

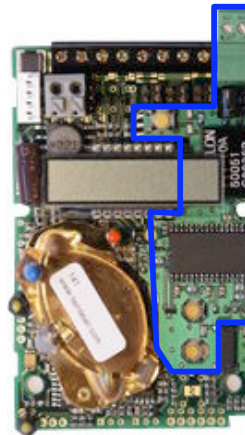
LonWorks® Option Available For All TR9000 Series Products



Advanced Twisted Pair Communication

All TR9000 products can be provided with an advanced LonWorks® interface that allows multiple sensors to communicate on a twisted pair network. This feature is available as an option, or can be retrofitted onto any AirTest TR9000 product. This feature will allow interrogation of the sensor for temperature, CO₂ and an optional binary input on the sensor (e.g. Occupancy sensor) over a LonWorks® network. For products with control capability such as the TR9230 and TR9240 communication using the multi task LonWorks® protocol 8500 “Comfort Controller”, allows remote adjustment and control of a variety of devices.

- ✓ LonWorks® communications is an option available for all AirTest CO₂ based products.
- ✓ Transmits CO₂ and Temperature concentrations for AirTest TR9000 Products using LonTalk protocol.
- ✓ For TR9000 products with control capability, control up to 4 control outputs can be accessed via the LonWorks® interface.
- ✓ Supports network override for each sensor and output object, allowing for network and master control strategies.
- ✓ Supports emergency override allowing hardware outputs to be configured for fire and maintenance requirements.



Add -On LonWorks® Module

A Wide Variety Of Measurement & Control Options With LonWorks® Capability

Product	Enclosure	Product Suffixes			Ancillary Inputs
		Add Display	Add Relay	Lon Works®	
CO₂ And Temperature Transmitter					
TR9220	Decorative Wall	-L	-R	-LON	NA
TR9221	Duct (Aspiration Probe)	-L	-R	-LON	NA
TR9223	Industrial/In-Duct	-L	-R	-LON	NA
CO₂ & Temp VAV Zone Controller With Setback, Reheat & Reset/Temp Adjust Buttons					
TR9230	Decorative Wall	Included	Included	-LON	1 Binary
Setback Thermostat With CO₂, Economizer Control & Reset/Temp Adjust Buttons					
TR9240	Decorative Wall	Included	Included	-LON	2Binary &
TR9241	Decorative Wall	Included	Included	-LON	1 Analog

Network Variables For Node Object:

nviRequest To control objects and request modes for objects within this node.
nvoStatus To report status of objects on this node.

Network Variables For Temperature Sensor

nviSpaceTemp Space Temperature Input.
nvoSpaceTemp Space Temperature Output.
NvoSpaceTempCopy ... Copy of nvoSpaceTemp.
nciMinDeltaTemp Updates nvoSpaceTemp.

Network Variables For CO₂ Sensor

nviSpaceCO₂ Space CO₂ Sensor Input.
nvoSpaceCO₂ Space CO₂ Sensor Input Access To Adjustment Buttons.
nciMinDeltaCO₂ Updates novSpaceCO₂.

Specifics For Occupancy/Binary Input Sensor*

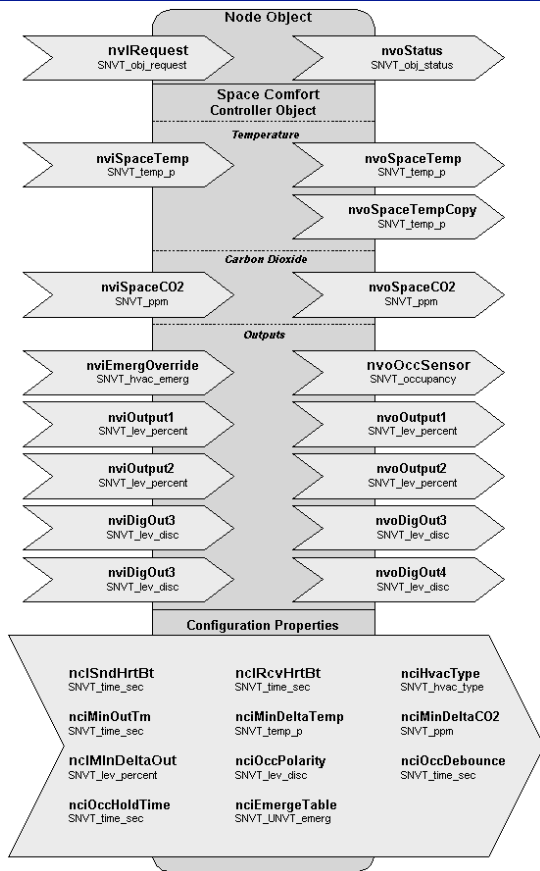
nvoOccSensor Occupancy Sensor Output.
nciOccPolarity Switch Input Polarity.
nciOccDebounce Debounce Time Filter.
nciOccHoldTime Occupancy Hold Time Delay

Network Variables For Actuator Outputs*

nviEmergOverride Emergency Override Input.
nviOutput1 Slave Mode Set Of Output 1.
nviOutput2 Slave Mode Set Of Output 2.
nviDigOut3 Slave Mode Set Of DigOut 3
nviDigOut4 Slave Mode Set Of DigOut 4
nvoOut1 Analog Output 1
nvoOut2 Analog Output 2
nvoDigOut3 Two State Device Output 3
nvoDigOut4 Two State Device Output 4
nciEmergTable Configuration Of All Outputs For nviEmergOverride Inputs
nciMiniDeltaOut Updates nvoOutput 1...2

General Network Variables

nvoUnitStatus Space Comfort Controller Status
nciSndHrtBt Send Heartbeat
nciRcvHrtBt Receive Heartbeat
nciHvacType HVAC Unit-Type Identifier
nciSetpoints Space Temperature Setpoint
nciMinOutTm Minimum Send Time



* Variables Only Available For Units With Control Capability (TR9230, TR9240, TR9241).



The LonWorks® module can be factory installed or field installed.

Includes the new FT-X1 transmitter & FT3120 neuron chip.

Covered By US Patents: 6194735, 6016203, other patents pending



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