MIC-3924

CompactPCI® Intelligent Chassis Management Module

Features

- Monitors system fans, temperature, voltage, power supply, CPU fan, CPU temperature, Vcore, watchdog timer, etc.
- Stand alone system monitoring: no driver needed, OS independent
- Remote alarm notification through SNMP/HTTP, e-mail or pager
- Easy status monitoring through Ethernet using a browser
- Highly reliable: functions even when system or power fails
- Hot-swappable, easy for maintenance

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Introduction

The MIC-3924 is an independent platform system management module that can detect a system's operating conditions and notify users to take necessary actions to avert system failure through multiple communication protocols. With the MIC-3924 installed, a system's monitor and management can be integrated with an existing SNMP-based network management environment. The MIC-3924 also has a built-in web-based administration interface which allows users to monitor the system's operation from any place with Internet connectivity. The MIC-3924 adds another dimension of reliability to your most critical applications.

Powerful yet Easy to Use

The MIC-3924 can detect a wide variety of internal system conditions, including temperature, voltage, fan rotation, power supply or CPU operations such as watchdog timer output. Through its I2C interface it can even monitor CPU temperature and voltages of Advantech's CompactPCI CPU boards. Depending on the alarm sophistication and setup, it can generate several different alarm outputs, including SNMP trap, e-mail, page, acoustic signal, system reset, or digital signal output. The web-based user interface allows users to set the alarm criteria and select alarm outputs for each sensor input independently to meet users' requirements. The on-board backup battery enables the MIC-3924 to perform its alarm function even during total system power failure.

Web-enabled, No Driver Needed

The onboard 10/100 Mbps fast Ethernet interface enables the MIC-3924 (only MIC-3924A) to be connected to an existing network, independent from the system's connection. It supports multiple network protocols such as TCP/IP, SNMP, HTTP and Telnet, allowing users to manage their systems simply with a web browser. No special software driver is needed, thus eliminating compatibility issues with different operating systems.

Flexible Integration through Hot-swap

The MIC-3924 series provides flexible integration with Advantech's CompactPCI enclosures, such as MIC-3038, MIC-3041, MIC-3056 series and also new upcoming enclosures. With its hot-swappable capability, users can upgrade the system easily for advanced environment monitoring. The system can be a value added component for high-end chassis management.

On-line Upgrade and Console Mode

The firmware can be upgraded on-line by using the included setup utility. There is no need to disassemble the enclosure to the MIC-3924 module for firmware upgrades. The COM port can be another interface for administrator management, especially for those applications that need higher security.

Sensor Specifications

		MIC-3924A	MIC-3924B	MIC-3924L
Voltage	Input	+3.3 V_{DC}, +5 V_{DC}, -5 V_{DC}, +5 V_{SR}, +12 V_{DC}, -12 V_{DC}	+3.3 V_{DC}, +5 V_{DC}, -5 V_{DC}, +5 V_{SR}, +12 V_{DC}, -12 V_{DC}	-
Temperature	Input	1 (on board)	1 (on board)	1 (on board)
	Sensor	LM75	LM75	LM75
	Interface	I2C	I2C	I2C
	Range	-30 ~ 125 °C (-22 ~ 257 °F)	-30 ~ 125 °C (-22 ~ 257 °F)	Fix (alarm >50 °C)
Fan Speed	Input	4	4	6
	Range	700 ~ 10000 rpm	700 ~ 10000 rpm	Fix (alarm <1000rpm)
Power Good	Input	4	4	4
	Range	High > 2.4 V_{DC}, Low < 0.8 V_{DC}	High > 2.4 V_{DC}, Low < 0.8 V_{DC}	High>2.4 V_{DC}, Low < 0.8 V_{DC}
CPU Board Healthy	Interface	I2C	I2C	-
	Input	CPU Vcore, CPU fan, CPU temperature (up to 2 CPUs), DC +5 V, DC -5 V, VI/O, DC +12 V, DC -12 V	CPU Vcore, CPU fan, CPU temperature (up to 2 CPUs), DC +5 V, DC -5 V, VI/O, DC +12 V, DC -12 V	-
	Max. SBC Monitoring	1 board	19 boards	-
Digital Input/Output (Optional)	Input	8	8	-
	Output	4	4	--

Hardware Specifications (MIC-3924A/B)

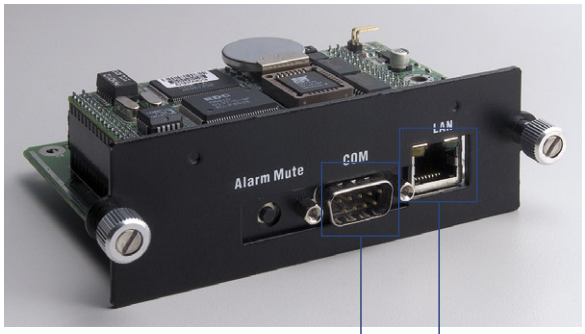
Processor System	CPU	80188 compatible	
	Firmware	512 KB Embedded Flash ROM	
	Memory	512 KB SRAM	
Ethernet	Interface	10/100Base-T	
Serial Port	Interface	RS-232	
	Baud Rate	9600 bps	
Miscellaneous	Buzzer support	Yes	
	Time-out Signal of System Watchdog Timer Detection	Yes	
Battery	Charge Time	24 hr	
	Battery Type	Ni-MH	
	Capacity	1500 mA-H (full charged, for 15~20 minutes operation, depending on the system configuration)	
	Battery Life	80 % capacity @ 20 °C after 1000 cycles of charge and discharge	
Power Requirement	Typical	5 V @ 550 mA	
Environment		Operating	Non-Operating
	Temperature	0 ~ 60 °C (-32 ~ 140 °F)	-20 ~ 70 °C (-4 ~ 158 °F)
	Humidity	-	5 ~ 95 % RH, non-condensing
Physical Characteristics	Dimensions	Kernel module: 40.5 x 93 mm (1.6" x 3.7") Carrier module: 100 x 95 mm (3.9" x 3.7")	

Ordering Information

Part Number	Description
MIC-3924A-A: Chassis management module for general purpose chassis w/single SBC application	
968A390000	MIC-3924A-A alarm module for MIC-3056, MIC-3081 and MIC-3082 series
968A390001	MIC-3924A-A alarm module for MIC-3038, MIC-3041 and MIC-3041L series
968A390002	MIC-3924A-A alarm module for MIC-3042 series
968A390003	MIC-3924A-A alarm module for MIC-3041CW/6-4R
MIC-3924B-A: Chassis management module for Blade Server and multi-SBC application	
968A390010	MIC-3924B-A alarm module for MIC-3056, MIC-3081 and MIC-3082 series
968A390011	MIC-3924B-A alarm module for MIC-3038, MIC-3041 and MIC-3041L series
968A390012	MIC-3924B-A alarm module for MIC-3042 series
968A390013	MIC-3924B-A alarm module for MIC-3041CW/6-4R
MIC-3924L-A: Chassis management module without remote control for general purpose chassis, w/single SBC application	
968A390020	MIC-3924L-A alarm module for MIC-3056 series
968A390021	MIC-3924L-A alarm module for MIC-3038, MIC-3041 and MIC-3041L series
968A390022	MIC-3924L-A alarm module for MIC-3042 series
968A390023	MIC-3924L-A alarm module for MIC-3041CW/6-4R

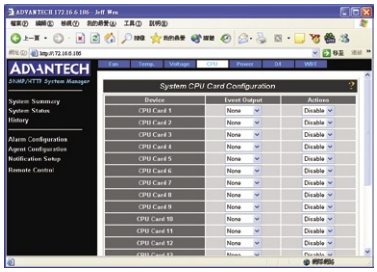
Firmware Specifications (MIC-3924A/B)

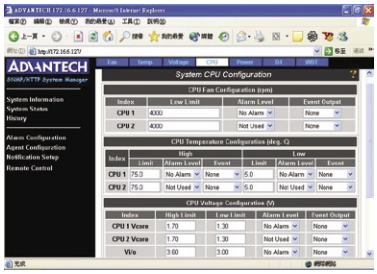
System Status Monitoring and Management	Real-time healthy status monitoring: Provides real-time status display in HTTP/Java graphical format
	History log up to 600 records. Data can be downloaded through a network or sent by e-mail
	Alarm event record display
Alarm Notification	E-mail: Can set up to 4 addresses to receive e-mails
	SNMP trap: Notify up to 8 SNMP administrators
	Pager notification: Dial-out through external modem to send messages to up to 8 pagers
	Audible alarm sound
Supported Protocol	TCP, UDP, IP, ICMP, DHCP, BOOTP, ARP, SNMP, HTTP, Telnet
Management Function	Web-based remote configure, control and monitor
	Remote power up and power down
	Firmware upgrade from serial port and Ethernet port
	Modem dial in (console mode only)

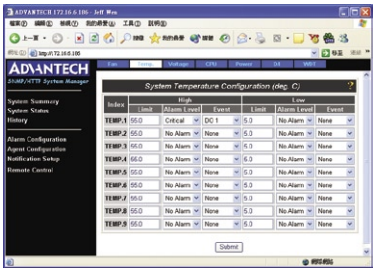


RS-232 COM port LAN port

On-board battery







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