Digital temperature sensor TST103

Short description

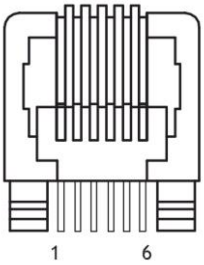
TST103 is a digital temperature sensor, designed to work with all Teracom controllers – TCW1xx, TCW2xx and TCG1xx, which support 1-Wire bus. The digital temperature sensor provides 12-bit temperature resolution, wide temperature range and good accuracy.

TST103 is enclosed in small plastic box. The sensor arrives with a special detail for easy 19" cabinet mounting. The digital temperature sensor can be used for single or multi-sensor systems for environmental monitoring in server rooms.

Technical parameters

Operating Range	–40 to +85	°C
Accuracy (-10 ÷ +85°C)	± 0.5	°C
Resolution	0.0625	°C
Dimensions	43.5 x 64 x 18.5	mm
Max current consumption	2	mA
Supply voltage (+VDD)	3 to 5.5	VDC
Connectors	Two RJ-11 in parallel	

Pin out of RJ-11 connectors



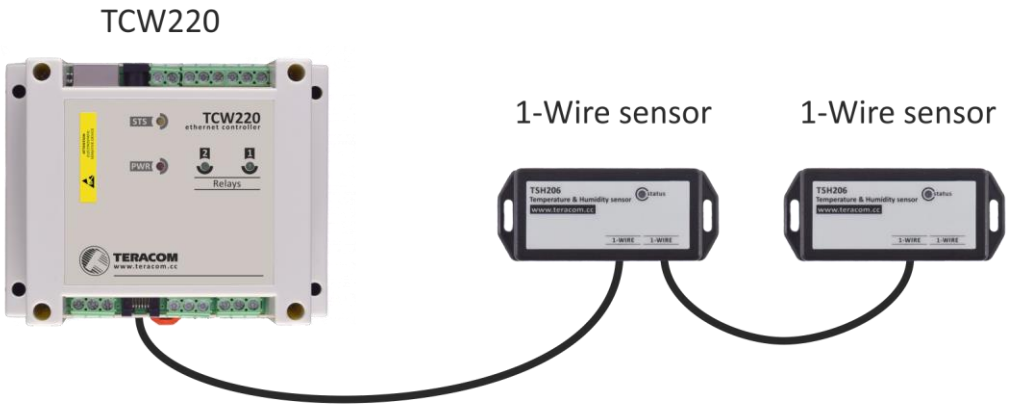
Pin	Description	UTP wires color
1	1-Wire GND	White/Brown
2	1-Wire GND	White/ Green
3	1-Wire Data	Green
4	1-Wire GND	White/Orange
5	1-Wire +VDD	Orange
6	1-Wire +VDD	Brown

1-Wire Bus

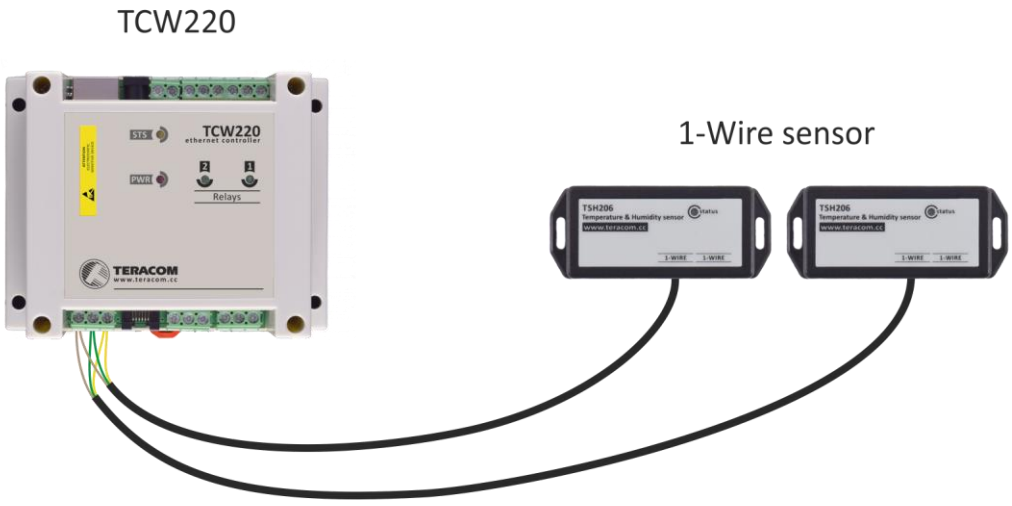
1-Wire is a registered trademark of Maxim Integrated Products, Inc. It is designed to connect several sensors over a short wiring. The bus carries power and a single data wire. It is not suitable for long distances or environments with EMC interference. We strongly recommend to read Maxim's 1-Wire tips 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:



Installation tips

The location and mounting position of sensors has a direct effect on accuracy of monitoring the room temperature and humidity. Following the tips below will ensure good measuring results:

- Sensor shall be installed about 1.2-1.4 m above the floor;
- Sensor shall be installed far away from heating and cooling sources;
- Sensor should not to be installed next to windows to avoid solar radiation;
- Sensors shall be installed in a place with sufficient air circulation;
- Sensors shall be wall mounted (vent holes up/down) – this will ensure air convection around the sensing element.