Kernel driver smm665

Supported chips:

- Summit Microelectronics SMM465

  Prefix: 'smm465'

  Addresses scanned: -

  Datasheet:

  http://www.summitmicro.com/prod_select/summary/SMM465/SMM465DS.pdf

- Summit Microelectronics SMM665, SMM665B

  Prefix: 'smm665'

  Addresses scanned: -

  Datasheet:

  http://www.summitmicro.com/prod_select/summary/SMM665/SMM665B_2089_20.pdf

- Summit Microelectronics SMM665C

  Prefix: 'smm665c'

  Addresses scanned: -

  Datasheet:

  http://www.summitmicro.com/prod_select/summary/SMM665C/SMM665C_2125.pdf

- Summit Microelectronics SMM764

  Prefix: 'smm764'

  Addresses scanned: -

  Datasheet:

  http://www.summitmicro.com/prod_select/summary/SMM764/SMM764_2098.pdf

- Summit Microelectronics SMM766, SMM766B

  Prefix: 'smm766'

  Addresses scanned: -

  Datasheets:

  http://www.summitmicro.com/prod_select/summary/SMM766/SMM766_2086.pdf

  http://www.summitmicro.com/prod_select/summary/SMM766B/SMM766B_2122.pdf

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Module Parameters

- vref: int

  Default: 1250 (mV)

  Reference voltage on VREF_ADC pin in mV. It should not be necessary to set this parameter unless a non-default reference voltage is used.

Description

[From datasheet] The SMM665 is an Active DC Output power supply Controller that monitors, margins and cascade sequences power. The part monitors six power supply channels as well as VDD, 12V input, two general-purpose analog inputs and an internal temperature sensor using a 10-bit ADC.

Each monitored channel has its own high and low limits, plus a critical limit.

Support for SMM465, SMM764, and SMM766 has been implemented but is untested.

Usage Notes

Usage Notes

This driver does not probe for devices, since there is no register which can be safely used to identify the chip. You will have to instantiate the devices explicitly. When instantiating the device, you have to specify its configuration register address.

Example: the following will load the driver for an SMM665 at address 0x57 on I2C bus #1:

```
$ modprobe smm665
$ echo smm665 0x57 > /sys/bus/i2c/devices/i2c-1/new_device
```

Sysfs entries

This driver uses the values in the datasheet to convert ADC register values into the values specified in the sysfs-interface document. All attributes are read only.

Min, max, lcrit, and crit values are used by the chip to trigger external signals and/or other activity. Triggered signals can include HEALTHY, RST, Power Off, or Fault depending on the chip configuration. The driver reports values as lcrit or crit if exceeding the limits triggers RST, Power Off, or Fault, and as min or max otherwise. For details please see the SMM665 datasheet.

For SMM465 and SMM764, values for Channel E and F are reported but undefined.

in1_input	12V input voltage (mV)
in2_input	3.3V (VDD) input voltage (mV)
in3_input	Channel A voltage (mV)
in4_input	Channel B voltage (mV)
in5_input	Channel C voltage (mV)
in6_input	Channel D voltage (mV)
in7_input	Channel E voltage (mV)
in8_input	Channel F voltage (mV)
in9_input	AIN1 voltage (mV)
in10_input	AIN2 voltage (mV)
in1_min	12v input minimum voltage (mV)
in2_min	3.3V (VDD) input minimum voltage (mV)
in3_min	Channel A minimum voltage (mV)
in4_min	Channel B minimum voltage (mV)
in5_min	Channel C minimum voltage (mV)
in6_min	Channel D minimum voltage (mV)
in7_min	Channel E minimum voltage (mV)
in8_min	Channel F minimum voltage (mV)
in9_min	AIN1 minimum voltage (mV)
in10_min	AIN2 minimum voltage (mV)
in1_max	12v input maximum voltage (mV)
in2_max	3.3V (VDD) input maximum voltage (mV)
in3_max	Channel A maximum voltage (mV)
in4_max	Channel B maximum voltage (mV)
in5_max	Channel C maximum voltage (mV)
in6_max	Channel D maximum voltage (mV)
in7_max	Channel E maximum voltage (mV)
in8_max	Channel F maximum voltage (mV)
in9_max	AIN1 maximum voltage (mV)
in10_max	AIN2 maximum voltage (mV)
in1_lcrit	12v input critical minimum voltage (mV)
in2_lcrit	3.3V (VDD) input critical minimum voltage (mV)
in3_lcrit	Channel A critical minimum voltage (mV)
in4_lcrit	Channel B critical minimum voltage (mV)
in5_lcrit	Channel C critical minimum voltage (mV)
in6_lcrit	Channel D critical minimum voltage (mV)
in7_lcrit	Channel E critical minimum voltage (mV)
in8_lcrit	Channel F critical minimum voltage (mV)
in9_lcrit	AIN1 critical minimum voltage (mV)
in10_lcrit	AIN2 critical minimum voltage (mV)
in1_crit	12v input critical maximum voltage (mV)
in2_crit	3.3V (VDD) input critical maximum voltage (mV)
in3_crit	Channel A critical maximum voltage (mV)
in4_crit	Channel B critical maximum voltage (mV)

in5_crit	Channel C critical maximum voltage (mV)
in6_crit	Channel D critical maximum voltage (mV)
in7_crit	Channel E critical maximum voltage (mV)
in8_crit	Channel F critical maximum voltage (mV)
in9_crit	AIN1 critical maximum voltage (mV)
in10_crit	AIN2 critical maximum voltage (mV)
in1_crit_alarm	12v input critical alarm
in2_crit_alarm	3.3V (VDD) input critical alarm
in3_crit_alarm	Channel A critical alarm
in4_crit_alarm	Channel B critical alarm
in5_crit_alarm	Channel C critical alarm
in6_crit_alarm	Channel D critical alarm
in7_crit_alarm	Channel E critical alarm
in8_crit_alarm	Channel F critical alarm
in9_crit_alarm	AIN1 critical alarm
in10_crit_alarm	AIN2 critical alarm
temp1_input	Chip temperature
temp1_min	Mimimum chip temperature
temp1_max	Maximum chip temperature
temp1_crit	Critical chip temperature
temp1_crit_alarm	Temperature critical alarm