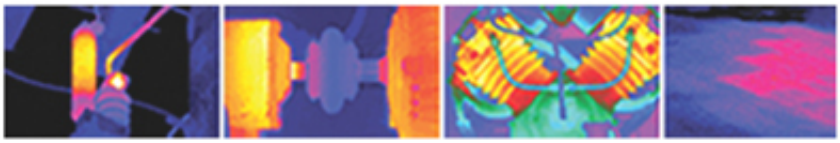
Infraspection Institute Newsletter



News and Information for Professional Thermographers

Volume 6 Issue 10 October 2017

Director's Message

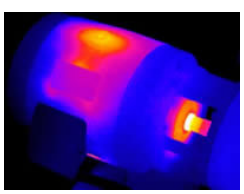
If you have never witnessed the aftermath of a hurricane firsthand, it is hard to imagine the amount of destruction and abject misery left in its wake. With four major hurricanes to date, this year's highly active hurricane season has brought record destruction to the Unites States, Mexico, and the Caribbean.

As of this writing, cleanup from the most recent storms is still in its early stages. Many have been left homeless while others do not have electricity, water, and other basic necessities. On behalf of Infraspection Institute, I wish to thank fire, rescue, police, and military personnel for all that you have done and will continue to do in the future. To those who are still struggling, you are in our thoughts and prayers.

With any natural disaster recovery takes time, dedication, and resources. Recovery does not come quickly and will continue long after media personnel have moved on to other stories. If you cannot personally volunteer and would like to help those affected by this or other natural disasters, I would invite you to join Infraspection Institute in making a donation to the American Red Cross or other disaster relief organization of your choice.

More Information

Measuring Motor Temperatures



Measuring motor temperature is often a challenge since electric motors differ widely in their design and construction. While many have suggested measuring the motor casing along the stator, this method does not work well for motors that are fan cooled or exposed to external air currents. For uncooled motors, this approach can produce varying temperature values depending upon the location of the subject temperature

Upcoming Courses

Level I Certified Infrared Thermographer®

- Oct 12 - 13 Auckland*
- Oct 17 - 18 Perth*
- Oct 16 - 20 Costa Rica
- Oct 30 - Nov 3 West Windsor
- Nov 13 - 17 Melbourne
- Nov 13 - 17 Guatemala
- Nov 20 - 24 Kuala Lumpur
- Nov 21 - 22 Sydney*
- Dec 4 - 8 West Windsor
- Dec 4 - 8 Trinidad

Level II Certified Infrared Thermographer®

- Nov 27 - Dec 1 Melbourne
- Nov 27 - Dec 1 Panama
- Dec 11 - 15 Trinidad

Level III Certified Infrared Thermographer®

- Dec 4 - 6 Melbourne*

* Flexible Learning Course

Full 2017 - 2018 Schedule

Upcoming

readings.

In 1997, a research project led by Infraspection Institute utilized instrumented motors in a controlled environment to determine the effect of excess force on installed motors. One of the primary goals of this research was to identify a location for collecting reliable temperature data.

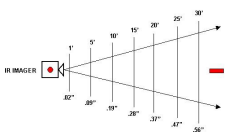
From our research it was found that measuring the exterior of the motor bellhousing within 1″ of the output driveshaft consistently produced temperatures that were within 1 to 2 Celsius degrees of the motor windings and the inboard bearing assembly. Temperatures taken at the bellhousing were especially useful for fan-cooled motors since this area was unaffected by convective cooling from the fan.

When measuring motor temperatures, keep the following in mind:

- Make certain that all thermometers are within calibration and used properly
- Motor temperature will vary with load and ambient temperature. Be certain to record both along with motor temperature
- Elevated temperatures can be caused by electrical or mechanical defects within the motor and/or defective installations
- Motors having an elevated temperature should be further investigated for cause and repaired or replaced accordingly

More Information

The Myth Behind IFOV Values



A specification commonly provided for thermal imagers is Instantaneous Field of View or IFOV. Many people mistakenly believe that IFOV values provide meaningful information about a thermal imager's performance. Unfortunately, this is simply not true.

Originally developed for evaluating the optical performance of thermal imaging systems, IFOV values were intended to allow a user to calculate the minimum target size needed to achieve 50% probability of detection at any given distance. Using IFOV values to evaluate modern thermal imagers and radiometers is unreliable for several reasons:

- To date, there is no accepted standard for determining IFOV. Consequently, imager manufacturers calculate IFOV values differently, making test results impossible to compare.
- Because IFOV values are reported for a single pixel, they cannot be used to accurately calculate spot measurement

Conferences

Infraspection Institute invite you to see us at the following upcoming conferences. Be sure to stop by and say Hello!

UI Thermal Imaging Conference

October 1 - 4, 2017
San Antonio, TX

SMRP Conference

October 16 - 19, 2017
Kansas City, MO

IR/INFO Conference

January 21 - 24, 2018
New Orleans, LA

Ultrasound World XIV

May 8 - 10, 2018
Clearwater, FL

Links of Interest

IRINFO.ORG

Maintenance & Reliability Topics

NACBI

CITA.ORG

Temperatures.com

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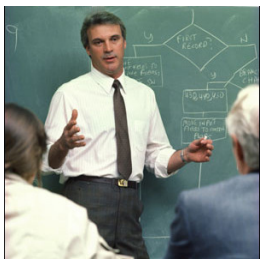
size for imaging radiometers since accurate temperature measurement requires several pixels, not just one.
- Stated IFOV values are traditionally reported at 50% radiance or less which is unreliable for both temperature measurement and accurate thermal imaging.

The Infraspection Institute Standard for Measuring Distance/Target Size Values for Infrared Imaging Radiometers provides a simple and effective method for determining spot measurement size for any quantitative infrared imager. Proper use of this standard is taught in all Infraspection Institute Level II training courses.

For more information on thermographer training and certification or to obtain a copy of the standard, visit us online at www.infraspection.com or call us at 609-239-4788.

More Information

Attend IR/INFO and Get Free Training!



In celebration of IR/INFO's 29th anniversary, Infraspection Institute are pleased to announce a special offer combining the world's most respected infrared training and certification program with the industry's original technical conference.

Attend IR/INFO and receive a tuition voucher for up to 100% discount on a 2018 Infraspection Institute Certified Infrared Thermographer® training course.

Special offers may not be combined with any other discount. Training course vouchers must be used by 12/31/18. Tuition vouchers are transferable to a third party for a $500 administrative fee.

More Information

IR INFO CONFERENCE

Take Your Qualifications to the Next Level

Become an Infraspection Institute Master Thermographer™