



# the easy solution for Smart Metering

A large, stylized, light gray letter 'S' with a white outline, positioned on the left side of the slide.

**sinapsi**  
i n v e n t   t o d a y

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[www.sinapsitech.it](http://www.sinapsitech.it)

# EQUOBOX

## WHAT IT IS

EQUOBOX is a system for metering energy and other resources in a building allowing the allocation of running costs in compliance with UNI 10200.



water



renewable



gas



garbage



heat/cool



electricity



RESIDENTIAL



COMMERCIAL

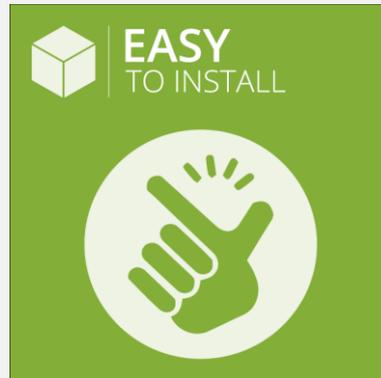


INDUSTRIAL



# EQUOBOX

## STRATEGY



# EQUOBOX

## TO WHOM IT IS DIRECTED



# EQUOBOX

## WHAT IT IS COMPOSED OF



### LEVEL CONVERTER M-Bus

- ⌘ Master function for M-BUS cable networks with 60 physical devices modularity\*
- ⌘ Stand-alone operating mode combined with SW EQUOBOX TOOLKIT for data consultation coming from meters
- ⌘ Operating slave mode for M-Bus / W.M-Bus RTU and RTU EVO



### RTUs

- ⌘ Web server with LCD display for acquisition and datalogging from the meters in the field
- ⌘ Specific model for each type of installation (M-Bus wired / RF, RS485 wired)
- ⌘ Acquisition of data directly or via LEVEL CONVERTER



### GAMMA EVO

- ⌘ Web server compliant with the highest security standards (https, SSL, ftps)
- ⌘ Color graphic display
- ⌘ Communication with the field via RS232 / RS485 / M-Bus / sinapsitech® / ethernet / wi-fi \*
- ⌘ I / O support for energy efficiency scenarios
- ⌘ Integrated Wi-fi (access point / client) & mobile-compatible web application
- ⌘ Compatible with Sinapsi Global Hub IoT Platform



### SMART REPEATERS

- ⌘ Gateway for data acquisition from W. M-Bus 868 / 169MHz meters / heat cost allocators / sensors \*
- ⌘ Supports T / S / C communication mode
- ⌘ Led for real-time display of sinapsitech® backbone signal level \*
- ⌘ GPRS modem with integrated SIM for Sinapsi Global Hub IoT Platform communication \*
- ⌘ Working in stand-alone mode using TOOLKIT software

# LEVEL CONVERTER M-BUS

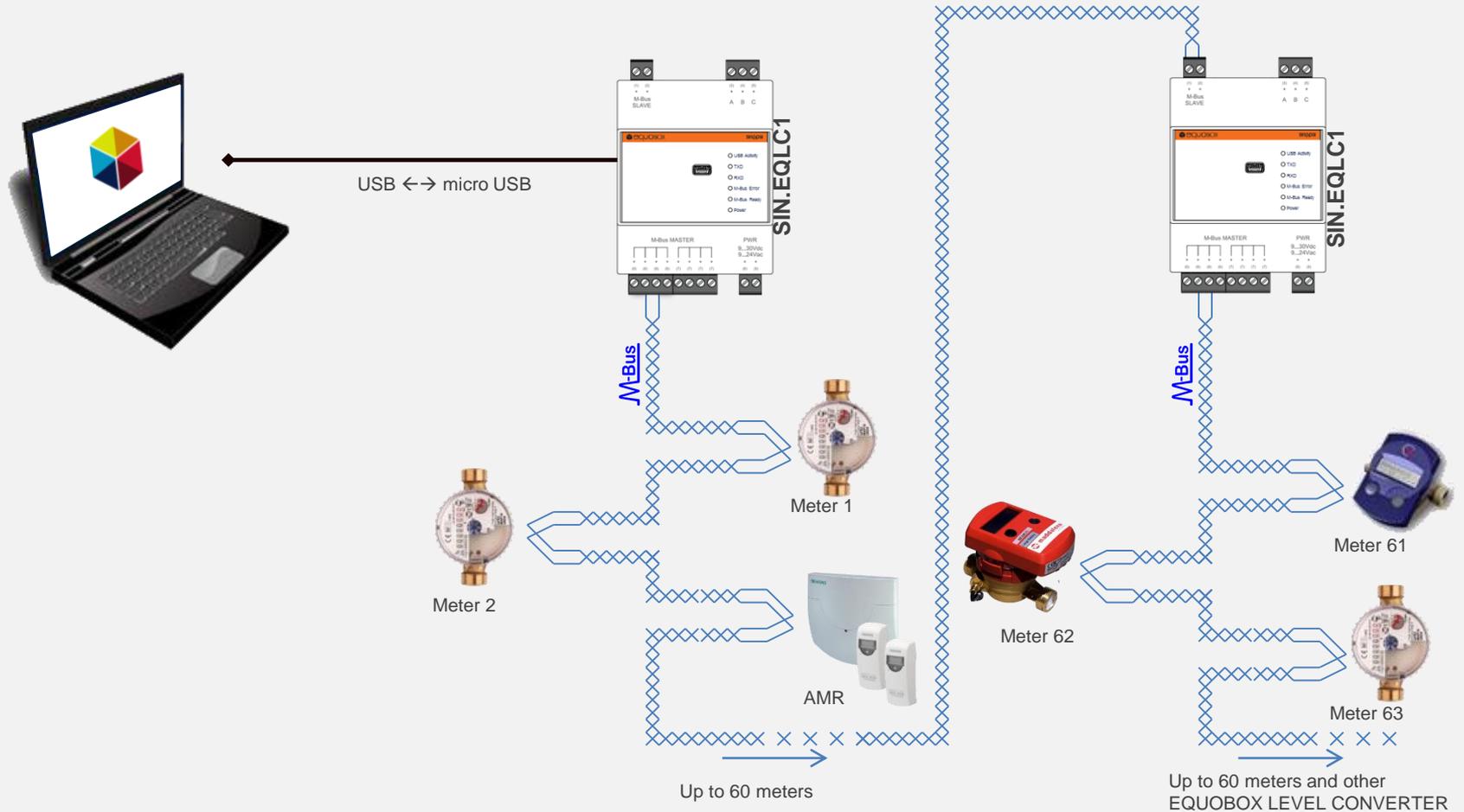
## GENERAL FEATURES

- ⌘ Master function for M-Bus wired networks with modularity of 60 physical devices
- ⌘ Expandable without limitation serial connection modules twins
- ⌘ No local memory
- ⌘ 24Vac / dc power supply
- ⌘ Interrogation via PC with USB cable and software EQUOBOX downloadable free of charge from [www.sinapsitech.it](http://www.sinapsitech.it) for exporting data in csv, xls



# EQUOBOX M-Bus LEVEL CONVERTER

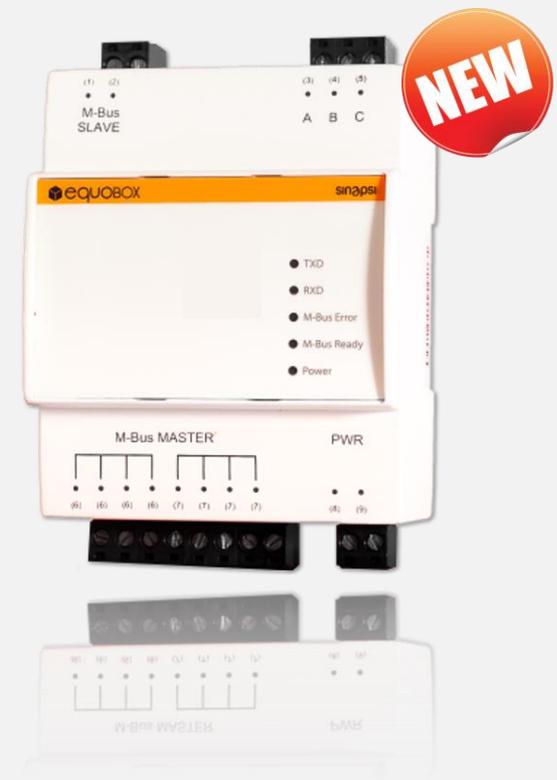
## EXAMPLE SCHEMA



# LEVEL CONVERTER M-BUS 250

## GENERAL FEATURES

- ⌚ Master function for M-Bus cable networks with 250 physical devices
- ⌚ Booster / repeater function via M-Bus slave port
- ⌚ No local memory
- ⌚ 230Vac power supply via included power pack
- ⌚ RS232 / RS485 port (selectable by dedicated selector) for slave operation

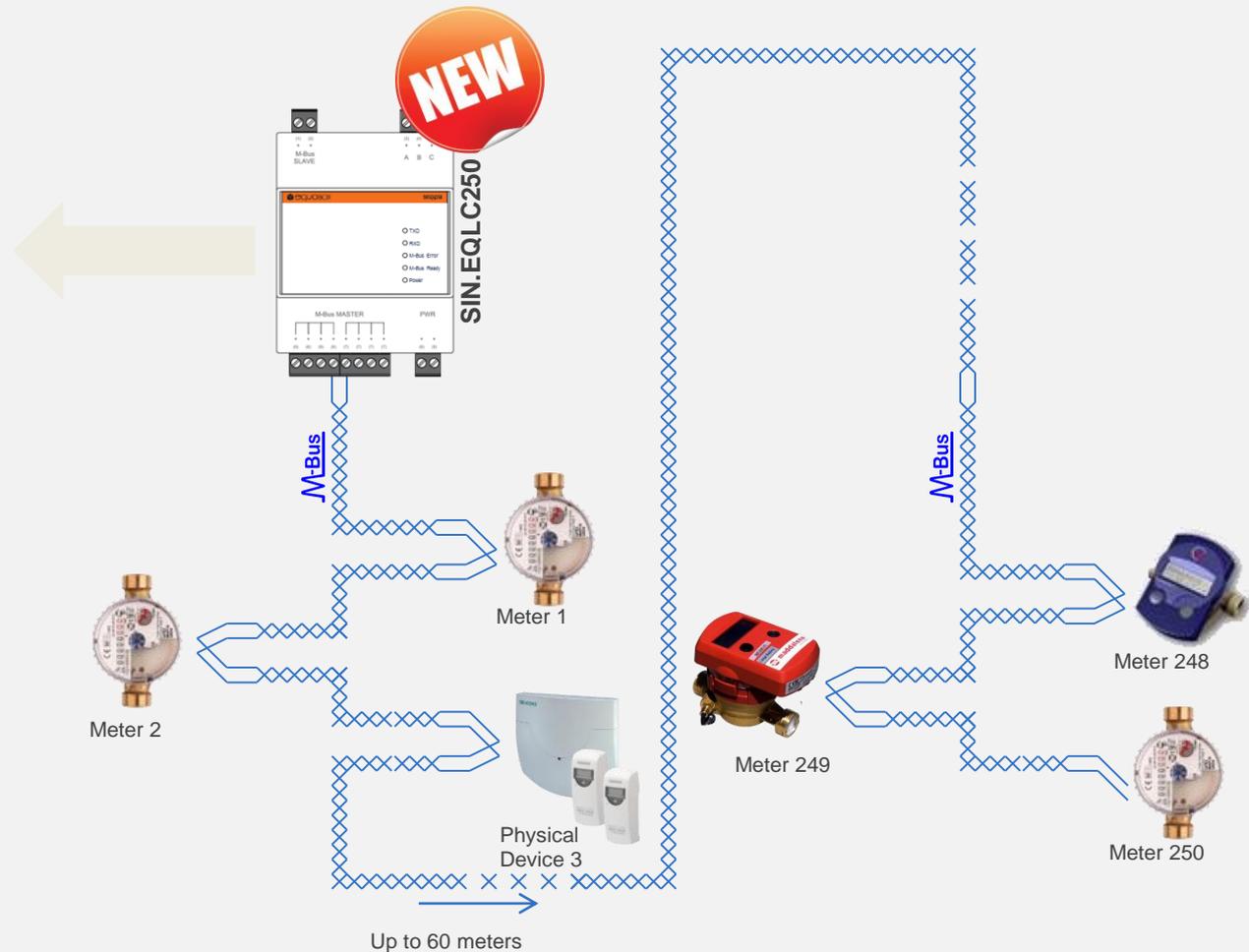


# LEVEL CONVERTER M-BUS 250

## EXAMPLE SCHEMA

Communication via:

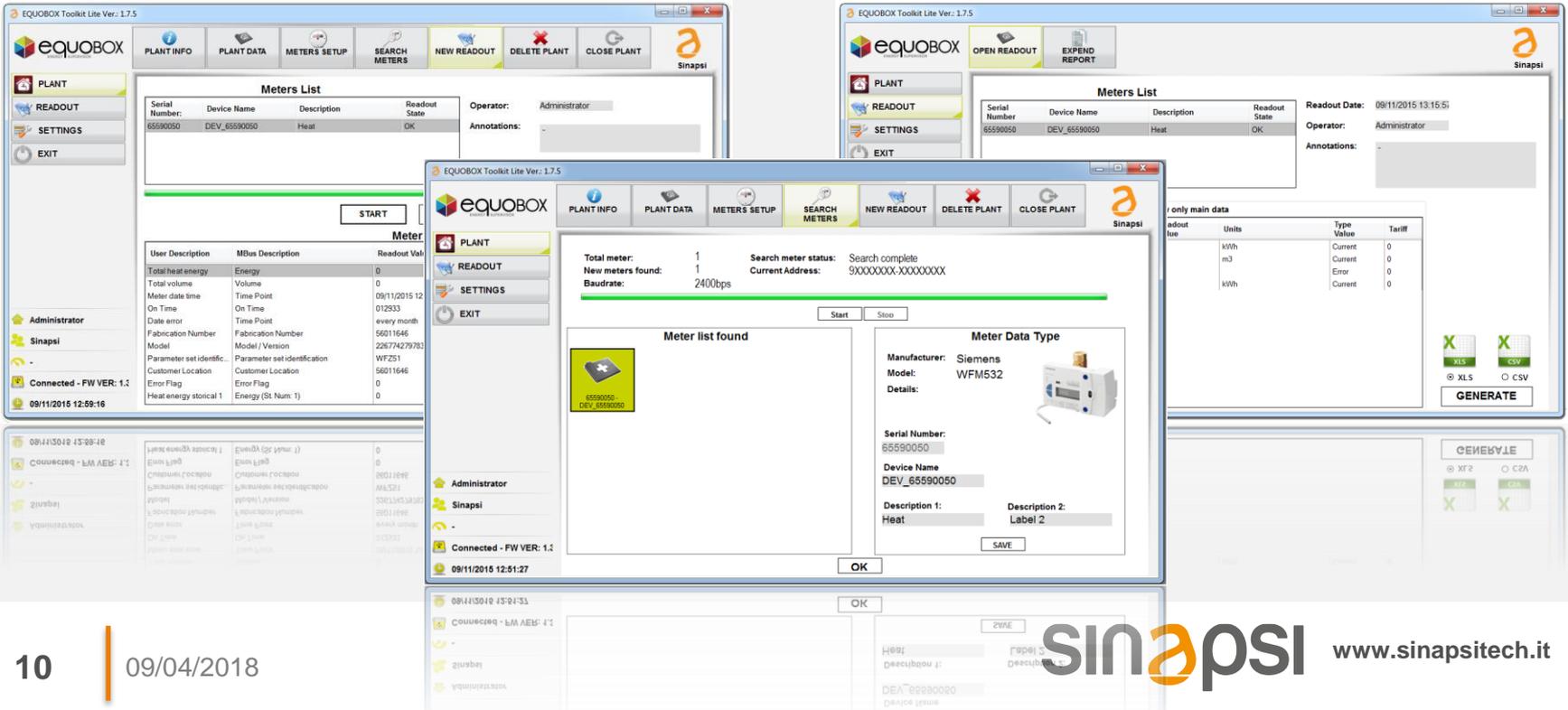
- M-Bus slave
- RS232
- RS485



# TOOLKIT LITE SOFTWARE

## SOFTWARE INTERFACE

- ⌘ Multi-plant anagraphic management
- ⌘ Schedule meter reading
- ⌘ Download current data read from meters
- ⌘ Automatic research of meters
- ⌘ .xls / .csv reading reports
- ⌘ Reading analysis filter research
- ⌘ Smart Repeaters Sinapsitech<sup>®</sup> configuration

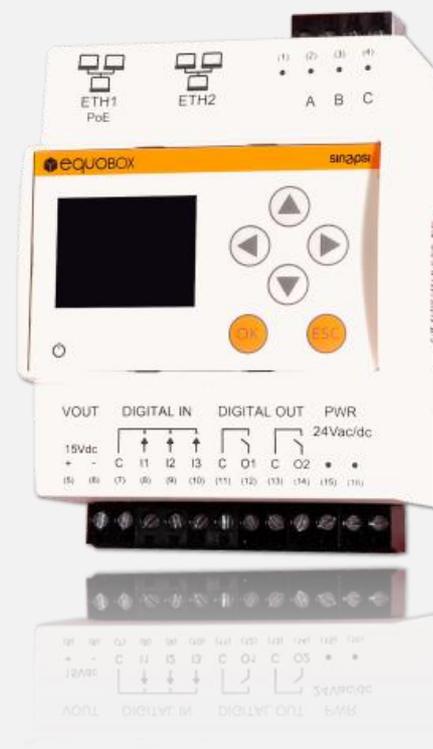


The image displays several overlapping screenshots of the EQUOBOX Toolkit Lite software interface. The main window shows a 'Meters List' table with columns for Serial Number, Device Name, Description, and Readout State. Below this, there is a 'Meter Data Type' section with fields for Manufacturer (Siemens), Model (WFM532), and Serial Number (65590050). A search results window shows 'Total meter: 1', 'New meters found: 1', and 'Baudrate: 2400bps'. The interface includes a menu bar with options like PLANT INFO, PLANT DATA, METERS SETUP, SEARCH METERS, NEW READOUT, DELETE PLANT, and CLOSE PLANT. The bottom left corner shows a system tray with the date 09/04/2018 and the page number 10.

# M-BUS WIRED RTU

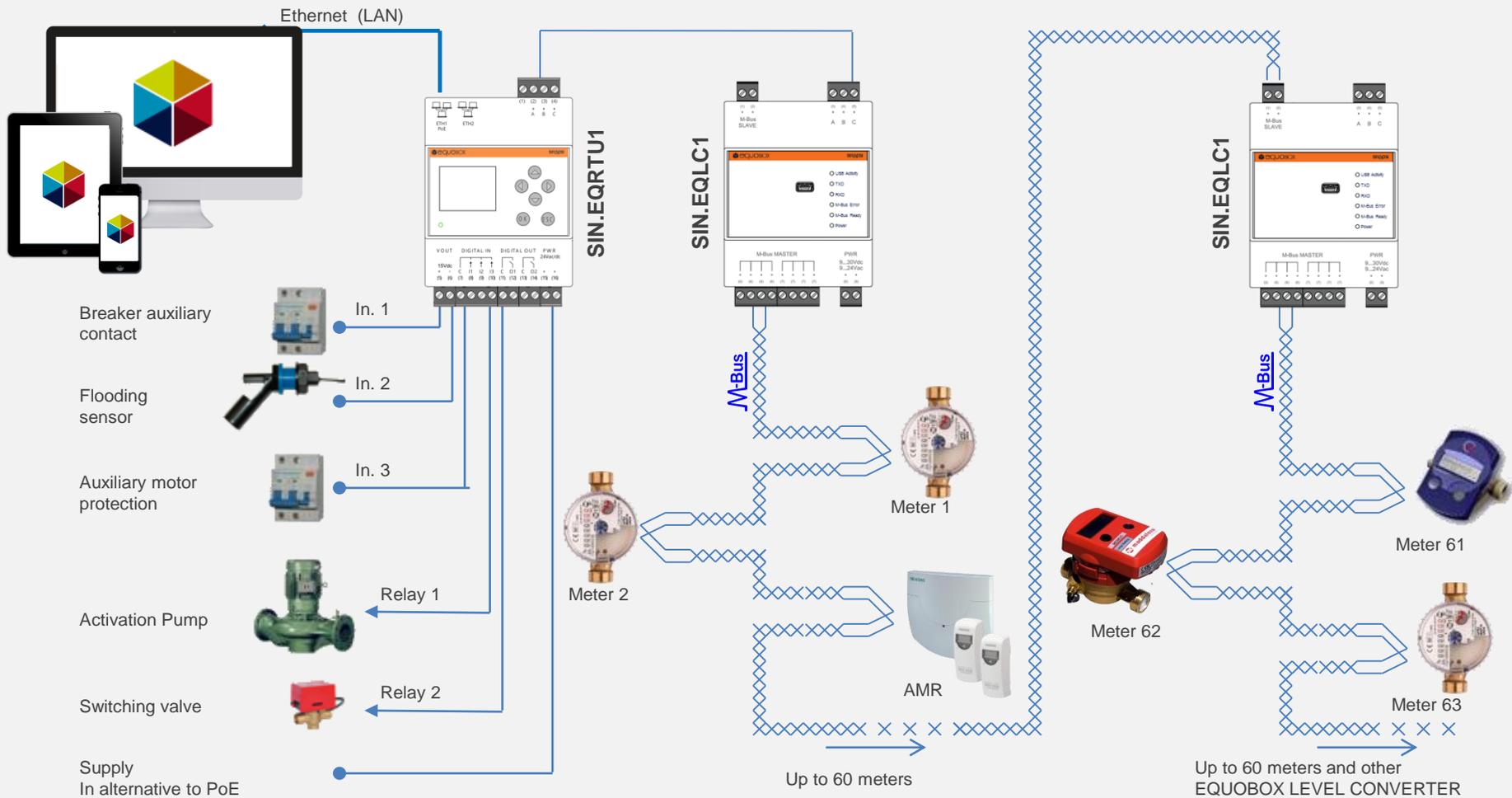
## GENERAL FEATURES

- ⌚ Master function for M-Bus wired networks \*
- ⌚ Available with 20 device M-Bus on-board support
- ⌚ Expandable up to 250 devices by adding level converter modules (modularity of 60 devices)
- ⌚ Local memory up to 2 years
- ⌚ Graphic display
- ⌚ 3 digital inputs and 2 relay outputs (5A)
- ⌚ Power supply 24Vdc / ac or Power Over Ethernet
- ⌚ Meters query and data consultation via WEB interface
- ⌚ Ability to download reports on data acquired in csv and xls format
- ⌚ Email notification of events generated by digital inputs, status of meters, over thresholds
- ⌚ Implementation of on-board relay outputs from web interface, based on logic or alarm
- ⌚ Remotely via LAN, ADSL or UMTS / GPRS router



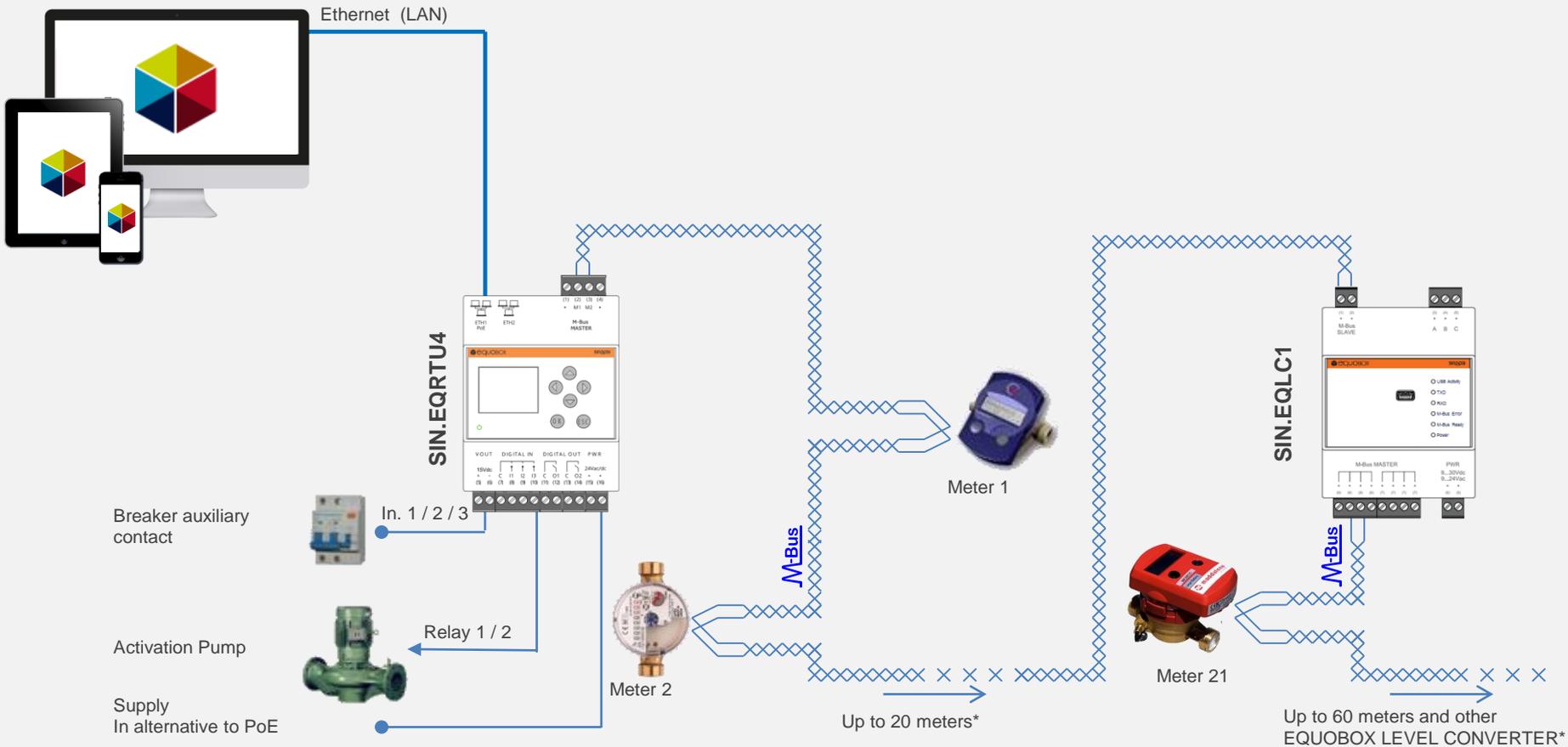
\* in relation to the chosen version

# M-Bus WIRED EQUOBOX RTU EXAMPLE SCHEMA



# M-BUS WIRED RTU 20 DEV.

## EXAMPLE SCHEMA



# M-BUS / WIRELESS M-BUS RTU

## GENERAL FEATURES

- ⌚ Master function for wired/ wireless M-Bus networks
- ⌚ Support up to 500 meters (max 250 wired)
- ⌚ Support 20 wired M-Bus physical devices through integrated port (expandable via Level Converter)
- ⌚ SMART REPEATERS sinapsitech® support \*
- ⌚ Antenna Connector repositioned
- ⌚ Graphic display / Local memory up to 2 years
- ⌚ 3 digital inputs, 2 relay outputs
- ⌚ 24V ac/dc Power supply or Power Over Ethernet
- ⌚ Meters/ heat cost allocators interrogation and data consultation through WEB interface
- ⌚ Possibility to download the report of the acquired data in csv and xls format
- ⌚ E-mail notification for alarms generated by the digital inputs, the state of the meters, thresholds excess
- ⌚ Implementation of on-board relay outputs from web interface, based on logic or alarm
- ⌚ Remote via LAN, ADSL or UMTS / GPRS router

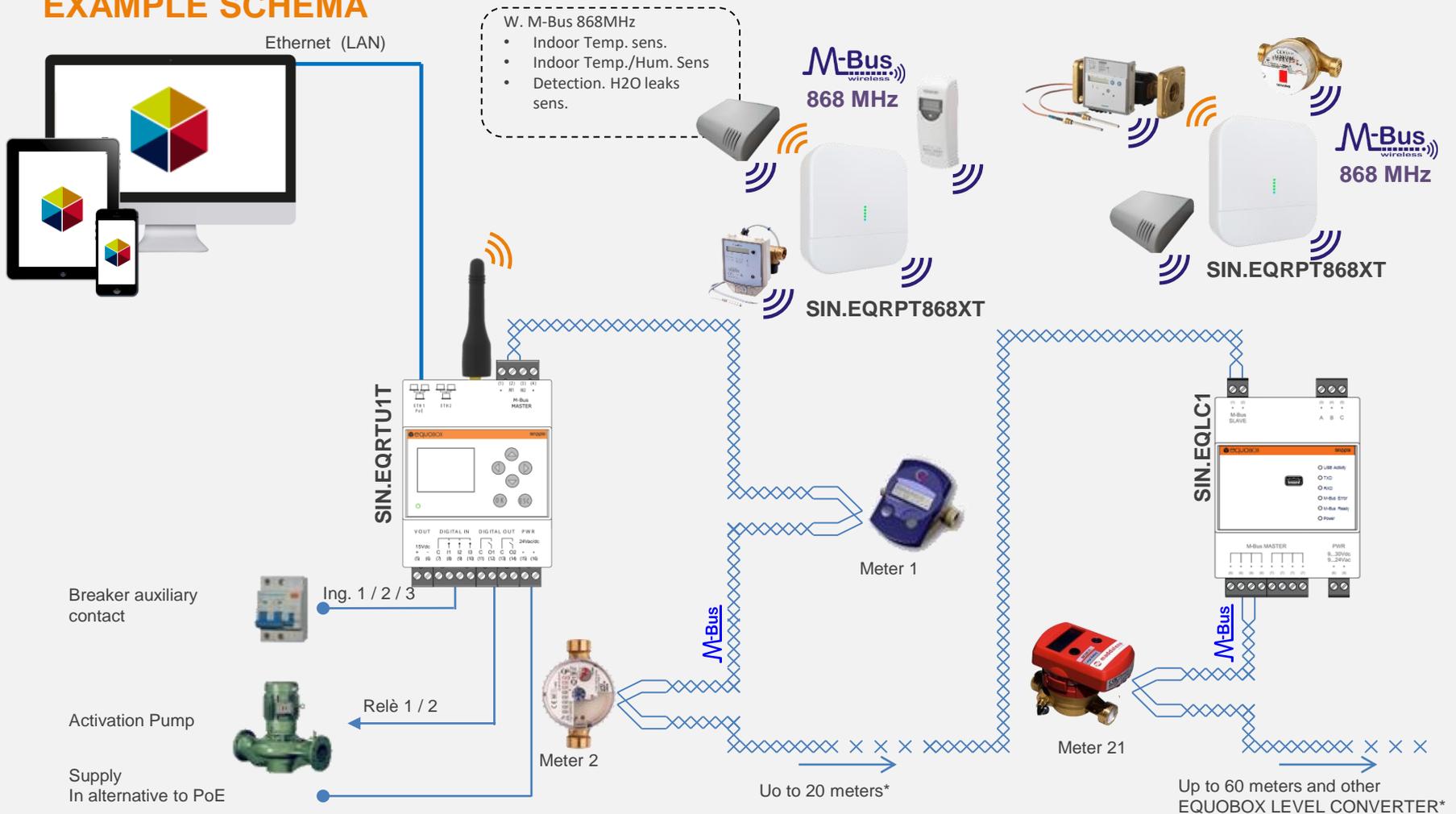


\* in relation to the chosen version



# M-BUS WIRELESS EQUOBOX RTU

## EXAMPLE SCHEMA



# RS485 RTU

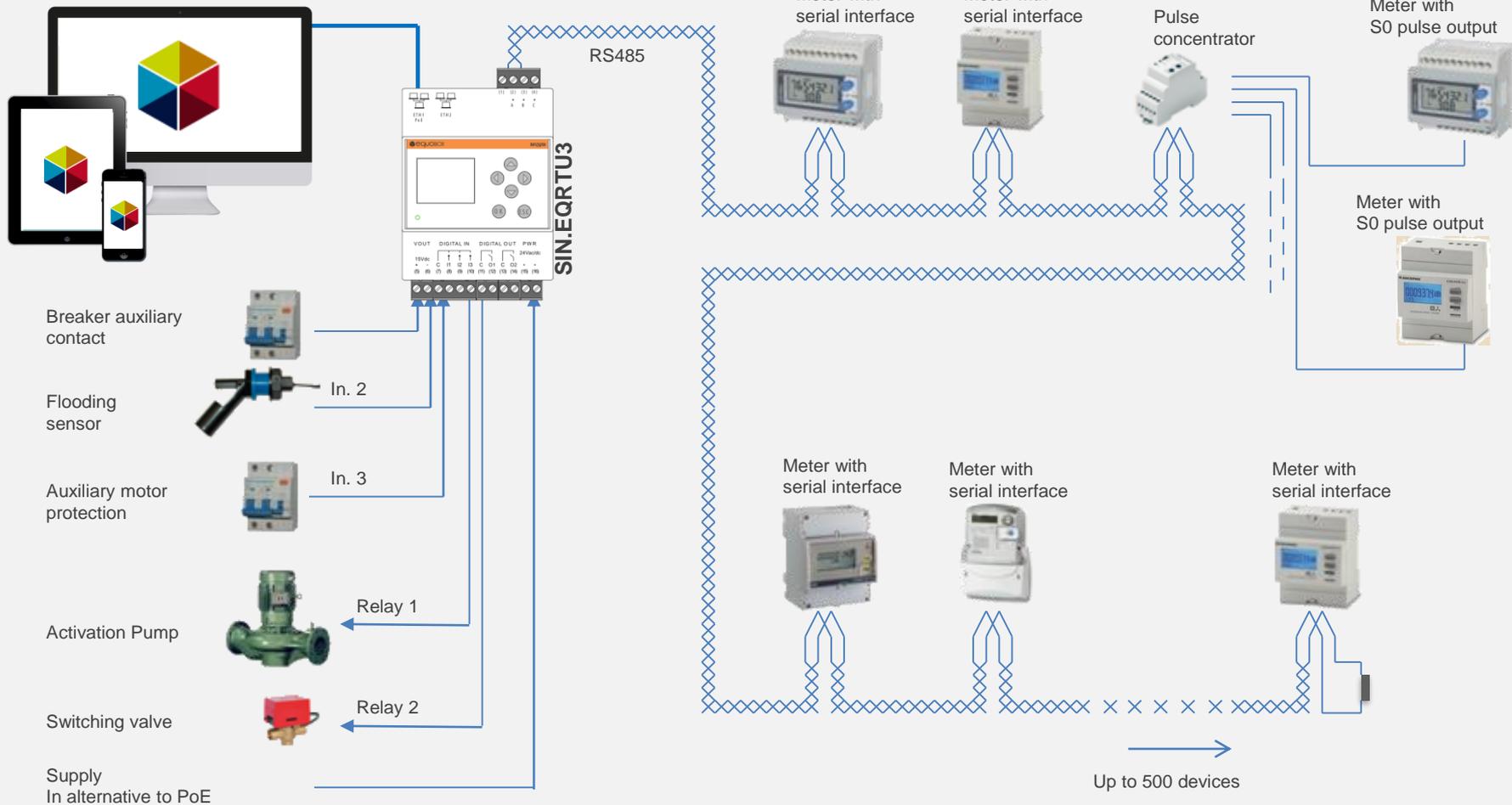
## GENERAL FEATURES

- ⌚ Modbus meters/controllers interrogation and data consultation through WEB interface variables
- ⌚ Compatible with most popular energy meters and autonomy to implement modbus meters mapping
- ⌚ Supports up to 500 variables
- ⌚ Local memory up to 2 years
- ⌚ Backlit graphic display
- ⌚ 3 digital inputs and 2 relay outputs
- ⌚ 24Vdc/ac Power supply or Power Over Ethernet
- ⌚ Possibility to download the report of the acquired data in csv and xls format
- ⌚ E-mail notification of alarms generated by the digital inputs, by meters states and thresholds excess
- ⌚ Ability to command the relay outputs on-board (or external I/O) via web interface based on programmable logics or in case of alarm
- ⌚ Remotly via LAN, ADSL or UMTS / GPRS router



# RS485 RTU

## EXAMPLE SCHEMA



# SINAPSITECH® SMART REPEATER

## GENERAL FEATURES



- Configurable with EQUOBOX TOOLKIT LITE software
- S / T / C mode support
- Powered via mini-USB
- Fixed power supply via 220V AC network which guarantees:
  - large coverage area
  - decreasing the network update time (in the order of the minutes) with corresponding decrease in commissioning times
  - cancel performance decreasing performance depending on battery charge status and thus performance constancy over time
  - reset maintenance activities

# SMART GATEWAY W.M-BUS 868MHZ

## GENERAL FEATURES



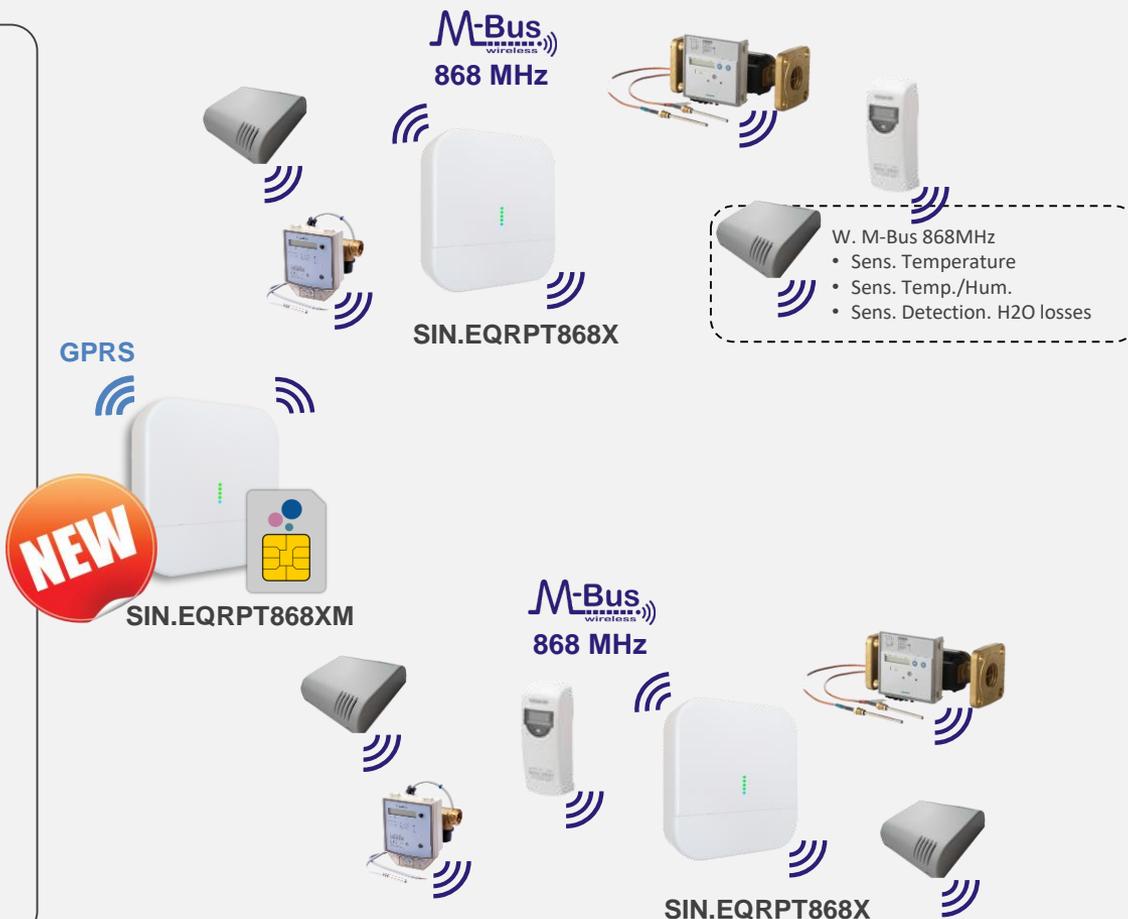
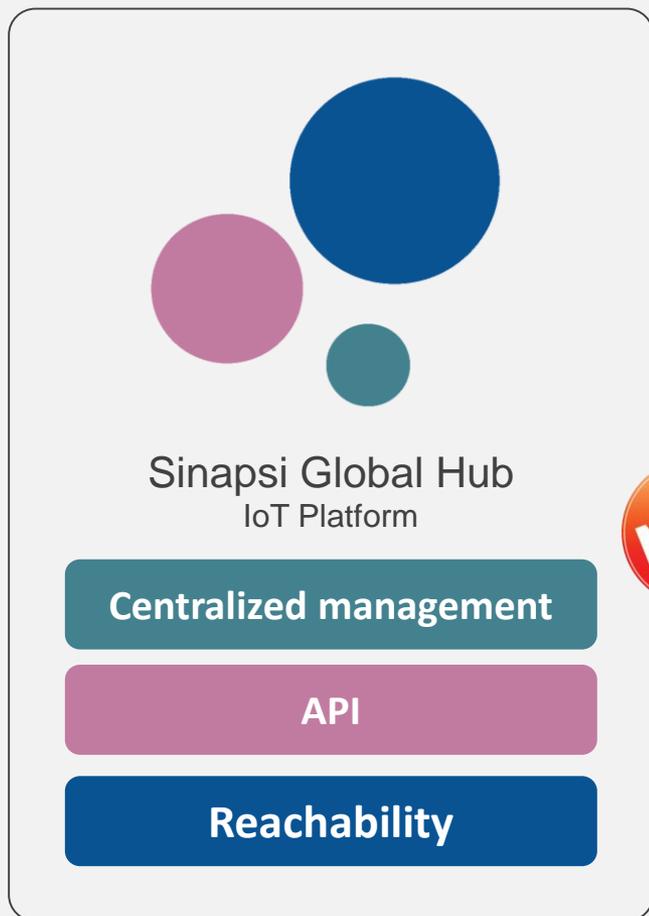
Sinapsi Global Hub  
IoT Platform



- RF solution for small systems: up to 200 devices
- W.M-Bus Gateway with integrated GPRS modem
- Integrated SIM
- Remote management via Sinapsi Global Hub IoT Platform
- Local management via EQUOBOX TOOLKIT LITE software and LEDs
- Support S / T / C mode
- Possibility to extend the coverage range via SIN.EQRPT868X
- Fixed power supply via 220V AC network which guarantees:
  - no limitation of the device's life time
  - large coverage area
  - cancellation effect decrease performance depending on the state of charge of the battery and therefore constant performance over time
  - reset of maintenance activities

# SMART GATEWAY W.M-BUS 868MHZ

## EXAMPLE SCHEMA



# SINAPSITECH® M-BUS / WIRELESS RTU EVO

## GENERAL FEATURES

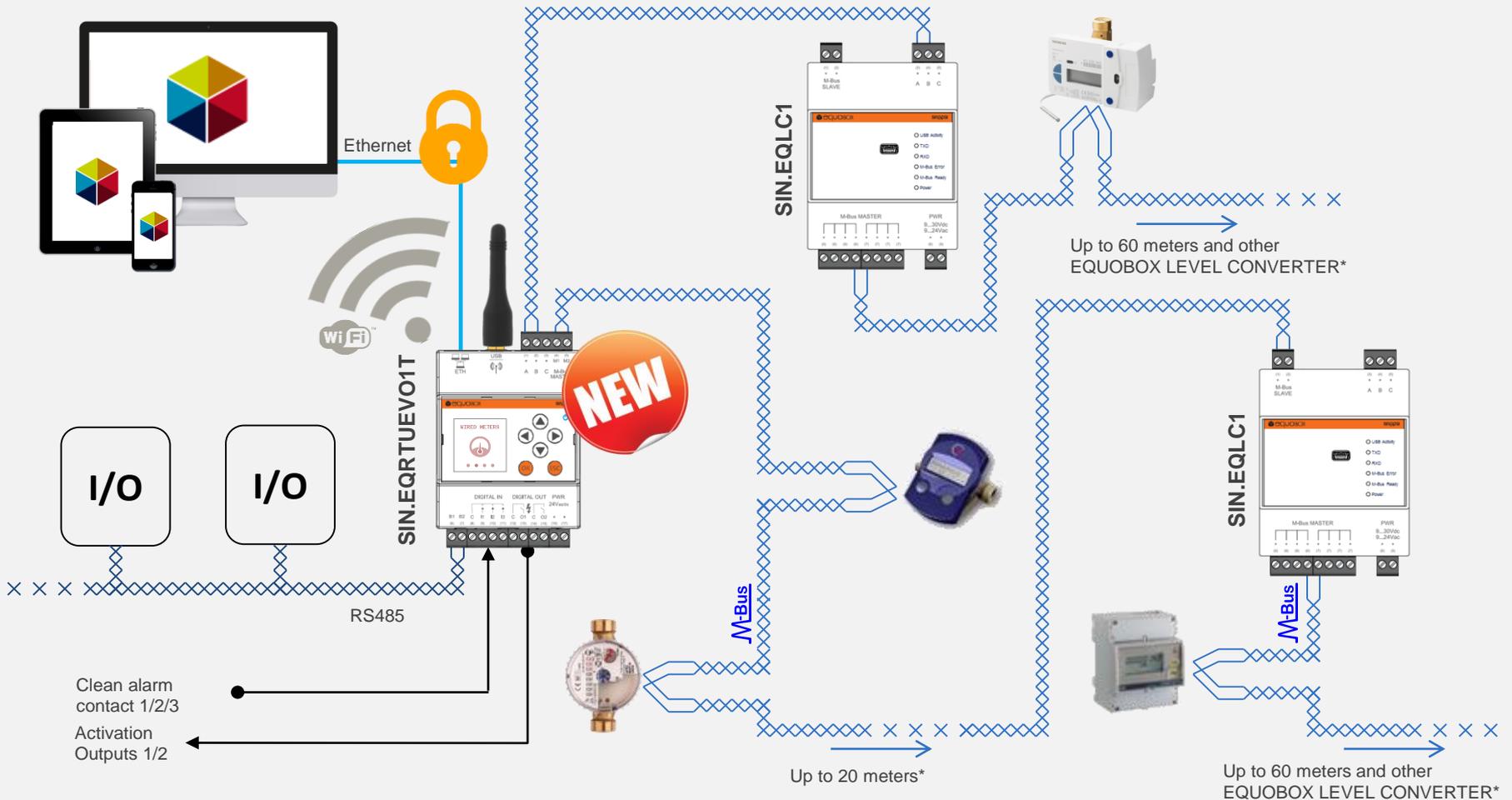
- ⌚ Wired M-Bus support on two separate lines of communication
- ⌚ Support 868 MHz M-Bus wireless multi-hop functionality via smart repeater sinapsitech®
- ⌚ Up to 2500 wireless devices and 500 cable devices
- ⌚ Reachability of the "0-configuration" web interface via Sinapsi Global Hub
- ⌚ integrated wi-fi (access point / client) & mobile-compatible web application, for commissioning in the field via tablet / smartphone
- ⌚ Graphic color display
- ⌚ Compatibility with the highest standards of IT security through encrypted protocols (https, SSL use for transfer and data transmission)
- ⌚ Remote I / O support on a dedicated bus for energy efficiency implementations
- ⌚ Sinapsi Global Hub IoT Platform Compliant



\*in relation to the chosen version

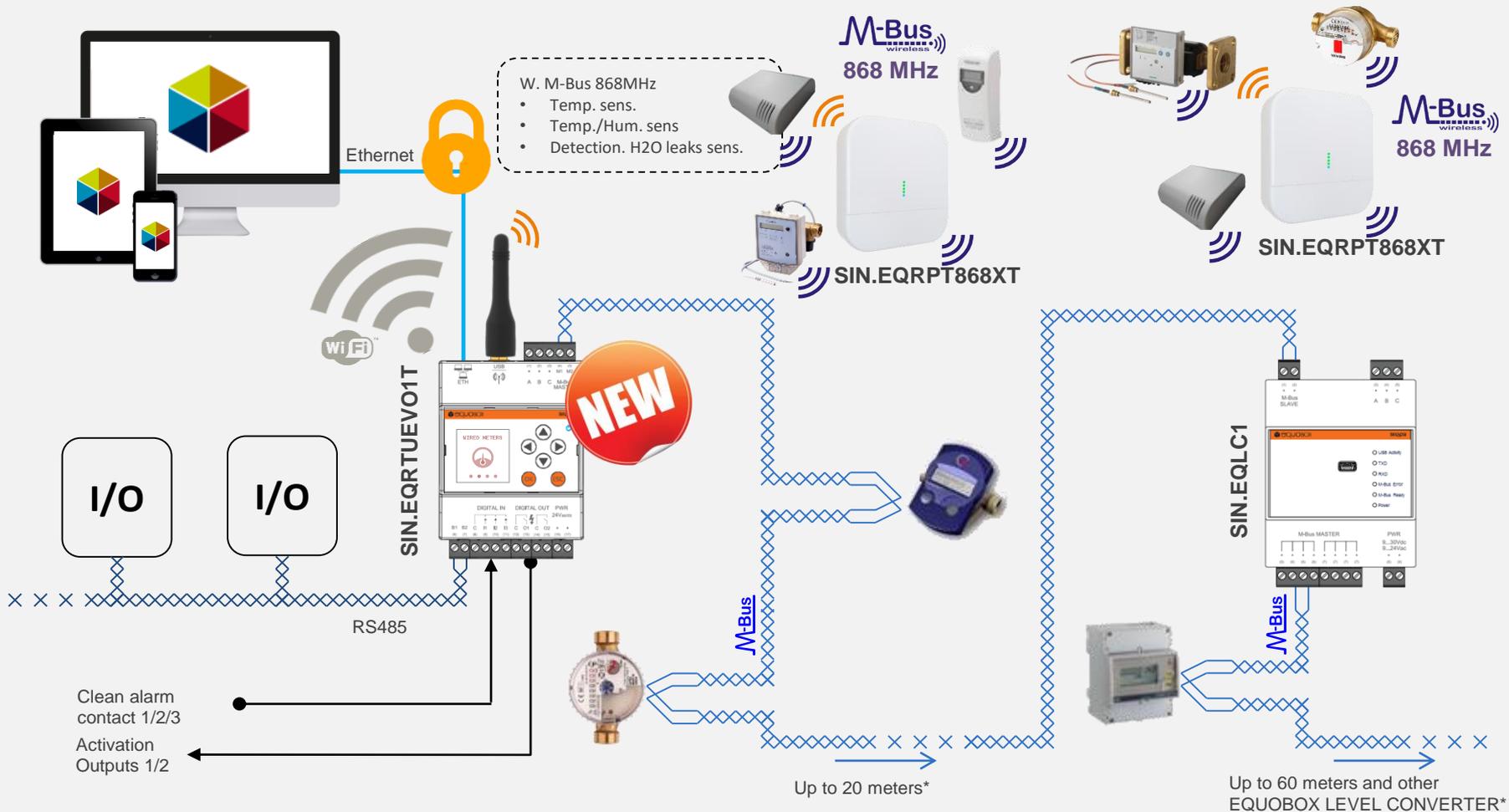
# SINAPSITECH® M-BUS / WIRELESS RTU EVO

## WIRED M-BUS SUPPORT ON TWO DETAILED COMMUNICATION LINES



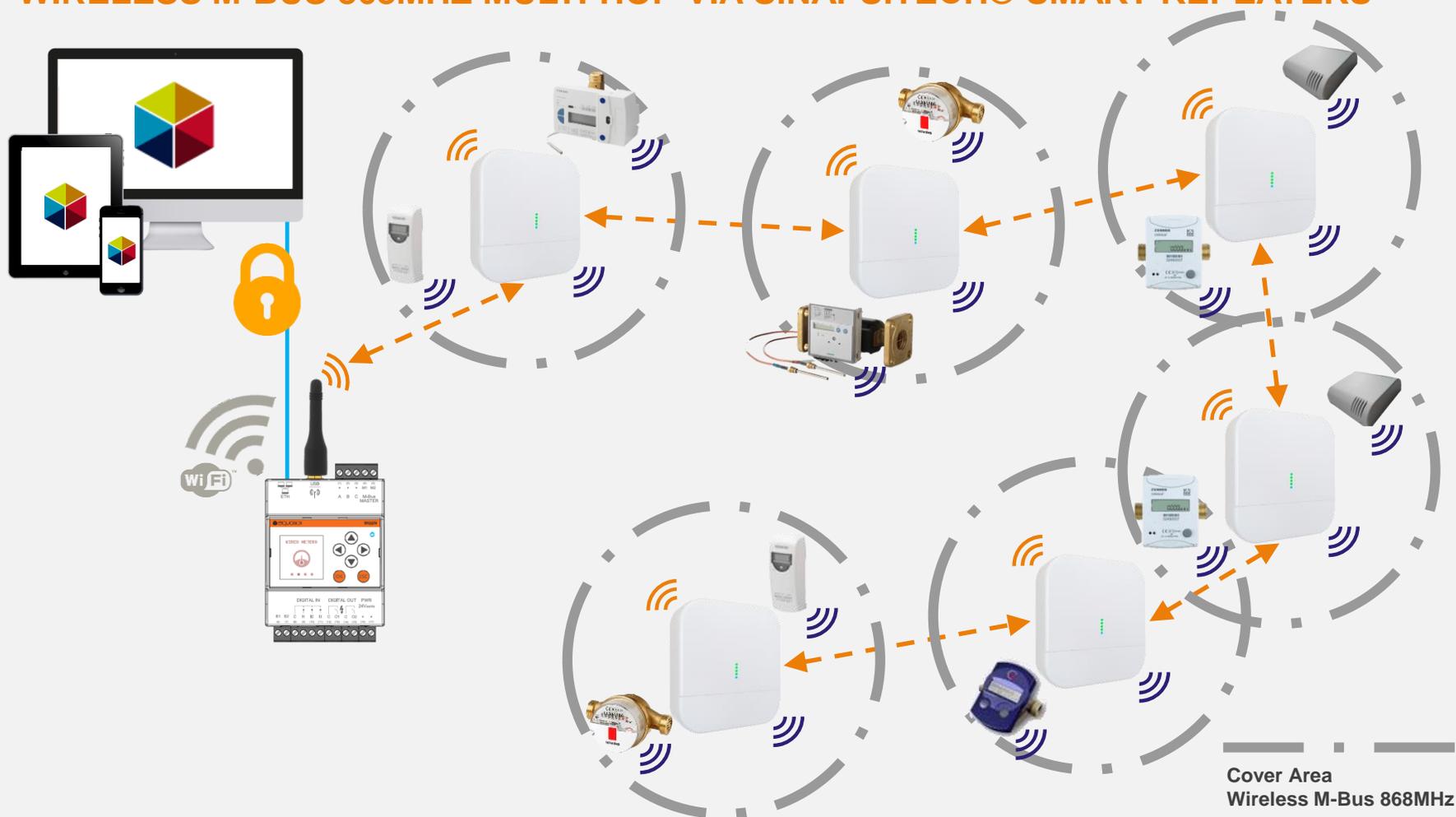
# SINAPSITECH® M-BUS / WIRELESS RTU EVO

## M-BUS CAVO E WIRELESS M-BUS SINAPSITECH



# SINAPSITECH® M-BUS / WIRELESS RTU EVO

## WIRELESS M-BUS 868MHZ MULTI-HOP VIA SINAPSITECH® SMART REPEATERS

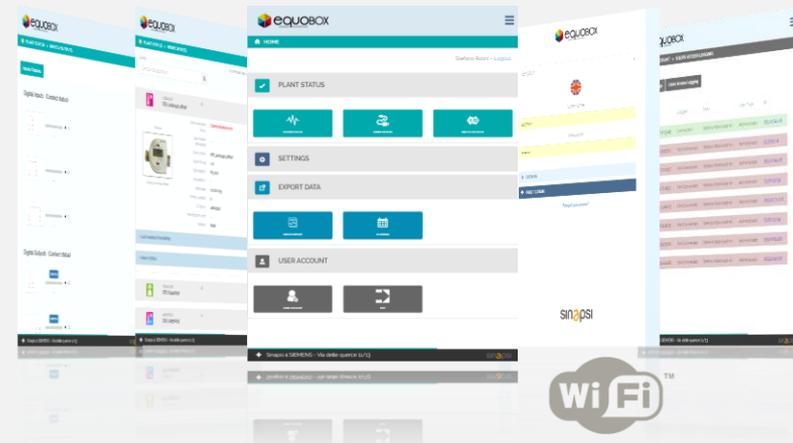


Cover Area  
Wireless M-Bus 868MHz

# SINAPSITECH® M-BUS / WIRELESS RTU EVO

## INTEGRATED WI-FI & WEB APPLICATION MOBILE-COMPATIBLE

ACCESS  
POINT  
MODE

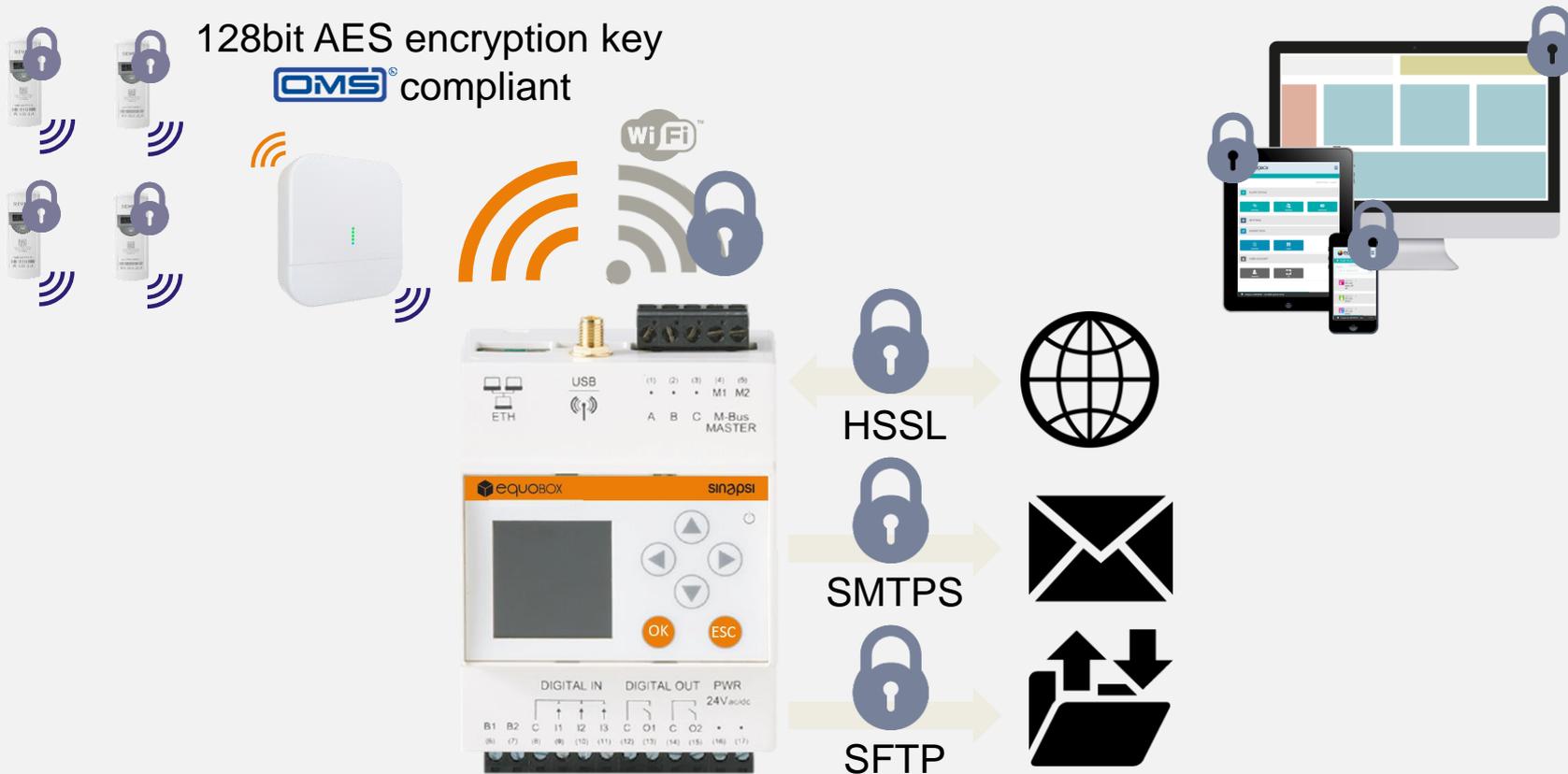


CLIENT  
MODE



# SINAPSITECH® M-BUS / WIRELESS RTU EVO

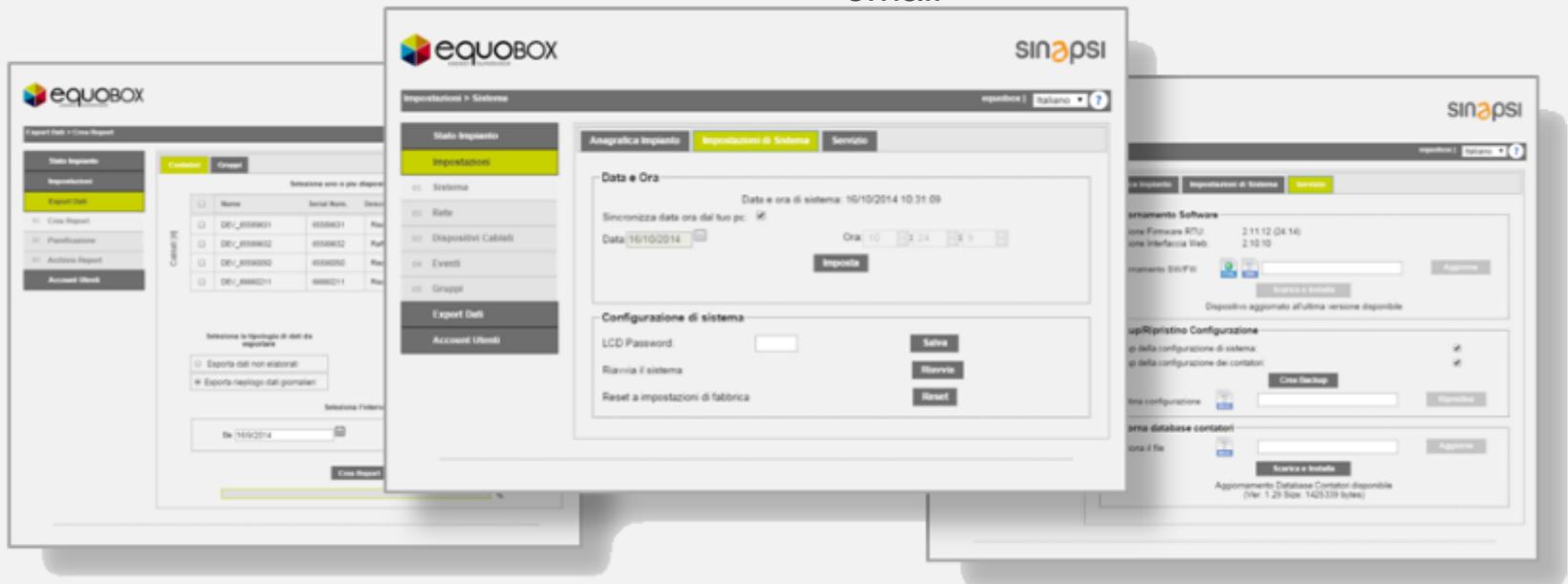
## SSL FOR TRANSFER AND SEND DATA



# EQUOBOX RTUs

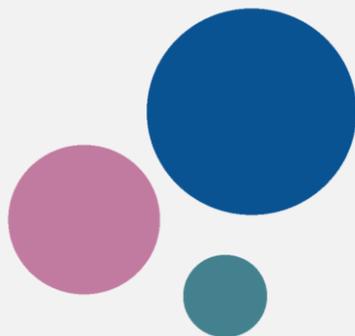
## WEBSERVER INTERFACE

- ⌚ Easy and immediate consumption
- ⌚ data reading
- ⌚ Automatic generation and report sending
- ⌚ Useful and smart functions, as management of relay outputs in case of logic, thresholds or remote commands with notification via email



# SINAPSITECH® M-BUS / WIRELESS RTU EVO

## CENTRALIZED MANAGEMENT VIA SINAPSI GLOBAL HUB



Sinapsi Global Hub  
IoT Platform

Centralized management

API

Reachability

☰
Sinapsi Global Hub Console
NEW

Plant name	Serial	Model number	SGH firmware	Status	Date / time	
--	ev17314023	--	--	ONLINE	--	♥ <a href="#">🔗</a>
--	ev17314024	--	--	ONLINE	--	♥ <a href="#">🔗</a>
--	ev17314025	--	--	ONLINE	--	♥ <a href="#">🔗</a>
--	ev17314026	--	--	ONLINE	--	♥ <a href="#">🔗</a>
--	ev17314027	--	--	ONLINE	--	🔔 ♥ <a href="#">🔗</a>

Nome impianto: Villa Fiorita	Modello: SIN.EQRTUEVO1T	Serial Number: EV2345678	Ultima Connessione: 17.02.2018 @16:32:00
Stato M-Bus: Scan	Stato Wireless M-Bus: Scan	Utenti Connessi: 2	
Versione Firmware: 2.15	Versione Web Interface: 1.02	Numero SIN.EQRPT868XT: 5	Dispositivi Cavo: 12 Dispositivi Radio: 894

45
 34
 67
 894
 8 →

Thank you for your attention



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