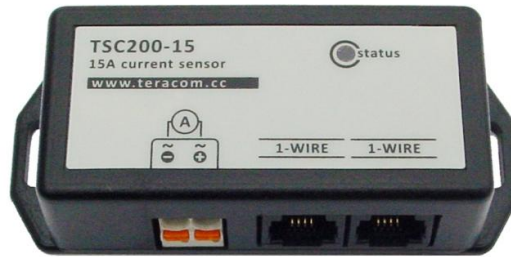


1-Wire current sensor TSC200-15



Short description

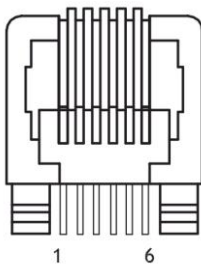
TSC200-15 is a galvanic isolated current sensor with 1-Wire digital interface. It provides a low cost option for AC or DC current monitoring. The sensor can be used for current and power measurements for building's management systems, monitoring and control of batteries, solar systems, industrial automation etc.

TSC200-15 has two RJ11 connectors, for easy daisy chain arranging of 1-Wire bus. It is supported by TCW240B Ethernet controller.

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 +70°C) | ± (2% + 0.1 A) |
| Resolution | 0.1 A |
| Dimensions | 85 x 35.1 x 23.5 mm |
| Operating temperature range | 0 to +40 °C |
| Operating humidity range | 0 to 70 %RH |
| Isolation voltage | 3000 Vrms |
| Maximum working voltage for basic isolation | 277 VAC |
| AC frequency | 48 to 65 Hz |

Pin out of RJ-11 connectors



| Pin | Description | 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 device is shown by single LED, located on the front panel:

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

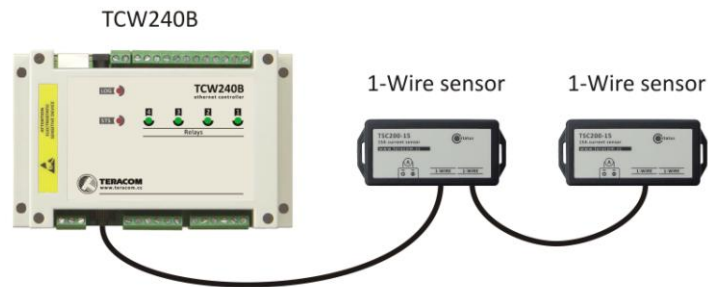
AC/DC mode

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

Sensor connection

1-Wire is a registered trademark of Maxim Integrated Products, Inc. It is designed to connect several sensors over a short wiring. It is not suitable for long distances or environments with EMC interference. Guidelines for reliable long line 1-wire networks can be found at <http://www.maxim-ic.com/app-notes/index.mvp/id/148>.

It is strongly recommended to use only UTP/FTP cables and keep total cable length up to 60 m. It is strongly recommended to use "daisy chained" (linear topology) for multiple sensors:



"Star" topology can be used only as a last resort for up to 4 sensors and total cable length up to 10 meters:

