A close-up photograph of a white Industrial Shields Arduino board. The board features several green terminal blocks with orange pins, used for connecting external components. The text "Industrial Shields" and "www.industrialshields.com" are printed on the top of the board. The background is a light gray gradient.

# Industrial Equipment based on Arduino and Raspberry Pi.

The Liberalization of the Industry  
with Open Source Technology.



Industrial Shields

# MDUINO PLUS

- ✓ Plus SECURITY
- ✓ Plus PROTECTION
- ✓ Plus ESD improvement
- ✓ Modbus RTU
  - Half-duplex
  - Full-duplex
- ✓ Modbus TCP
- ✓ RTC
- ✓ MicroSD socket

RS485  
RS232  
SPI  
TTL  
I2C

Original Arduino Mega included



Industrial Standard Communications

Ethernet  
TCP / IP  
Modbus RTU  
Modbus TCP

■ PLC Arduino 19R I/Os  
Relay / Analog / Digital PLUS



**6 Inputs:**

- (4x) Analog (0-10Vdc, 10bit) / Digital (7-24Vdc) configurables by software
- (2x) Interrupt (7-24Vdc). "Can work like Digital (24Vdc)"

**11 Outputs:**

- (8x) Relay (220Vac - 5A)
- (3x) Analog (0-10Vdc, 8bit) / Digital (5 - 24Vdc)

■ PLC Arduino 21 I/Os  
Analog / Digital PLUS



**13 Inputs:**

- (6x) Analog (0-10Vdc) / Digital (7-24Vdc) configurable by software
- (7x) Digital Isolated (7-24Vdc).

**8 Outputs:**

- (8x) Digital Isolated (5-24Vdc) / (3 of which) PWM Isolated (3 of which) Analog (0-10Vdc) configurable by switch

■ PLC Arduino 38AR I/Os  
Relay / Analog / Digital PLUS



**19 Inputs:**

- (10x) Analog (0-10Vdc, 10bit) / Digital (7-24Vdc) configurables by software
- (4x) Interrupt (7-24Vdc). "Can work like Digital (24Vdc)"
- (5x) Isolated Digital (7-24Vdc)

**19 Outputs:**

- (8x) Relay outputs (220Vac-5A).
- (6x) Analog (0-10Vdc, 8 bit) / Digital (5-24Vdc) / PWM Isolated (5 - 24Vdc)
- (5x) Digital (5-24Vdc)

■ PLC Arduino 38R I/Os  
Analog / Digital / Relay PLUS



**12 Inputs:**

- (8x) 10 bit - Analog (0-10Vdc) / Digital (7-24Vdc) configurable by software
- (4x) Interrupt (24Vdc). "Can work like Digital (24Vdc)"

**22 Outputs:**

- (16x) Relay (220Vac-5A).
- (6x) Analog (0-10Vdc, 8bit) / Digital (24Vdc)

■ PLC Arduino 42 I/Os  
Analog / Digital PLUS



**26 Inputs:**

- (12x) Analog (0-10Vdc) / Digital (7-24Vdc), configurable by software
- (14x) Digital Isolated (7-24Vdc).

**16 Outputs:**

- (16x) Digital Isolated (5-24Vdc) / (6 of which) PWM, configurable by software
- (6 of which) Analog (0-10Vdc), configurable by switch

■ PLC Arduino 50RRA I/Os  
Relay / Analog / Digital PLUS



**22 Inputs:**

- (12x) Analog (0-10Vdc, 10bit) / Digital (7-24Vdc) configurables by software
- (10x) Digital Isolated (7-24Vdc). (6 of which are Interrupt)

**36 Outputs:**

- (16x) Relay (220Vac-5A)
- 8x) Analog (0-10Vdc, 8bit) / Digital (5-24Vdc)
- (12x) Digital (5-24Vdc)

■ PLC Arduino 53ARR I/Os  
Relay / Analog / Digital PLUS



**25 Inputs:**

- (14x) Analog (0-10Vdc, 10 bit) / Digital (7-24Vdc) configurables by software
- (5x) Digital (7-24Vdc).
- (6x) Interrupt (7-24Vdc). "Can work like Digital 24Vdc"

**28 Outputs:**

- (15x) Relay (220Vac-5A)
- (8x) Analog (0-10Vdc, 8bit) / Digital (5-24Vdc)
- (5x) Digital (Optoisolated 24Vdc max).

■ PLC Arduino 54ARA I/Os  
Relay / Analog / Digital PLUS



**29 Inputs:**

- (14x) Analog (0-10Vdc, 10 bit) / Digital (7-24Vdc) , configurable by software
- (9x) Digital Isolated (7-24Vdc).
- (6x) Interrupt (7-24Vdc). "Can work like Digital (24Vdc)"

**25 Outputs:**

- (8x) Relay (220Vac-5A)
- (8x) Analog (0-10Vdc, 8 bit)/ Digital (5-24Vdc)
- (9x) Digital (Isolated 24Vdc max)

RS485  
RS232  
SPI  
TTL  
I2C

Original Arduino Mega included



Industrial Standard Communications

Ethernet  
TCP / IP  
Modbus RTU  
Modbus TCP

■ PLC Arduino 57R I/Os  
Relay / Analog / Digital PLUS



**18 Inputs:**

- (12x) Analog (0-10Vdc, 10 bit) / Digital (7-24Vdc) configurable by software
- (6x) Interrupt (5-24Vdc) "Can work like Digital (24Vdc)".

**31 Outputs:**

- (23x) Relay (220Vac - 5A).
- (8x) Analog (0-10Vdc, 8 bit) / Digital (5-24Vdc)

■ PLC Arduino 57AAR I/Os  
Analog / Digital PLUS



**32 Inputs:**

- (16x) Analog (0-10Vdc, 10bit) / Digital (7-24Vdc) configurable by software
- (6x) Interrupt (5-24Vdc). "Can work like Digital (24Vdc)"
- (10x) Isolated Digital (5-24Vdc)

**25 Outputs:**

- (7x) Relay (220Vac - 5A)
- (8x) Analog (0-10Vdc, 8bit) / Digital (5-24Vdc) / PWM Isolated (5-24Vdc)
- (10x) Digital Isolated (5-24Vdc)

■ PLC Arduino 58 I/Os  
Analog / Digital PLUS



**36 Inputs:**

- (16x) Analog (0-10Vdc) / Digital (7-24Vdc) configurable by software
- (20x) Digital Isolated (7-24Vdc).

**22 Outputs:**

- (22x) Digital Isolated (5-24Vdc)/ (8 of which) PWM configurable by software
- (8 of which) Analog (0-10Vdc)



■ PLC Arduino Ardbox  
20 I/Os Analog HF

■ PLC Arduino Ardbox  
20 I/Os RELAY HF

■ GPRS/SIM Controller 19R

Original Arduino Leonardo included



#### 10 Inputs:

- (10x) Digital (7-24Vdc).
- (6x) of 10x, Analog (0-10Vdc) configurable by Switch

#### 10 Outputs:

- (10x) Analog (0-10Vdc) and Digital / PWM Isolated (5 to 24Vdc)

#### 10 Inputs:

- (10x) Digital (7-24Vdc).
- (6x) of 10x, Analog (0-10Vdc) configurable by Switch

#### 8 Outputs:

- (8x) Relay (220Vac-5A)

#### 6 Inputs

- (4x) Analog (0-10Vdc, 10bit) / Digital (5-24Vdc) configurables by software
- (2x) Interrupt Inputs (5-24Vdc). "Can work like Digital (24Vdc)"

#### 11 Outputs

- (8x) Relay (220Vac – 5A)
- (3x) Analog (0-10Vdc, 8bit) / Digital (5-24Vdc)

RS485 · RS232    Modbus RTU  
· SPI · I2C    Industrial Protocols



#### TFT

10.1" TouchScreen LVDS, 315 nits, 170° viewing angle.  
Format 16:9, 1366x768.

#### Video in

MIPI CSI connector which lets you install an RPF camera module.

#### Integrated Storage

SD / MMC / SDIO slot.

#### Power supply

12Vdc to 24Vdc (5.5x2.5 Jack)

#### Current consumption

2.5A (12Vdc) // 1,25A (24Vdc)

#### Low level devices

8x GPIO , SPI , I2C , UART

#### LAN connectivity

10/100 Ethernet (RJ-45)

Choose the processor  
That fits your project

Original Raspberry Pi3 included



Original Tinker Board included



## CPU

### RaspberryPi B3 +

Quad-core A53  
(ARMv8) 64-bit @  
1.4GHz

### Tinker Board

Rockchip Quad-  
Core RK3288

## SOFTWARE

### Linux

### Android

### Windows 10 IoT

You can choose among these three Operating Systems to boot the Panel PC.

Depending on your installation requirements and/or needs you have the flexibility to select the option that fits best with your project.

# OPEN MOTE

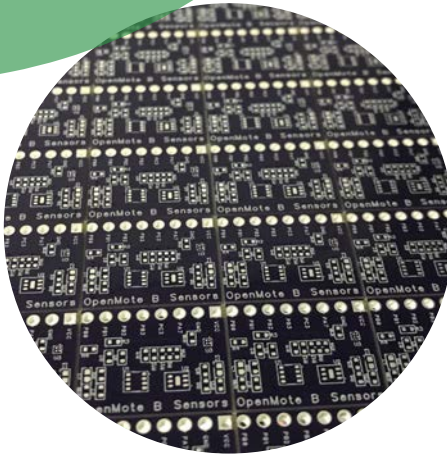
OpenMote B is a Super LOW consumption mote for the IoT applications. It is the reference for the IETF 6TiSCH Working Group and is supported by all the Open Source 6TiSCH implementation in Contiki and OpenWSN projects.

- **High Autonomy (>10 years\*)**
- **Less than 50µA Consumption**
- **USB Interface**

## Tech Features

### Technical characteristics:

- Temperature sensor, Humidity sensor, Pressure sensor, Luminosity sensor
- 4x Leds indicators
- 2x AA Battery placeholder
- 2.4GHz SMA Antenna
- SubGHz SMA Antenna



### Main Features

- Ti CC2538 SoC (512kb Flash 32kb RAM)
- Atmel AT86RF215 SubGHz Radio (868/915MHz)
- Supports all IEEE802.15.4g modulations
- Simultaneous dual radio Operation

### Programming

- Programming over BSL
- Supported in Contiki and OpenWSN for experimentation
- JTAG and OCD compliant
- USB Interface

### OpenMote B

OpenMote B is a Raspberry compatible IoT hardware in compliance with the standard IEEE802.15.4g and it can be programmed by Open Source platforms.

OPEN MOTE

## Power Supply



Din RAIL Power Supply 120W

- AC-DC, 120W, 1 Output 5A at 24Vdc



Din RAIL Power Supply 180W

- AC-DC, 180W, 1 Output 7.5A at 24Vdc



Din RAIL Power Supply 240W

- AC-DC, 240W, 1 Output 10A at 24Vdc



Din RAIL Power Supply 30W

- AC-DC, 30W, 1 Output 2.5A at 12Vdc



Din RAIL Power Supply 30W

- AC-DC, 30W, 1 Output at 24Vdc



Din RAIL Power Supply 50W

- AC-DC, 50W, 1 Output at 24Vdc

POWER SUPPLY

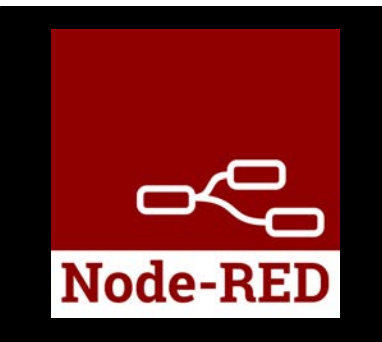
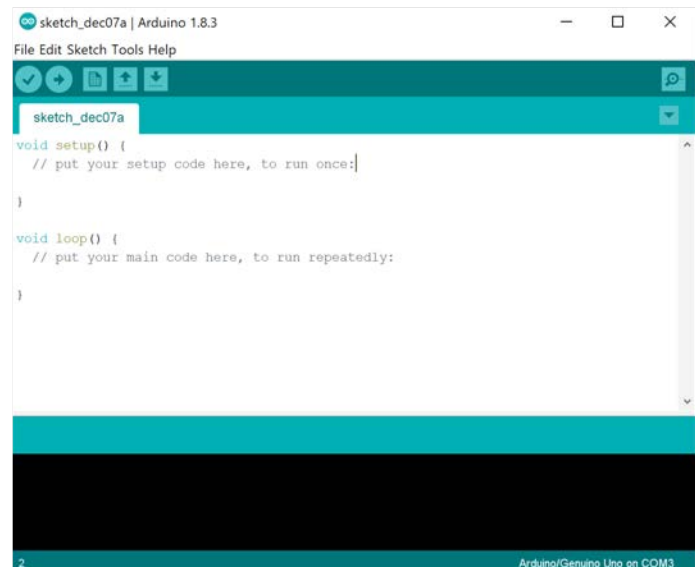
# SOFTWARE



Arduino IDE is the Original platform to program Arduino boards

Our Arduino based PLCs use Original Arduino boards assembled inside all devices

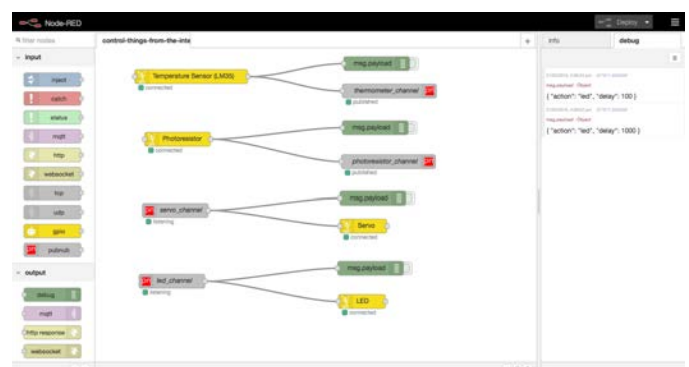
- Free software licenses
- Standard Libraries available
- Documentation and examples available,
- ready to use
- Industrial Shields libraries available to
- facilitate the programming of our PLC's



NodeRED. Platform to develop Apps, Servers, Dashboards and more.

Node-Red is a programming tool for wiring together hardware devices, APIs and online services in new and interesting ways. It is very intuitive, easy and fast-programming. It is an excellent tool for working graphically.

- It provides a browser-based editor that
- makes it easy to wire together flows
- using nodes.
- Online debugging application



Our PLC's can be programmed with all software platforms compatible with Arduino IDE.

Electron · Codebender · Stino · Eclipse · Visual Studio · Gedit · Komodo Edit · MariaMole · Zeus · Atmel Studio · AVR-GCC · CodeBlocks · ROBOTC for Arduino · Xcode · ArduinoDroid · Notepad++ · Programino · and more...



Our Panel PC's can work with Linux and Android, it means that if your team have knowledge enough you can create a custom applications for the Panel PC's. You have more flexibility to fit the needs of your installation or application.

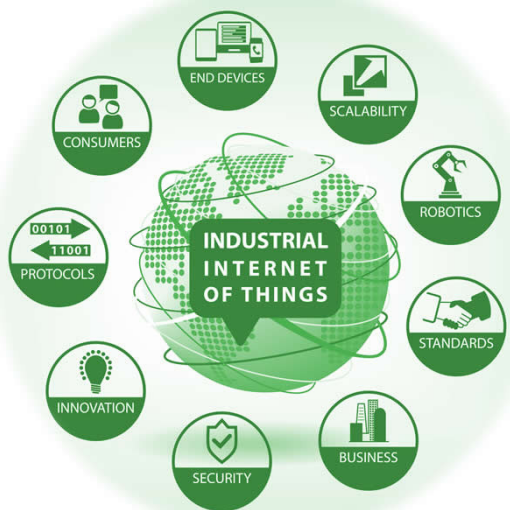




**Industrial Shields** was born in October 2012 from the hand of an engineer, who, searching for a more flexible PLC equipment and a better price, decided to develop its own solution using **Open Source Hardware**.

Therefore **Industrial Shields** is the brand that provides **Open Source Hardware** for industrial use, including all design and safety required, combining the best of two worlds.

**Industrial Shields**, designs, produces and markets the range of products based on **Open Source Hardware**.



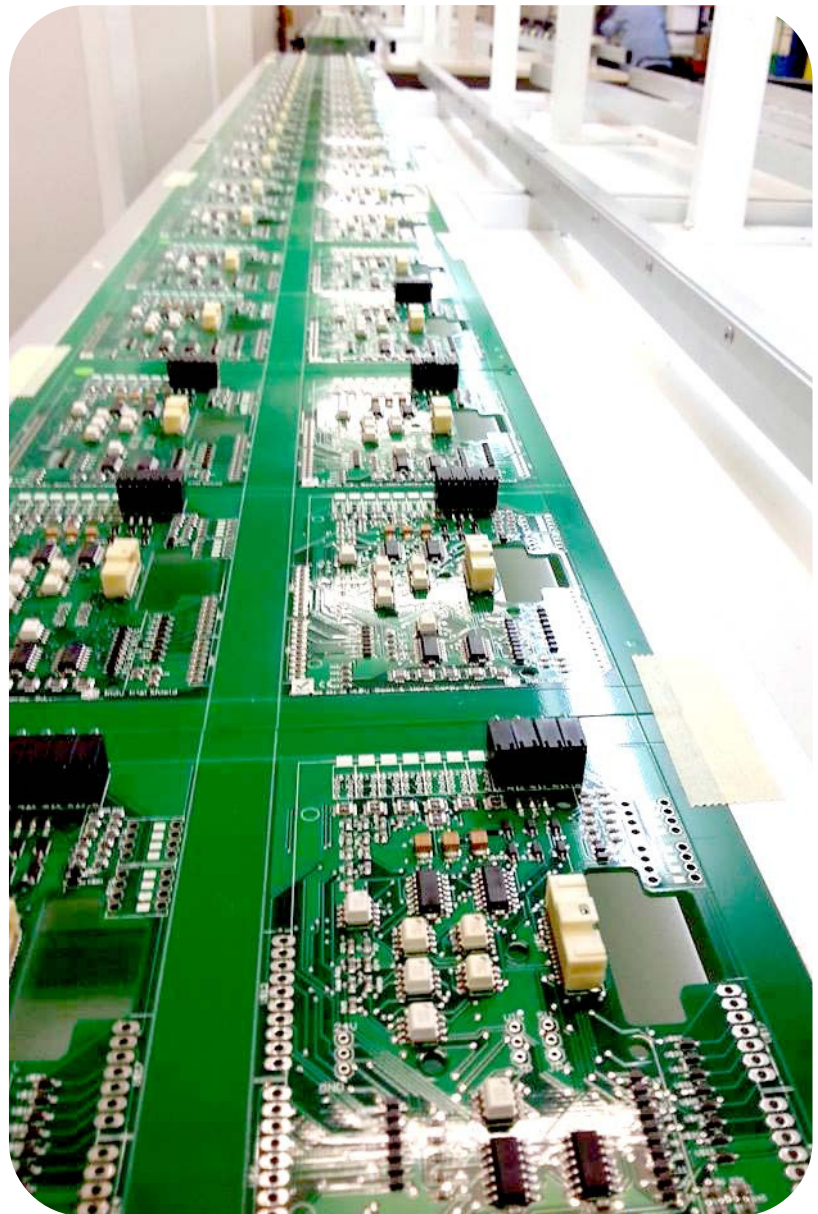
Bigdata

Cloud Computing

Flexible Hardware

Industrial Internet of Things

Boot & Work Corp. S.L. is a company committed to the promotion, development, manufacture and selling of products based on Open Source technology to liberalize the industrial sector and boost the growth of its customers.



INDUSTRIAL IOT · COMPANY

Our company's goal is to provide low cost solutions for automation in industrial environments.

The **Open Source Hardware** solutions are still not widely introduced in the industrial sector, it is a growing market and we are its pioneers.

The balance between **quality and cost is very important** for us and so for the market, using Open Source solutions we can provide more specifications at a better price.

Even more, the Open Source solutions are **more flexible and accessible** than the standard industrial solutions, and furthermore, **the software is free of licences**.

Industrial Shields are convinced with a perspective focused on **Industry 4.0 and the Internet of Things**.

Presence in more than **85** countries



Contact with us, let's **get in touch**

**Industrial Shields** has been working worldwide through distributors, or in direct contact with the customers. We have been working since 2016 with big players of the market that are selling our products in their websites.

Our **commercial, technical and support team** will assist you by phone, email, skype; or using the ticket system or chat directly in our website.

**Get in touch with us, we are here, glad to help and support you.**



Fabrica del Pont 1-11  
(Recinte industrial del Pont Vell)  
Sant Fruitós de Bages 08272 (Barcelona)  
Spain



[industrialshields@industrialshields.es](mailto:industrialshields@industrialshields.es)



Tel: (+34) 938 760 191



<https://www.industrialshields.com>

CONTACT WITH US