MIO-6253 MIO/160 Module with 4 COM Ports Startup Manual

FCC CE

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

MIO/160 (Module I/O 160) is an open pin definition interface from Advantech. The MIO/160 interface integrates the most popular bus signals together into a high-density 160-pin connector, these popular interfaces include, 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-6253
- 1 Startup manual
- 1 screw kit

copper stud	x 6 pcs	p/n: 1930000058
screw	x 6 pcs	p/n: 1935030500

- 1 Mini Jumper kit (black)

mini jumper	x 10 pcs	p/n: 1653302122

- 1 Internal COM Port cable

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-6253 series Rev. A1.

Part No.2006625300 1st Edition
Sep. 2006

Specifications

- **Chipset:** SMSC SCH-3114 LPC I/O with Multiple Serial Ports Controller
- **Serial Port:**
  3 D-Sub connector serial RS-232/422/485 Ports (COM1~COM3) by BIOS
  1 internal serial port for RS-232/422/485 serial port (COM4) by BIOS

Mechanical and Environmental

- **Dimensions (L x W):** 146mm(L) x 102(W)mm (L type board)
- **Operating Temperature:** 0 ~ 60°C operation
- **Operating Humidity:** 0%~90% relative humity, non-condensing
- **Power Supply Voltage:** 5V
- **Power Requirements:** 5V @100mA

Features

- 4 RS-232/422/485 serial ports
- 3 D-Sub 9 pin connectors and 1 internal box header (CN2)
- Support M2M module by internal M2M RS-232 female connector (CN3) (optional, shared with COM4 signal)
- All RS-232/422/485 mode can be selected by BIOS
- MIO/160 interface

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 & Jumpers	
Label	**Function**
COM1	COM1 D-Sub Connector, RS-232/422/485
COM2	COM2 D-Sub Connector, RS-232/422/485
COM3	COM3 D-Sub Connector, RS-232/422/485
CN2	COM4, Internal Connector, RS-232/422/485
CN3	Serial Female Connector (M2M module)

COM1	**COM1 Connector**	**Type: D-Sub 9-Pin**
Pin	**Pin name**	
1	DCD0# / 422_485TXD-	
2	RXD0# / 422_485TXD+	
3	TXD0# / 422RXD+	
4	DTR0# / 422RXD-	
5	GND	
6	DSR0#	
7	RTS0#	
8	CTS0#	
9	RI0#	

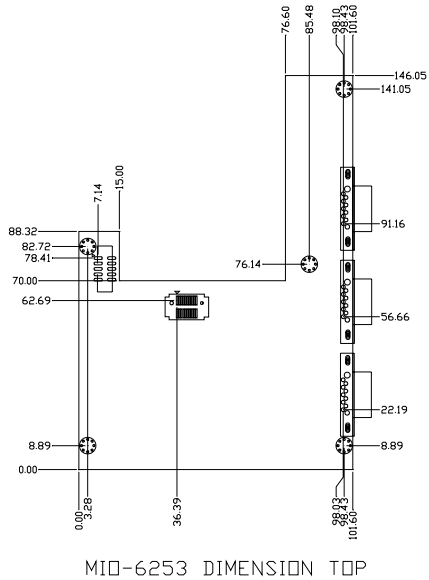
COM2	**COM2 Connector**	**Type: D-Sub 9-Pin**
Pin	**Pin name**	
1	DCD1# / 422_485TXD-	
2	RXD1# / 422_485TXD+	
3	TXD1# / 422RXD+	
4	DTR1# / 422RXD-	
5	GND	
6	DSR1#	
7	RTS1#	
8	CTS1#	
9	RI1#	

COM3	**COM3 Connector**	**Type: D-Sub 9-Pin**
Pin	**Pin name**	
1	DCD2# / 422_485TXD-	
2	RXD2# / 422_485TXD+	
3	TXD2# / 422RXD+	
4	DTR2# / 422RXD-	
5	GND	
6	DSR2#	
7	RTS2#	
8	CTS2#	
9	RI2#	

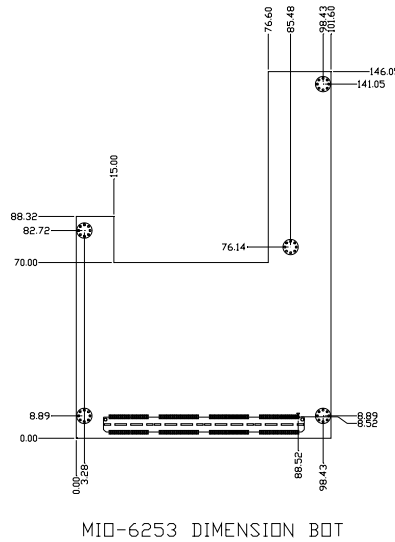
CN2	**Internal Serial Connector**
Pin	**Pin name**
1	DCD3# / 422_485TXD-
2	DSR3#
3	RXD3# / 422_485TXD+
4	RTS3#
5	TXD3# / 422RXD+
6	CTS3#
7	DTR3# / 422RXD-
8	RI3#
9	GND
10	NC

CN3	**Serial Female COM Connector**
Pin	**Pin name**
1	NC
2	NC
3	GND
4	NC
5	NC
6	NC
7	NC
8	+5V
9	+5V
10	+5V
11	DCD3#
12	RXD3#
13	CTS3#
14	TXD3#
15	DTR3#
16	RI3#
17	RTS3#
18	DSR3#
19	GND
20	GND

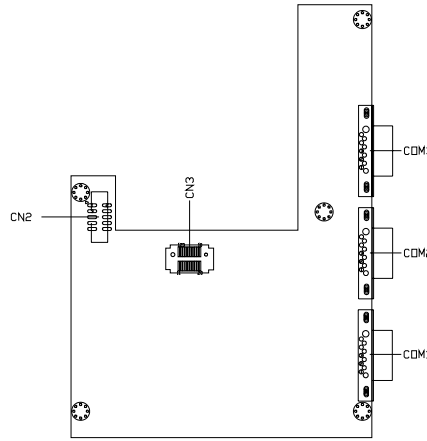
Board Layout



Dimensions Top

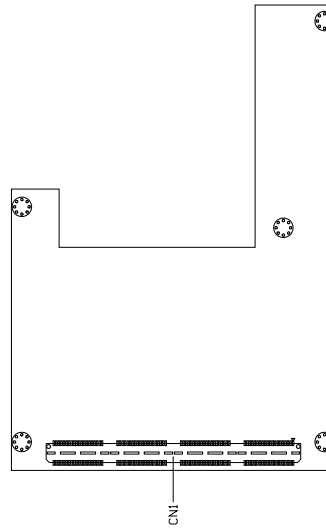


Dimensons Bottom



MIO-6253 POSITION TOP

Component Placement Top



MIO-6253 POSITION BOT

Component Placement Bottom

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!