Beeta™ MoCo
IoT Device for Smart Grids

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Main features:

- Field level device for «Demand-Response» operations;
- Interoperable with 3rd party sw/hw
- Multiprotocol: RS485, ETH, WiFi
- Flexible retrofit solutions, easy to install and manage (Linux embedded, OTA upgradable, OC output for external relays)

Beeta™ MoCo is the smart device to monitor and manage the bi-directional energy flows of battery storage inverters and other electrical equipments and loads, also in retrofit.

Beeta™ MoCo, actually being a small-scale edge computer, can be used in combination with third-party software platforms, both local and cloud based, for the implementation of integrated electric energy flows management systems in smart grids and energy communities. In Balancing Service Provider's Market (MSD in Italy) it can act as UPM and take autonomous control of battery/load ("dispatching commands" physical execution), being also able to interrupt loads-equipments by means of external relays. It communicates with the "concentrator" (central management) software via Modem-Router.

The device also helps to prevent potential scams and network anomalies, contributing to preserve network balancing, while saving costs and increasing efficiency in energy exchange operations.

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 (optional 802.11ac) with external SMA antenna.

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) 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

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