



# NPort IA5000A Quick Installation Guide

Third Edition, July 2013

## Overview

The NPort IA5000A series device servers deliver easy and reliable serial-to-Ethernet connectivity for the industrial automation market. The servers support several operation modes—TCP Server, TCP Client, UDP, Real COM, RFC2217, RTelnet, Pair Connection, and Ethernet Modem—ensuring the compatibility of network software, and are an ideal choice for connecting RS-232/422/485 serial devices, such as PLCs, sensors, meters, motors, drives, barcode readers, and operator displays.

## Package Checklist

Before installing the NPort IA5000A series device servers, verify that the package contains the following items:

- 1 NPort IA5150A/IA5250A/IA5450A series device server
- Documentation and Software CD
- NPort IA5000A series quick installation guide
- Warranty card

## Optional Accessories

- DR-4524 45W/2A DIN-Rail 24 VDC Power Supply with universal 85 to 264 VAC input
- DR-75-24 75W/3.2A DIN-Rail 24 VDC Power Supply with universal 85 to 264 VAC input
- DR-120-24 120W/5A DIN-Rail 24 VDC Power Supply with 88 to 132 VAC/176 to 264 VAC input by switch
- WK-36-01 Wall mounting kit

**Note:** Please notify your sales representative if any of the above items are missing or damaged.

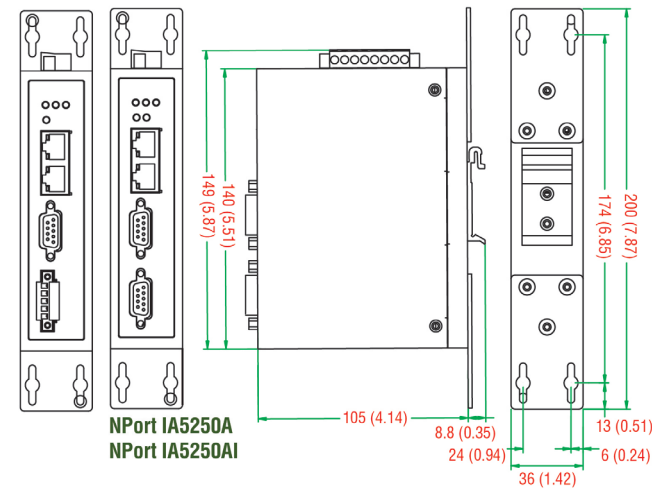
## Hardware Introduction

The NPort IA5150A series has one RS-232 DB9 serial port and one RS-422/485 terminal block for serial data communication. The NPort IA5250A/IA5250A series has two/four RS-232/422/485 3-in-1 DB9 serial ports for serial data communication. Each model has one 8-contact screw-type terminal block, which is located on the top for power input and relay output.

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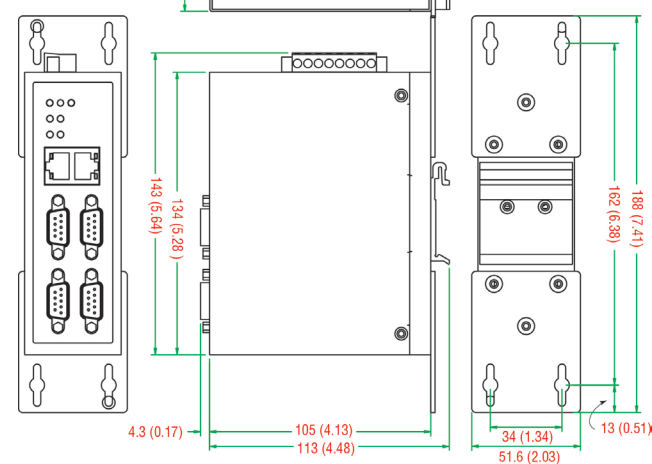
## NPort IA5150A/IA5250A Series Appearance

NPort IA5150A  
NPort IA5150AI



## NPort IA5150A/IA5250A Series Appearance

NPort IA5450A  
NPort IA5450AI



**The Reset to Default Button**—Depress the Reset to default button for 5 continuous seconds to load the factory default settings. Use a pointed object, such as a straightened paper clip or toothpick, to depress the Reset to default button. This will cause the Ready LED to blink on and off. The factory default settings are loaded

once the Ready LED stops blinking (after about 5 seconds). At this point, you can release the Reset to default button.

## NPort IA5000A Series LED Indicators (front panel)

Name	Color	Function
PWR1, PWR2	red	Power is being supplied to power input PWR1, PWR2.
Ready	red	Steady on: Power is on and the NPort IA5150A/IA5250A series is booting up. Blinking: Indicates an IP conflict, the DHCP or BOOTP server did not respond properly, or a relay output occurred.
	green	Steady on: Power is on and the NPort IA5150A/IA5250A series is functioning normally. Blinking: The device server has been located by the Administrator's "Locate" function.
	off	Power is off, or a power error condition exists.
E1, E2	orange	10 Mbps Ethernet connection.
	green	100 Mbps Ethernet connection.
	off	Ethernet cable is disconnected, or has a short.
P1, P2, P3, P4	orange	Serial port is receiving data.
	green	Serial port is transmitting data.
	off	No data is being transmitted or received through the serial port.

## Hardware Installation Procedure

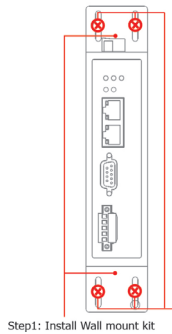
**STEP 1:** After removing the NPort IA5000A series from the box, the first thing you should do is connect the power adaptor. Connect the 12-48 VDC power line with the NPort IA5000A series' terminal block, or connect the DIN-Rail power supply with the NPort IA5000A series' terminal block.

**STEP 2:** Connect the NPort IA5000A series to a network. Use a standard straight-through Ethernet cable to connect to a Hub or Switch. When setting up or testing the NPort IA5000A series, you might find it convenient to connect directly to your computer's Ethernet port. In this case, use a cross-over Ethernet cable.

**STEP 3:** Connect the NPort IA5000A series' serial port to a serial device.

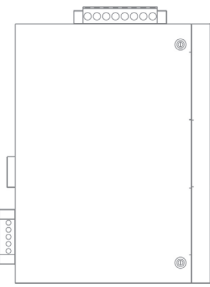
**STEP 4:** The NPort IA5000A series is designed to be attached to a DIN-Rail or mounted on a wall. For DIN-Rail mounting, push down the spring and properly attach it to the DIN-Rail until it "snaps" into place. For wall mounting, install the wall mount kit (optional) first, and then screw the device onto the wall. The following figure illustrates the two mounting options:

Wall Mount Installation



Step1: Install Wall mount kit

DIN-Rail Installation



Step2: Screw onto wall

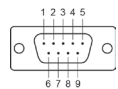
Step2: Click into DIN rail

## Software Installation Information

To install **NPort Administration Suite**, insert the **Document & Software CD** into your computer's CD-ROM drive. Once the installation window opens, click on the **Installation Administration Suite** button, and then follow the instructions on the screen. To view detailed information about the **NPort Administration Suite**, click on the **Documents** button, and then select the NPort IA5000A series User's Manual to open the pdf version of this user's manual.

## Pin Assignments and Cable Wiring

### RS-232/422/485 (Male DB9) Pinouts



PIN	RS-232	RS-422/RS-485 (4W)	RS-485 (2W)
1	DCD	TxD-(A)	-
2	RXD	TxD+(B)	-
3	TXD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	-	-
7	RTS	-	-
8	CTS	-	-
9	-	-	-

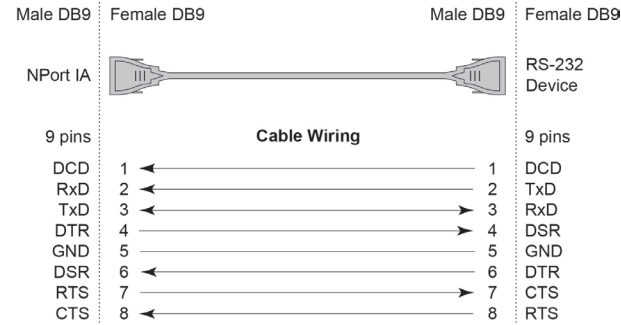
### RS-422/2W RS-485/4W RS-485 (Terminal Block) Pinouts



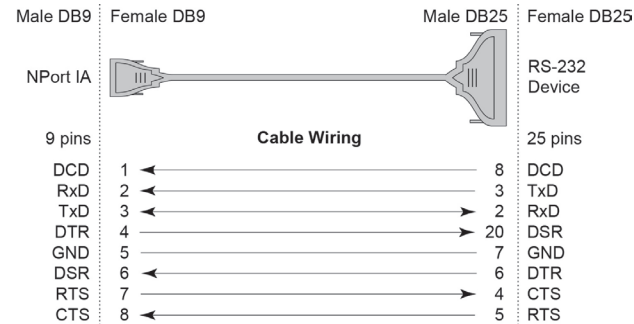
PIN	2W RS-485	RS-422/4W RS-485
1	-	TxD+(B)
2	-	TxD-(A)
3	Data+(B)	RxD+(B)
4	Data-(A)	RxD-(A)
5	GND	GND

Four cables are available as optional accessories that can be used to connect the NPort IA5000A series to RS-232 serial devices. For your convenience, we show precise cable wiring diagrams for each of the two cables.

### Female DB9 to Male DB9



### Female DB9 to Male DB25



## ATEX and IECEx Information

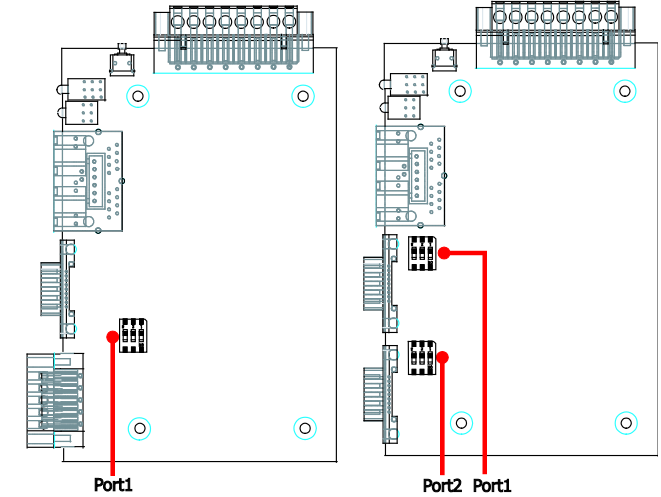
- DEMKO Certification number: 12 ATEX 1014487X  
IEC Certification Number: IECEx UL 13.0024X (only for models with suffix -CT or -IEX)
- Ambient Temperature Range (-40°C ≤ Tamb ≤ 75°C)
- Certification String: Ex nA nC IIC T3 Gc
- Standards Covered: EN 60079-0:2012/IEC 60079-0 6th Ed. AND EN 60079-15:2010/IEC 60079-15 4th Ed.
- The conditions of safe usage:
  - The Ethernet Communications Devices are intended for mounting in a tool-accessible IP54 enclosure and used in an area of not more than pollution degree 2 as defined by IEC 60664-1.
  - Conductors suitable for use in an ambient temperature greater than 91°C must be used for the power supply terminal.
  - A 4mm<sup>2</sup> conductor must be used when connection to the external grounding screw is utilized.
  - Provisions shall be made, either in the equipment or external to the equipment, to prevent the peak rated voltage voltage being exceeded by the transient disturbances of more than 140%.

## Pull-high, Pull-low, and Terminator for RS-485

Remove the NPort IA5000A's top cover and you will find DIP switches to adjust each serial port's pull-high, pull-low, and terminator.

NPort IA5150A Series

NPort IA5250A Series



SW	1	2	3
	Pull-high resistor	Pull-low resistor	Terminator
ON	1 kΩ	1 kΩ	120 Ω
OFF	150 kΩ*	150 kΩ*	-*

\*Default

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