



eManager

IoT Modular Controllers for Industrial Monitoring & Automation

Main strengths



Industrial controller for professional use

eManager is an OEM industrial controller designed to be the core of any Smart Project. It consists of a powerful Linux Embedded unit, memory optimized to deliver fast performance and communication technologies to collect and send data where it is needed.

Modularity to the edge

You can expand your **eManager** in ways never before possible in a single industrial device. **eManager** is an industrial device based on eMOD technology, the modular solution to create customized devices combining expansion modules. We offer modules of digital inputs, analog inputs, relays, PT-100 temperature inputs, three phase energy meter, GPRS, 4G, NB-IoT, LTE CAT-M1 and LoRaWAN. Create the perfect device for your Edge computing and Industry 4.0 applications and projects.



Your business, your software

Our mission is to provide the best industrial hardware and the greatest open software tools to allow you to easily develop your own application.

You will be able to focus on your business software needs and forget about hardware. We have verified and certified it for you.

 Multilanguage API

 Node-RED



We care about branding

Rather than simply adding your logo into a product, you have the opportunity to increase your brand value, create trust and improve recognition. Being chosen your **eManager**, your functional modules and being created your own software application, just one more detail, add your logo.

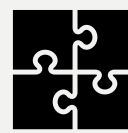
Highlights



R&D costs down



Fast time-to-market



Maximum modularity



Brand customization



Verification and certification



Extreme performance

Product range

A CPU for each project

A tailored solution as **eManager** would not be complete without different CPU options. From the most cost-effective applications to the maximum performance requirements.

Basic CPU

- ✓ Ideal for fog computing applications where monitoring, control and data sending is required
- ✓ ARM Cortex-A7 700 MHz with a Linux Yocto embedded
- ✓ 256 MB DDR3 RAM memory
- ✓ 512 MB NAND Flash memory
- ✓ RS-232/485, Ethernet and Wi-Fi communications
- ✓ Node-RED integrated. Collect & Send your data

Pro CPU

- ✓ Designed for the most demanding applications, with datalogging and data storage requirements
- ✓ ARM Cortex-A7 800 MHz with a Linux Yocto embedded
- ✓ 512 MB DDR3 RAM memory
- ✓ 8 GB eMMC Flash memory
- ✓ RS-232/485, Ethernet and Wi-Fi communications
- ✓ Node-RED integrated. Implement your embedded database

+ Cost-effective



+ Performance



An eManager for each application

eManager is the easiest way to build your monitoring and automation project. We have defined three different product ranges to perfectly meet the needs of each application. Just navigate between dozens of products and remember that **if you do not find your eManager, we can build it for you!**

eManager Essentials

It includes **eManager** & **eManager Pro CPUs**.
Choose between AC or DC Power supply.
Add GPRS or 4G communications.



eManager ACTIO

It includes **eManager** & **eManager Pro CPUs**.
Choose between AC or DC Power supply.
Add GPRS or 4G communications.
Add digital inputs, analog inputs and relays.



eManager Energy

It includes **eManager** & **eManager Pro CPUs**.
Choose between AC or DC Power supply.
Add GPRS or 4G communications.
Add three phase or single phase energy metering.



Product range

eManager Essentials



Type	Code	CPU	RAM memory	Flash memory	Power supply	Communication	DIN modules
eManager	D20000.	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	85...264 Vac	RS-ETH-WF	5
eManager GPRS	D20010.	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	85...264 Vac	RS-ETH-WF-GP	5
eManager GPRS (DC)	D20011.	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	9...36 Vdc	RS-ETH-WF-GP	5
eManager Pro	D30000.	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264 Vac	RS-ETH-WF	5
eManager Pro (DC)	D30001.	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	9...36 Vdc	RS-ETH-WF	5
eManager Pro GPRS	D30010.	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264 Vac	RS-ETH-WF-GP	5
eManager Pro 4G	D30020.	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264 Vac	RS-ETH-WF-4G	5
eManager Pro 4G SC (*1)	D3002000C0000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264 Vac	RS-ETH-WF-4G	7
eManager Pro 4G-LATAM	D30030.	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264 Vac	RS-ETH-WF-4G-AUX	5

(*1) With battery for detecting power failure (duration 2 to 3 minutes)

RS-ETH-WF: RS-232/485, Ethernet and Wi-Fi communications

RS-ETH-WF-GP: RS-232/485, Ethernet, Wi-Fi and GPRS communications

RS-ETH-WF-4G: RS-232/485, Ethernet, Wi-Fi and 4G EMEA communications

RS-ETH-WF-4G-AUX: RS-232/485, Ethernet, Wi-Fi and 4G LATAM, AUS & NZ communications

eManager Energy



Type	Code	CPU	RAM memory	Flash memory	Power supply (Vac)	Communication	Measurement circuit	Current input	DIN modules
eManager Pro Energy	D302000070000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF	1x Three-phase / 3x Single-phase	.../1 A	7
eManager Pro Energy X2	D302000080000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF	2x Three-phase / 6x Single-phase	.../1 A	7
eManager Pro 4G Energy X2	D302200080000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF-4G	2x Three-phase / 6x Single-phase	.../1 A	7

RS-ETH-WF: Comunicaciones RS-232/485, Ethernet y Wi-Fi

RS-ETH-WF-4G: Comunicaciones RS-232/485, Ethernet, Wi-Fi y 4G EMEA

eManager ACTIO



Type	Code	CPU	RAM memory	Flash memory	Power supply (Vac)	Communication	Digital inputs (0-24 Vdc)	Analog inputs	Relays output	Probe TH input	DIN modules
eManager ActIO 1072	D201000012000	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	85...264	RS-ETH-WF	10	7	2 (6 A)	-	7
eManager GPRS ActIO 1072	D201100012000	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	85...264	RS-ETH-WF-GP	10	7	2 (6 A)	-	7
eManager GPRS ActIO 72	D201100020000	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	85...264	RS-ETH-WF-GP	7	-	2 (6 A)	-	6
eManager GPRS ActIO 52	D201100040000	ARM Cortex A7 700 MHz	256 MB	512 MB NAND	85...264	RS-ETH-WF	5	-	2 (6 A)	-	6
eManager Pro ActIO 1072	D301000012000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF	10	7	2 (6 A)	-	7
eManager Pro GPRS ActIO 80	D301100030000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF-GP	-	-	8 (2 A)	-	6
eManager Pro GPRS ActIO 1072	D301100012000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF-GP	10	7	2 (6 A)	-	7
eManager Pro 4G ActIO 1072	D301200012000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF-4G	10	7	2 (6 A)	-	7
eManager Pro 4G ActIO 221	D301200060000	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF-4G	2	-	1 (6 A)	2	6
eManager Pro 4G ActIO 22172 Energy (*2)	D303200026700	ARM Cortex A7 800 MHz	512 MB	8 GB eMMC	85...264	RS-ETH-WF-4G	2	7	2 (6 A)	2	9

(*2) With energy measurement with 1 three-phase circuit or 3 single-phase circuits.

RS-ETH-WF: RS-232/485, Ethernet and Wi-Fi communications

RS-ETH-WF-GP: RS-232/485, Ethernet, Wi-Fi and GPRS Communications

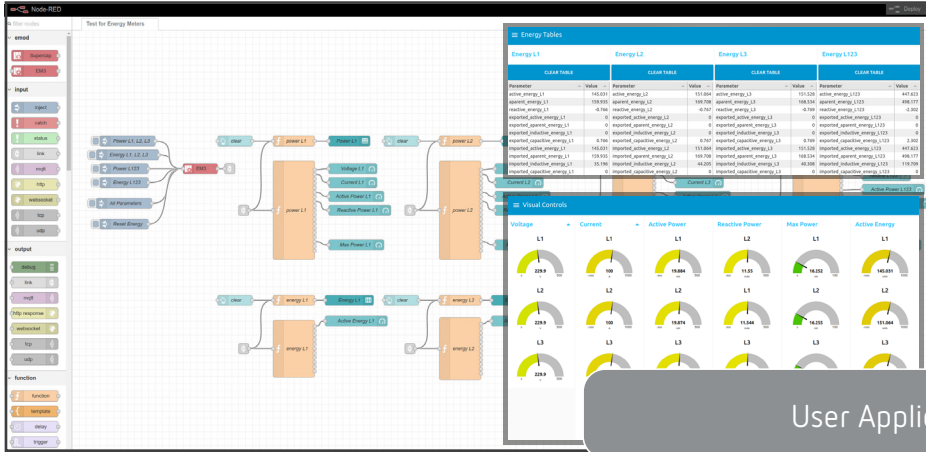
RS-ETH-WF-4G: RS-232/485, Ethernet, Wi-Fi and 4G EMEA Communications

*eManager is a 100% customisable OEM product.

See the list of expansion modules to create your own eManager.

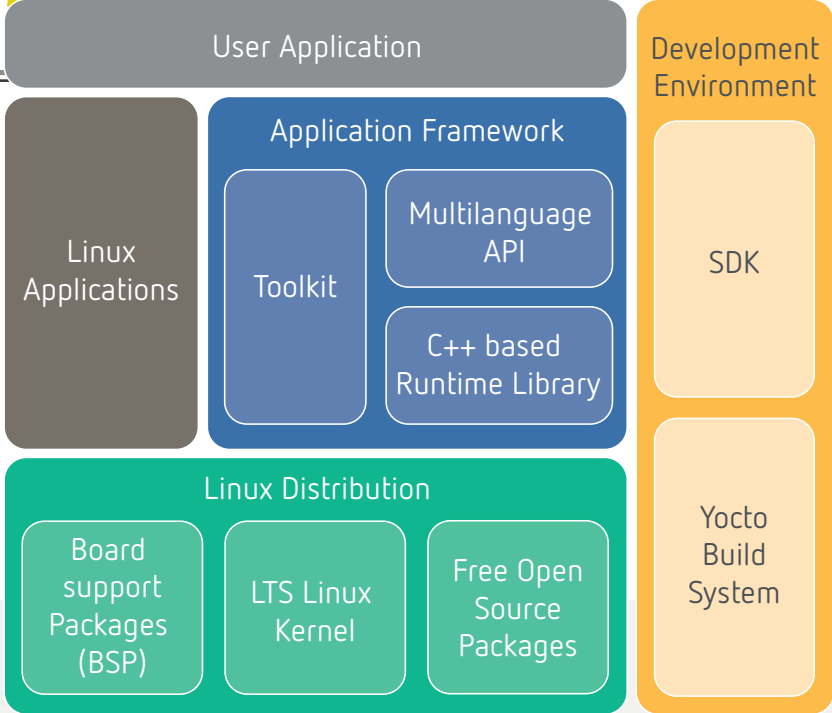
eManager is a customizable OEM product.

If you do not find your eManager, just check **create your own eManager**.



Node-RED integrated,
Custom nodes & Live
data dashboard

Linux environment
and Multilanguage API



Description

eManager is equipped with a software platform designed for easily developing industrial and edge computing applications. With **eManager** 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** 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

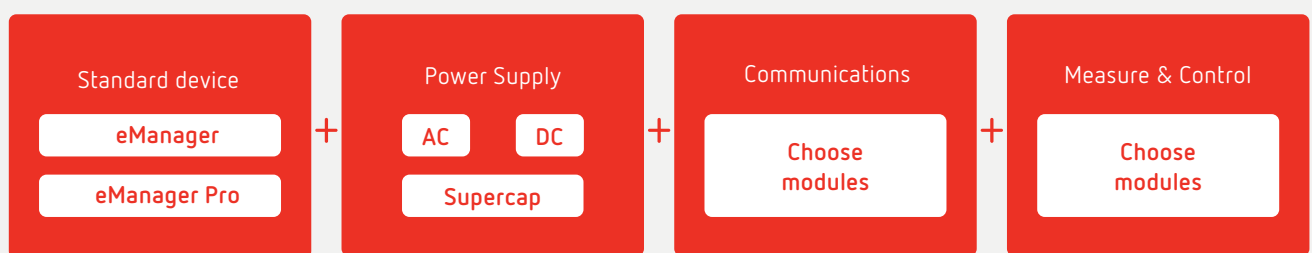
Live data Dashboard,
Embedded Database &
Cloud connected

Node-RED &
Multilanguage API

Industrial communication
protocols integration

Create your own eManager

eManager is a DIN rail modular solution designed to create customized IoT devices in accordance with the specific needs of a project. The following list shows the expansion modules which can be added to your **eManager**. All the modules are compatible and can be combined; you just need to choose the ones that meets your project requirements.



Power supply modules

Supercapacitor

Main features

- ✓ Ideal to avoid a power supply failure of your monitoring
- ✓ Alarms sending in case of failure of the electrical supply
- ✓ Average battery life of 2 minutes
- ✓ Perfect to monitor critical applications

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	35 x 88,5 x 48 mm (2 DIN rail modules)
Supercapacitor	Average lifetime	2 minutes

12/24 Vdc Power supply

Main features

- ✓ Ideal for machinery applications
- ✓ 12 & 24 Vdc power supply
- ✓ Extended voltage range from 9 to 36 Vdc
- ✓ It replaces the 230 VAC power supply (default)

Technical features

Category	Parameters	Value
Power circuit	Power	9...36 Vdc
	Consumption	0,5...20 W
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)

Communications modules

GPRS

Main features

- ✓ Quad band GSM/GPRS
- ✓ 850 / 900 / 1800 / 1900 MHz
- ✓ Connector for SMA external antenna
- ✓ Ideal for worldwide communications and remote areas coverage

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Radio interface	Type	Quad-band GSM/GPRS
	Frequency bands	850 / 900 / 1800 / 1900 MHz
	Antenna	External
	Connector	SMA

4G LTE Cat 1

Main features

- ✓ Multi-band LTE, UMTS/HSPA(+) and GSM/GPRS/EDGE coverage
- ✓ Cost-effective and low-power LTE connectivity
- ✓ Optimized for broadband IoT applications
- ✓ EMEA region coverage by default. Others regions on demand

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Frequency bands	LTE-FDD	B1/B3/B7/B8/B20/B28A
	WCDMA	B1/B8
	GSM / EDGE	B3/B8
Data transmission rates	LTE-FDD (4G)	10 Mbps (DL) / 5 Mbps (UL)
	DC-HSPA+	42 Mbps (DL) / 5.76 Mbps (UL)
	WCDMA	384 Kbps (DL) / 384 Kbps (UL)

Measure & control modules

Three-phase energy meter

Main features

- ✓ Active and reactive energy, power, voltage, current, frequency and cos phi
- ✓ 4 quadrant measure including single and three phase parameters
- ✓ Precision of class 1 active and class 2 reactive
- ✓ Indirect measurement through current transformers. Split and closed core.

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	35 x 88,5 x 48 mm (2 DIN rail module)
Measurement circuit	Current inputs	Indirect
	Metering capacity	1 Three-phase / 3 Single-phase circuits
	Current transformer	In / 1 A
	Voltage and current wire section	2,5 mm ²
Precision class	Precision	Class 1 active and class 2 reactive

Double three-phase energy meter

Main features

- ✓ Active and reactive energy, power, voltage, current, frequency and cos phi
- ✓ 4 quadrant measure including single and three phase parameters
- ✓ Precision of class 1 active and class 2 reactive measuring two three-phase or six single-phase circuits
- ✓ Indirect measurement through current transformers. Split and closed core.

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	35 x 88,5 x 48 mm (2 DIN rail module)
Signal relays	Current inputs	Indirect
	Metering capacity	2 Three-phase / 6 Single-phase circuits
	Current transformer	In / 1 A
	Voltage and current wire section	2,5 mm ²
Precision class	Precision	Class 1 active and class 2 reactive

5 Digital inputs and 2 Power relays

Main features

- ✓ Configurable as dry contact (w/o internal tension) or wet contact (with internal tension)
- ✓ Inputs activation via external 0-24 VDC signal or internal ± 12 VDC power supply (for PNP or NPN sensors)
- ✓ Working modes: input, pulse counter and pulse width time counter. Pulse capturing up to 1 ms
- ✓ Maximum activation current of the relays of 6A

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Digital inputs	Type, number and voltage	5 digital inputs 0-24 Vdc
	Minimum voltage and current	0 Vdc / 160 μ A
	Maximum voltage and current	30 Vdc / 12 mA
	Input sensitivity	0-7 Vdc : 0; 8-30 Vdc : 1
	Minimum pulse duration	1 ms
	Counters	Counters of 32 bits / Max. frequency 250 Hz
Relay outputs	Type	NO
	Max. operating parameters	6A, 250VAC, cos=1, 70°C

10 Digital inputs

Main features

- ✓ Configurable as dry contact (w/o internal tension) or wet contact (with internal tension)
- ✓ Inputs activation via external 0-24 VDC signal or internal ± 12 VDC power supply (for PNP or NPN sensors)
- ✓ Working modes: input, pulse counter and pulse width time counter. Pulse capturing up to 1 ms
- ✓ Pulse capturing up to 1 ms

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Digital inputs	Type, number and voltage	10 digital inputs 0-24 Vdc
	Minimum voltage and current	0 Vdc / 160 μ A
	Maximum voltage and current	30 Vdc / 12 mA
	Input sensitivity	0-7 Vdc : 0; 8-30 Vdc : 1
	Minimum pulse duration	1 ms
	Counters	10 counters of 32 bits / Freq. max 250 Hz

7 Analog inputs and 2 Power relays

Main features

- ✓ Analog inputs with 4096 points of resolution
- ✓ Configurable as 0...10 V / 0...20 mA or 4...20 mA
- ✓ Maximum activation current of the relays of 6A
- ✓ Combine actuation with monitoring in the same module

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Analog inputs	Number, type and range	7 analog inputs 0...10 V / 0...20 mA or 4...20 mA
	Transducer resolution	12 bits (4096 points)
Relay outputs	Type	NO
	Max. operating parameters	6 A, 250 Vac, cos=1, 70°C

12 Analog inputs

Main features

- ✓ Analog inputs with 4096 points of resolution
- ✓ Configurable as 0...10 V / 0...20 mA or 4...20 mA
- ✓ Ideal for applications of humidity, level and pressure monitoring
- ✓ Maximum accuracy with resolution of 4096 points

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Analog inputs	Number, type and range	12 analogue inputs 0...10 V / 0...20 mA or 4...20 mA
	Transducer resolution	12 bits (4096 points)

8 Signal relays NO/NC

Main features

- ✓ Signal relays configurable as NO or NC
- ✓ Activation/deactivation time configurable
- ✓ Activation current up to 2 A
- ✓ Relays real time status on leds

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Signal relays	Number	8 signal relays
	Type	NO or NC configured on demand
	Max. operating voltage	50 Vac/Vdc
	Max. activation current	2 A, 60 W, cos=1
	Min. signal duration	10 ms

Levels sensor

Main features

- ✓ Conductive probe inputs
- ✓ Namur, capacitive and PNP sensor inputs
- ✓ 0...20 / 4...20 mA current analog input
- ✓ 4096 resolution points on all the inputs

Technical features

Category	Parameters	Value
Mechanical characteristics	Dimensions (Width x High x Length)	17,5 x 88,5 x 48 mm (1 DIN rail module)
Conductive probe inputs	Number and type	5 conductive probe inputs
	Transducer resolution	12 bits (4096 points)
Namur, capacitive and PNP sensor inputs	Number and type	3 Namur, capacitive and PNP sensor inputs
	Transducer resolution	12 bits (4096 points)
Analog inputs	Number, type and range	1 analog input 0...20 mA / 4...20 mA
	Transducer resolution	12 bits (4096 points)

Your partner for Industrial Internet of Things



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