MOXA®

IA260
Quick Installation Guide

Second Edition, April 2009

1. Overview

The IA260 embedded computer comes with four RS-232/422/485 serial ports, dual 10/100 Mbps Ethernet ports, 8 digital input and 8 digital output channels, VGA output, a CompactFlash socket for mass storage expansion, and USB ports for keyboard/mouse connection or mass storage disk expansion. These features make the IA260 ideal for embedded applications in harsh industrial environments, such as SCADA systems and manufacturing automation.

2. Package Checklist

Before installing the IA260, verify that the package contains the following items:
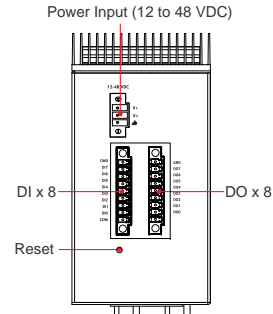
- 1 IA260 Embedded Computer
- Wall-Mounting Kit
- DIN-Rail Mounting Kit (attached to the product's casing)
- Quick Installation Guide
- Document and Software CD
- Ethernet Cable: RJ45 to RJ45 cross-over cable, 100 cm
- CBL-4PINDB9F-100: 4-pin header to DB9 female console port cable, 100 cm
- Universal Power Adaptor
- Product Warranty Statement

NOTE: Please notify your sales representative if any of the above items are missing or damaged.
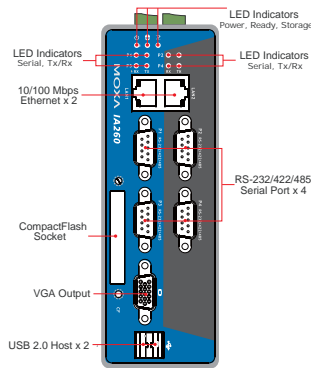
3. IA260 Panel Layout
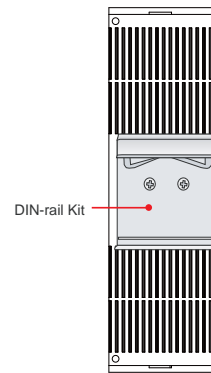
The following figures show the panel layouts of the IA260.

P/N: 1802002600041

Top View

Power Input (12 to 48 VDC)

DI x 8 — DO x 8

Reset

Front View   **Rear View**

LED Indicators Power, Ready, Storage

LED Indicators Serial, Tx/Rx — LED Indicators Serial, Tx/Rx

10/100 Mbps Ethernet x 2

RS-232/422/485 Serial Port x 4

CompactFlash Socket

DIN-rail Kit

VGA Output

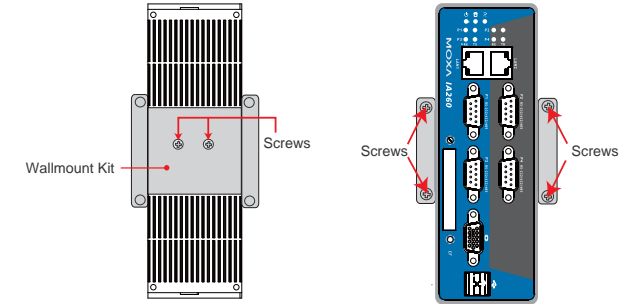USB 2.0 Host x 2

LED Indicators

The IA260 has 15 LED indicators on the front panel. Refer to the following table for information about each LED.

LED Name	LED Color	LED Function
Power	Green	Power is on
Ready	Green	OS is ready and functioning normally
Storage	Green	Data is being written to or read from the storage unit.
LAN 1/2	Orange	10 Mbps Ethernet connection
	Green	100 Mbps Ethernet connection
P1-P4 (Tx)	Orange	Serial port is transmitting TX data to the serial device.
	Off	Serial port is not transmitting TX data to the serial device.
P1-P4 (Rx)	Orange	Serial port is receiving RX data from the serial device.
	Off	Serial port is not receiving RX data from the serial device.

4. Installing the IA260

Wall or Cabinet Mounting

The IA260 comes with one metal bracket for attaching it to a wall or the inside of a cabinet. Using two screws for the bracket, first attach the bracket to the rear of the IA260. Next, use four screws per side to attach the IA260 to a wall or cabinet.

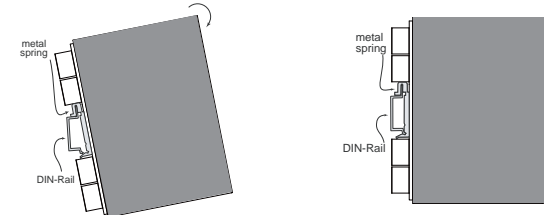Wallmount Kit — Screws   Screws — Screws

DIN-Rail Mounting

The aluminum DIN-Rail attachment plate is already attached to the product casing. When attaching the plate to the IA260, make sure that the stiff metal spring is at the top.

STEP 1: Insert the top of the DIN-Rail into the slot just below the stiff metal spring.

STEP 2: The DIN-Rail attachment unit will snap into place as shown below.

metal spring

DIN-Rail

metal spring

DIN-Rail

To remove the IA260 from the DIN-Rail, simply reverse Steps 1 and 2 above.

5. Connector Description

Power Connector

Connect the 12 to 48 VDC LPS or Class 2 power line to the IA260's terminal block. If the power is properly supplied, the Power LED will light up. The OS is ready when the Ready LED glows a solid green.
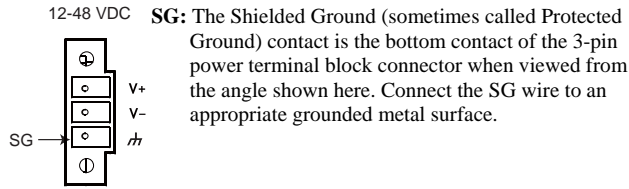
Grounding the IA260

Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting the power.

12-48 VDC   **SG:** The Shielded Ground (sometimes called Protected Ground) contact is the bottom contact of the 3-pin power terminal block connector when viewed from the angle shown here. Connect the SG wire to an appropriate grounded metal surface.
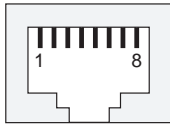
V+
V−
SG →

VGA Connector

The IA260 comes with a D-Sub 15-pin female connector to connect a VGA CRT monitor.

Ethernet Ports

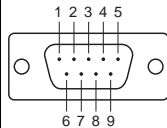The two 10/100 Mbps Ethernet ports (LAN 1 and LAN 2) use RJ45 connectors.

Pin	Signal
1	ETx+
2	ETx-
3	ERx+
6	ERx-

1   8

Serial Ports

The IA260's serial ports use the DB9 male connectors. Each port can be configured by software for RS-232, RS-422, or RS-485. The pin assignments for the ports are shown in the following table:
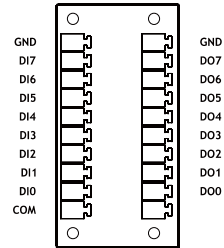
Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	---
2	RxD	TxDB(+)	TxDB(+)	---
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---

1 2 3 4 5

6 7 8 9

DI, DO

The IA260 has an 8-ch digital input and 8-ch digital output. The pinouts for the I/O are shown in the following figure.

Digital Input and Output Channel
(10-pin Terminal Blocks)

GND   GND
DI7   DO7
DI6   DO6
DI5   DO5
DI4   DO4
DI3   DO3
DI2   DO2
DI1   DO1
DI0   DO0
COM

CompactFlash Socket

The IA260 comes with a CompactFlash socket for storage expansion, but CompactFlash hot swap and PnP are not supported. This means that you must disconnect the power source before inserting or removing the CompactFlash card.

Console Port

The IA260's console port is a 4-pin pin-header RS-232 port. It is designed for serial console terminals, which are useful for identifying the boot up message, or for debugging when the system cannot be booted up.

Reset Button

The IA260 has one reset button located on the top panel of the case. The button can be used to switch the power off and then back on again. The reset button also supports "Reset to default," which is used to reload the IA260's factory-default configuration.

USB

The IA260 has 2 USB 2.0 full speed hosts (OHCI) that use a type A connector. The ports support keyboard and mouse, and can also be used to connect a FlashDisk for storing large amounts of data.

Real Time Clock

The IA260's real time clock is powered by a lithium battery. We strongly recommend that you do not replace the lithium battery without help from a qualified Moxa support engineer. If you need to change the battery, contact the Moxa RMA service team.

6. Powering on the IA260

To power on the IA260, connect the power source to the terminal block located on the top panel. Note that the Shielded Ground wire should be connected to the right most pin of the terminal block. It takes about 30 seconds for the system to boot up. Once the system is ready, the Ready LED will light up.
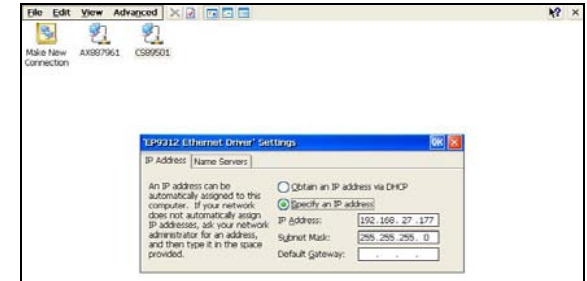
The IA260 computer comes with two network interfaces. The default IP addresses and netmasks of the network interfaces are as follows:

	Default IP Address	Netmask
LAN 1	192.168.3.127	255.255.255.0
LAN 2	192.168.4.127	255.255.255.0

7. Configuring the Ethernet Interface

WinCE 6.0 users should follow these steps:

Step 1: Go to **[Start]** → **[Settings]** → **[Network and Dial-Up Connections]**. You will see two network interfaces.

Step 2: Right-Click the LAN interface to be configured and click **[property]**. A configuration window will pop-up.

Step 3: Click **OK** after inputting the proper IP address and netmask.

Linux users should follow these steps:

If you use the console cable for first-time configuration of the Network settings, use the following commands to edit the interfaces file:

Step 1:

#ifdown –a
//Disable LAN1/LAN2 interface first, before you reconfigure the LAN settings. LAN 1 = eth0, LAN 2= eth1//
#vi /etc/network/interfaces
//check the LAN interface first//

Step 2:

After the boot setting of the LAN interface has been modified, use the following command to activate the LAN settings immediately:

#sync; ifup –a