Kernel driver lm95245

Supported chips:

- TI LM95235

  Addresses scanned: I2C 0x18, 0x29, 0x4c

  Datasheet: Publicly available at the TI website

  https://www.ti.com/lit/ds/symlink/lm95235.pdf

- TI / National Semiconductor LM95245

  Addresses scanned: I2C 0x18, 0x19, 0x29, 0x4c, 0x4d

  Datasheet: Publicly available at the TI website

  https://www.ti.com/lit/ds/symlink/lm95245.pdf

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Description

LM95235 and LM95245 are 11-bit digital temperature sensors with a 2-wire System Management Bus (SMBus) interface and TruTherm technology that can monitor the temperature of a remote diode as well as its own temperature. The chips can be used to very accurately monitor the temperature of external devices such as microprocessors.

All temperature values are given in millidegrees Celsius. Local temperature is given within a range of -127 to +127.875 degrees. Remote temperatures are given within a range of -127 to +255 degrees. Resolution depends on temperature input and range.

Each sensor has its own critical limit. Additionally, there is a relative hysteresis value common to both critical limits. To make life easier to user-space applications, two absolute values are exported, one for each channel, but these values are of course linked. Only the local hysteresis can be set from user-space, and the same delta applies to the remote hysteresis.

The lm95245 driver can change its update interval to a fixed set of values. It will round up to the next selectable interval. See the datasheet for exact values. Reading sensor values more often will do no harm, but will return 'old' values.