Beeta™ MoCo
a compact IoT Edge Computer

Main features

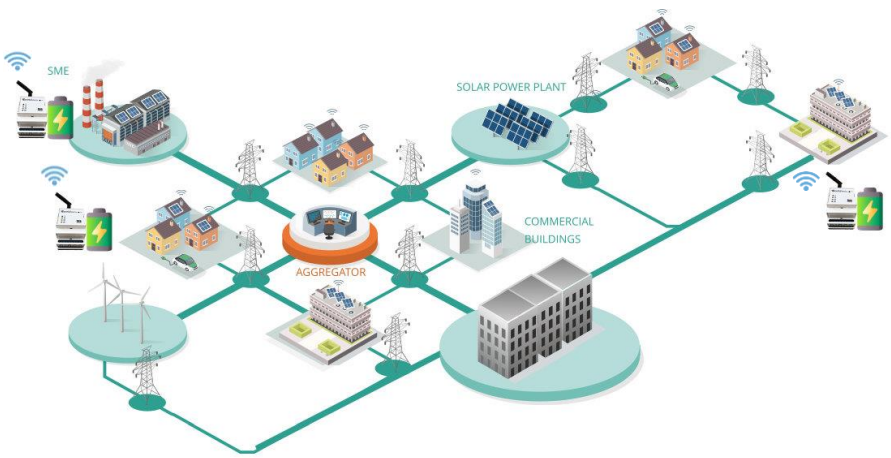
- Multi-Protocol: RS485, Ethernet, Wi-Fi
- Compact and fan-less design
- Easy to install
- Powerful ARM Cortex A7 up to @800MHz
- Linux OS Embedded
- Up to 512MB RAM and 32GB Flash
- 2x insulated RS485
- 2x opto insulated outputs
- External antenna connector
- Status LEDs

Typical applications

- Smart Grid and Building management
- BESS (Battery Energy Storage System) management in renewables
- Industrial automation
- Utilities: electricity, water, heating, gas
- IoT Networks

Description

Beeta™ MoCo is a compact edge computer designed to deliver the highest computational power and flexibility in a small form factor. Based on a powerful ARM Cortex A7 running Linux on board, it can be used for cloud-based applications as well as edge-based applications where reliability and fast response time are indispensable. The wide variety of standard protocols and communication interfaces available makes the Beeta MoCo the perfect companion for designing fully scalable systems. Additionally, the remote update capability (OTA) of the Beeta MoCo ensures smooth maintenance and operation of the system. Beeta Moco is indicated for the management of Smart Grids functionalities such as Demand Response applications and Modulation Control of BESS (Battery Energy Storage Systems). Beeta MoCo is a smart device that can be used to monitor and manage the bi-directional energy flows of battery storage inverters and other electrical equipment and loads, also in retrofit. In Balancing Service Provider's Markets it can act as UPM and take autonomous control of battery/load being also able to disconnect loads by means of external relays. Thanks to its Linux architecture, it can be used in combination with third-party software platforms for the implementation of integrated electric energy flows management systems in smart grids and energy communities. Several external modules are also available to expand even more its connectivity.



MoCo application scenario in a Smart Grid

Product Specification

General Features	
	ARM Cortex A7 single core @650 MHz processor; optional dual core @800 MHz; optional encryption (AES, DES/TDES - 128, 192 or 256 bit) coprocessor (internal module); this options must be ordered before production batch launch (no retrofit)
	256 MB (up to 512MB) DDR3
	4 (up to 32) GB onboard Flash memory (eMMC)
	Real Time Clock (7 years backup with onboard CR1220 coin battery)
	Linux Embedded, OTA upgradable
	1 push button (Power On/Off)
	1 cold reset button
	2 LEDs for programmable events
	2 status LED: power state, LAN/Internet
Connectivity	
Wired	1x Gbit Ethernet (RJ-45 connector with standard LEDs)
	2x isolated (5kV) RS485 ports
Wireless	Embedded Wi-Fi 802.11b/g/n with external SMA antenna connector.
Input/output	
Output	2x Open Collector (max 80 Vdc and 80 mA) 3,75 kVrms optical isolation, PWM capable (up to 30 kHz)
Power	
Input Power	5VDC 1A from external power supply
P2P Encryption	
Wired	Optional Trusted Platform Module (TPM 2.0) soldered chip
Case	
Material	PC/PPO (UL 94 V-0)
Dimensions	3M DIN EN 60715 TH35 52.5 mm x 90 mm x 58 mm (without external antenna); weight 0,5 kg
Environment	
Operating	Temperature Range -40 ÷ 85 °C, RH range 5%-55% not condensing*
Storage	Temperature Range -40 ÷ 85 °C, RH range 5%-90% not condensing

* There could be a degradation of performance of wireless communication when it occurs between devices operating at the opposite extremes of the operating temperature range.

Note: Customizations of the product are available upon request, e.g. 802.11ac Wi-Fi Module, Wi-Fi Bluetooth combo, etc.

Ordering information (See pricelist for more details)

Product	CPU
Beeta MoCo Base	ARM Cortex A7 single core @650 MHz, 256 MB DDR3, 4 GB onboard Flash (eMMC)
Beeta MoCo Adv	ARM Cortex A7 dual core @800 MHz, 512 MB DDR3, 8 GB onboard Flash (eMMC)

MADE IN ITALY

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