

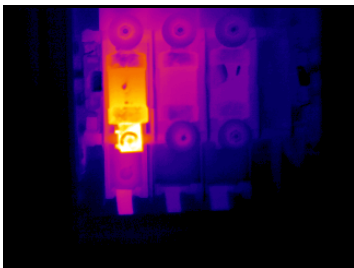
Infrared Imaging on Electrical Control Panels.....

So you think you don't need to open control panels?

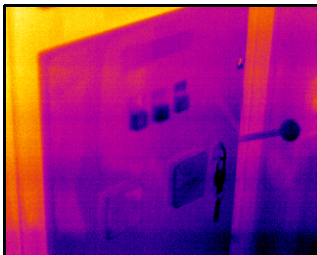
Many people believe infrared imaging can see through objects, especially control panel doors. Infrared imaging is purely the detection of the amount of infrared energy emitted from an object. Therefore it can not be seen through objects like metallic doors, this is also the case with clear plastic panels.

When surveying electrical control panels best results are achieved from direct access into the control panel, bypassing any safety isolators if achievable. Normally all HV switchgear is fitted with mechanical isolators that can not be bypassed. If an isolator can be bypassed, then the panel is "live" and the survey becomes quite dangerous, we suggest the necessary permits and extreme caution are used. The safer option and sometimes the only option is the installation of Hawk IR windows which allows access in a safe manner.

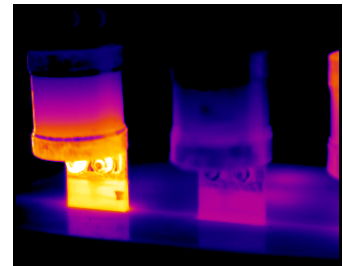
The two examples below show how faults were found using two different survey methods.



The image on the left was found on a power factor correction feed. The panel could not be opened, so the panel door was surveyed. The survey revealed the door having a temperature difference (delta T) of more than 50°C. A controlled shutdown was performed, the panel was opened then surveyed again. This time the delta T had changed to 220°C. The fault would have gone unnoticed if this panel could not have been opened.



This example shows the panel door on the left, having a temperature of 19°C. The isolator was bypassed and the panel was surveyed again. This time the temperature recorded was 135°C. The cause of the abnormal temperature was a loose fuse within the panel. The panel was part of a drive control and if left unattended could have caused a loss of production.



For more information regarding thermal imaging or any aspects of predictive maintenance call +44(0)1229 835 500

Or visit, www.tevaltd.co.uk/thermalimaging