PmodPMON1™ Reference Manual

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Note: This document applies to REV B of the board.

DIGILENT®
www.digilentinc.com

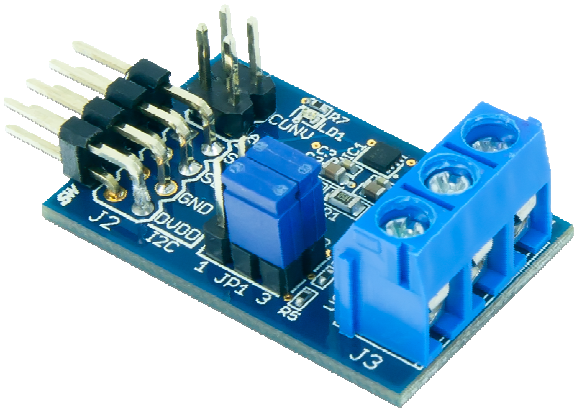
1300 NE Henley Court, Suite 3
Pullman, WA 99163
(509) 334 6306 Voice | (509) 334 6300 Fax

Overview

The PmodPMON1 employs the Analog Devices® AD5112 and ADM1191 to create a system power monitor.

Features include:

- monitor current draws less than 1.058A
- monitor voltages from 3.16V to 26V on the J3 VIN pin
- DVDD input ranges from 3V to 5.5V
- standard I^2C interface
- configurable device address allows for up to nine PMON1s in a single system



Functional Description

Customers can configure the PMON1 to a wide range of possible alert conditions from the ADM1191 by using the configurable AD5112 potentiometer. The AD5112 upper potentiometer connection ties to DVDD through a filtering ferrite bead and the lower connection connects to GND. (See Table 1 for Connector Descriptions.) The wiper directly connects to the SETV pin on the ADM1191 to allow for the wide range of alert conditions. If an alert condition occurs, LD1 on the PMON1 will illuminate and the alert pin will go to a logic low state.

Using Multiple PMON1's

In order to use multiple PMON1's on a single I^2C bus, each individual PMON1 will need to be connected; and the desired potentiometer value programmed into the EEPROM on the AD5112. Any stored value will become the default starting value for the potentiometer. The alert functionality available on the ADM1191 will not function properly without programming each individual device. (See Table 2 for Jumper Descriptions.)

Device Configuration

For specific information related to device configuration on the AD5112 and ADM1191, please refer to the data sheets available at www.analog.com

Connector J1 – Control Pins		
Pin	**Signal**	**Description**
1,2	CONV	Trigger a conversion
3,4	$\overline{ALERT}$	Overcurrent or overvoltage event
Connector J2 – I2C Interface		
1,2	SCL	Serial Clock
3,4	SDA	Serial Data
5,6	GND	Ground
7,8	DVDD	Input Voltage
Connector J3 – Power Monitor Screw Terminal		
1	VIN	Input voltage of device to monitored
2	GND	Ground
3	VOUT	Voltage supplied to device being monitored

Table 1. *Connector Descriptions*

Jumper	Setting	Description
JP1	1	ADM1191 Address bit 3 and 2 set to 0b00
	3	ADM1191 Address bit 3 and 2 set to 0b01
	OFF	ADM1191 Address bit 3 and 2 set to 0b10
JP2	1	ADM1191 Address bit 1 and 0 set to 0b00
	3	ADM1191 Address bit 1 and 0 set to 0b01
	OFF	ADM1191 Address bit 1 and 0 set to 0b10

Table 2. *Jumper Descriptions*