

# eManager Energy

## Main features

- ✓ **High performance embedded system with Linux Yocto integrated (other on request)**
- ✓ **CPU, RAM and Flash memory ready to be the core of any Smart Project**
  - ARM CORTEX-A7 700 Mhz
  - 256 MB DDR3 memory
  - 512 MB NAND flash memory
- ✓ **Wi-Fi and BT (optional)**
- ✓ **1 Three-phase energy meters or 3 Single-phase energy meters**
- ✓ **Node-RED integrated with custom nodes to easily monitor any electrical parameter**



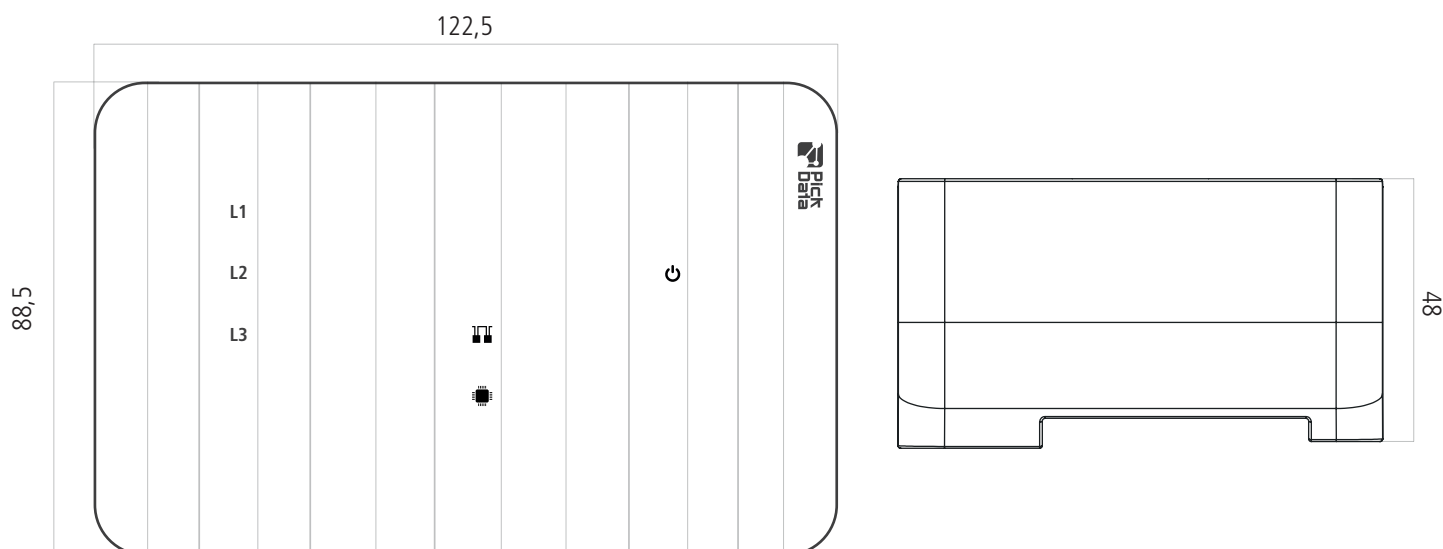
## Description

eManager Energy is an OEM industrial controller which is equipped with a high-performance control unit with a Linux Yocto embedded and Node-RED software integrated. The device includes RS-232/485 serial communications, an Ethernet 10/100 port and a Wi-Fi interface. eManager Energy is ideal for fog computing applications where monitoring, control and data sending is required. In addition, eManager Energy is equipped with a double energy meter with capacity to monitor 1 three-phase energy circuits or 3 single-phase energy circuits.

## Three-phase energy meter

- ✓ 4 quadrants measurement including consumption and generation parameters
- ✓ Active and reactive energy, power, voltage, current, frequency and cos phi, including single phase and three phase
- ✓ Accuracy of class 1 for active energy and class 2 for reactive energy
- ✓ Current secondary of 1A

## Dimensions



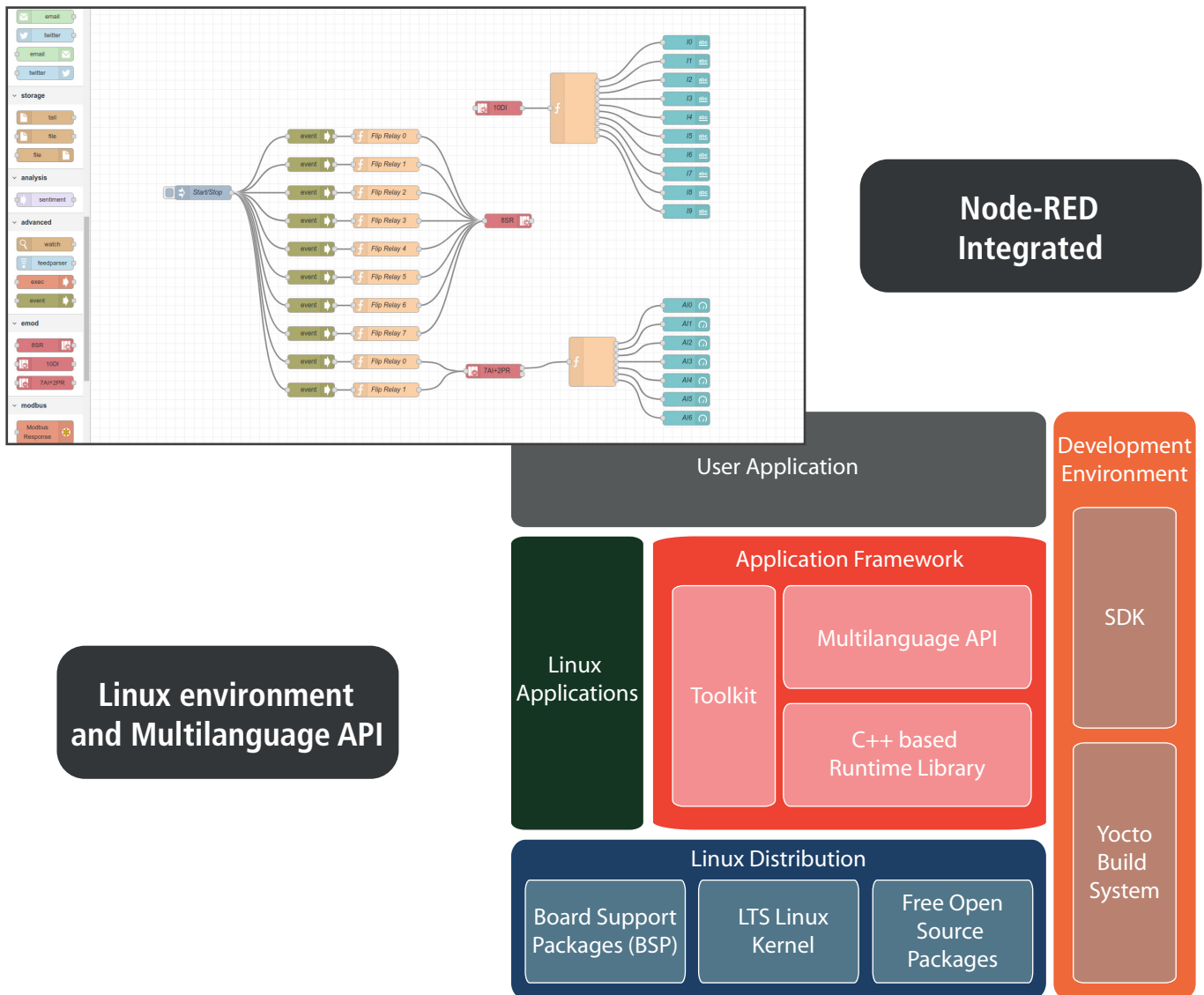
## LEDs

LED	Name	Description
⏻	Power	Powered: Green
⏻	RS-232/485	Data transmission: Blue Data reception: Green
■	CPU	Activity: Blinking blue
L1	L1 Control	Positive current & $\cos\phi \geq 0,8$ : Green Positive current, positive reactive power & $\cos\phi < 0,8$ : Blinking green Negative current: Red Positive current, negative reactive power & $\cos\phi < 0,8$ : Blinking red
L2	L2 Control	Positive current & $\cos\phi \geq 0,8$ : Green Positive current, positive reactive power & $\cos\phi < 0,8$ : Blinking green Negative current: Red Positive current, negative reactive power & $\cos\phi < 0,8$ : Blinking red
L3	L3 Control	Positive current & $\cos\phi \geq 0,8$ : Green Positive current, positive reactive power & $\cos\phi < 0,8$ : Blinking green Negative current: Red Positive current, negative reactive power & $\cos\phi < 0,8$ : Blinking red

## Technical features

Category	Parameters	Value
Power circuit	Power supply	85 ... 264 Vac / 120 ... 300 Vdc
	Frecuency	47 ... 63Hz
	Consumption (a.c. / d.c.)	8,8 ... 10,5 VA / 6,4 ... 6,5 W
Control unit	CPU	ARM Cortex-A7 700 Mhz
	RAM Memory	256 MB DDR3
	Flash Memory	512 MB NAND
	Clock	RTC with supercap to backup clock time
Environmental conditions	Operating temperature	-20 ... +50 °C
	Relative humidity	5 ... 95 %
	Maximum working altitude	2000 m
Mechanical characteristics	Enclosure material	UL94 polycarbonate - Self-extinguishing V0
	Protection grade	IP20 (assembled)
	Dimensions (Width x High x Length)	122,5 x 88,5 x 48 mm (7 DIN rail modules)
	Weight	180 g
	Mounting	DIN rail 46277 (EN 50022)
	Connectors	Pluggable terminals, max. wire section 1,5 mm <sup>2</sup>
Electrical and safety features	Electric shock protection	Double-insulated class II
	Insulation	3 kVac
	Installation category	CAT III 300 V
Wireless interface	Wi-Fi	802.11 b/g/n (2.4 GHz)
	BT (optional)	4.2
Serial interface	Type	RS-232 (full-duplex) / RS-485 (half-duplex). Galvanic isolation
	Baud rate	9600...115200 bps
Network interface	Type	Ethernet
	Working speed	10/100 Mbps
Voltage measurement circuit	Rated voltage (Un)	285 Vac (p - N) / 480 Vac (p - p)
	Voltage measurement margin	5 ... 120% Un
Current measurement circuit	Nominal current (In)	In / 1 A
	Current measurement margin	2 ... 120% In
Measurement accuracy	Active energy measurement	Class 1
	Reactive energy measurement	Class 2
Standards	Standards	UNE EN 61010-1, UNE-EN 61000-6-2, UNE-EN 61000-6-4

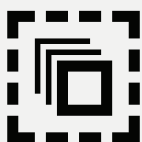
## Software platform



## Description

eManager Energy is equipped with a software platform designed for easily developing industrial and edge computing applications. With eManager Energy you can smoothly develop your application with our multilanguage API which include the most popular programming language for IoT applications (C, C++, Python, Go, Java...). In addition, eManager Energy fully integrates Node-RED which includes protocols such as Modbus, BACNET, MQTT, OPC-UA, together with easy communication with platforms like Amazon WBS, Microsoft Azure, Google Cloud and more.

## Main features



**IoT open  
software tools**



**Multilanguage  
API**



**Public protocols  
libraries**