

Carbon dioxide 1-Wire sensor

TSG200



Short description

TSG200 is a precision carbon dioxide gas sensor. It utilizes 1-Wire interface for communication. The device integrates advanced non-dispersive infrared element (NDIR) and microcontroller to provide fully calibrated digital output.

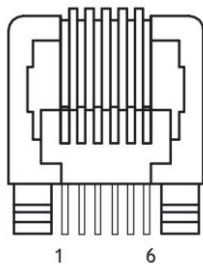
TSG200 supplies precise measurement, stable performance and can be used for control of carbon dioxide in public rooms, control and monitoring of mushroom farms, wineries, industrial automation etc.

TSG200 is supported by TCW220 Ethernet controller.

Technical parameters

Supply voltage	4.75 to 5.25 VDC
Maximum current consumption	120 mA, average 70mA
Dimensions	130x70x30 mm
Operating temperature	0 to +50 °C
Maximum humidity	80 %RH
Warm-up time	30 s
Measurement range	0 to 10000 ppm
Resolution	10 ppm
Accuracy	±(50 ppm + 3% of reading)
Max drift	±2% FS

Pin out of RJ-11 connectors



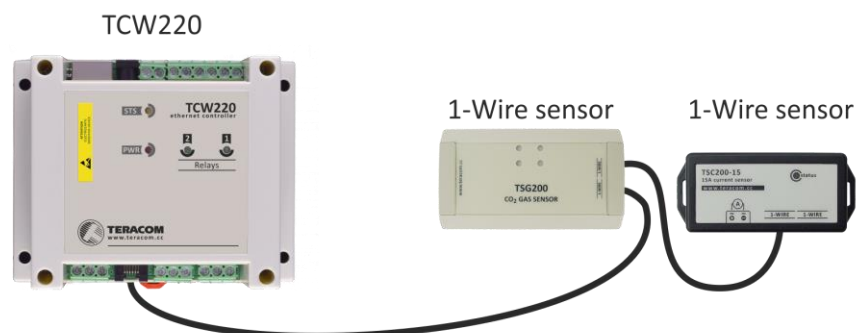
Pin	Description	UTP wires color
1	1-Wire GND	White/Brown
2	1-Wire GND	White/ Green
3	1-Wire Data	Green
4	1-Wire GND	White/Orange
5	1-Wire +VDD	Orange
6	1-Wire +VDD	Brown

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:



Attention! Only one sensor TSG200 can be connected to a controller. It should be placed on 10 m maximum from controller.

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

