Energy manager software

User Manual

RA00163BC-21W09


BTicino - Energy manager software - F80BS255
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(b) related explanatory written materials or files ("Documentation"), fonts and the packaging of the product;

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1. License Agreements *(continued)*

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This Agreement will be governed by Italian Law.

In the event of issues relating to the construction, validity and/or execution of this agreement the Parties undertake to find an amicable settlement.

Failing such a settlement, the disputes shall be submitted to the exclusive jurisdiction of the Court of Milan.

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2. System requirements

Hardware:

- Intel® Core 2 Duo or AMD® Athlon X2® processor
- 2GB of RAM
- 320MB of available hard-disk space
- USB port for protection dongle

Supported operating systems:

- Microsoft Windows XP (Professional) - Service Pack 3
- Microsoft Windows Vista - Service Pack 2
- Microsoft Windows 7 - Service Pack 3
- Microsoft Windows 10 - All Service Pack

Installation and Display:

- on Computer

3. Catalogue numbers

F80BS32: "Energy manager software 32"

- Management up to 32 Modbus addresses or 32 pulse counters

F80BS255: "Energy manager software 255"

- Management up to 255* devices

  Note: for each Gateway max. 32 Modbus addresses or 32 pulse counters

* Recommended value 128

Software version 1.16.00

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4. Compatible devices

4.1 Measuring / metering devices

- Range **BTDIN**
  - Multifunction measuring devices:
    - Modular - Cat.Nos **F3N200, F4N200**
    - Standard - Cat.Nos **F3N300, F4N300**
    - Top - Cat.Nos **F3N400, F3N500, F4N400**
  - Energy counters RS485 :
    - Single-phase direct connection – Cat.No **F21DM63** (MID)
    - Three-phase direct connection – Cat.No **F41DM63** (MID)
    - Three-phase connection with CT – Cat.No **F41TMA** (MID)
  - Energy counters pulse output (with the Concentrator Cat.Nos **F80BI**, **F4CON12** or **F4CON**):
    - Single-phase direct connection – Cat.Nos **F20D32** (Standard), **F20DM63** (MID)
    - Three-phase direct connection – Cat.No **F40DM63** (MID)
  - RCD add-on module with integrated counting - Cat.Nos **G47XM63**, **G47XM125** and with integrated measuring - Cat.Nos **G47XCM63**, **G47XCM125**
    - via the communication module Cat.No **M7COM**

- Range **EMS BTDIN**
  - Multifunction measuring devices:
    - Single-phase connection via Closed Rogowski coil – Cat.No **F80BMM63**
    - Three-phase connection via Closed Rogowski coils – Cat.Nos **F80BMT63**
    - Single-phase or Three-phase (configurable) connection with CT - Cat.No **F80BMT**
  - State and Control modules:
    - Signalling Auxiliary Contact (CA + SD) - Cat.No **F80BCR**
    - Universal State Module - Cat.No **F80BVS**
    - State & Control Module for Latching relays and Contactors - Cat.No **F80BCS**
    - Universal Control Module - Cat.Nos **F80BC**
  - via Modbus RS485/EMS CX^3 interface - Cat.No **F80BIM1**

- Range **MEGATIKER**
  - **M2 250 electronic, M4 630 electronic, M5 1600 electronic only** versions with **integrated measurement unit**
    - via the communication module Cat.No **M7COM**

- Range **MEGABREAK** with protection unit – touchscreen (Cat.Nos **MP6SH/TH**)
    - via the communication module Cat.No **M8COM**

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4.1 Measuring / metering devices *(continued)*

– Gas counters
  - Any device with pulse output (via the Concentrator Cat.Nos **F80BI***, **F4CON12*** or **F4CON***)

– Water counters
  - Any device with pulse output (via the Concentrator Cat.Nos **F80BI***, **F4CON12*** or **F4CON***)

– * **Note:** Pulse Concentrator must be properly programmed to be compatible with the type of counter (Refer to the pulse concentrator's user manual)

4.2 Devices without measuring / metering data

– Range **MEGATIKER**
  - **M2 250 electronic, electronic with integrated RCD and thermal-magnetic with integrated RCD**
  - **M4 630 electronic**
  - **M5 1600 electronic**
    – via the communication module Cat.No **M7COM**
  - **M 250 ÷ 1600ES electronic type "Lsi" or "Lsig"**
    – via the communication module Cat.No **M7TIC/ELE**

– Range **MEGABREAK** with protection unit – LCD screen (Cat.No **MP4BA/SA/TA**)
    – via the communication module Cat.No **M8COM**

– Range **RS485 power supervision system** devices
  - Signalling and control interface - Cat.No **M7TIC/IO**
  - Module programmable output - Cat.No **M7TICPROG**
  - Automation control unit- Cat.No **M7000CB/EVO**

5. Languages available

Languages:

– 中国
– Deutsch
– English
– Español
– Français
– Français (Belgique)
– Ελληνικά
– Italiano
– Nederlands (België)
– Nederlands
– Polski
– Portuguese
– Русский

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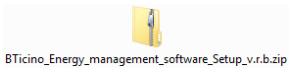
6. Preliminary operations

At the first installation of the software, download to your computer the Installation Kit from the website "www.bticino.com" area "Software e App." and follow installation procedure described in the next chapter.

7. Implementation

7.1 Material required

– BTicino_Energy_management_software_Setup_v.r.b.zip



Energy management software = Product Name
v_r_b = Version of the embedded application

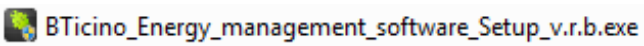
The folder .zip contains the following file:

- BTicino_Energy_management_software_Setup_v.r.b.exe: installation Kit

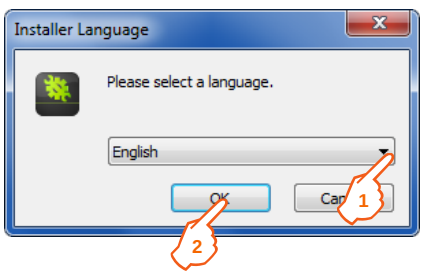
– A computer with a compatible operating system (XP, 7, 10, etc.)

7.2 Installation

– Extract and Run the file

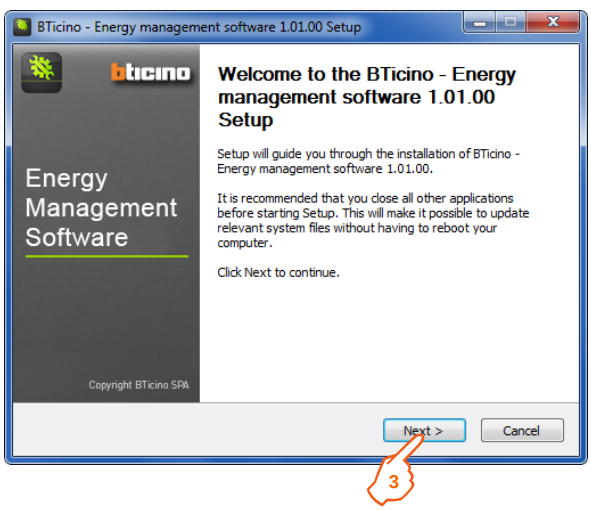


The installation procedure starts



1. Choose the proper language

2. Click "OK"



3. Click "Next"

The License agreement page appears

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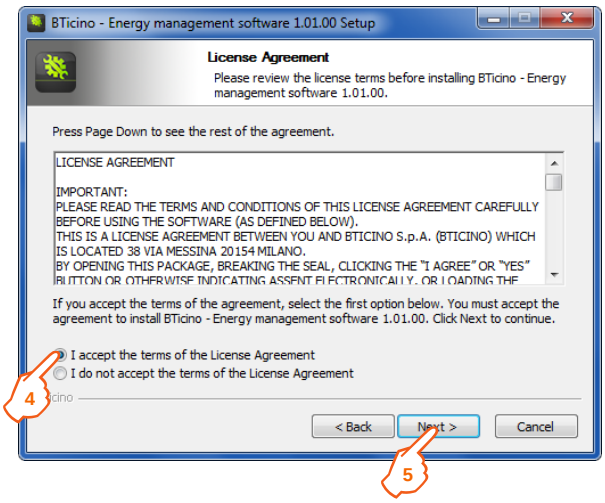
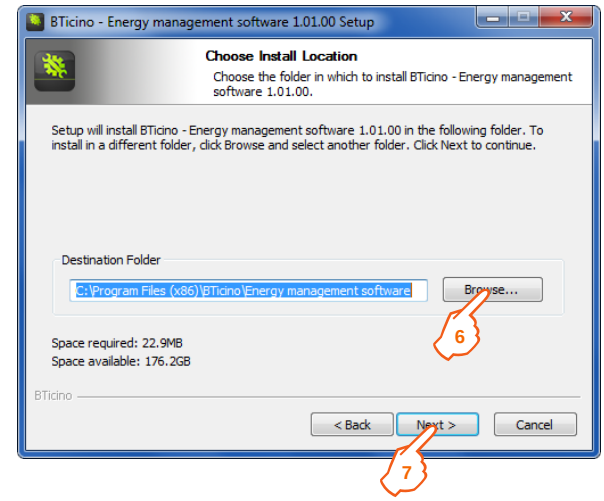


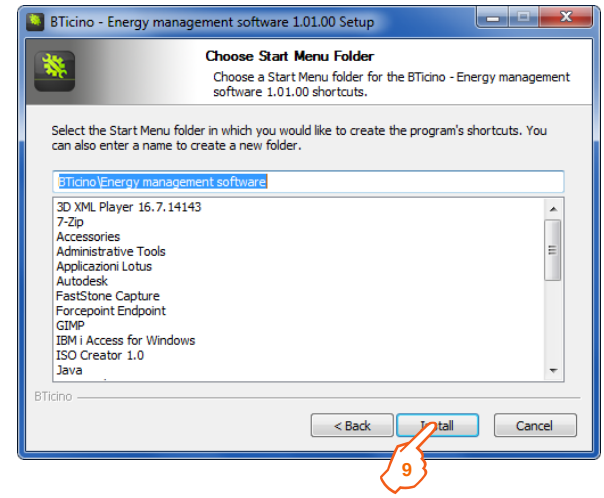
4. Click to declare to have read and accepted the contract

5. Click "Next"



6. Click "Browse" to choose the installation folder

7. Click "Next"



8. Choose a Folder for the Start menu (**default**: Bticino\Measure Software)

9. Click "Install"

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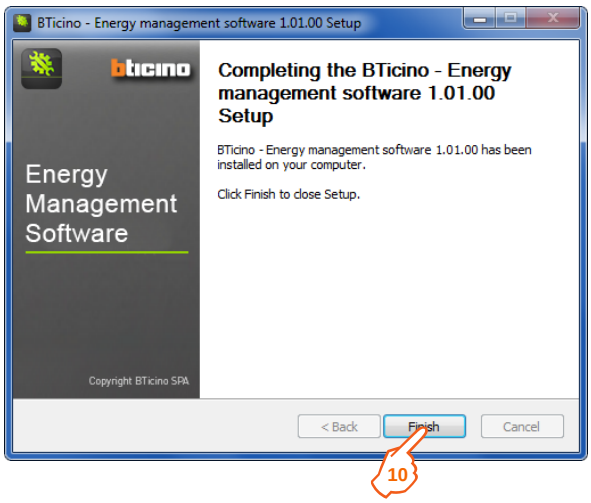
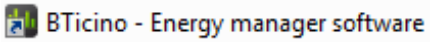


Installation completed

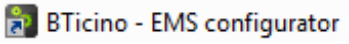
10. Click "Finish"

On the desktop of your computer are created two shortcuts:

- Energy management software (Subject to à license key):



- EMS Configurator (Freeware):



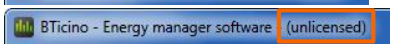
7.3 Protection dongle

Use of "Energy management software" is subject to a license key needed for the working of it.

Run the software and check the indication beside the icon:

– protection dongle detected:

– protection dongle not detected:



in this case you must:

- Close the software
- Connect the key
- Restart the software

Note: in the unlicensed mode you can run the software only for **30 days** starting from the installation.

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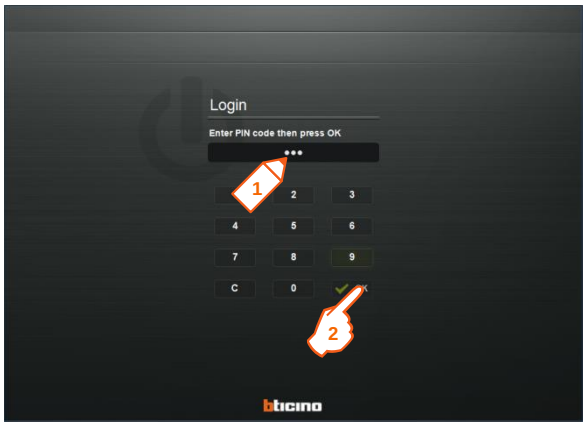
7.4 Software update

7.4.1 Update procedure with Internet connection

Run the Software, Login page appears

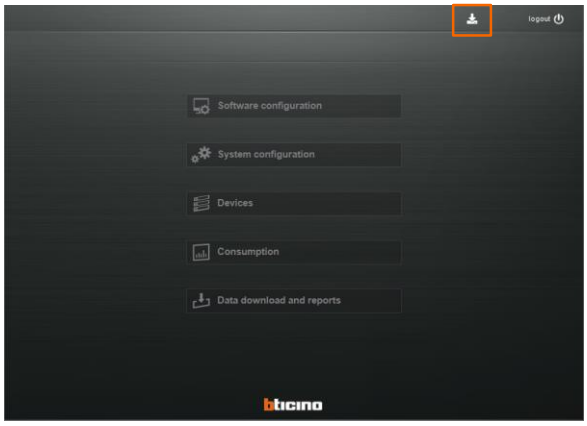


1. Type the access PIN code 99999 (default PIN)

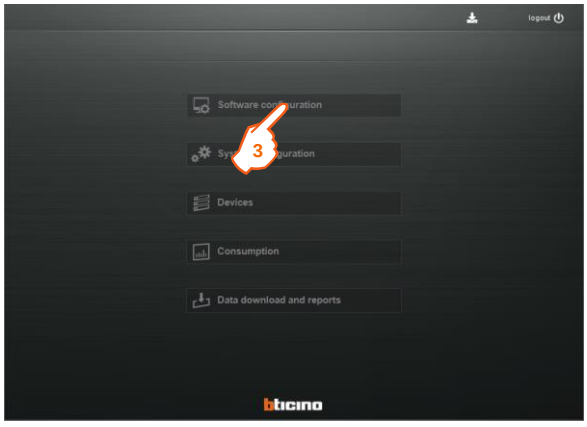
2. Click "OK"

Software's home page appears

If an update of the software is available, icon appears in the higher part of all pages of the user interface.



- **Updating the software: follow the procedure**



3. Click "Software configuration"

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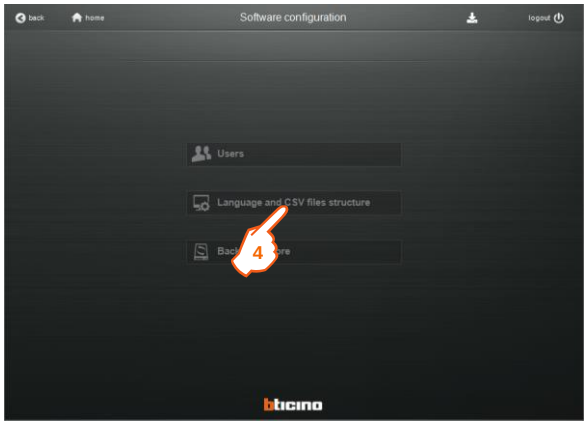
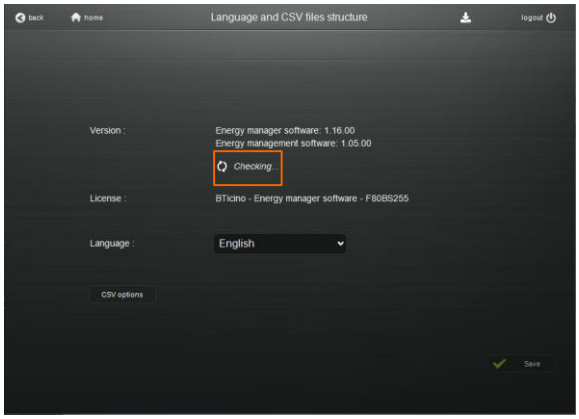
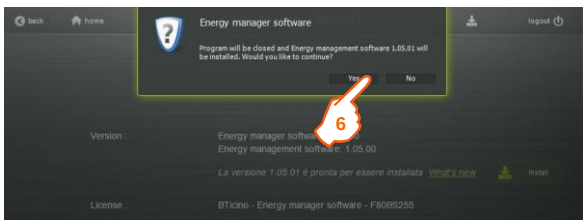


4. Click "Language and CSV files structure".



The software checks the availability of the update.



When the Update is available, **5.** Click "Install" then **6.** Click "Yes" to start the downloading and installing of the new software version.

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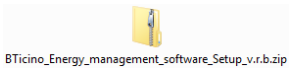
7.4.2 Update procedure without an Internet connection

Verify on the website "www.bticino.com" area "Software e App." if a software update is available.

Download the update file from the bticino site and copy it to your computer. This file will be used to update the software.

Materials required:

– File downloaded from the website "bticino.com":
  - BTicino_Energy_management_software_Setup_v.r.b.zip



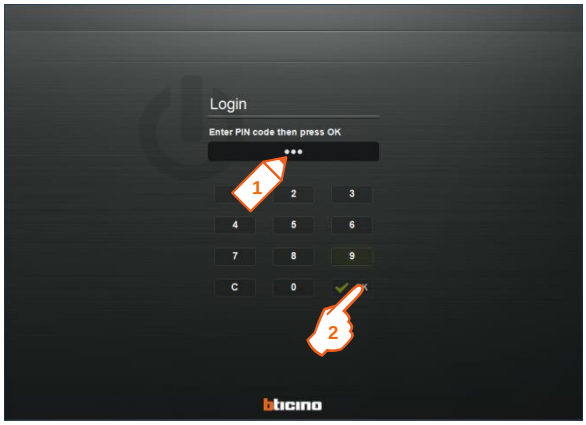
Energy management software = Product Name
v_r_b = Version of the embedded application

The folder .zip contains the following file:

- BTicino_Energy_management_software_Setup_v.r.b.exe: software update package

– Updating the software: follow the procedure

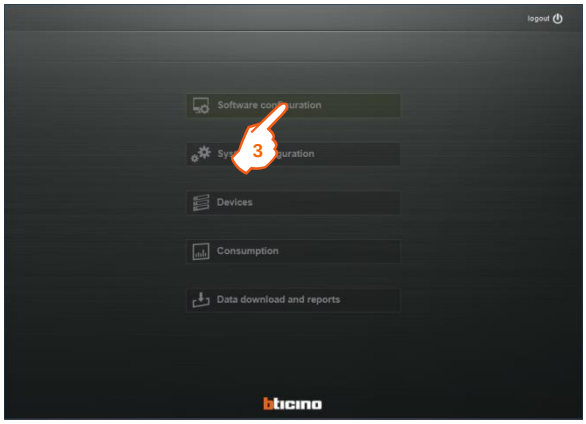
Run the Software, Login page appears



1. Type the access PIN code 99999 (default PIN)

2. Click "OK"

Software's home page appears



3. Click "Software configuration"

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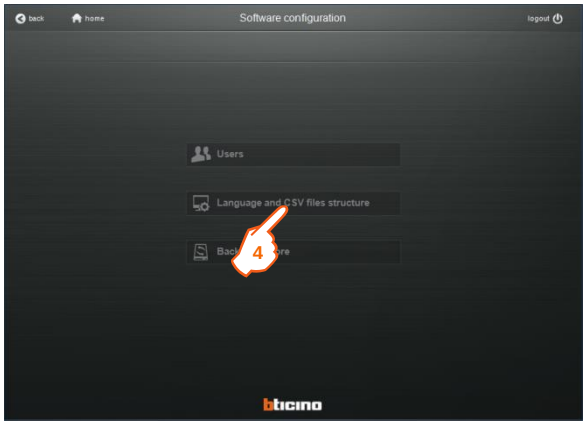
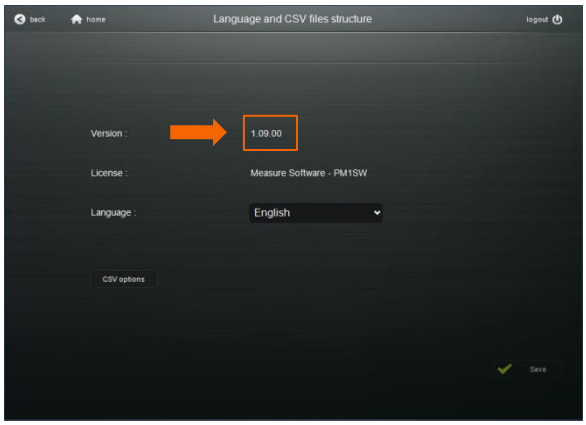
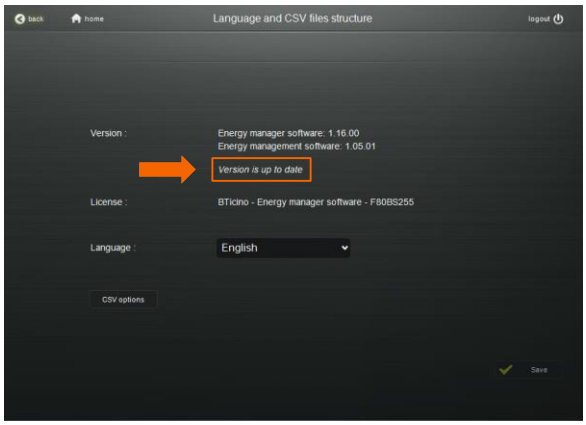


4. Click "Language and CSV files structure" to verify which is the software version.



Compare the version of the installed software with the version of the file received from technical customer service. **Update the Software if the file version is more recent than the product version.**

– Extract from the compressed folder the file:
  BTicino_Energy_management_software_Setup_v.r.b.exe
– Repeat the installation of the software
– Verify that the updating has been done checking on the "Language and CSV files structure"



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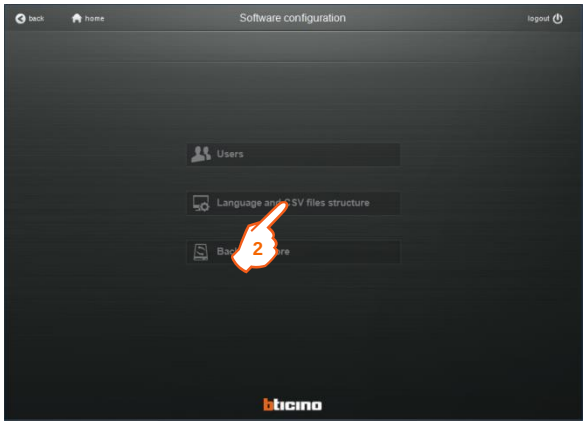
7.5 Changing of the software's language

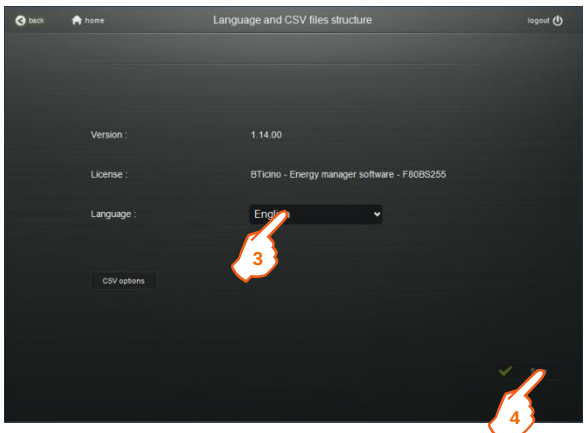
– Procedure for changing the language (if necessary)

In the software's home page

1. Click "Software configuration"



2. Click "Language and CSV files structure"



3. Choose the proper language

4. Click "Save" to confirm

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7.6 Settings

Settings / configurations of the electrical installation

– Procedure to configure the different devices on the software

Materials required

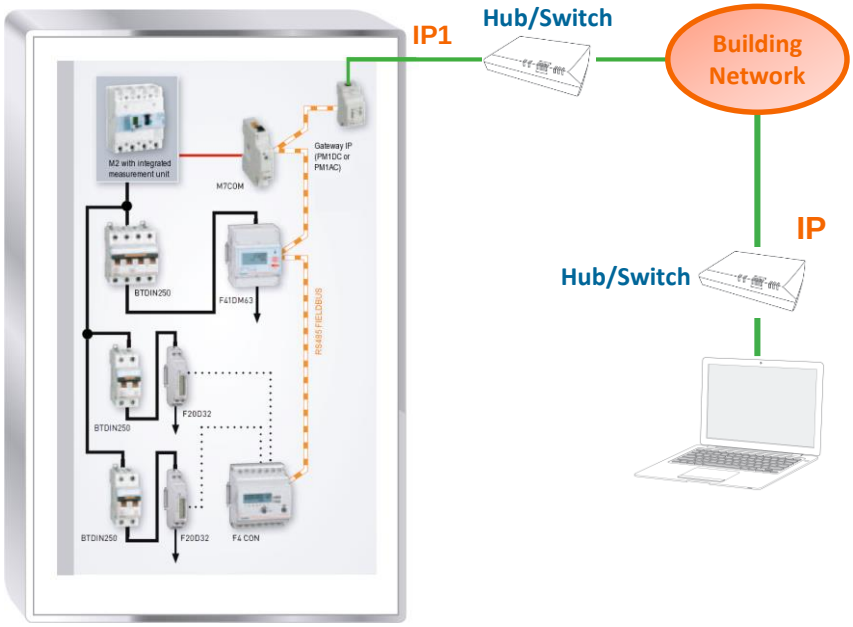
– Software manual

– A computer with a compatible operating system (XP, etc.) and the software installed

Useful Information

– Network and RS485 bus parameters for Gateways and Devices (use the Parameters Table of the Software)

7.7 Connection scheme - Normal Use



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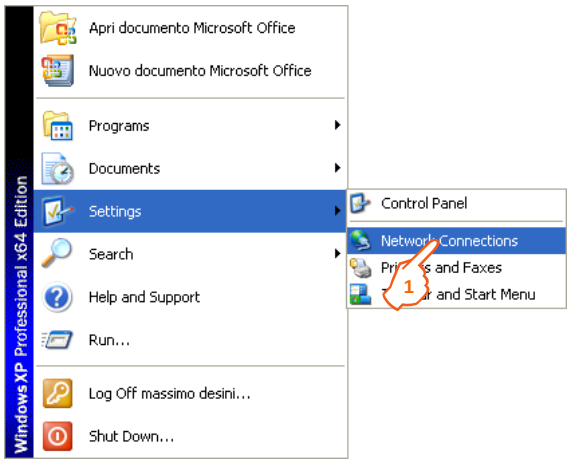
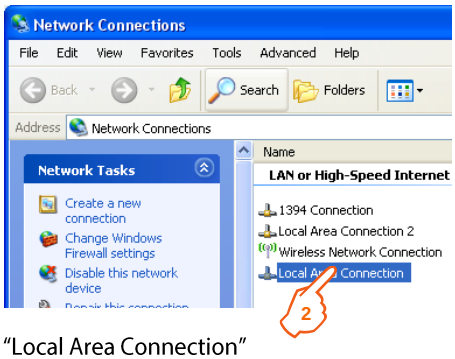
7.8 LAN configuration of the computer - Automatic IP address

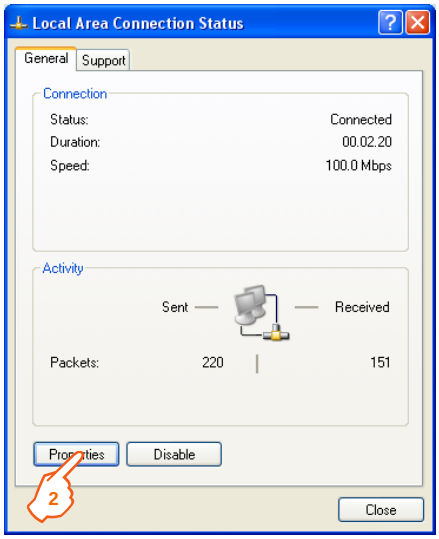
Follow the procedure:



1. In the Start menu choose "Settings" then click "Network Connections"



2. Click "Local Area Connection"



3. Click "Properties"

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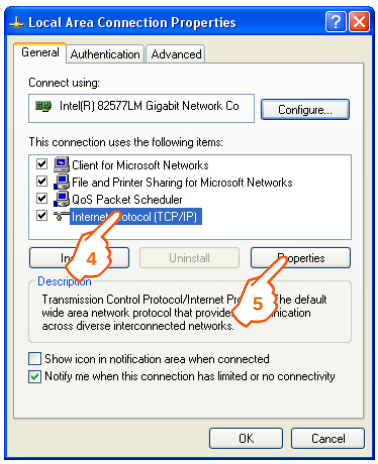
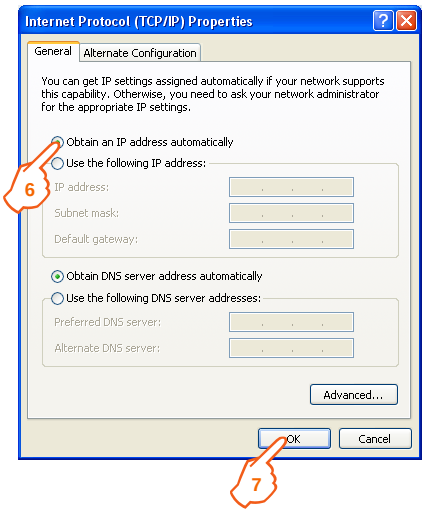


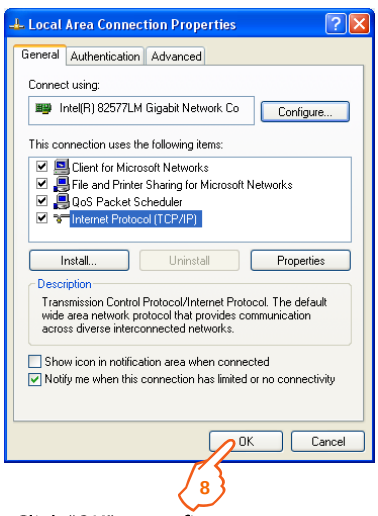
4. Click "Internet Protocol (TCP/IP)"

5. Click "Properties"



6. Click "Obtain an IP address automatically"

7. Click "OK" to confirm



8. Click "OK" to confirm

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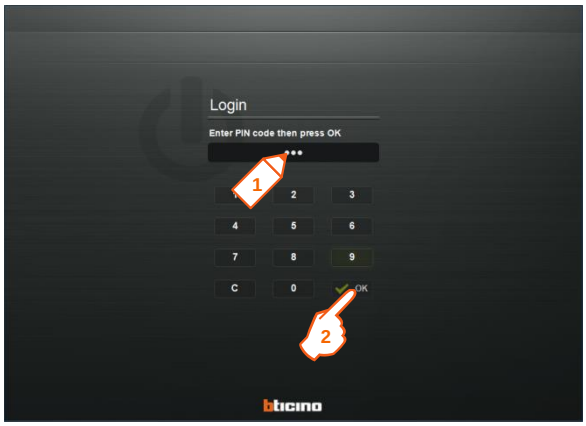
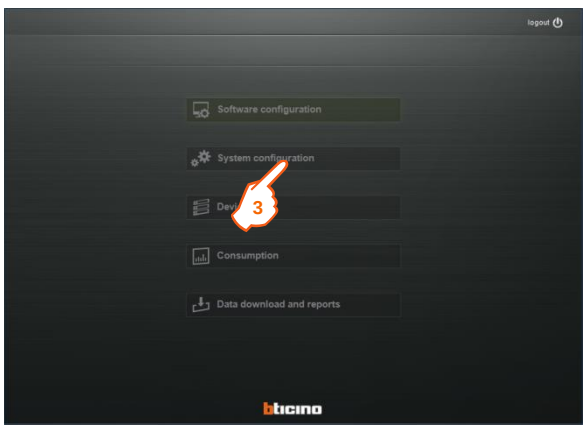
7.9 Configuration of the electric installation in the Software - "System configuration"

Run the Software, Login page appears



1. Type the access PIN code 99999 (default PIN)
2. Click "OK"
Home page appears



3. In the software's Home page Click "System configuration"
System configuration page appears

– Configuration sequence:
  - Gateways and Devices configuration
  - Loads, groups and panel boards configurations
  - Bill of Consumptions configuration

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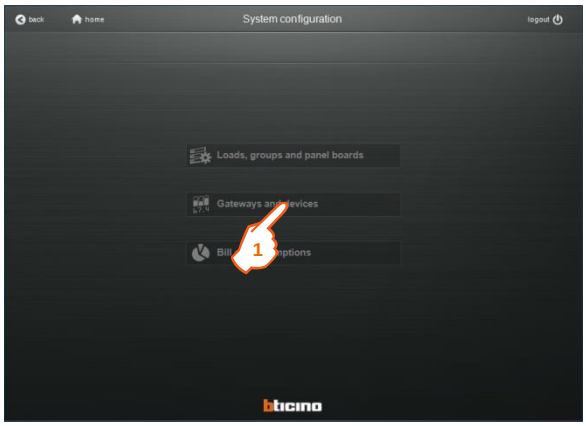
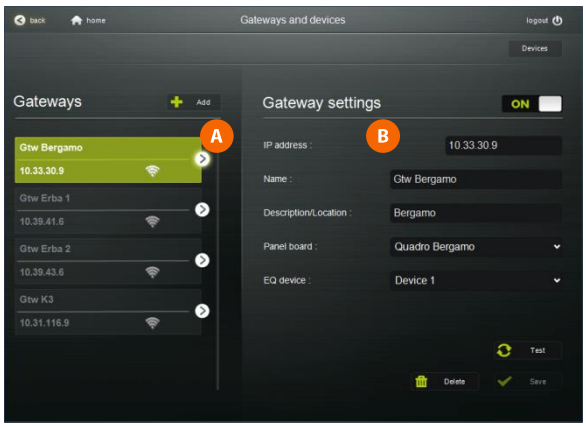
7.9.1 Gateways and Devices configuration



1. Click "Gateways and devices"
Gateway settings page appears



The page is divided into two sections:
section A is the "Added Gateway" area.
section B shows the "Gateway Settings" area, where the configuration fields for the selected gateway are available.

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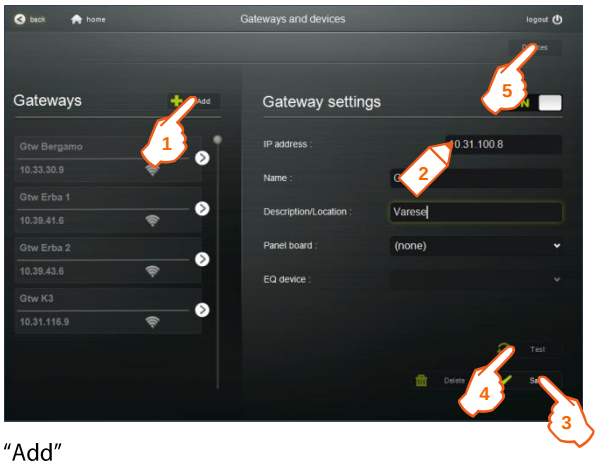
- **CREATING AND SAVING A GATEWAY**



1. Click "Add"

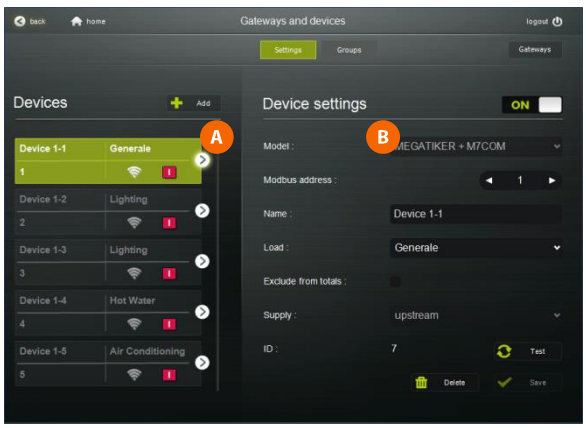
2. Assign the gateway parameters:
IP Address (required parameter)
Name (required parameter)
Description/Location (optional parameter)

3. Click "Save"

4. Click "Test" to verify the correct operation of the communication between the Software and the Gateway

5. Click "Devices" to configure the Devices connected to the Gateway

Device's settings page appears



The page is divided into two sections:
section A is the "Added Devices" area.
section B shows the "Device Settings" area, where the configuration fields for the selected device are available.

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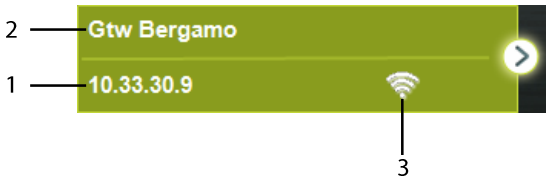
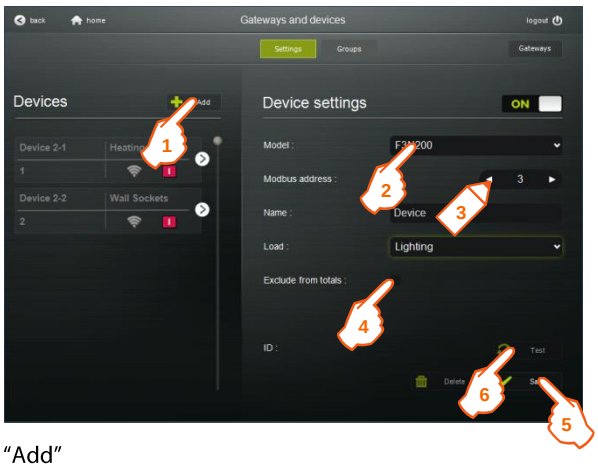
- **Description of the Gateway selection button**



1. IP address assigned to the gateway
2. Name of the gateway
3. Communication status
   - On
   - Off
   - Communication error

- **CREATING AND SAVING DEVICES**

  - Procedure for Measure device with RS485 output



1. Click "Add"

2. Choose the Model from the model list

3. Assign the Device parameters:
Modbus address (required parameter)
Name (required parameter)
Load type (optional parameter)

4. "Exclude from totals" (optional setting). Select this option if you don't want that the energies measured by the device, (Ea+), are added on the histograms in the "Grand Total" and "Partials" page of the menu "Consumptions". (see details on page 24)
Histograms of consumptions will be displayed only in the "Details" page of the menu "Consumptions".

5. Click "Save"

6. Click "Test" to verify the correct operation of the communication between the Device and the Gateway

Repeat the operations 1. ⇨ 6. to add more devices

Note: For devices M7TIC/IO and M7TICPROG, there is a menu for customizing the description label of the inputs (for M7TIC/IO) and outputs (for M7TIC/IO and M7TICPROG) through the "Advanced" button.

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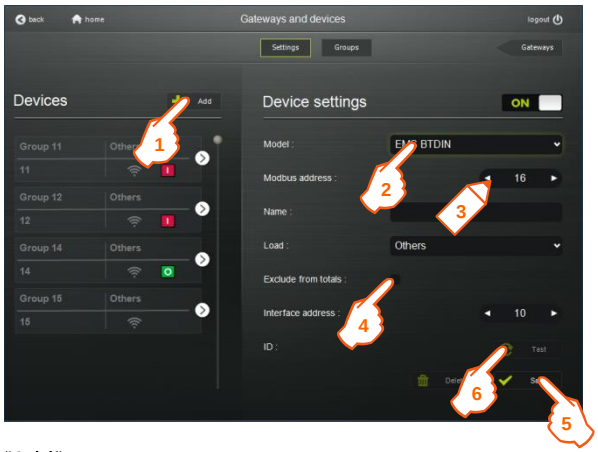
- Procedure for EMS BTDIN devices



1. Click "Add"

2. Choose the model from the model list

3. Assign the Device parameters:
Modbus address of the EMS BTDIN device or group of EMS BTDIN devices (required parameter)
Name (required parameter)
Load type (optional parameter)

4. "Exclude from totals" (optional setting). Select this option if you don't want that the energies measured by the Measurement module, (Ea+), are added on the histograms in the "Grand Total" and "Partials" page of the menu "Consumptions". (see details on page 27)
Histograms of consumptions will be displayed only in the "Details" page of the menu "Consumptions".

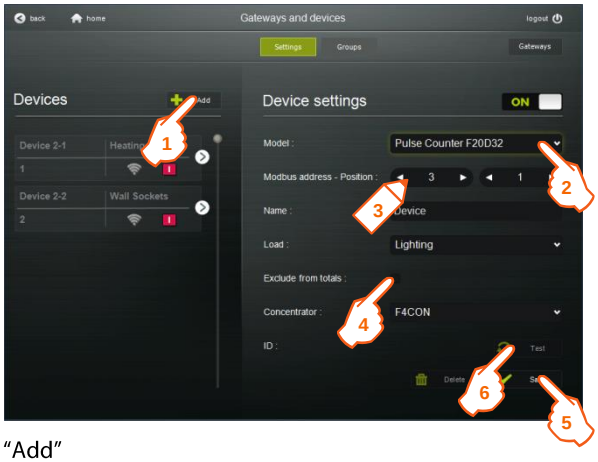
5. Click "Save"

6. Click "Test" to verify the correct operation of the communication between the Device and the Gateway

Repeat the operations 1. ⇨ 6. to add more EMS BTDIN device or group of EMS BTDIN devices

Note: Whenever you make a modification to the system (e.g. adding/removing a module, change of address), must repeat the configuration procedure; for other modification to the system (e.g. change of configuration by DIP switches, etc ...) must repeat Test procedure.

- Procedure for Measure devices with pulse output (Electricity, Water and Gas counters)



1. Click "Add"

2. Choose the model from the model list

3. Assign the Device parameters:
Modbus address (address of the pulse concentrator) - Position (required parameters)
Name (required parameter)
Load type (optional parameter)
Note: for Water and Gas Counters, load type is automatically assigned

4. "Exclude from totals" (optional setting). Select this option if you don't want that the quantities measured by the device, are added on the histograms in the "Grand Total" and "Partials" page of the menu "Consumptions". (see details on page 24) Histograms of consumptions will be displayed only in the "Details" page of the menu "Consumptions".

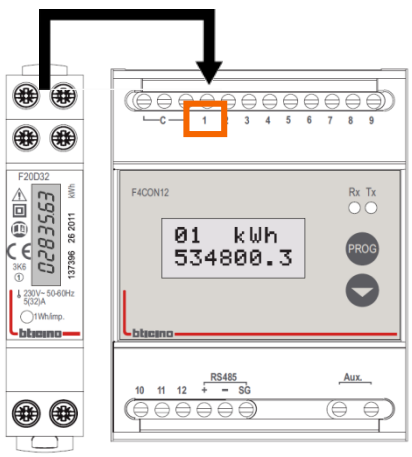
5. Click "Save"

6. Click "Test" to verify the correct operation of the communication between the Device and the Gateway

Repeat the operations 1. ⇨ 6. to add more devices

- Details for Pulse output Meters (Electricity, Water and Gas counters)

Position: corresponds to the input number of the Concentrator (Cat. nos **F80BI, F4CON12, F4CON**) on which the pulse output of the counter is connected.



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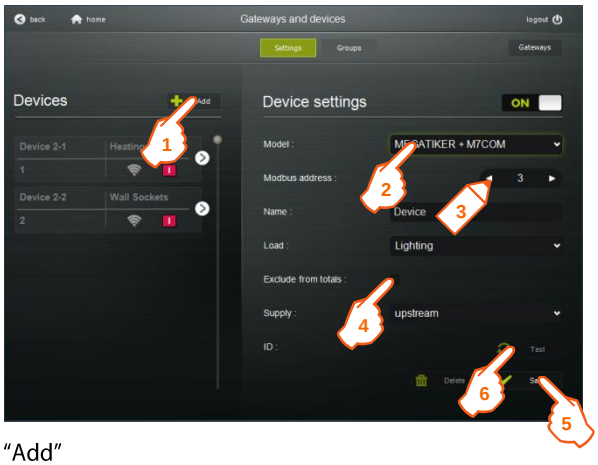
- Procedure for Circuit-breakers DPX³ - DMX³ and DX³ RCD add-on modules



1. Click "Add"

2. Choose the model from the model list

3. Assign the Device parameters:
Modbus address (required parameter)
Name (required parameter)
Load type (optional parameter)
Supply direction of the Circuit-breaker (required parameter)

4. "Exclude from totals" (optional setting). Select this option if you don't want that the energies measured by the device, (Ea+), are added on the histograms in the "Grand Total" and "Partials" page of the menu "Consumptions". (see details on page 24)
Histograms of consumptions will be displayed only in the "Details" page of the menu "Consumptions".

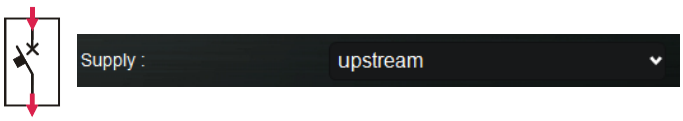
5. Click "Save"

6. Click "Test" to verify the correct operation of the communication between the Device and the Gateway

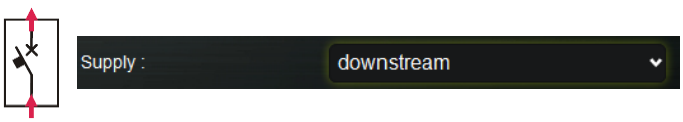
Repeat the operations 1. ⇨ 6. to add more devices

- Details for Circuit-breakers DPX³ - DMX³ and DX³ RCD add-on modules
Supply: to ensure correct measurement of various electrical quantities, it is necessary to indicate the Supply direction of the circuit-breakers:

circuit-breaker supply from the top → choose Upstream (default setting)



circuit-breaker supply from the bottom → choose Downstream



Note: to modify this setting it is necessary to delete and recreate the device.

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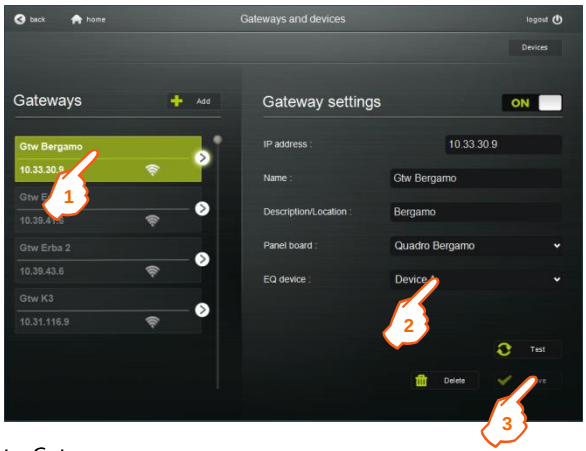
- **Procedure to activate the “EQ device” function**

EQ device is an optional function used to perform the energy quality check according to standard EN 50160.

To do this is necessary set a device as “EQ device” in Gateways and devices page.



1. Select a Gateway

2. In correspondence of EQ device choose from the list box the device to set as energy quality device (in the list box are displayed only devices with THD and THD + Harmonics functions added to the selected gateway).

3. Click “Save”

Note: for each gateway is possible to set only one device as “EQ device”.

Software performs automatically the weekly check and shows the result in the Consumption Details page with the label “LAST WEEK EN50160 CHECK: OK or KO”

At the same time the software creates the folder “Check Energy Quality” in the software’s data base saved on the hard-disk of the PC (see § 7.3.2).

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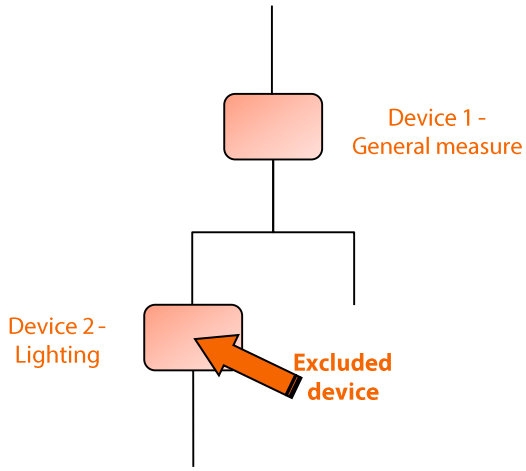
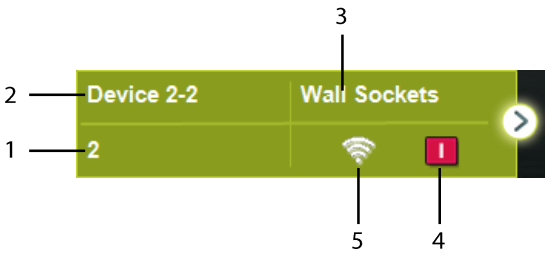
- **Details for the option "Exclude from totals"**

This option must be enabled if the measurement of a device is cumulative with the measurement carried out by a general measuring device.

In the example: consumption of the line "Lighting" would be counted twice in the histograms of global consumption.
The device 2 will be excluded from the totals to ensure the accuracy of the measurements, but its data will be displayed on the page "Details" of the menu "Consumption".



- **Description of the device selection button**



1. Modbus Address (Modbus Address - Position for the counters with pulse output)
2. Name of the device
3. Assigned Load
4. This symbol appears only if the device is a protection device and shows the circuit-breaker state:
   - O Open
   - I Closed
   - O Tripped
5. Communication status
   - On
   - Off
   - Communication error

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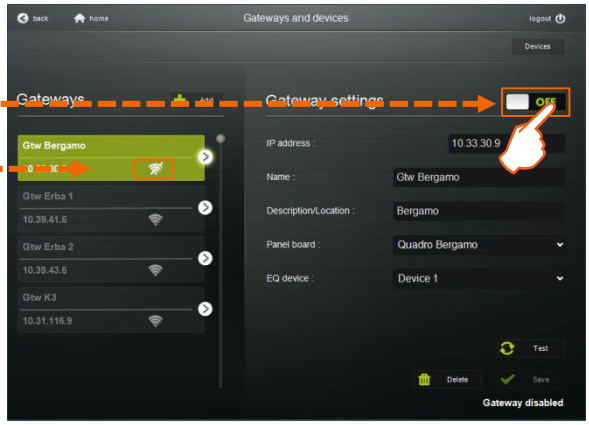
• **SYSTEM FUNCTIONS**

– ON/OFF Button

Allows to enable/disable a Gateway or a Device; the function is available only for Gateways and Devices.

1. Click "ON" to switch off a Gateway / Device

The selected Gateway / Device and the button switch into the OFF state.



Note:

• The deactivation of a Gateway causes the deactivation of all devices connected to it.

• If a device is turned-off, its measurement data will not be displayed in the "Devices" page.

• To return a Gateway / Device in the ON state, simply click "OFF"

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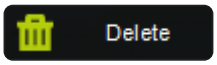
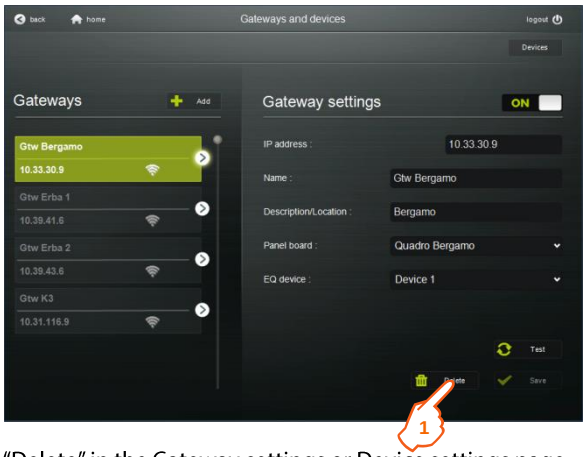
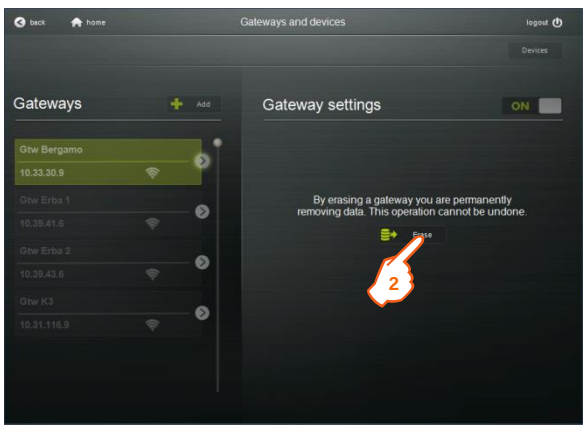
– DELETE Button



Allows to erase a Gateway or a Device.



1. Click "Delete" in the Gateway settings or Device settings page . A confirmation page appears.



2. Click "Erase" to confirm the deletion of the Gateway or the Device

Note: To erase a Gateway, is necessary delete all the devices connected to it at first!

- **LIST OF REQUIRED PARAMETERS:**

– Highly required parameters - Address/Position:
  ✓Modbus Address, a different Modbus address for each device connected to the same bus RS485
  ✓Positions, different for wiring reasons; (only for Counters with pulse output)

– Essential parameter – Name:
  ✓Impossible to use several times the same name
  ✓If forgotten during the settings, Software will assign a default value (IP Address for Gateway, Modbus Address for Devices RS485, Modbus Address-Position for Devices with pulse output).

– Useful parameter – Model:
  ✓Possibility to have one, two or several identical models.
  ✓If forgotten during the settings is shown the message "Configuration Error".

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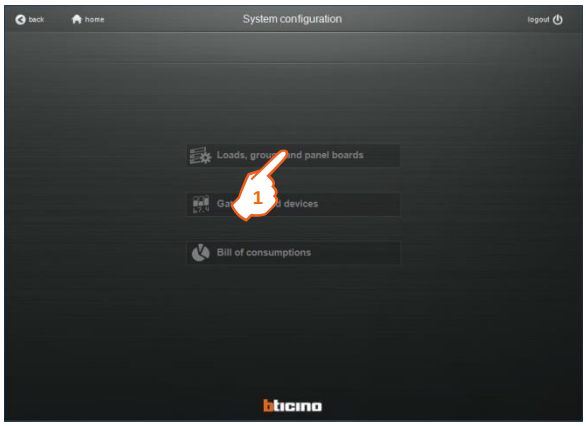
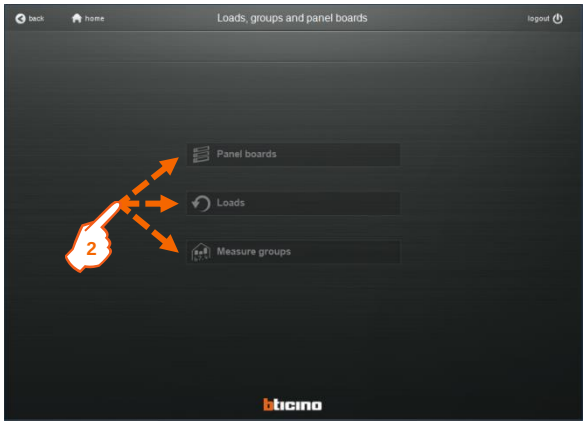
7.9.2 Loads, groups and panel boards configuration

Optional setup, used to give a description of the electrical installation by panel board(s), load(s) and group(s)



1. Click "Loads, groups and panel boards"
Loads, groups and panel boards settings page appears.



2. Click "Panel boards", "Loads" or "Measure Groups" to create a panel board, a load or a measure group.

Every page is divided into two sections:

- left section is the "Added Panel boards / Loads / Measure groups" area.
- right section shows the "Panel boards / Loads / Measure groups" settings area, where the configuration fields are available.

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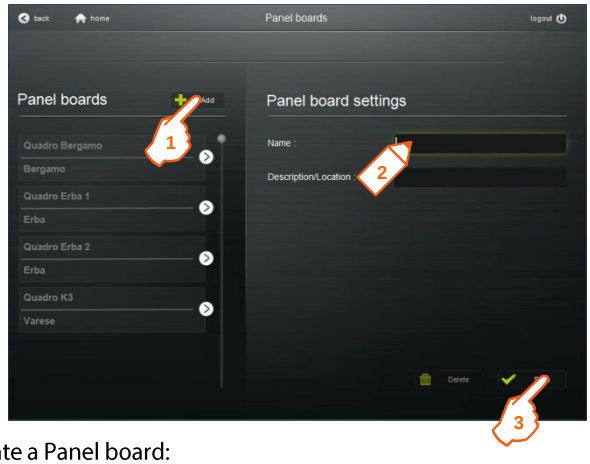
• **CREATING AND SAVING PANEL BOARD**

For a physical distribution of the different panel boards of the installation

Recommended architecture: only one Gateway per Panel board



To create a Panel board:

1. Click "Add"

2. Assign the panel board parameters:
Name (required parameter)
Description/Location (optional parameter)

3. Click "Save"

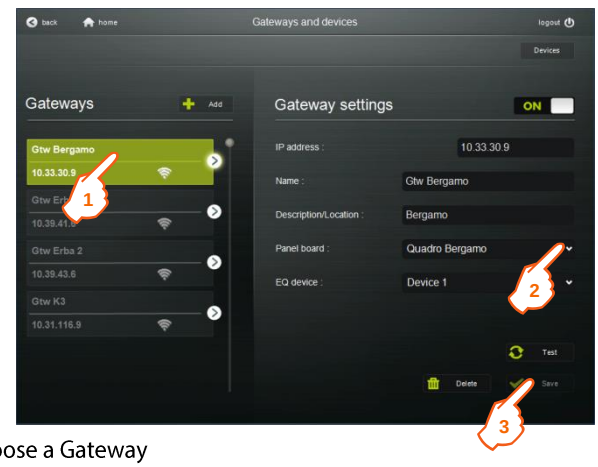
Repeat the operations 1. ⇨ 3. to add more panel boards

• **ASSIGNMENT OF PANEL BOARDS**

Return to the section "Gateways and Devices" in "System configuration".

In the Gateway settings area of the Gateways page, is possible to assign each gateway previously created, to a Panel board.

Note: a gateway can be assigned to only one panel board.



1. Choose a Gateway

2. Choose a Panel board from the Panel boards list

3. Click "Save"

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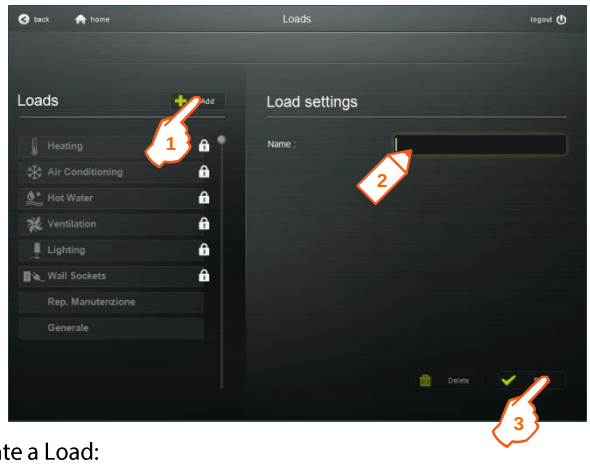
• **CREATING AND SAVING LOADS**

are available:

– 6 “pre-defined” categories (heating, air conditioning, etc.)
– Category “Others” to display the measurement without Load assigned
– 8 additional categories, user-creatable



To create a Load:

1. Click “Add”

2. Assign the load parameter:
Name (required parameter)

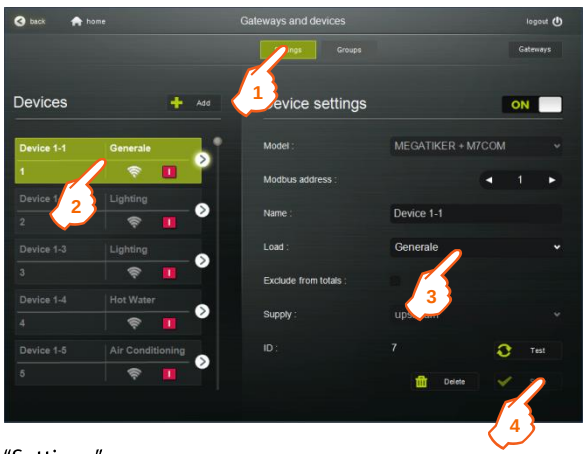
3. Click “Save”

Repeat the operations 1. ⇨ 3. to add more loads

Note: it is possible to have a maximum of 14 loads.

• **ASSIGNMENT OF LOADS**

Return to the section “Gateways and Devices” in “System configuration”. In the Device settings area of the Devices page, is possible to assign a Load to each Device previously created.



1. Click “Settings”

2. Choose a Device

3. Choose a Load from the Loads list

4. Click “Save”

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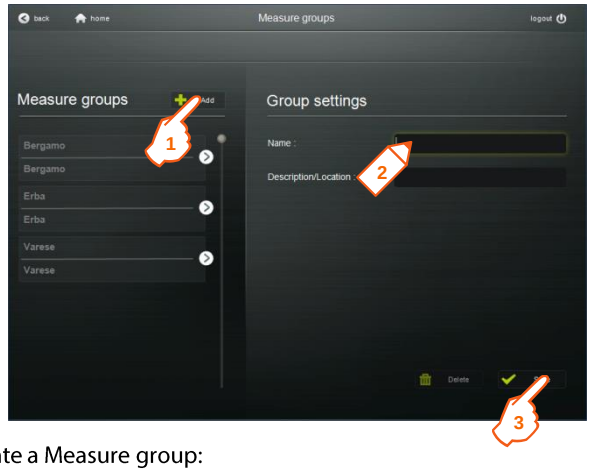
• **CREATING AND SAVING MEASURE GROUPS**

For a logical distribution of the measuring points of the installation



To create a Measure group:

1. Click "Add"

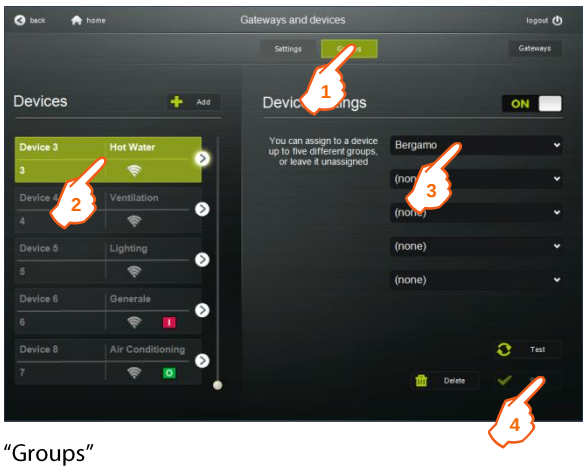
2. Assign the measure groups parameters:
Name (required parameter)
Description/Location (optional parameter)

3. Click "Save"

Repeat the operations 1. ⇨ 3. to add more groups

• **ASSIGNMENT OF MEASURE GROUPS**

Return to the section "Gateways and Devices" in "System configuration".
In the Device settings area of the Devices page, is possible to assign a Measure group to each Device previously created.



1. Click "Groups"

2. Choose a Device

3. Choose a Measure group from the Measure groups list

4. Click "Save"

Repeat the operations 2. ⇨ 4. to assign a device to another group

Note: a device can be associated with several groups simultaneously (up to 5).

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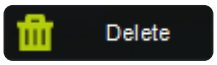
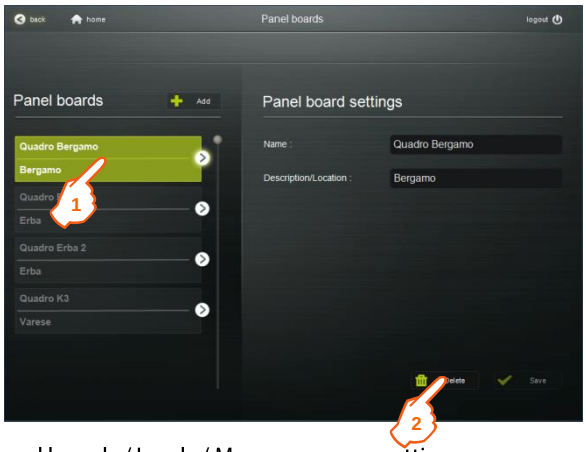
- **SYSTEM FUNCTIONS**

– DELETE Button



Allows to disable / erase a Panel board, a Load or a Measure group.

Note: For the "pre-defined" loads the disabling is the only function permitted.

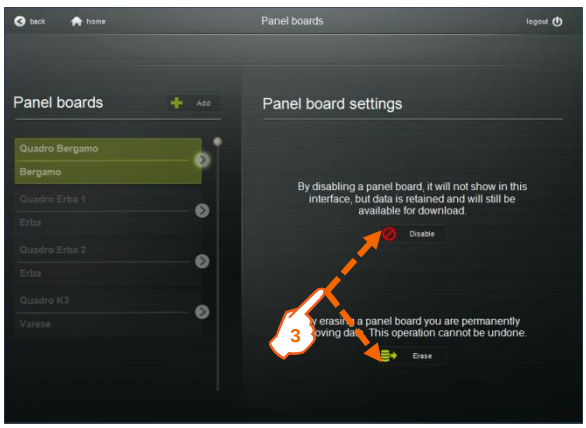


In the Panel boards / Loads / Measure groups settings page

1. Choose a Panel board / Load / Measure group

2. Click "Delete"

An intermediate page in which, the deactivation (Disable) or the erasing (Erase) of the selected Panel board / Load / Measure group is proposed.



3. Click "Disable" to deactivate the Panel board / Load / Measure group or "Erase" to remove definitively the Panel board / Load (possible only for the "user-creatable" loads) / Measure group.

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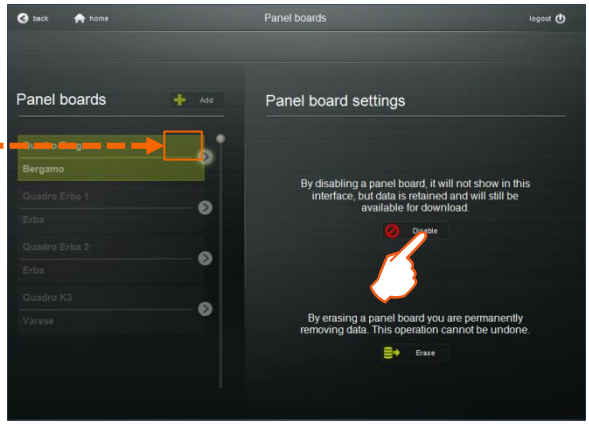
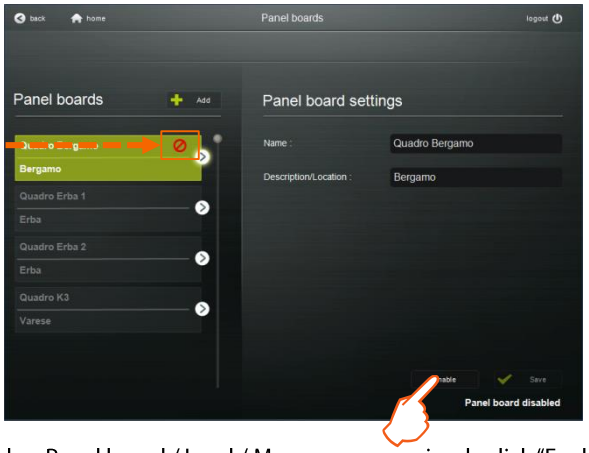
By clicking on “Disable” the selected Panel board / Load / Measure group, goes into “Deactivated” state.



This state is indicated by the symbol near to the Panel board / Load / Measure group’s name.



To enable a Panel board / Load / Measure group, simply click “Enable“.

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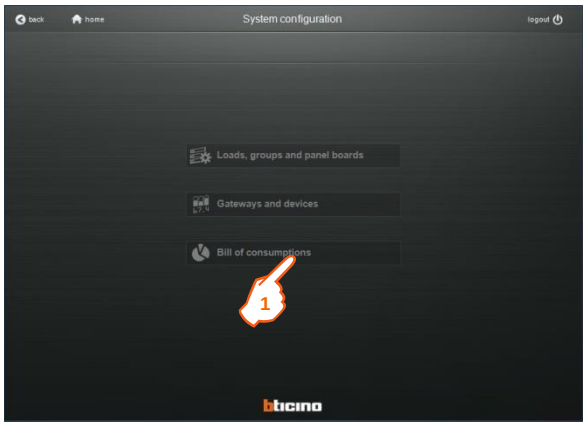
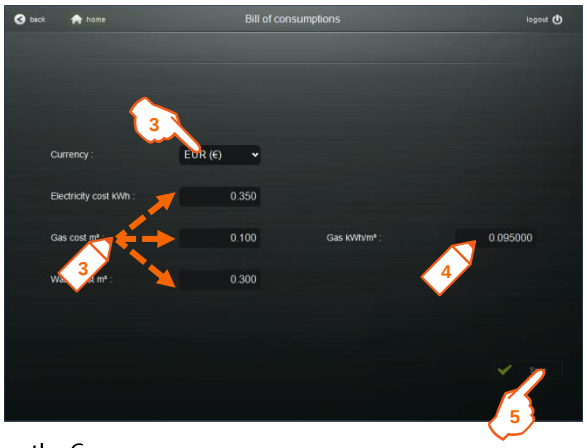
7.9.3 Bill of Consumptions configuration

Optional setting, allows the economic accounting of Electricity, Water and Gas consumptions



1. Click "Bill of consumptions"

Bill of Consumptions setting page appears



2. Choose the Currency

3. Assign the average price for the Electricity (€/kWh), Gas (€/m^3) and Water (€/m^3)

4. Assign the conversion factor (m^3/kWh) to display Gas consumptions also in "Equivalent kWh"

Note: Conversion factor should be provided by your Gas supplier; contact it to get the conversion rate

5. Click "Save"

IMPORTANT: the costs are approximate, usable for statistical purposes only.

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8. Use

8.1 Access

The access to the Software data is protected by an identification code (PIN code).

Three types of "default" users are configurated:
– "administrator"
– "installer"
– "user"

The home page ("home") will be different depending on the type of user that access to the device.

8.1.1 Access right

- "administrator"

Access to all pages of the software:
– Software configuration
– System configuration
– Devices
– Consumption
– Data download and report

Default access code (PIN):
– 99999

- "installer"

Access to the pages:
– System configuration
– Devices
– Consumption
– Data download and report

Default access code (PIN):
– 55555

- "user"

Limited access to display pages of data (not configurations possible in mode "user"):
– Devices
– Consumption
– Data download and report

Default access code (PIN):
– 11111

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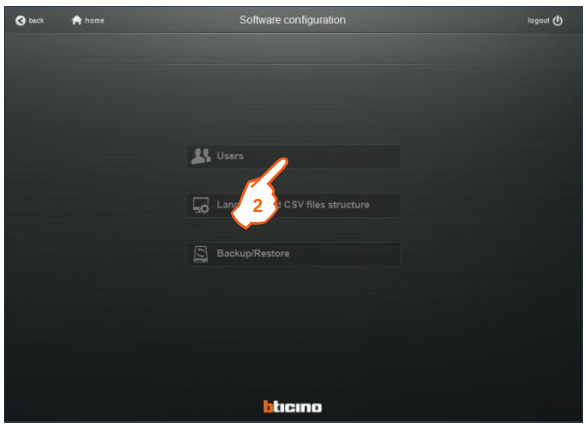
8.1.2 Creating a new User

Only the user **"administrator"** can add new users.

1. Click "Software configuration"
Software configuration page appears



2. Click "Users"

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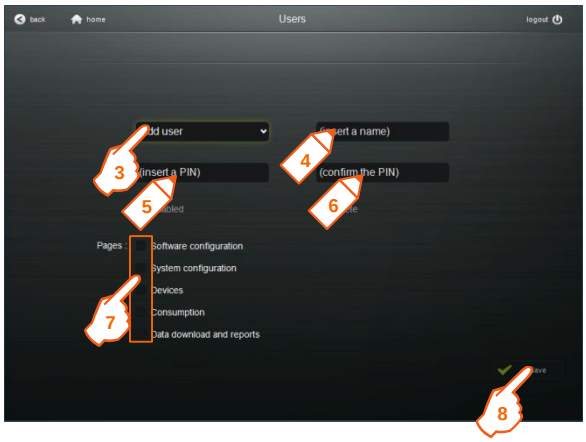
Users configuration page appears



3. Choose from the list "Add user".
4. Assign a name to the new user.
5.- 6. Type the PIN code for the new user and confirm it.
7. Choose which pages the new user can see.
8. Click "Save"

8.1.3 Changing of the access rights

The access rights of a user can be modified only by the **"administrator"**

In the Users configuration page
1. Choose from the list a "name of a user" (ex. Installer) to edit it.
2.- 3. Type the PIN code for the user to edit and confirm it.
4.- 5. These two options allow to disable a user without erase it (4.) or to erase definitively a selected user (5.) once the "Save" button is clicked.
6. Choose, for the user to edit, which pages it can see.
7. Click "Save".

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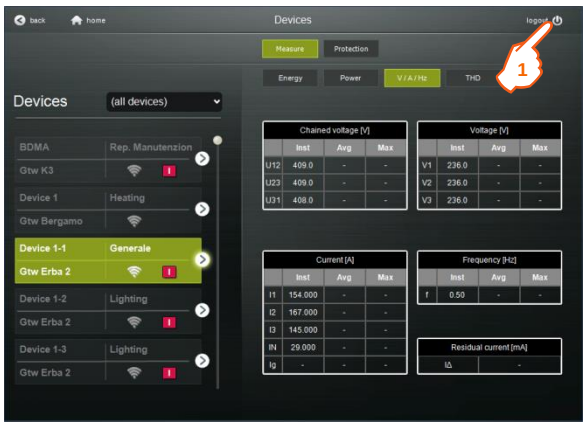
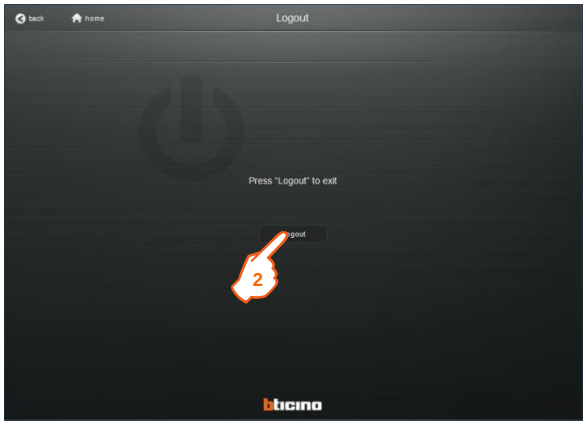
8.1.4 Logout procedure

The symbol logout appears on all pages of the software.



1. Click “logout”

A confirmation page appears.



2. Click “logout” to confirm the exit from the software.

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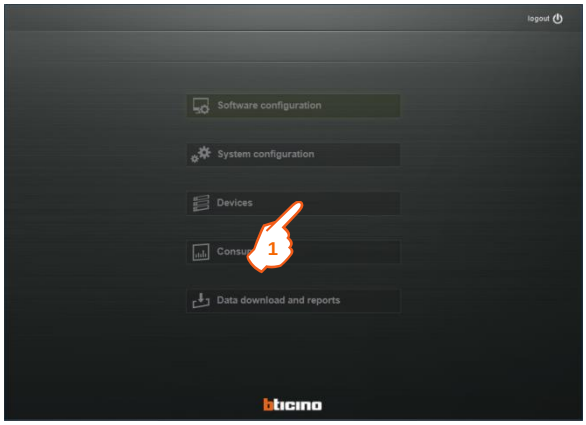
8.2 Data display pages

8.2.1 Devices



In the Home Page

1. Click "Devices"

Devices page appears

The page is divided into three sections:

section A shows the devices added by the users with their characteristics and status icons

section B is the area where is possible to select three pages:

- Measure: display of the quantities measured by a device:
  - Electricity measuring devices: Energy, Power, Voltages / Currents / Frequency, THD (if available on the Device) and Harmonics (if available on the Device)
  - Water Counters: Water consumptions
  - Gas Counters: Gas consumptions
- State: page dedicate to EMS BTDIN devices; display of devices status, control buttons… for each EMS BTDIN device/group of devices
- Protection: display of protection devices status, settings, alarms and historical of last trips (only for MEGATIKER, MEGABREAK and RCD BTDIN with measuring/metering unit)

section C shows the values measured by the selected device, status, command button(s), settings, alarms and historical of last trips of the selected device.

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For “Power Supervision System Devices”, the page “Devices" it is structured as follows:

section A shows the devices added by the users with their characteristics and status icons

section B is the area where is possible to select:

- a page showing the status of digital and analogue inputs (for M7TIC/IO)
- a page showing the status and for command of the digital outputs (for M7TIC/IO and M7TICPROG)
- configuration page of inputs/outputs

section C shows inputs/outputs status, command buttons of outputs and configuration pages

- **CONFIGURATION OF DIGITAL INPUTS** (for M7TIC/IO)

In the Devices page:

1. Select a “Power Supervision System” Device

2. Click “Configuration”

3. Select the input to configure

4. Click to program the working status of the input: active “high” or active “low”

5. Click “Write” to confirm the settings

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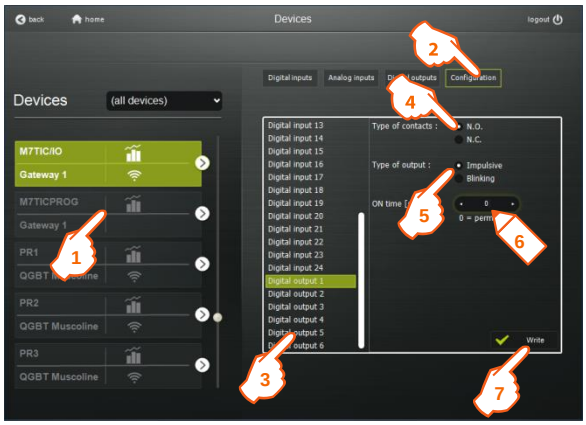
- **CONFIGURATION OF DIGITAL OUTPUTS** (for M7TIC/IO and M7TICPROG)



In the Devices page:

1. Select a “Power Supervision System” Device

2. Click “Configuration”

3. Select the output to configure

4. Select the “normal state” of the relay:

NO: normally open
NC: normally close

5. Select the command mode of the selected output:

Impulsive: impulsive or maintained command according to the set time (“ON time” of point “6.”)
Blinking: the relay switches repeatedly with cadence equal to the set time (“ON time” of point “6.”)

6. Enter the opening/closing time of the relay (if “ON time = 0, the command is maintained); **Note:** (the value entered is in "seconds“)

7. Click “Write” to confirm the settings

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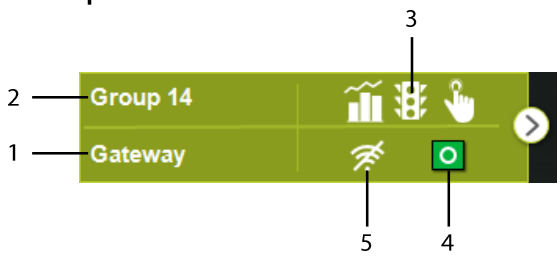
- **Description of the device selection button**



1. Name of the Gateway at which is associated the Device
2. Name of the device
3. Symbols of the functions associated to the Device
   - Measure
   - State
   - Command
4. This symbol appears only if the Device integrates the state function related to a protection device and shows the circuit-breaker state :
   - Open
   - Closed
   - Tripped
5. Communication status
   - On
   - Off
   - Communication error

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8.2.2 Consumption

In the Home Page

1. Click "Consumption"

Consumption page appears

Are available 4 ways of displaying data:

- Grand Total (Consumptions of the entire installation)
- Partials (Consumptions per Load and/or Measure group)
- Compare (Comparison of the Global Consumptions between two Devices)
- Details (Consumptions of a single Device)

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For each page are available:

- Histograms of Consumptions divided per:
  - Day (per hour)
  - Month (per day)
  - Year (per month)
- Comparison between the actual and the previous value (ex. today/yesterday, etc.)
- Values in:
  - kWh, m^3 of water, m^3 of gas and "Equivalent kWh" of gas
  - € (or other configured currency)

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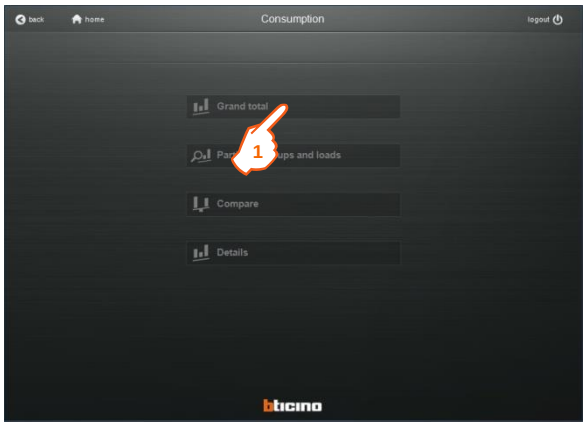
- **GRAND TOTAL**



1. Click “Grand total”

Grand total page appears

Visualization of Total Energy Consumptions (Ea +) on histograms divided per Load

2. Click “Day”, “Month” or “Year” to view the consumptions on a different time period (Day (hours) / Month (days) / Year (months))

3. Click “Overall” to display the page of the Overall Consumptions (Electricity, Gas and Water) of the system.

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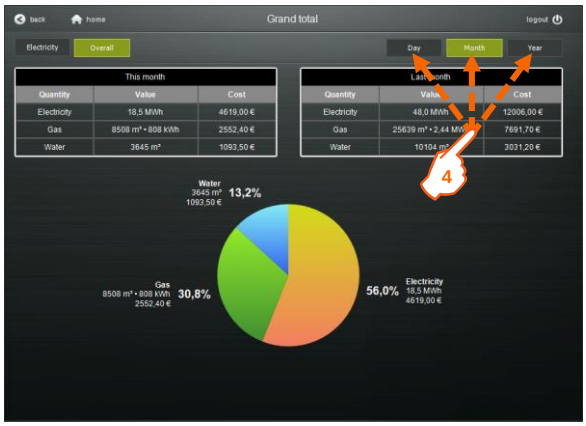
Overall consumptions page appears



Visualization of the Overall Consumptions of the system on tables and on a pie chart showing:

- consumptions subdivided per type:
  Electricity (orange area)
  Gas (green area)
  Water (blue area)
- consumptions valued according to the measurement unit and the configured currency

4. Click "Day", "Month" or "Year" to view the consumptions on a different time period (Day (hours) / Month (days) / Year (months))

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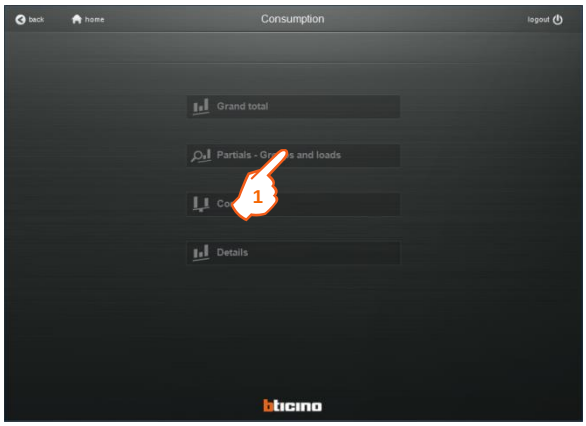
- **PARTIALS - GROUPS AND LOADS**



1. Click "Partials - Groups and loads"

Visualization of Partials Consumptions on histograms per Day / Month / Year

2. Click to view the consumption of a specific Measure group or of "all groups"

3. Click to view the consumption of a specific Load (ex. Ventilation, Water, Gas, …) or of "All electricity loads"

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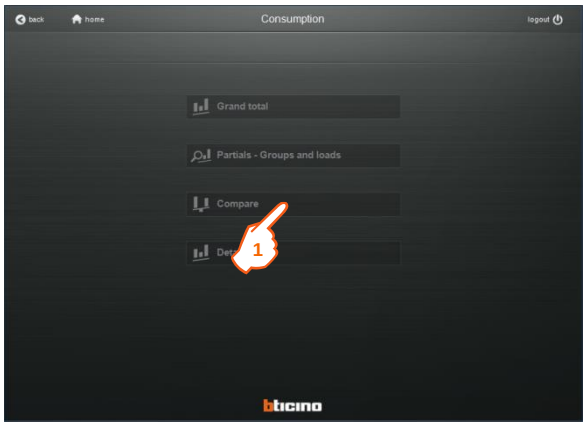
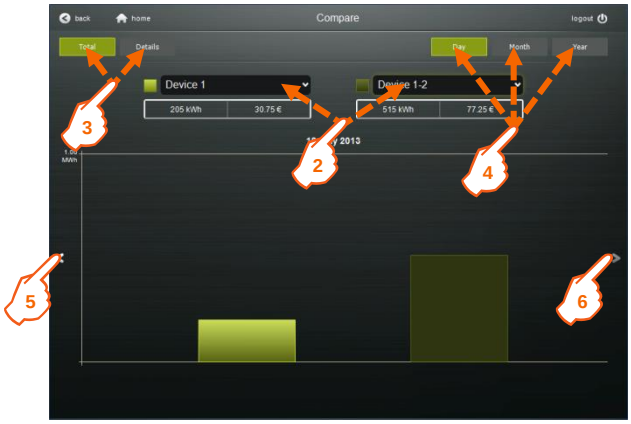
- **COMPARE**



1. Click "Compare"



Comparison of the Consumptions between two Devices / Groups / Loads.

2. Click to select the two Devices / Groups / Loads to compare

Note: Selecting two non homogeneous Devices / Groups / Loads (ex Electricity and Gas), comparison is evaluated only according to the currency (€ or other currency) and not according to the measurement units.
It is not possible to compare kWh of energy and "Equivalent kWh" of gas.

3. Click "Total" or "Details" to view the Total or Detailed comparison between the two selected Devices / Groups / Loads

4. Click "Day", "Month" or "Year" to view the consumptions on a different time period (Day (hours) / Month (days) / Year (months))

5. - 6. Click on the arrows to display the comparison in a previous period (Yesterday/ last Month/ Last Year).

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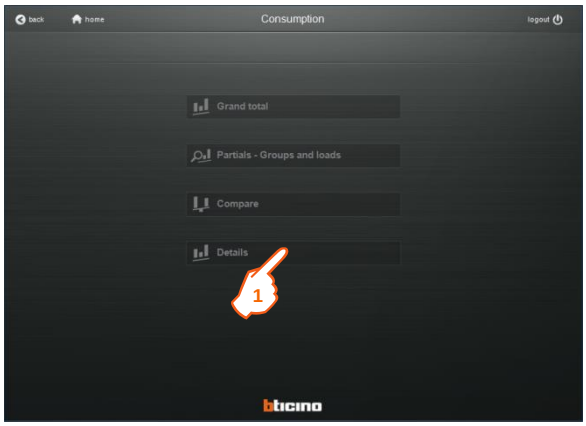
- **DETAILS**



1. Click "Details"
Details page appears.

The page is divided into three sections:
section A shows the devices added by the users with their characteristics and status icons. It is possible to choose a device per Groups / Loads or "All Devices"
section B is the area where is possible to select three pages:

- General: Summary page in which are shown some different data (Electricity, Gas or Water histograms, device status, alarms…) according to the type of selected Device (Electricity, Gas or Water counter with pulse output, Electricity counter with RS485 output, circuit-breakers, …)
- Measure: display of the quantities measured by a device:
  – Electricity measuring device: Energy, Power, Voltages / Currents / Frequency, THD (if available on the Device) and Harmonics (if available on the Device)
  – Water Counters: Water consumptions
  – Gas Counters: Gas consumptions
- State: page dedicate to EMS BTDIN devices; display of devices status… for each EMS BTDIN device/group of devices
- Protection: display of circuit-breaker's status, settings, alarms and historical of last trips (only for DPX^3, DMX^3 and DX^3 RCD with measuring/metering unit)

section C shows the values measured by the selected device, status, settings, alarms and historical of last trips of the selected device.

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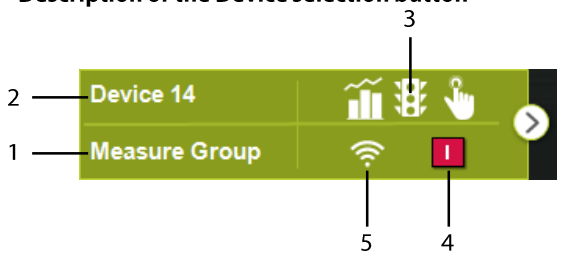
- **Description of the Device selection button**



1. Measure Group
2. Name of the Device
3. Symbols of the functions associated to the Device
   - Measure
   - State
   - Command
4. This symbol appears only if the Device integrates the state function related to a protection device and shows the circuit-breaker state :
   - Open
   - Closed
   - Tripped
5. Communication status
   - On
   - Off
   - Communication error

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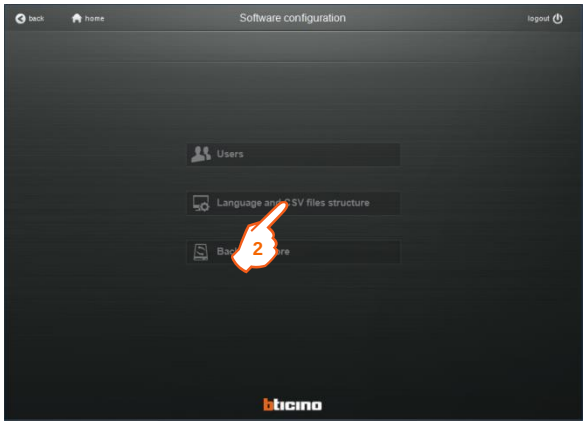
8.3 Historical of consumptions

All the measured quantities are saved automatically in files ".CSV" compatibles with Excel or "csv" reader.
It could be necessary to export these files to manipulate the information; to do this are required some settings in the software.

8.3.1 CSV files options

In the software home page

1. Click "Software configuration"



2. Click "Language and CSV file structure"

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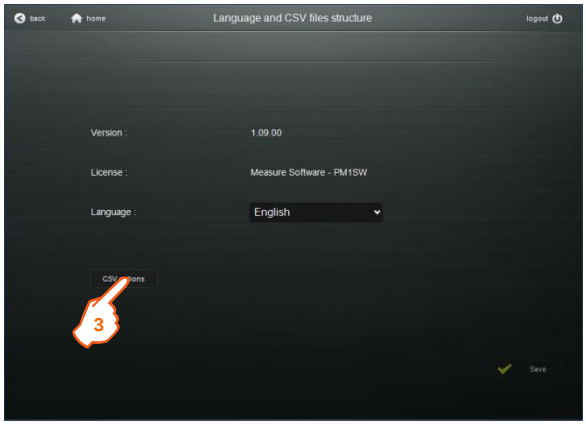
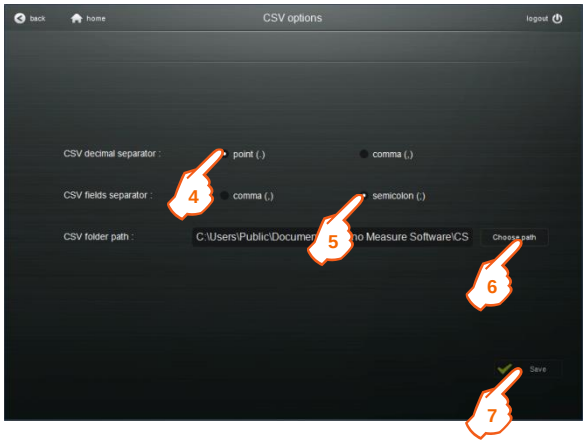


3. Click “CSV options”



4. Click to set the CSV decimal separator: “point” or “comma” (default)
5. Click to set the CSV fields separator: “semicolon” (default) o “comma”
6. Click “Choose path” to set the path folder for saving data
7. Click “Save”

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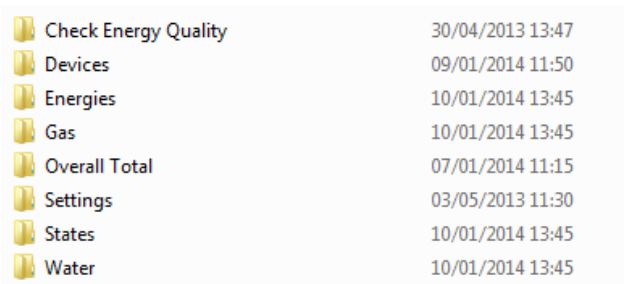
8.3.2 Management of the CSV files

CSV files are created automatically according to the settings done by the user in "System Configuration".

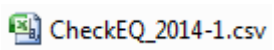
Files are saved in the path folder set by the user (see § 7.3.1) in the following sub-folders:

- "Check Energy Quality": contains information on the energy quality (according to EN 50160) read by a device set as "Eq device" in Gateways and Devices (see page 23)
- "Devices": contains the data recorded by each device (multifunction device, energy meter, etc.)
- "Energies": contains data related to energy consumption Ea+ (files are recorded per "all devices" / "Loads" / "Groups")
- "Gas": contains data related to gas consumption (files are recorded per "Devices" and "Groups")
- "Overall Total": contains data related to total consumptions of electricity, gas and water
- "Settings": contains files which show the system structure detailed per IP and Modbus addresses, groups, loads, etc.
- "States": contains data about the state of each protection device (DPX^3, DMX^3, DX^3 RCD add-on module) added by the user.
- "Water": contains data related to water consumption (files are recorded per "Devices" and "Groups")



- **"CHECK ENERGY QUALITY" FOLDER**

It contains a ".csv" file named "CheckEQ_sampling period-file version"



– sampling period: year of recording

– version: increases in case of changes in the system configuration (changing of EQ device)

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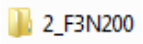
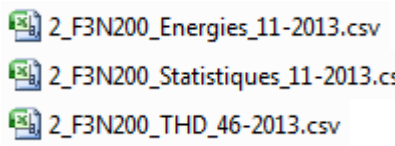
- **"DEVICES" FOLDER**

It contains a folder for each device set in the system.
Folder name "ID_Cat.No"



Each device folder contains a series of ".csv" files named "ID_Cat.No_type of data recorded_sampling period"

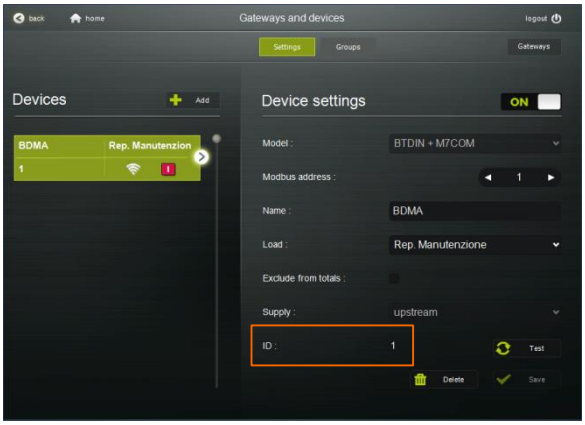


– ID: (identification number of the device in the database) is an unique number assigned to the device during the system configuration and it is shown in the Gateway and devices page (see image below)

– Cat.No: catalogue number of the device

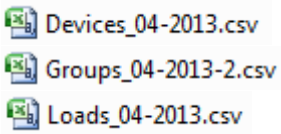
– type of data recorded: energies, gas, water, statistics, states, THD, etc.

– sampling-period: week or month and year of recording



- **"ENERGIES" FOLDER**

It contains a series of ".csv" files with the recording of consumptions subdivided per "Devices", "Groups" and "Loads".
Files name "type_sampling period-file version"



– type: consumptions distributed per devices, groups or loads

– sampling period: month-year of recording

– version: increases in case of changes in the system configuration (adding of a Load/Group/etc.)

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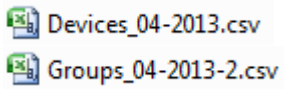
- **"GAS" FOLDER**

It contains a series of ".csv" files with the recording of consumptions subdivided per "Devices" and "Groups".
Files name "type_sampling period-file version"



– type: consumptions distributed per devices or groups

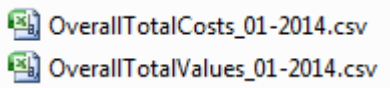
– sampling period: month-year of recording

– version: increases in case of changes in the system configuration (adding of a Group, etc.)

- **"OVERALL TOTAL" FOLDER**

It contains a series of ".csv" files with the recording of total consumptions of electricity, gas and water.

Files name "type_sampling period"

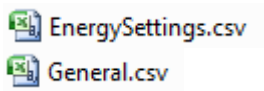


– type: consumptions distributed per cost (currency set) or per values (kWh of energy, m^3 of gas and m^3 of water)

– sampling period: month-year of recording

- **"SETTINGS" FOLDER**

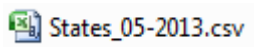
It contains two files which show the system structure detailed per Gateways IP addresses, Modbus addresses, groups, loads, etc.



- **"STATES" FOLDER**

It contains the historical of the states of each protection device (DPX^3, DMX^3, DX^3 RCD add-on module) added by the user.

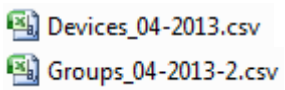
Files name "States_sampling period"



– sampling period: month-year of recording

- **"WATER" FOLDER**

It contains a series of ".csv" files with the recording of consumptions subdivided per "Devices" and "Groups".
Files name "type_sampling period-file version"



type: consumptions distributed per devices or groups

sampling period: month-year of recording

version: increases in case of changes in the system configuration (adding of a Group/etc.)

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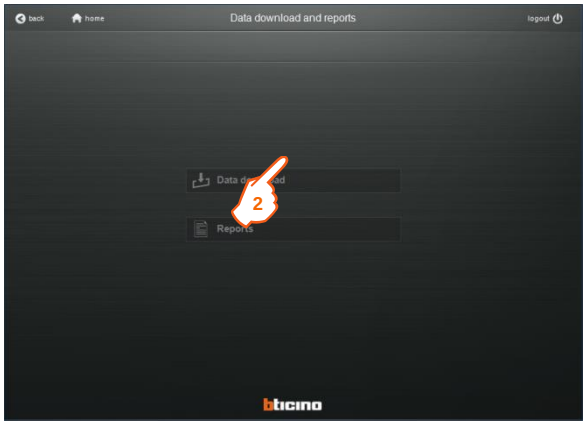
8.4 Data download and Reports

8.4.1 Data Download

This function allow you to directly export consumption data in ".csv" format for a single device, a group of devices or for all devices installed in the system.

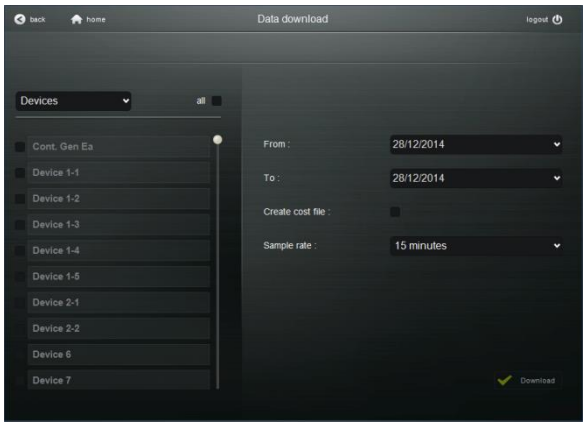
In the Software's home page

1. Click "Data download and reports"



2. Click "Data download"

Data download page appears



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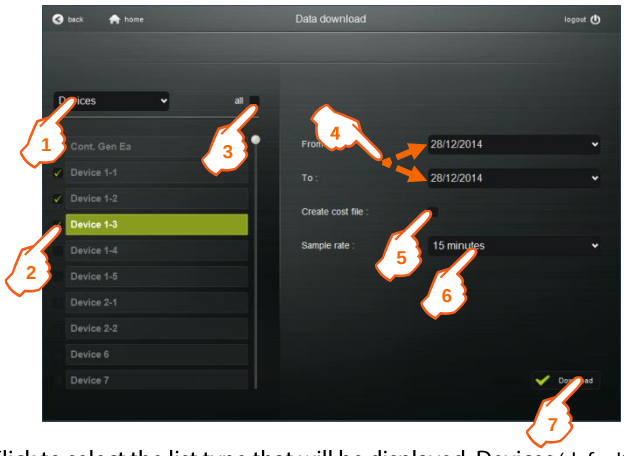
The page is divided into two sections:

section A shows the devices added by the users listed by name. It is possible to create a list of Devices, Groups or Loads

section B is the area where is possible to select:

- starting and ending date of the reference period (current date is shown by default)
- whether to include in the download also costs file(s)
- sample rate: 15 minutes (default), 1 hour, 1 day or 1 month

To download csv files:



1. Click to select the list type that will be displayed: Devices (default), Groups or Loads

2. Click on the black square to select Devices / Groups or Loads one by one (last selection is highlighted in green) or **3.** click "all" to select all Devices / Groups or Loads at once

4. Click to choose starting and ending date

Note: if one of the two fields "date" is in the future, "Download" button will be disabled.

5. Click if you want to include in the download also a file with costs

6. Choose the sample rate according to which consumption and costs data will be grouped

7. Click "Download" to complete the process

A pop-up window appears

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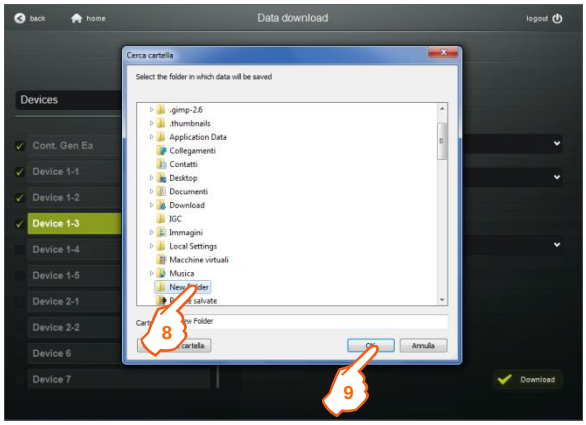

8. Select the folder where to save files (ex. New Folder), then **9.** click "OK"

Files are now downloaded on your computer from the software's database.

Note: files will contain only data correctly saved on the database of the software; if a device is in communication error state or the software is not running, consumption data won't be present on downloaded files.

In the destination folder you can find a file with consumption data and a file with costs data for each consumption type: electricity, gas and water for the selected Device(s) / Load(s) or Group(s)

Devices consumption Electricity Cost.csv	30/04/2015 12:09
Devices consumption Electricity.csv	30/04/2015 12:09
Devices consumption Gas Cost.csv	30/04/2015 12:09
Devices consumption Gas.csv	30/04/2015 12:09
Devices consumption Water Cost.csv	30/04/2015 12:09
Devices consumption Water.csv	30/04/2015 12:09
Groups consumption Electricity Cost.csv	30/04/2015 12:09
Groups consumption Electricity.csv	30/04/2015 12:09
Groups consumption Gas Cost.csv	30/04/2015 12:09
Groups consumption Gas.csv	30/04/2015 12:09
Groups consumption Water Cost.csv	30/04/2015 12:09
Groups consumption Water.csv	30/04/2015 12:09
Loads consumption Cost.csv	30/04/2015 12:10
Loads consumption.csv	30/04/2015 12:10

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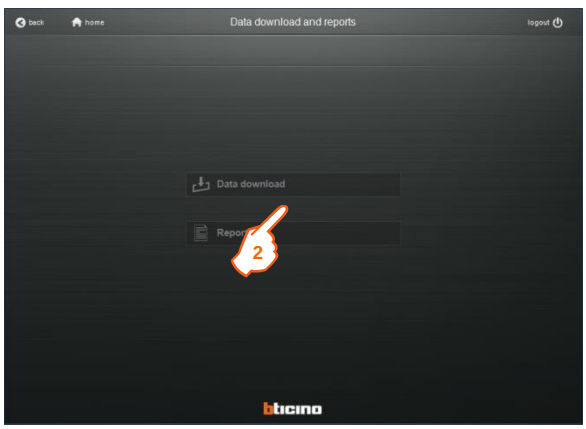
8.4.2 Reports

This function allow you to create a ".pdf" report starting from data contained in the database saved of the software.
Two types of reports are available:

- a general report, monthly or yearly, containing overall consumption data of the system divided per type: Electricity, Gas and Water
- a detailed report, monthly or yearly, containing consumption data of the selected Device(s).

In the Software's home page

1. Click "Data download and reports"



2. Click "Reports"

Reports page appears

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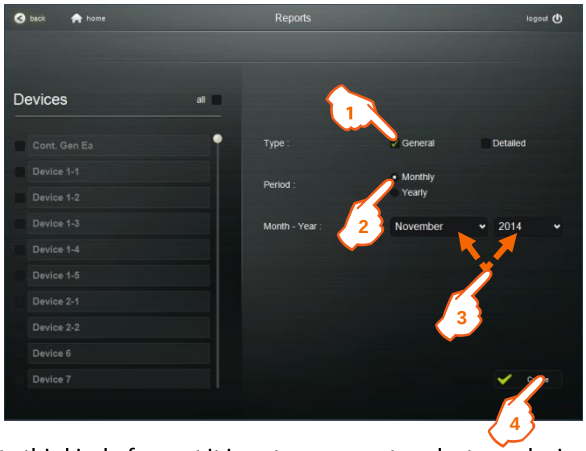
The page is divided into two sections:
section A shows the devices added by the users listed by name
section B is the area where is possible to select:

- which type of report: General or Detailed
- the report period: Monthly or Yearly report
- specific month and year

To create a General report:



To create this kind of report it is not necessary to select any device because this is a general document that contains Overall consumption data.

1. Select "General"

2. Click to choose the report period: monthly or yearly

3. Choose month and year (for monthly reports) or only the year (for yearly reports)

Note: if the selected month is in the future, "Create" button will be disabled.

4. Click "Create" to complete the process

A pop-up window appears

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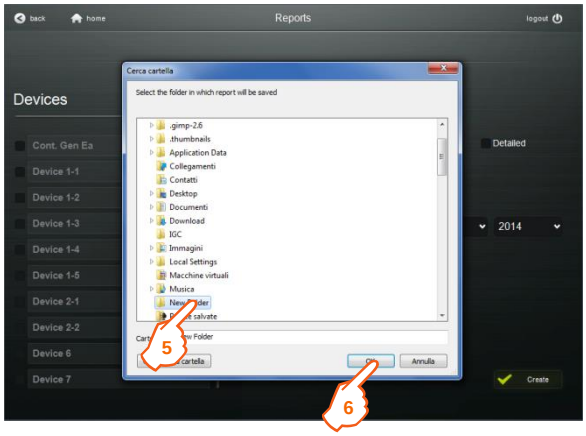


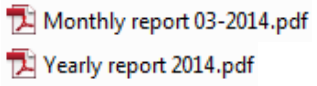
5. Select the folder where to save the file (ex. New Folder), then **6.** click "OK"

Report files are now created on your computer manipulating and grouping data from the software's database.

Note: files will contain only data correctly saved on the database of the software; if a device is in communication error state or the software is not running, consumption data won't be present on downloaded files.

In the destination folder you can find a file named:

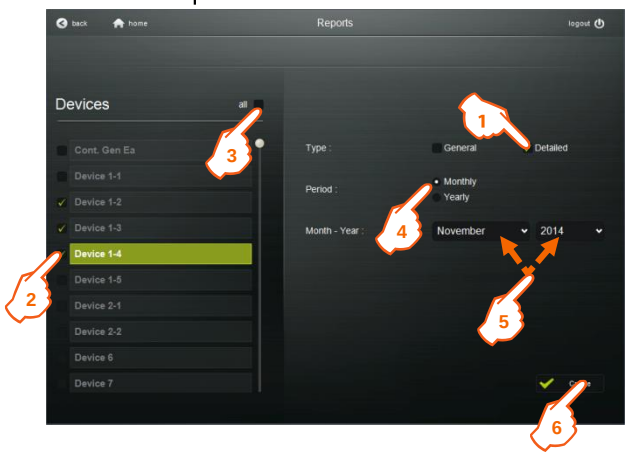
"Report type and period"



– report type: monthly or yearly

– period: month-year (for monthly reports) or year (for yearly reports)

To create a Detailed report:



1. Select "Detailed"

2. Click on the black square to select Devices one by one (last selection is highlighted in green) or **3.** click all to select all Devices / Groups or Loads at once.

4. Click to choose the report period: monthly or yearly

5. Choose month and year (for monthly reports) or only the year (for yearly reports)

Note: if the selected month is in the future, "Create" button will be disabled.

6. Click "Create" to complete the process

A pop-up window appears

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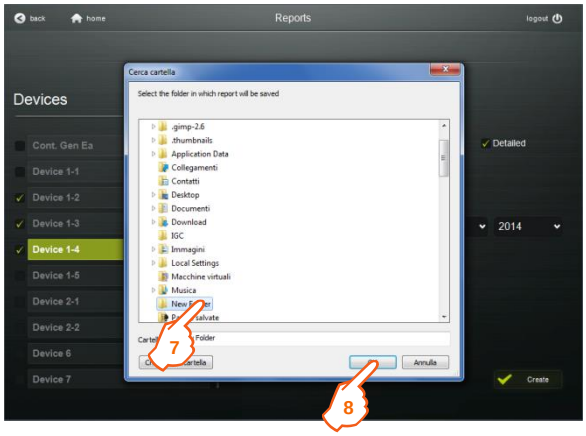
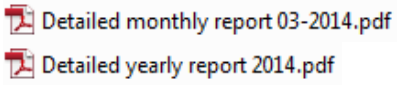


7. Select the folder where to save the file (ex. New Folder), then **8.** click "OK"
Report file are now created on your computer manipulating and grouping data from the software's database.

Note: files will contain only data correctly saved on the database of the software; if a device is in communication error state or the software is not running, consumption data won't be present on downloaded files.

In the destination folder you can find a file named:
"Report type and period"



– report type: monthly or yearly
– period: month-year (for monthly reports) or year (for yearly reports)

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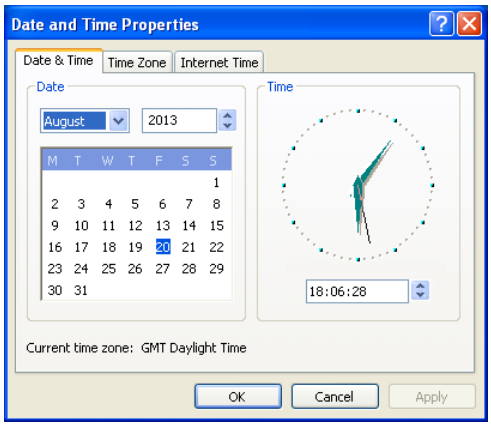
8.5 Changing date and time on the computer

Critical Operation!

This operation affect the recording of data and the creation of CSV files (risk of overwriting or loss of data).



Note: after changing date and/or time on the computer is necessary to restart the application.

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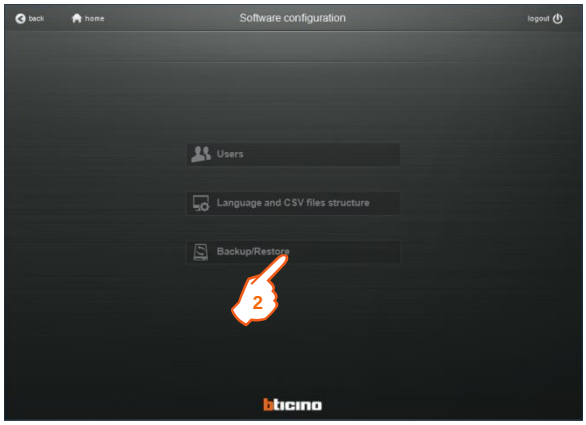
9 Backup and Restore

These procedures are used to create a backup of the device configuration and to perform the restore of a saved configuration

9.1 Backup procedure

In the Software's home page

1. Click "Software configuration"



2. Click "Backup/Restore"

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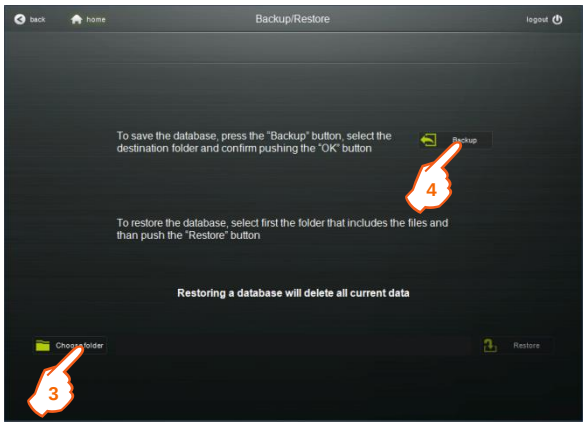
Backup and restore page appears



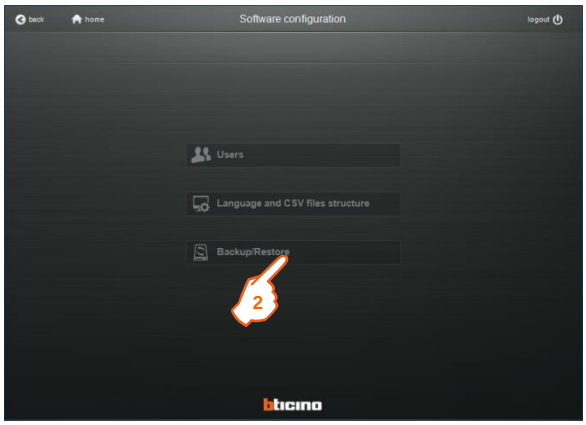
3. Choose the folder where the files will be saved and confirm the choice.
4. Click "Backup" to perform the function.

Note: not modify the folder's contents to avoid problems during the restore procedure! (names and types of files, etc..)

9.2 Restore procedure

In the Software's home page

1. Click "Software configuration"



2. Click "Backup/Restore"

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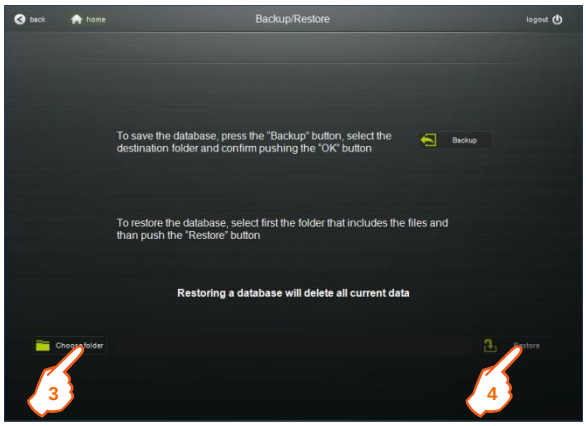
Backup and restore page appears



3. Specify the folder containing the files to restore and confirm the choice.
4. Click "Restore" to perform the function.

Note: the good result of the operation will be guaranteed only if the folder contents has not been modified after the backup (names and types of files, etc..)

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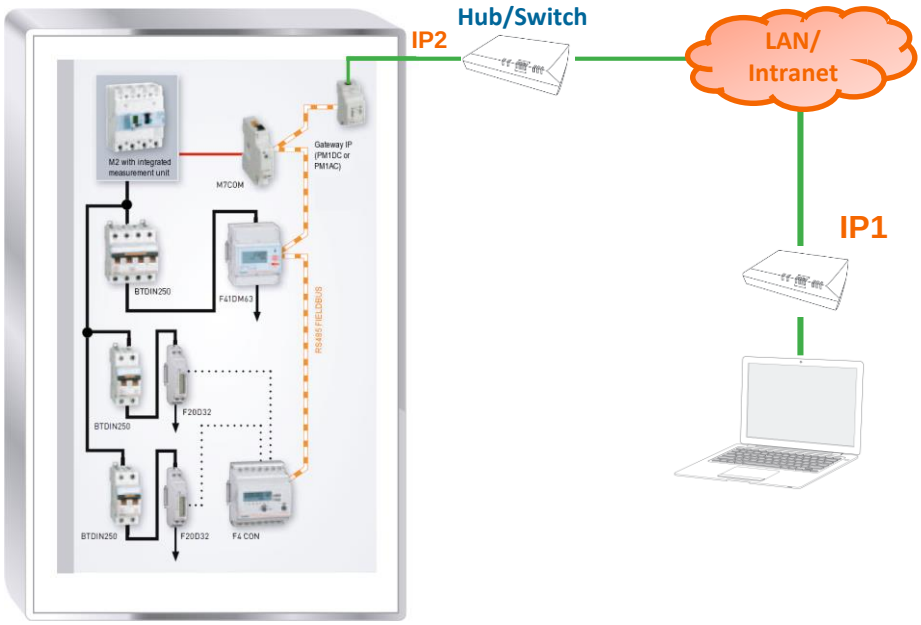
10.Network type and access mode

10.1 LAN/intranet

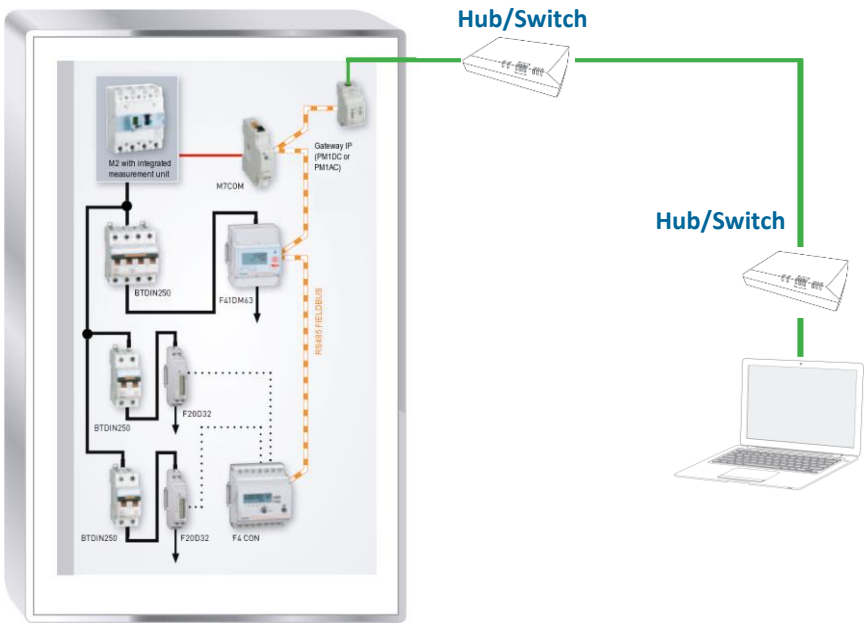
Private network

Addresses and rights managed by the Manager of the building



10.1.1 Ports

- Software/Computer to Gateway:
  – Port 502, Modbus TCP



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