

Humidity, or Combined Humidity & Temperature Transmitters



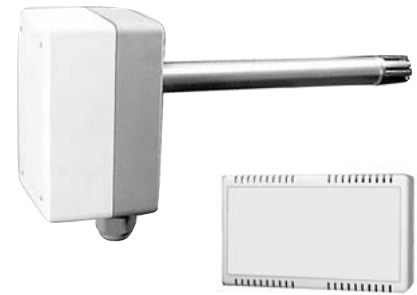
CH(T)33
CH(T)32

DESCRIPTION

Room and duct: humidity only, or combined humidity & temperature transmitters.

APPLICATION

Measure humidity only, or humidity & temperature, and transmit readings to any compatible electric, electronic analog, or DDC/PLC control or automation system.



SPECIFICATIONS

Humidity

Measuring	- Range	0% to 100% RH
	- Accuracy	± 3% RH = CH33 ± 2% RH = CH32
Working range		10% to 95% RH, non-condensing, non-corrosive air
Sensing	- Element	Capacitive polymer, solid state
	- Linearity	< 1% RH at 73.4°F (23°C)
	- Repeatability	< 2% RH at 73.4°F (23°C)



Temperature

Measuring	- Range	32°F to 122°F (0°C to 50°C)
	- Accuracy	± 0.8°F
	- Linearity	< 0.5%

General

Power	- Supply	24 VDC (15 to 30 VDC), or 24 VAC, ± 20%, 50 to 60 Hz
	- Consumption	15 mA, humidity only; 30 mA, for humidity & temperature

Output Signal		Polarity protected
	- Current versions	4 to 20 mA, loop powered, two wire 4 to 20 mA, four wire
	- Voltage versions	0 to 10 VDC 2.732 to 3.332 VDC

Load Requirement	- Current output	Max loop resistance 500 ohms
	- Voltage output	Min load 10k ohms

Permissible air velocity	- Room version	2970 ft/min (15 m/sec)
	- Duct version	2970 ft/min (15 m/sec)

Permissible ambient temperature	- Working	-22°F to 176°F (-30°C to 80°C)
	- Storage	-22°F to 176°F (-30°C to 80°C)

Wire	- Connection	Screw terminal for wire leads
	- Size	Maximum 15 AWG (1.5mm ²)

Cable entry	- Duct version	PG 13.5 fitting, replaceable by 1/2" conduit connector
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Housing	- Cover material	ABS, fire retardant
	- Probe material	Aluminum, electrolytically oxidized
	- Color	Very light gray for room version; light gray/gray/silver for duct version
	- Protection	NEMA 4 (IP64) for duct version Printed circuit board moisture protected
	- Dimensions	4.5 x 2.8 x 1.7 in (115 x 70 x 43 mm) for room 3.1 x 4.7 x 2.8 in (80 x 120 x 72 mm), and probe ø 0.8 x 7.9 in (ø 20 x 200 mm) for duct
	W x H x D	

Ship weight		0.51 lb (0.23 kg) for room; 0.9 lb (0.4 kg) for duct
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Part Numbers

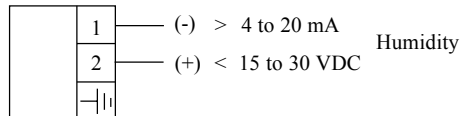
Sensor and Transmitter				Humidity only	Humidity & Temperature
Housing Type	Accuracy	Output Signal	Power	Part Number	Part Number
Room, executive	±3% RH	4 to 20 m	LP*	CH33R420/2	CHT33R420/2
Room, executive	±3% RH	4 to 20 mA	24 VAC	CH33R420/4	CHT33R420/4
Room, executive	±3% RH	0 to 10 VDC	24 VAC/VDC	CH33R010	CHT33R010
Room, executive	±3% RH	2.732 to 3.332 VDC	24 VAC	CH33R2.732/3.332	CHT33R2.732/3.332
Duct, NEMA 4	±3% RH	4 to 20 mA	LP*	CH33D420/2	CHT33D420/2
Duct, NEMA 4	±3% RH	4 to 20 mA	24 VAC	CH33D420/4	CHT33D420/4
Duct, NEMA 4	±3% RH	0 to 10 VDC	24 VAC/VDC	CH33D010	CHT33D010
Duct, NEMA 4	±3% RH	2.732 to 3.332 VDC	24 VAC	CH33D2.732/3.332	CHT33D2.732/3.332
Room, executive	±2% RH	4 to 20 mA	LP*	CH32R420/2	CHT32R420/2
Room, executive	±2% RH	4 to 20 mA	24 VAC	CH32R420/4	CHT32R420/4
Room, executive	±2% RH	0 to 10 VDC	24 VAC/VDC	CH32R010	CHT32R010
Room, executive	±2% RH	2.732 to 3.332 VDC	24 VAC	CH32R2.732/3.332	CHT32R2.732/3.332
Duct, NEMA 4	±2% RH	4 to 20 mA	LP*	CH32D420/2	CHT32D420/2
Duct, NEMA 4	±2% RH	4 to 20 mA	24 VAC	CH32D420/4	CHT32D420/4
Duct, NEMA 4	±2% RH	0 to 10 VDC	24 VAC/VDC	CH32D010	CHT32D010
Duct, NEMA 4	±2% RH	2.732 to 3.332 VDC	24 VAC	CH32D2.732/3.332	CHT32D2.732/3.332
Probe protection tube against sun and rain Wall mounting bracket for duct transmitter					CHPP DBZ-20/1

LP* = Loop powered, 24 VDC (15 to 30 VDC)

WIRING DIAGRAMS

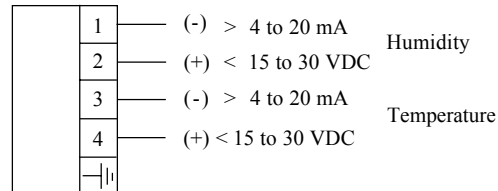
CH3_R(D) 420/2

Room or Duct



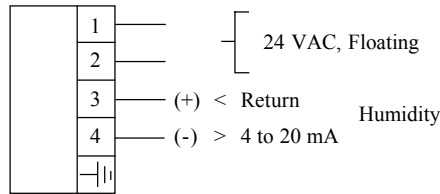
CHT3_R(D) 420/2

Room or Duct

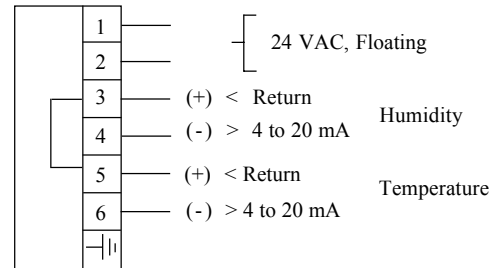


WIRING DIAGRAMS (cont.)

CH3_R(D)420/4
Room or Duct

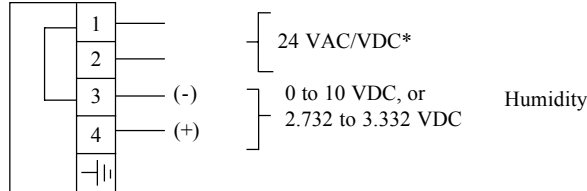


CHT3_R(D)420/4
Room or Duct

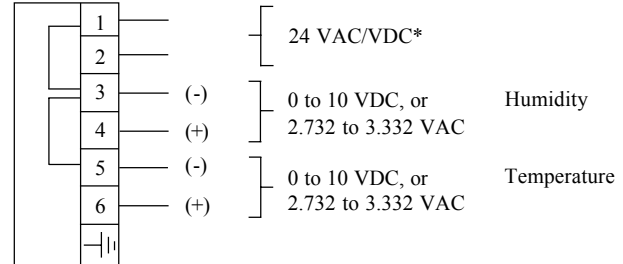


CH(T)3_R(D)420/4: "Do not connect 24 VAC power supply with signal output 4 to 20 mA, and do not connect 24 VAC to earth ground."

CH3_R(D)010
CH3_R(D)2.732/3.332
Room or Duct



CHT3_R(D)010
CHT3_R(D)2.732/3.332
Room or Duct



* Also 24 VDC power supply for 0-10 VDC output signal versions only.

INSTALLATION

The installation location must be selected so that no water will be condensed on the sensing element.
Be alert; any excessive condensed water could damage the sensor/transmitter.

MAINTENANCE

The sensor element is maintenance-free when applied in clean air.
Polluted air (ie. particles of any aggressive solvent) may cause faulty measurements.
Water repellent protective film forming deposits (ie., resins aerosols, lacquer aerosols, fumigant substances, etc.) on the sensor element could be harmful to the element itself.

ATTENTION

No warranty will be guaranteed when the sensor element has been inappropriately touched and/or the inner part of the sensor/transmitter is physically abused.