



control solutions

**TERACOM**



## TSG200 1-Wire carbon dioxide sensor

### Short description

TSG200 is a 1-Wire carbon dioxide sensor. It utilizes 1-Wire interface for communication.

The device integrates advanced non-dispersive infrared element (NDIR) and a 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 has two RJ11 connectors, for easy daisy chain arranging of the 1-Wire bus.

### Technical parameters

Supply voltage	4.75 to 5.25 VDC
Maximum current consumption	120 mA, average 70mA
Dimensions	130x70x30 mm
Operating temperature range	0 to + 50 °C
Operating relative humidity range	0 to 85 %RH (non-condensing)
Warm-up time	30 s
Measurement range	0 to 10000 ppm
Resolution	10 ppm
Accuracy	±(50 ppm + 3% of reading)
Max drift	±2% FS

### Usage

Can be used with following TERACOM controllers:

- TCW241

- TCW220



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# TERACOM TSG200 - 1-Wire carbon dioxide sensor

## 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

## Sensor connection

It is strongly recommended to use only UTP/FTP cables. It is strongly recommended to use daisy-chained (linear) topology for multiple sensors and keep total cable length up to 30 meters.



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

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



## 1-Wire Bus

1-Wire is a registered trademark of Maxim Integrated Products, Inc. We strongly recommend read Maxim's 1-Wire tips at <http://www.maxim-ic.com/app-notes/index.mvp/id/148>.