# ioThinx 4510 Series
# Quick Installation Guide

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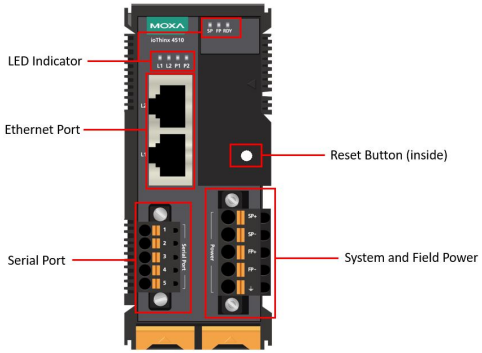
**P/N: 1802045101010**

## Introduction

The ioThinx 4510 is an advanced modular remote I/O device with a unique hardware and software design that makes it ideal for a variety of industrial data acquisition applications.



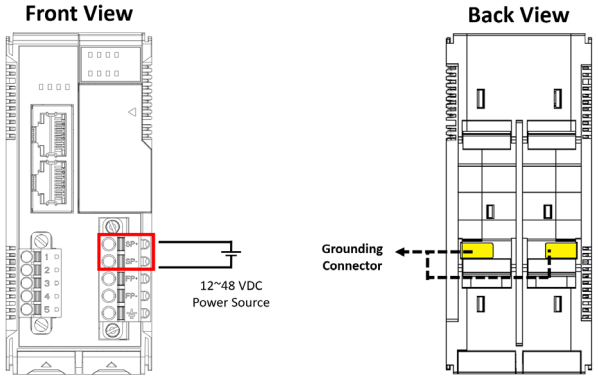

## Package Checklist

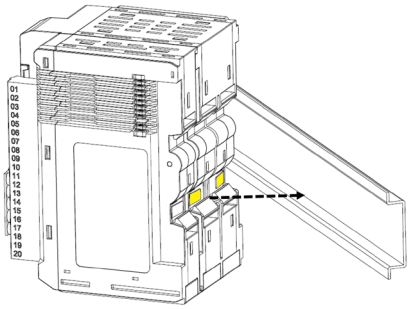
- 1 ioThinx 4510 product
- Quick installation guide (printed)
- 2 side cover plates

## Installation

### Connecting System Power

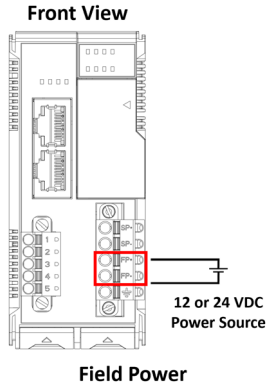
Connect your 12 to 48 VDC power source to the terminal block SP+ and SP- terminals on the ioThinx 4510. The ground connector of the system is on the back of the unit, which will connect to the DIN-rail when the product is attached to it.





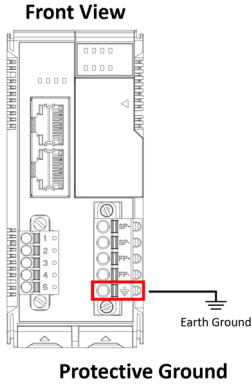
## Connecting Field Power

The ioThinx 4510 can receive field power through a 12/24 VDC power input. Field power can be used to supply power for some I/O modules, such as digital input and analog output modules.




## Connecting the Field Power Ground

Connect the Field Ground pin (⏚) to the field power ground.




## Connecting to the Network

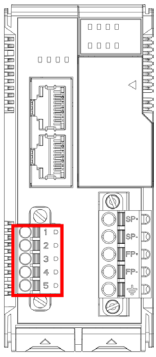
### Ethernet Communication

The ioThinx 4510 is equipped with dual unmanaged LAN ports (RJ45). Connect a network Ethernet cable to either port to provide an Ethernet connection to the unit.

**Serial Communication**

The ioThinx 4510 is equipped with a 3-in-1 serial interface, which supports 1 RS-232 port, or 1 RS-422 port, or 2 RS-485 ports. Follow the pin assignment table below to set up serial connection to the unit.

Front View



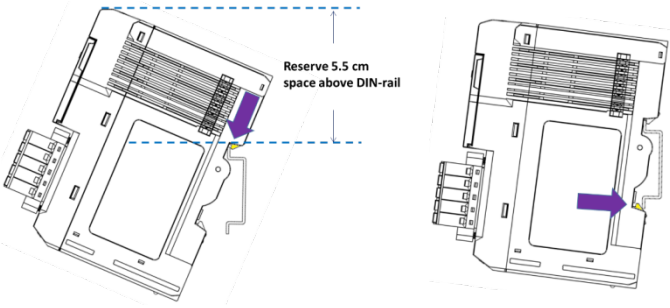
| PIN | RS-232 (P1) | RS-422 (P1) | RS-485 (P1/P2) |
|---|---|---|---|
| 1 | TXD | TXD+ | DATA 1+ |
| 2 | RXD | TXD- | DATA 1- |
| 3 | RTS | RXD+ | DATA 2+ |
| 4 | CTS | RXD- | DATA 2- |
| 5 | GND | GND | GND |

## 45M Module Wiring

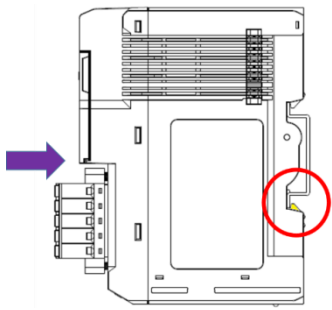
For detailed 45M module wiring, refer to the ioThinx 4510 User Manual on the official website.

## Installing the System on a DIN-Rail

**Step 1:** Hook the mounting clip of the unit onto the DIN-rail and lower the clip onto the DIN-rail. Reserve at least 5.5 cm of space above the DIN-rail to ensure that there is enough room to install the unit.

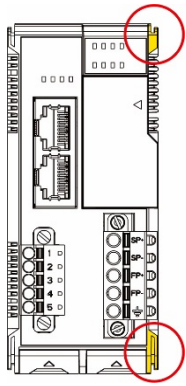



**Step 2:** Push the unit toward the DIN-rail until the mounting clip snaps in place.

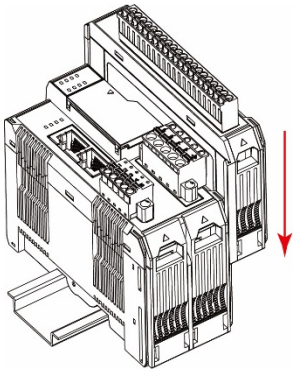


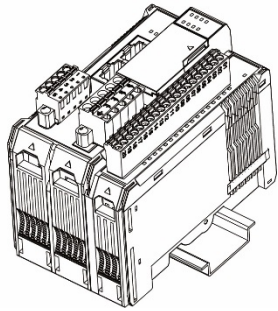
## Installing a 45M Module on a DIN-Rail

**Step 1:** Align the 45M module side by side with the head/CPU module, making sure that the upper and lower rails are hooked together.



**Step 2:** Align the 45M module side by side with the head/CPU module and then push the 45M module until it touches the DIN-rail. Next, apply more force until the module clips to the DIN-rail.

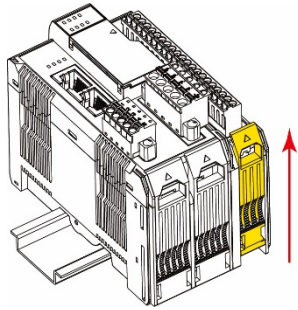




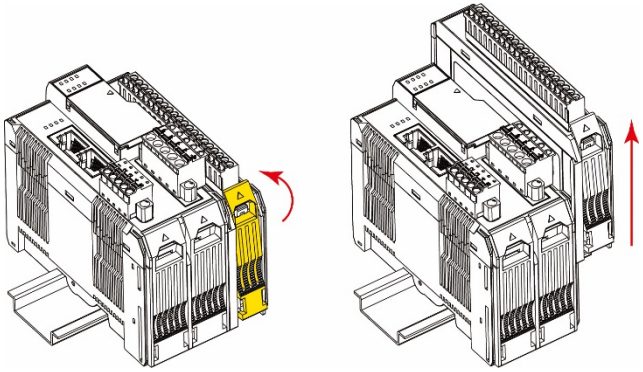
**NOTE** After the module is firmly attached to the DIN-rail, the module connections to the internal bus will be established.

## Removing a 45M Module from a DIN-Rail

**Step 1:** Use your finger to lift the release tab on the lower part of the module.



**Step 2:** Push the top of the release tab to latch it, and then pull the module out.



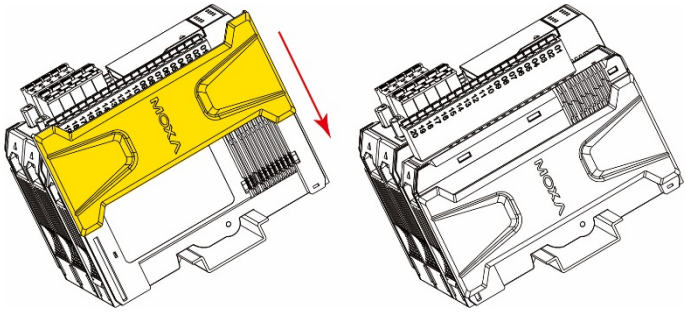
**NOTE** Electrical connections for internal bus will be disconnected when removing the 45M module.

**WARNING**

Be sure the power is off before removing modules to avoid unexpected damage.

### Installing the Covers on the First and Last Module

Attach the covers to the first and last module to cover the modules' contacts.



**NOTICE**

Be sure to attach the covers to provide electrostatic discharge protection.

### LED Indicators

| Name | Indication | LED Qty | Description |
|---|---|---|---|
| SP | System Power | 1 | On: Power on<br>Off: Power off |
| FP | Field Power | 1 | On: Power on<br>Off: Power off |
| RDY | System (Kernel) Ready | 1 | Green: System ready<br>Green Slow Blinking: Booting up<br>Red: System error<br>Red Slow Blinking: Loading Factory Default Recovery/Upgrading firmware/Backup mode<br>Red Fast Blinking: Safe mode<br>Off: Power off |
| LAN | Ethernet Connection | 1 for each port | Green: 100Mb connection<br>Amber: 10Mb connection<br>Blinking: Data transmitting<br>Off: Disconnected |
| Px | Serial Connection | 1 for each port | Green: Tx<br>Amber: Rx<br>Non-simultaneous Blinking: Data transmitting<br>Off: Disconnected |

## System Configuration

1. Configuration via Web Console

   Main configuration of the unit is done through the web console.

   - Default IP Address: 192.168.127.254
   - Subnet Mask: 255.255.255.0

**NOTE** Be sure to configure the host PC's IP address to use the same subnet as the unit. For example, 192.168.127.253

2. IOxpress Utility

   IOxpress is a utility that helps users with mass deployment of, searching for, and locating units on the local network. This utility can be downloaded from Moxa's website.

3. Loading the Factory Default Settings

   There are three ways to restore the unit to the factory default settings:

   I. Hold the Reset button inside the front door of the unit for 10 seconds while it is powered on.

   II. In the IOxpress utility's Device Library page, select the unit and choose Load Factory Default.

   III. Go to the System tab on the unit's web console and choose Load Factory Default in the Configuration section.

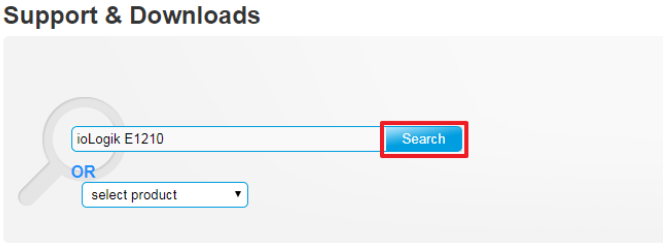
**NOTE** Please refer to the user's manual for information on detailed configuration and settings.

## How to Download the Software

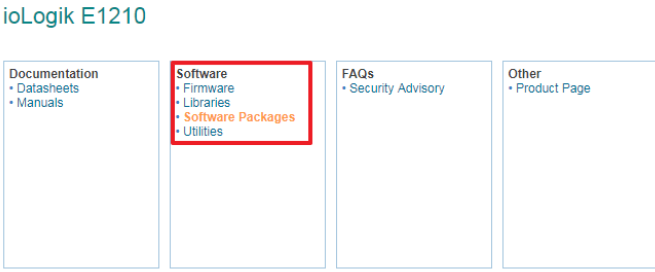
Related software packages can be downloaded from the Moxa website.

**Step 1:** Go to the following address to open the Support & Downloads search tool:
http://www.moxa.com/support/support_home.aspx?isSearchShow=1

**Step 2:** Type the model name in the search box or select a product from the drop-down box and then click Search. The ioLogik E1210 is used for the examples below.




**Step 3:** Go to the Software page to download the latest software for the product.




## Specifications

| | |
|---|---|
| Input Current | 800 mA @ 12 VDC |
| Input Voltage | 12 to 48 VDC<br>Field Power: 12/24 VDC |
| Operating Temperature | Standard Models:<br>-20 to 60°C (-4 to 140°F)<br>Wide Temp. Models:<br>-40 to 75°C (-40 to 167°F) |
| Storage Temperature | -40 to 85°C (-40 to 185°F) |