Kernel driver ltc2978

Supported chips:

- Linear Technology LTC2972

  Prefix: 'ltc2972'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2972.html
- Linear Technology LTC2974

  Prefix: 'ltc2974'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2974
- Linear Technology LTC2975

  Prefix: 'ltc2975'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2975
- Linear Technology LTC2977

  Prefix: 'ltc2977'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2977
- Linear Technology LTC2978, LTC2978A

  Prefix: 'ltc2978'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2978

  https://www.analog.com/en/products/ltc2978a
- Linear Technology LTC2979

  Prefix: 'ltc2979'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2979
- Linear Technology LTC2980

  Prefix: 'ltc2980'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc2980
- Linear Technology LTC3880

  Prefix: 'ltc3880'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc3880
- Linear Technology LTC3882

  Prefix: 'ltc3882'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc3882
- Linear Technology LTC3883

  Prefix: 'ltc3883'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc3883
- Linear Technology LTC3884

Prefix: 'ltc3884'

Addresses scanned: -

Datasheet: https://www.analog.com/en/products/ltc3884

- Linear Technology LTC3886

  Prefix: 'ltc3886'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc3886

- Linear Technology LTC3887

  Prefix: 'ltc3887'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc3887

- Linear Technology LTC3889

  Prefix: 'ltc3889'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc3889

- Linear Technology LTC7880

  Prefix: 'ltc7880'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltc7880

- Linear Technology LTM2987

  Prefix: 'ltm2987'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltm2987

- Linear Technology LTM4644

  Prefix: 'ltm4644'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltm4644

  - Linear Technology LTM4675

    Prefix: 'ltm4675'

    Addresses scanned: -

    Datasheet: https://www.analog.com/en/products/ltm4675

- Linear Technology LTM4676

  Prefix: 'ltm4676'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltm4676

- Linear Technology LTM4677

  Prefix: 'ltm4677'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltm4677

- Linear Technology LTM4678

  Prefix: 'ltm4678'

  Addresses scanned: -

  Datasheet: https://www.analog.com/en/products/ltm4678

- Analog Devices LTM4680

  Prefix: 'ltm4680'

  Addresses scanned: -

Datasheet: https://www.analog.com/ltm4680

- Analog Devices LTM4686

  Prefix: 'ltm4686'

  Addresses scanned: -

  Datasheet: https://www.analog.com/ltm4686

- Analog Devices LTM4700

  Prefix: 'ltm4700'

  Addresses scanned: -

  Datasheet: https://www.analog.com/ltm4700

Author: Guenter Roeck <linux@roeck-us.net>

Description

- LTC2974 and LTC2975 are quad digital power supply managers.
- LTC2978 is an octal power supply monitor.
- LTC2977 is a pin compatible replacement for LTC2978.
- LTC2980 is a 16-channel Power System Manager, consisting of two LTC2977
- in a single die. The chip is instantiated and reported as two separate chips
- on two different I2C bus addresses.
- LTC3880, LTC3882, LTC3886, and LTC3887 are dual output poly-phase step-down
- DC/DC controllers.
- LTC3883 is a single phase step-down DC/DC controller.
- LTM2987 is a 16-channel Power System Manager with two LTC2977 plus
- additional components on a single die. The chip is instantiated and reported
- as two separate chips on two different I2C bus addresses.
- LTM4675 is a dual 9A or single 18A Î¼Module regulator
- LTM4676 is a dual 13A or single 26A uModule regulator.
- LTM4686 is a dual 10A or single 20A uModule regulator.

Usage Notes

This driver does not probe for PMBus devices. You will have to instantiate devices explicitly.

Example: the following commands will load the driver for an LTC2978 at address 0x60 on I2C bus #1:

```
# modprobe ltc2978
# echo ltc2978 0x60 > /sys/bus/i2c/devices/i2c-1/new_device
```

Sysfs attributes

in1_label	"vin"
in1_input	Measured input voltage.
in1_min	Minimum input voltage.
in1_max	Maximum input voltage. LTC2974, LTC2975, LTC2977, LTC2980, LTC2978, LTC2979 and LTM2987 only.
in1_lcrit	Critical minimum input voltage. LTC2972, LTC2974, LTC2975, LTC2977, LTC2980, LTC2978, LTC2979 and LTM2987 only.
in1_crit	Critical maximum input voltage.
in1_min_alarm	Input voltage low alarm.
in1_max_alarm	Input voltage high alarm. LTC2972, LTC2974, LTC2975, LTC2977, LTC2980, LTC2978, LTC2979 and LTM2987 only.
in1_lcrit_alarm	Input voltage critical low alarm. LTC2972, LTC2974, LTC2975, LTC2977, LTC2980, LTC2978, LTC2979 and LTM2987 only.
in1_crit_alarm	Input voltage critical high alarm.
in1_lowest	Lowest input voltage. LTC2972, LTC2974, LTC2975, LTC2977, LTC2980, LTC2978, and LTM2987 only.

in1_highest	Highest input voltage.
in1_reset_history	Reset input voltage history.
in[N]_label	"vout[1-8]". • LTC2972: N=2-3 • LTC2974, LTC2975: N=2-5 • LTC2977, LTC2979, LTC2980, LTM2987: N=2-9 • LTC2978: N=2-9 • LTC3880, LTC3882, LTC3884, LTC23886 LTC3887, LTC3889, LTC7880, LTM4644, LTM4675, LTM4676, LTM4677, LTM4678, LTM4680, LTM4700: N=2-3 • LTC3883: N=2
in[N]_input	Measured output voltage.
in[N]_min	Minimum output voltage.
in[N]_max	Maximum output voltage.
in[N]_lcrit	Critical minimum output voltage.
in[N]_crit	Critical maximum output voltage.
in[N]_min_alarm	Output voltage low alarm.
in[N]_max_alarm	Output voltage high alarm.
in[N]_lcrit_alarm	Output voltage critical low alarm.
in[N]_crit_alarm	Output voltage critical high alarm.
in[N]_lowest	Lowest output voltage. LTC2972, LTC2974, LTC2975,and LTC2978 only.
in[N]_highest	Highest output voltage.
in[N]_reset_history	Reset output voltage history.
temp[N]_input	Measured temperature. • On LTC2972, temp[1-2] report external temperatures, and temp 3 reports the chip temperature. • On LTC2974 and LTC2975, temp[1-4] report external temperatures, and temp5 reports the chip temperature. • On LTC2977, LTC2979, LTC2980, LTC2978, and LTM2987, only one temperature measurement is supported and reports the chip temperature. • On LTC3880, LTC3882, LTC3886, LTC3887, LTC3889, LTM4664, LTM4675, LTM4676, LTM4677, LTM4678, LTM4680, and LTM4700, temp1 and temp2 report external temperatures, and temp3 reports the chip temperature. • On LTC3883, temp1 reports an external temperature, and temp2 reports the chip temperature.
temp[N]_min	Mimimum temperature. LTC2972, LTC2974, LCT2977, LTM2980, LTC2978, LTC2979, and LTM2987 only.
temp[N]_max	Maximum temperature.
temp[N]_lcrit	Critical low temperature.
temp[N]_crit	Critical high temperature.
temp[N]_min_alarm	Temperature low alarm. LTC2972, LTC2974, LTC2975, LTC2977, LTM2980, LTC2978, LTC2979, and LTM2987 only.
temp[N]_max_alarm	Temperature high alarm.
temp[N]_lcrit_alarm	Temperature critical low alarm.
temp[N]_crit_alarm	Temperature critical high alarm.
temp[N]_lowest	Lowest measured temperature. • LTC2972, LTC2974, LTC2975, LTC2977, LTM2980, LTC2978, LTC2979, and LTM2987 only. • Not supported for chip temperature sensor on LTC2974 and LTC2975.
temp[N]_highest	Highest measured temperature. Not supported for chip temperature sensor on LTC2974 and LTC2975.
temp[N]_reset_history	Reset temperature history. Not supported for chip temperature sensor on LTC2974 and LTC2975.
power1_label	"pin". LTC3883 and LTC3886 only.
power1_input	Measured input power.

power[N]_label	"pout[1-4]". • LTC2972: N=1-2 • LTC2974, LTC2975: N=1-4 • LTC2977, LTC2979, LTC2980, LTM2987: Not supported • LTC2978: Not supported • LTC3880, LTC3882, LTC3884, LTC3886, LTC3887, LTC3889, LTM4664, LTM4675, LTM4676, LTM4677, LTM4678, LTM4680, LTM4700: N=1-2 • LTC3883: N=2
power[N]_input	Measured output power.
curr1_label	"iin". LTC3880, LTC3883, LTC3884, LTC3886, LTC3887, LTC3889, LTM4644, LTM4675, LTM4676, LTM4677, LTM4678, LTM4680, and LTM4700 only.
curr1_input	Measured input current.
curr1_max	Maximum input current.
curr1_max_alarm	Input current high alarm.
curr1_highest	Highest input current. LTC3883 and LTC3886 only.
curr1_reset_history	Reset input current history. LTC3883 and LTC3886 only.
curr[N]_label	"iout[1-4]". • LTC2972: N-1-2 • LTC2974, LTC2975: N=1-4 • LTC2977, LTC2979, LTC2980, LTM2987: not supported • LTC2978: not supported • LTC3880, LTC3882, LTC3884, LTC3886, LTC3887, LTC3889, LTM4664, LTM4675, LTM4676, LTM4677, LTM4678, LTM4680, LTM4700: N=2-3 • LTC3883: N=2
curr[N]_input	Measured output current.
curr[N]_max	Maximum output current.
curr[N]_crit	Critical high output current.
curr[N]_lcrit	Critical low output current. LTC2972, LTC2974 and LTC2975 only.
curr[N]_max_alarm	Output current high alarm.
curr[N]_crit_alarm	Output current critical high alarm.
curr[N]_lcrit_alarm	Output current critical low alarm. LTC2972, LTC2974 and LTC2975 only.
curr[N]_lowest	Lowest output current. LTC2972, LTC2974 and LTC2975 only.
curr[N]_highest	Highest output current.
curr[N]_reset_history	Reset output current history.