

AIC[®]

BMC

**Special IPMI Commands
and Sensors**

Table of Contents

Chapter 1. Special IPMI Commands	2
1.1 IPMI Standard Command	2
1.1.1 Get Device ID (NetFn: 0x06, Command: 0x01)	2
1.2 IPMI AIC OEM Command	3
1.2.1 Get BMC Firmware Name (NetFn: 0x3A, Command: 0x33)	3
1.2.2 Set all LED pattern (NetFn: 0x3A, Command: 0x02)	3
1.2.3 Get NTP synchronization status (NetFn: 0x3A, Command: 0x72)	3
1.2.4 Get NTP configuration (NetFn: 0x36, Command: 0xB7)	3
1.2.5 Get PWM group output (NetFn: 0x36, Command: 0xFB)	4
1.2.6 Set PWM group manual control (NetFn: 0x36, Command: 0xFA)	4
1.2.7 Set PWM group optimal control (NetFn: 0x36, Command: 0xF9)	4
1.2.8 Get power on minutes (NetFn: 0x36, Command: 0xD6)	4
1.2.9 Get multiple sensor reading (NetFn: 0x36, Command: 0xBD)	4
1.2.10 Get CPU Info (NetFn: 0x3A, Command: 0x2B)	5
1.2.11 Master write read (NetFn: 0x3A, Command: 0x6A)	5
1.2.12 BP NVMe LED control (NetFn: 0x3C, Command: 0xA1) (Deprecated)	5
1.2.13 Set NVMe LED (NetFn: 0x3C, Command: 0xAA)	6
1.2.14 Get NVMe LED (NetFn: 0x3C, Command: 0xAB)	6
Chapter 2. Specific Sensors in SDR	7
2.1 PSUx_Status	7

Chapter 1. Special IPMI Commands

1.1 IPMI Standard Command

1.1.1 Get Device ID (NetFn: 0x06, Command: 0x01)

Only the fields highlighted in green are AIC specific.

The firmware version is <Firmware Revision 1>.<Firmware Revision 2>.<Byte 1 of Auxiliary Firmware Revision Information>.

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code
	2	Device ID
	3	Device Revision
	4	Firmware Revision 1 (Major Firmware Revision)
	5	Firmware Revision 2 (Minor Firmware Revision)
	6	IPMI Version
	7	Additional Device Support
	8:10	Manufacturer ID, LS Byte first.
	11:12	Product ID, LS Byte first.
	13	Byte 1 of Auxiliary Firmware Revision Information
	14	Byte 2 of Auxiliary Firmware Revision Information
	15	Byte 3 of Auxiliary Firmware Revision Information
	16	Byte 4 of Auxiliary Firmware Revision Information

1.2 IPMI AIC OEM Command

Only the IPMI standard commands with AIC specific implementation are listed below.

1.2.1 Get BMC Firmware Name (NetFn: 0x3A, Command: 0x33)

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code
	2:14	BMC Platform Name

1.2.2 Set all LED pattern (NetFn: 0x3A, Command: 0x02)

	Byte	Data Field
Request Data	1	Control ID LED and health LED 00h : Lock LED status and turn off all LED 01h : Lock LED status and turn on all LED FFh : Unlock LED
Response Data	1	Completion Code

1.2.3 Get NTP synchronization status (NetFn: 0x3A, Command: 0x72)

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code
	2	NTP synchronization status 00h : Automatic sync mode, sync failed. 01h : Automatic sync mode, sync is successful. 02h : Automatic sync mode, but sync has not yet succeeded. 03h : Manual mode.

1.2.4 Get NTP configuration (NetFn: 0x36, Command: 0xB7)

	Byte	Data Field
Request Data	1	Parameter : 01h : Primary server name 02h : Second server name 03h : NTP configuration status
Response Data	1	Completion Code
	2:N	For Parameter 01h: Primary NTP server name For Parameter 02h: Second NTP server name For Parameter 03h: 00h : Disable status of NTP. 01h : Enable status of NTP. 02h : Failure status of NTP.

1.2.5 Get PWM group output (NetFn: 0x36, Command: 0xFB)

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code
	2	Fan mode: 00h : Manual control mode. 01h : Optimal control mode.
	3	Protect status: 00h : Protection mode disabled. 01h : Protection mode enabled.
	4:19	Display currently all duty for 16 PWM
	20:35	Display manually all duty for 16 PWM

1.2.6 Set PWM group manual control (NetFn: 0x36, Command: 0xFA)

	Byte	Data Field
Request Data	1	Protect setting 00h : Disable protection mode. 01h : Enable protection mode.
Response Data	2:17	Set duty for 16 PWM
	1	Completion Code

1.2.7 Set PWM group optimal control (NetFn: 0x36, Command: 0xF9)

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code

1.2.8 Get power on minutes (NetFn: 0x36, Command: 0xD6)

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code
	2:5	Power on minutes

1.2.9 Get multiple sensor reading (NetFn: 0x36, Command: 0xBD)

	Byte	Data Field
Request Data	1	No.1 Sensor number
	2	No.1 Sensor LUN
	3:4	No.2 Sensor number No.2 Sensor LUN
	5:N	Sensor number Sensor LUN
Response Data	1	Completion Code
	2	No.1 Sensor reading
	3	No.1 Sensor LUN
	4:5	No.2 Sensor reading

	No.2 Sensor LUN
6:N	Sensor number Sensor LUN

1.2.10 Get CPU Info (NetFn: 0x3A, Command: 0x2B)

	Byte	Data Field
Request Data	-	-
Response Data	1	Completion Code
	2:33	CPU information. If the platform supports dual CPUs, the information for both CPUs is identical.

1.2.11 Master write read (NetFn: 0x3A, Command: 0x6A)

	Byte	Data Field
Request Data	1	Channel number It's ignored when Bus Type = 0x1.
	2	Bus ID It's 0x0 when Bus Type = 0x0.
	3	Bus Type 0x0: Public IPMB bus. The Channel Number is used to select the target bus. 0x1: Private bus. The Bus ID is used to select the target bus. Others: Invalid
	4	8-bit Slave Address
	5	Read Count The maximum is 50 bytes.
	6:N	Data to write. The maximum is 50 bytes.
Response Data	1	Completion Code
	2:N	Bytes read from the specified slave address. The maximum is 50 bytes.

1.2.12 BP NVMe LED control (NetFn: 0x3C, Command: 0xA1) (Deprecated)

	Byte	Data Field
Request Data	1	Back Plane 0x0 : Back Plane 1(NVMe 1~4)
	2	Control Type 0x0 : Locate LED 0x1 : Fail LED
	3	Slot Control [7:4] Reserved [3:0] NVMe slot bit[0]:slot 1, bit[1]:slot 2, bit[2]:slot 3, bit[3]:slot 4
Response Data	1	Completion Code

1.2.13 Set NVMe LED (NetFn: 0x3C, Command: 0xAA)

Request Data	Byte	Data Field
	1	NVMe drive slot number 1 base. 0xFF: All slots.
	2	Control Type 0x00 : Locate 0x01 : Fail
Response Data	3	0x00 : Deactivate 0x01 : Activate 0xFF : Controlled by other.
	1	Completion Code

Note: When both Fail and Locate LEDs are active simultaneously, the visibility of the Fail LED status may be compromised.

1.2.14 Get NVMe LED (NetFn: 0x3C, Command: 0xAB)

Request Data	Byte	Data Field
	1	NVMe drive slot number 1 base. 0xFF: All slots.
	2	Control Type 0x00 : Locate 0x01 : Fail
Response Data	1	Completion Code
	2-N	0x00 : Deactivate 0x01 : Activate 0xFF : Controlled by other (CPLD or MG9100 itself)

Chapter 2. Specific Sensors in SDR

2.1 PSU_x_Status

PMBus STATUS_WORD (79h) message contents			SDR Sensor
Byte	Bit Number	Status Bit Name	Bit Number
Low	7	BUSY	X
	6	OFF	Bit6
	5	VOUT_OV_FAULT	Bit5
	4	IOUT_OC_FAULT	Bit4
	3	VIN_UV_FAULT	Bit3
	2	TEMPERATURE	Bit2
	1	CML	Bit1
	0	NONE OF THE ABOVE	Bit0
High	7	VOUT	Bit14
	6	IOUT/POUT	Bit13
	5	INPUT	Bit12
	4	MFR_SPECIFIC	Bit11
	3	POWER_GOOD#	Bit10
	2	FANS	Bit9
	1	OTHER	Bit8
	0	UNKNOWN	Bit7

p.s: _x represents the number of PSUs in the system.

Example: There are 2 PSUs in the system. It represents PSU1_Status and PSU2_Status.