200 Series HUMIDITY
HUMIDITY-TEMPERATURE
TRANSMITTERS

INSTRUCTION MANUAL

CONTENTS

PLEASE, READ THIS FIRST

- Check the product for any physical damage that may have occurred during shipment. We carefully pack and routinely insure all shipments. If any damage has occurred, it is your responsibility to file a claim with the carrier, **prior to returning the damaged product**. Please note that our warranty does not cover damage during shipment.

- Prior to installation, get fully familiarized with the operating limits of the product and with the installation instructions provided in this manual.

- Do not unnecessarily remove the sensor protection (dust filter or slotted cap) from the probe. Both sensors (humidity and temperature) can be mechanically damaged by careless removal of the protection. The ROTRONIC HYGROMER™ humidity sensor looks like a small white paper tag. Do not remove from the probe!

Each ROTRONIC instrument is carefully calibrated before shipment. No further adjustments should be required before installation. If you have any question or problem, please call our service department at 631/427-3898 and press 5 (or ask for extension 21).

DESCRIPTION

Transmitters of the 200 series are used to measure humidity or a combination of humidity and temperature in dryers, ovens, incubators, environmental test chambers, manufacturing areas, research laboratories, etc. Linearized output signals (DC current or voltage) are provided for transmission over a length of cable to a remote display, recorder, controller or data processing unit.

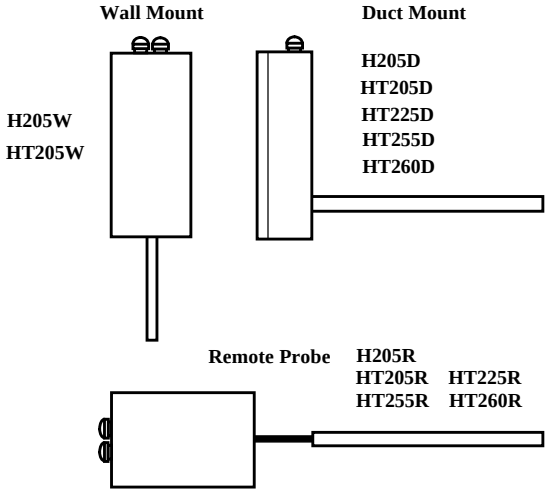
The 200 series features the ROTRONIC HYGROMER™ capacitive humidity sensor. This well proven sensor offers exceptional durability and stability in all kinds of industrial environments. This fact is reflected in the 3-year full warranty that covers the transmitters of the 200 series. Reliability is further enhanced by the easy-to-perform field calibration. Measurement accuracy and fast response are provided over the entire range of humidity conditions, even when the sensor is exposed to extremely high or low humidity over long periods of time. An electronic compensation circuit maintains the accuracy of humidity measurement at all temperatures.

The 200 series is available in 5 basic models that can be selected on the basis of the temperature conditions of the application.

MODEL	TEMPERATURE LIMITS AT THE SENSORS
H205 Humidity Only	**15 to 175°F (-10 to 80°C)**
HT205	**15 to 175°F (-10 to 80°C)**
HT225	**-5 to 212°F (-20 to 100°C)**
HT255	**-5 to 320°F (-20 to 160°C)**
HT260*	**-100 to 390°F (-75 to 200°C)**

*) HT260: Above limits are for survival. Recommended measuring range is same as HT255.

All models are calibrated at 35 and 80%RH. In addition, the HT255 and HT260 are also calibrated at 10 and 0%RH. Depending on the transmitter model, the following configurations are available:



OPERATION

1. Power Supply

Transmitters of the 200 series are available for operation with one of the following supply voltages: 110 VAC, 24 VAC and 10-35 VDC.

DC operated units require a 100 mA power supply. Units with 4-20mA outputs require a minimum supply voltage that depends on the load connected to the outputs. With a load of 500 Ohm on each output, the minimum voltage required is 14 VDC.

Units that operate with an AC voltage are equipped with a 3VA transformer. These units accept up to a ± 15% variation from the nominal value of the supply voltage.

2. Output Range

The range of the relative humidity output is 0 to 100%RH. The temperature output depends on the range specified when ordering (see label inside the case cover).

3. Temperature Operating Range and Temperature Limits

The 200 series can operate within 20 to 122°F (-5 to 50°C) at the electronics.

With the exception of the HT260, the temperature operating range and the temperature limits at the sensors are the same. The HT260 survives temperatures at the sensors within the limits of -100 to 390°F (-75 to 200°C). However, accuracy of humidity measurement is not warranted outside of the temperature operating range of -5 to 320°F (-20 to 160°C). The HT260 should not be used in applications where temperature is normally higher than 320°F (160°C) or lower than -5°F (-20°C).

MODEL	TEMPERATURE LIMITS AT THE SENSORS	NORMAL TEMPERATURE OPERATING RANGE
H205 / HT205	**15 to 175°F (-10 to 80°C)**	**15 to 175°F (-10 to 80°C)**
HT225	**-5 to 212°F (-20 to 100°C)**	**-5 to 212°F (-20 to 100°C)**
HT255	**-5 to 320°F (-20 to 160°C)**	**-5 to 320°F (-20 to 160°C)**
HT260	**-100 to 390°F (-75 to 200°C)**	**-5 to 320°F (-20 to 160°C)**

Operating the transmitter and/or its probe outside of the temperature limits can result in permanent damage.

4. Humidity Limits

As far as possible, avoid sudden condensation at the sensors. When measuring at high humidity, condensation may occur on the humidity sensor due to a sudden difference in temperature with the environment. This does not damage the sensor. However, this will produce an overflow reading (an output signal of more than 100 %RH) for as long as condensation is present on the humidity sensor.

Depending on temperature, the maximum humidity to which the probe can be subjected is as follows:

. 100 %RH up to 185°F (85°C)
. 90 %RH at 212°F (100°C)
. 60 %RH at 260°F (125°C)
. 25 %RH at 320°F (160°C)

Exceeding the above limits may "shift" the humidity sensor and require a new calibration.

5. Temperature Compensation

Practically every make of relative humidity sensor requires a compensation for the effect of temperature on the humidity output signal in order to measure accurately over a wide range of temperature conditions. In the specific case of an instrument using a capacitive sensor, compensation is required because the dielectric characteristics of both the water molecule and the hygroscopic polymer used in the sensor vary with temperature.

The electronic circuit of the 200 series provides automatic compensation for the effect of temperature on the humidity sensor. The temperature compensation uses normal room temperature as a reference. Because of this, full calibration of the unit (4-point calibration) is done at normal room temperature rather than at the temperature of operation at the sensor.

6. Sensor Protection

With the exception of environmental test chambers and other "clean" applications, we recommend using a dust filter (supplied as a standard) to protect the sensors.

Because conditions in an environmental chamber can be made to change rapidly and require the fastest possible response from the probe, it is often preferable to use a slotted cap (available from ROTRONIC) as opposed to using a dust filter.

Never use the transmitter without protecting the sensors with either a filter or a slotted cap.

7. Output Signals

The 200 series is available with the following output signals: 0-20 mA, 4-20 mA, 0-1 V or 0-5 V. The output signal depends on the type specified when ordering. A label located inside the case cover shows the type of output signal for each unit..

The output signals are linear and are consistent with the requirements of most data/signal processing instrumentation (panel meter, controller, computer card, etc.).

Units with current outputs behave as a variable source of current and adjust the current flowing through the terminals as a function of relative humidity and temperature. The output signal may be read with any current sensing device having a maximum impedance of 500 ohms. When several devices are connected in series with the transmitter, the resulting impedance should not exceed 500 ohms, wiring included.

Units with voltage outputs behave as a variable voltage source and adjust the voltage across the terminals as a function of relative humidity and temperature. The output signal signals may be read with any voltage sensing device having a minimum impedance of 100 kohms. When several devices are connected in parallel with the transmitter, the resulting impedance should not be less than 1000 ohms.

Transmitters that combine humidity and temperature measurement have a return terminal (-) which is common to both the humidity and temperature signals. Both unit outputs are internally connected to the common wire (-) by means of a 1 Microfarad capacitor. This reduces the influence of electromagnetic induction on the output signals and provides protection of the output circuits against transients.

8. Grounding

Operation of the 200 series does not require that the unit be electrically grounded. However, we recommend grounding the instrument, especially if the electronic circuits are subjected to a low humidity environment (less than 35 %RH).

The return terminal (-) on the output signal(s) side is internally connected to the third terminal (GND) on the supply voltage side.

INSTALLATION

- **Do not remove the dust filter or slotted cap from the probe. Both sensor can easily be damaged when not protected.**
- **The ROTRONIC HYGROMER™ humidity sensor has the appearance of a small white paper tag. Do not remove from the probe!**

A) Mechanical Installation

1. General Recommendations

Relative humidity is extremely dependent on temperature. Proper measurement of relative humidity requires that the probe and its sensors be at exactly the temperature of the environment to be measured. Because of this, the location where you choose to install the probe can have a dramatic effect on the performance of the instrument. The following guidelines should guarantee good instrument performance:

a) **Select a representative location**: install the probe where humidity, temperature and pressure conditions are representative of the environment to be measured.
b) **Provide good air movement at the probe**: air velocity of at least 200 ft/ minute (1 meter/second) facilitates adaptation of the probe to changing temperature.
c) **Avoid the following:** (1) Close proximity of the probe to a heating element, a cooling coil, a cold or hot wall, direct exposure to sun rays, etc. (2) Close proximity of the probe to a steam injector, humidifier, direct exposure to precipitation, etc. (3) Unstable pressure conditions resulting from excessive air turbulence.
d) **Immerse as much of the probe as possible in the environment to be measured.**

2. Installation of the Transmitter Enclosure

Remove the enclosure cover to get access to the 4 holes for mounting the enclosure. These are separated from the inner section of the transmitter case. Screws with an approximate diameter of 5/32" should be used. The position, location and dimensions of the mounting holes are shown on the "installation" diagram.

If the surface of the mounting wall is at a temperature of more than 100°F, use an insulating spacer (not provided) between the transmitter enclosure and the wall or duct. This spacer should be at least 1" thick.

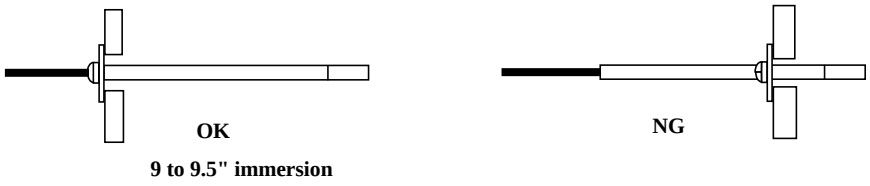
3. Probe Installation

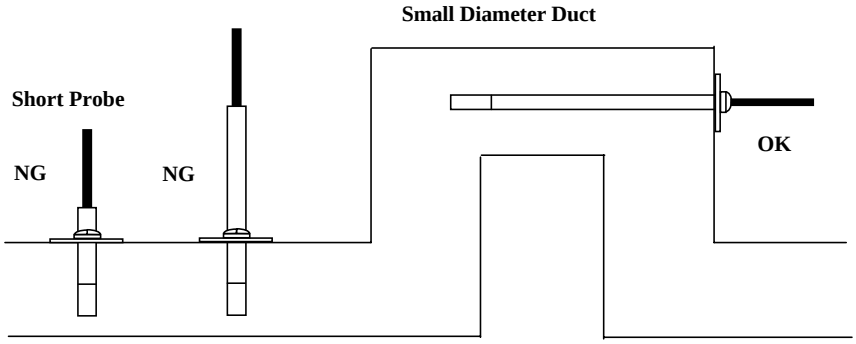
Probe Holder

For installation through a wall, we recommend using a probe holder mod. QMA-15. This holder is a mounting flange that is equipped with a compression fitting.

Immersion Depth (Through Wall)

For through wall installation make sure that 9 to 9.5" (230-240mm) are immersed in the environment to be measured (see diagram at the end of this manual). Probe immersion depth is critical. Insufficient probe immersion may result in a difference between the temperature of the sensors and that of the environment. This will create a large error of measurement and/or a malfunction.





Probe Position

Install the probe so as to prevent the accumulation of condensation water at the level of the sensor leads. Install the probe so that the probe tip is looking downward. If this is not possible, install the probe horizontally.

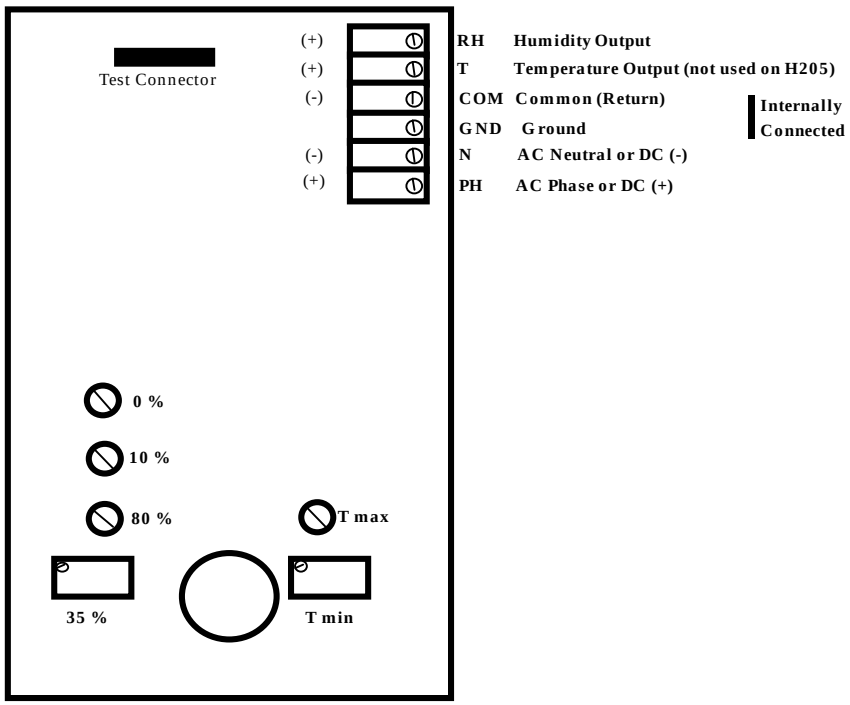
Calibration Access Orifice (Through-Wall Probe Installation)

If the transmitter is going to be used for an application where humidity and temperature conditions are fairly constant, future maintenance may be greatly facilitated by providing a calibration access orifice next to the probe to permit the insertion of a calibrator.

RIC can provide a calibrator (reference instrument) with a probe having dimensions similar to the probe of the 200 series. Therefore, the calibration access orifice should have the same size as the orifice used to install the probe. We recommend that this orifice be equipped with a QMA-15 probe holder.

B) ELECTRICAL INSTALLATION

Make sure that you can correctly identify the function of each terminal (see label inside enclosure cover). Applying power to the output terminals can severely damage the transmitter.



If your unit was supplied with a connector, a connector diagram is attached to this manual.

On combined humidity and temperature transmitters, the two output signals share a common wire (-). When using a dual recorder or a dual controller, use a model that accepts a common return wire (you may have to move a jumper or a dip switch in the recorder or controller).

1. Standard Wiring

The standard 200 series transmitter is supplied with two sealing cable grips and one block of terminals.

The cable grips provide effective sealing only with cables having the proper outside diameter. If only one cable is being used to wire the unit, make sure to seal the unused cable grip.

2. Type of Connecting Cable

Preferably, use two cables with an outside diameter of 0.236 to 0.275 inch (6 to 7 mm) and with at least 3 wires each (18AWG). If you are installing a 24 VAC or a 24 VDC unit, you may use only one cable with at least 5 wires. Depending on the installation, you may have to use a cable with twisted pairs or a shielded cable to avoid interferences.

3. Maximum Cable Length

In order to determine the maximum length of cable that can be used to connect the transmitter to other devices, the first step is to find out what is the resistance per unit of length of the cable that you plan on using.

. Current outputs: the maximum permissible cable length, connecting the unit to other devices, is determined by the total resistance resulting from the addition of the cable resistance and that of the devices connected in series with the unit. This resistance should not exceed 500 ohms.

. Voltage outputs: the maximum cable length can be determined under consideration of the voltage drop caused by the current flowing to the devices connected to the unit. The voltage drop in the cable depends both on cable resistance and on the equivalent resistance of the devices connected in parallel to the unit. The total resistance connected to each unit output must at least be equal to 100 kohms. Cable resistance should not be more than 1/1000 of the load resistance.

4. Where to run the Cables

Avoid running the cables connecting the unit in the same conduit as 110 VAC power cables. If this cannot be avoided, a shielded cable or a cable with twisted wires may be required to prevent interferences due to electromagnetic induction caused by switching.

5. Grounding

We generally recommend grounding, especially if the electronics will be subjected to a low humidity environment (35 %RH or less).

MAINTENANCE

1. Cleaning or Replacing the Dust Filter:

The dust filter should be cleaned from time to time, depending on the conditions of measurement. Cleaning should be done without removing the filter from the probe. Gently wipe the filter with a solution of water and mild detergent. If this does not remove most of the stains, the filter should be replaced. To do this, unscrew the filter from the probe.

Before putting on a new dust filter, check the alignment of both sensors with the probe. The wires that connect the sensors to the probe are very thin and bend easily. If this happens, correct the alignment by holding the sensor very gently with a pair of small flat nosed pliers.

2. Periodic Calibration Check:

When the probe is operated within the range of -100 to 320°F (-70 to 160°C), long term stability of the humidity sensor is typically better than 1 %RH per year. For maximum accuracy, calibration of the unit may be verified every 6 to 12 months.

Applications where the unit is exposed to temperatures above 320°F (160°C) or to significant pollution may require more frequent verifications. The calibration procedure is described in detail in this manual.

Both the Pt 100 RTD temperature sensor and associated electronics are very stable and should not require any calibration after the initial factory adjustment.

CALIBRATION BASICS

1. Temperature Calibration (except H205)

The stability of the Pt100 RTD sensor used to measure temperature is such that temperature calibration in the field is seldom required.

In order to be able to correctly evaluate the accuracy of the temperature measurements provided by the probe, you should be able to meet the following requirements:

• Both the probe and a reference thermometer should be ventilated with the same stream of air. Any dust filter used to protect the sensors should be removed from the probe. If the probe has a slotted cap, this should be left on the probe.

• Air velocity should be within the limits of 200 to 500 feet/minute (1 to 2.5 meters/second). Any comparison between two instruments at velocities under 200 feet/minute may not be valid. Air velocity above 500 feet/minute may damage the unprotected humidity sensor.

• The temperature of the air stream should be constant or at least it should not change at a rate that is less than 10 times the shortest time constant of either the probe or reference thermometer.

If you are not able to meet the above requirements, you cannot correctly check the accuracy of temperature measurement and should not attempt to calibrate temperature.

2. Humidity Calibration

When calibrating humidity, **temperature stability is the single most important requirement**. Do not run the full humidity calibration process unless the probe is at room temperature (20 to 25°C) and this temperature is stable to ±0.25°C or better during the period of time required for each calibration point. Do not calibrate close to an air vent or a heater, in direct exposure to sun rays, etc. If necessary during calibration, place the tip of the probe and calibration device inside an insulating box filled with sand.

a) Calibration Device:

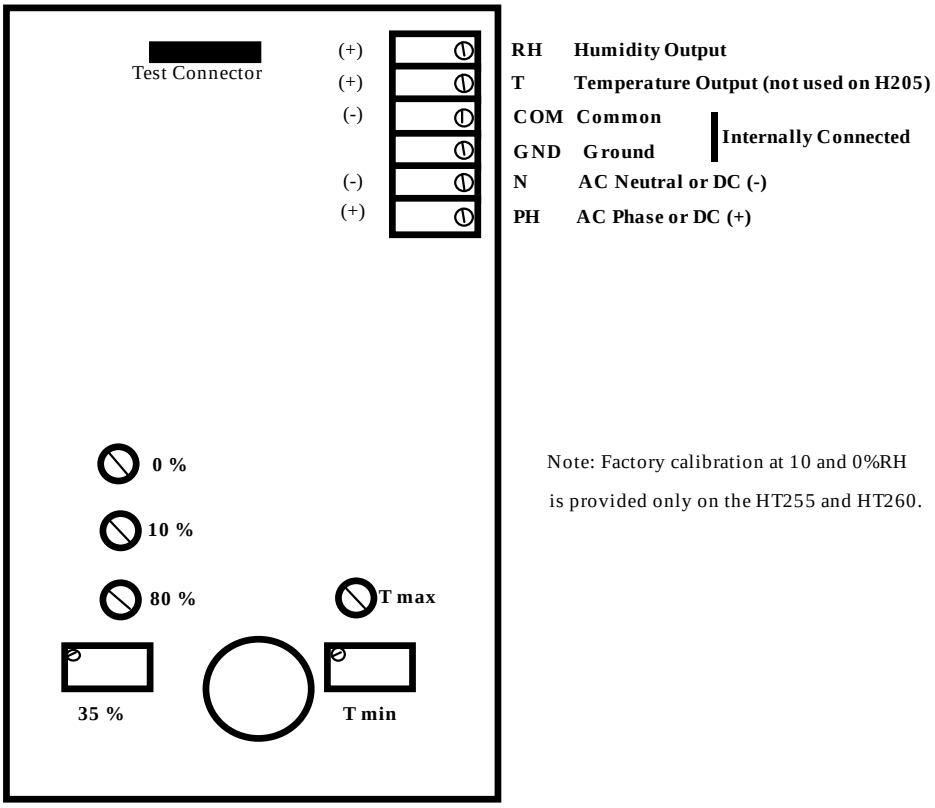
The calibration device is a small airtight container that fits on the instrument probe and seals around the humidity sensor. During calibration, a known reference humidity is produced inside the calibration device by means of a humidity standard (usually an aqueous salt solution).

PROBE DIAMETER	CALIBRATION DEVICE
15 mm (0.59")	ER15 (slip on)
25 mm (1")	ER25 (slip-on)

b) Humidity Standards:

RIC humidity standards permit calibration by non-skilled personnel. These standards are available in boxes of 5 glass ampoules of the same value, which can be stored indefinitely. Standards in the range of 5 to 95 %RH are non-saturated aqueous salt solutions that are precisely titrated at our factory for the right concentration.
The 0 %RH humidity standard is made of small granules of a highly porous ceramic that have been dried at a high temperature. A Material Safety Data Sheet is available for each standard. Since humidity standards other than the 0 %RH standard are a salt solution, parts which have come in contact with the liquid should be cleaned after each use.

3. Calibration Potentiometers and Test pins



Note: Factory calibration at 10 and 0%RH is provided only on the HT255 and HT260.

ONE-POINT HUMIDITY CALIBRATION

When the requirement is to provide accurate measurements over a narrow range of conditions, a one-point calibration is appropriate. This is typical of many applications in the area of process control, clean rooms, HVAC, etc.

The advantage of the one-point calibration is that it can be done on site, without interrupting the output signals.

The method of calibration consists in adjusting the output (s) or display of the instrument to be calibrated against the output (s) or display of a reference instrument (calibrator). The output(s) of the instrument to be calibrated are read by connecting a voltmeter to the test pins located (see calibration potentiometers and test pins).

1. Conditions of Validity:

To be valid, a one-point calibration must meet the following requirements:

- The humidity and temperature conditions that are prevalent during calibration must be reasonably stable. Over a period of 15 min., temperature should not vary by more than 1°F (0.5°C).

- The probe of both instruments must be ventilated or placed in the same stream of moving air. Air velocity must be at least 200 ft/min (1m/s).

  Usually, it is temperature equilibrium that takes the longest time. Depending on the initial conditions, equilibration can take from a few minutes to as long as 15..20 minutes. If the initial temperature difference between the two probes is more than a few degrees, be sure to wait at least 15 min. before calibrating.

2. Test Connector

The circuit board of the 200 series is equipped with a 5-pin keyed test connector that permits reading of the signal(s) without interrupting the operation of the transmitter.
A test cord(cord type A) that fits this connector is available from ROTRONIC.

Test Connector Pin #	Wire Color	Signal
1	**Green**	**Humidity (+)**
2	**Yellow**	**Humidity (-)**
3	**Brown**	**not used**
4	**Gray**	**Temperature (-)**
5	**White**	**Temperature (+)**

a) Units with a Voltage Output

On units with voltage outputs, the voltage across the (+) and (-) test wires is exactly the same as the voltage of the corresponding output signal.

For example, if the transmitter has the following outputs: 0...5 V = 0...100 %RH
0...5 V = 0...300 °F

A reading of 2 V across the RH test wires would correspond to a humidity of 2/5 x 100 = 40 %RH

A reading of 3.6 V across the temperature test wires would correspond to a temperature of 3.6/5 x 300 = 216 °F.

b) Units with a Current Output

On units with current outputs, the voltage across the (+) and (-) test wires measures the voltage drop that results from the current output signal flowing through a 10 Ω resistor. Therefore, the voltage range across the (+) and (-) test wires is:

0.00 ... 0.2 V for units with 0..20 mA outputs
0.04 ... 0.2 V for units with 4..20 mA outputs.

For example, if the transmitter has the following outputs: 4..20 mA = 0 .. 100 %RH
4..20 mA = -50 .. 200 °C

A reading of 0.15 V across the RH test wires would correspond to an output signal of 15 mA and, therefore, to a humidity of (15 - 4)/16 x 100 = 68.7 %RH

A reading of .09 V across the temperature test wires would correspond to an output signal of 9 mA and, therefore, to a temperature of -50 + (9 - 4)/16 x 250 = 28.1 °C.

3. Calibration Sequence

- Connect a voltmeter to the (+) and (-) temperature test wires.
- If applicable, adjust the **T min** potentiometer so that the voltmeter reads a signal corresponding to the reading provided by the reference instrument.
- Connect the voltmeter to the (+) and (-) humidity test wires.
- Adjust the **35%** potentiometer so that the voltmeter reads a signal corresponding to the reading provided by the reference instrument.

FULL CALIBRATION

Full calibration of the 200 series requires a 2-point calibration of temperature (if applicable) and a 4-point calibration of humidity.

Calibration should be done exactly in the sequence indicated in this manual. Because of the high stability of the Pt100 RTD sensor, temperature calibration is optional. However, if temperature calibration becomes necessary, it must be done prior to humidity calibration and must always be followed by a humidity calibration.

1. Temperature Calibration (optional)

Should a temperature calibration be necessary, you should proceed as follows, depending on the equipment available to you:

a) Two Temperatures Air Generator:

- Connect a voltmeter to the T (+) and COM (-) terminals.
- Position the T max potentiometer in the middle of its span.
- Set the air generator at 0°C and adjust the probe output with the T min potentiometer. If you cannot go as low as 0°C, you will have to repeat the entire procedure a few times.
- Set the air generator at a temperature such as 40 to 50°C and adjust the probe output with the T max potentiometer.

b) One Temperature Air Generator (Room Temperature)

Remove the Pt100 RTD from the probe and replace it by a decade box that simulates the resistance of the RTD at different temperatures. Adjust the electronic circuit as follows:

- Connect a voltmeter to the T (+) and COM (-) terminals.
- Position the T max potentiometer in the middle of its span.
- Set the decade box to simulate 0 °C.
- Adjust the probe output with the T min potentiometer.
- Set the decade box to simulate a temperature of either 50 or 100°C.
- Adjust the probe output with the T max potentiometer.
- Put the Pt100 RTD back on the probe and check the probe at room temperature. If necessary, adjust the probe output with the T min potentiometer.

After calibrating temperature you should always calibrate humidity since the humidity output is affected by the temperature output.

2. Humidity Calibration

The first calibration adjustment should be at 35 %RH or at a value close to that.

- Slip the calibration device on the probe and make sure it seals tightly on the probe. The receptacle of the calibration device (or solution holder) should be under the sensors. Remove the receptacle from the calibration device.
- Connect a voltmeter to the %RH (+) and COM (-) terminals.
- Set the 80% potentiometer in mid position.
- Place one fiber disc (each box of RIC humidity standards includes 5 discs) in the receptacle of the calibration device. The purpose of this disc is to prevent accidental spilling of the solution inside the calibration device or on the humidity sensor.
- Tap the top of one ampoule of 35 %RH solution so that all liquid drops to the bottom of the ampoule. Snap off top and empty contents on fiber disc. **Since the ampoule is made of glass, exercise proper caution (gloves, safety glasses) when snapping off the top.**
- Put the receptacle back on the calibration device and make sure that the solution does not come in contact with the sensor: **The solution inside the calibration device should never be on top of the sensors.**
- Allow at least 60 minutes to insure that the calibration device, the solution and the sensor are in a state of equilibrium. This is verified by monitoring the voltmeter.
- At equilibrium (stable output signal), adjust the reading of the voltmeter with the 35% potentiometer.
- Remove the receptacle from the calibration device. Throw away the wet disc (non reusable). **Thoroughly wipe dry the receptacle with a soft tissue, removing all traces of the humidity standard.**

Use 80 %RH as the second calibration value as this provides the best overall accuracy over the full range of measurement.

- Repeat the procedure used for the 35 %RH adjustment with an 80 %RH standard. Allow at least 60 minutes for equilibrium.
- At equilibrium, adjust the probe output with the 80% potentiometer
- Remove the receptacle from the calibration device and clean thoroughly.

The low humidity calibration is the last step of the calibration sequence.

- Repeat the procedure used before first with a 10%RH and after this with a 0 %RH standard. Allow each time at least 90 minutes for equilibrium.
- At equilibrium, adjust the probe output with the 10 % potentiometer (10 % standard) or with the 0 % potentiometer (0 % standard).
- Carefully remove the calibration device from the probe (pay attention not to catch the unprotected sensors). Put the dust filter back on the probe. Thoroughly clean the receptacle.

SPECIFICATIONS

Humidity Sensor	all models, except HT260	ROTRONIC HYGROMER™ C80
	HT260 transmitter	ROTRONIC HYGROMER™ C94
Temperature Sensor		Pt100 RTD
Operating Temperature at Electronics		20..122°F (-5..50°C)
Humidity Measuring Range		0..100 %RH
Standard Temperature Measuring Range		H205: no temperature output HT205: 0..100°F, 0..200°F or 0..100°C HT225: 0..200°F or 0..100°C HT255: 0..300°F or -50..+150°C HT260: 0..300°F or -50..+150°C Other Ranges are Optional.
Temperature Limits at Sensors		H205/HT205: 15 to 175°F (-10 to 80°C) HT225: -5 to 212°F (-20 to 100°C) HT255: -5 to 320°F (-20 to 160°C) HT260: -100 to 390°F (-75 to 200°C)
Humidity Limits at Sensors		100%RH up to 185°F (85°C) 90%RH at 212°F (100°C) 60%RH at 260°F (125°C) 25%RH at 320°F (160°C)
Output Signals (linear)		4-20 mA (max. load 500Ω) 0-5 V (min. load 1000 Ω) Other Signals are Optional.
Accuracy at 68..77°F (20..25°C)		± 1%RH from 0 to 100%RH* ± 0.5°F (±0.3°C)
Repeatability		± 0.3%RH and ±0.2°F (±0.1°C)
Humidity Sensor Stability		better than 1%RH over a year
Response Time (without filter)		10 seconds (%RH and temperature)
Calibration Potentiometers		35, 80, 10 and 0%RH** / Tmin and Tmax
Supply Voltage		115 VAC or 24 VAC/3VA or 10-35VDC/100 mA
Min. DC Voltage for 4-20 mA Outputs		4 VDC + 0.02 x Load, Min. 10 VDC
Electrical Connections		4 or 5 Wires + Ground / Terminals 18 AWG Cable Grips (Conduit Adapters are Optional)
Configurations		Wall Mount: HT205W Duct Mount: HT205D, HT225D, HT255D, HT260D Remote Pbe: HT205R, HT225R, HT255R, HT260R
Probe Cable Length (Remote Probe)		Standard: 2 feet (max. 10 feet)
Sensor Protection		Dust Filter (standard)/ Slotted Cap (Optional)
Probe Dimension/Material		H205/HT205W: 100 x 15mm (PPS) H205/HT205D/R: 250 x 15 mm (PPS) HT225D/R: 250 x 15 mm (PPS) HT255D/R: 250 x 15 mm (PPS) HT260D/R: 300 x 15 mm (PPS)
Case Dimensions		160 (H) x 80 (W) x 55 (D) mm (6 3/8 x 3 1/8 x 2 1/4")
Weight		1.8 lbs (820g)
Case Material		Polycarbonate (Metal is Optional)
Case Protection		NEMA 4 / DIN IP 65
Probe Holder (Duct and Remote)		QMA15 (Order Separately)

*) When calibrated against highest quality reference standards. Both factory calibration and field calibration with ROTRONIC standards result in ±1.5%RH accuracy or better.

**) Factory calibration at 10 and 0%RH provided only on HT255 and HT260.