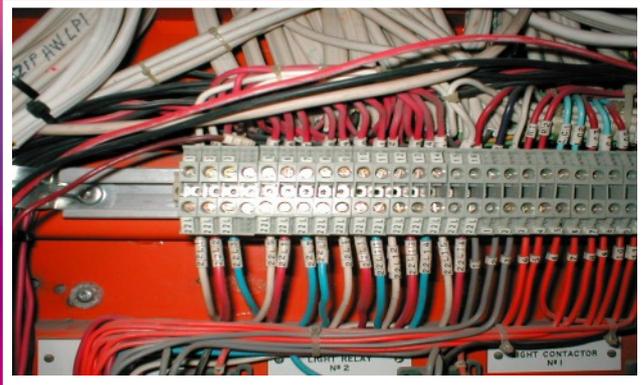


# THERMAL INSIGHT

## How safe is **YOUR** electrical equipment?

An infrared survey can save **YOU** thousands of \$\$\$\$ in unnecessary downtime and inconvenience to **YOUR** clients and **YOUR** staff.



Can **YOU** see the fault in the switchboard component on the left?

**NO!**



Look at the

**THERMAL INSIGHT** infrared image of the same component clearly showing the location of the fault.

**Can YOU relate to any of these PROBLEMS?**

Would **YOUR** Electrician have found this problem before a **MAJOR** failure?

Unable to locate your electrical faults before they cause a failure?	YES	NO
Know how serious the problem is before it fails?	YES	NO
Constantly running around in circles rather than scheduling your repairs?	YES	NO
No required parts available, or are you prepared for the unexpected?	YES	NO
Would you like to reduce your unscheduled downtime?	YES	NO
Would you like to plan your next maintenance schedule fixing known problems?	YES	NO

**If YES is the answer to any of these questions then YOU need THERMAL INSIGHT**

# Why THERMAL INSIGHT?

## MONEY

- Reduction of unexpected failures
- Less expensive repairs
- Ability to plan and schedule repairs
- Reduce lost production
- Insurance rate discounts

## APPLICATIONS

- Locate buried thermal lines and leaks
- Map areas of moisture penetration on flat roof systems
- Identify areas needing preventative maintenance
- Repairing problems rather than rebuilding after failure
- Reduce emergency "call outs" of maintenance crews
- Scanning with thermal imaging equipment is much faster and more accurate than trying to use a spot pyrometer

## SAFETY

- Decrease risk of electrical and mechanical catastrophic failure
- Decrease risk of fire
- Find sources of pollution

## ENERGY

- Electrical system efficiency
- Mechanical system efficiency
- Steam and other thermal system losses
- Insulation integrity
- Refractory failures
- Building heat losses

Infrared inspections are one of the most cost-effective predictive maintenance tools available. The cost of a thorough inspection by a professional Thermographer will be paid for many times by the elimination of just one failure.

If you have read the preceding pages, you will probably have a good idea why you should have THERMAL INSIGHT scan your facility. There are many good reasons, but in our global economy things have to be "justified". Here is your justification!

## How often should you inspect?

This is one of the most frequently asked questions about thermal scanning programs. Unfortunately, there is no one right answer. Many insurance companies suggest (or require) inspecting once a year. While this is adequate for most applications, your particular system or situation may benefit from a more frequent schedule. Here are some points to consider regarding the best schedule for your facility.

### How critical is it?

Critical portions of a system such as primary power circuits should be generally inspected more often than secondary or auxiliary systems. Twice a year during summer and winter peaks is not too often for important components.

### What is the environment?

Areas of corrosion, heavy dust, or a lot of vibration will probably require a more frequent schedule.

### What is the loading?

Heavy electrical or mechanical loading can cause a small problem to escalate into a failure in a relatively short time. Electrical faults within a system can cause contact area to burn or pit causing problems even in areas remote from the original fault.

### Is the system new or has it been modified?

Inspections should be tied to acceptance of new or modified equipment. Just because it is new does not mean it will be problem free. Find those loose connections or alignment and lubrication problems before accepting the work as complete.

### Are major shutdowns or outages scheduled?

Preventative maintenance is much more effective when you know where to concentrate your efforts. If problems can be located ahead of time, parts can be ordered and personnel scheduled so that the outage is smooth and efficient. Reinspecting after the outage will ensure that the repairs were successful.

### General "rules of thumb":

- Inspect critical components and known problem areas at least every six months
- Inspect general use areas every year
- Inspect all new or modified systems before acceptance
- Inspect all areas prior to scheduled shutdowns or outages
- We will help you to optimise your inspection schedule based on your individual needs!

# **BENEFITS OF THERMOGRAPHIC INSPECTIONS**

**Remember:** It is much cheaper to tighten a nut or screw than replace a burnt out component or extinguish a fire. So, what are the benefits that can be achieved from regular thermographic inspections?

Knowing the type and location of the problem, the necessary replacement parts can be obtained and held ready for the repair.

Repairs can be scheduled to a convenient time to suit all departments.

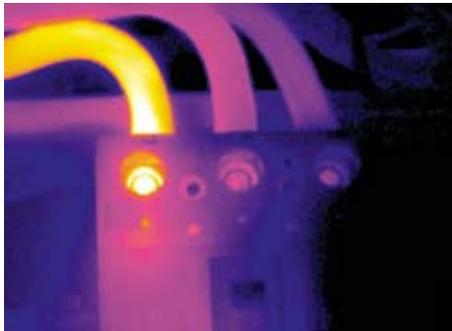
Downtime is significantly reduced as all parts are available and, in many cases, the method of repair is known beforehand.

Therefore the repairs take less time and are more effective.



Inspections carried out before the maintenance shutdown can form the basis of the planned repair schedule.

Repair crews are more efficiently utilised, fixing known problems rather than just tightening nuts and screws.



The location of many problems can be readily identified. Around 80% of all the problems identified can not be seen because the insulation has not discoloured.

The severity of the problem is known. The actual fault temperature is reported.

The basis of Thermographic Infrared Inspection is formed by comparison of temperatures when measured against other temperatures observed in surrounding or similar components. These variations in temperature often reveal some sort of abnormal operation.

Temperature abnormalities are often caused by defective or failing components.

**Phone: (02) 9824 5103**

**[www.thermalinsight.com.au](http://www.thermalinsight.com.au)**



**For high quality thermal imaging Thermal Insight uses Flir® P and T series infrared cameras on all of our inspections.**

**These cameras have proven over the years to be robust and reliable.**

**With a thermal sensitivity of 0.08°C, and an operating range of between -40°C and +1500°C, the cameras are able to inspect a large variety of applications in many different locations.**

**Coupled with the Flir® ThermaCam Pro Reporter software we are able to deliver quick and informative easy-to-read reports in both printed and soft format.**





## **THERMAL INSIGHT**

Our **OBJECTIVE** is to provide high quality **INDEPENDENT** infrared thermal imaging inspections, with **RELEVANT** detailed reports and technical assistance to commercial, industrial and contracting customers, and to meet the needs of our various contractual undertakings.

As one of Sydney's largest independent infrared thermography companies, Thermal Insight employs fully licensed electricians who have been trained in thermography to AINDT Standards Level 1.

With thermography-credited electricians regularly travelling throughout all regional areas and partners in other states and New Zealand, Thermal Insight is ideally positioned to offer commercially competitive quotes on national contracts and provide even further benefits to regular users.

### **THE THERMAL INSIGHT REPORT**

We offer tailored reports to satisfy particular customer's requirements.

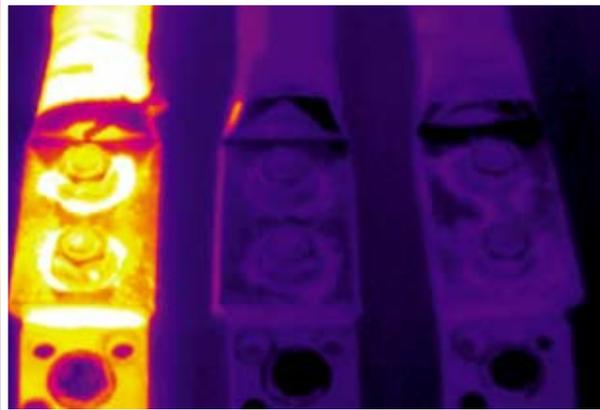
Reports are produced in rapid time. They are easy to read and combine digital images and Thermograms, so faults can be found with ease and rectified quickly.

Priorities are given based on the severity of the problem, with detailed advice for maintenance crews.

A list of equipment inspected is included in every report.

Thermal Insight utilises .PDF reports, which may be emailed and stored electronically; reducing the need for paper and making for a cleaner environment.

When requested, a bound hard copy of the report will be posted.



## **CONTACT INFORMATION**

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