



BARIX
TS

Encapsulated I-wire temperature sensor for home automation, commercial control and monitoring applications



Dallas DS 18B20 digital temperature sensor with 12 bit resolution

Wide range: $-55\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$
 $-67\text{ }^{\circ}\text{F}$ to $+257\text{ }^{\circ}\text{F}$

Accuracy: $\pm 0.5\text{ }^{\circ}\text{C}$ ($-10\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$)
 $\pm 0.9\text{ }^{\circ}\text{F}$ ($+14\text{ }^{\circ}\text{F}$ to $+185\text{ }^{\circ}\text{F}$)

Dallas I-wire interface

Rubber encapsulated cable (33 cm / 1 ft.) and housing with mounting hole

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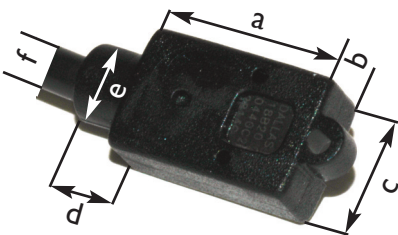
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Technical Specifications

- Unique I-Wire® interface requires only one port pin for communication
- Derives power from data line (“parasite power”) – does not need a local power supply
- Multi-drop capability simplifies distributed temperature sensing applications
- Requires no external components
- User – definable non-volatile temperature alarm settings
- Alarm search command identifies and addresses devices whose temperature is outside of programmed limits (temperature alarm condition)
- Software compatible with the DS 1822-PAR
- Ideal for use in remote sensing applications (e.g., temperature probes) that do not have a local power source
- Thermometer resolution is user-selectable from 9 to 12 bits
- Converts temperature in 750 ms (max.)
- Wide range: $-55\text{ }^{\circ}\text{C}$ to $+125\text{ }^{\circ}\text{C}$
 $-67\text{ }^{\circ}\text{F}$ to $+257\text{ }^{\circ}\text{F}$
- Accuracy: $\pm 0.5\text{ }^{\circ}\text{C}$ ($-10\text{ }^{\circ}\text{C}$ to $+85\text{ }^{\circ}\text{C}$)
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Rubber encapsulated case:

a = 13.1 mm (0.5”), b = 5 mm (0.07”), c = 8 mm (0.3”)
 d = 3.5 mm (0.14”), \varnothing e = 5.9 mm (0.23”),
 mounting hole: \varnothing 1.8 (0.07”)
 cable length: 260 mm (10”), \varnothing f = 2.5 mm (0.1”)



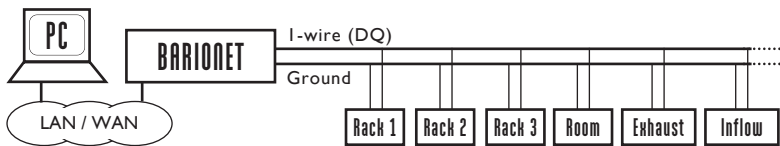
Overview

Barix TS is an encapsulated I-wire temperature sensor for home automation, commercial control and monitoring applications.

Using the industry standard Dallas I-wire over 2-wire with “parasite power” the sensor can be attached to I-wire capable controllers.

The Barix TS temperature sensor can be used in a wide range of measuring, control and monitoring application fields:

- temp.control (heating, air conditioning, food and stock cooling)
- monitoring and alarming (server cabinets and rooms)
- temperature data logging (long time analysis)
- production quality control (industrial, medical, food processing)



Using the Dallas I-wire bus architecture installers can reduce costs when multiple measuring points in a single room have to be connected as a cable with two wires is sufficient.

For central temperature control of several rooms or buildings Barix offers the Barix X8 extension unit which converts the I-wire bus to an RS-485 bus using the industry standard Modbus/RTU protocol. The RS-485 bus needs a 4-wire cable, carries power to the Barionet X8 extension units eliminating the need of a local power supply, and can be connected to a standard Modbus controller.

Using a Barix Barionet as the Modbus controller, the Barix X8 can be controlled by a local Basic application (BCL) as well as remotely using TCP, UDP, Modbus/TCP and SNMP and allows reading of all sensors using a standard web browser.

Each Barix X8 can read up to 16 Barix TS temperature sensors and up to 31 Barix extension units can be directly connected to a Modbus Master and can be increased to up to 250 devices using standard RS-485 repeaters. This gives a total amount of 496 sensors or a total of 4000 sensors when using repeaters.

For further information, distribution partners, detailed technical specifications and information about other versions and products please visit www.barix.com