



control solutions

TERACOM

TSC200-15

1-Wire current sensor



Short description

TSC200-15 is a galvanic isolated current sensor with a 1-Wire digital interface. It provides a low-cost option for AC or DC current monitoring.

The sensor can be used for current and power measurements for building's management systems, monitoring, and control of batteries, solar systems, industrial automation etc.

TSC200-15 has two RJ11 connectors, for easy daisy chain arranging of the 1-Wire bus.

Technical parameters

Supply voltage range (1-Wire bus)	4.0 to 5.5 V
Maximum supply current (1-Wire bus)	15 mA
Input AC current range	0.3 to 15 A
Input DC current range	± (0.3 to 15) A
Accuracy (-20 to +25°C)	± (2% + 0.2 A)
Accuracy (+25 to +55°C)	± (2% + 0.1 A)
Resolution	0.1 A
Isolation voltage	3000 Vrms
Maximum working voltage for basic isolation	277 VAC
AC frequency	48 to 65 Hz
Operating temperature range	-20 to +55 °C
Operating relative humidity range	5 to 85 %RH (non-condensing)
Dimensions	85 x 35.1 x 23.5 mm

Usage

Can be used with following **TERACOM** controllers

- TCW241

- TCW220

- TCW240B



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Pinout



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Pin	Description	Corresponding UTP wires color
1	1-Wire GND	White/Brown
2	1-Wire GND	White/Green
3	1-Wire Data	Green
4	1-Wire GND	White/Orange
5	1-Wire +VDD	Orange
6	1-Wire +VDD	Brown

LED indicator

The status of the device is shown by single LED, located on the front panel:

- If the LED blinks on a period of 1 second, the sensor works properly;
- If the LED blinks on a period of 3 seconds, there isn't communication with the controller;
- If LED doesn't blink, there isn't power supply.

AC/DC mode

TSC200-15 can be used for AC or DC current measurement. The working mode can be changed by a jumper on PCB. When the jumper is open, the sensor measures DC current. The mode of work should be changed before to connect the sensor to 1-Wire bus.

Sensor connection

It is strongly recommended to use only UTP/FTP cables and keep total cable length up to 30 m.

It is strongly recommended to use "daisy-chained" (linear topology) for multiple sensors:



1-Wire Bus

1-Wire is a registered trademark of Maxim Integrated Products, Inc. We strongly recommend read Maxim's 1-Wire tips at <https://www.teracomsystems.com/wp-content/uploads/1-wire/guidelines-for-reliable-long-line-1-wire-networks.pdf>