

Temperature and humidity sensor TSH206



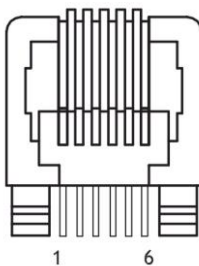
Short description

TSH206 is humidity and temperature sensor with 1-wire interface. The device integrates basic elements plus signals processing and provide a fully calibrated digital output. A unique capacitive element is used for measuring relative humidity while temperature is measured by a band gap sensor. Both sensors are seamlessly coupled to a 12 bit analog to digital converter. This results in superior signal quality and fast response time. The sensor arrives with a special detail for easy 19" cabinet mounting.

Technical parameters

Parameter	Value	Units	Remark	Value	Units	Remark
Operating Range	0 to 100	%RH		-40 to 85	°C	
Tolerance typical	±3.0	%RH	20 to 80 %RH	±0.4	°C	at 25°C
Tolerance maximal	±5.0	%RH	0 to 100 %RH	±2.2	°C	-40 to 85°C
Resolution	0.05	%RH		0.01	°C	
Dimensions	85 x 35.1 x 23.5 mm					
Max current consumption	2 mA					
Supply voltage (+VDD)	4 to 5.5 VDC					
Connectors	Two RJ-11 in parallel					

Pin out of RJ-11 connectors

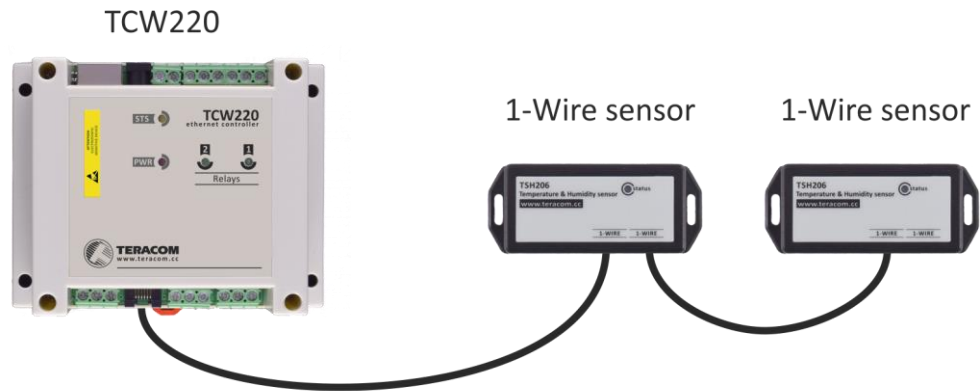


Pin	Description	UTP wires color
1	1-Wire GND	White/Brown
2	1-Wire GND	White/ Green
3	1-Wire Data	Green
4	1-Wire GND	White/Orange
5	1-Wire +VDD	Orange
6	1-Wire +VDD	Brown

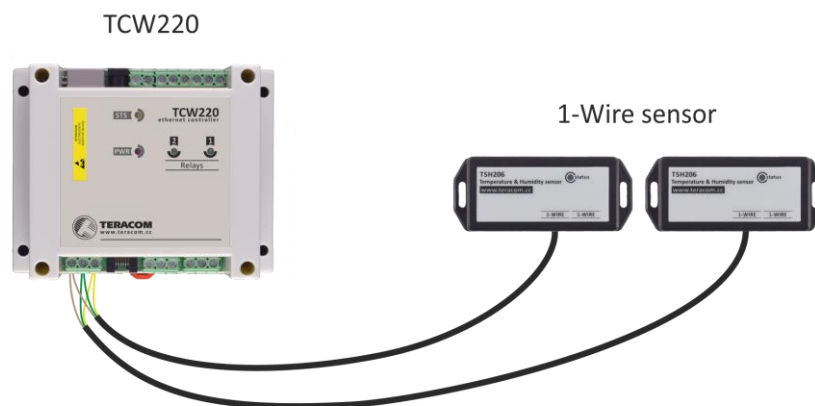
1-Wire Bus

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:



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.

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.