Kernel driver ina209

Supported chips:

- Burr-Brown / Texas Instruments INA209

  Prefix: 'ina209'

  Addresses scanned: -

  Datasheet:
  https://www.ti.com/lit/gpn/ina209

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Description

The TI / Burr-Brown INA209 monitors voltage, current, and power on the high side of a D.C. power supply. It can perform measurements and calculations in the background to supply readings at any time. It includes a programmable calibration multiplier to scale the displayed current and power values.

Sysfs entries

The INA209 chip is highly configurable both via hardwiring and via the I2C bus. See the datasheet for details.

This tries to expose most monitoring features of the hardware via sysfs. It does not support every feature of this chip.

in0_input	shunt voltage (mV)
in0_input_highest	shunt voltage historical maximum reading (mV)
in0_input_lowest	shunt voltage historical minimum reading (mV)
in0_reset_history	reset shunt voltage history
in0_max	shunt voltage max alarm limit (mV)
in0_min	shunt voltage min alarm limit (mV)
in0_crit_max	shunt voltage crit max alarm limit (mV)
in0_crit_min	shunt voltage crit min alarm limit (mV)
in0_max_alarm	shunt voltage max alarm limit exceeded
in0_min_alarm	shunt voltage min alarm limit exceeded
in0_crit_max_alarm	shunt voltage crit max alarm limit exceeded
in0_crit_min_alarm	shunt voltage crit min alarm limit exceeded
in1_input	bus voltage (mV)
in1_input_highest	bus voltage historical maximum reading (mV)
in1_input_lowest	bus voltage historical minimum reading (mV)
in1_reset_history	reset bus voltage history
in1_max	bus voltage max alarm limit (mV)
in1_min	bus voltage min alarm limit (mV)
in1_crit_max	bus voltage crit max alarm limit (mV)
in1_crit_min	bus voltage crit min alarm limit (mV)
in1_max_alarm	bus voltage max alarm limit exceeded
in1_min_alarm	bus voltage min alarm limit exceeded
in1_crit_max_alarm	bus voltage crit max alarm limit exceeded
in1_crit_min_alarm	bus voltage crit min alarm limit exceeded
power1_input	power measurement (uW)
power1_input_highest	power historical maximum reading (uW)
power1_reset_history	reset power history
power1_max	power max alarm limit (uW)
power1_crit	power crit alarm limit (uW)
power1_max_alarm	power max alarm limit exceeded
power1_crit_alarm	power crit alarm limit exceeded
curr1_input	current measurement (mA)
update_interval	data conversion time; affects number of samples used to average results for shunt and bus voltages.

General Remarks

The power and current registers in this chip require that the calibration register is programmed correctly before they are used. Normally this is expected to be done in the BIOS. In the absence of BIOS programming, the shunt resistor voltage can be provided using platform data. The driver uses platform data from the ina2xx driver for this purpose. If calibration register data is not provided via platform data, the driver checks if the calibration register has been programmed (ie has a value not equal to zero). If so, this value is retained. Otherwise, a default value reflecting a shunt resistor value of 10 mOhm is programmed into the calibration register.

Output Pins

Output pin programming is a board feature which depends on the BIOS. It is outside the scope of a hardware monitoring driver to enable or disable output pins.