

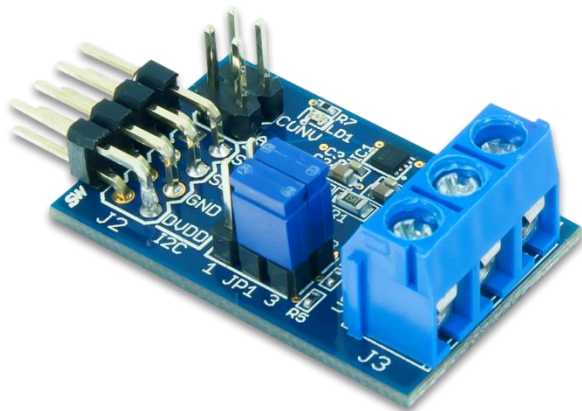
PmodPMON1™ Reference Manual

Revised May 26, 2016

This manual applies to the PmodPMON1 rev. B

Overview

The PmodPMON1 employs the Analog Devices[®] [AD5112](#) and [ADM1191](#) to create a system power monitor.



The PmodPMON1.

Features include:

- Monitor current draw less than 1.058 A
- Wide range of configurable alert conditions
- Monitor voltages from 3.16 V to 26 V
- Configurable device address for up to nine modules in a single system
- Small PCB size for flexible designs 1.2" × 0.8" (2.8 cm × 2.0 cm)
- 2×4-pin connector with I2C interface
- Follows [Digilent Pmod Interface Specification](#)

1 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.

2 Using Multiple PmodPMON1s

In order to use multiple PMON1's on a single I²C 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.)

3 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.

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