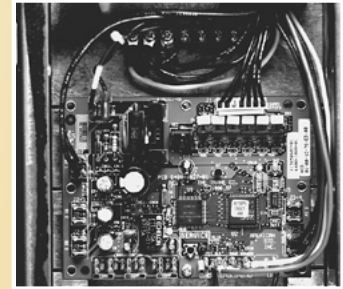
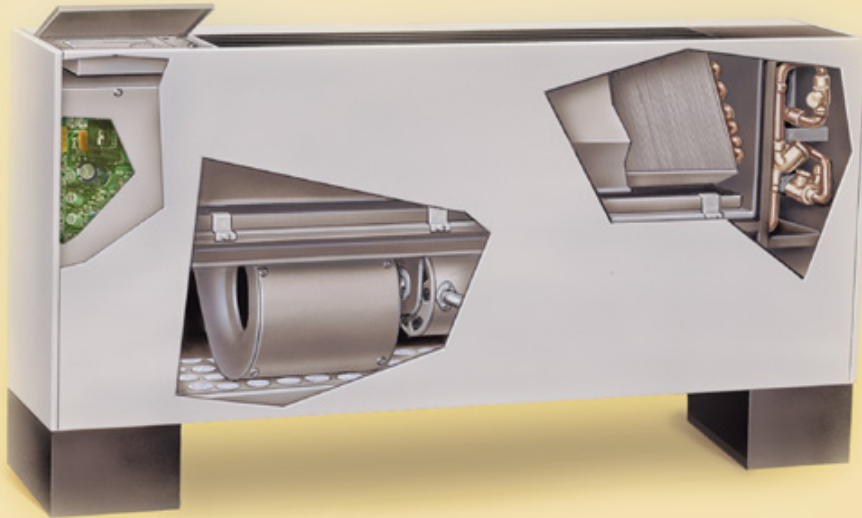


# Tracer™ ZN510 Controller

UniTrane™ fan-coils and Force Flo™ cabinet heaters



The Tracer™ ZN510 controller combines the advantages of simple and dependable operation along with the reliability of factory-installed and tested controls. Utilizing proportional integral (PI) control algorithms, Tracer ZN510 provides accurate and reliable zone temperature control.

This electronic controller is a communicating device that can control fan-coils and cabinet heaters in a variety of applications including:

- Two-pipe hydronic fan-coils, with or without electric heat
- Four-pipe hydronic fan-coils
- Cabinet heaters with hydronic or single stage electric heat

Tracer ZN510 communicates via the Trane comm5 protocol— using a communication link between the controller and building automation system. Peer-to-peer communication across controllers is possible using Rover™ service software— even without a building automation system. Also, the controller can operate as a stand-alone device or as part of a Tracer Integrated Comfort™ system.

Each ZN510 controller is factory configured for your particular application to control the unit fan, two-position valves, and two-position fresh air damper actuator. The controller uses space temperature, setpoint inputs, the entering water temperature sensor, and the fan mode switch as input.

## Inputs and outputs

Binary inputs include low temperature detection, condensate overflow, and occupancy/generic.

Binary outputs are fan high, fan medium, fan low, cooling, heating, and damper.

Analog inputs are zone temperature, setpoint, fan switch, entering water temperature, timed override, cancel timed override, and discharge air temperature.

Other inputs include fan status and filter maintenance timer.

## Zone sensor options

All zone sensors have a fan speed switch and setpoint rotary dial to allow the user to adjust setpoints and fan operating modes. In addition, zone sensors have “on” and “cancel” buttons to allow cooling/heating during unoccupied mode. You can choose either continuous fan on a particular fan speed or fan cycling operation by placing the zone sensor in the auto mode. Options are available in unit, wall, or splitmounted configurations for design application flexibility. Also, each wall mounted zone sensor has a communication jack for use with a laptop communication tool.

## Tracer™ ZN510 features and benefits

**Entering water temperature sampling function:** The ZN510 controller provides accurate two-pipe system changeover—without sacrificing the benefits of two-way control valves. Also, it eliminates inefficient bleed or bypass lines that can allow unnecessary waterflow through the system. Because the controller periodically samples the entering water temperature—you're always assured the unit will heat or cool based on the correct entering water temperature available.

**Automatic heat/cool mode determination:** Tracer ZN510 automatically determines whether heating or cooling is needed—based on space and system conditions. This allows total comfort control without having to manually adjust unit controls. The controller measures the space temperature and active setpoint temperature, utilizing a proportional/integral (PI) control algorithm to maintain the space temperature at the active setpoint.

**Continuous fan or fan cycling operation:** All zone sensors perform either function with only a movement of the fan mode switch.

**Occupied/unoccupied operation:** The occupancy input is available for a field-supplied motion sensor or timeclock that will allow the controller to utilize unoccupied (setback) temperature setpoints.

**Single-point power connection:** All units require only a single-point power connection. Also, all control accessories operate on low voltage, which is supplied by a factory-installed transformer. Unit-mounted zone sensors are completely factory-wired. Wall-mounted zone sensors require only low voltage control wiring to the unit control box, eliminating costly electrical requirements at installation.

**Random start:** This feature randomly staggers multiple unit start-up to reduce electrical demand spikes. Morning warm-up/cool-down: The warm-up/cool-down feature is available on fan-coil and cabinet heater units with a fresh air damper. When the room temperature drifts too far from setpoint, the damper closes to reduce energy demands.

**Manual output test function:** This feature is an invaluable tool when troubleshooting. By simply pressing the controller's test button, service personnel can manually exercise outputs in a pre-defined sequence.

**Peer-to-peer communication:** Multiple units can share information with one controller on the same communications link—without using a building automation system. For example, a large space, such as a hotel suite or classroom that may require more than one unit, can be controlled by one controller. Simply configure units for peer-to-peer communication using Rover™ service tool and connect them using a twisted pair wire.

X13511530-01



Wall-mounted zone sensors

X13790842-01



X13790844-01



Unit-mounted zone sensor

X13511527-01



Split-mounted zone sensor, unit-mounted fan mode and wall-mounted setpoint dial

X13790849-01



X13790821-01



Wireless zone sensor (setpoint adjustment, no fan speed adjustment)

X13790860-02



X13790886-04



Wall-mounted digital zone sensor with setpoint adjustment

X13790822-04



Wireless zone sensor

X13790860-02



Trane – by Trane Technologies (NYSE: TT), a global climate innovator – creates comfortable, energy efficient indoor environments through a broad portfolio of heating, ventilating and air conditioning systems and controls, services, parts and supply. For more information, please visit [trane.com](http://trane.com) or [tranetechnologies.com](http://tranetechnologies.com).