



MOD - 76

Modulowo® Explore™ E for Intel® Edison

*compatible with Modulowo® DuoNect™*



Designed by Modułowo® with



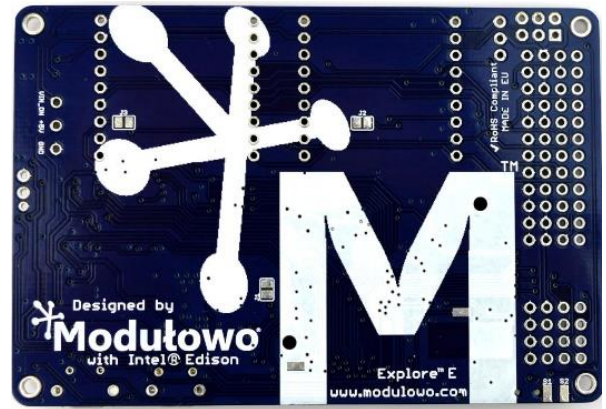
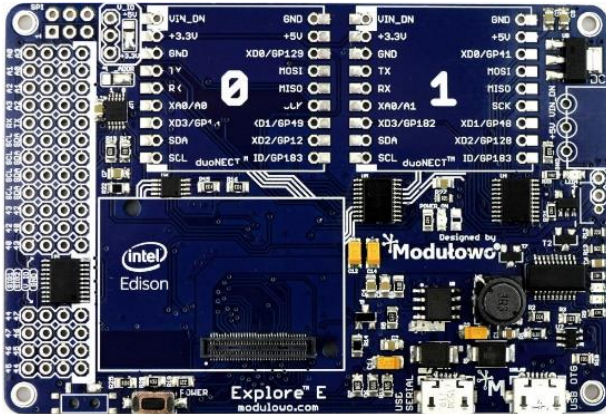
**Modułowo sp. z o.o.**

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USER MANUAL

*Modulowo® Explore™ E is the development kit, breakout board for Intel® Edison Compute Module (with dual-core Intel® Atom™, Wi-Fi and Bluetooth LE), designed for easy development of Internet of Things projects (IoT), compatible with Arduino\*, Linux, C, C ++, Python, and JavaScript.*



Board enables easy extension of compute module with additional modules, such as sensors, touch switches, motor controllers and LED drivers, communication modules, GPS and much more. *Modulowo® Explore™ E* can be used to learn programming, education, prototyping and production of new solutions.

*Modulowo® Explore E™* includes a connector for Intel® Edison platform, two Modulowo® duoNECT™ connectors for expansion modules – Modulowo® Explore™, GPIO, SPI, UART and I<sup>2</sup>C interfaces connectors, two micro USB (USB OTG and USB/UART converter), 12-bit Analog-to-digital converter (optional 16-bit) for measuring analog signals, voltage logic level translators (tolerates +3,3V/+5V signals), battery charger (only for Intel® Edison) and connector for additional power supply for expansion modules.

### Note!

**V\_SEL +3.3V/+5V** jumper to select of supply voltage and digital signals. Standard setting is + 3.3V.

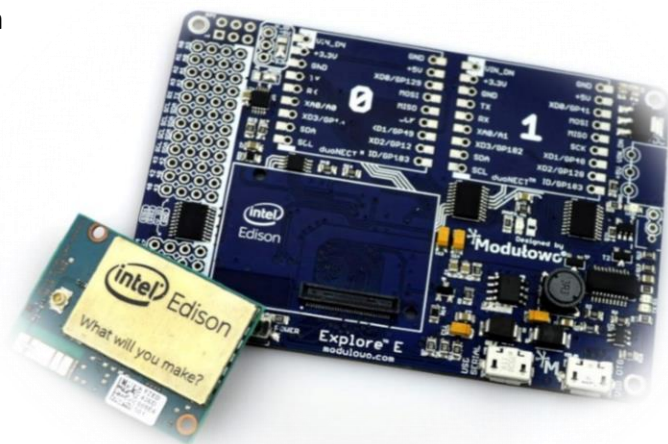
## YOUR LIST OF MODULES

After logging in to [modulowo.com/list](http://modulowo.com/list), just enter unique Serial Number and add the module to your own list. This will allow quick access to the documentation and examples. Card with Serial Number is included with each module.

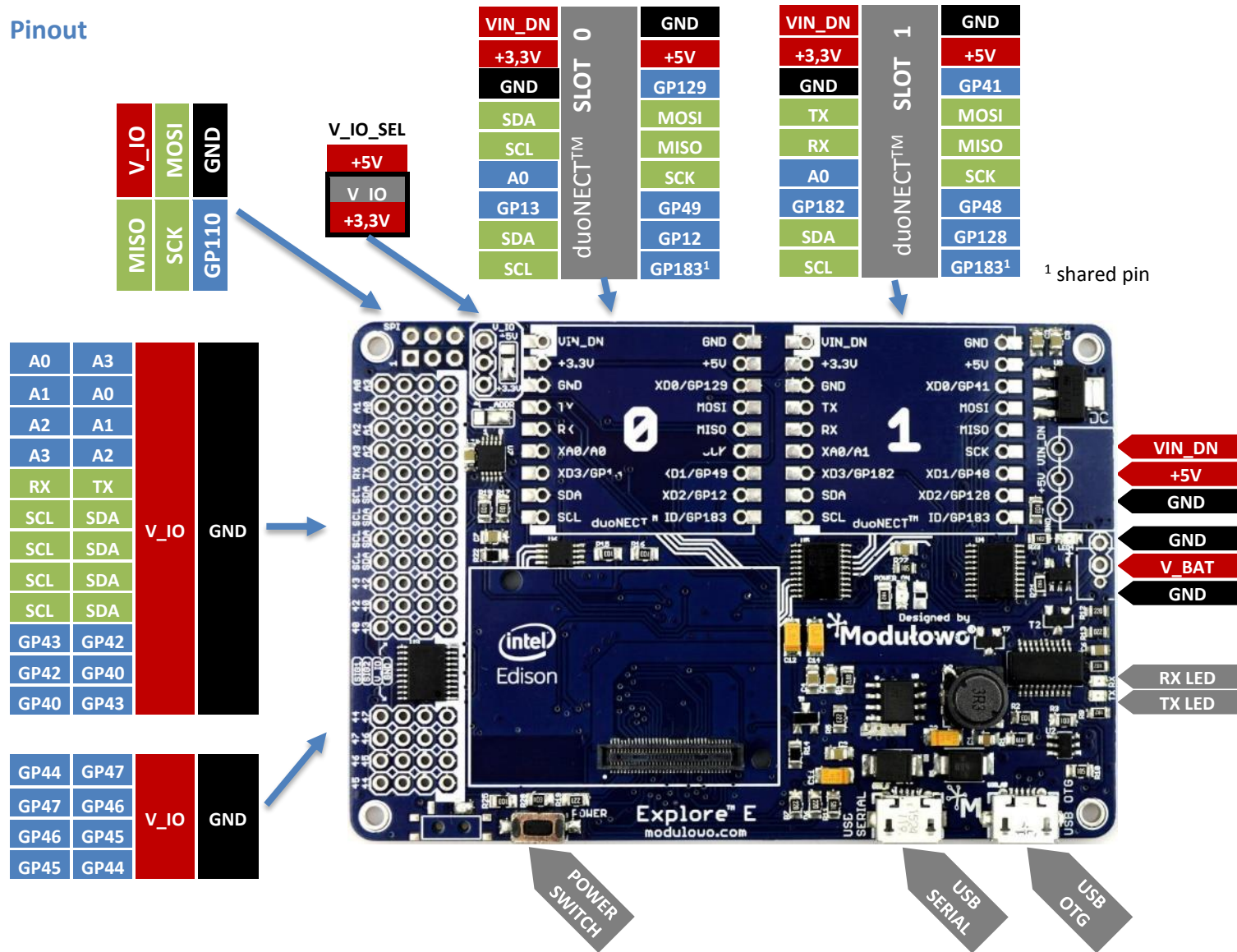
## Technical Specifications

- connector for Intel® Edison, characterized by:
  - Dual-core Intel® Atom
  - Single-core microcontroller
  - WiFi\*
  - Bluetooth\* Low-Energy (BLE) 4.0
  - RAM 1 GB
  - 4GB flash memory
- two connectors Modulowo® DuoNect™ for expansion modules
- 16 GPIO pins (2.54 mm pitch)
- additional connectors communication interfaces (2.54 mm pitch)
  - 4 x I<sup>2</sup>C
  - 1 x UART
  - 1 x SPI
- 2 micro USB connector, including USB OTG
- 4 analog channels of 12-bit (supported by the ADS1015 ADC with I2C address SMD jumper)
- logic level jumper +3.3V/+5V
- power from the micro USB connector
- Battery Charger (Li-Ion, Li-Polymer) only for Intel® Edison, MCP73831
- USB/UART converter for serial communication with compute module
- translators of logic levels + 3.3V/+5V
- +3.3V 500mA voltage regulator for expansion modules
- pin current limit: 10 mA each
- dimensions: ~ 88.5 mm x 60.0 mm
- **RoHS**
- Full specs:
 

**[tech.modulowo.com/76](http://tech.modulowo.com/76)**  
**[modulowo.com/intel-edison](http://modulowo.com/intel-edison)**



### Pinout

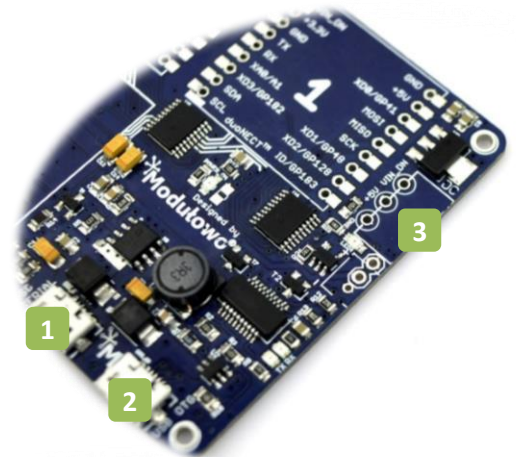


Intel® Edison	Arduino*
GP130 RX	D0 RX
GP131 TX	D1 TX
GP128	D2
GP12	D3
GP129	D4
GP13	D5
GP182	D6
GP48	D7
GP49	D8
GP183	D9
GP41	D10
GP43	D11
GP42	D12
GP40	D13
GP44	D14
GP45	D15
GP46	D16
GP47	D17
GP27	SCL
SCL	SCL
GP28	SDA
SDA	SDA
GP110	RESET
GP114	MISO
MISO	MISO
GP115	MOSI
MOSI	MOSI
GP109	SCK
SCK	SCK

## Power and communication

It is recommended to use both micro USB connector to power.

- 1 **USB SERIAL** – power connector, serial communication with Intel® Edison (BAUDRATE 115200)
- 2 **USB OTG** – power connector, battery charging, communication with the use of Arduino IDE and OTG mode
- 3 There is an optional power connector VIN\_DN/+5V/GND, mainly for additional power supply for expansion modules.



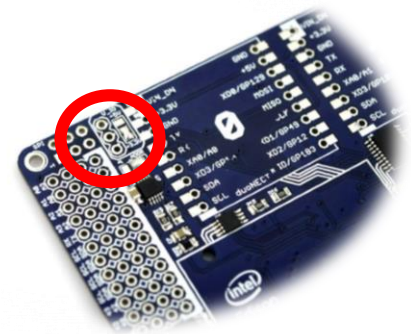
## Logic level configuration

V\_IO\_SEL jumper is used to select V\_IO line voltage and signals logic level.

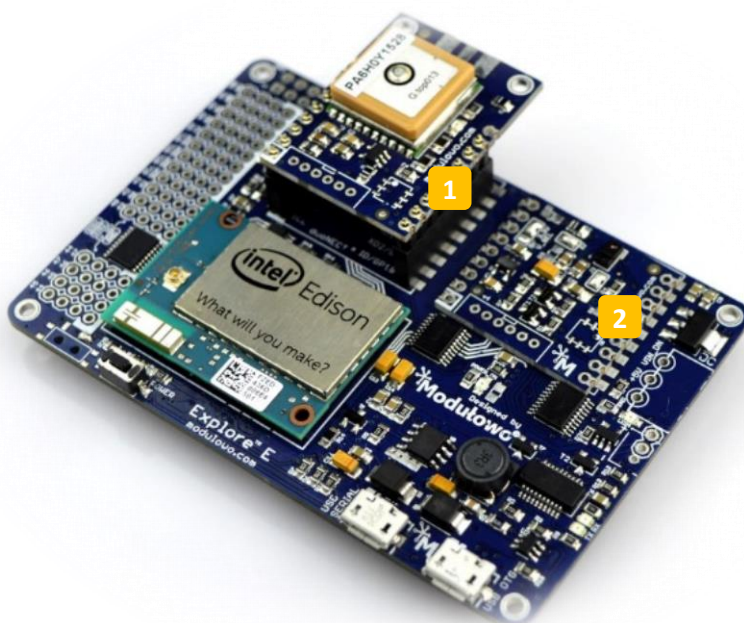


**Note!** The default setting V\_IO\_SEL to + 3.3V. There are two interdependent jumper in SMD and THT.

If you are using one of them, the other must be disconnected.



## Installation of expansion modules

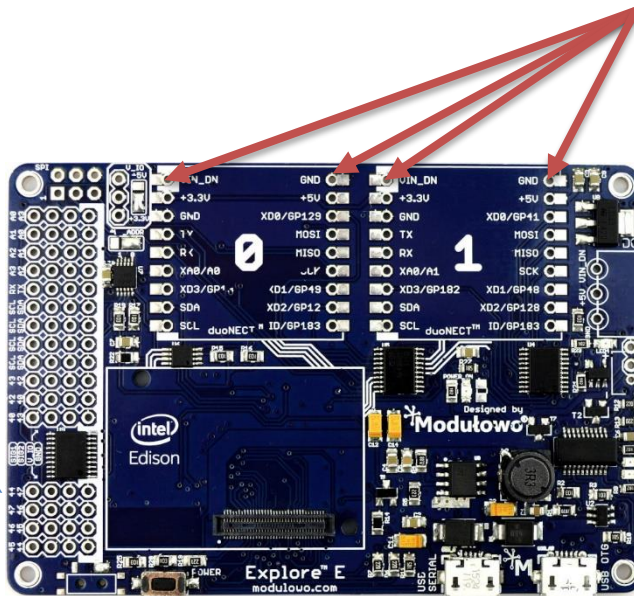


Extension modules can be mounted by:

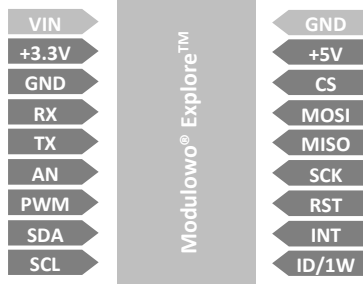

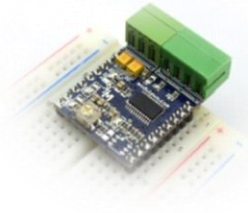

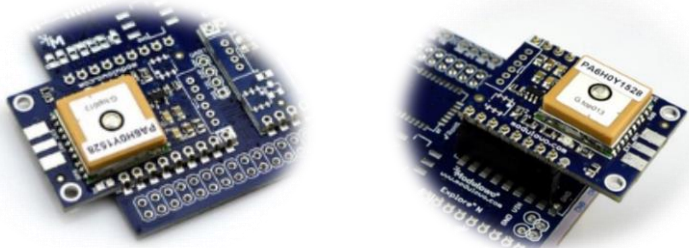
- 1 pin connector (2.54 mm pitch)  
**Note!** It is used 8 of 9 pins.  
(VIN\_DN and GND are not used)
- 2 castellated edges

### Installation of pin connectors

**Note!** In the case of pin connector assembly, extreme pins (VIN\_DN,GND) are not used.



### Modulowo® DuoNect™ Solution (more [modulowo.com/duonect](http://modulowo.com/duonect))

<p><b>Pinout Standard and constant width</b></p> 	<p><b>+3,3V/+5V signals tolerant</b></p> 	<p><b>Compatible with breadboard</b></p> 
<p><b>Adapters for development platforms</b></p> 	<p><b>Several ways to connect</b> castellated edges or pin connector</p> 	

#### DOCUMENTATION

[tech.modulowo.com/76](http://tech.modulowo.com/76)  
[modulowo.com/intel-edison](http://modulowo.com/intel-edison)

#### More materials, software, articles, blog and technical support

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