MIO-6250 MIO/160 Module with 3 LANs Startup Manual

CE FCC

Introduction

The most flexible interface for Embedded Applications

Today is an embedded world, but many standard embedded single board computers cannot 100% meet application specifications because they are not flexible enough to expand and develop the system.

A system design short cut

Module I/O160 (MIO/160) is an open pin definition interface from Advantech. The MIO/160 interface integrates the most popular data buses into a high-density 160-pin connector, including PCI, USB, DVO, SMBus, LPC, and AC97. With MIO/160, board engineers can speed up system project design and expand the system easily.

Packing list

Before you begin installing your card, please make sure

that the following materials have been shipped:

- 1 MIO-6250
- 1 Startup manual
- 1 CD ROM for MIO-6250 Driver/Utility
- 1 screw kit

    - copper stud x 4 pcs   p/n: 1930000058

    - screw   x 4 pcs   p/n: 1935030500

- 1 Mini Jumper kit (black)

    - mini jumper x 10 pcs   p/n: 1653302122

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/products/acrobat/ readstep2.html(Acrobat is a trademark of Adobe.)

For more information on this and other Advantech products, please visit our website at:

http://www.advantech.com

http://www.advantech.com/eplatform

For technical support and service, please visit our support website at:

http://www.advantech.com/support

This manual is for the MIO-6250 series Rev. A1.

Specifications

- **Chipset:** Onboard 3 Realtek RTL8139DL 10/100BaseT Fast Ethernet Controllers
- **Ethernet Port:** 3 RJ-45 connector
- **LAN bypass:** Supports LAN bypass function on LAN 2 and LAN 3 by GPO pins.
- **Ethernet disable:** LAN port can be disable by onboard switch.
- **LED indicator:**
  Active (Tx/Rx) LED: The LED lights "Blinking Orange" when the respective port is successfully connected to an Ethernet port.
  Link (10/100 Mbps) LED: The LED lights "Solid Green On" when the respective port is successfully connected to 10/100Mbps Ethernet network device of the ports.

Mechanical and Environmental

- **Dimensions (L x W):** 102mm x 70mm
- **Operating Temperature:** 0 ~ 60°C operation
- **Operating Humidity:** 0%~90% relative humity, non-con densing
- **Power Supply Voltage:** 5V
- **Power Requirements:** 5V @100mA

Features

- 3 Fast Ethernet ports
- LAN by pass function
- Ethernet disable function

Jumpers & Connectors

Connectors on the board link it to external devices, such as hard disk drives, a keyboard or expansion bus connectors. In addition, the board has a number of jumpers that allow you to configure your system to suit your application.

The table below lists the function of each of the jumpers and connectors.

Connectors

Label	Function
CN1	LAN-1 Connector
CN2	LAN-3 Connector
CN3	LAN-2 Connector
JP1	Relay ON/OFF Jumper
JP2	Relay ON/OFF Control Jumper
SW1	LAN Chip Enable/ Disable Select

CN1   LAN-1 Connector   Type: RJ-45

Pin	Pin name	Pin	Pin name
1	LAN1TX+	2	LAN1TX-
3	LAN1RX+	4	LAN1RTXCT
5	LAN1TXCT	6	LAN1RX-
7	LAN1RXCT	8	LAN1RXCT
9	GND	10	GND
11	LAN-1 LED VCC	12	LAN-1 ACT LED
13	LAN-1 LED VCC	14	LAN-1 LINK LED

*low active

CN2   LAN-3 Connector Type: RJ-45

Pin	Pin name	Pin	Pin name
1	LAN3TX+	2	LAN3TX-
3	LAN3RX+	4	LAN3RTXCT
5	LAN3TXCT	6	LAN3RX-
7	LAN3RXCT	8	LAN3RXCT
9	GND	10	GND
11	LAN-3 LED VCC	12	LAN-3 ACT LED
13	LAN-3 LED VCC	14	LAN-3 LINK LED

*low active

CN3   LAN-2 Connector Type: RJ-45

Pin	Pin name	Pin	Pin name
1	LAN2TX+	2	LAN2TX-
3	LAN2RX+	4	LAN2RTXCT
5	LAN2TXCT	6	LAN2RX-
7	LAN2RXCT	8	LAN2RXCT
9	GND	10	GND
11	LAN-2 LED VCC	12	LAN-2 ACT LED
13	LAN-2 LED VCC	14	LAN-2 LINK LED

*low active

JP1: Relay ON/OFF Select   *: Default Value

Pin	Function
2-3	Relay ON * (Default)
1-2	Relay ON/OFF By GPIO
NC	Relay OFF

JP2: Relay ON/OFF Select   *: Default Value

Pin	Function
2-3	GPIO Control
1-2	Auto ON * (Default)

SW1: LAN Chip Enable/ Disable Select   *: Default Value

Pin	Function
SW1-1 (on/off)	LAN-1 Enable*/ Disable
SW1-2 (on/off)	LAN-2 Enable*/ Disable
SW1-3 (on/off)	LAN-3 Enable*/ Disable
SW1-4 (on/off)	NC

Board Layout

Component Placement

85

98.36

98.39

8.89

82

10

76.6

101.6

16.16

15

3.17

0

0

8.89

76.22

Limited Height
17mm

36.93

19.93

18.33

MIO
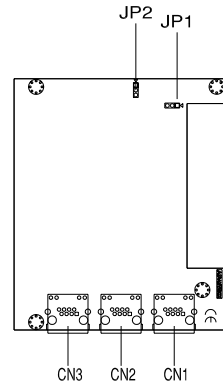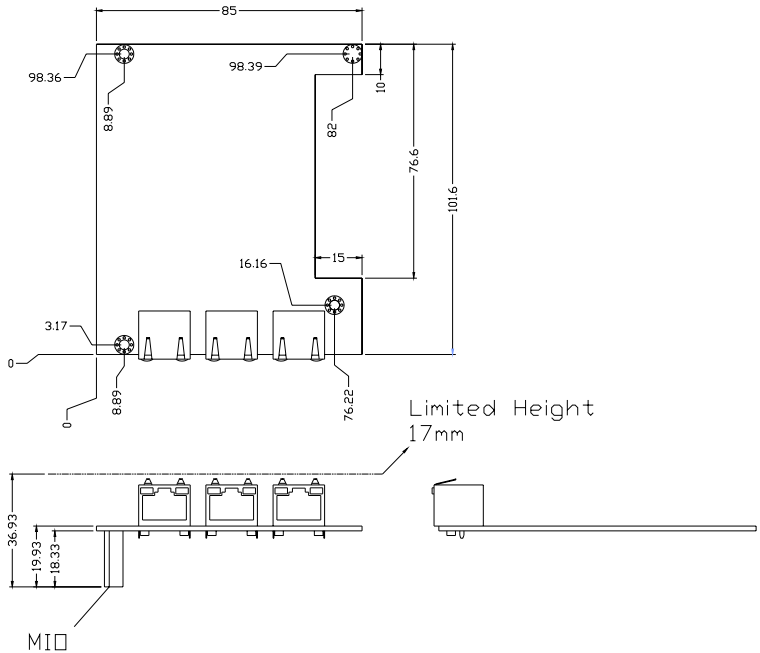
Dimensions

FCC   **This device complies with the requirements in part 15 of the FCC rules: Operation is subject to the following two conditions:**
1.This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this device in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his/her own expense. The user is advised that any equipment changes or modifications not expressly approved by the party responsible for compliance would void the compliance to FCC regulations and therefore, the user's authority to operate the equipment.

Caution!   **There is a danger of a new battery exploding if it is incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**

Achtung!