MOXA®

IA261/262
Quick Installation Guide

Second Edition, April 2009

1. Overview

The IA261/262 embedded computer comes with four RS-232/422/485 serial ports (for IA262, 2 of the ports are CANbus 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. The IA262's dual CANbus ports are for connecting industrial automation devices. These features make the IA261/262 series ideal for embedded applications in harsh industrial environments, such as SCADA, manufacturing automation, and other industrial applications.

2. Package Checklist

Before installing the IA261/262, verify that the package contains the following items:

- 1 IA261/262 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
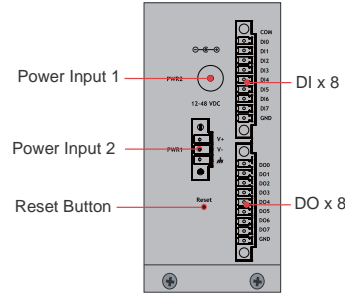- Universal Power Adaptor
- Product Warranty Statement

NOTE: Please notify your sales representative if any of the above items are missing or damaged.
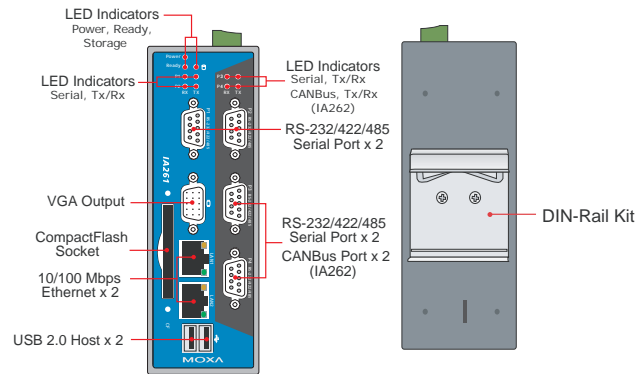
3. IA261/262 Panel Layout

The following figures show the panel layouts of the IA261 and IA262.

Top View
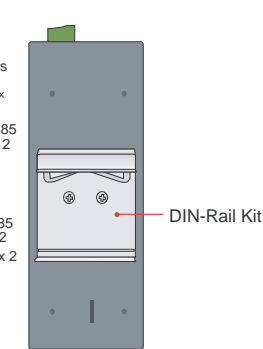

- Power Input 1
- Power Input 2
- Reset Button
- DI x 8
- DO x 8

Front View

- LED Indicators Power, Ready, Storage
- LED Indicators Serial, Tx/Rx
- LED Indicators Serial, Tx/Rx CANBus, Tx/Rx (IA262)
- RS-232/422/485 Serial Port x 2
- VGA Output
- CompactFlash Socket
- 10/100 Mbps Ethernet x 2
- RS-232/422/485 Serial Port x 2 CANBus Port x 2 (IA262)
- USB 2.0 Host x 2

Rear View

- DIN-Rail Kit

LED Indicators

The IA261/262 have 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/CAN port is transmitting TX data to the serial device.
	Off	Serial/CAN port is not transmitting TX data to the serial device.
P1-P4 (Rx)	Orange	Serial/CAN port is receiving RX data from the serial device.
	Off	Serial/CAN port is not receiving RX data to the serial device.

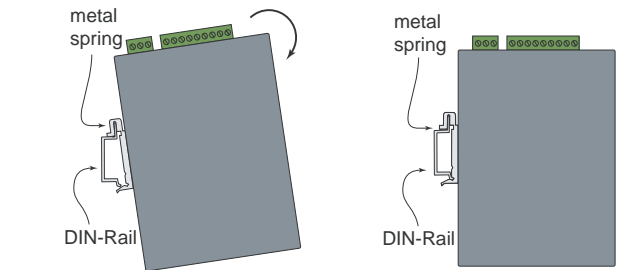## 4. Installing the IA261/262

Wall or Cabinet Mounting

The IA261/262 comes with two metal brackets for attaching it to a wall or the inside of a cabinet. Using two screws per bracket, first attach the brackets to the rear of the IA261/262. Next, use two screws per bracket to attach the IA261/262 to a wall or cabinet.

DIN-Rail Mounting

The aluminum DIN-Rail attachment plate is already attached to the product casing. When attaching the plate to the IA261/262, 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.

To remove the IA261/262 from the DIN-Rail, simply reverse Steps 1 and 2 above.

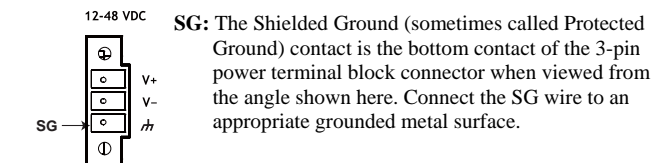## 5. Connector Description

Power Connector

Connect the 12 to 48 VDC LPS or Class 2 power line to the IA261/262's terminal block or power jack. 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 IA261/262

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.

ATTENTION

This product is intended to be mounted to a well-grounded mounting surface, such as a metal panel.

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.
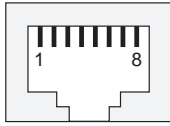
VGA Connector

IA261/262 comes with a D-Sub 15-pin female connector to connect a VGA CRT monitor.

Ethernet Ports

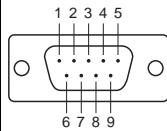The two 10/100 Mbps Ethernet ports (LAN 1 and LAN 2) use RJ45 connectors.

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

Serial Ports

The serial ports of the IA261 (P1 to P4) and the IA262 (P1 to P2) use 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:
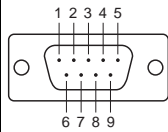
Pin	RS-232	RS-422	RS-485 (4-wire)	RS-485 (2-wire)
1	DCD	TxDA(-)	TxDA(-)	---
2	RxD	TxDB(+)	TxDB(+)	---
3	TxD	RxDB(+)	RxDB(+)	DataB(+)
4	DTR	RxDA(-)	RxDA(-)	DataA(-)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---

CAN Ports

The IA262 has 2 CAN ports for connecting CAN devices The CAN ports of the IA262 (P3 to P4) use DB9 male connectors. The precise pin assignments are shown in the following table:
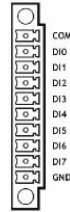
Pin	CAN
1	---
2	CAN-L
3	---
4	---
5	---
6	---
7	CAN-H
8	---

DI, DO

The IA261/262 have an 8-ch digital input and 8-ch digital output, both of which support 3 KV optical isolation protection. The pinouts for the I/O are shown in the following figures.

Digital Input Channel (10-pin Terminal Block)   Digital Output Channel (9-pin Terminal Block)

CompactFlash Socket

IA261/262 come with a CompactFlash socket for storage expansion, but CompactFlash hot swap and PnP are not supported. This means that you much disconnect the power source before inserting or removing the CompactFlash card.

Console Port

The IA261/262'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 IA261/262 has one reset button located on the top panel of the case. The button can be used to switching the power off and then back on again. The reset button also supports "Reset to default," which is used to reload the IA261/262's factory-default configuration.

USB

The IA261/262 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 IA261/262'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.

ATTENTION

There is a risk of explosion if the battery is replaced by an incorrect type of battery.

6. Powering on the IA261/262

To power on the IA261/262, connect power to terminal block or power jack (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.
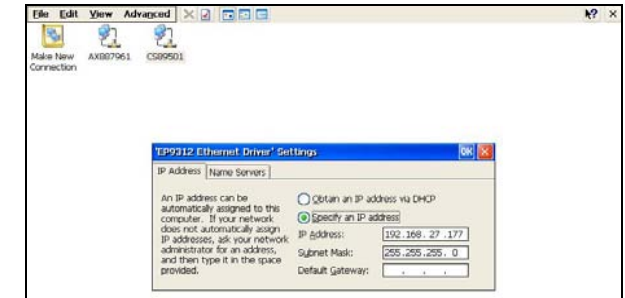
The IA261/262 computer comes with two network interfaces. The default IP addresses and netmasks of the network interfaces are as follows:

	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