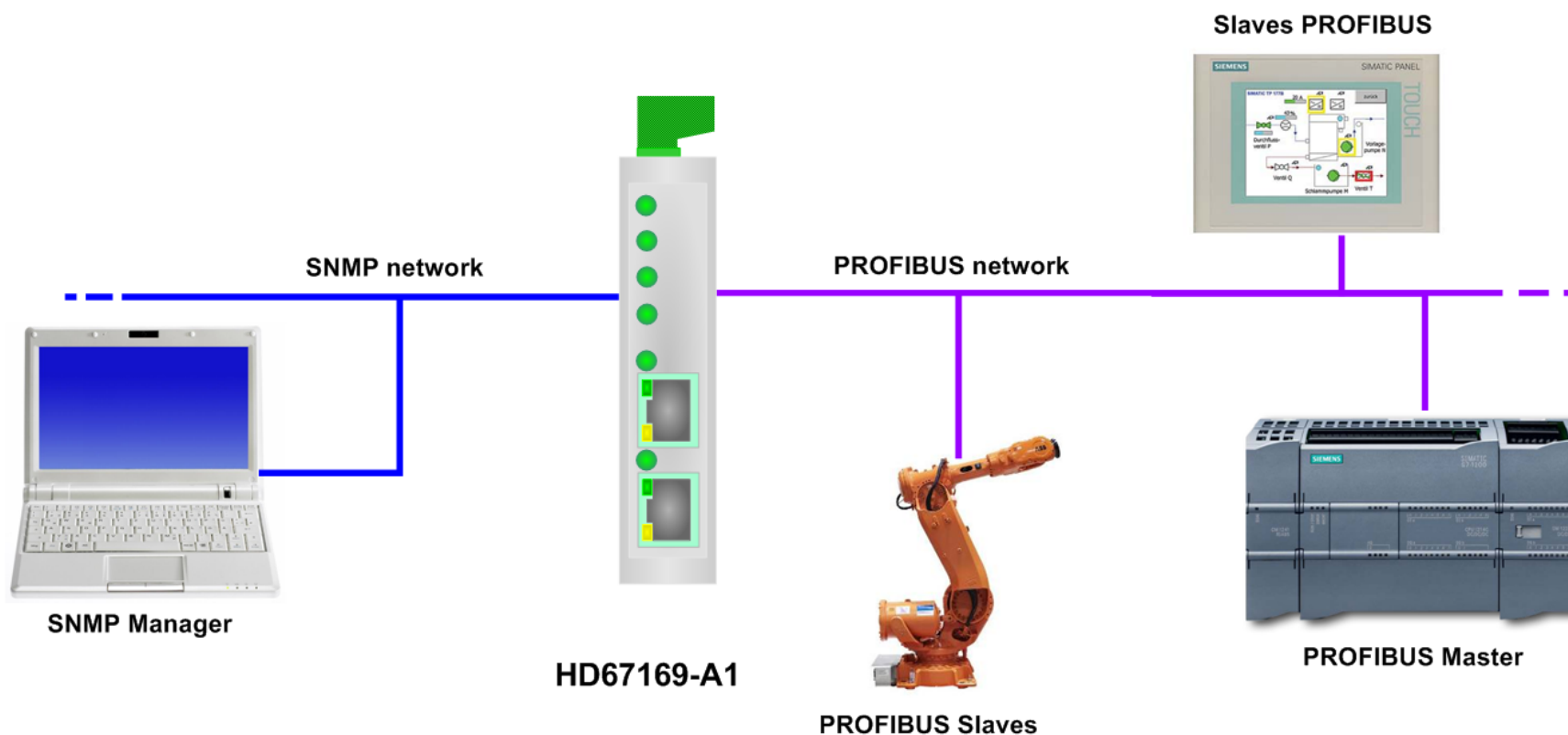


This symbol indicates that non-observance of the safety instructions is a danger for people that could lead to serious injury or death and / or the possibility of damage.

CE CONFORMITY

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

EXAMPLES OF CONNECTION:



CONNECTION SCHEME:

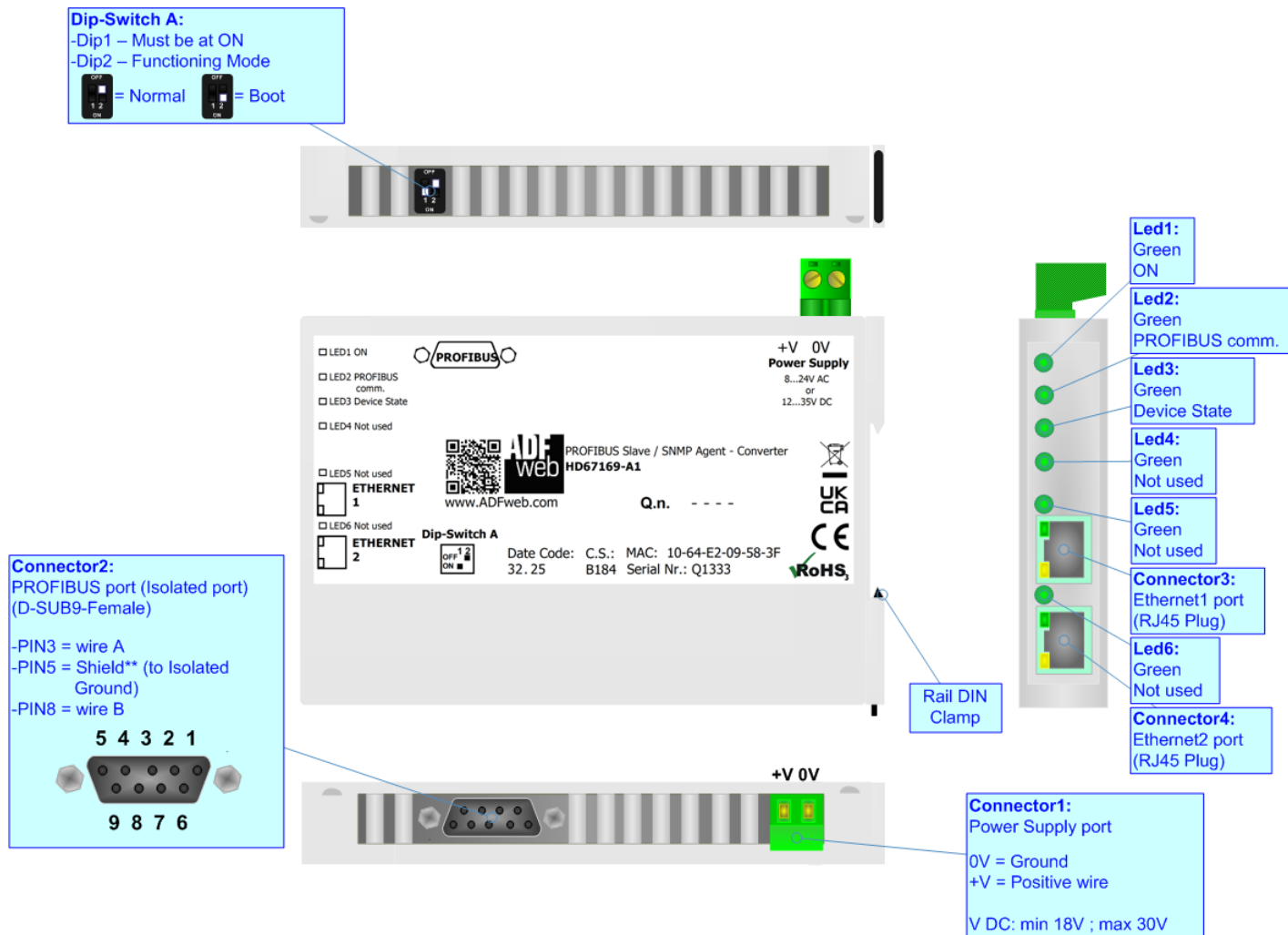


Figure 1: Connection scheme for HD67169-A1

CHARACTERISTICS:

The HD67169-A1 is a PROFIBUS Slave / SNMP Agent Converter.

It has the following characteristics:

- Up to 244 bytes in reading and 244 bytes in writing;
- Isolation between Power Supply – Ethernet, Power Supply – PROFIBUS, Ethernet – PROFIBUS.
- Two-directional information between PROFIBUS bus and SNMP 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 SW67169 software on your PC in order to perform the following:

- Define the parameter of SNMP line;
- Define the parameter of PROFIBUS line;
- 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.

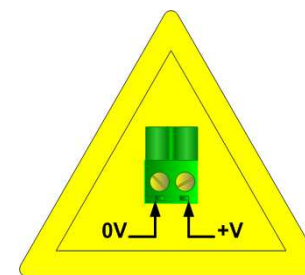
VAC 		VDC 	
Vmin	Vmax	Vmin	Vmax
8V	24V	12V	35V

Consumption at 24V DC:

Device	Consumption [W/VA]
HD67169-A1	3.5

Caution: Do not reverse the polarity power

Connector1:
Power Supply port
0V = Ground
+V = Positive wire
V DC: min 18V ; max 30V



HD67169-A1

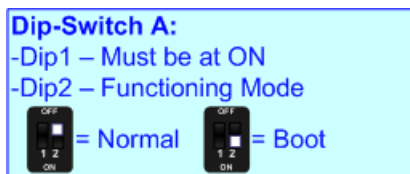
FUNCTION MODES:

The device has got two function modes depending on the position of the 'Dip2 of Dip-Switch A':

- The first, with 'Dip2 of Dip-Switch A' at "OFF" position, is used for the normal working of the device.
- The second, with 'Dip2 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 specific functions, see 'LEDS' section.



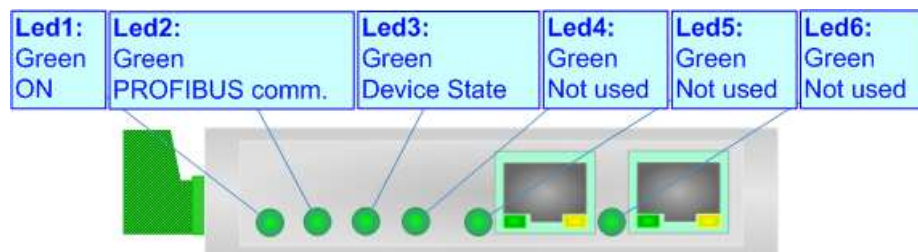
Warning:

Dip1 of 'Dip-Switch A' must be at ON position to work even if the Ethernet cable is not inserted.

LEDS:

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

LED	Normal Mode	Boot Mode
1: ON [supply voltage] (green)	ON: Device powered OFF: Device not powered	ON: Device powered OFF: Device not powered
2: PROFIBUS comm. (green)	Blinks when PROFIBUS communication is working	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
3: Device state (green)	Blinks slowly (~1Hz)	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
4: Not used (green)	OFF	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
5: Not used (green)	OFF	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress
6: Not used (green)	OFF	Blinks quickly: Boot state Blinks very slowly (~0.5Hz): update in progress

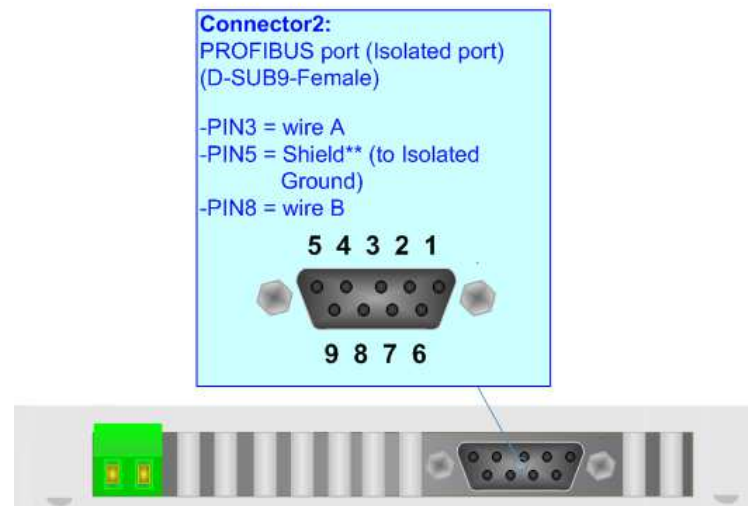


PROFIBUS:

The PROFIBUS uses a 9-pin D-SUB connector. The pin assignment is defined like in the right figure.

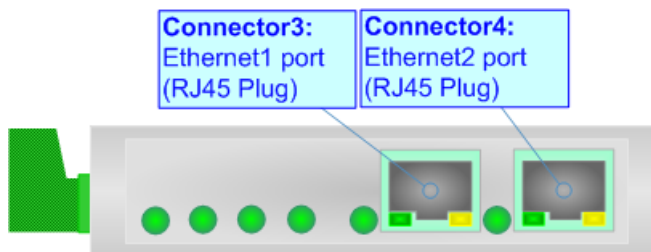
Here some codes of cables:

- ☛ Belden: p/n 183079A - Continuous Armor DataBus® ISA/SP-50 PROFIBUS Cable.



ETHERNET:

The SNMP connection and the updating of the converter must be made using Connector3 and/or Connector4 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/PLC/other is recommended the use of a cross cable.



USE OF COMPOSITOR SW67169:

To configure the Converter, use the available software that runs with Windows called SW67169. It is downloadable on the site 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 or 11; 32/64bit).

When launching the SW67169, the window below appears (Fig. 2).



Note:

It is necessary to have installed .Net Framework 4.

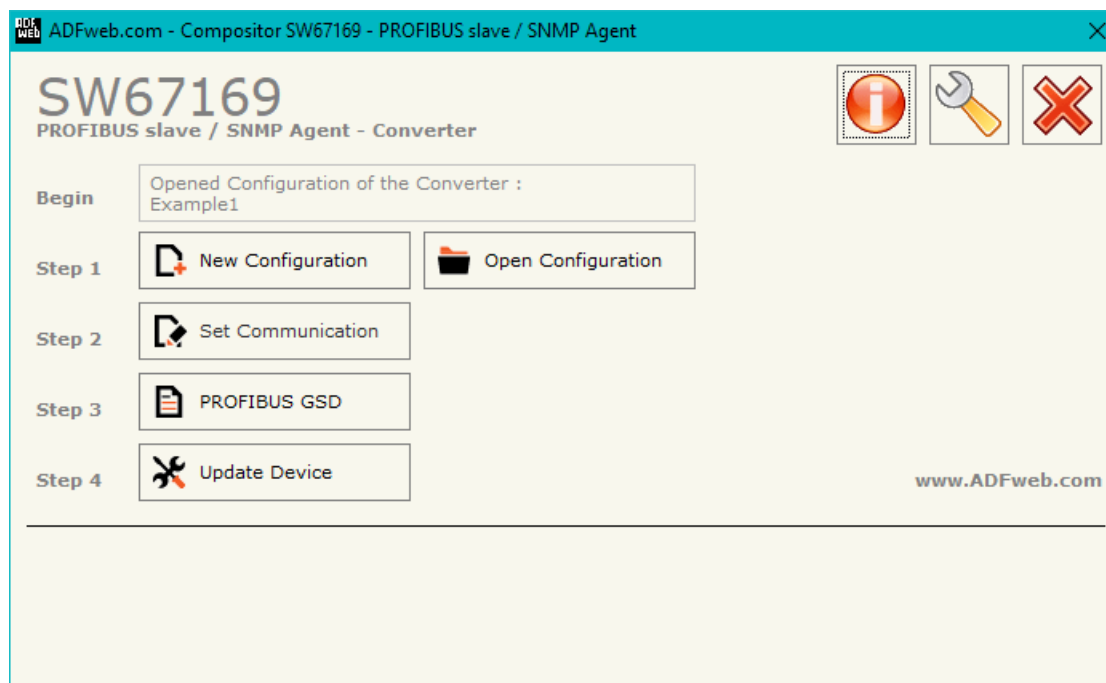
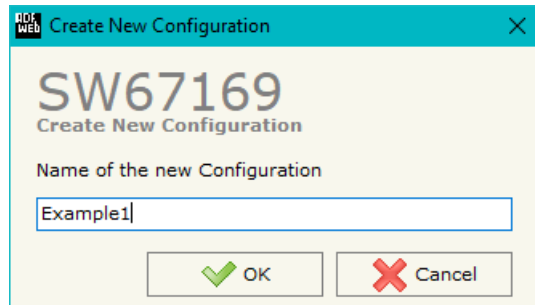


Figure 2: Main window for SW67169

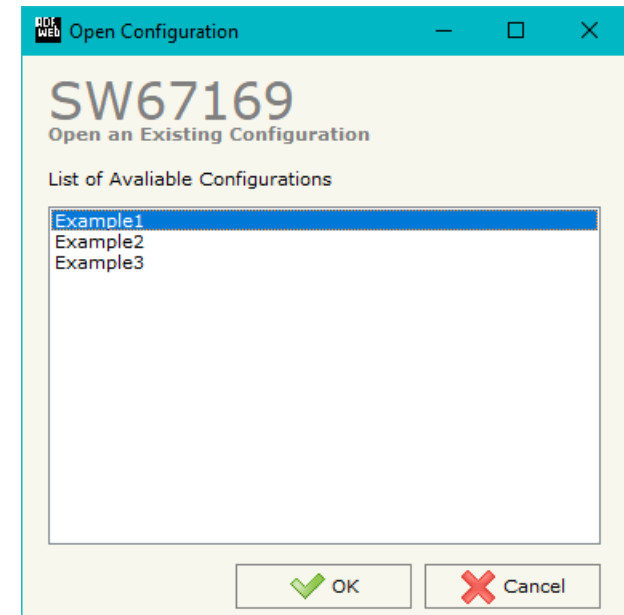
NEW CONFIGURATION / OPEN CONFIGURATION:

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




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

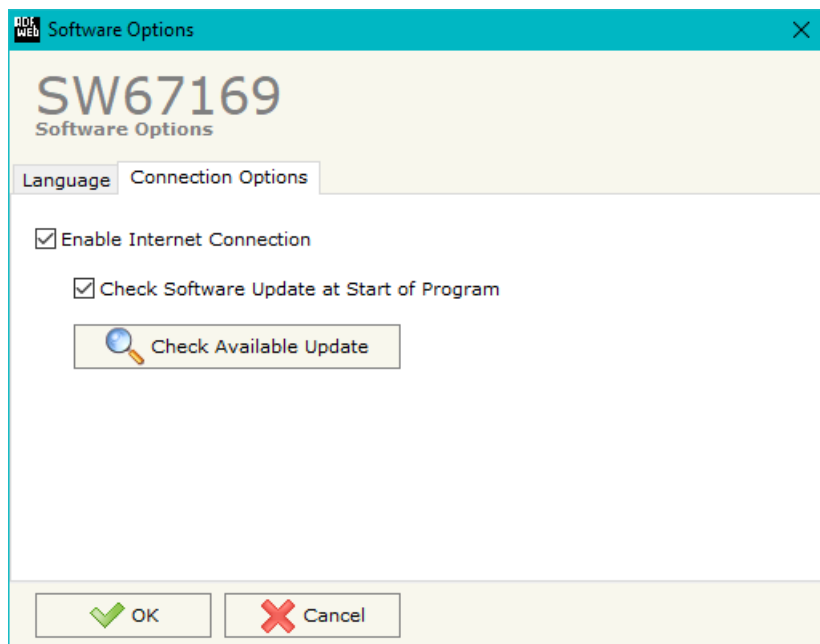
- To clone the configurations of a programmable “PROFIBUS Slave / SNMP Agent - Converter” in order to configure another device in the same manner, it is necessary to maintain the folder and all its contents;
- To clone a project in order to obtain a different version of the project, it is sufficient 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 SW67169 check automatically if there are updatings when it is launched.

SET COMMUNICATION:

This section define the fundamental communication parameters of two buses, SNMP and PROFIBUS.

By Pressing the **"Set Communication"** button from the main window for SW67169 (Fig. 2) the window "Set Communication" appears (Fig. 3).

The window is divided in two sections, one for the SNMP and the other for the PROFIBUS Slave.

The means of the fields for "SNMP" are:

- In the field **"IP ADDRESS"** insert the IP address that you want to give to the SNMP side;
- In the field **"SUBNET Mask"** insert the SubNet Mask of the SNMP side;
- In the field **"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;
- In the field **"SNMP Name of Station"** is possible to assign a name to the SNMP node.

The means of the fields for the "PROFIBUS Slave" section are:

- In the field **"ID Device"** the PROFIBUS Slave ID is defined;
- In the field **"Baudrate"** the PROFIBUS Slave baudrate is defined (fixed to Auto Baudrate);
- In the field **"Number Byte IN"** the number input bytes of PROFIBUS Slave is defined (at max 244 bytes);
- In the field **"Number Byte OUT"** the number output bytes of PROFIBUS Slave is defined (at max 244 bytes).

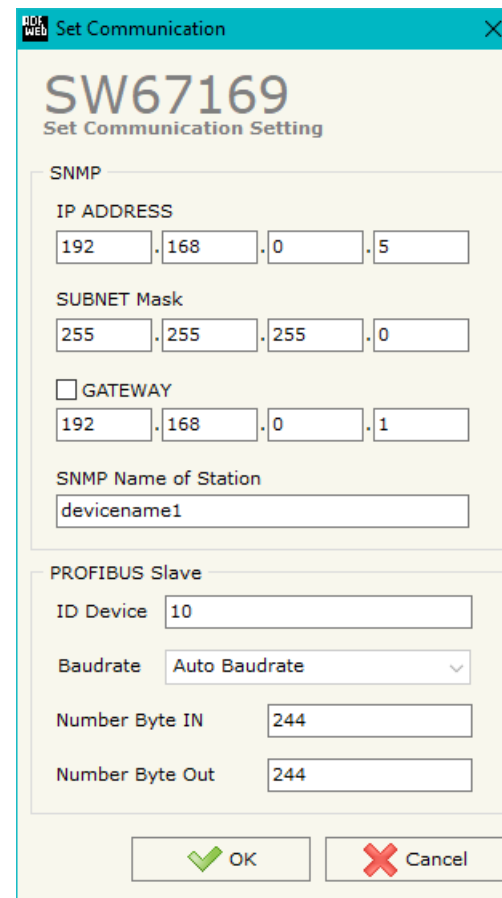


Figure 3: "Set Communication" window

PROFIBUS GSD:

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

**Note:**

When you import the .gsd file on your Master PROFIBUS you have to add all the modules that are present inside it.

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 Dip2 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 Dip2 of 'Dip-Switch A' in OFF position;
- Turn on the device.

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

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.

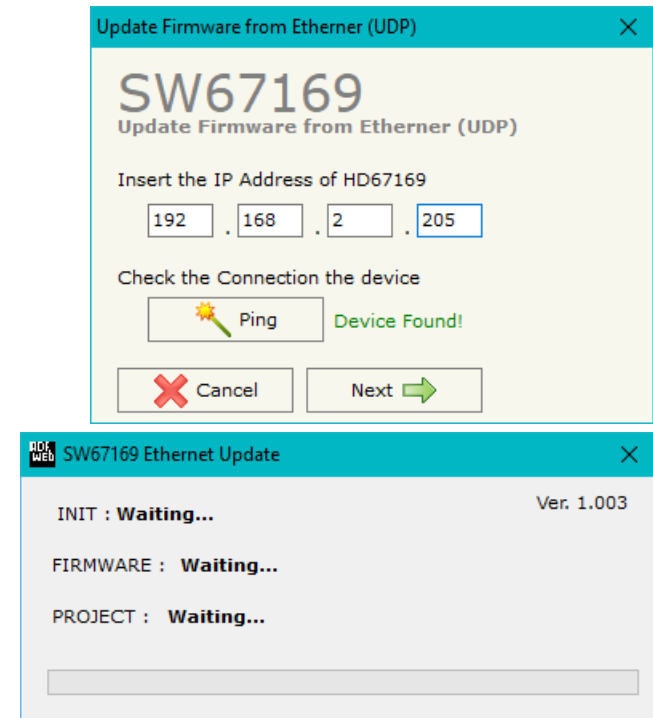


Figure 4: "Update device" windows

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



Note:

When you receive the device, for the first time, you also have to update the Firmware in the HD67169 device.



Warning:

If Fig. 5 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, 10 or 11 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 or 11 you have to launch the "Command Prompt" with Administrator Rights;
- Pay attention at Firewall lock.

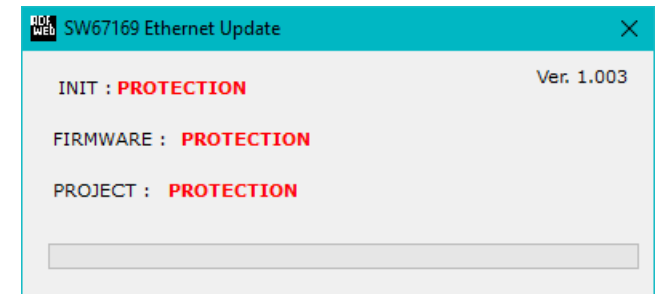


Figure 5: "Error" window



Warning:

In the case of HD67169 you have to use the software "SW67169": www.adfweb.com/download/filefold/SW67169.zip.

SNMP COMMUNICATION

In order to read/write the data from/to PROFIBUS side, it is necessary to use specific SNMP commands in order to see the SNMP Input and write the SNMP Output.

Reading PROFIBUS data from SNMP:

In order to read the data from the HD67169-A1 it is necessary to use the "snmpget" command. The Input array is contained to this internal directory: 1.3.6.1.4.1.33118.1.1.1.4.x.0, where 'x' is the number of data block. Each data block has a dimension of 128 bytes.

Example: you want to read informations of the data block 2. The structure of the command to send is:

snmpget -v1 -cprivate "IP Address of the converter" 1.3.6.1.4.1.33118.1.1.1.4.**2**.0

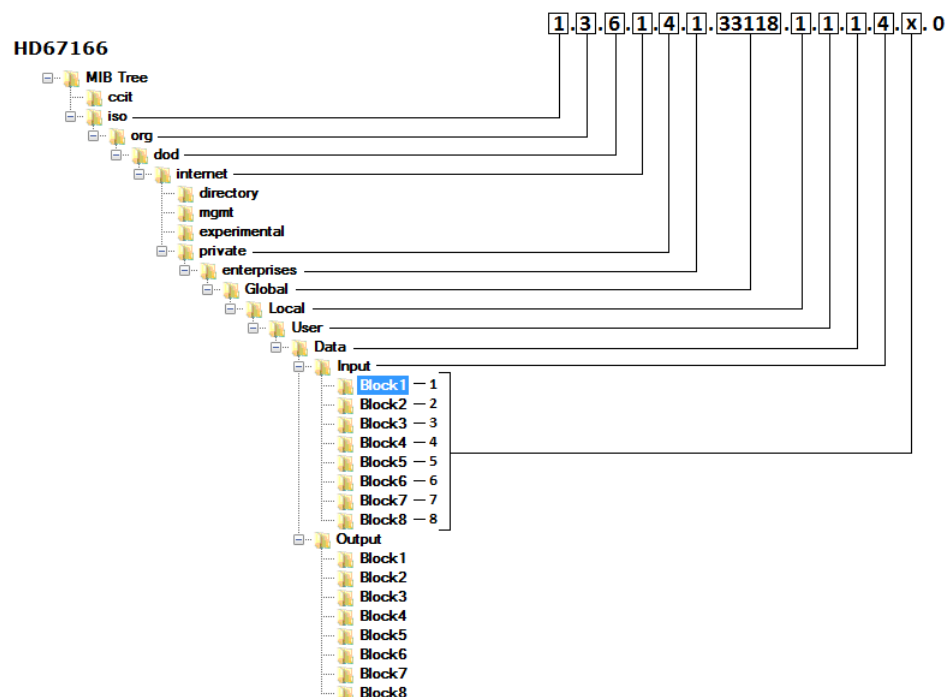


Figure 6a: MIB Tree Input

Writing PROFIBUS data from SNMP:

In order to write the data to the HD67169-A1 it is necessary to use the "snmpset" command. The Output array is contained to this internal directory: 1.3.6.1.4.1.33118.1.1.1.5.x.0, where 'x' is the number of data block. Each data block has a dimension of 128 bytes.

Example: you want to write informations of the data block 2 with the data '0123456789' (ASCII). The structure of the command to send is:

snmpset -v1 -cprivate "IP Address of the converter" 1.3.6.1.4.1.33118.1.1.1.5.2.0 s "0123456789"

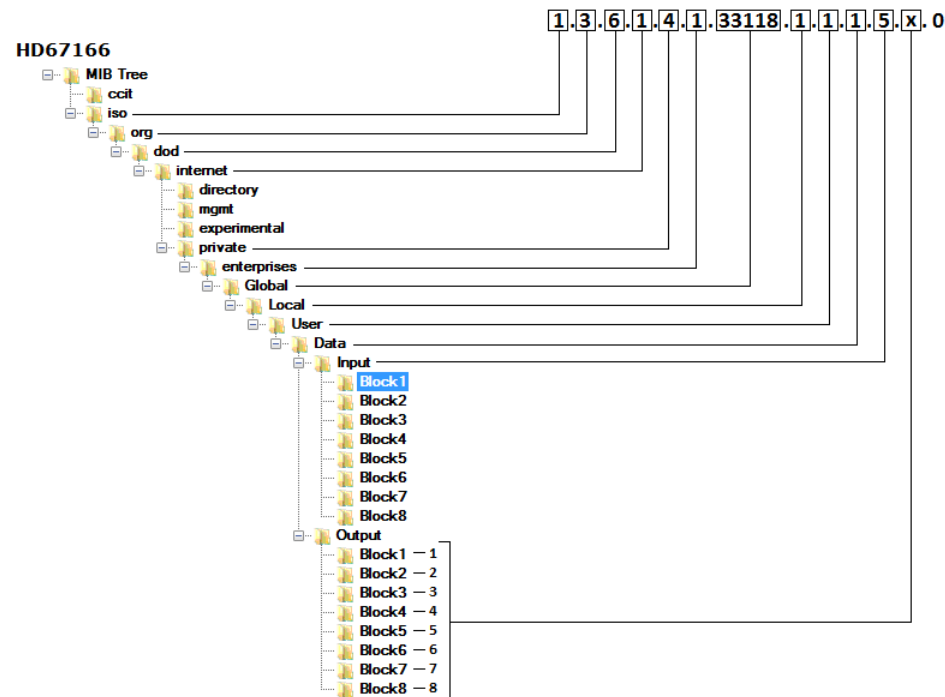
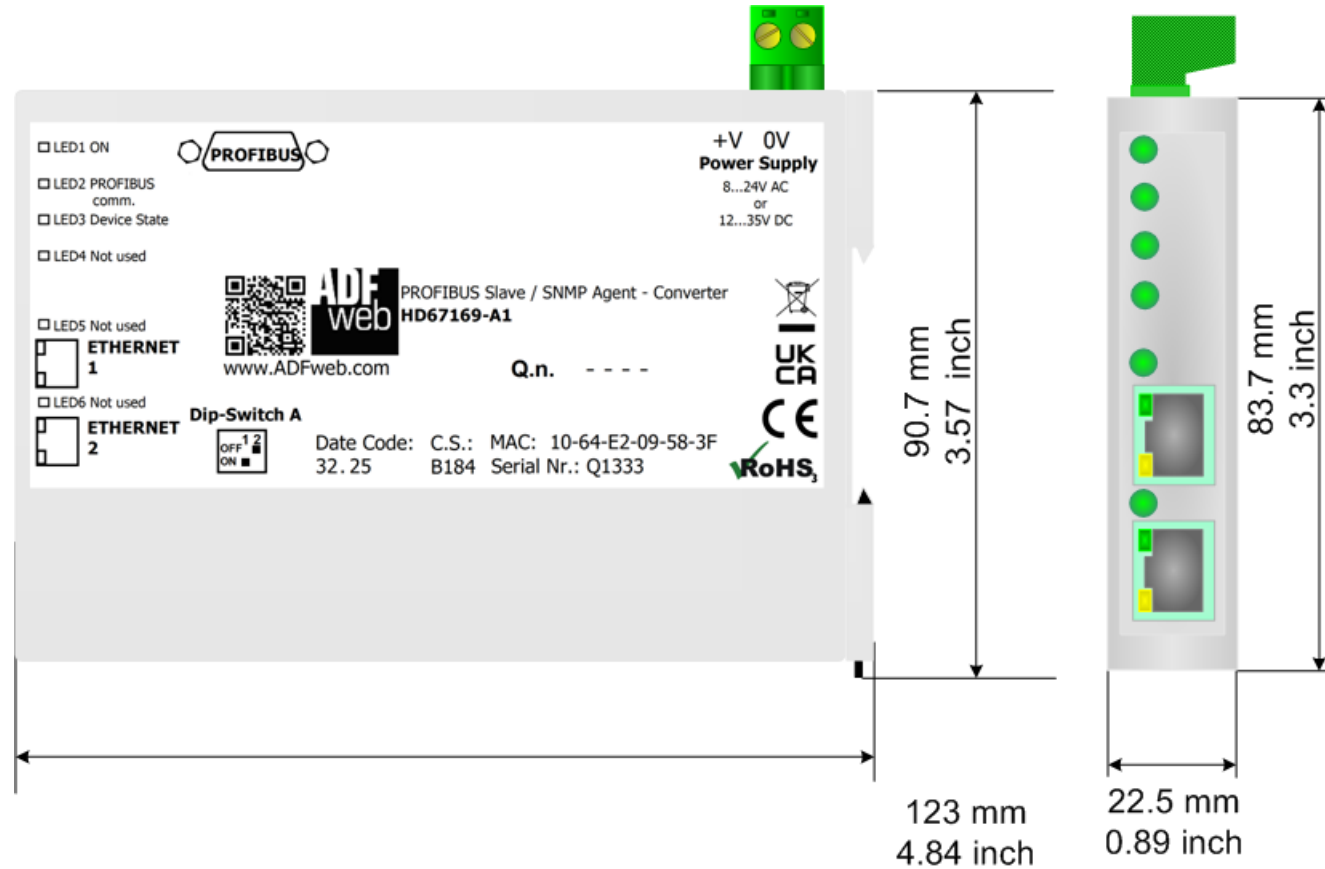


Figure 6b: MIB Tree Output

MECHANICAL DIMENSIONS:



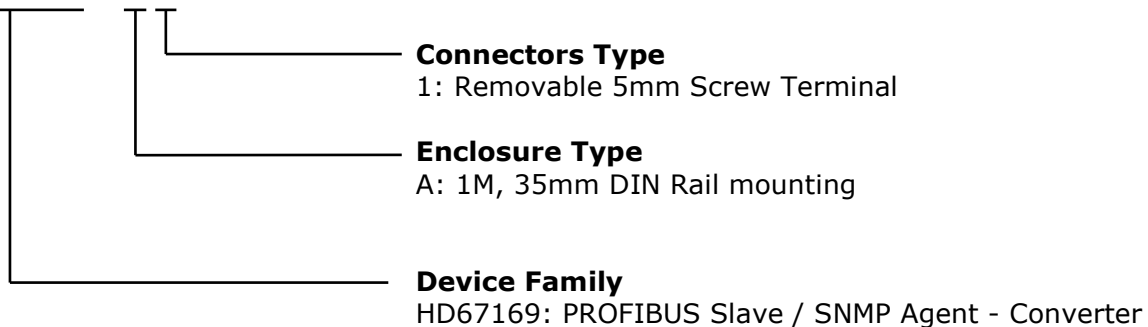
Housing: PC-ABS
Weight: 200g (Approx)

Figure 7: Mechanical dimensions scheme for HD67169-A1

ORDERING INFORMATION:

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

HD67169 - A1



Order Code: **HD67169-A1** - PROFIBUS Slave / SNMP Agent - Converter

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

DISCLAIMER:

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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. 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.



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