PCM-3614I/3618I

4/8-port RS-232/422/485 Module

Introduction

The PCM-3614I/3618I is a PCI-104 compatible module with 4/8 individually configurable RS-232/422/485 ports. The PCM-3614I/3618I also features high transmission speeds, independent/shared IRQ's, a high-performance 16C550 UART communication chip with 16-byte FIFO to reduce CPU load, and more. These function settings include Standard/Enhance, Independent/Shared IRQ & Speed modes.

Initial Inspection

We carefully inspected the PCM-3614I/3618I both mechanically and electrically before we shipped it. It should be free of marks and scratches and in perfect electrical order on receipt.

Handle the board only by its edges. The static charge on your body may damage its integrated circuits. Keep the card in its anti-static package whenever it is not installed. You can use this package to return the card if it should need repair.

Features

- 4/8 Independent RS-232/422/485 serial ports
- Automatic RS-485 data flow control
- Transmission speeds up to 921.6 Kbps
- Shared IRQ settings for each port
- Built-in terminal resistors
- LED indicators: TX, RX

Notes

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

http://www.advantech.com

http://www.advantech.com/eAutomation

For technical support and service:

http://www.advantech.com/support/

This startup manual is for PCM-3614I/3618I.

Part No: 2003M61802   4th Edition

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Specifications

- Bus interface: PCI-104
- Number of ports: 4/8
- UART: 16C550
- IRQ: 3, 4, 5, 6, 7, 9, 10, 11, 12, 15
- Data bits: 5, 6, 7, 8
- Stop bits: 1, 1.5, 2
- Parity: none, even, odd
- Speed (bps): 50 ~ 921.6K
- Connectors: DB-9 male
- Signal:
  - RS-422: TxD+, TxD-, RxD+, RxD-, GND, CTS+, CTS-, RTS+ and RTS-
  - RS-485: DATA-, DATA+, GND
  - RS-232: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND
- Operating Temperature: 0 ~ 65°C (32~149°F)
- Storage Temperature: -25 ~ 80°C (-13~176°F)
- Operation Humidity: 0% ~ 90% Relative Humidity, non-condensing

Card Configuration

The max configuration for the PCI bus of PCI-104 modules is FOUR plus the host board. If you stack more than one PCI-104 module to a host board be sure to set the modules to different PCI numbers through SW2.

SW1 Settings

CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH8
ON	ON	ON	ON	ON	ON	ON	ON
Auto	Auto	Auto	Auto	Auto	Auto	Auto	Auto
ON: Always high or low status for RS-422 mode (RS-422 Master)							
OFF (Auto): Automatically senses direction of data flow for RS-485 (RS-422 Slave)							

SW2 Settings
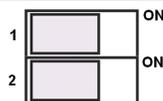
1	2	PCI Number
OF	OFF	0
ON	OFF	1
OFF	ON	2
ON	ON	3

Hardware Installation

Warning! Turn off PC whenever you install, remove connect or disconnect cables to PCM-3614I/3618I

Installing the Module on a CPU Card:

1. Turn the PC power off. Turn the power off to any peripheral devices such as printers and monitors.
2. Disconnect the power cord and any other cables from the back of the computer.
3. Remove the system unit cover
4. Remove the CPU card from the chassis (if necessary) to gain access to the card's PCI-104 connector.
5. Screw the brass spacer (included with the module) into the threaded hole on the CPU card. Do not tighten too much, or the threads may be damaged.
6. Carefully align the pins of the PCM-3614I/3618I with the PCI-104 connector. Slide the module into the connector, do not push too hard.
7. Secure the module to the CPU card to the threaded hole in the CPU card using the included screw.
8. Attach any accessories to the PCM-3614I/3618I.
9. Reinstall the CPU card and replace the system unit cover. Reconnect the cables you removed in step 2.
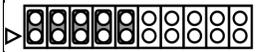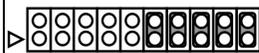10. Turn the power on.

Connecting to Another PCI-104 Module:

1. Insert the pins of connector CN15 into the piggy-back connector on the other PCI-104 module.
2. Screw the PCM-3614I/3618I to the brass spacer. This completes the hardware installation

Pin Assignments and Jumper Settings

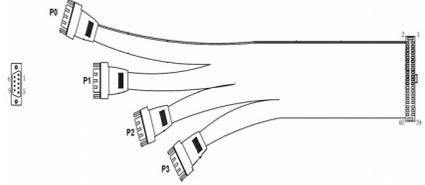The function of PCM-3614I/3618I is adjustable by the CN1/CN2/CN3/CN4 jumper.

Jumper Settings of CN1/CN2/CN3/CN4

Jumper Settings	Function
	Set the port at RS-232 mode.
	Set the port at RS-422/485 mode.

CN and COM Port Mapping

CN Number	COM Port Number
1	0
3	1
2	2
4	3

The following table and figure shows pin assignments for the DB9 connector.

Pin Assignments of RS-232 DB9 Connector

Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI
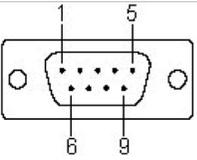
Pin Assignments of RS-422/485 DB9 Connector

Pin	RS-422/485
1	TX-(DATA-)
2	TX+(DATA+)
3	RX+
4	RX-
5	GND
6	RTS-
7	RTS+
8	CTS+
9	CTS-
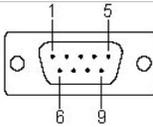
Pin Assignments of RS-422/485 Configuration

		Pin	Description	Pin	Description
Port 0	Data-	1	TX-	2	RTS-
	Data+	3	TX+	4	RTS+
		5	RX+	6	CTS+
		7	RX-	8	CTS-
		9	GND	10	NC
Port 1	Data-	11	TX-	12	RTS-
	Data+	13	TX+	14	RTS+
		15	RX+	16	CTS+
		17	RX-	18	CTS-
		19	GND	20	NC
Port 2	Data-	21	TX-	22	RTS-
	Data+	23	TX+	24	RTS+
		25	RX+	26	CTS+
		27	RX-	28	CTS-
		29	GND	30	NC
Port 3	Data-	31	TX-	32	RTS-
	Data+	33	TX+	34	RTS+
		35	RX+	36	CTS+
		37	RX-	38	CTS-
		39	GND	40	NC