Kernel drivers ltc2947-i2c and ltc2947-spi

Supported chips:

- Analog Devices LTC2947

  Prefix: 'ltc2947'

  Addresses scanned: -

  Datasheet:

  https://www.analog.com/media/en/technical-documentation/data-sheets/LTC2947.pdf

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Description

The LTC2947 is a high precision power and energy monitor that measures current, voltage, power, temperature, charge and energy. The device supports both SPI and I2C depending on the chip configuration. The device also measures accumulated quantities as energy. It has two banks of register's to read/set energy related values. These banks can be configured independently to have setups like: energy1 accumulates always and enrgy2 only accumulates if current is positive (to check battery charging efficiency for example). The device also supports a GPIO pin that can be configured as output to control a fan as a function of measured temperature. Then, the GPIO becomes active as soon as a temperature reading is higher than a defined threshold. The temp2 channel is used to control this thresholds and to read the respective alarms.

Sysfs entries

The following attributes are supported. Limits are read-write, reset_history is write-only and all the other attributes are read-only.

in0_input	VP-VM voltage (mV).
in0_min	Undervoltage threshold
in0_max	Overvoltage threshold
in0_lowest	Lowest measured voltage
in0_highest	Highest measured voltage
in0_reset_history	Write 1 to reset in1 history
in0_min_alarm	Undervoltage alarm
in0_max_alarm	Overvoltage alarm
in0_label	Channel label (VP-VM)
in1_input	DVCC voltage (mV)
in1_min	Undervoltage threshold
in1_max	Overvoltage threshold
in1_lowest	Lowest measured voltage
in1_highest	Highest measured voltage
in1_reset_history	Write 1 to reset in2 history
in1_min_alarm	Undervoltage alarm
in1_max_alarm	Overvoltage alarm
in1_label	Channel label (DVCC)
curr1_input	IP-IM Sense current (mA)
curr1_min	Undercurrent threshold
curr1_max	Overcurrent threshold
curr1_lowest	Lowest measured current
curr1_highest	Highest measured current
curr1_reset_history	Write 1 to reset curr1 history
curr1_min_alarm	Undercurrent alarm
curr1_max_alarm	Overcurrent alarm
curr1_label	Channel label (IP-IM)
power1_input	Power (in uW)
power1_min	Low power threshold
power1_max	High power threshold
power1_input_lowest	Historical minimum power use
power1_input_highest	Historical maximum power use
power1_reset_history	Write 1 to reset power1 history
power1_min_alarm	Low power alarm

power1_max_alarm	High power alarm
power1_label	Channel label (Power)
temp1_input	Chip Temperature (in milliC)
temp1_min	Low temperature threshold
temp1_max	High temperature threshold
temp1_input_lowest	Historical minimum temperature use
temp1_input_highest	Historical maximum temperature use
temp1_reset_history	Write 1 to reset temp1 history
temp1_min_alarm	Low temperature alarm
temp1_max_alarm	High temperature alarm
temp1_label	Channel label (Ambient)
temp2_min	Low temperature threshold for fan control
temp2_max	High temperature threshold for fan control
temp2_min_alarm	Low temperature fan control alarm
temp2_max_alarm	High temperature fan control alarm
temp2_label	Channel label (TEMPFAN)
energy1_input	Measured energy over time (in microJoule)
energy2_input	Measured energy over time (in microJoule)