# PmodPMON1™ Reference Manual

**Revision:** January 27, 2013
**Note:** This document applies to REV B of the board.

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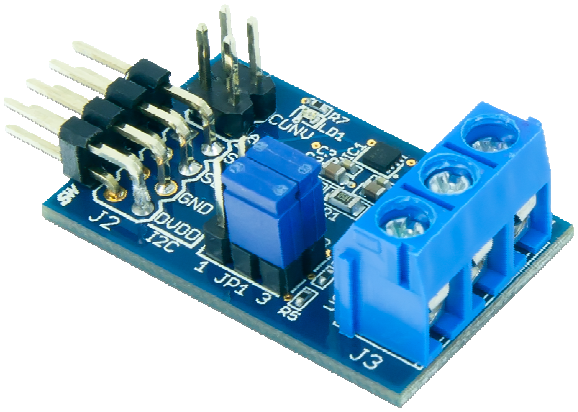
## Overview

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***