

Vol. 7, No. 2 Spring 2020 HANOVER PA

FREE

Manufacturer of thermocouples, RTD's, and thermistors and distributor of instrumentation and controls for temperature, pressure, level, flow, pH, RH, flame and gas detection and heaters for almost any application. We also carry chart recorders and chart paper and pens as well as paperless recorders, data loggers, pumps, valves, and motors, and industrial oils, solvents, and lubricants. Here is a link to our website. www.whcooke.com

We Have Masks!!

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Quarter in Review

As we leave the 1st Quarter behind and step into the 2nd Quarter it would be hard to not address the current virus situation in the World. I have spoken to people in the U.S. and other countries and it sounds like we are all in a similar boat. People are locked down and isolated and in many cases without needed supplies. We all have family members and friends that are part of non-essential businesses and our thoughts and prayers are with those families that are struggling financially, mentally, and emotionally during this difficult time as well as the sick, the first responders and all human beings on the planet for that matter. W. H. Cooke & Co. remains operational as we are considered an essential business. We manufacturer temperature sensors, control systems for bakeries and other industries, and sell instrumentation and parts to food and dairy manufacturers and other essential manufacturers. We are very grateful to have the opportunity to work and provide service to our customers and contribute in our own way.

Like many, we are taking precautions to ensure the safety of our employees. Some of those precautions include:

- 20 second washing of hands with soap and water
- · Locking of front door with signs and instructions about having packages handed off
- · Sign on the back door asking UPS drivers to stay confined to the receiving area
- · Hand sanitizer stations around the inside of the building
- Prohibiting anyone with cold/flu symptoms from entering the property
- · Severely limiting any visitors or outside business visits to customers
- Nightly cleaning after hours with sanitization of all surfaces, doorknobs, handles, workstations, keyboards and mouse, phones, and more
- Deep cleaning and sanitization
- · Availability of masks for employees
- Social distancing via lunches taken at desks and workstations or in break room with less people than normal
- · Asking employees to practice social distancing while not at work as well
- I am sure there are other ones that I am forgetting right now

We also have several employees that have chosen to not work during this time, and they will be eligible to return when they are ready. We have seen things slows down a bit over the last few weeks, but we still have orders coming in and we are not going anywhere. We look forward to seeing customers face to face again someday soon and for a return to whatever the new normal will be. Most importantly we hope that everyone stays safe and that this is resolved soon and that our friends and families can get back to work. We are here to help with whatever you need to keep your business up and running.

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Thank you for your continued support and loyalty and we look forward to hearing from you.

Best Wishes,

Wayne Cooke Jr.

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W. H. Cooke & Co., Inc. Line Sheet



Fax: 717-637-9999 Web: www.whcooke.com Email: sales@whcooke.com

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PO Box 893

Hanover, PA 17331

Boiler & HVAC Parts

HVAC and Boiler Supplies 1111111 UV/Flame Sensors, Solenoid Valves, Motor Actuators,

Gas Valves & Regulators, Air/Gas Pressure Switches, Burner Controls, Insulation, O-rings, Gaskets

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Featured Line - Definox

W. H. Cooke & Co., Inc. is proud to be a Distributor for DEFINOX who manufacturers Sanitary Valves mostly used in applications for Food, Dairy, and Pharmaceutical manufacturing. Please call or email with your specs and we will cross you over to DEFINOX Sanitary Valve. The price is very competitive with some of the other

big names out there and the quality is better. The changing out of seals is also very easy.



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Burner Controls & Parts



We can cross your Eclipse Veriflame numbers to a Fireye number. Standard lead times are 1-2 weeks but same day shipping with an expedite fee is often available. Please check our prices before you buy your next Fireye part!



Some Honeywell items are still running long lead times, but many can be shipped same day or within a week or two. We stock some in Hanover, PA and can drop ship to you from the closest warehouse if we do not have stock at our facility.

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Tech Tips

How to test an RTD

A resistance temperature detector (RTD) is a temperature sensor that produces a resistance output that can be measured in ohms based on the temperature the sensor is measuring. RTD's can be made from Nickel, Copper, or Platinum metals. Platinum RTDs are the most common type and they are available in 100 Ohm, 500 Ohm, or 1000 Ohm resistance at 0°C.

There are a few characteristics that make identifying and testing a RTD easy. RTDs can be made in 2-wire, 3-wire, and 4wire configurations. While there are only two leads on the actual RTD element, a 3rd or 4th lead wire can be added to the element to compensate for the resistance of the lead wire. This compensation is done in the instrument that is reading the RTD. The wires on an RTD can be different colors. In a 3-wire RTD, you can have two red wires and one white wire or two white wires and one red wire. The like colored wires are connected to one side of the RTD element, the single colored wire is connected to the other side of the RTD element.

RTDs are easy to test because they are linear, they don't require any power to measure their output and they produce an ohmic output that can be easily measured with a multimeter. If you have a 100 Ohm RTD, its resistance value at 0 °C is 100 Ohms and the resistance of the sensor will change every degree C based on the temperature coefficient or curve of the RTD. The most common 100 ohm RTD curve in the United States is the .00385 curve which is commonly and confusing called the European, DIN, or IEC curve. In Europe, the .00392 curve is common, and it is also commonly and confusingly called the American curve. The curve of a RTD provides you with the change in resistance for every °C change in temperature above or below 0°C. An RTD with a .00385 curve changes by .385 ohms per degree C. Using the correct RTD resistance chart, http://www.phy.cuhk.edu.hk/djwang/teachlab/projects/highTc/T%20VS%20R.pdf, one can measure the resistance of the RTD sensor and confirm the temperature it is measuring.

Now that we know how the RTD works, how do we test it? For this all you need is a simple Ohm or multimeter that measures resistance. Let's assume you have a 3-wire RTD with two red wires and one white wire.

- 1. Connect either of the leads, (let's use the red one) from your test meter to any wire from your RTD. (let's stick with red.) You can connect your test lead to one or both red wires.
- 2. Connect the other lead from your test meter (black) to the white wire on your RTD.
- 3. Read the resistance on the meter. If you are measuring your RTD on the table in your Maintenance Shop and the ambient temperature in the shop is 70°F or (21°C) you should measure a resistance of approximately 108 Ohms. Your reading will be a little higher than what the resistance chart says because your multimeter is not compensating for the resistance of the RTD lead wire that is being added to the measurement circuit.



If you measure a resistance of 100 ohms or more above 0°C, you know you have a functional 100 Ohm RTD. You should measure a resistance of 1000 ohms or more for a 1000 ohm RTD that is being measured in an environment where the temperature is above 0°C. You can measure resistance of an RTD at any temperature and determine the temperature using your test meter and the correct RTD resistance chart.

Measuring the resistance of an RTD can help you determine the type of RTD you have and if the RTD is functional. This resistance measurement test should not be used to confirm the accuracy of the RTD. A NIST traceable heat source such as a bath calibrator and a NIST traceable device that can read the RTD's resistance and compensate for the RTD's lead wire resistance are needed for accurate calibration of the RTD.

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Puns

Part 2 of a 3 newsletter Punfest

I can't believe I got fired from the calendar factory. All I did was take a day off

A police officer just knocked on my door and told me my dogs are chasing people on bikes. That's ridiculous. My dogs don't even own bikes

She had a photographic memory but never developed it

A mean crook going down stairs = A condescending con, descending

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W. H. Cooke & Co., Inc.

6868 York Rd, Hanover, PA 17331 717-630-2222 team@whcooke.com

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