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Avid Electrical Services

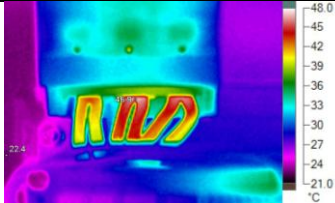
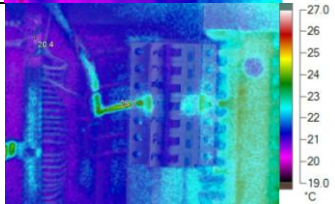

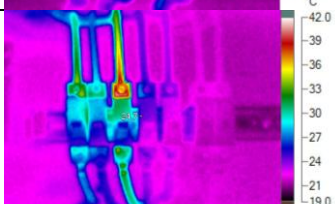

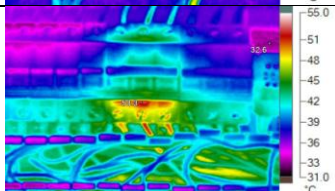
Thermal Imaging Report

To: Mr A. Customer

Your Business Australia Pty Ltd

Fault Summary

The following table is a summary of faults or items featured for your information

Grading	Page	Image No	Fault
	6	IR000232.is2	Serious Fault - High
	8	IR000233.is2	Very Minor Fault - Low
	10	IR000234.is2	Minor Fault - Moderate
	12	IR000235.is2	Minor Fault - Moderate
	14	IR000236	Very Minor Fault - Low
	16	IR000237	Minor Fault - Moderate

Items Inspected

The following table is a summary of electrical switchboards and items inspected

<u>Switchgear Location</u>	<u>Additional info</u>	<u>Scanned</u>
Car Parks		
Sewage Pump Control Panel		✓
Mechanical Services MCCN-M1		✓
BMS Control MCCN-ML-1-1		✓
A/C Control Panel		✓
House Service DB-H		✓
Main Switch Board		✓
Tennant Meter Panel 1		✓
Tennant Meter Panel 2		✓
Tennant Meter Panel 3		✓
Tennant Meter Panel 4		✓
Tennant Meter Panel 5		✓
Tennant Meter Panel 6		✓
Tennant Meter Panel 7		✓
Mechanical Services MCCN-ML5-1		✓
Mechanical Services MCCN-ML4-1		✓

Inspection Protocol

Items inspected are those which can safely be opened to view (covers removed). Thermal image analysis assumes the equipment is under at least 40% load at the time of inspection.

Cause and repair of faults

Note: these are general observations and will not apply in all cases or conditions. This is general knowledge to most Electrical Repairers.

Hot Spots

There are three main causes of overheating connections / components:

- 1) Loose connections
- 2) Faulty components
- 3) Overload (current) conditions

The connections of components and cables rely on clean mating surfaces to keep connection temperatures at normal. Clean tight connections generally do not break down even while under 20% overload conditions.

Heat Damage

Heat is mainly in evidence at the connection between a component (switch, contactor etc) and a cable/bus bar. If the cable connection to the component is loose then the connection is at fault. If the connection is good, clean and tight the fault is within the component. Worn or oxidized poles within a component will show as hot spots at the connection.

Heat Damage Repair

Tightening of the connections which have been heat damaged will have only a temporary effect, as the heat will have caused oxidation and arcing damage to occur on the surfaces of the connections. Pressure of a tightened connection will initially lower the resistance of the joint temperature to near normal, but the small amount of residual resistance will eventually cause the problem to recur.

To determine if the hot spot is caused by the connection it should be checked for tightness. If found loose: Cable/bus bar connection should be disconnected, cleaned and made good.

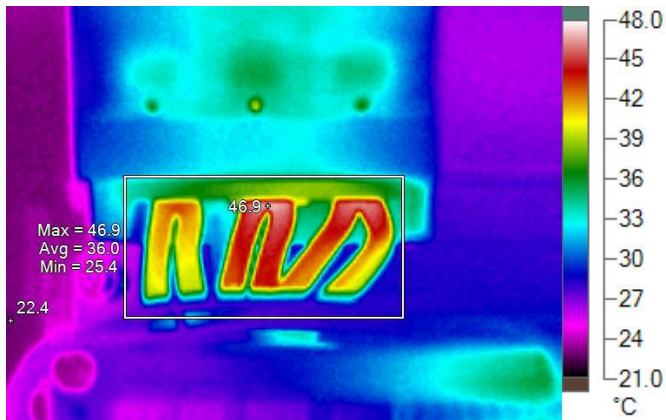
The component may have suffered heat damage (indicated by oxidation / charring) and should be replaced if damage is evident after cleaning.

If the connection is tight and good, the most likely source of the hot spot with switches and contactors are the poles, these are moving parts and most likely to be faulty and in need of repair/ replacement.

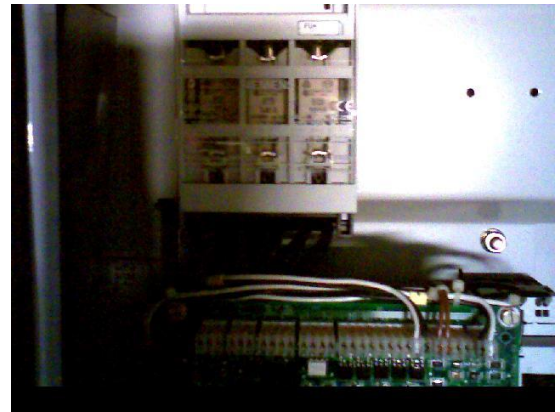
Fault Levels

Very Minor Fault	There is a fault at a level as to not require repair for 6 months or more
Minor Fault	Fault at a low level needing repair within 3 months time
Serious Fault	Requires repair in 2 to 3 weeks
Urgent Fault	Requires immediate attention: could fail at any time. Your representative will be informed while we are still onsite

A/C Control Panel. 3 - Phase Fuse Cartridge



IR000232.is2

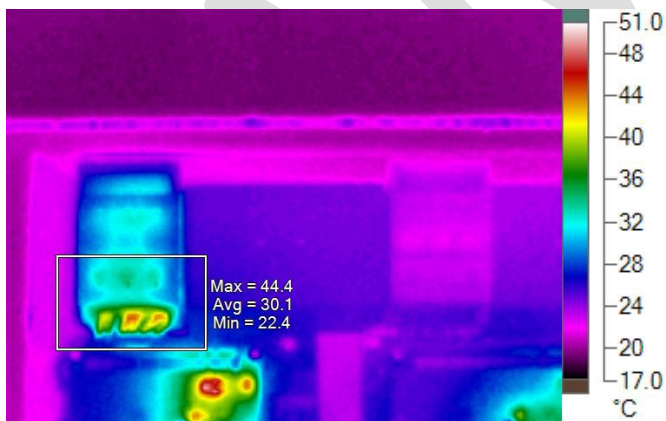


Visible Light Image

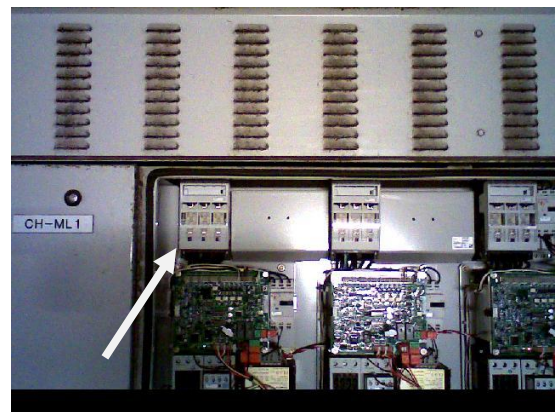
4/18/2011 12:00:23 PM

Termination Fault – Load Side.

Reference



IR000232.is2



4/18/2011 12:00:23 PM

A/C Control Panel. 3 - Phase Fuse Cartridge Fault Detail

Main Image Markers

Name	Avg	Min	Max	Emissivity	St. Dev.
A0	36.0°C	25.4°C	46.9°C	0.97	5.75

Name	Temperature	Emissivity
Hot	46.9°C	0.97
Cold	22.4°C	0.97

Reference Image Markers - IR000232.is2

Name	Temperature	Emissivity
Hot	46.9°C	0.97
Cold	22.4°C	0.97

Image Info

	IR000232.is2	IR000232.is2
Background temperature	19.0°C	19.0°C
Average Temperature	30.1°C	30.1°C
Image Range	22.4°C to 46.9°C	22.4°C to 46.9°C
Image Time	4/18/2011 12:00:23 PM	4/18/2011 12:00:23 PM

Comments

Fault Rating	Serious
Recommendation or Comment	Requires repair in 2 to 3 weeks

Corrective Action Taken

Date	Signature