

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, ETH, USB
- Simultaneous monitoring of Energy Consumptions and Productions
- Context Awareness with embedded Humidity, Temperature & Atmospheric pressure sensors + stereo pdm microphone + Buzzer
- 2 LED (Power and Modem)
- APP 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 “delibera 87/2016/R/eel by ARERA, in compliance with CEI TS 13-82/83/84, CEI CLC/TS 50568-4, partially referred to CEN/CLC/ETSI/TR 50572, EN 62056-7-5). For Italian Distribution Grid, Beeta™ Reader is already **compliant with the 1G and 2G fiscal smart meters “2G Open meter-chain 2 full”**, by only inserting the plug into an electric socket.

For prosumers, **Beeta™ Reader** simultaneously reads both **consumptions** and energy **productions**. It delivers up to 1A @ 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 the 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 32) GB onboard Flash memory (eMMC); optional additional NOR memory (for custom set of bootloading techniques)
	Real Time Clock (7 years backup with onboard CR1220 coin battery)
	Linux Embedded, JVM (OTA upgradable)
	1 push button (Power On/Off)
	cyan LED for power state (grid power)
	Tri-color LED for 2G smart meter operations
	2x Stereo pdm microphone; Buzzer
	Temperature and Humidity sensor
	Atmospheric Pressure sensor

Connectivity

Wired	Gbit Ethernet (RJ-45 connector with standard leds)
	USB connector to use external UBS-Dongle 3G/4G modem (1A max load)
Wireless	Embedded Wi-Fi 802.11b/g/n (optional 802.11ac) with internal antenna. Optional BTLE

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

Power Input

V, f, A	230 Vac ± 10% , 50 Hz, 90 mA (max value @ 265Vac)
Power consumption	From 0,6 W in "Stand-by" to 20W when operating on powerline and delivering full load on USB
SAFETY	Overvoltage protections: 5.25V max ; Overcurrent protecion: Auto shut-down; Short Circuit protection: Auto shut-down; Isolation voltage 3000V
Energy backup	Internal Supercapacitor (max 3 Wh, about 10' autonomy in case of power fail no grid network); optional 750mAh Lithium Battery

Case

Material	Plastic (ABS or optionally other) UL94 V0
Dimensions	max 119.4 x 88.6 x 61mm

Environmental

Operating	Temperature Range -20/70 °C (or 0-50°C if battery operated), RH range 5%-95% non condensing
Storage	Temperature Range -25/85 °C (or 0-55°C if battery operated), RH range 5%-95% non condensing

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MADE IN ITALY



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. Two-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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