

# 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.


**Report for:**  
**Hotel Playa Laguna**  
**Escondido Bay Carretera Cabarete - Sosua, Puerto Plata Republica**  
**Dominicana**  
**Tel : (001) 809 571 3375 956**  
Inspected on: 11/06/2021

## Infra-red Electrical / Pool Inspection Report

Prepared by Jim Cress

JC Termografía RD

 1-705-280-9076

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

## 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).

<b><u>Criticality Table</u></b>	
****	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) $\Delta T$ (Temperature Difference) Failure Likely, Repair ASAP
**	45°F - 64°F (25 – 36.0 deg C) $\Delta T$ (Temperature Difference) Failure Possible, Schedule Repair
*	20°F - 44°F (11.1 – 24.9 deg C) $\Delta T$ (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

**JC Termografia RD**

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## Technicians Notes

Thank you for having me out to your hotel. The scan went smoothly and took about 2 hours to complete. Your staff was readily available and we had no problem accessing all your panels and spaces.

We discovered some high temperature connections on the main incoming lugs and left contactor, as well as warm cables. Recommendation for the short term is to schedule a shutdown of the power system, verify zero energy state (no power) remove cables one by one and clean copper ends. With cables removed clean all lugs. Reinstall cables and ensure proper tightness. A rescan once maintenance is complete is recommended. Recommendation for the long term – five to ten years would be to replace contactors and incoming lugs due to heavy oxidation and the limited availability of spare parts in the event of a failure.

On the main floor panels #1 and #2 were scanned. The metering areas were scanned from left to right see pages 11 – 14 and 18 and 19, no problems found on either panel. The incoming lugs and breakers were then scanned pages 15 – 17, 20 - 22 some hot breakers and heavy oxidation was noted. Recommendation for the short term is to power down the panel and clean connections as above, also remove and reinstall breakers to ensure a snug fit. A rescan once maintenance is complete is recommended. Recommendation for the long term – five to ten years would be to replace breaker panel as older breakers can be very expensive to purchase. Sometimes the cost of 2 or 3 old breakers is more than the cost of a new panel with breakers.

At the rear of the hotel the kidney shaped pool was scanned for leaks, non were detected see pages 23 -25.


Facility recommendation: Rescan the hotel yearly to assess degradation of main incoming connections and 2 panelboards, pool scan as necessary in the event of suspected leakage.


Thank You,

Jim Cress

**Lead Technician: Jim Cress**

**Equipment: FLIR E6-XT**

 1-705-280-9076

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**Location / Name: Hotel Playa Laguna, Main Building**

Location	Equipment	Equipment Name	Status	Anomaly
Ground Floor, Incoming Electrical Room	Main Contactors Panel	Incoming area main connections	Tested	Probably – page 6
Ground Floor, Incoming Electrical Room	Main Contactors Panel	Incoming area main contactors	Tested	Probably – page 7
Ground Floor, Incoming Electrical Room	Main Contactors Panel	Incoming area right contactor	Tested	Probably – page 8
Ground Floor, Incoming Electrical Room	Main Contactors Panel	Incoming area Left contactor bottom lugs	Tested	Probably – page 9
Ground Floor, Incoming Electrical Room	Main Contactors Panel	Incoming area top of left contactor	Tested	Probably - page 10
Ground Floor, Panel #1	Distribution panel #1	Panel #1 single phase metering section left side	Tested	None
Ground Floor, Panel #1	Distribution panel #1	Panel #1 single phase metering section middle	Tested	None
Ground Floor, Panel #1	Distribution panel #1	Panel #1 single phase metering section middle right side	Tested	None
Ground Floor, Panel #1	Distribution panel #1	Panel #1 single phase metering section right side	Tested	None
Ground Floor, Panel #1	Distribution panel #1	Panel #1 main incoming connections	Tested	Possibly- page 15
Ground Floor, Panel #1	Distribution panel #1	Panel #1 bottom breaker section	Tested	Probably – page 16
Ground Floor, Panel #1	Distribution panel #1	Panel #1 breakers in the middle section	Tested	Probably – page 17
Ground Floor, Panel #2	Distribution panel #2	Panel #2 metering section left to middle	Tested	None
Ground Floor, Panel #2	Distribution panel #2	Panel #2 metering section right side	Tested	None
Ground Floor, Panel #2	Distribution panel #2	Panel #2 incoming connections and top breakers	Tested	Possibly – page 20
Ground Floor, Panel #2	Distribution panel #2	Panel #2 main breaker section	Tested	Probably – page 21

Ground Floor, Panel #2	Distribution panel #2	Panel #2 main incoming close up	Tested	Probably – page 22
Outside, rear of hotel	Pool decking edge	Pool inlet strainer area	Tested	None
Outside, rear of hotel	Pool decking edge	Pool left edge middle section	Tested	None
Outside, rear of hotel	Pool decking edge	Pool 2nd inlet strainer	Tested	None



2021-11-06 4:00:25 PM



FLIR0159.jpg

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	FLIR0159.jpg
File size	106 KB
Width	240
Height	180
Minimum temp.	36.9 °C
Maximum temp.	63.0 °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**

<b>L1</b>	
Max	61.4 °C
Avg	53.0 °C
Min	42.3 °C
<b>Sp1</b>	40.6 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
61.4° C	30° C	31.4° C	**
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Top lugs are heavily oxidized, maximum temperature is 61.4 degrees Celsius on the center lug of the incoming left contactor.

Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool (example <https://jonard.com/contact-burnishers-burnisher-files>) or fine sandpaper

Recommendations: long term – change incoming lugs.



2021-11-06 4:00:45 PM



FLIR0161.jpg

Incoming area main contactors



639122303

**Parameters**

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

**File information**

File name	FLIR0161.jpg
File size	102 KB
Width	240
Height	180
Minimum temp.	36.0 °C
Maximum temp.	56.0 °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**

Sp1	53.3 °C
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Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
53.3° C	30° C	23.3° C	*
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Contactor lugs are heavily oxidized, maximum temperature of 53.3 degrees Celsius is on left lug of the left contactor.

Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper.

Recommendations: long term – due to the age of the contactors and availability of parts, replacement is recommended in the next 5-10 years.





2021-11-06 4:00:54 PM



FLIR0163.jpg

Incoming area right contactor



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	FLIR0163.jpg
File size	92 KB
Width	240
Height	180
Minimum temp.	36.4 °C
Maximum temp.	63.7 °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**

Sp2	40.5 °C
Sp3	42.1 °C
Sp1	41.8 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
42.1° C	30° C	12.1° C	*
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Contactor lugs are heavily oxidized, maximum temperature of 42.1 degrees Celsius is on the right lug of the right contactor. Note the cables are also warm.

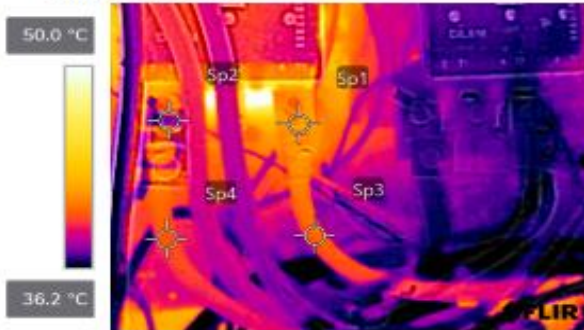
Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper.

Recommendations: long term – due to the age of the contactors and availability of parts, replacement is recommended in the next 5-10 years.





2021-11-06 4:01:07 PM



FLIR0165.jpg

Incoming area left contactor bottom lugs



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	FLIR0165.jpg
File size	104 KB
Width	240
Height	180
Minimum temp.	35.0 °C
Maximum temp.	56.7 °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**

Sp2	37.3 °C
Sp3	40.3 °C
Sp4	40.1 °C
Sp1	41.7 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
41.7° C	30° C	11.7° C	*
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Contactor lugs are heavily oxidized, maximum temperature of 41.7 degrees Celsius is on the right lug of the left contactor.

Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper. Also to note cables are warm.  
 Recommendations: long term – due to the age of the contactors and availability of parts, replacement is recommended in the next 5-10 years.



2021-11-06 4:01:19 PM



FLIR0167.jpg

Incoming area top of left contactor



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	FLIR0167.jpg
File size	103 KB
Width	240
Height	180
Minimum temp.	35.9 °C
Maximum temp.	60.7 °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**

Sp2	60.5 °C
Sp1	58.9 °C

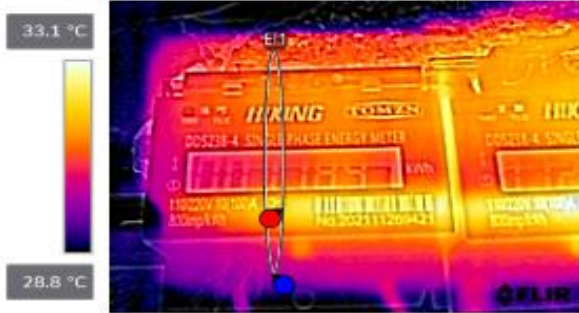
Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
60.5° C	30° C	30.5° C	**
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Contactor lugs are heavily oxidized, maximum temperature of 60.5 degrees Celsius is on the center lug of the left contactor.

Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper. Also to note cables are warm.  
 Recommendations: long term – due to the age of the contactors and availability of parts, replacement is recommended in the next 5-10 years.



2021-11-06 4:08:58 PM



FLIR0169.jpg

Panel #1 single phase metering section left side



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	FLIR0169.jpg
File size	117 KB
Width	240
Height	180
Minimum temp.	28.6 °C
Maximum temp.	33.2 °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**

<b>E11</b>	
Max	32.3 °C
Avg	31.2 °C
Min	30.1 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
32.3° C	30° C	2.3° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

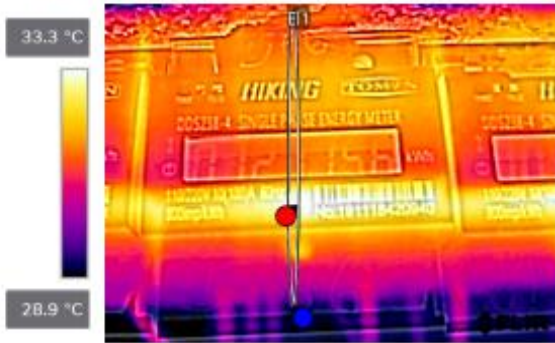
Comments: No problems detected, temperature normal

Recommendations: short term – none.

Recommendations: long term – none.



2021-11-06 4:09:02 PM



FLIR0171.jpg

Panel #1 single phase metering section middle



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	FLIR0171.jpg
File size	114 KB
Width	240
Height	180
Minimum temp.	28.8 °C
Maximum temp.	33.5 °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**

<b>E1</b>	
Max	33.4 °C
Avg	31.9 °C
Min	29.2 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
33.4° C	30° C	3.4° 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

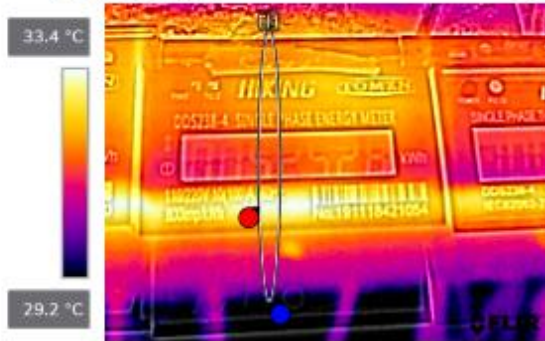
Recommendations: short term – none.

Recommendations: long term – none.



2021-11-06 4:09:05 PM

Panel #1 single phase metering section middle right side



FLIR0173.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	FLIR0173.jpg
File size	117 KB
Width	240
Height	180
Minimum temp.	29.0 °C
Maximum temp.	33.4 °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**

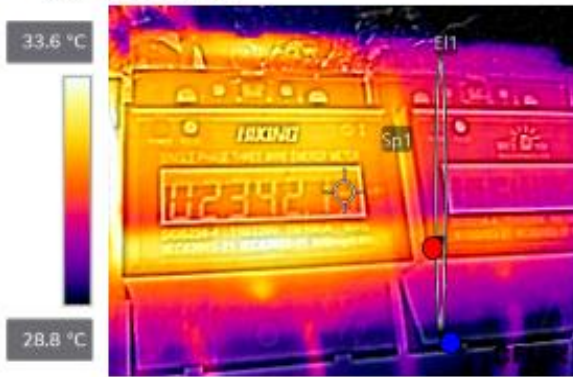
<b>E1</b>	
Max	33.3 °C
Avg	31.8 °C
Min	29.1 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
33.3° C	30° C	3.3° 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.			





2021-11-06 4:09:11 PM



FLIR0175.jpg

Panel #1 single phase metering section right side



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	FLIR0175.jpg
File size	115 KB
Width	240
Height	180
Minimum temp.	28.6 °C
Maximum temp.	34.2 °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**

<b>E1</b>	
Max	31.5 °C
Avg	30.8 °C
Min	29.0 °C
<b>Sp1</b>	31.8 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
31.8° C	30° C	1.8° C	
<b>Amperage A</b>	<b>Amperage B</b>	<b>Amperage C</b>	<b>Rated Amps/Volts</b>
N/A	N/A	N/A	N/A / N/A

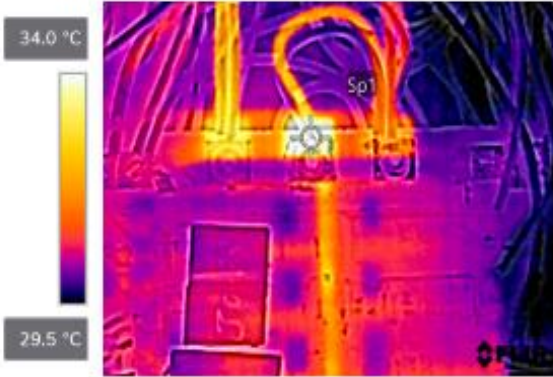
Comments: No problems detected, temperature normal

Recommendations: short term – none.

Recommendations: long term – none.

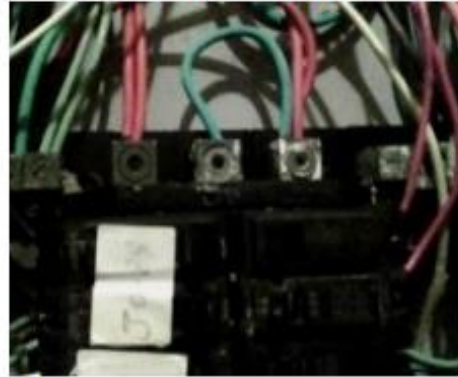


2021-11-06 4:09:17 PM



FLIR0177.jpg

Panel #1 main incoming 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	FLIR0177.jpg
File size	112 KB
Width	240
Height	180
Minimum temp.	29.4 °C
Maximum temp.	34.2 °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**

Sp1	34.1 °C
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Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
34.1° C	30° C	4.1° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

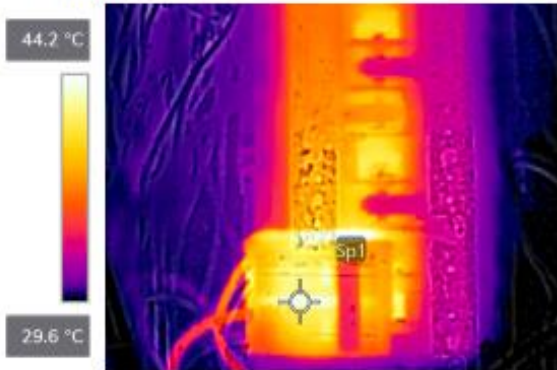
Comments: Heavy oxidation on incoming lugs, temperature normal, center lug hotter than others  
 Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper. Also to note cables are warm.  
 Recommendations: long term – due to the age of the breaker panel and availability of breakers, replacement is recommended in the next 5-10 years. Also see below some breakers are warm due to oxidation or poor connection to panel main bus bars.





2021-11-06 4:09:30 PM

Panel #1 bottom breaker section



FLIR0179.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	FLIR0179.jpg
File size	98 KB
Width	240
Height	180
Minimum temp.	29.1 °C
Maximum temp.	45.9 °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**

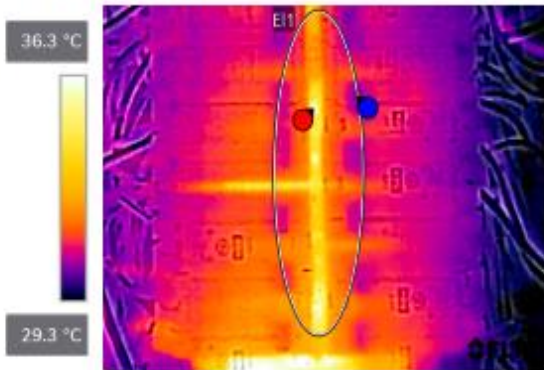
Sp1	44.0 °C
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Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
44.0° C	30° C	14.0° C	*
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Heavy oxidation on panel bus bars, temperature warm, bottom breakers hotter than others  
 Recommendations: short term – Remove and reinstall breakers ensure they fit snugly. Also to note cables are warm.  
 Recommendations: long term – due to the age of the breaker panel and availability of breakers, replacement is recommended in the next 5-10 years.



2021-11-06 4:09:42 PM



FLIR0181.jpg

Panel #1 breakers in the middle 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	FLIR0181.jpg
File size	98 KB
Width	240
Height	180
Minimum temp.	29.1 °C
Maximum temp.	36.8 °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	44.9B

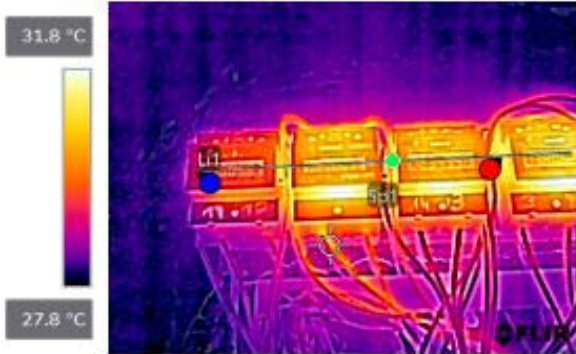
**Measurements**

<b>E11</b>	
Max	36.8 °C
Avg	32.0 °C
Min	30.3 °C

Target Temperature	Reference Temperature		Temperature Difference	Criticality Rating
36.8° C	30° C		6.8° C	
Amperage A	Amperage B		Amperage C	Rated Amps/Volts
N/A	N/A		N/A	N/A / N/A
Comments: Heavy oxidation on panel bus bars, temperature warm.				
Recommendations: short term – Remove and reinstall breakers ensure they fit snugly. Recommendations: long term – due to the age of the breaker panel and availability of breakers, replacement is recommended in the next 5-10 years.				



2021-11-06 4:11:08 PM



FLIR0185.jpg

Panel #2 metering section left to middle



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	FLIR0185.jpg
File size	126 KB
Width	240
Height	180
Minimum temp.	27.7 °C
Maximum temp.	32.1 °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

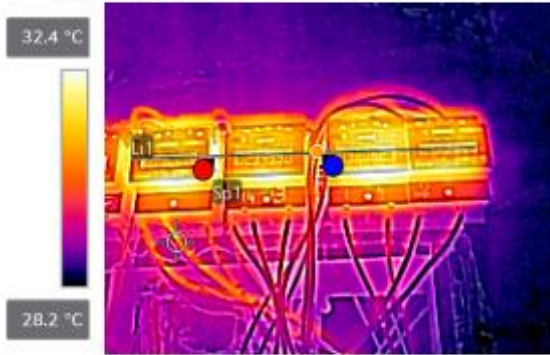
**Measurements**

<b>Li1</b>	
Max	31.4 °C
Avg	30.2 °C
Min	29.1 °C
Sp1	30.6 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
31.4° C	30° C	1.4° 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.			



2021-11-06 4:11:16 PM



FLIR0187.jpg

Panel #1 single phase metering section right side



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	FLIR0187.jpg
File size	125 KB
Width	240
Height	180
Minimum temp.	28.2 °C
Maximum temp.	32.8 °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**

Li1	
Max	32.6 °C
Avg	31.1 °C
Min	30.2 °C
Sp1	30.5 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
32.6° C	30° C	2.6° 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

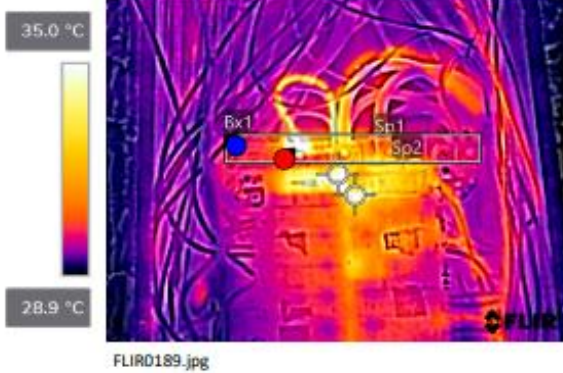
Recommendations: short term – none.

Recommendations: long term – none.





2021-11-06 4:11:35 PM



Panel #2 incoming connections and top breakers



**Parameters**

Emissivity	0.95
Distance	3.05 m
Reflected temp.	20.0 °C
Atmospheric temp.	20.0 °C
Relative humidity	50.0%
Ext. optics temp.	20.0 °C
Ext. optics trans.	1.00

**File information**

File name	FLIR0189.jpg
File size	127 KB
Width	240
Height	180
Minimum temp.	28.8 °C
Maximum temp.	38.0 °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**

Sp2	36.5 °C
Bx1	
Max	35.5 °C
Avg	31.1 °C
Min	29.6 °C
Sp1	35.4 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
36.5° C	30° C	6.5° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Heavy oxidation on incoming lugs, temperature normal, left lug hotter than others  
 Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper. Also to note cables are warm.  
 Recommendations: long term – due to the age of the breaker panel and availability of breakers, replacement is recommended in the next 5-10 years. Also see below some breakers are warm due to oxidation or poor connection to panel main bus bars.



2021-11-06 4:11:47 PM

Panel #2 main breaker section



FLIR0191.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	FLIR0191.jpg
File size	122 KB
Width	240
Height	180
Minimum temp.	28.8 °C
Maximum temp.	37.4 °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**

<b>E1</b>	
Max	33.9 °C
Avg	30.4 °C
Min	29.3 °C
<b>Sp1</b>	36.3 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
36.3° C	30° C	6.3° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

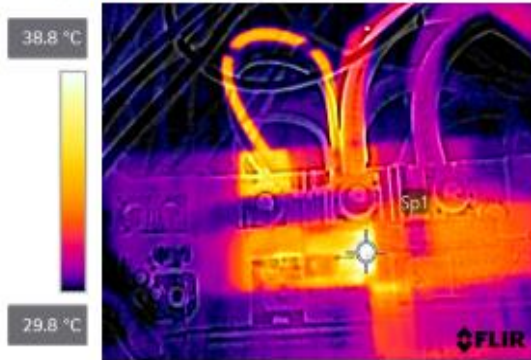
Comments: Heavy oxidation on incoming lugs, temperature normal, top right breaker hotter than others.

Recommendations: short term – Remove and reinstall breakers ensure they fit snugly.

Recommendations: long term – Due to the age of the breaker panel and availability of breakers, replacement is recommended in the next 5-10 years.



2021-11-06 4:12:59 PM



FLIR0193.jpg

Panel #2 main incoming close up



639122303

**Parameters**

Emissivity	0.95
Distance	0.50 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	FLIR0193.jpg
File size	112 KB
Width	240
Height	180
Minimum temp.	29.6 °C
Maximum temp.	39.5 °C

**Camera information**

Camera model	FLIR E6xt Wifi
Lens	F0L7
Camera serial	639122303
Filter	
Range max.	750.0 °C
Range min.	-20.0 °C
Field of view	44.98

**Measurements**

Sp1	39.4 °C
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Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
39.4° C	30° C	9.4° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

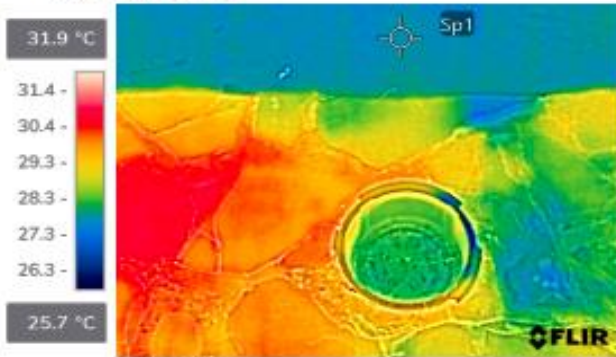
Comments: Closer inspection. Heavy oxidation on incoming lugs, temperature normal, left lug hotter than others

Recommendations: short term – shutdown power and remove incoming cables one by one, clean copper on cables, clean lugs. Use a burnishing tool as above or fine sandpaper. Also to note cables are warm.  
 Recommendations: long term – due to the age of the breaker panel and availability of breakers, replacement is recommended in the next 5-10 years. Also see below some breakers are warm due to oxidation or poor connection to panel main bus bars.





2021-11-06 2:54:11 PM



FLIR0153.jpg

Pool inlet strainer area



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	FLIR0153.jpg
File size	103 KB
Width	240
Height	180
Minimum temp.	27.0 °C
Maximum temp.	30.7 °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**

Sp1	27.7 °C
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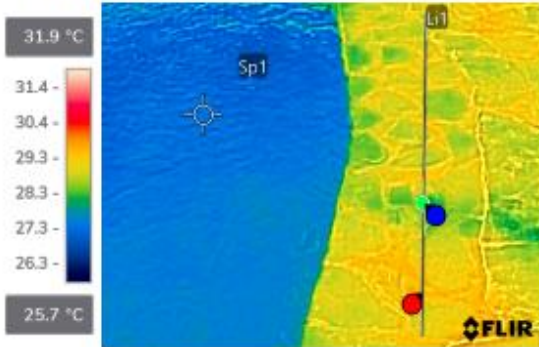
Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
27.7° C	30° C	-2.3° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Pool temperature is 27.7 degrees Celsius, deck temperature is 30.7 degrees Celsius. No leak detected.

Recommendations: None, scan was done for information only, typical leaks are around strainers and outlet piping.



2021-11-06 2:54:44 PM



FLIR0155.jpg

Pool left edge middle 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	FLIR0155.jpg
File size	103 KB
Width	240
Height	180
Minimum temp.	27.0 °C
Maximum temp.	29.7 °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**

<b>Li1</b>	
Max	29.5 °C
Avg	29.0 °C
Min	28.3 °C
<b>Sp1</b>	27.3 °C

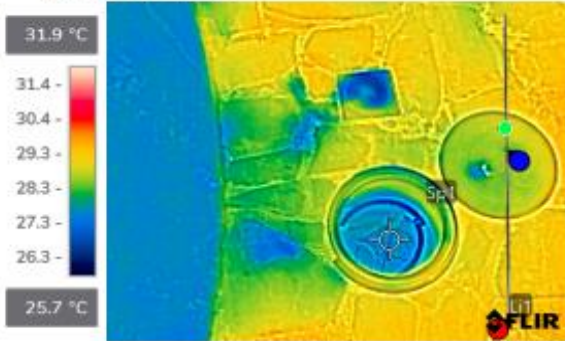
Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
27.3° C	30° C	-2.7° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Pool temperature is 27.7 degrees Celsius, deck temperature is average 29.0 degrees Celsius as detected by line. No leak detected.

Recommendations: None, scan was done for information only, typical leaks are around strainers and outlet piping.



2021-11-06 2:55:55 AM



FLIR0157.jpg

Pool 2nd inlet strainer



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	FLIR0157.jpg
File size	111 KB
Width	240
Height	180
Minimum temp.	26.6 °C
Maximum temp.	29.7 °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**

<b>Li1</b>	
Max	29.4 °C
Avg	29.0 °C
Min	28.4 °C
<b>Sp1</b>	27.6 °C

Target Temperature	Reference Temperature	Temperature Difference	Criticality Rating
27.6° C	30° C	-1.8° C	
Amperage A	Amperage B	Amperage C	Rated Amps/Volts
N/A	N/A	N/A	N/A / N/A

Comments: Pool temperature measured in strainer is 27.6 degrees Celsius, deck temperature is average 29.0 degrees Celsius as detected by line. No leak detected.

Recommendations: None, scan was done for information only, typical leaks are around strainers and outlet piping.