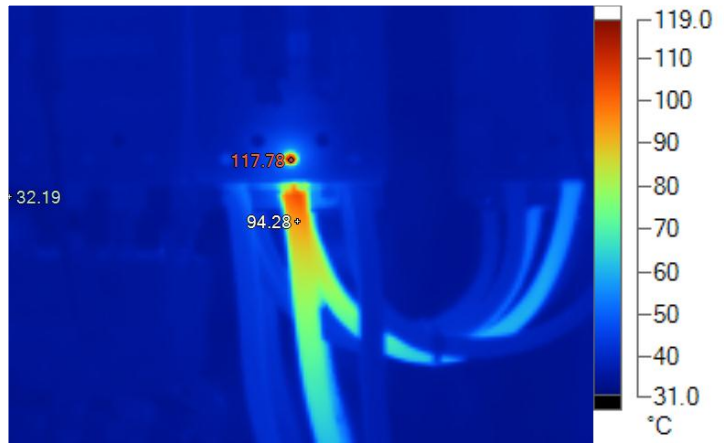


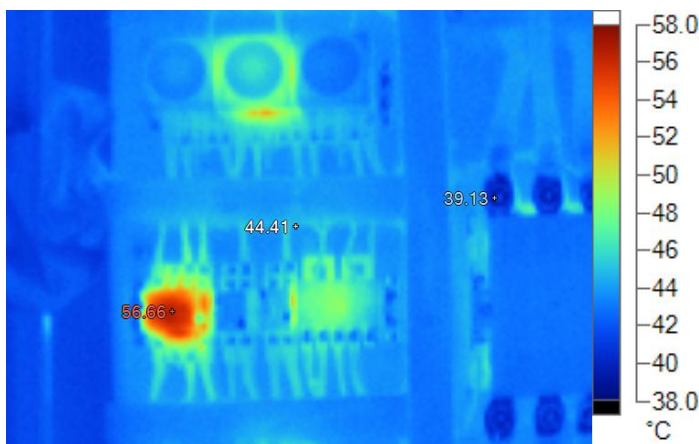
What is thermography?

Thermography is a non-contact temperature measurement technique. Its ability to measure temperature in a non-intrusive manner makes it one of the best industrial tools available today. When used as a predictive maintenance tool its uses are endless. Services we typically provide include the survey of electrical switchboards, distribution boards, control panels, electrical motors, circuit breakers, and mechanical devices such as pumps, etc. Our prices are highly competitive and we are available 24/7 to meet your needs.



How do infra-red cameras work?

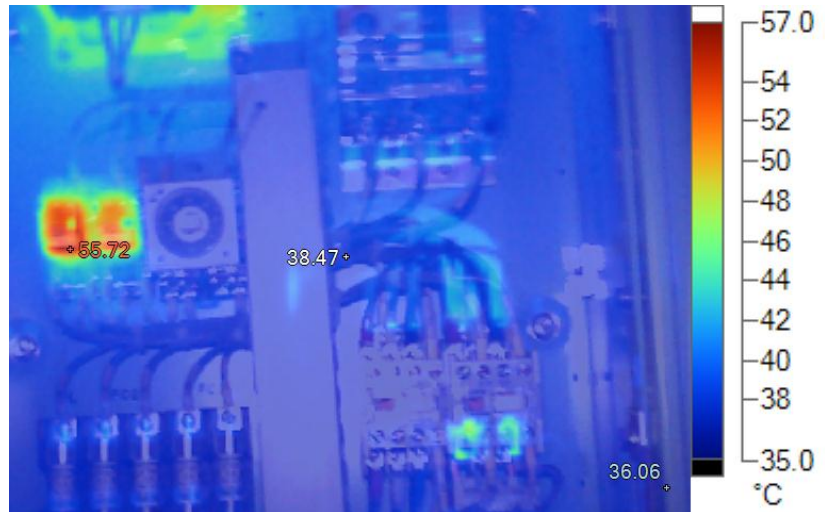
An infrared camera is a non-contact device that detects the amount of infrared energy emitted, transmitted, and reflected by an object and converts it into an electronic signal, which is then processed to produce a thermal image on the LCD Screen. This signal is also used to perform the various temperature calculations.



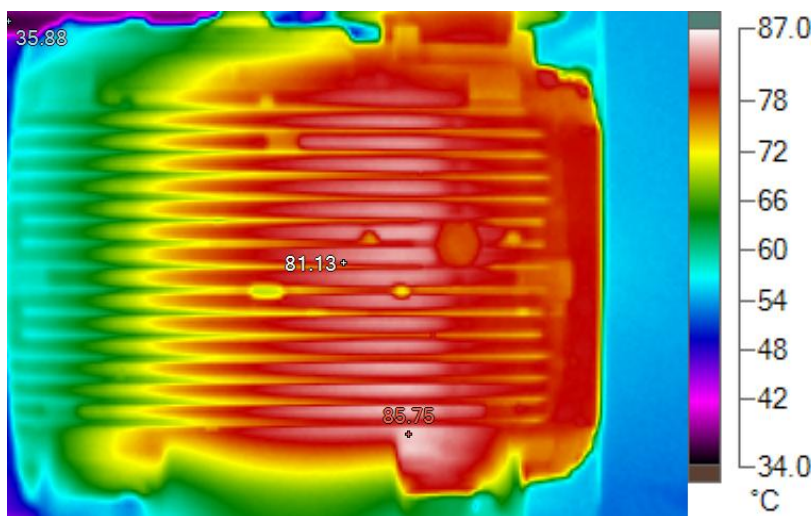
Heat sensed by an infrared camera can be very precisely quantified, or measured, allowing you to not only monitor thermal performance, but also identify and evaluate the relative severity of heat-related problems. The images are typically stored on a standard SD memory card, which are transferred to the computer when preparing the thermographic report.

Why do we measure temperature?

Finding a suspected hotspot on a component with an infrared camera is usually not enough. In fact, an infrared camera image without accurate temperature measurements and a corresponding report / analysis may seem useful, as it is possible that certain components such as power supplies, diode's and thermistors may operate at significantly higher temperatures than ambient under normal circumstances, and this would therefore not indicate that a part/component is worn or defective. The infrared image would however suggest that the component is worn or defective.



Infrared cameras that incorporate temperature measurement allow predictive maintenance professionals to make well informed judgements about the operating condition of electrical and mechanical targets. Temperature measurements can be compared with historical operating temperatures, or with infrared readings of similar equipment at the same time, to determine if a significant temperature rise will compromise component reliability or plant safety.



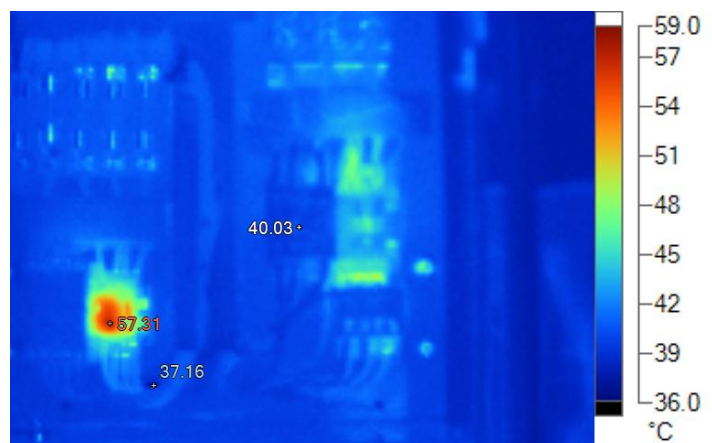
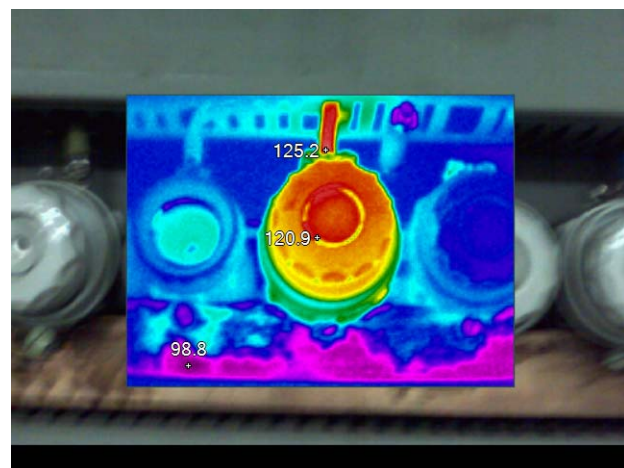
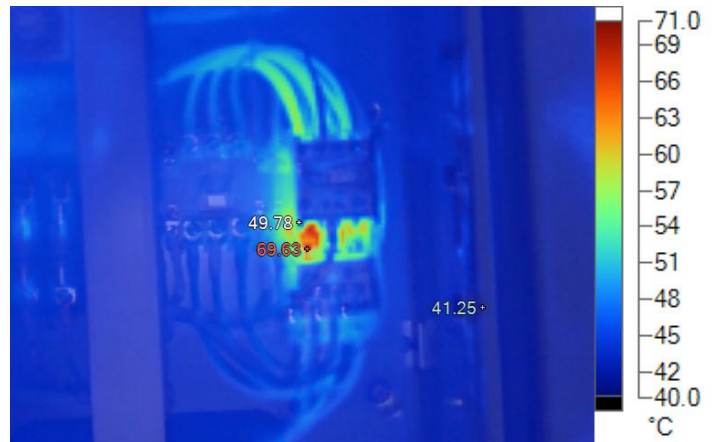
Why do we use infrared?

A picture says a thousand words; infrared thermography is the only diagnostic technology that lets you instantly visualise and verify thermal performance. Our Infrared cameras show you thermal problems, quantify them with precise non-contact temperature measurement, and document them automatically in seconds with professional easy-to-create IR reports.

Nearly everything that uses or transmits power gets hot before it fails. Cost effective power management is critical to maintaining the reliability of your electrical and mechanical systems. And today, nobody would argue that infrared thermography is the most effective proven predictive maintenance (PM) technology available to quickly, accurately and safely locate problems prior to failure.

Finding and fixing a poor electrical connection before a component fails can save you the much greater costs associated with vessel/machinery downtime, fires and catastrophic failures.

But using infrared images to find a problem is sometimes not enough. In fact, an infrared camera image without an accurate measurement says very little about the condition of an electrical connection or worn mechanical part. Our engineers are able to carry out the required investigation to determine the cause of the failure, troubleshooting and repairs of the equipment to ensure that the defect has been rectified.

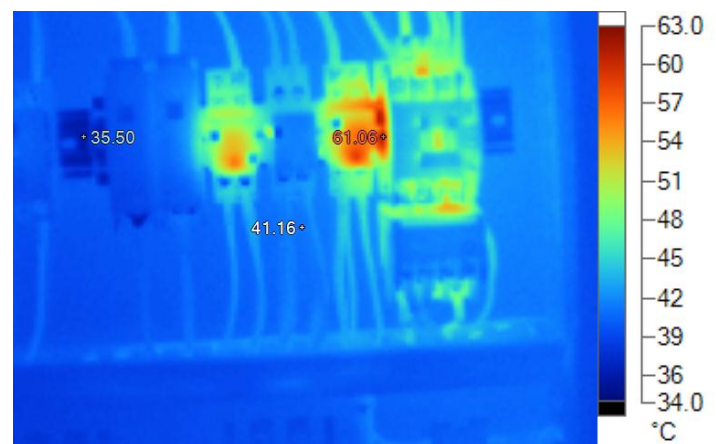


Major advantages of thermography

- It shows a visual picture so temperatures over a large area can be compared
- It is capable of catching moving targets in real time (example: Bearings)
- It is able to find deteriorating, i.e., higher temperature components prior to their failure
- It can be used to measure or observe in areas inaccessible or hazardous for other methods
- It is a non-destructive test method
- It can be used to find defects in shafts, pipes, and other metal or plastic parts
- It can be used to detect objects in dark areas



An infrared survey can detect a problem before it manifests itself into a costly failure. Using thermography, it is common to find a loose wire that can be repaired at very low cost, but if it were allowed to fail, the cost could skyrocket to thousands for equipment repair or replacement.



What do we offer?

The photos of the electrical system condition are only the starting point. You'll receive reports that can be tailored to your needs. Our reports include an image of the condition, both in infrared and visual light.

Additionally, we are able to combine a thermographic survey with a vibration analysis in the case of motors or rotating equipment. The reports can be tailored to your needs.

Where can thermography be used?

- Electrical switch gear, breakers, bus connections, and contacts
- Transformer connections
- Mechanical couplings on rotating equipment
- Process piping and heat exchangers
- Compressor heads
- Motor and generator connections, windings, feeders and exciters
- Bearings
- Friction in drive gears and drive belts
- Refractory systems (e.g. boilers, kilns, molten material containment)
- Steam traps and piping insulation
- Tank levels and insulation problems
- Electrical Systems
- Mechanical Systems
- Flat Roofs
- Steam Systems
- Casting & Moulding
- Fluid Levels/Flow
- Non Destructive Testing (Bonding, Thickness, Intrusion)
- Furnaces, Refractory lining, Boiler & Kilns

