

Beeta™ Reader

IoT Edge Computer & «User Device» for PLC Smart Metering



Main features:

- Plug & Play Smart Meter Reader («User Device»); TPM2
- AC-DC Power Supply (USB output)
- WiFi, BT/BLE, ETH, USB
- Simultaneous monitoring of Energy Consumption and Production
- Context Awareness with embedded Humidity, Temperature & Atmospheric pressure sensors + stereo pdm microphone + Buzzer
- 2 LEDs (Power and Modem)
- Sw application for initialization and use of the device
- Up to 10 minutes power backup (blackout tolerant)
- Useful for powering an external 3G/4G LTE USB Dongle

Beeta™ Reader is the latest generation *plug & play device*, able to read smart meters for electric energy through powerline communication (PLC), both in A band and C band (according to the Italian authority ARERA 87/2016/R/eel regulation and in compliance with CEI TS 13-82/83/84 norms). For Italian Distribution Grid, Beeta™ Reader is already **able to communicate with the 1G and 2G fiscal Smart Meters “2G Open meter- chain 2 full”** simply plugging in the device into an electric socket.

For prosumers, **Beeta™ Reader** simultaneously reads both energy **consumption** and **production**. It delivers up to 500 mA @ 5Vdc via USB while exchanging data (meter readings and settings) on cellular networks. This opens up a new scenario in the energy sector, since it makes users aware of their own consumption and performance, allowing them to obtain savings from 10% up to 30%. Moreover, **Beeta™ Reader** is useful in «Demand-Side-Management» applications in this so called «Digital Energy market» (VirtualPowerPlant-UVAM and Energy Communities).


General Features

	ARM Cortex A7 @650 MHz (optional dual core 800 MHz) processor
	256 MB (up to 1GB) DDR3
	4, 8 (up to 64) GB onboard Flash memory (eMMC); optional additional NOR memory (for custom set of bootloading techniques)
	Real Time Clock (7 years backup with onboard RTC battery)
	Linux Embedded, OTA upgradable
	2 switches: cold reset, power.
	2 status LEDs: system status, powerline status
	2x Stereo pdm microphone; Buzzer (optional)
	Temperature and Humidity sensor (optional)
	Atmospheric Pressure sensor (optional)


Connectivity

Wired	1 x Gbit Ethernet (RJ-45 connector with standard LEDs) (optional)
	USB 2.0 host - female type A connector – max 1.1 A
Wireless	Embedded Wi-Fi 802.11b/g/n with internal antenna.
	Bluetooth® v5.1 (with BLE mode) (optional)

Environment

Operating	Temperature Range* -20 ÷ 55 °C, RH range 5%-55% not condensing; without safeguard -40 ÷ 60 °C, RH range 5%-55% not condensing; with safeguard 
Storage	Temperature Range -40 ÷ 85 °C, RH range 5%-90% not condensing

Power Input


V, f, A	230 Vac ± 10% , 50 Hz, 200 mA (max) – class II device 
Power consumption	Minimum 0,6 W in "Stand-by"; typical 5 W; maximum 41 W when operating on powerline and delivering full load on USB
SAFETY	Overtoltage and Overcurrent protection; internal fuse; Isolation voltage 3000Vac
Energy backup	Internal Supercapacitor: max 0.22 Wh, about 10' autonomy in case of power fail (no grid supply); 250mAh (1 Wh) Lithium Battery (alternative option)

Case

Material	Plastic (ABS) - UL94 V0
Dimensions	max 119.4 x 88.6 x 61mm
Protection grade	IP 22 (vertical mounting use) or IP 21 (horizontal mounting use)

P2P Encryption

Wired	Optional Trusted Platform Module (TPM 2.0) soldered chip
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- * For temperature above +55°C the equipment can be handled only by an expert operator 
- product models with single core microProcessor can operate as low as -40°C;
- The product is equipped with electronic components of industrial range able to work properly between -40°C and +85°C

TERA srl reserves the right to change/update this specifications without prior advising



Beeta™ Reader is totally designed and manufactured in Italy and is compliant with the standards: ISO 9001, ISO 14001, IATF 16949, IPC Membership. Beeta™ Reader is in compliance with Directive: 2014/53/EU, 2011/65/EU. One-year warranty for Beeta™ Reader standard products. Extended warranty on request. Tera reserves the right to change or modify specifications without prior notice. The latest product specifications can be found by contacting us.

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