Embedded Computing for
Business-Critical Continuity™

RTM-ATCA-F120-OPT: Control via IPMI

Programmer's Reference

P/N: 6806800G30B
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Network Power

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About this Manual

Overview of Contents

This manual is intended for users qualified in electronics or electrical engineering. Users must have a working understanding of Intelligent Platform Management Interface (IPMI).

It provides information on how to control and monitor the functionality of the RTM-ATCA-F120-OPT via IPMI and contains the following chapters and appendices:

Abbreviations

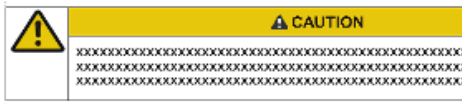
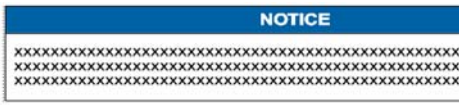
This document uses the following abbreviations:

Abbreviation	Definition
AdvancedTCA	Advanced Telecommunications Computing Architecture
ARTM	AdvancedTCA Rear Transition Module
ATA	Advanced Technology Attachment
FRU	Field Replaceable Unit
MMC	Mezzanine Management Controller
IPMC	Intelligent Platform Management Controller
IPMI	Intelligent Platform Management Interface
SDR	Sensor Data Record
SEL	System Event Log

Conventions

The following table describes the conventions used throughout this manual.

Notation	Description
0x00000000	Typical notation for hexadecimal numbers (digits are 0 through F), for example used for addresses and offsets
0b0000	Same for binary numbers (digits are 0 and 1)
bold	Used to emphasize a word
`Screen`	Used for on-screen output and code related elements or commands in body text
`Courier + Bold`	Used to characterize user input and to separate it from system output
Reference	Used for references and for table and figure descriptions
File > Exit	Notation for selecting a submenu
<text>	Notation for variables and keys
[text]	Notation for software buttons to click on the screen and parameter description
...	Repeated item for example node 1, node 2, ..., node 12
. . .	Omission of information from example/command that is not necessary at the time being
..	Ranges, for example: 0..4 means one of the integers 0,1,2,3, and 4 (used in registers)
|	Logical OR

Notation	Description
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury
	Indicates a hazardous situation which, if not avoided, may result in minor or moderate injury
	Indicates a property damage message
	No danger encountered. Pay attention to important information

Summary of Changes

Order No..	Date	Description
6806800G30A	September 2008	First version
6806800G30B	January 2009	Update for final release (GA)

Comments and Suggestions

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Introduction

1.1 Overview

The RTM-ATCA-F120-OPT provides an on-board Mezzanine Management Controller (MMC) which is fully compliant to the IPMI V1.5 specification. The MMC provides access to on-board Sensor Data Records (SDRs), Field Replaceable Unit (FRU) data and furthermore contains an event generator. Within this document you find a description of:

- Supported IPMI command
- SDRs
- FRU data

2.1 Standard IPMI Commands

The MMC is fully compliant to the Intelligent Platform Management Interface v.2.0. This section provides information on which IPMI commands are supported.

2.1.1 Global IPMI Commands

The MMC supports the following global IPMI commands.

Table 2-1 Supported Global IPMI Commands

Command	NetFn (Request/Response)	CMD	Comments
Get Device ID	0x06/0x07	0x01	-
Master Write-Read	0x06/0x07	0x52	Only for accessing private I2C buses.

2.1.2 Watchdog Commands

Table 2-2 Supported Watchdog Commands

Command	NetFn (Request/Response)	CMD
Reset Watchdog Timer	0x06/0x07	0x22
Set Watchdog Timer	0x06/0x07	0x24
Get Watchdog Timer	0x06/0x07	0x25

2.1.3 FRU Inventory Commands

Table 2-3 Supported FRU Inventory Commands

Command	NetFn (Request/Response)	CMD	Comments
Get FRU Inventory Area Info	0x0A/0x0B	0x10	-
Read FRU Data	0x0A/0x0B	0x11	-
Write FRU Data	0x0A/0x0B	0x12	This command returns the error code 0x80 if you attempt to write to the common header, Product Info Area, Board Info Area, Chassis Info Area, Board Connectivity record, Board Address table, Board Power Distribution Record of FRU ID 0.

2.1.4 Sensor Device Commands

Table 2-4 Supported Sensor Device Commands

Command	NetFn (Request/Response)	CMD	Comments
Get Device SDR Info	0x04/0x05	0x20	-
Get Device SDR	0x04/0x05	0x21	-
Reserve Device SDR Repository	0x04/0x05	0x22	-
Get Sensor Hysteresis	0x04/0x05	0x25	-

Table 2-4 Supported Sensor Device Commands (continued)

Command	NetFn (Request/Response)	CMD	Comments
Set Sensor Threshold	0x04/0x05	0x26	Most of the threshold-based sensors have fixed thresholds. Before using this command, check whether threshold setting is supported by using the Get Device SDR command.
Get Sensor Threshold	0x04/0x05	0x27	-
Set Sensor Event Enable	0x04/0x05	0x28	-
Get Sensor Event Enable	0x04/0x05	0x29	-
Rearm Sensor Events	0x04/0x05	0x2A	-
Get Sensor Event Status	0x04/0x05	0x2B	-
Get Sensor Reading	0x04/0x05	0x2D	-
Get Sensor Type	0x04/0x05	0x2F	-
Set Event Receiver	0x04/0x05	0x00	-
Get Event receiver	0x04/0x05	0x01	-
Platform Event	0x04/0x05	0x02	Any Emerson IPMC/MMC works as event generator, that means it may issue the Platform Event command, but only the ATCA-M100 (Centellis CO 31kX) and ATCA-MF105 (Centellis 2000) can write events to the SEL repository and acknowledge them.

2.2 PICMG 3.0 Commands

The MMC is a fully compliant AdvancedTCA intelligent Platform Management Controller i.e. it supports all required and mandatory AdvancedTCA commands as defined in the PICMG 3.0 and AMC 0.9x specifications.

Table 2-5 Supported PICMG 3.0 Commands

Command	NetFn (Request/Response)	CMD	Comments
Get PICMG Properties	0x2C/0x2D	0x00	-
Get Address Info	0x2C/0x2D	0x01	Supports only the short form with bytes 0 and 1 of the request data.
FRU Control	0x2C/0x2D	0x04	Supports the cold and warm reset options.
Get FRU LED Properties	0x2C/0x2D	0x05	-
Get FRU LED Color Capabilities	0x2C/0x2D	0x06	-
Set FRU LED State	0x2C/0x2D	0x07	-
Get FRU LED State	0x2C/0x2D	0x08	-
Set IPMB State	0x2C/0x2D	0x09	-
Set FRU Activation Policy	0x2C/0x2D	0x0A	-
Get FRU Activation Policy	0x2C/0x2D	0x0B	-
Set FRU Activation	0x2C/0x2D	0x0C	-
Get Device Locator Record ID	0x2C/0x2D	0x0D	Supports the standard PICMG 3.0 and the extended AMC 0.9x versions of this command.
Set Port State	0x2C/0x2D	0x0E	-
Get Port State	0x2C/0x2D	0x0F	-
Compute Power Properties	0x2C/0x2D	0x10	-
Set Power Level	0x2C/0x2D	0x11	-

Table 2-5 Supported PICMG 3.0 Commands (continued)

Command	NetFn (Request/Response)	CMD	Comments
Get Power Level	0x2C/0x2D	0x12	-
Abort firmware upgrade	0x2C/0x2D	0x30	-
Initiate upgrade action	0x2C/0x2D	0x31	-
Upload firmware block	0x2C/0x2D	0x32	-
Finish firmware upload	0x2C/0x2D	0x33	-
Get upgrade status	0x2C/0x2D	0x34	-
Activate firmware	0x2C/0x2D	0x35	-
Query self-test results	0x2C/0x2D	0x36	-
Query rollback status	0x2C/0x2D	0x37	-
Initiate manual rollback	0x2C/0x2D	0x38	-

The firmware upgrade commands are implemented according to the PICMG HPM.1 Revision 1.0 specification.

Since the firmware upgrade according to the PICMG HPM.1 Revision 1.0 standard does not allow to update the IPMI boot block, the firmware upgrade as described in *Firmware Upgrade Commands* on page 22 is still functional. It allows to update the entire IPMI firmware, including the boot block.

2.3 Emerson Specific Commands

The MMC supports several commands which are not defined in the IPMI or PICMG 3.0 specification but are introduced by Emerson: Firmware upgrade and status change commands.

- **Before sending any of these commands, the shelf management software must check whether the receiving IPMI controller is an Emerson IPMI controller, that means IPMC, by using the IPMI command 'Get Device ID'. Sending Emerson specific commands to IPMI controllers which are not delivered by Emerson will lead to no or undefined results.**
- **Implementing any of the Emerson specific IPMI commands means that the software is not portable to other IPMI controllers that do not use the Emerson IPMC firmware.**
- **Make sure to use these commands with care. For example, it would be possible to use the BMC/PMChangeRole command to set the IPMC to active, even though the system already has an active BMC. As a result, the two IPMCs set as active BMC might not work or even conflict with each other. If such a mistake happens, reset the IPMC and correct the software.**

2.3.1 Firmware Upgrade Commands

Emerson offers three commands to upgrade the IPMC firmware which can be used to write an upgrade function:

- Start Firmware Upgrade
- Continue Firmware Upgrade
- Finish Firmware Upgrade

The firmware upgrade session has to start with the Start Firmware Upgrade command which makes the target IPMC enter the firmware upgrade mode. The firmware image is sent to the target IPMC in several parts with multiple Continue Firmware Upgrade commands. Each part can have the size of an IPMB message length. When the whole firmware image is on the target IPMC, the process has to be finished with the Finish Firmware Upgrade command. During the firmware upgrade mode, the Emerson IPMC may only execute the Continue Firmware Upgrade and Get Device ID commands.

The following table shows the firmware upgrade commands together with their network function and command code.

Table 2-6 Firmware Upgrade Commands

Command Name	NetFn (Request/Response)	CMD	Description
Start Firmware Upgrade	0x08/0x09	0x1B	See *Start Firmware Upgrade* on page 23
Continue Firmware Upgrade	0x08/0x09	0x1C	See *Continue Firmware Upgrade* on page 24
Finish Firmware Upgrade	0x08/0x09	0x1E	See *Finish Firmware Upgrade* on page 24

2.3.1.1 Start Firmware Upgrade

The Start Firmware Upgrade command puts the target IPMC into firmware upgrade mode. Only the Firmware Upgrade commands and the Get Device ID command are supported in firmware upgrade mode.

2.3.1.1.1 Request Data

No request data needs to be provided for this command.

2.3.1.1.2 Response Data

The following table lists the response data applicable to the Start Firmware Upgrade command.

Table 2-7 Response Data of Start Firmware Upgrade

Byte	Data Field
1	Completion Code 0x00: Command executed successfully and target IPMC entered firmware upgrade mode 0x01..0xFF: Error, that means IPMC cannot enter into firmware upgrade mode

2.3.1.2 Continue Firmware Upgrade

The Continue Firmware Upgrade command writes a part of the firmware image to the target IPMC. It also checks file integrity and makes the target IPMC leave the firmware upgrade mode if an error occurs. If an error occure, the whole firmware upgrade sequence must be repeated beginning from the Start Firmware Upgrade command and the whole firmware upgrade image must be retransmitted.

2.3.1.2.1 Request Data

The following table lists the request data applicable to the Continue Firmware Upgrade command.

Table 2-8 Request Data of Continue Firmware Upgrade

Byte	Data Field
1..23	Firmware content to be sent to the target IPMC. The firmware image is an extended INTEL hex file. The whole message length is defined by the maximum IPMB message length.

2.3.1.2.2 Response Data

The following table lists the response data of the Continue Firmware Upgrade command.

Table 2-9 Response Data of Continue Firmware Upgrade

Byte	Data Field
1	Completion Code 0x00: Command executed successfully 0x1..0xFF: Error, that means the IPMC left the firmware upgrade mode

2.3.1.3 Finish Firmware Upgrade

The Finish Firmware Upgrade command makes the target IPMC leave the firmware upgrade mode.

2.3.1.3.1 Request Data

The following table lists the request data applicable to the Finish Firmware Upgrade command.

Table 2-10 Request Data of Finish Firmware Upgrade

Byte	Data Field
1..23	None

2.3.1.3.2 Response Data

The following table lists the response data applicable to the Finish Firmware Upgrade command.

Table 2-11 Response Data of Finish Firmware Upgrade

Byte	Data Field
1	Completion Code 0: Command executed successfully 0x01..0xFF: Error

3.1 FRU Information

The RTM provides the following FRU information in FRU ID 0.

Table 3-1 FRU Information

Area	Description	Value	Access
Internal use area	Not used		
Board info area	Mfg date / time	According to Platform Management FRU information Storage Definition v1.0	r
	Board manufacturer	EMERSON	r
	Board product name	RTM-ATCA-F120-OPT	r
	Board serial number	Defined by Emerson	r
	Board part number	Defined by Emerson	r
Product info area	Product manufacturer	EMERSON	r
	Product name	Product name of the specific blade variant	r
	Product serial number	Defined by Emerson	r
	Product part number	Defined by Emerson	r
Multi record info area	Module power requirement .	Record definition according to AMC specification	r
	User Info Area	Emerson OEM ID: not yet defined. Followed by 255 bytes of user info area data	r/w
	Custom usage	Min. 256 Byte available	r/w

3.2 Sensor Data Records

The sensors available on the blade/RTM are shown in the table below.

Table 3-2 IPMI Sensors Overview

Sensor Name	Sensor Type	Sensor Number	Detailed SDR Description
Bottom Edge Temp	Temperature	0xA2	See Table 3-3 on page 32
Ejector State	Button / Switch	0x7F	See Table 3-4 on page 33
LOS SFP01	Other FRU	0x20	See Table 3-5 on page 34
LOS SFP02	Other FRU	0x21	See Table 3-6 on page 35
LOS SFP03	Other FRU	0x22	See Table 3-7 on page 35
LOS SFP04	Other FRU	0x23	See Table 3-8 on page 36
LOS SFP05	Other FRU	0x24	See Table 3-9 on page 37
LOS SFP06	Other FRU	0x25	See Table 3-10 on page 38
LOS SFP07	Other FRU	0x26	See Table 3-11 on page 39
LOS SFP08	Other FRU	0x27	See Table 3-12 on page 39
LOS SFP09	Other FRU	0x28	See Table 3-13 on page 40
LOS SFP10	Other FRU	0x29	See Table 3-14 on page 41
LOS SFP11	Other FRU	0x2A	See Table 3-15 on page 42
LOS SFP12	Other FRU	0x2B	See Table 3-16 on page 42
Present SFP01	Other FRU	0x10	See Table 3-17 on page 43
Present SFP02	Other FRU	0x11	See Table 3-18 on page 44
Present SFP03	Other FRU	0x12	See Table 3-19 on page 45
Present SFP04	Other FRU	0x13	See Table 3-20 on page 45
Present SFP05	Other FRU	0x14	See Table 3-21 on page 46
Present SFP06	Other FRU	0x15	See Table 3-22 on page 47
Present SFP07	Other FRU	0x16	See Table 3-23 on page 48
Present SFP08	Other FRU	0x17	See Table 3-24 on page 48
Present SFP09	Other FRU	0x18	See Table 3-25 on page 49

Table 3-2 IPMI Sensors Overview (continued)

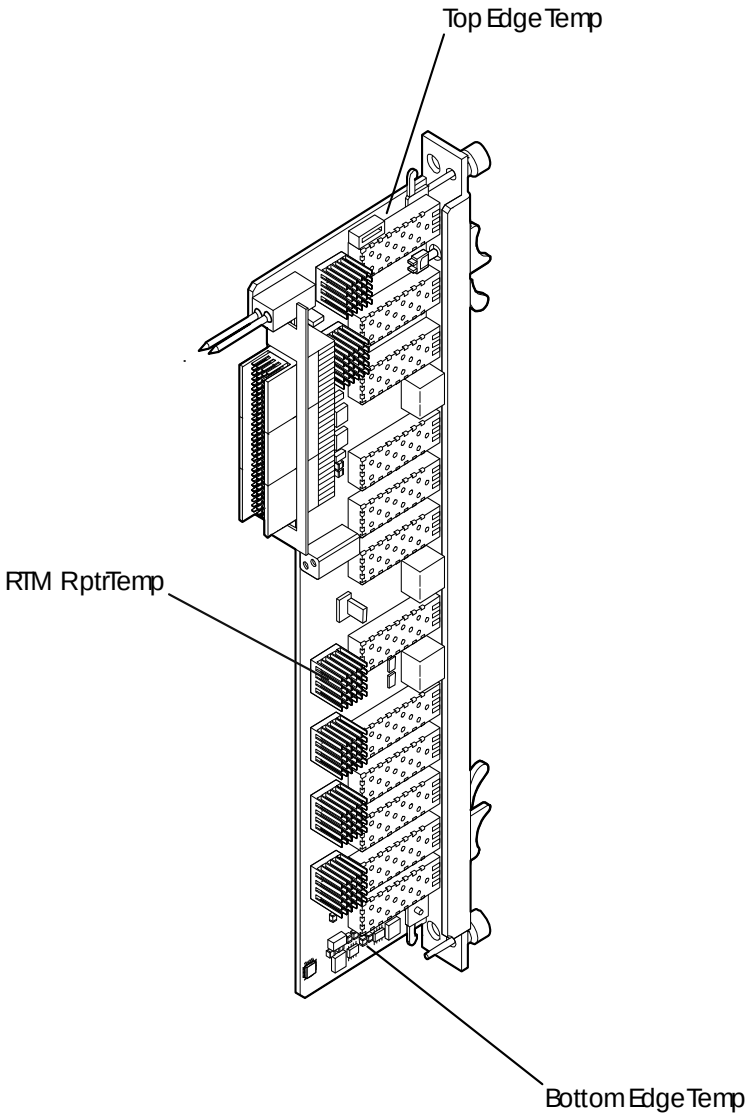
Sensor Name	Sensor Type	Sensor Number	Detailed SDR Description
Present SFP10	Other FRU	0x19	See Table 3-26 on page 50
Present SFP11	Other FRU	0x1A	See Table 3-27 on page 51
Present SFP12	Other FRU	0x1B	See Table 3-28 on page 51
RTM 1.0 V	Voltage	0x00	See Table 3-29 on page 52
RTM 1.2 V	Voltage	0x04	See Table 3-30 on page 53
RTM 12 V	Voltage	0x01	See Table 3-31 on page 54
RTM 2.5 V	Voltage	0x03	See Table 3-32 on page 55
RTM 3.3 V	Voltage	0x02	See Table 3-33 on page 56
RTM-F120-OPT MMC	Emerson IPMC Status	0xA0	See Table 3-34 on page 57
RTM FPGA Vers.	Emerson Firmware Revision	0x87	See Table 3-35 on page 59
RTM Rptr Temp	Temperature	0xA3	See Table 3-36 on page 59
Temp. SFP01	Temperature	0x40	See Table 3-37 on page 60
Temp. SFP02	Temperature	0x41	See Table 3-38 on page 61
Temp. SFP03	Temperature	0x42	See Table 3-39 on page 62
Temp. SFP04	Temperature	0x43	See Table 3-40 on page 63
Temp. SFP05	Temperature	0x44	See Table 3-41 on page 64
Temp. SFP06	Temperature	0x45	See Table 3-42 on page 66
Temp. SFP07	Temperature	0x46	See Table 3-43 on page 67
Temp. SFP08	Temperature	0x47	See Table 3-44 on page 68
Temp. SFP09	Temperature	0x48	See Table 3-45 on page 69
Temp. SFP10	Temperature	0x49	See Table 3-46 on page 70
Temp. SFP11	Temperature	0x4A	See Table 3-47 on page 71
Temp. SFP12	Temperature	0x4B	See Table 3-48 on page 72
Top Edge Temp	Temperature	0xA1	See Table 3-49 on page 73
TX Fault SFP01	Other FRU	0x30	See Table 3-50 on page 74
TX Fault SFP02	Other FRU	0x31	See Table 3-51 on page 74

Table 3-2 IPMI Sensors Overview (continued)

Sensor Name	Sensor Type	Sensor Number	Detailed SDR Description
TX Fault SFP03	Other FRU	0x32	See Table 3-52 on page 75
TX Fault SFP04	Other FRU	0x33	See Table 3-53 on page 76
TX Fault SFP05	Other FRU	0x34	See Table 3-54 on page 77
TX Fault SFP06	Other FRU	0x35	See Table 3-55 on page 77
TX Fault SFP07	Other FRU	0x36	See Table 3-56 on page 78
TX Fault SFP08	Other FRU	0x37	See Table 3-57 on page 79
TX Fault SFP09	Other FRU	0x38	See Table 3-58 on page 80
TX Fault SFP10	Other FRU	0x39	See Table 3-59 on page 81
TX Fault SFP11	Other FRU	0x3A	See Table 3-60 on page 81
TX Fault SFP12	Other FRU	0x3B	See Table 3-61 on page 82

The RTM provides three on-board temperature sensors. Their location is shown in the following figure.

Figure 3-1



The IPMI sensors named Temp. SFP01 to SFP10 measure the temperature of installed SFP modules. The thresholds of these sensors which are listed in the tables below depend on the exact SFP module type used and may be different in your system environment.

The following tables describe all on-board IPMI sensors in detail.

Table 3-3 Bottom Edge Temp Sensor

Feature	Raw Value	Description
Sensor Name	Bottom Edge Temp	-
Sensor LUN	0x00	-
Sensor Number	0xA2	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x95	-
Assertion Event Mask(Byte 16)	0x7A	-
Deassertion Event Mask(Byte 17)	0x95	-
Deassertion Event Mask(Byte 18)	0x7A	-
Threshold Mask(Byte 19)	0x3F	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x4A	74
Upper critical threshold	0x3F	63
Upper non-critical threshold	0x32	50
Lower non-recoverable threshold	0xF6	-10
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0

Table 3-3 Bottom Edge Temp Sensor (continued)

Feature	Raw Value	Description
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-4 Ejector State Sensor

Feature	Raw Value	Description
Sensor Name	Ejector State	-
Sensor LUN	0x00	-
Sensor Number	0x7F	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x14	Button / Switch
Event/Reading Type	0x6F	Discrete (sensor-specific)
Assertion Event Mask(Byte 15)	0x08	-
Assertion Event Mask(Byte 16)	0x00	-
Assertion Events	-	-
-	Event Offset: 3	FRU latch open (Switch indicating FRU latch is in 'unlatched' position and FRU is mechanically removable)
Deassertion Event Mask(Byte 17)	0x08	-
Deassertion Event Mask(Byte 18)	0x00	-
Deassertion Events	-	-
-	Event Offset: 3	FRU latch open (Switch indicating FRU latch is in 'unlatched' position and FRU is mechanically removable)
Threshold Mask(Byte 19)	0x08	-

Table 3-4 Ejector State Sensor (continued)

Feature	Raw Value	Description
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-5 LOS SFP01 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP01	-
Sensor LUN	0x00	-
Sensor Number	0x20	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State

Table 3-5 LOS SFP01 Sensor (continued)

Feature	Raw Value	Description
Reading Definition	-	-

Table 3-6 LOS SFP02 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP02	-
Sensor LUN	0x00	-
Sensor Number	0x21	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-7 LOS SFP03 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP03	-
Sensor LUN	0x00	-

Table 3-7 LOS SFP03 Sensor (continued)

Feature	Raw Value	Description
Sensor Number	0x22	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-8 LOS SFP04 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP04	-
Sensor LUN	0x00	-
Sensor Number	0x23	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-

Table 3-8 LOS SFP04 Sensor (continued)

Feature	Raw Value	Description
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-9 LOS SFP05 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP05	-
Sensor LUN	0x00	-
Sensor Number	0x24	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto

Table 3-9 LOS SFP05 Sensor (continued)

Feature	Raw Value	Description
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-10 LOS SFP06 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP06	-
Sensor LUN	0x00	-
Sensor Number	0x25	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-11 LOS SFP07 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP07	-
Sensor LUN	0x00	-
Sensor Number	0x26	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-12 LOS SFP08 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP08	-
Sensor LUN	0x00	-
Sensor Number	0x27	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)

Table 3-12 LOS SFP08 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-13 LOS SFP09 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP09	-
Sensor LUN	0x00	-
Sensor Number	0x28	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-

Table 3-13 LOS SFP09 Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-14 LOS SFP10 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP10	-
Sensor LUN	0x00	-
Sensor Number	0x29	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-15 LOS SFP11 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP11	-
Sensor LUN	0x00	-
Sensor Number	0x2A	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-16 LOS SFP12 Sensor

Feature	Raw Value	Description
Sensor Name	LOS SFP12	-
Sensor LUN	0x00	-
Sensor Number	0x2B	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)

Table 3-16 LOS SFP12 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-17 Present SFP01 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP01	-
Sensor LUN	0x00	-
Sensor Number	0x10	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-

Table 3-17 Present SFP01 Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-18 Present SFP02 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP02	-
Sensor LUN	0x00	-
Sensor Number	0x11	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-19 Present SFP03 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP03	-
Sensor LUN	0x00	-
Sensor Number	0x12	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-20 Present SFP04 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP04	-
Sensor LUN	0x00	-
Sensor Number	0x13	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)

Table 3-20 Present SFP04 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-21 Present SFP05 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP05	-
Sensor LUN	0x00	-
Sensor Number	0x14	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-

Table 3-21 Present SFP05 Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-22 Present SFP06 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP06	-
Sensor LUN	0x00	-
Sensor Number	0x15	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-23 Present SFP07 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP07	-
Sensor LUN	0x00	-
Sensor Number	0x16	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-24 Present SFP08 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP08	-
Sensor LUN	0x00	-
Sensor Number	0x17	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)

Table 3-24 Present SFP08 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-25 Present SFP09 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP09	-
Sensor LUN	0x00	-
Sensor Number	0x18	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-

Table 3-25 Present SFP09 Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-26 Present SFP10 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP10	-
Sensor LUN	0x00	-
Sensor Number	0x19	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-27 Present SFP11 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP11	-
Sensor LUN	0x00	-
Sensor Number	0x1A	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-28 Present SFP12 Sensor

Feature	Raw Value	Description
Sensor Name	Present SFP12	-
Sensor LUN	0x00	-
Sensor Number	0x1B	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x08	'digital' Discrete (generic)

Table 3-28 Present SFP12 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-29 RTM 1.0 V Sensor

Feature	Raw Value	Description
Sensor Name	RTM 1.0 V	-
Sensor LUN	0x00	-
Sensor Number	0x00	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x02	Voltage
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x14	-
Assertion Event Mask(Byte 16)	0x6A	-
Deassertion Event Mask(Byte 17)	0x14	-
Deassertion Event Mask(Byte 18)	0x6A	-
Threshold Mask(Byte 19)	0x36	-
Threshold Mask(Byte 20)	0x00	-

Table 3-29 RTM 1.0 V Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x04	Volts
Nominal Reading	0x80	1
Upper non-recoverable threshold	0xB1	1.24
Upper critical threshold	0x9C	1.14
Upper non-critical threshold	0x00	(unspecified)
Lower non-recoverable threshold	0x66	0.88
Lower critical threshold	0x6B	0.9
Lower non-critical threshold	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-30 RTM 1.2 V Sensor

Feature	Raw Value	Description
Sensor Name	RTM 1.2 V	-
Sensor LUN	0x00	-
Sensor Number	0x04	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x02	Voltage
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x14	-
Assertion Event Mask(Byte 16)	0x6A	-
Deassertion Event Mask(Byte 17)	0x14	-
Deassertion Event Mask(Byte 18)	0x6A	-
Threshold Mask(Byte 19)	0x36	-

Table 3-30 RTM 1.2 V Sensor (continued)

Feature	Raw Value	Description
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x04	Volts
Nominal Reading	0xB8	1.48
Upper non-recoverable threshold	0xC2	1.53
Upper critical threshold	0x91	1.29
Upper non-critical threshold	0x00	(unspecified)
Lower non-recoverable threshold	0x57	1
Lower critical threshold	0x6D	1.11
Lower non-critical threshold	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-31 RTM 12 V Sensor

Feature	Raw Value	Description
Sensor Name	RTM 12 V	-
Sensor LUN	0x00	-
Sensor Number	0x01	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x02	Voltage
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x14	-
Assertion Event Mask(Byte 16)	0x6A	-
Deassertion Event Mask(Byte 17)	0x14	-
Deassertion Event Mask(Byte 18)	0x6A	-

Table 3-31 RTM 12 V Sensor (continued)

Feature	Raw Value	Description
Threshold Mask(Byte 19)	0x36	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x04	Volts
Nominal Reading	0x80	12.04
Upper non-recoverable threshold	0xC4	14.02
Upper critical threshold	0xA2	13.03
Upper non-critical threshold	0x00	(unspecified)
Lower non-recoverable threshold	0x3B	10.02
Lower critical threshold	0x5D	11.02
Lower non-critical threshold	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-32 RTM 2.5 V Sensor

Feature	Raw Value	Description
Sensor Name	RTM 2.5 V	-
Sensor LUN	0x00	-
Sensor Number	0x03	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x02	Voltage
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x14	-
Assertion Event Mask(Byte 16)	0x6A	-
Deassertion Event Mask(Byte 17)	0x14	-

Table 3-32 RTM 2.5 V Sensor (continued)

Feature	Raw Value	Description
Deassertion Event Mask(Byte 18)	0x6A	-
Threshold Mask(Byte 19)	0x36	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x04	Volts
Nominal Reading	0x80	2.5
Upper non-recoverable threshold	0x9E	2.8
Upper critical threshold	0x91	2.67
Upper non-critical threshold	0x00	(unspecified)
Lower non-recoverable threshold	0x61	2.2
Lower critical threshold	0x6E	2.33
Lower non-critical threshold	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-33 RTM 3.3 V Sensor

Feature	Raw Value	Description
Sensor Name	RTM 3.3 V	-
Sensor LUN	0x00	-
Sensor Number	0x02	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x02	Voltage
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x14	-
Assertion Event Mask(Byte 16)	0x6A	-

Table 3-33 RTM 3.3 V Sensor (continued)

Feature	Raw Value	Description
Deassertion Event Mask(Byte 17)	0x14	-
Deassertion Event Mask(Byte 18)	0x6A	-
Threshold Mask(Byte 19)	0x36	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x04	Volts
Nominal Reading	0x80	3.3
Upper non-recoverable threshold	0xA8	3.7
Upper critical threshold	0x97	3.53
Upper non-critical threshold	0x00	(unspecified)
Lower non-recoverable threshold	0x57	2.9
Lower critical threshold	0x68	3.07
Lower non-critical threshold	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-34 RTM-F120-OPT MMC Sensor

Feature	Raw Value	Description
Sensor Name	RTM-F120-OPT MMC	-
Sensor LUN	0x00	-
Sensor Number	0xA0	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0xD5	Emerson IPMC Status
Event/Reading Type	0x6F	Discrete (sensor-specific)
Assertion Event Mask(Byte 15)	0x3F	-

Table 3-34 RTM-F120-OPT MMC Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 16)	0x01	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x3F	-
Threshold Mask(Byte 20)	0x01	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Bit 15:9	Reserved
-	Bit 8	0: No BIB read error 1: BIB read error occurred
-	Bit 7:6	Reserved
-	Bit 5	0: No MMC storage error 1: MMC storage error occurred
-	Bit 4	0: No internal error 1: Internal error occurred
-	Bit 3	0: No external reset 1: External reset occurred
-	Bit 2	0: No watchdog reset 1: Watchdog reset
-	Bit 1	0: No brown-out reset 1: Brown-out reset
-	Bit 0	0: No power on reset 1: Power on reset

Table 3-35 RTM FPGA Vers. Sensor

Feature	Raw Value	Description
Sensor Name	RTM FPGA Vers.	-
Sensor LUN	0x00	-
Sensor Number	0x87	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0xD6	Emerson Firmware Revision
Event/Reading Type	0x6F	Discrete (sensor-specific)
Assertion Event Mask(Byte 15)	0x00	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0xFF	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x03	No Events
Reading Definition	-	-

Table 3-36 RTM Rptr Temp Sensor

Feature	Raw Value	Description
Sensor Name	RTM Rptr Temp	-
Sensor LUN	0x00	-
Sensor Number	0xA3	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold

Table 3-36 RTM Rptr Temp Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x95	-
Assertion Event Mask(Byte 16)	0x7A	-
Deassertion Event Mask(Byte 17)	0x95	-
Deassertion Event Mask(Byte 18)	0x7A	-
Threshold Mask(Byte 19)	0x3F	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x54	84
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0xF6	-10
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-37 Temp. SFP01 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP01	-
Sensor LUN	0x00	-
Sensor Number	0x40	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature

Table 3-37 Temp. SFP01 Sensor (continued)

Feature	Raw Value	Description
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-38 Temp. SFP02 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP02	-
Sensor LUN	0x00	-
Sensor Number	0x41	-
Entity ID	0xC0	PICMG Rear Transition Module

Table 3-38 Temp. SFP02 Sensor (continued)

Feature	Raw Value	Description
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-39 Temp. SFP03 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP03	-
Sensor LUN	0x00	-
Sensor Number	0x42	-

Table 3-39 Temp. SFP03 Sensor (continued)

Feature	Raw Value	Description
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-40 Temp. SFP04 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP04	-
Sensor LUN	0x00	-

Table 3-40 Temp. SFP04 Sensor (continued)

Feature	Raw Value	Description
Sensor Number	0x43	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-41 Temp. SFP05 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP05	-

Table 3-41 Temp. SFP05 Sensor (continued)

Feature	Raw Value	Description
Sensor LUN	0x00	-
Sensor Number	0x44	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-42 Temp. SFP06 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP06	-
Sensor LUN	0x00	-
Sensor Number	0x45	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-43 Temp. SFP07 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP07	-
Sensor LUN	0x00	-
Sensor Number	0x46	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-44 Temp. SFP08 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP08	-
Sensor LUN	0x00	-
Sensor Number	0x47	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-45 Temp. SFP09 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP09	-
Sensor LUN	0x00	-
Sensor Number	0x48	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-46 Temp. SFP10 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP10	-
Sensor LUN	0x00	-
Sensor Number	0x49	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-47 Temp. SFP11 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP11	-
Sensor LUN	0x00	-
Sensor Number	0x4A	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-48 Temp. SFP12 Sensor

Feature	Raw Value	Description
Sensor Name	Temp. SFP12	-
Sensor LUN	0x00	-
Sensor Number	0x4B	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x85	-
Assertion Event Mask(Byte 16)	0x32	-
Deassertion Event Mask(Byte 17)	0x85	-
Deassertion Event Mask(Byte 18)	0x32	-
Threshold Mask(Byte 19)	0x1B	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x00	(unspecified)
Upper critical threshold	0x49	73
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0x00	(unspecified)
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-49 Top Edge Temp Sensor

Feature	Raw Value	Description
Sensor Name	Top Edge Temp	-
Sensor LUN	0x00	-
Sensor Number	0xA1	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x01	Temperature
Event/Reading Type	0x01	Threshold
Assertion Event Mask(Byte 15)	0x95	-
Assertion Event Mask(Byte 16)	0x7A	-
Deassertion Event Mask(Byte 17)	0x95	-
Deassertion Event Mask(Byte 18)	0x7A	-
Threshold Mask(Byte 19)	0x3F	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x01	deg. C
Nominal Reading	0x19	25
Upper non-recoverable threshold	0x52	82
Upper critical threshold	0x47	71
Upper non-critical threshold	0x37	55
Lower non-recoverable threshold	0xF6	-10
Lower critical threshold	0xFB	-5
Lower non-critical threshold	0x00	0
Rearm mode	0x01	Auto
Hysteresis Support	0x01	Readable
Threshold Access Support	0x01	Readable
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	Analog reading byte	Analog sensor reading

Table 3-50 TX Fault SFP01 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP01	-
Sensor LUN	0x00	-
Sensor Number	0x30	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-51 TX Fault SFP02 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP02	-
Sensor LUN	0x00	-
Sensor Number	0x31	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)

Table 3-51 TX Fault SFP02 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-52 TX Fault SFP03 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP03	-
Sensor LUN	0x00	-
Sensor Number	0x32	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-

Table 3-52 TX Fault SFP03 Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-53 TX Fault SFP04 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP04	-
Sensor LUN	0x00	-
Sensor Number	0x33	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State

Table 3-53 TX Fault SFP04 Sensor (continued)

Feature	Raw Value	Description
Reading Definition	-	-

Table 3-54 TX Fault SFP05 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP05	-
Sensor LUN	0x00	-
Sensor Number	0x34	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-55 TX Fault SFP06 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP06	-
Sensor LUN	0x00	-

Table 3-55 TX Fault SFP06 Sensor (continued)

Feature	Raw Value	Description
Sensor Number	0x35	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-56 TX Fault SFP07 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP07	-
Sensor LUN	0x00	-
Sensor Number	0x36	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-

Table 3-56 TX Fault SFP07 Sensor (continued)

Feature	Raw Value	Description
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-57 TX Fault SFP08 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP08	-
Sensor LUN	0x00	-
Sensor Number	0x37	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto

Table 3-57 TX Fault SFP08 Sensor (continued)

Feature	Raw Value	Description
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-58 TX Fault SFP09 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP09	-
Sensor LUN	0x00	-
Sensor Number	0x38	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-59 TX Fault SFP10 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP10	-
Sensor LUN	0x00	-
Sensor Number	0x39	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-60 TX Fault SFP11 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP11	-
Sensor LUN	0x00	-
Sensor Number	0x3A	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)

Table 3-60 TX Fault SFP11 Sensor (continued)

Feature	Raw Value	Description
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Table 3-61 TX Fault SFP12 Sensor

Feature	Raw Value	Description
Sensor Name	TX Fault SFP12	-
Sensor LUN	0x00	-
Sensor Number	0x3B	-
Entity ID	0xC0	PICMG Rear Transition Module
Sensor Type	0x1A	Other FRU
Event/Reading Type	0x04	'digital' Discrete (generic)
Assertion Event Mask(Byte 15)	0x03	-
Assertion Event Mask(Byte 16)	0x00	-
Deassertion Event Mask(Byte 17)	0x00	-
Deassertion Event Mask(Byte 18)	0x00	-
Threshold Mask(Byte 19)	0x03	-
Threshold Mask(Byte 20)	0x00	-

Table 3-61 TX Fault SFP12 Sensor (continued)

Feature	Raw Value	Description
Base Unit	0x00	(unspecified)
Rearm mode	0x01	Auto
Hysteresis Support	0x00	No Hysteresis or unspecified
Threshold Access Support	0x00	No Tresholds
Event Message Control	0x00	Per Threshold / Discrete State
Reading Definition	-	-

Related Documentation

A.1 Emerson Network Power - Embedded Computing Documents

The Emerson Network Power - Embedded Computing publications listed below are referenced in this manual. You can obtain electronic copies of these publications by contacting your local Emerson sales office or by visiting the following web site: www.emersonnetworkpower.com/embeddedcomputing -> Resource Center -> Technical Documentation Search. This site provides the most up-to-date copies of Emerson Network Power - Embedded Computing product documentation.

Table A-1 Emerson Publications

Document Title and Source	Publication Number
RTM-ATCA-F120-OPT Installation and Use	6806800G29A

A.2 Related Specifications

For additional information, refer to the following table for related specifications. As an additional help, a source for the listed document is provided. Please note that, while these sources have been verified, the information is subject to change without notice.

Table A-2 Related Specifications

Organization	Document Title
Intel developer.intel.com/design/servers/ipmi	Platform Management FRU Information Storage Definition v1.0 IPMI Specification v1.5
PICMG picmg.org/specifications.stm	PICMG 3.0 Revision 2.0 Advanced TCA Base Specification PICMG 3.1 R1.0 Ethernet / Fiber Channel for AdvancedTCA Systems AMC.1 PCI Express (and PCI Express Advanced Switching) HPM.1 (Defines management firmware upgrade capability)

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