USER & INSTALLATION MANUAL

SMART-R

SYSTOVI ®

BN86

SMART-R
USER SECTION

SMART-R

INTRODUCTION

SMART-R, WHAT IS IT?

SMART-R is a dedicated service for SYSTOVI solar solution users. This app lets you monitor your system's performances simply and manage them by remote.

SMART-R has been specially developed to be used on smartphones. Optimised versions for tablets and web browsers will be released during 2016.

WHO ARE WE?

Systovi is a French designer and manufacturer of solar solutions for private homes.

Our products are designed and manufactured in France (Saint-Herblain in the Loire Atlantique region) and distributed across Europe.

USES

GETTING THE APP

WHAT ARE THE APP'S OBJECTIVES?

SMART-R is an app which is able to manage your electricity, heating and hot water consumption by remote, by taking control of your solar power unit. It is also intended to provide you with more independence in managing and analysing your home's solar power solutions.

SMART-R is also able to manage, control and analyze other heating systems.

To take advantage of SMART-R, you must go to the store for your smartphone. Then, follow the procedure below, which corresponds to your mobile.

ANDROID

Google play

Go to Google Play.
Type "SMART-R" in the app search bar. A list of results will appear. Select the SMART-R app developed by SYSTOVI; this will display the app's details and characteristics.
You may then start downloading the app.
After it is installed, open it from your apps list.

iOS

App Store

Go to the App Store platform.
Type "SMART-R" in the app search bar. A list of results will appear. Select the SMART-R app developed by SYSTOVI; this will display the app's details and characteristics.
You may then start downloading the app.
After it is installed, open it from your apps list.

SUMMARY

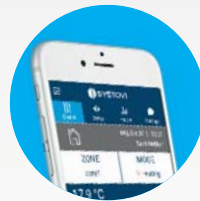## STEPS BEFORE USING SMART-R

Installation of your solar power solution and your meter by your installer

Your installer enters your data and creates your SMART-R account

Your identifier and password are sent by email

The pre-requisites are met, use the SMART-R app with your account

NEW VERSION

LATER MODIFICATIONS

SYSTOVI reserves the right to modify the SMART-R app to correspond to the development of its products and systems. This manual may therefore be out of date and no longer contain all the mechanisms available in the current app.

REGISTRATION / CONNECTION

VISITING THE SHOW-HOME
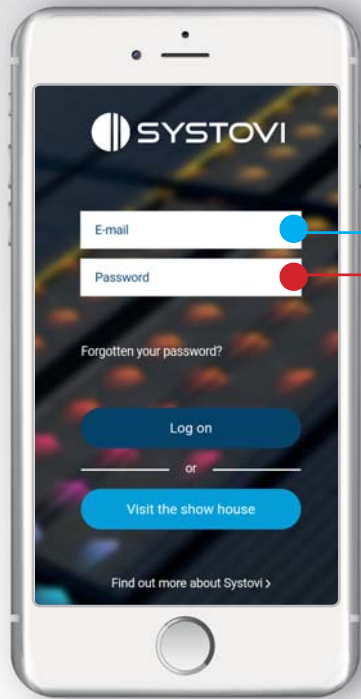
IDENTIFIERS

Once your solar power solution is installed, your installer will create a SMART-R account in your name with all the information for your solar power solution.
You will then receive an email from SYSTOVI informing you that your system is correctly connected.
This email, which you can access from your email inbox*, contains the identifiers which will enable you to connect to the app.

CONNECTION

When you use SMART-R, you must enter your email address and password:
   - The email address usually corresponds to the one you gave to your installer.
   - The password is sent to you at your email address following the creation of your SMART-R account by your installer.
Once you have entered your identifiers, click on the "Connection" button to access your space on the SMART-R app.

FORGOTTEN PASSWORD

If you lose your password you may request a new one. To do so, click on "forgotten your password" and enter your email address. If this email address corresponds to a SMART-R account, you will be sent new identifiers by email.

* The email with your identifiers may be sent to your spam folder rather than your inbox.

WHAT IS
THE SHOW-HOME?

You want to see the possibilities provided by the SMART-R app without needing to identify yourself. You may access the "Show-home Space" on the identification screen.
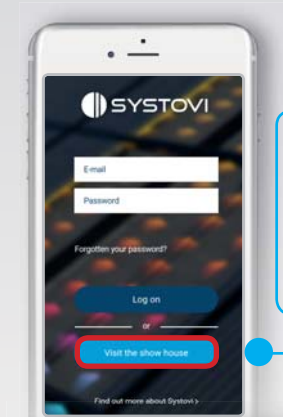
This space lets you find your way around the interface and the app's capacities. You access the account of a show-home that has a SYSTOVI solar power system and may see all its data as if it were your own home.
SMART-R provides total immersion in the app without generating any changes to your own system.

Access the show-home space with one click from the connection screen.

VISITING THE HOME

The whole interface may be accessed and viewed thanks to the show-home.
(i.e. the Menu and the Control / Status / History / Messages tabs).
See pages 9 to 18 for more information about the interface.

However, any buttons you click on in the interface, will have no effect on the show-home's solar power system.

Click on the cross in the top left of the screen to exit "show-home" mode.

FIND OUT MORE

BROWSING THE INTERFACE

SYSTOVI®
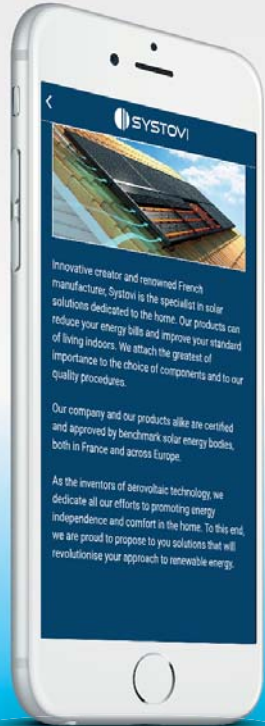
This part of the connection screen provides you with information about SYSTOVI's activity, its vision and its values.
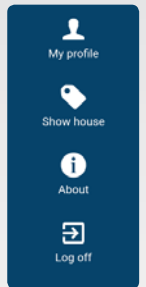
For more information about the company, visit our website:

www.systovi.com

GETTING STARTED

The app's interface is built around a menu and several tabs to access the content.

THE MENU

Contains your profile (where you can view and modify the data about you and your system), a show-home account, an About space and a disconnection button to return to the connection screen.

THE TABS

Four tabs may be accessed from the main screen (Control / Status / History / Messages). They enable you to manage, measure and analyse your system from the app, while receiving notifications from the SYSTOVI hotline.
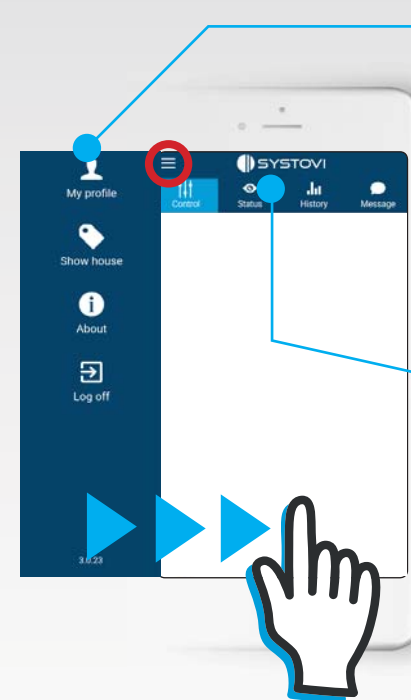
Swipe right on the screen to display the menu or use the sandwich icon

READING CONTENT

▼ Each part of the menu
▼ and tabs links to content.
▼ To read it in full in certain cases, scroll down the screen.

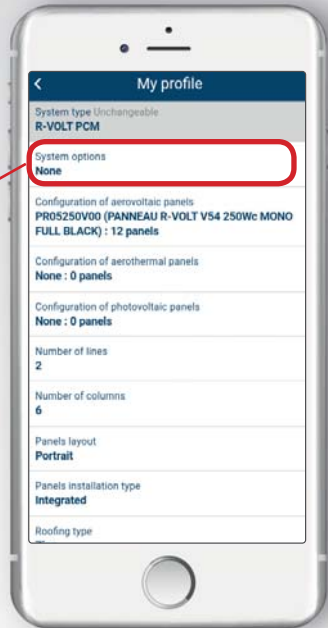## MY PROFILE

SHOW-HOME

"MY PROFILE" DATA

When you access "My Profile" from the menu, you access all your information: your details, your system, your energy consumption and production profile are entered to enable SMART-R to calculate your data as close as possible to reality.

MODIFICATIONS & SETTINGS

You may edit the information entered if it is incorrect or incomplete. To do so, select the data to be updated, then select the correct information using your smartphone's keypad.

You may modify the settings and customise the following fields:
- Your surname, first name, address, telephone number and email address
- The surname, first name, email address and telephone number of your installer
- The type of SYSTOVI system you have
- Your system data (number of aerovoltaic panels, panel layout, MAC address*, type of coverage, nature of the contract for the electricity you produce, etc.)
- The name of your zones covered by the thermostat(s)

The objective is to enable you to get the right parameters which are the closest to your solar power system and your consumption.

Select the item of data and modify it directly in the box which appears.

Confirm once
you have made your changes

*Do not change your MAC address. It connects your system to the app. If you make a mistake you can find your MAC address on the back of your thermostat.

VIEW

As stated on P.7, you may browse the interface using a show-home's data and parameters.

This part of the menu is similar in all respects to the menu detailed earlier in this manual. You may access it simply from your account, without needing to disconnect to reach it.

Click on the cross in the top left of the screen to exit the show-home.

ABOUT

ABOUT THE APP

This section provides you with information about the app and your SMART-R version.

DISCONNECTION

The disconnection button lets you exit your personal space and return to the connection screen.

SMART-R

SYSTEM CONTROL

SELECT

You may manage your SYSTOVI solar power system easily using the "Control" tab.
Modify the mode and setpoint temperature for the different thermostat zones by remote.
Simply click on the "Zone" / "Mode" and "- / +" buttons to modify the parameters.

VIEW

You may view a set of data from the "control" screen, for information about the indoor and outdoor temperature, along with the weather conditions for the area where your solar power system is located.

All of this data is updated in real time thanks to the connection with your SYSTOVI solar power system and your SMART-R unit.

THE "ZONE" AND "MODE" BOXES LET YOU CHOOSE BETWEEN SEVERAL OPTIONS; SEE BELOW:

Select a zone	Select a mode
zone1	Off
zone2	Heating
zone3	Cooling

"CONTROL" TAB PICTOGRAM GUIDE

⏻ Stop mode

☀ Heating mode

❄ Cooling mode

🔥 Available soon
Wood-fired stove heating

DATE & LOCATION

Displays the date, time and location of your solar power system.

AREA

This box lets you select the thermostat zone (living room, bedroom, etc.) required.
The different zones are numbered by default but you may customise their title in the "My Profile" menu.

MODE ⏻ ☀ ❄

Determine the thermostat mode. Three possible choices, Off / Heating / Cooling. Each one has a specific icon. (See page 12).
If the heating and cooling icons are greyed out, the mode is selected but is inactive due to other parameters (indoor temperature, temperature under the panels, etc.).

INDOOR TEMPERATURE

View the ambient temperature in the room where the thermostat is located.

SETPOINT

Select the thermostat's setpoint temperature according to the mode selected.
Use the [+] and [-] buttons to adjust the temperature by +/- 0.5° to meet your needs.

TEMPERATURES

View the temperature under the solar panels and the temperature supplied in the system. However, this temperature will only appear if the system is running. If the ⬛ icon is displayed, this means that eco-boost is operating and is providing extra heat to your system.

WEATHER

Displays the weather data i.e. the outdoor temperature, the time, the wind speed and the sun's radiation level).
The sun's radiation level is given a score to judge the quality of the weather conditions.

⚠ **SYNCHRONISATION**
The system may take 4 minutes (maximum time observed) to synchronise and send the actions you enter in the app's control tab.

SMART-R

SYSTEM STATUS

VIEW THE STATUS

The "Status" tab lets you view your system's thermal and electrical data in real time.
It also provides a view of your home's self-consumption and autonomy level.

Self-consumption: quantity of energy consumed in relation to the energy produced.

Electrical:

Electrical power consumed

Electrical power produced

Thermal:

Thermal power used

Thermal power available

Autonomy : coverage of the energy I consume by the energy I produce.

"STATUS" TAB PICTOGRAM GUIDE

Supply in progress

Solar power heating in progress

Battery charge

Electricity production

Night-time cooling in progress

Mode Off

Electricity consumption

DHW production in progress

THERMAL DATA

The thermal data related to the ventilation mode is listed here.
You have access to the air flow, the heating, hot water or cooling production status and the thermal battery charge.

The module's thermal status is indicated by the colour.
- For heating, the box turns red
- For cooling, it turns blue
- The other statuses are indicated in grey (stopping, panel ventilation, etc.) as shown below with the example of a thermal shutdown status.
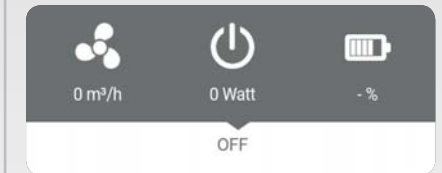
ELECTRICAL DATA

You have a summary of the electrical data. You will see the photovoltaic production and the total electricity consumption for the home, as well as the electric battery charge.

SELF-CONSUMPTION & AUTONOMY
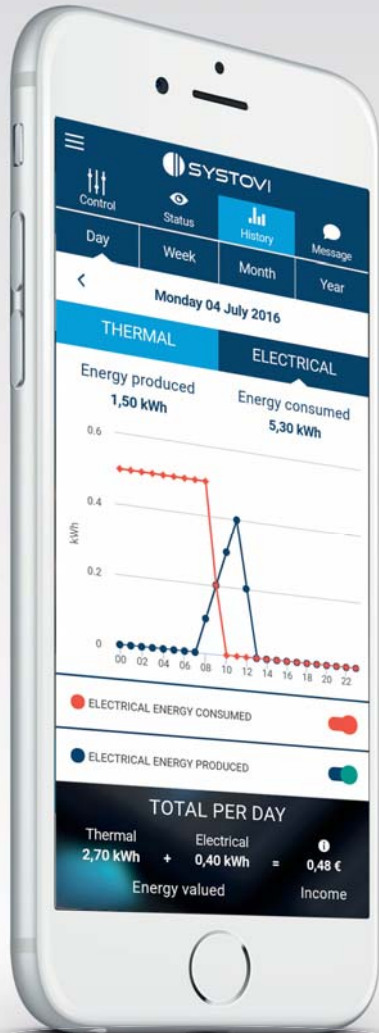
To enable you to see the effectiveness of your solar power system quickly, SMART-R provides the thermal* and electrical energy self-consumption, and autonomy levels for your home.

⚠ *Thermal autonomy calculation, functionality available soon.

SMART-R

VIEW THE HISTORY

The "History" tab lets you consult the data and measurements related to your system. For a better output, all the data are evened out over time (day, week, month and year) within the same dynamic graph.

PRECISE DATA

Depending on what you select, simply by touching the graph you can get data relating to the hour, day, week or month for the energy concerned.

INCOME ESTIMATE *

To complete the analysis of these graphs, the total income (thermal + electrical) is calculated by SMART-R over the selected period.

These results are obtained after calculation, according to your consumption modes (self-consumption/ total or partial resale) and the energy purchase price (electricity/fuel/wood/ etc.). Refer to page 18 for more information about consumption modes.

All of the data may be customised in the "My Profile" menu (in the categories "Self-consumption prices" / "Type of main heating energy" / "Main heating energy purchase prices" / etc.)
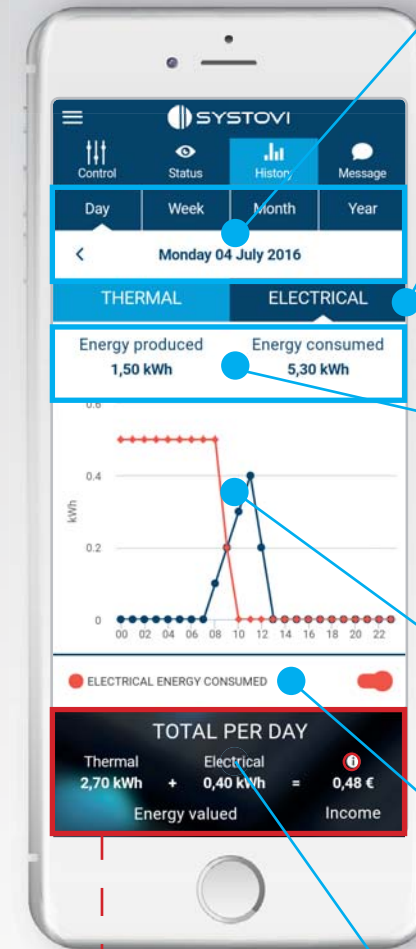
FREQUENCY

Simply touch the graph to select the period for which you want to consult the data. You may then select:
the day / week / month / year.

ENERGY CHOICE

Touch the energy of your choice, thermal or electrical, to browse the data and associated graphs.

THERMAL ENERGY *
Available & Used

View your thermal production through two criteria, the available and used energy, expressed in kWh (day, week, month or year).

ELECTRICAL ENERGY *
Produced & Consumed

View your electricity production through two criteria, the produced and consumed energy, expressed in kWh (day, week, month or year).

GRAPH

Browse the graph that corresponds to the selected energy's data.
Touch a point on the curve to see the detail of the data.

KEY

Activate or deactivate the display of the energy curves visible on the screen, using the buttons on the right of the screen.

TOTAL *

Consult the total (day, week, month or year) of the thermal and electrical income in progress. This total takes account of the converted energy self-consumed and/or sold on.
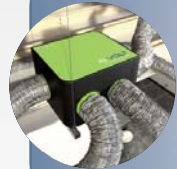
INCOME DETAILS

Simply touch the ⓘ symbol to display the calculation details for your income. Refer to page 18 for more information about the calculation.

* Non-contractual data for information purposes only.

16   17

USAGE MODES FOR YOUR ENERGY

NOTIFICATIONS

To help you understand the income calculation methods in the "History" tab, here is some more information about the different usage modes for your energy and the formula used to calculate your profit.

Self-consumption	The energy produced by your panels is consumed by your home. (The surplus energy is not converted)	Profit calculation € electrical energy consumed X energy provider purchase tariff
Feed-in tariff	You self-consume the power generated for your appliances as your number one priority and sell any surplus power to the grid.	Profit calculation € (electrical energy consumed by you x energy provider's purchase tariff) + (surplus electrical energy x resale tariff to energy provider)
Thermal energy	Your ventilation module produces thermal energy which is then supplied to your home. (The unused surplus energy is not converted)	Profit calculation € thermal energy used X purchase price for energy for your main heating system

⚠ UPDATING THE TARIFF VALUES

The default energy tariff value is updated every year. However, you may customise these values from the "My Profile" space to adjust to the tariffs you negotiate with your energy provider.

MESSAGE RECEPTION

Get the message sent by the SYSTOVI Hotline directly in the "Messages" tab.

This messages will help you keep up to date with the latest information from SYSTOVI about SMART-R improvements or interventions at your home.

Example: intervention planned at your home on 25/05/2016 at 2.30 pm.

PUSH NOTIFICATIONS

A notification will be highlighted automatically when each message is received from the SYSTOVI Hotline.

USAGE INSTRUCTIONS

BEST PRACTICE

To get the most out of the SMART-R app and your solar power system in general, we recommend that you follow these instructions:

- In self-consumption mode, you must pay attention to the sun's radiation level to get the most out of your equipment. You can forget about peak / off-peak hours.

- Do not expect the system to supply a high level of thermal energy when the energy available under the panels is much lower.

- Use cooling mode to get cool air in the summer.

SMART-R
INSTALLER SECTION

SMART-R

GENERAL INFORMATION

Thank you for placing your trust in SYSTOVI® for your connected aerothermal or photovoltaic installation. If this manual does not answer all your questions, please get in touch with your SYSTOVI ® contact.
The following instructions are intended to guide the user while preparing and carrying out the work. During installation, observe the safety instructions provided in this manual.

⚠ We cannot be held responsible for any modifications or any use that does not comply with the assembly requirements.
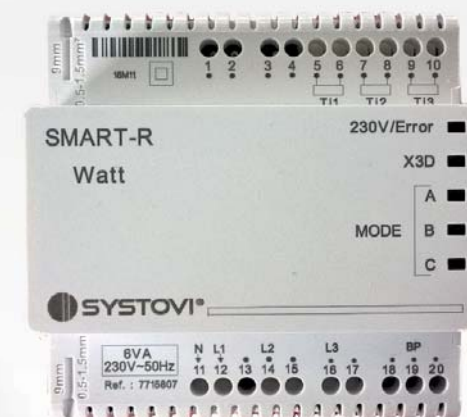
GENERAL INFORMATION

MESSAGE RECEPTION

The SYSTOVI SMART-R solution is the only solution compatible with SYSTOVI energy management modules (Modul-R).

To install the solar cover, please refer to the "cover (BN52)" assembly manual.
To install the ventilation and supply system, please refer to the "cover (BN76)" assembly manual.

You need this assembly manual to install and commission the SMART-R solution in your Customer's home.

DELIVERY & PACKAGING

The energy meters, the Wi-Fi unit and the accessories must be handled carefully and stored suitably.

If the packaging is damaged during transport, as soon as you receive it you must provide your reserves to the carrier and inform them of your reserves by registered letter within 48 hours. Check the content of the packaging before you start installing the elements. The packaging materials must be disposed of in accordance with current regulations.
.

INSTALLATION AND USER MANUAL STORAGE LOCATION

This installation and user manual must be given to the installation's user and must be kept in a visible location inside the technical premises.

⚠️

WARNING

The SMART-R system must be installed by specialist, qualified assembly staff who are bound to observe legislation, current requirements, accident prevention rules, the general applicable technical rules and the corresponding standards.
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SAFETY INSTRUCTIONS & SYMBOLS

The pictograms have the following meanings:

Caution!
Danger to health, the environment or the product.

The electrical connection must be performed by qualified personnel.

The solar panels and the energy management module must be carried by two people.
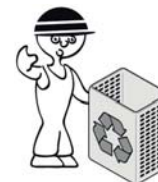
Dispose of packaging according to current regulations and standards and comply with environmental waste recycling requirements. SYSTOVI product packaging may be recycled.

STANDARDS AND DIRECTIVES

When planning, installing and commissioning the SMART-R system, in addition to current standards you must also observe any applicable regional regulations. In addition, the whole installation must be installed according to the general technical rules:
• Accident prevention, electrical installation and equipment protection regulations
• Accident prevention and construction work protection regulations
• Fire behaviour for construction materials and elements
• Specifications for the execution of low voltage electrical installation, premises, wet spaces and open air installations
• Installation and commissioning of earthing networks

SMART-R

SMART-R SYSTEM PRESENTATION

3/ The thermostat is used to regulate and transmit ventilation data to the energy management module (Modul-R). It also receives operating parameters from the app to synchronise with any changes made.

Maximum 4 minutes between each information transmission from the thermostat to the smartphone or vice versa.

Smart-R Watt
Energy
meter module

1

Electronic board

3

Thermostat

5

Smartphone with app SMART-R,

Wi-Fi unit

4

Electrical panel

Inverter

2

Modul-R
Energy management module

Web server

Heating system

1/ The SMART-R Watt is an energy meter module which recovers the data relating to your electricity consumption and production, and sends it to the energy management module. This is all done by radio transmission.

2/ The energy management module (Modul-R) receives the data from the SMART-R Watt, the thermostat and the web server thanks to the connection with the Wi-Fi unit. It may also send data to these appliances.

4/ The Wi-Fi unit is connected to the ventilation module by Ethernet cable. It sends and receives data via Wi-Fi and communicates with the dedicated web server, the thermostat and the SMART-R Watt.

5/ The SMART-R app communicates with the web server to receive the data from the solar power system almost instantly. The instructions sent from the app also travel over the web to be applied on the module and the thermostat.

SMART-R

EQUIPMENT PRESENTATION

MONOPHASE KIT COMPOSITION - EL11

The new installation SMART-R kit
is composed of:

- 1 Wi-Fi unit including a manufacturer's manual and an Ethernet cable (E121)
- 1 SMART-R Watt including a brief manual (E108)
- 2 closed intensity transformers (E 122 / E102)
- 1 User and installation manual (BN86)
- 1 230V plug (E120)

RETROFIT MONOPHASE KIT COMPOSITION - EL12

The existing installation SMART-R kit
is composed of:

- 1 Wi-Fi unit including a manufacturer's manual and an Ethernet cable (E121)
- 1 SMART-R Watt including a brief manual (E108)
- 2 Closed intensity transformers (E 122 / E102)
- 1 User and installation manual (BN86)
- 1 Standard electronic board (E098)
- 1 Ambient thermostat (E100)
- 1 230V plug (E120)

To install and configure the three-phase kit, please refer to the SMART-R instructions available at SYSTOVI.COM

SMART-R WATT (E108)

The SMART-R Watt lets you take the following monophase measurements:
 - Instant power in Watts (up to 3 measurements maximum / SMART-R Watt)
 - Energy in Watts per hour (up to 3 measurements maximum / SMART-R Watt)
A monophase measurement enables a maximum instant power of 13800 Watt to be measured.

The SMART-R Watt lets you take the following three-phase measurements:
 - Instant power in Watts (up to 1 measurement maximum / SMART-R Watt)
 - Energy in Watts per hour (up to 1 measurement maximum / SMART-R Watt)
A three-phase measurement enables a maximum instant power of 41400 Watt to be measured.

WI-FI UNIT (E121)

The Wi-Fi unit is used to connect the energy management module (Modul-R) to your customer's wireless Internet box. You just need a 230 V socket less than 20 cm from the energy management module.

NB: This component's reference may change over time

OPEN TI (E122 / E102)

An Open Ti is an open intensity transformer that is used to measure the current that passes through a phase without uncabling. It is connected to one of 3 inputs (Ti1, Ti2 or Ti3) on the SMART-R Watt.

Measuring range: 0 - 60 A
Diameter: 16 mm
Tolerance: +/- 2.5 % over the range 0 – 13800 Watts
Cable length: 50 cm

Color for reference E 122 : Black and Red
Color for reference E102 : White and Blue

SMART-R

CONNECTING THE ENERGY MANAGEMENT MODULE BOARD (MODUL-R) TO THE WEB

TWO POSSIBILITIES FOR CONNECTING THE MODUL-R TO THE WEB

Choice 1/ Direct connection to the router via an Ethernet cable (not supplied). In this case, no configuration is required.

Choice 2/ Use the Wi-Fi unit (supplied).
In this case, you must configure the Wi-Fi connection between the Wi-Fi unit and the installation's router. To do it, use the quick installation guide supplied with the Wi-Fi module.
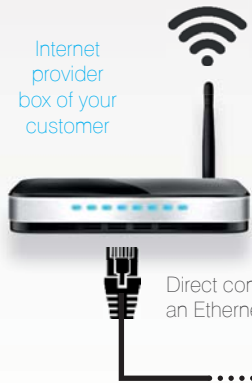
Check that the Wi-Fi connection is established with the router. (Green router connection light). If in doubt, you may perform a web connection test using a laptop computer connected by the Ethernet cable to the Wi-Fi module.

Choice **2**

Wi-Fi unit

Modul-R
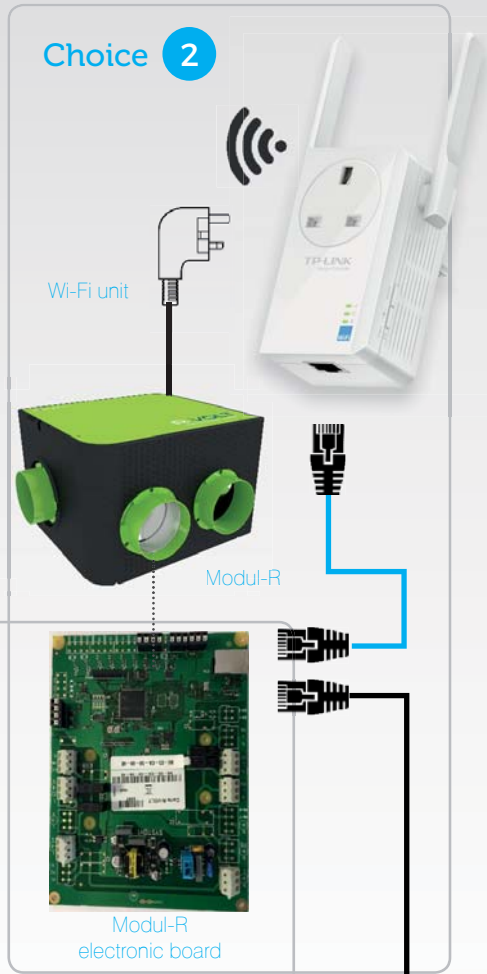
Internet provider box of your customer

Choice **1**

Direct connection to the router via an Ethernet cable (not supplied).

Modul-R electronic board

SMART-R

INSTALLING THE SMART-R WATT (MODE NO. 1 - PRESET AT THE FACTORY)

To measure the production of photovoltaic panels and the consumption of the customer home with SMART-R Watt in monophase

INSTALLATION STEPS

1/ Turn off the Modul-R you just connect to the Web.

2/ Open your box and unscrew its front to access the entire SMART-R Watt. Install SMART-R box near the electrical panel (about 1 meter).

3/ Make connections of current transformers open as shown in the diagram P 30-31. Connect the pre-wired to the house electrical network with plug 230 V.

4/ Make sure the SMART-R Watt inside the box displays the correct configuration (Mode No. 1 - Factory configuration). If this is not the case, refer to Appendix P36 to set the mode.

5/ You are now ready to pair it.

2

Ø advisable
< 1 meter

3

SMART-R Watt

230V/Error
X3D
A
MODE B
C

SYSTOVI

6VA
230V~50Hz
Ref. : 7715807

5

230V light is green
The "A" and "B" LEDs are off and the C LED is on.
The SMART-R Watt is configured in Mode No. 1 (if this is not the case, change Mode, see P.36).
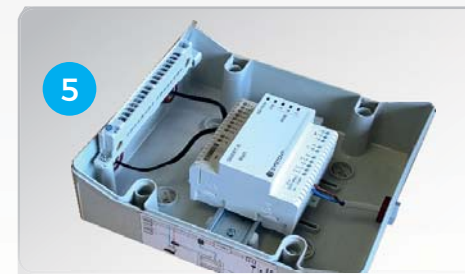
SMART-R

KEY :

+ ----- **Feed-in-Tariff** .... **Self-Consumption** ◯ **Details**

Consumption meter

Low voltage general panel.

N

L 1

Open current transformer (E122)

If your reference is E102, red wire is the blue one & black wire is the white one

Mains connection

N

L 1

Resale meter

Open current transformer (E122)

If your reference is E102, red wire is the blue one & black wire is the white one

Production

Consumption

AC / DC

Electrical and photovoltaic installation protection unit

Production   Consumption

SMART-R Watt in its box

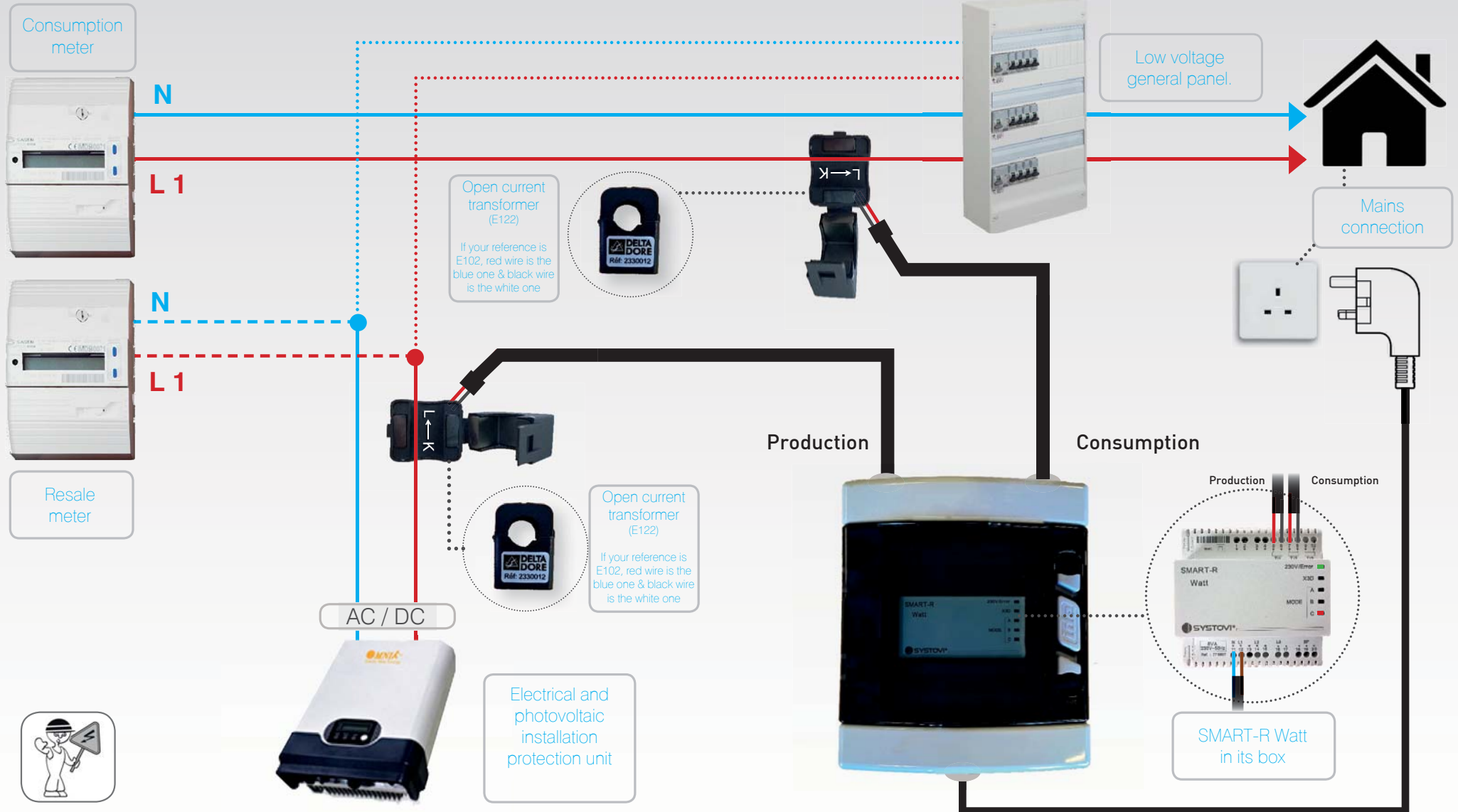30   31

SMART-R WATT
RADIO FREQUENCY PAIRING

CHECKING THE INSTALLATION

PAIRING PROCEDURE

1/ Switch off the Modul-R (energy management module) then switch it back on again (it switches to pairing mode)

⚠ Warning: If you need to pair multiple Smart-R Watt, you have to pair them in order.

2/ Power up the SMART-R Watt (if it wasn't already) and check that the green "230V~/ Error" LED is on fixed.

3/ On the SMART-R Watt to be paired, push the button for 10 seconds until the red "X3D" flashes, then release the button.
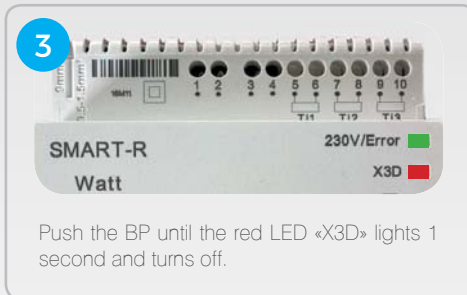
NB: The red "X3D" LED remains on for 1 second then switches off.

4/ On the Customer's thermostat, go to the panel temperature display screen

5/ Check that the Radio pictogram 📶 has disappeared and that values are displayed instead of dashes

6/ This indicates that your SMART-R Watt is paired to the ventilation module's electronic board
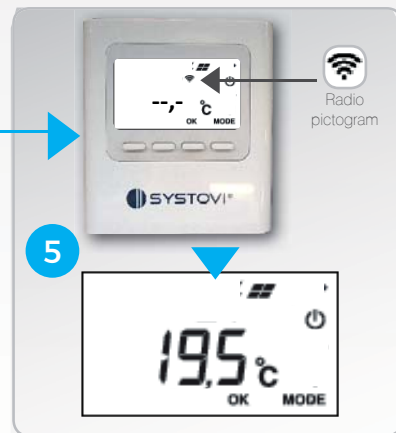
7/ Repeat actions 1 to 6 to pair each SMART-R Watt

2

SMART-R   230V/Error ▪

3

SMART-R   230V/Error ▪
Watt   X3D ▪

Push the BP until the red LED «X3D» lights 1 second and turns off.

⚠ Take the thermostat with you to make the operation easier.

Radio pictogram

5

Checking that production of PV modules and single phase customer consumption are reported in the SMART-R Watt box.

CHEKING STEPS

1/ Now that SMART-R Watt is paired, disconnect the inverter from the network, and then, turn on a light housing (the objective is to verify that SMART-R Watt calculates housing consumption).

2/ Wait 3 minutes to let SMART-R Watt synchronizes information that it calculates with the thermostat.

3/ Look at the thermostat and press «OK» button until the display C--- appears. Repeat the process several times to find all system codes noted by the thermostat.

Two cases:
- No system code appears, or different system codes than C094 appears on the screen (skip to step 6 /)
- The C094 system code appears, continue to step 4 / and 5 /.

4/ The system code C094 indicates that you have to reverse the Neutral phase of the female outlet. To do this, unplug SMART-R Watt and perform wiring.

5/ Note that system code C094 system disappeared after the thermostat wiring and reconnecting the SMART-R Watt.

6/ Reconnect the inverter and check on the thermostat (power generation menu, real time) that the production is the same than the one displayed on the thermostat.
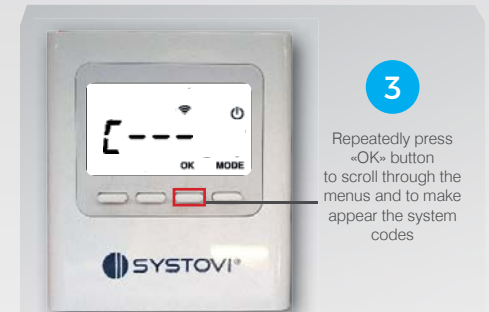
3

Repeatedly press «OK» button to scroll through the menus and to make appear the system codes

⚠ The thermostat has rotating menus that are updated only by scrolling through menus with «OK» button. To see all the system codes, you have to make appear the «system codes» menu several times with the manipulation described above.

1256 w

6

From «system code» press 2 time «OK» button to navigate to the «power generation real time» menu.
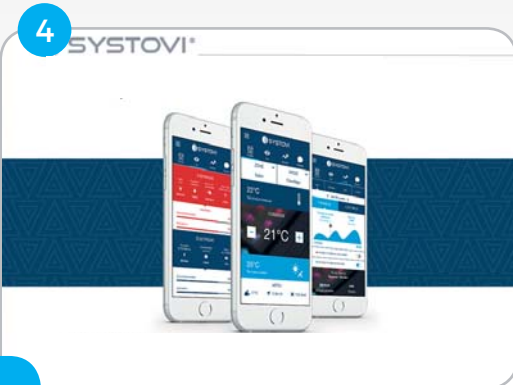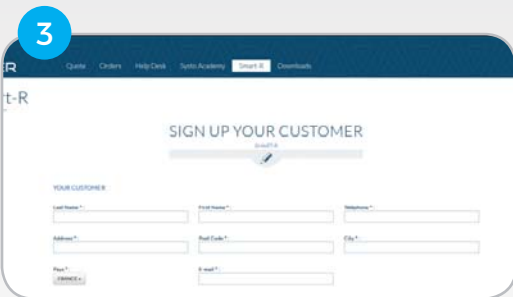
⚠ Once the SMART-R Watt connected and operational, do not disconnect the 230V plug

THE ELECTRICAL CONNECTION IS FINISHED. YOU NOW HAVE TO REGISTER SMART-R SYSTEM TO ACTIVATE THE ACCOUNT

SMART-R REGISTRATION

USING THE TOOL
PROVIDED WITH SMART-R

① http://www.systotoit.com

SYSTOPARTNER

③

SIGN UP YOUR CUSTOMER

YOUR CUSTOMER

④

SYSTOVI®

SMART-R REGISTRATION IN THE DATABASE

Once the installation is completed, you have to register the SMART-R of your customer to activate his account.

To do it :
1/ Go to your SystoPartner area to the following address: WWW.PRO-SYSTOVI.COM

2/ Once you have logged in, click on "SMART-R" tab; a registration form appears.

3/ Fill in the fields with your customer's data and confirm.
Make sure you do not forget the IMAC code, which is the key for the link between the system of your customer and his SMART-R account.

4/ You will receive an email after 15 minutes. Several cases are possible:

- The system is valid. An email is sent to you to certify that the account has been created and the installation is connected.
A message is also sent to the customer to inform him that his system is fully connected.

- The account is created but does not communicate with the system of your customer. An email is sent to you in order to inform you about the procedure to follow and remind you of the SYSTOVI hotline number if needed.
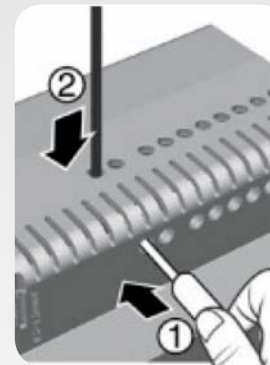
Once the problem is solved, you will receive an email to confirm that the installation is correctly monitored and a validation email has been sent to your customer.

THE SMART-R INSTALLATION IS COMPLETE.

The tool provided allows to modify the electrical connections and change operating modes of SMART-R Watt

1) Change electrical connections, if neccessary

① Press with the tool

② Insert your cable and release the tool
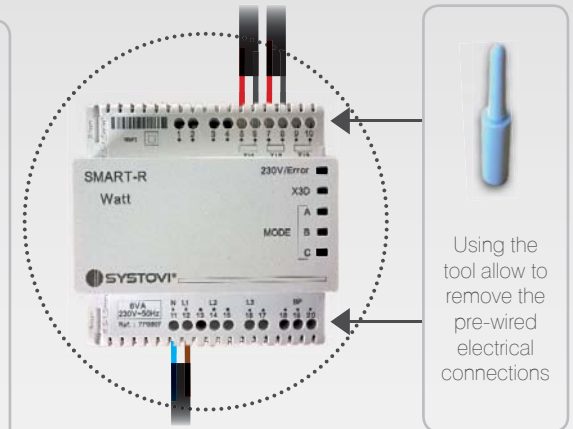
Using the tool allow to remove the pre-wired electrical connections

⚠ we do not engage our responsibility if pre-wired electrical connections are modified by yourself.

2) Changing the mode of operation

If the mode No. 1, pre-set at the factory, is not suitable for the installation, there is a possibilty to change the mode of SMART-R Watt to suit all eventualities.
More details Pages 36-37.

APPENDIX

SMART-R

CHANGING SMART-R WATT
OPERATING MODE

CHANGING OPERATING MODE

By default, ex-factory, the SMART-R Watt is configured in mode No. 1, i.e. the "C" LED is on fixed in red. Proceed as follows if you want to change the SMART-R Mode:

1/ Hold down the SMART-R Watt's push button for over 3 seconds until all the LEDs flash, then release the button within 10 seconds. (Otherwise you will switch to pairing mode). The green "230V~/Error" LED keeps flashing.

2/ You are now in SMART-R Watt configuration mode.
Each time you press the push buttons corresponds to confirming the incremented Mode.

Examples:

I am in Mode No. 0
(no "MODE" LEDs are on in flashing red)
one push on the button enables me to access Mode No. 1.

I am in Mode No. 5
("MODE A and C" LEDs are on in flashing red)
Two pushes on the button enable me to access Mode No. 7.

Refer to the page opposite to understand the Mode sequence.

1

Press and hold for over 3 seconds

CONFIGURATION MODE

2
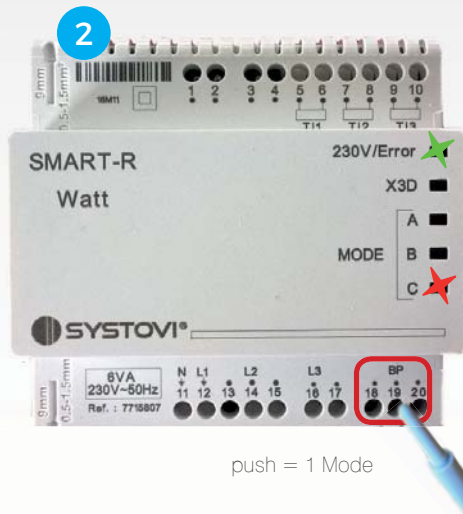
push = 1 Mode

CONFIGURATION VALIDATION

3

Press and hold for over 3 seconds.

3/ Keep the button held down (>3sec.) until the LEDs stop flashing.

The SMART-R Watt is now configured in the required mode (above in Mode No. 1)

UNDERSTANDING THE MODE SEQUENCE

MODE No. 7
MODE No. 0
MODE No. 6
MODE No. 1
MODE No. 5
MODE No. 2
MODE No. 4
MODE No. 3
Factory config.
Button push
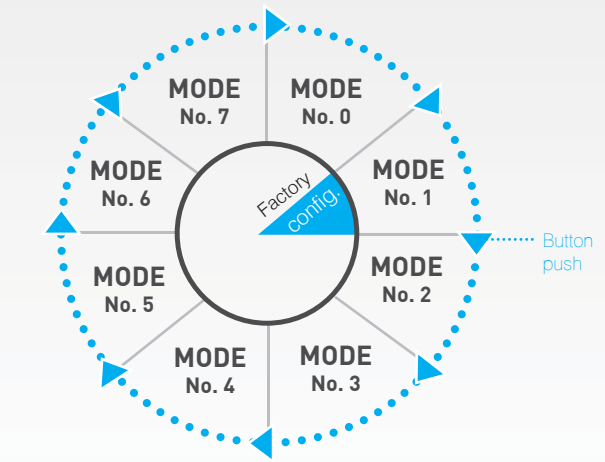
The Modes are always configured clockwise. After Mode 7 you return to Mode 0.

MEANING OF THE SMART-R WATT LEDS

MEANING OF THE SMART-R WATT LEDS

Configuration selected   Corresponding LEDs on SMART-R Watt

Mode No. 0: 3 monophase meter channels

Ti1 / L1 channel: Production meter
Ti2 / L1 channel: Consumption meter
Ti3 / L1 channel: Meter No. 3

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 1: 2 monophase meter channels

Ti1 / L1 channel : Production meter
Ti2 / L1 channel : Consumption meter
>> Factory configuration

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 2 No. 1 meter channel in monophase

Ti1 / L1 channel: Production meter

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 3: No. 2 meter channel in monophase

Ti2 / L1 channel: Consumption meter

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 4 No. 3 meter channel in monophase

Ti3 / L1 channel: Meter No. 3

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 5: 3 meterchannels in three-phase

Ti1 / L1 channel: Production meter
Ti2 / L2 channel: Production meter
Ti3 / L3 channel: Production meter

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 6: 3 three-phase meter channels

Ti1 / L1 channel: Consumption meter
Ti2 / L2 channel: Consumption meter
Ti3 / L3 channel: Consumption meter

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

Mode No. 7: 3 three-phase meter channels

Ti1 / L1 channel: Meter No. 3
Ti2 / L2 channel: Meter No. 3
Ti3 / L3 channel: Meter No. 3

230V-   Sector presence
X3D   X3D Communication
         Counting Mode

MAINS PRESENCE

| - Green LED off: SMART-R Watt badly connected to the 230V network   or there is no voltage on the 230V network | 230V- ├ Sector presence |
| - Green LED on fixed: SMART-R Watt connected to the 230V network and there is voltage on the 230V network | 230V- ├ Sector presence |

X3D

- LED off: Product not paired, no communication, following pairing after LED switched on for 1 s.	X3D ├ X3D Communication
- LED on fixed for 1 s: After holding down the button for 10 s (Pairing phase).	X3D ├ X3D Communication
- LED flashing 500 ms ON / 500 ms OFF: During an X3D communication.	X3D ├ X3D Communication

CONFIGURATION

| - Green LED flashing 250 ms ON / 250 ms OFF: meter in configuration mode. | 230V- ├ Sector presence |

PRODUCT DELIVERY

The product is delivered with Mode No. 1 configured by default
and the meter at 1 Wh on the infinite meter.

METER CONFIGURATION

Hold down the button for between 3 and 10 seconds, green LED flashes
from 3 seconds.
As soon as the green LED flashes, release the button => The green
LED configuration mode stays flashing.

Once in configuration mode, each button push corresponds to a
configuration (1 push => config 0, 2 pushes config 1, etc.), display of
the corresponding flashing configuration LEDs.

Once the configuration is selected, holding down the button for over 3
seconds confirms the choice=> the green LED stops flashing and the
meter LEDs become fixed.

PRODUCT PAIRING

- Set the energy management
module to wait first (switch
the module off then on).

- Hold down the button for
over 10 seconds.

- As soon as the X3D fixed
LED appears (display 1s),
release the button.

GLOBAL CONTROL
HEATING SYSTEM AND DOMESTIC HOT WATER

ALL SYSTEMS CONSIDERED

CONTROL OF THE HEATING SYSTEM AND DOMESTIC HOT WATER WITH SMART-R

In addition to track the performance of the solar system, it is possible to take control of the heating system and hot water with the SMART-R application and thermostat.

Indeed, SMART Watt-R is compatible with any types of systems.
SMART-R solution is able to control, measure and analyze the performance of all energies in the house.

To make it work, you need to add a special reference with your heating and / or hot water systems as explained hereinafter

⚠ To know which special reference to use, please refer to the guide on page 42. All systems considered should be compatible with SMART-R by the end of 2016.

When connected properly, the box communicates directly with the SMART-R application, the thermostat and the Modul-R. The production and consumption data will be accurately known. All these data are viewable with the mobile app.

Moreover, it is possible to manage the heatings and hot water systems directly with your smartphones, tablets and thermostat.

Sending and data analysis

Connection box for heating systems

Mobil app & Thermostat

Control of the systems

Electric heaters

Boilers

Heat pump

Thermodynamic boiler

Electric hot water tank

Gas meter

SMART-R

REFERENCE GUIDE
FOR GLOBAL CONTROL OF THE HOME

NOTES

As previously seen, it is possible to monitor, measure and analyze all heating and hot water systems with SMART-R.

To make it real, each system needs a special reference to transmit and receive data. Discover below the guide of the different references required (available by the end of 2016).

GUIDE

Home system	Reference required
Thermodynamic boiler	Tyxia 4910
Electric hot water tank	Tyxia 4910
Non-reversible heat pump system **(Single zone)**	RF 6000
Reversible air-conditioning heat pump system **(Single zone)**	RF 6500
Electric heaters (Contact 16A)	RF 6000
Electric heaters **(pilot wire)**	RF 4890
Electric heating floor or Electric heaters **(Contact 10A)**	RF 6600 FP
Boiler (Single Zone)	RF 6000
Gas meter	Tywatt 5100

⚠️ To get the detailed installation instructions for each reference, please visit our website systovi.com/en/
All reference manuals will be available for download by the end of 2016.

SMART-R

SYSTOVI®

Systovi is a French designer and
manufacturer of solar solutions for
private homes.
Our products are designed and
manufactured in France (Saint-Herblain)
and distributed across Europe.