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## BARIX TS

Encapsulated 1-wire temperature sensor for home automation, commercial control and monitoring applications



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Barix TS is an encapsulated 1-wire temperature sensor for home automation, commercial control and monitoring applications.

Using the industry standard Dallas 1-wire over 2-wire with "parasite power" the sensor can be attached to 1-wire capable controllers.

Using the Dallas 1-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 1-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 Bario

net 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.

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### Applications Barix TS

- 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)

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### Software Barix TS available

- Dallas DS 18B20 digital temperature sensor with 12 bit resolution
  - Wide range:  $-55^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$   
 $-67^{\circ}\text{F}$  to  $+257^{\circ}\text{F}$
  - Accuracy:  $\pm 0.5^{\circ}\text{C}$  ( $-10^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ )  
 $\pm 0.9^{\circ}\text{F}$  ( $+14^{\circ}\text{F}$  to  $+185^{\circ}\text{F}$ )
  - Dallas 1-wire interface
  - Rubber encapsulated cable (33 cm /1 ft.) and housing with mounting hole
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# Technical Specifications

- Unique 1-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 °C to +125 °C  
–67 °F to +257 °F
- Accuracy: ±0.5 °C (–10 °C to +85 °C)  
±0.9 °F (+14 °F to +185 °F)

## 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"), Ø e = 5.9 mm (0.23"),
- mounting hole: Ø 1.8 (0.07")
- cable length: 260 mm (10"), Ø f = 2.5 mm (0.1")

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# Ordering Information

2004.9045 Barix TS

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For commercial related questions (distributors contacts, price list, business opportunities) please contact **sales@barix.com**

For technical inquiries (problem reports, request for documentation, etc) please contact **support@barix.com**

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