Technical Features

**MODEL TYPE**: M-DUINO

**Input Voltage**: 12 to 24Vdc (Fuse protection (2.5A) Polarity protection)

**Input rated voltage**: 24Vdc

**Rated Power**: 30 W

**I max**: 15A

**Size**: 101x119.3x119.5

**Clock Speed**: 16MHz

**Flash Memory**: 256KB of which 8KB used by bootloader

**SRAM**: 8KB

**EEPROM**: 4KB

**Communications & Accessories**: i2C, Ethernet, USB, RS485, RS232, SPI, Lufta, RTC, microSD

**USB consideration**: Only for uploading or debugging, NOT connected as a serial Cannot be working in a final application

**Power supply voltage**: DC power supply

**Operating voltage range**: DC power supply

**Power consumption**: DC power supply

**External power supply**: Power supply voltage

**Power supply voltage**: 24Vdc

**Power supply holding time**: 2ms min.

**Weight**: 597g max.

**Insulation resistance**: 2000Ω min at 500Vdc between the AC terminals and the protective earth terminal.

**Dielectric strength**: 2300 VAC at 50/60 Hz for one minute with a leakage current of 10mA max. Between all the external AC terminals and the protective ground terminal.

**Shock resistance**: 80m/s² in the X, Y and Z direction 2 times each.

**Ambient temperature (operating)**: 0’ to 60°C

**Ambient humidity (operating)**: 10% to 90% (no condensation)

**Ambient environment (operating)**: With no corrosive gas

**Ambient temperature (storage)**: -20°C to 60°C

**Input Voltage**: 24Vdc

**Power consumption**: 700mA

**Clock Speed**: 16MHz

**Power supply holding time**: 2ms min.

**Weight**: 597g max.

**Input Voltage**: 24Vdc

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The steps to follow to install our equipment’s to Arduino IDE are:

- Open the Arduino IDE, versión 1.8.0 or superior. If you don’t have it yet, you can download here: https://www.arduino.cc/en/Main/Software.
- Press the “Preferences” option to “File” menu and open the preferences window.
- In the text box “Additional boards manager URLs”, add the direction: http://apps.industrialshields.com/main/arduino/boards/package_industrialshields_index.json
- Close the preferences window with the “OK” button.
- Click on “Tools” menu, and open the “Boards” submenu, and click the “Boards Manager” option, to open the Boards Manager window.
- Search “industrialshields” to the search filter and select to the list and click “Install”.
- Close the “Boards Manager”. Once it is performed that steps, you are available to select each PLC that you wish to work on “Tools” -> “Boards”: M-Duino…

To get more information: https://www.industrialshields.com/first-steps-with-the-industrial-arduino-based-plc-s-and-the-panel-pc-s-raspberry-pi-based#boards

**Warnings:**

- Unused pins should not be connected. Ignoring the directive may damage the controller.

- Before using this product, it is the responsibility of the user to read the product’s User Guide and all accompanying documentation.

- Industrial Shields PLCs must be powered between 12Vdc and 24Vdc. If a higher voltage is supplied to the equipment can suffer irreversible damage.

- Maintenance must be performed by qualified personnel familiarized with the construction, operation, and hazards involved with the control.

- Maintenance should be performed with the control out of operation and disconnected from all sources of power.

- The Industrial Shields Family PLCs are Open Type Controllers. It is required that you install the M-Duino PLC in a housing, cabinet, or electric control room. Entry to the housing, cabinet, or electric control room should be limited to authorized personnel.

- Failure to follow these installation requirements could result in severe personal injury and/or property damage. Always follow these requirements when installing M-Duino family PLCs.

- In case of installation or maintenance of the M-Duino please follow the instructions marked in the Installation and Maintenance section on the User Guide.

- Do not disconnect equipment when a flammable or combustible atmosphere is present.

- Disconnection of equipment when a flammable or combustible atmosphere is present may cause a fire or explosion which could result in death, serious injury and/or property damage.

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**Symbology**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>Indicates that the equipment is suitable for direct current only, to identify relevant terminals</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>Indicates that the equipment is suitable for alternating current only, to identify relevant terminals</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>To identify the control by which a pulse is started.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>To identify an earth (ground) terminal in cases where neither the symbol 5018 nor 5019 is explicitly required.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>To identify the switch by means of which the signal lamp(s) is (are) switched on or off.</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>CE marking indicates that a product complies with applicable European Union regulations</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury</td>
</tr>
<tr>
<td><img src="https://via.placeholder.com/150" alt="symbol" /></td>
<td>To indicate hazards arising from dangerous voltages</td>
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</tbody>
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**Technical Support**

You can contact with us using the best channel for you:

- Email: support@industrialshields.com
- Website: www.industrialshields.com
- Visit our Blog, Forum or Ticketing system
- Use our chat service
- Check the user guides
- Visit our Channel