Kernel driver ucd9200

Supported chips:

- TI UCD9220, UCD9222, UCD9224, UCD9240, UCD9244, UCD9246, and UCD9248

  Prefixes: 'ucd9220', 'ucd9222', 'ucd9224', 'ucd9240', 'ucd9244', 'ucd9246', 'ucd9248'

  Addresses scanned: -

  Datasheets:

    - http://focus.ti.com/lit/ds/symlink/ucd9220.pdf
    - http://focus.ti.com/lit/ds/symlink/ucd9222.pdf
    - http://focus.ti.com/lit/ds/symlink/ucd9224.pdf
    - http://focus.ti.com/lit/ds/symlink/ucd9240.pdf
    - http://focus.ti.com/lit/ds/symlink/ucd9244.pdf
    - http://focus.ti.com/lit/ds/symlink/ucd9246.pdf
    - http://focus.ti.com/lit/ds/symlink/ucd9248.pdf

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Description

[From datasheets] UCD9220, UCD9222, UCD9224, UCD9240, UCD9244, UCD9246, and UCD9248 are multi-rail, multi-phase synchronous buck digital PWM controllers designed for non-isolated DC/DC power applications. The devices integrate dedicated circuitry for DC/DC loop management with flash memory and a serial interface to support configuration, monitoring and management.

This driver is a client driver to the core PMBus driver. Please see Documentation/hwmon/pmbus.rst for details on PMBus client drivers.

Usage Notes

This driver does not auto-detect devices. You will have to instantiate the devices explicitly. Please see Documentation/i2c/instantiating-devices.rst for details.

Platform data support

The driver supports standard PMBus driver platform data. Please see Documentation/hwmon/pmbus.rst for details.

Sysfs entries

The following attributes are supported. Limits are read-write; all other attributes are read-only.

in1_label	"vin".
in1_input	Measured voltage. From READ_VIN register.
in1_min	Minimum Voltage. From VIN_UV_WARN_LIMIT register.
in1_max	Maximum voltage. From VIN_OV_WARN_LIMIT register.
in1_lcrit	Critical minimum Voltage. VIN_UV_FAULT_LIMIT register.
in1_crit	Critical maximum voltage. From VIN_OV_FAULT_LIMIT register.
in1_min_alarm	Voltage low alarm. From VIN_UV_WARNING status.
in1_max_alarm	Voltage high alarm. From VIN_OV_WARNING status.
in1_lcrit_alarm	Voltage critical low alarm. From VIN_UV_FAULT status.
in1_crit_alarm	Voltage critical high alarm. From VIN_OV_FAULT status.
in[2-5]_label	"vout[1-4]".
in[2-5]_input	Measured voltage. From READ_VOUT register.
in[2-5]_min	Minimum Voltage. From VOUT_UV_WARN_LIMIT register.
in[2-5]_max	Maximum voltage. From VOUT_OV_WARN_LIMIT register.
in[2-5]_lcrit	Critical minimum Voltage. VOUT_UV_FAULT_LIMIT register.
in[2-5]_crit	Critical maximum voltage. From VOUT_OV_FAULT_LIMIT register.
in[2-5]_min_alarm	Voltage low alarm. From VOLTAGE_UV_WARNING status.
in[2-5]_max_alarm	Voltage high alarm. From VOLTAGE_OV_WARNING status.
in[2-5]_lcrit_alarm	Voltage critical low alarm. From VOLTAGE_UV_FAULT status.
in[2-5]_crit_alarm	Voltage critical high alarm. From VOLTAGE_OV_FAULT status.
curr1_label	"iin".

curr1_input	Measured current. From READ_IIN register.
curr[2-5]_label	"iout[1-4]".
curr[2-5]_input	Measured current. From READ_IOUT register.
curr[2-5]_max	Maximum current. From IOUT_OC_WARN_LIMIT register.
curr[2-5]_lcrit	Critical minimum output current. From IOUT_UC_FAULT_LIMIT register.
curr[2-5]_crit	Critical maximum current. From IOUT_OC_FAULT_LIMIT register.
curr[2-5]_max_alarm	Current high alarm. From IOUT_OC_WARNING status.
curr[2-5]_crit_alarm	Current critical high alarm. From IOUT_OC_FAULT status.
power1_input	Measured input power. From READ_PIN register.
power1_label	"pin"
power[2-5]_input	Measured output power. From READ_POUT register.
power[2-5]_label	"pout[1-4]" The number of output voltage, current, and power attribute sets is determined by the number of enabled rails. See chip datasheets for details.
temp[1-5]_input	Measured temperatures. From READ_TEMPERATURE_1 and READ_TEMPERATURE_2 registers. temp1 is the chip internal temperature. temp[2-5] are rail temperatures. temp[2-5] attributes are only created for enabled rails. See chip datasheets for details.
temp[1-5]_max	Maximum temperature. From OT_WARN_LIMIT register.
temp[1-5]_crit	Critical high temperature. From OT_FAULT_LIMIT register.
temp[1-5]_max_alarm	Temperature high alarm.
temp[1-5]_crit_alarm	Temperature critical high alarm.
fan1_input	Fan RPM. ucd9240 only.
fan1_alarm	Fan alarm. ucd9240 only.
fan1_fault	Fan fault. ucd9240 only.