Technical Features  CONECTABLE PLC 12/24Vdc WIS

**Input Voltage**  12 to 24Vdc (Priority protection)

**Input Rated Voltage**  11.4 to 25.4 Vdc

**Rated Power**  30 W

**Max. at 24Vdc**  15A

**CPU**  Arduino MKR 1010  MKR-ESP32

**Clock Speed**  32.768 Khz (RTC), 45 MHz

**Memory**  256 KB (internal) - CPU Flash Memory  448 KB - ROM  520 KB - SRAM  16 KB - SRAM in RTC

**Communications**  WiFi - 802.11b/g/n  Bluetooth Low Energy  Ethernet  Serial TTL - RS485 - I2C - SPI

**Product Name**  WIS-MKR1010-A1  WIS-ESP32-A1

**Reference**  4000003853  400003857

**Additional Communications**  LoRa  NB-IoT

**CPU - Arduino MKR**  WIS-MKR-LoRa-A1  WIS-MKR-NBIoT-A1

**CPU - ESP32**  WIS-ESP32-LoRa-A1  WIS-ESP32-NBIoT-A1

**Reference**  4000003854  4000003859

### INPUTS (x8)

- **Analog/Digital Input (x4)**
  - As Analog Input: 0 to 10 Vdc  Rated Voltage: 10 Vdc  12-bit resolution
  - As Digital Input: 5 to 24 Vdc  Rated Voltage: 24 Vdc

- **Digital Input (x4)**  5 to 24 Vdc  I max: 12 mA at 24 Vdc  Galvanic Isolation  Rated Voltage: 24 Vdc

### OUTPUTS (x5)

- **Analog Output (x1)**  0 to 10 Vdc  I max: 10 mA at 10 Vdc  Rated Voltage: 10 Vdc  10-bit resolution

- **Digital Isolated Output (x4)**  12 / 24 Vdc  I max: 70 mA  Galvanic Isolation  Diode Protected for Relay  Rated Voltage: 24 Vdc

### General Features

- **Power Supply Voltage**  DC power supply  12 to 24 Vdc

- **Operating Voltage Range**  DC power supply  11.4 to 25.4 Vdc

- **Power Consumption**  DC power supply  30 W MAX.

- **USB Consideration**  Only meant for uploading or debugging, not always connected as a serial in a project.

- **Insulation Resistance**  20kΩ min at 50Vdc between the AC terminals and the protective earth terminal.

- **Dielectric Strength**  2.300 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)**  0º to 60ºC

- **Ambient Humidity (Operating)**  10% to 90% (no condensation)

- **Ambient Environment (Operating)**  With no corrosive gas

- **Ambient Temperature (Storage)**  -20º to 60ºC

- **Power Supply Holding Time**  2ms min.

- **Weight**  350g max.

**LEFT SIDE CONNECTORS**

**RIGHT SIDE CONNECTORS**

### Prerequisites Software:

- Arduino IDE Platform Version 1.8.15 or above
- USB Drivers for WIS-ESP32-A1 series

### Prerequisites Software (1):

- External Power Supply unit (12/24Vdc)
- Micro USB type B to USB converter

**Reference**

- 4000003853
- 4000003857
- 4000003854
- 4000003859
- 4000003858
- 4000003859
- The installation position should be free from the following: dust or oil smoke, conductive dust, corrosive or flammable gas, high temperature, condensation, and rain.

- Besides, vibration and impact also affect the PLC normal operation and shorten its lifespan; electric shock, fire or misact also damages the product. During drilling or wiring, prevent the metal particles or wire segments from falling into the PLC casing, which may cause fire, fault or misact.

- After the PLC installation, clean the ventilation duct to prevent blocking, which may cause bad ventilation, or even fire, faults, or misact.

- Do not online connect, plug or unplug cables, which is apt to cause electric shock or damage the circuit. Installation and wire connection must be firm and reliable. Poor connection could cause misact.

- Use shielded twisted pair for the I/O of high frequency signal and analog signal to improve system IMS.

The installation environment should be free from dust, oil smoke, conductive particle, corrosive or flammable gases, high temperature, condensation and rain.

Besides, vibration and impact also affect the PLC normal operation and shorten its lifespan. It is recommended to install the PLC, together with the matching switches and contactors, in a dedicated electric cabinet and keep the cabinet ventilated.

### 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 WIS IoT Device 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 WIS family PLCs.

In case of installation or maintenance of the WIS 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.

### Symbology

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

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

- support@industrialshields.com
- www.industrialshields.com
- Visit our Blog, Forum or Ticketing system
- Use our chat service
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