

JC Termografía RD

Infra-red Inspections – Pool leak detection, Incoming power systems, Switchgear scanning, Motor/Load testing & analysis, Panelboard/Circuit testing & analysis, Building mechanical systems, Water intrusion in buildings, Computer server farms & Communication equipment, Solar panels/farms and related electrical equipment.

Super 8 Motel 1956 Regent St, Sudbury ON P3E 3Z9


Tel : 1 – 705 – 522 - 7600


Inspected on: 11/06/2021

Infra-red Electrical Report

Prepared by Jim Cress

JC Termografía RD

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 [JC Termografia RD/fbook](https://www.facebook.com/JC Termografia RD/fbook)

Information Page

Thank You! **JC Termografia RD** has recently performed service at your facility. The following pages of this report contain important information about the possible safety of your personnel and the reliability of your equipment. **JC Termografia RD** has used one or more predictive maintenance tools to assist you in attaining the health status of your equipment. We encourage you to consult with your engineering and/or maintenance staff before making a final determination on repairs. **JC Termografia RD** assumes no liability directly or indirectly as a result of this service.

The **inventory** contains a list of all equipment designated by your facility for inspection. Equipment that was tested will be labeled "TESTED" or "T" on the inventory sheet. If a problem was noted with this equipment, it will list a page number that corresponds with a defect page contained in this report. Some items on the list may have not been tested due to: accessibility to equipment, equipment offline, or other barrier. Testing lightly loaded equipment may produce inconclusive results. The overall responsibility of knowing the equipment loading and status falls upon facility personnel.

The **defect** pages are listed directly after the inventory pages. Any anomaly(s) noted during the course of your service will be recorded on the defect pages. Each defect page will contain the data gathered, recommendations, and the criticality rating (see table).

<u>Criticality Table</u>	
****	100°F (55.5 deg C) and $> \Delta T$ (Temperature Difference) Failure Imminent, Repair Immediately or ASAP
***	65°F - 99°F (36.1 – 55.4 deg C) ΔT (Temperature Difference) Failure Likely, Repair ASAP
**	45°F - 64°F (25 – 36.0 deg C) ΔT (Temperature Difference) Failure Possible, Schedule Repair
*	20°F - 44°F (11.1 – 24.9 deg C) ΔT (Temperature Difference) Immediate Failure Unlikely, Repair as Time Permits

The **criticality rating** of your equipment was assigned by your technician based on a number of factors which may include some or all of the following: industry standard temperature scale, loading, significance of asset, safety, technicians experience, and other predictive maintenance technologies.

We appreciate the opportunity to serve you. If you have any questions regarding this report, we are happy to assist in any way.

Jim Cress - President

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Thank you for having me out to your facility. The scan went smoothly and took about 30 minutes to complete. Your staff was readily available and we had no problem accessing all your panels and spaces.

We discovered some high temperature connections in the dryer 2 disconnect. There is further action recommended on the dryer 2 disconnect.

We discovered some suspected hot breakers in 3 panels in the electrical room. Recommended action would be a more thorough scan with panel covers removed and using voltage and amperage measurements.

It should be noted that the Motel's main switchgear is 40+ years old, I don't necessarily recommend replacement, however I would definitely recommend a full thermal scan and a discussion of possible maintenance practices that can extend the lifespan. I have seen MCC's and switchgear upwards of 70 years old still functioning perfectly.


Site recommendations – In the future preform a full thermal scan of all electric panels, switchboards, splitters etc with the aid of the motel's maintenance technician. During this audit it may be required to turn power on and off in different sections, thought should be given to best time to preform this work. A note when performing a scan access will be required to all panels, all debris and movable items will need to be cleared out.


Thank You,

Jim Cress

Lead Technician: Jim Cress

Equipment: FLIR E6-XT

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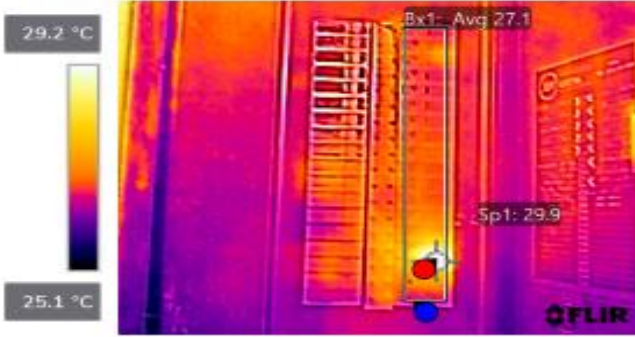
Location / Name:
Super 8 Motel 1956 Regent St, Main building

Location	Equipment	Equipment Name	Status	Anomaly
Ground Floor, Electrical room	Distribution Panel	G-1	Tested	Possibly – page 5
Ground Floor, Electrical Room	Distribution Panel	Left of G-1	Tested	Possibly – page 6
Ground Floor, Electrical Room	Distribution Panel	Right of G-1	Tested	Possibly – page 7
Ground Floor, Dryer Room	Disconnect top section	Dryer #2 disconnect	Tested	Possibly – page 8
Ground Floor, Dryer Room	Disconnect fuse section	Dryer #2 disconnect	Tested	Possibly – page 9
Ground Floor, Electrical Room	HW pump	HW pump	Tested	No
Ground Floor, Electrical Room	HW valve	HW valve	Tested	No
Outside building at front	Transformer	Main transformer	Tested	No



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Panel G-1



Breaker panel G1 - thermal.jpg



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Breaker panel G1 - thermal.jpg
File size	283 KB
Width	240
Height	180
Minimum temp.	25.3 °C
Maximum temp.	29.9 °C

Camera information

Camera model	FLIR E6xt Wifi
Lens	FOL7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

Bx1	
Max	29.9 °C
Avg	27.1 °C
Min	26.5 °C
Dt1	
Bx1.Max	3.4 °C
Bx1.Min	
Sp1	29.9 °C

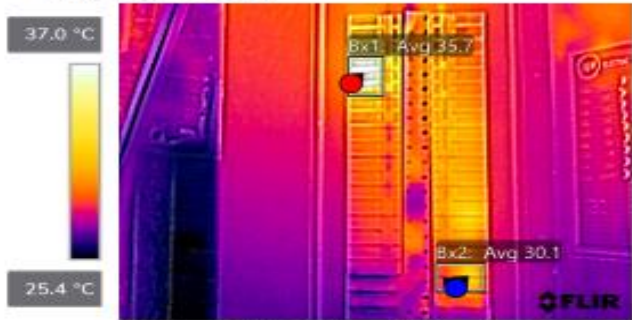
Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
29.9° C	20° C	9.9° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: 2 breakers appear hotter than others.

Recommendations: Recommendations: Inspect again with thermal camera with cover removed and take amperage and voltage readings.



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Breaker panel left of G1 - thermal.jpg

Panel to the left of G-1



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Breaker panel left of G1 - thermal.jpg
File size	278 KB
Width	240
Height	180
Minimum temp.	25.1 °C
Maximum temp.	39.8 °C

Camera information

Camera model	FLIR E6xt Wifi
Lens	FOL7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

Bx1	
Max	39.8 °C
Bx2	
Max	32.0 °C
Avg	30.1 °C
Min	28.6 °C

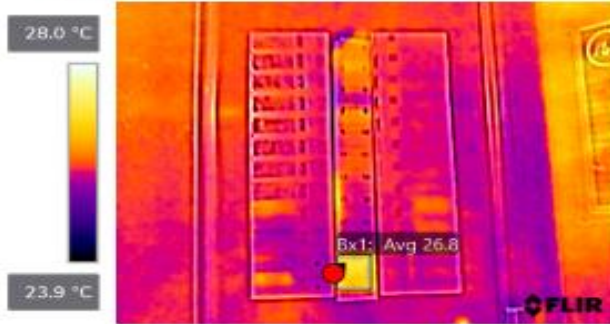
Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
39.8° C	20° C	19.8° C	*
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: 5 breakers appear hotter than others.

Recommendations: Inspect again with thermal camera with cover removed and take amperage and voltage readings.



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Breaker panel right of G1 - thermal.jpg

Panel to the right of G-1



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Breaker panel right of G1 - thermal.jpg
File size	250 KB
Width	240
Height	180
Minimum temp.	25.3 °C
Maximum temp.	27.2 °C

Camera information

Camera model	FLIR E6xt Wifi
Lens	FOL7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

Bx1	
Max	27.1 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
27.1° C	20° C	7.1° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: 3 breakers appear hotter than others.

Recommendations: Inspect again with thermal camera with cover removed and take amperage and voltage readings.



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Dryer 2 disconnect pic1 - thermal.jpg

Dryer 2 disconnect top section



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Dryer 2 disconnect pic1 - thermal.jpg
File size	277 KB
Width	240
Height	180
Minimum temp.	22.2 °C
Maximum temp.	62.1 °C

Camera information

Camera model	FLIR E6xt Wifi
Lens	F0L7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

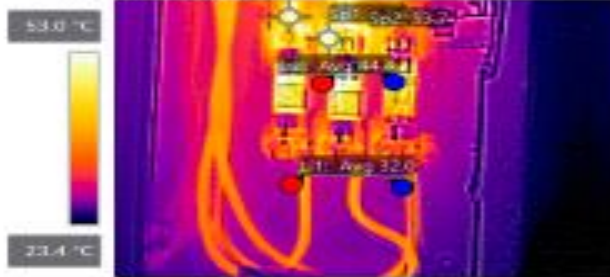
Measurements

Sp2	53.5 °C
Li2	
Max	57.8 °C
Avg	43.1 °C
Min	37.0 °C
Sp1	62.1 °C
Li1	
Max	49.1 °C
Avg	34.6 °C
Min	30.0 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
62.1° C	20° C	42.1° C	***
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A
Comments: seeing some localized hot spots on the fuses, seeing differential temperatures across all 3 phases			
Recommendations: the difference across all three phases may be normal. Shut down at motel's convenience, remove all 3 fuses clean with a burnishing stick or fine sandpaper. Also clean fuse finger holders, reinstall fuses. In the future a second more detailed scan could be preformed to ensure connections are cooler, next time inspection should include voltage and amperage readings			



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Dryer 2 disconnect pic2 - thermal.jpg

Dryer 2 disconnect fuse area



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Est. optics temp.	30.0 °C
Est. optics trans.	1.00

File information

File name	Dryer 2 disconnect pic2 - thermal.jpg
File size	283 KB
Width	240
Height	180
Minimum temp.	23.0 °C
Maximum temp.	60.0 °C

Camera information

Camera model	FLIR EG6t WiFi
Lens	F017
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

Sp2	53.7 °C
L12	
Max	55.4 °C
Avg	44.4 °C
Min	33.7 °C
Det	
L12.Max	43.9 °C
Reference temp.	
Sp4	57.4 °C
L12	
Max	43.9 °C
Avg	32.0 °C
Min	28.4 °C

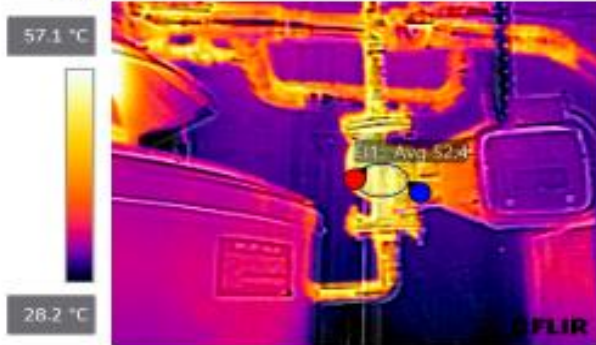
Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
57.4° C	20° C	37.4° C	**
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: seeing some localized hot spots on the fuses, seeing differential temperatures across all 3 phases.

Recommendations: the difference across all three phases may be normal. Shut down at motel's convenience, remove all 3 fuses clean with a burnishing stick or fine sandpaper. Also clean fuse finger holders, reinstall fuses. In the future a second more detailed scan could be preformed to ensure connections are cooler, next time inspection should include voltage and amperage readings



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Hot water pump - thermal.jpg

Hot water pump



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Hot water pump - thermal.jpg
File size	288 KB
Width	240
Height	180
Minimum temp.	26.3 °C
Maximum temp.	63.8 °C

Camera information

Camera model	FLIR E6xt Wifi
Lens	FOL7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

E11	
Max	53.4 °C
Avg	52.4 °C
Min	46.8 °C
Dt1	
E11.Max-E11.Min	6.5 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
53.4° C	20° C	33.4° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

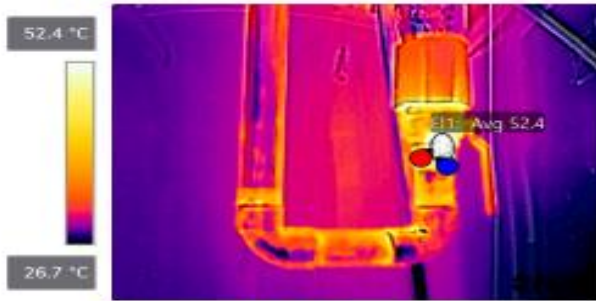
Comments: used the hot water valve as a reference.

Recommendations: short term – none.

Recommendations: long term – none.



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Hot water tank - thermal.jpg



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Hot water tank - thermal.jpg
File size	240 KB
Width	240
Height	180
Minimum temp.	24.3 °C
Maximum temp.	55.2 °C

Camera information

Camera model	FLIR E6xt Wifi
Lens	FOL7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

E11	
Max	55.2 °C
Avg	52.4 °C
Min	48.5 °C
Dt1	
E11.Max-E11.Min	6.7 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
55.2° C	20° C	25.2° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A
Comments: No problems detected, temperature normal			
Recommendations: short term – none.			
Recommendations: long term – none.			



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Main transformer pic4 - thermal.jpg

Main transformer Incoming area main connections



639122303

Parameters

Emissivity	0.95
Distance	1.05 m
Reflected temp.	30.0 °C
Atmospheric temp.	30.0 °C
Relative humidity	50.0%
Ext. optics temp.	30.0 °C
Ext. optics trans.	1.00

File information

File name	Main transformer pic4 - thermal.jpg
File size	262 KB
Width	240
Height	180
Minimum temp.	4.2 °C
Maximum temp.	16.1 °C

Camera information

Camera model	FLIR E6xt WiFi
Lens	FOL7
Camera serial	639122303
Filter	
Range max.	250.0 °C
Range min.	-20.0 °C
Field of view	44.98

Measurements

Bx1	
Max	15.5 °C
Dt1	
Bx1.Max	8.4 °C
Bx1.Min	

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
33.4° C	10° C	23.4° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: scanned the outdoor transformer to verify that the cooling fins were not blocked. Transformer working fine, no temperature issues.

Recommendations: short term – none.

Recommendations: long term – none.