

Kernel driver lm75

Supported chips:

- National Semiconductor LM75
Prefix: 'lm75'
Addresses scanned: I2C 0x48 - 0x4f
Datasheet: Publicly available at the National Semiconductor website
<http://www.national.com/>
- National Semiconductor LM75A
Prefix: 'lm75a'
Addresses scanned: I2C 0x48 - 0x4f
Datasheet: Publicly available at the National Semiconductor website
<http://www.national.com/>
- Dallas Semiconductor (now Maxim) DS75, DS1775, DS7505
Prefixes: 'ds75', 'ds1775', 'ds7505'
Addresses scanned: none
Datasheet: Publicly available at the Maxim website
<https://www.maximintegrated.com/>
- Maxim MAX6625, MAX6626, MAX31725, MAX31726
Prefixes: 'max6625', 'max6626', 'max31725', 'max31726'
Addresses scanned: none
Datasheet: Publicly available at the Maxim website
<http://www.maxim-ic.com/>
- Microchip (TelCom) TCN75
Prefix: 'tcn75'
Addresses scanned: none
Datasheet: Publicly available at the Microchip website
<http://www.microchip.com/>
- Microchip MCP9800, MCP9801, MCP9802, MCP9803
Prefix: 'mcp980x'
Addresses scanned: none
Datasheet: Publicly available at the Microchip website
<http://www.microchip.com/>
- Analog Devices ADT75
Prefix: 'adt75'
Addresses scanned: none
Datasheet: Publicly available at the Analog Devices website
<https://www.analog.com/adt75>
- ST Microelectronics STDS75
Prefix: 'stds75'
Addresses scanned: none

Datasheet: Publicly available at the ST website

<http://www.st.com/internet/analog/product/121769.jsp>

- ST Microelectronics STLM75

Prefix: 'stlm75'

Addresses scanned: none

Datasheet: Publicly available at the ST website

<https://www.st.com/resource/en/datasheet/stlm75.pdf>

- Texas Instruments TMP100, TMP101, TMP105, TMP112, TMP75, TMP75B, TMP75C, TMP175, TMP275, TMP1075

Prefixes: 'tmp100', 'tmp101', 'tmp105', 'tmp112', 'tmp175', 'tmp75', 'tmp75b', 'tmp75c', 'tmp275', 'tmp1075'

Addresses scanned: none

Datasheet: Publicly available at the Texas Instruments website

<https://www.ti.com/product/tmp100>

<https://www.ti.com/product/tmp101>

<https://www.ti.com/product/tmp105>

<https://www.ti.com/product/tmp112>

<https://www.ti.com/product/tmp75>

<https://www.ti.com/product/tmp75b>

<https://www.ti.com/product/tmp75c>

<https://www.ti.com/product/tmp175>

<https://www.ti.com/product/tmp275>

<https://www.ti.com/product/TMP1075>

- NXP LM75B, PCT2075

Prefix: 'lm75b', 'pct2075'

Addresses scanned: none

Datasheet: Publicly available at the NXP website

https://www.nxp.com/documents/data_sheet/LM75B.pdf

<https://www.nxp.com/docs/en/data-sheet/PCT2075.pdf>

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Description

The LM75 implements one temperature sensor. Limits can be set through the Overtemperature Shutdown register and Hysteresis register. Each value can be set and read to half-degree accuracy. An alarm is issued (usually to a connected LM78) when the temperature gets higher than the Overtemperature Shutdown value; it stays on until the temperature falls below the Hysteresis value. All temperatures are in degrees Celsius, and are guaranteed within a range of -55 to +125 degrees.

The driver caches the values for a period varying between 1 second for the slowest chips and 125 ms for the fastest chips; reading it more often will do no harm, but will return 'old' values.

The original LM75 was typically used in combination with LM78-like chips on PC motherboards, to measure the temperature of the processor(s). Clones are now used in various embedded designs.

The LM75 is essentially an industry standard; there may be other LM75 clones not listed here, with or without various enhancements, that are supported. The clones are not detected by the driver, unless they reproduce the exact register tricks of the original LM75, and must therefore be instantiated explicitly. Higher resolution up to 16-bit is supported by this driver, other specific enhancements are not.

The LM77 is not supported, contrary to what we pretended for a long time. Both chips are simply not compatible, value encoding differs.