



Bayou State Inspections, LLC

Qualitative Infrared Thermographic Survey of Electrical Switchgear

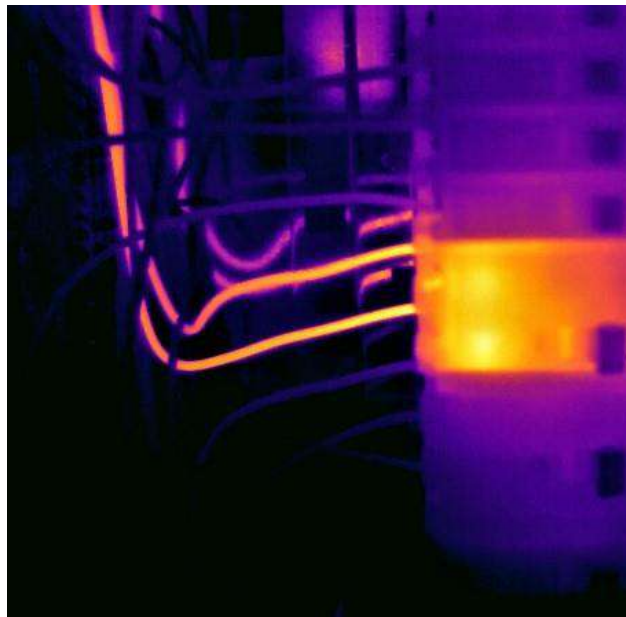
at the Facilities of:



**Chase Tower
Lafayette, LA**

October 4 & 5, 2021

BSI PROJECT # 21-1004-JY





**RE: Chase Tower
Lafayette, LA
Date(s) of Survey: Oct 4 & 5, 2021
Project: 21-1004-JY**

Lisa Montgomery
General Manager
Chase Tower
600 Jefferson St STE 500
Lafayette, LA 70501
337-266-2110
lmontgomery@tmch.com

Dear Ms. Montgomery:

Thank you for your continued confidence in our services. Please find herein, the results of the Electrical Infrared Thermographic Survey conducted at your facilities, referenced above.

CONTENTS

- **Cover Letter**
- **Summary & Recap**
- **Repair Guide** - List of all equipment with thermal anomalies
- **Equipment List** - List of all equipment surveyed
- **Thermographic Reports** - Individual report pages of all equipment with thermal anomalies

IMPORTANT NOTICE: Infrared Thermography is not a substitute for visual and/or other instrumental inspection techniques and should be a regular part of the overall P/PM (preventive/predictive maintenance) program at your facilities.

If you have a question or comment, please let us know by calling (337) 988-9020. We look forward to working with you on your next scheduled survey.

Sincerely yours,

A handwritten signature in black ink that reads "James E Yaeger". The signature is written in a cursive style.

James E Yaeger, CIT III
James@BayouStateInspections.com



FACILITY Manager

Lisa Montgomery

General Manager

Chase Tower

600 Jefferson St.

STE 500 (Management Office)

Lafayette, LA 70501

337-266-2110

lmontgomery@tmch.com

FACILITY Electrical Points of Contact

Dexter Doucet

Electrical Supervisor

Maintenance

600 Jefferson St.

Floor 9

Lafayette, LA 70501

337-257-6296

smaintenance@tmch.com

Certified Infrared Thermographer

James Yaeger, Level III Thermographer #10991

Equipment List & General Survey Notes

- 1) Please read all notes in the Equipment List Section of this Report under "Notes".
- 2) Some panel covers may have not been removed because some facilities personal would not open the panel for safety or other reasons and are marked "CNRC".
- 3) Some panel covers may have not been removed because an area was closed at the time of the survey and/or had virtually no load. These are marked "DNRC".
- 4) Emissivity Settings = .95, unless otherwise noted.
- 5) Equipment list may not be in chronological order.

Summary of Findings

(NR) Not Rated =	2
(M) Minor =	7
(A) Alert =	10
(A) Alert / (S) Serious =	2
(S) Serious =	5
(C) Critical =	2
Repaired on Site =	3
TOTAL =	31

KEY to Abbreviations that may be used in the Equipment List Below

N/O = Not Operating

N/S = Not Surveyed

N/F = Equipment Not Found

LL = Extremely Low Load

HL = High Load vs. Rating

OH = Overheating

L/O = Locked Out / Tagged Out

CNRC = Could Not Remove Cover

A or Amp = Amperage

MTS = Manual Transfer Switch

ATS = Automatic Transfer Switch

MCC = Motor Control Center

MCR = Motor Control Room

CNTR = Contactor

O/L = Overloaded

DNRC = Did Not Remove Cover

(Rm) = Room

(US) = Upstairs

(DS) = Downstairs

(F) = Front View

(R) = Rear View

(S) = Side View

(N/A) = Not Accessible

N/L = No Load



Repair Guide

Area	Equipment	Component	Report #	Severity
Rooftop West Penthouse	Exhaust Fan 2 (South) Disconnect	Fuse	1	Alert
Floor 16 Electrical Room	Panel 16 PA	Circuit Breaker 25	2	Minor
Floor 14 Electrical Room	Panel P14	Circuit Breaker 35	3	Minor
Floor 12 Electrical Room	Emergency Lighting Panel	Wire	4	Alert
Floor 9 Electrical Room	Panel L9	Circuit Breaker 8	5	Minor
Floor 8 Mechanical Room	AHU 8 Panel	Heat Strip 1 Fuse	6	Serious
Floor 8 Mechanical Room	Heater Control Box 8	Heat Strip 1 Fuses	7	Alert
Floor 8 Electrical Room	Panel J8	CB 3-4 Bolt on Connections	8	Serious
Floor 5 Mechanical Room	AHU 5 Panel	Heat Strip 1 Fuse	9	Critical
Floor 5 Mechanical Room	AHU 5 Panel	Heat Strip 2 Fuses	10	Alert/Serious
Floor 5 Mechanical Room	Heater Control Box 5	Heater 1 Fuses	11	Alert
Floor 5 Mechanical Room	Heater Control Box 5	Heater 2 Contactor	12	Alert
Floor 3 Mechanical Room	AHU 3 Panel	Heat Strip 1 Fuse	13	Minor
Floor 3 Mechanical Room	Heater Control Box 3	Heater 1 Fuse	14	Serious
Floor 3 Electrical Room	Panel L3	Circuit Breaker 4	15	Alert
Floor 2 Mechanical Room	AHU 2 Panel	Heat Strip 1 Fuse	16	Minor
Floor 2 Mechanical Room	AHU 2 Panel	Heat Strip 2 Fuses	17	Alert/Serious
Floor 2 Mechanical Room	Heater Control Box 2	Heater 2 Contactor	18	Critical
Floor 2 Electrical Room	Panel L2	Circuit Breaker 6	19	Serious
Floor 1 Mechanical Room	AHU 1 Panel	Heat Strip 1 Fuses	20	Alert
Floor 1 Mechanical Room	AHU 1 Panel	Heat Strip 2 Fuse	21	Minor
Chiller Room	Panel ME	Circuit Breaker 2/4/6	22	Minor
Chiller Room	MCC-2 Chill Water Pump No 1	Fuse	23	Alert
Chiller Room	MCC-2 Chill Water Pump No 2	Contactor	24	Serious
Chiller Room	MCC-2 Condenser Pump No 2	Fuse	25	Alert
Basement Mechanical Rm	Basement AHU	Fuses	26	Alert
Chiller Room	Chiller 1 Control Cabinet	Contactor A Phase humming	---	NR
Chiller Room	Chiller 2 Control Cabinet	Contactor B Phase humming	---	NR

Repaired on Site by Dexter Doucet

Floor 10 Electrical Room	Panel C10	Circuit Breaker 9
Floor 4 Electrical Room	Computer Section Panel	Circuit Breaker 2
Floor 1 Electrical Room	Panel P1	Circuit Breaker 5



Equipment List

Area	Equipment	Component	TR #	Notes
Rooftop East Penthouse	Elevator Control Cabinet 1			
Rooftop East Penthouse	Elevator Control Cabinet 2			
Rooftop East Penthouse	Elevator Control Cabinet 3			
Rooftop East Penthouse	Panel Elevator 1-2-3 Cabinet Lights			
Rooftop East Penthouse	Panel FPE 100A			
Rooftop East Penthouse	Panel Elevators 2&3 250A			
Rooftop West Penthouse	Service Elevator Disconnect			
Rooftop West Penthouse	Panel 4 Freight Elevator Lights			
Rooftop West Penthouse	Service Elevator Cabinet			
Rooftop West Penthouse	Exhaust Fan North 1 Disconnect			
Rooftop West Penthouse	Exhaust Fan 2 (South) Disconnect	Fuse	1	Alert
Rooftop	Fresh Air Intake Fan			
Floor 16 Mechanical Rm	AC 16 Disconnect			
Floor 16 Electrical Room	Roof AHU Panel			
Floor 16 Electrical Room	Panel 16L			
Floor 16 Electrical Room	Panel 16PA	Circuit Breaker 25	2	Minor
Floor 16 Electrical Room	Panel 16PB			
Floor 16 Electrical Room	Main Panel			
Floor 16 Electrical Room	Panel 16 EQ			
Floor 15 Mechanical Room	AHU 15 Panel			
Floor 15 Mechanical Room	Heater Control Box 15			
Floor 15 Electrical Room	Emergency Lighting Panel			
Floor 15 Electrical Room	Panel P15			
Floor 15 Electrical Room	Panel P1			
Floor 15 Electrical Room	Panel L15			
Floor 15 Electrical Room	Mechanical Room Feed Disconnect			
Floor 15 Electrical Room	Generator Transfer Switch			
Floor 15 Electrical Room	Server Room Panel			
Floor 15 Electrical Room	Transformer Disconnect			
Floor 15 Electrical Room	Server Disconnect			
Floor 14 Mechanical Room	AHU 14 Panel			
Floor 14 Mechanical Room	Heater Control Box 14			



Area	Equipment	Component	TR #	Notes
Floor 14 Electrical Room	Emergency Lighting Panel			
Floor 14 Electrical Room	Mechanical Room Feed Disconnect			
Floor 14 Electrical Room	Panel P1			
Floor 14 Electrical Room	Panel P14	Circuit Breaker 35	3	Minor
Floor 14 Electrical Room	Panel L14			
Floor 12 Mechanical Room	AHU 12 Panel			
Floor 12 Mechanical Room	Heater Control Box 12			
Floor 12 Electrical Room	Emergency Lighting Panel	Wire	4	Alert
Floor 12 Electrical Room	Panel P12			
Floor 12 Electrical Room	Panel J12			
Floor 12 Electrical Room	Panel L12			
Floor 11 Mechanical Room	AHU 11 Panel			
Floor 11 Mechanical Room	Heater Control Box 11			
Floor 11 Electrical Room	Emergency Lighting Panel			
Floor 11 Electrical Room	Panel P11			
Floor 11 Electrical Room	Panel L11			
Floor 11 Electrical Room	Panel P11 Subpanel			
Floor 10 Mechanical Room	AHU 10 Panel			
Floor 10 Mechanical Room	Heater Control Box 10			
Floor 10 Electrical Room	Emergency Lighting Panel			
Floor 10 Electrical Room	Panel P10			
Floor 10 Electrical Room	Panel L10			
Floor 10 Electrical Room	Panel C10	Circuit Breaker 9		Repaired
Floor 9 Mechanical Room	AHU 9 Panel			
Floor 9 Mechanical Room	Heater Control Box 9			
Floor 9 Electrical Room	Emergency Lighting Panel			
Floor 9 Electrical Room	Panel P9			
Floor 9 Electrical Room	Panel L9	Circuit Breaker 8	5	Minor
Floor 9 Electrical Room	Panel J9			
Floor 8 Mechanical Room	AHU 8 Panel	Heat Strip 1 Fuse	6	Serious
Floor 8 Mechanical Room	Heater Control Box 8	Heat Strip 1 Fuses	7	Alert



Area	Equipment	Component	TR #	Notes
Floor 8 Electrical Room	Emergency Lighting Panel			
Floor 8 Electrical Room	Panel P8			
Floor 8 Electrical Room	Panel J8	CB 3-4 Bolt on Connections	8	Serious
Floor 8 Electrical Room	Panel L8			
Floor 7 Mechanical Room	AHU 7 Panel			
Floor 7 Mechanical Room	Heater Control Box 7			
Floor 7 Electrical Room	Emergency Lighting Panel			
Floor 7 Electrical Room	Panel P7			
Floor 7 Electrical Room	Subpanel P7			
Floor 7 Electrical Room	Panel L7			
Floor 6 Mechanical Room	AHU 6 Panel			
Floor 6 Mechanical Room	Heater Control Box 6			
Floor 6 Electrical Room	Emergency Lighting Panel			
Floor 6 Electrical Room	Panel P6			
Floor 6 Electrical Room	Subpanel 6A			
Floor 6 Electrical Room	Panel L6			
Floor 6 Electrical Room	Panel J 61			
Floor 6 Electrical Room	Panel J 62			
Floor 5 Mechanical Room	AHU 5 Panel	Heat Strip 1 Fuse	9	Critical
Floor 5 Mechanical Room	AHU 5 Panel	Heat Strip 2 Fuses	10	Alert/Serious
Floor 5 Mechanical Room	Heater Control Box 5	Heater 1 Fuses	11	Alert
Floor 5 Mechanical Room	Heater Control Box 5	Heater 2 Contactor	12	Alert
Floor 5 Electrical Room	Emergency Lighting Panel			
Floor 5 Electrical Room	Panel P5			
Floor 5 Electrical Room	Subpanel P5			
Floor 5 Electrical Room	Panel L5			
Floor 5 Electrical Room	Phone Equipment Panel			
Floor 5 Electrical Room	Battery Charger 1 60A Disconnect			N/O
Floor 5 Electrical Room	Battery Charger 2 60A Disconnect			N/O
Floor 4 Mechanical Room	AHU 4 Panel			
Floor 4 Mechanical Room	Heater Control Box 4			
Floor 4 Electrical Room	Emergency Lighting Panel			



Area	Equipment	Component	TR #	Notes
Floor 4 Electrical Room	Panel P4			
Floor 4 Electrical Room	Computer Section Panel	Circuit Breaker 2		Repaired
Floor 4 Electrical Room	Panel L			
Floor 4 Electrical Room	Bank Computer Panel			
Floor 3 Mechanical Room	AHU 3 Panel	Heat Strip 1 Fuse	13	Minor
Floor 3 Mechanical Room	Heater Control Box 3	Heater 1 Fuse	14	Serious
Floor 3 Electrical Room	Emergency Lighting Panel			
Floor 3 Electrical Room	Panel P3			
Floor 3 Electrical Room	Panel HP-300			
Floor 3 Electrical Room	Panel J3			
Floor 3 Electrical Room	Panel L3	Circuit Breaker 4	15	Alert
Floor 2 Mechanical Room	AHU 2 Panel	Heat Strip 1 Fuse	16	Minor
Floor 2 Mechanical Room	AHU 2 Panel	Heat Strip 2 Fuses	17	Alert/Serious
Floor 2 Mechanical Room	Heater Control Box 2	Heater 2 Contactor	18	Critical
Floor 2 Electrical Room	Emergency Lighting Panel			
Floor 2 Electrical Room	Panel L2	Circuit Breaker 6	19	Serious
Floor 2 Electrical Room	Panel P2			
Floor 1 Mechanical Room	AHU 1 Panel	Heat Strip 1 Fuses	20	Alert
Floor 1 Mechanical Room	AHU 1 Panel	Heat Strip 2 Fuse	21	Minor
Floor 1 Mechanical Room	Heater Control Box 1			
Floor 1 Electrical Room	Emergency Lighting Panel			
Floor 1 Electrical Room	Panel P1	Circuit Breaker 5		Repaired
Floor 1 Electrical Room	Panel L1			
Floor 1 Electrical Room	Suite 103 Panel			
Chiller Room	Chiller 1 Control Cabinet	Contactor A Phase humming		NR
Chiller Room	Chiller Panel			
Chiller Room	Panel MM			
Chiller Room	Panel ME	Circuit Breakers 2/4/6	22	Minor
Chiller Room	Acme Transformer			
Chiller Room	MCC-1 Main MM			CNRC
Chiller Room	MCC-1 Spare			CNRC
Chiller Room	MCC-1 Motor Control Panel			CNRC
Chiller Room	MCC-1 Cooling-Heat Chiller No 1			CNRC



Area	Equipment	Component	TR #	Notes
Chiller Room	MCC-1 Cooling-Heat Chiller No 2			CNRC
Chiller Room	MCC-1 Main Power Duct No 2			
Chiller Room	MCC-1 Main Power Duct No 3			
Chiller Room	MCC-1 Main Power Panel			
Chiller Room	MCC-2 Main Lighting Panel			
Chiller Room	MCC-2 Lighting Main Power Duct Up			
Chiller Room	MCC-2 Lighting Main Power Duct Down			
Chiller Room	MCC-2 Panel ME			
Chiller Room	MCC-2 Auto Transfer Panel			
Chiller Room	MCC-2 Parking Garage Lights			
Chiller Room	MCC-2 Fan			
Chiller Room	MCC-2 Chill Water Pump No 1	Fuse	23	Alert
Chiller Room	MCC-2 Chill Water Pump No 2	Contactor	24	Serious
Chiller Room	MCC-2 Condenser Pump No 1			
Chiller Room	MCC-2 Condenser Pump No 2	Fuse	25	Alert
Chiller Room	MCC-2 Cooling Tower No 1			
Chiller Room	MCC-2 Cooling Tower No 2			CNRC
Chiller Room	Chiller 2 Control Cabinet	Contactor B Phase humming		NR
Chiller Room	Lighting Control Panel			
Chiller Room	MSDI Panel			CNRC
Basement Electrical Room	Panel P			
Basement Electrical Room	Panel O			
Basement Electrical Room	Panel LB			
Basement Electrical Room	Hydraulic Elevator Disconnect			
Basement Sprinkler Riser Rm	Fire Pump Controller			
Basement Mechanical Room	Basement AHU	Fuses	26	Alert
Basement Mechanical Room	Domestic Water Pump			
Basement Mechanical Room	Heat Strip 1			
Basement Mechanical Room	Heat Strip 2			
Basement Mechanical Room	Heat Strip 3			
Refrigerator Room	Panel A			
Refrigerator Room	Panel AA			
Refrigerator Room	Panel B			
Garage Ramp Storage Room	Fire Pump Disconnect			NL



**THERMOGRAPHIC
REPORT # 1**

AREA: Rooftop West Penthouse

EQUIPMENT:
Exhaust Fan 2 (South) Disconnect

COMPONENT:
Fuse

Date: 10/04/2021

Time: 7:37 AM

Reference Temperature:
90 °F

Maximum Temperature:
113 °F

Temperature Rise:
23 °F

Severity - Alert

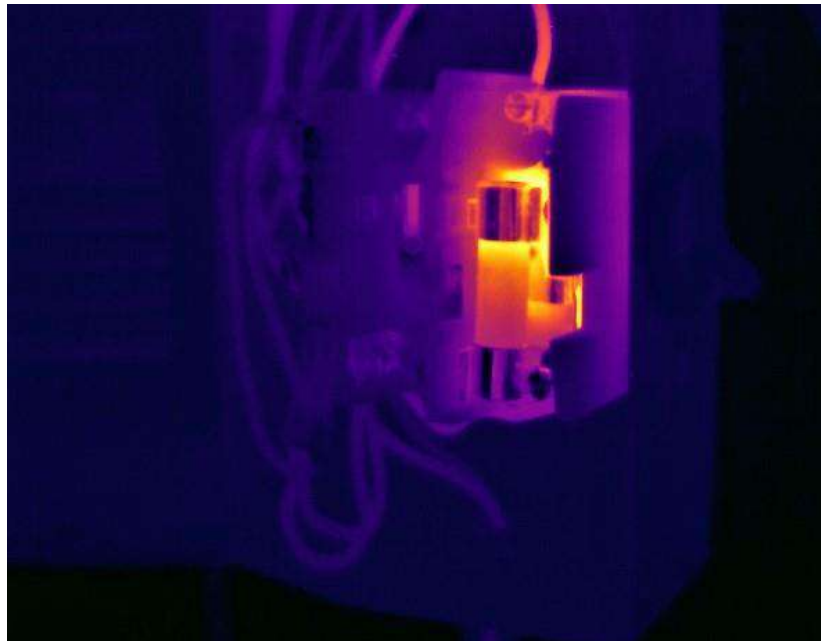
Temperature Rise Above

* Reference

Rating: 20 A

Amperage Rating:

Phase B: 4.5



Description:

Fuse and Fuse Clip heating as indicated, Phase B, Load Side.

Recommendations:

Clean/Tighten Fuse Clip Connection. Replace Fuse Block if necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 2**

AREA: Floor 16 Electrical Room

EQUIPMENT:
Panel 16 PA

COMPONENT:
Circuit Breaker 25

Date: 10/04/2021
Time: 8:07 AM

Reference Temperature:
80 °F
Maximum Temperature:
87 °F

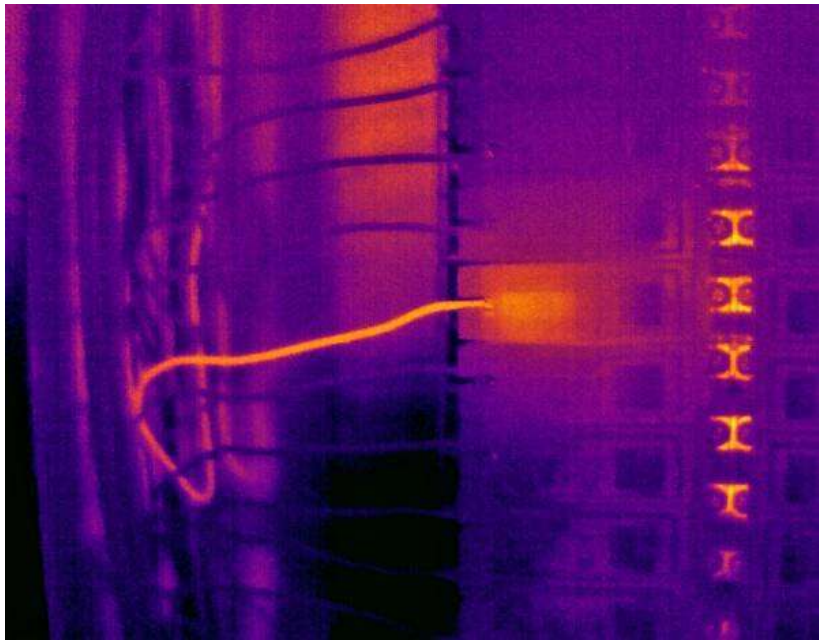
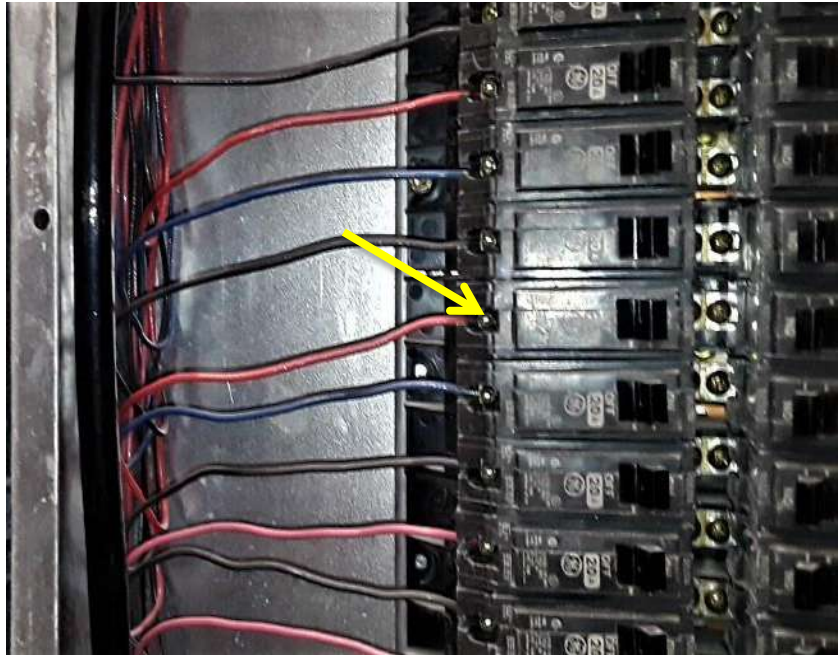
Temperature Rise:
7 °F

Severity - Minor

Temperature Rise Above
* Reference

Rating: 20 A

Amperage Rating:
Phase A: 1



Description:
Breaker and Wire heating as Indicated, Phase A, Line Side.

Recommendations:
Clean/Tighten Lug Connection. Repair/Replace as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 3

AREA: Floor 14 Electrical Room

EQUIPMENT:
Panel P14

COMPONENT:
Circuit Breaker 35

Date: 10/04/2021
Time: 10:02 AM

Reference Temperature:
78 °F

Maximum Temperature:
93 °F

Temperature Rise:
15 °F

Severity - Minor

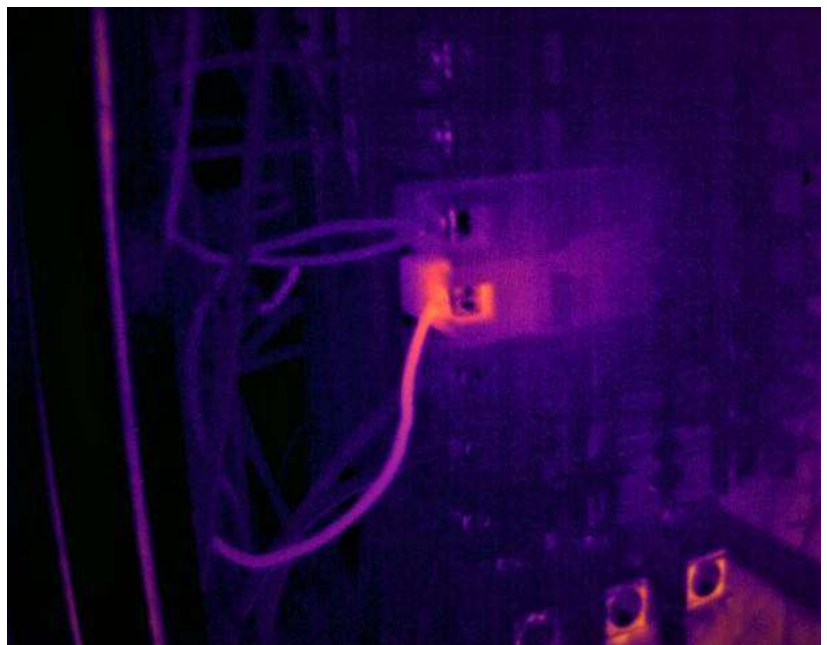
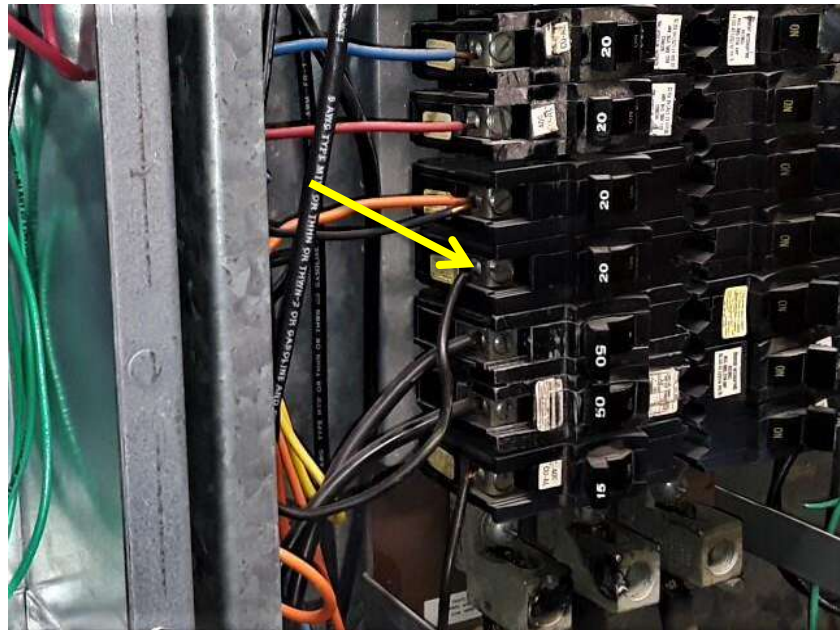
Temperature Rise Above

* Reference

Rating: 20 A

Amperage Rating:

Phase C: 3



Description:

Breaker and Wire heating as indicated, Phase C, Line Side.

Recommendations:

Clean/Tighten Lug Connection. Repair/Replace as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 4**

AREA: Floor 12 Electrical Room

EQUIPMENT:
Emergency Lighting Panel

COMPONENT:
Wire

Date: 10/04/2021
Time: 10:59 AM

Reference Temperature:
78 °F
Maximum Temperature:
110 °F

Temperature Rise:
32 °F

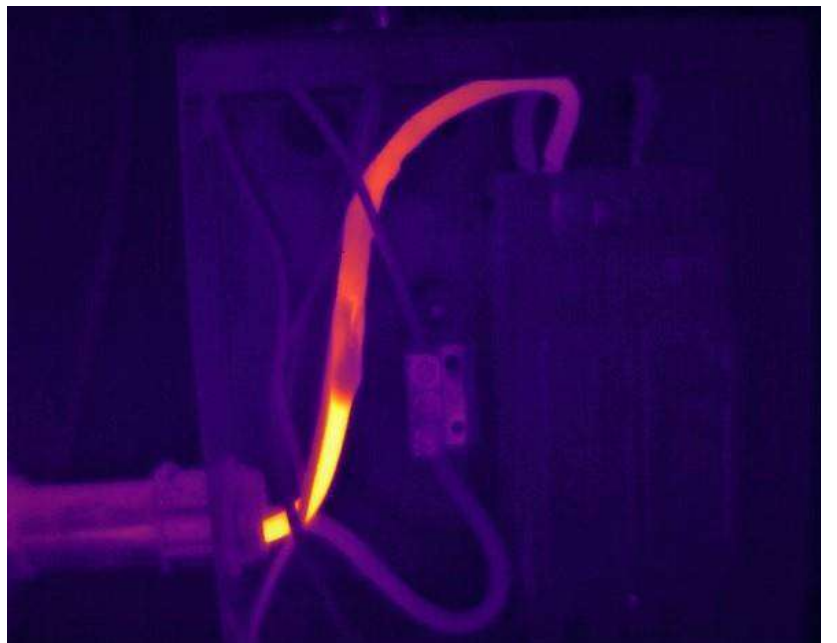
Severity - Alert

Temperature Rise Above

* Direct Measurement

Rating: 20 A

Amperage Rating:
Phase A: 2



Description:

Wire heating as indicated, Phase A, Load Side.

Recommendations:

Reconnect Wire Splice. Replace Wire as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 5

AREA: Floor 9 Electrical Room

EQUIPMENT:
Panel L9

COMPONENT:
Circuit Breaker 8

Date: 10/04/2021
Time: 2:11 PM

Reference Temperature:
72 °F
Maximum Temperature:
81 °F

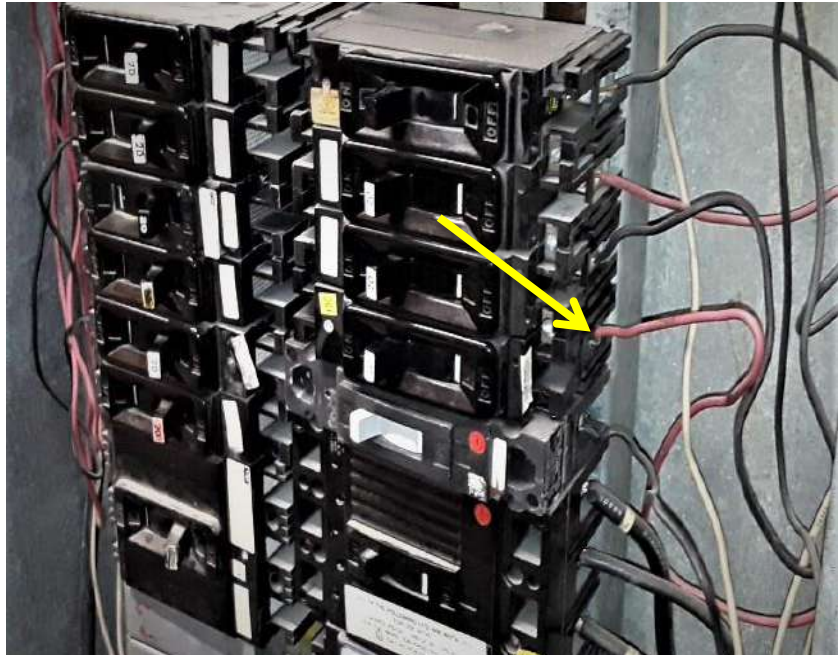
Temperature Rise:
9 °F

Severity – Minor

Temperature Rise Above
* Reference

Rating: 20 A

Amperage Rating:
Phase A: 2



Description:
Breaker Lug heating as indicated, Phase A, Line Side.

Recommendations:
Clean/Tighten Connection. Repair/Replace as necessary.

Rating	Temp. Rise	Recommendation
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 6

AREA: Floor 8 Mechanical Room

EQUIPMENT:
AHU 8 Panel

COMPONENT:
Heat Strip 1 Fuse

Date: 10/04/2021
Time: 2:36 PM

Reference Temperature:
76 °F
Maximum Temperature:
116 °F

Temperature Rise:
40 °F

Severity - Serious

Temperature Rise Above

* Adjacent Phase

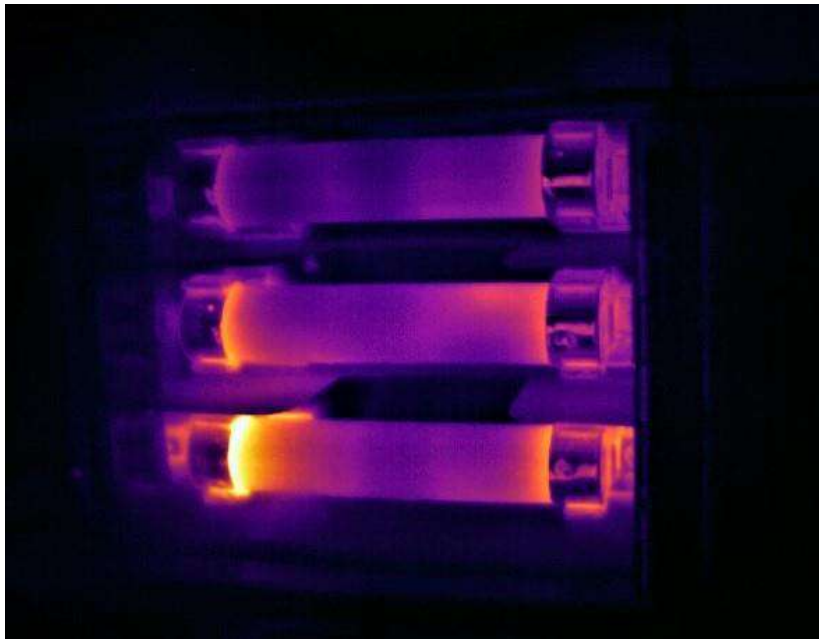
Rating: 60 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuse/Fuse Clip heating as indicated, Phase C, Line Side.

Recommendations:

Clean/Tighten Fuse Clip connection. Repair/Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 7

AREA: Floor 8 Mechanical Room

EQUIPMENT:
Heater Control Box 8

COMPONENT:
Heat Strip 1 Fuses

Date: 10/04/2021
Time: 2:54 PM

Reference Temperature:
77 °F

Maximum Temperature:
Phase A: 108°F B: 106°F C:102°F

Temperature Rise:
Phase A: 31 °F B: 29°F C:25°F

Severity - Alert

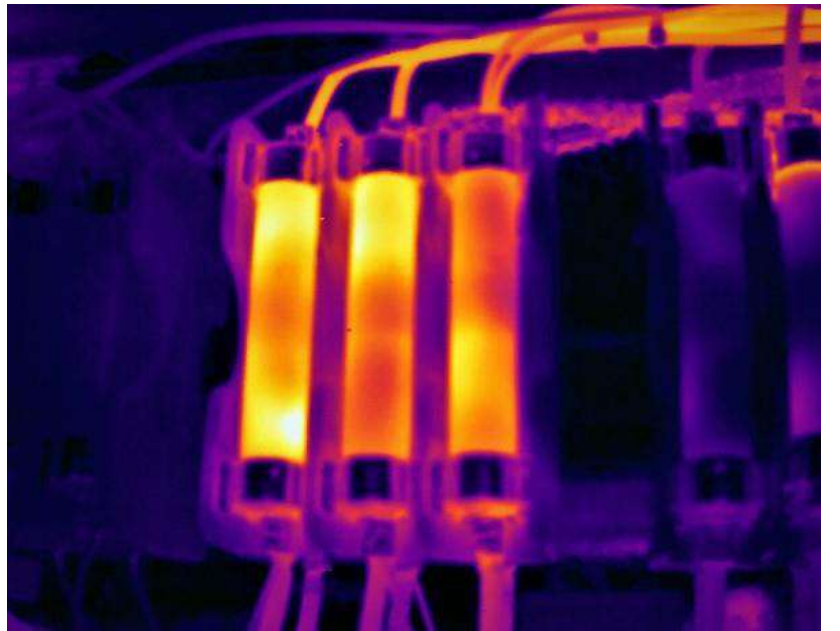
Temperature Rise Above

* Direct Measurement

Rating: 45 A

Amperage Rating:

Phase A: 34
Phase B: 34
Phase C: 34



Description:

Fuses heating as indicated, Phases A, B, and C, Line and Load Sides.

Recommendations:

Clean/Tighten Fuse Connections. Replace Fuses/Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 8

AREA: Floor 8 Electrical Room

EQUIPMENT:
Panel J8

COMPONENT:
CB 3-4 Bolt on Connections

Date: 10/04/2021
Time: 3:08 PM

Reference Temperature:
81 °F
Maximum Temperature:
126 °F

Temperature Rise:
45 °F

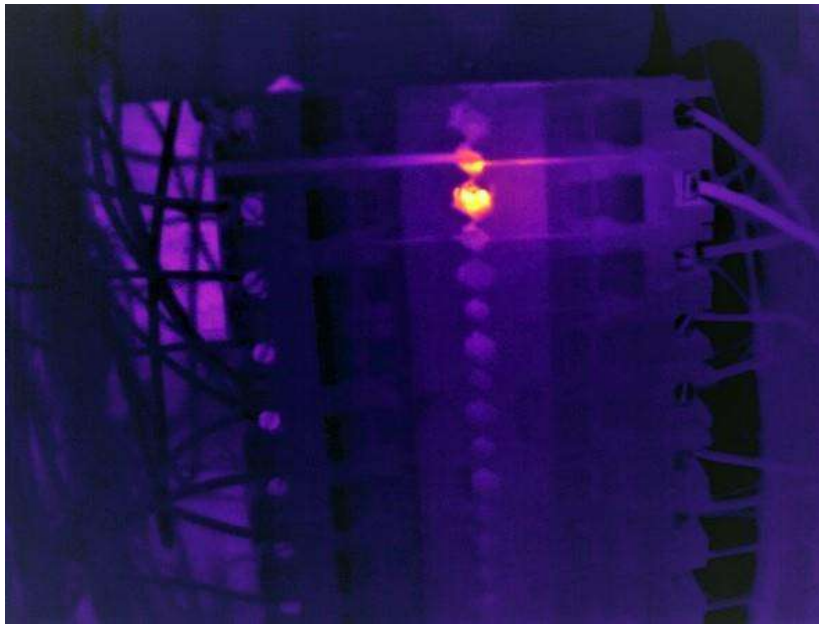
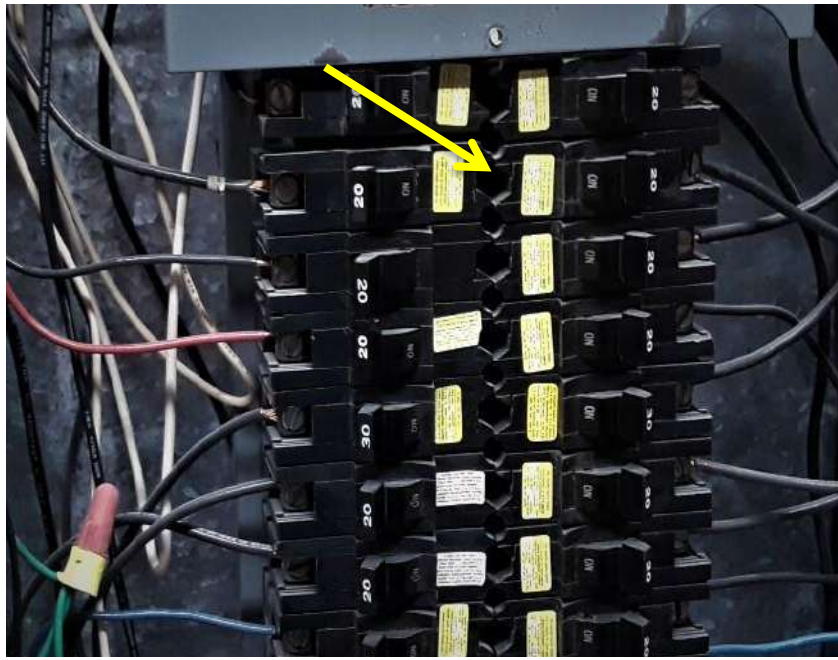
Severity - Serious

Temperature Rise Above

* Direct Measurement

Rating: 20 A

Amperage Rating:
CB 3 - Phase B: 0
CB 4 - Phase B: 5



Description:

Circuit Breaker Bolt on Connections heating as indicated, Phase B, Line Side.

Recommendations:

Clean/Tighten Bolt on Connections between Breakers. Replace Breakers.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 9

AREA: Floor 5 Mechanical Room

EQUIPMENT:
AHU 5 Panel

COMPONENT:
Heat Strip 1 Fuse

Date: 10/05/2021
Time: 9:24 AM

Reference Temperature:
76 °F
Maximum Temperature:
145 °F

Temperature Rise:
69 °F

Severity - Critical

Temperature Rise Above

* Adjacent Phase

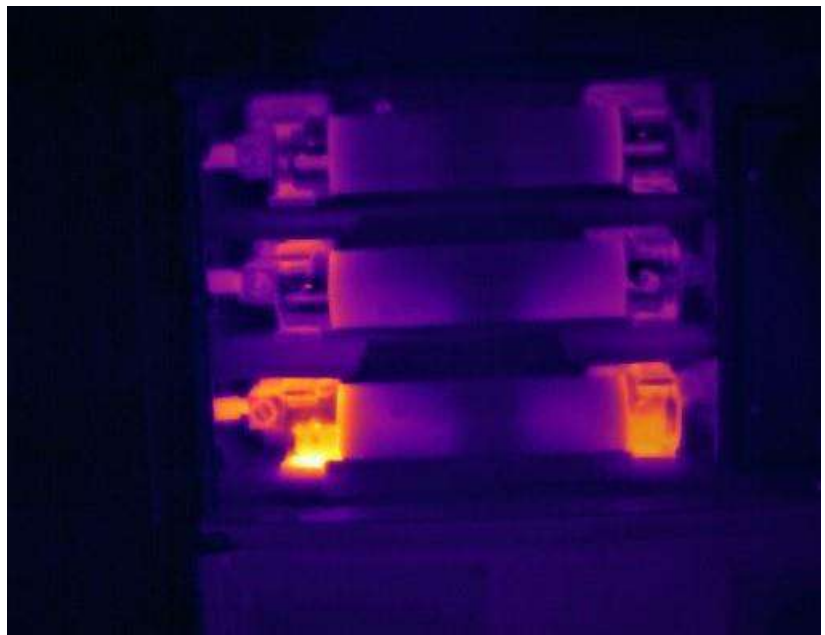
Rating: 60 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuse/Fuse Clip heating as indicated, Phase C, Line and Load Side.

Recommendations:

Clean/Tighten Fuse/Fuse Clip. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 10

AREA: Floor 5 Mechanical Room

EQUIPMENT:
AHU 5 Panel

COMPONENT:
Heat Strip 2 Fuses

Date: 10/05/2021
Time: 9:27 AM

Reference Temperature:
83 °F

Maximum Temperature:
Phase A:113 °F B:122 °F C:110 °F

Temperature Rise:
Phase A:30 °F B: 39 °F C:27 °F

Severity – Alert/Serious

Temperature Rise Above

* Reference

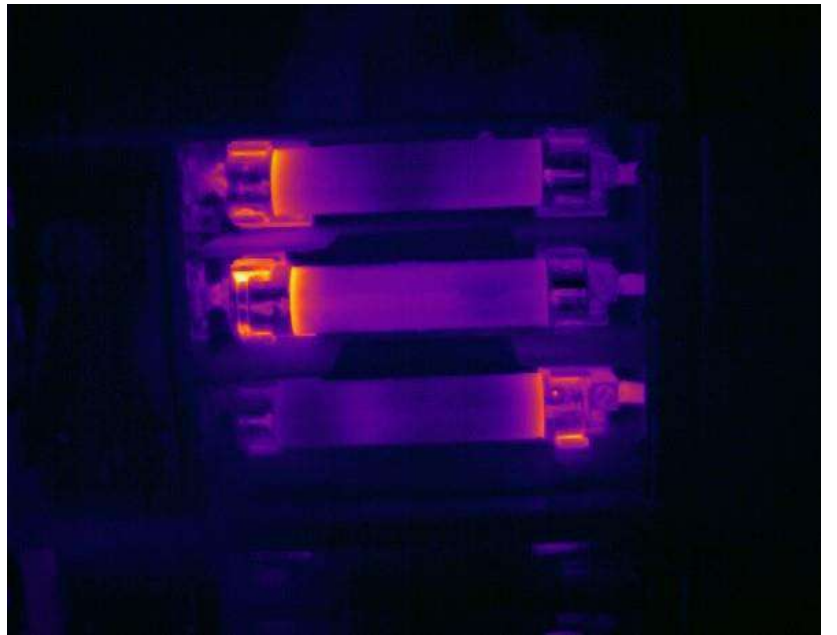
Rating: 60 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuses heating as indicated, Phase A, Line Side, Phase B, Line Side, Phase C, Load Side.

Recommendations:

Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 11**

AREA: Floor 5 Mechanical Room

EQUIPMENT:
Heater Control Box 5

COMPONENT:
Heater 1 Fuses

Date: 10/05/2021
Time: 9:36 AM

Reference Temperature:
89 °F
Maximum Temperature:
Phase B: 109 °F C: 112 °F
Temperature Rise:
Phase B: 20 °F C: 23 °F

Severity - Alert

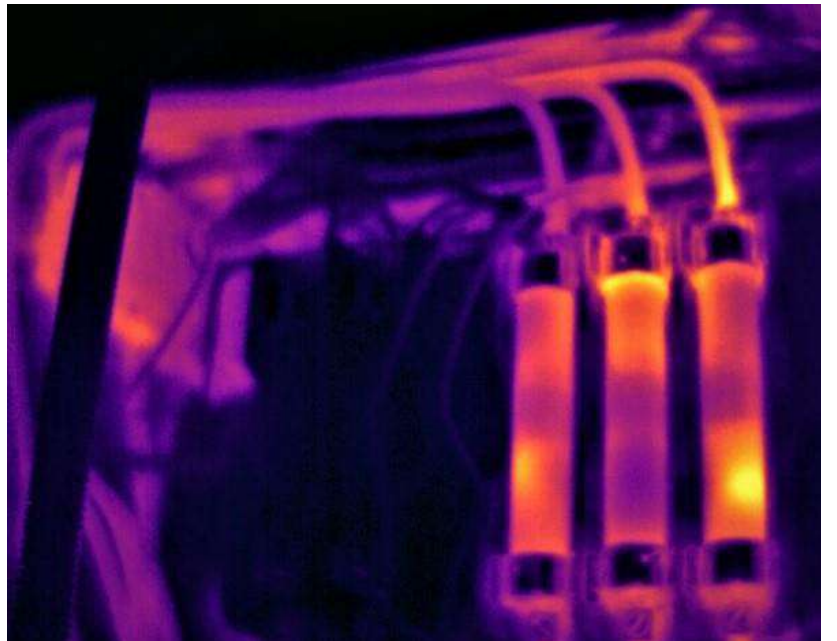
Temperature Rise Above

* Adjacent Phase

Rating: 45 A

Amperage Rating:

Phase A: 34
Phase B: 34
Phase C: 34



Description:

Fuses heating as indicated, Phase B, Line Side, Phase C, Load Side.

Recommendations:

Clean/Tighten Fuses/Fuse Clips. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 12

AREA: Floor 5 Mechanical Room

EQUIPMENT:
Heater Control Box 5

COMPONENT:
Heater 2 Contactor

Date: 10/05/2021
Time: 9:40 AM

Reference Temperature:
95 °F
Maximum Temperature:
121 °F

Temperature Rise:
26 °F

Severity - Alert

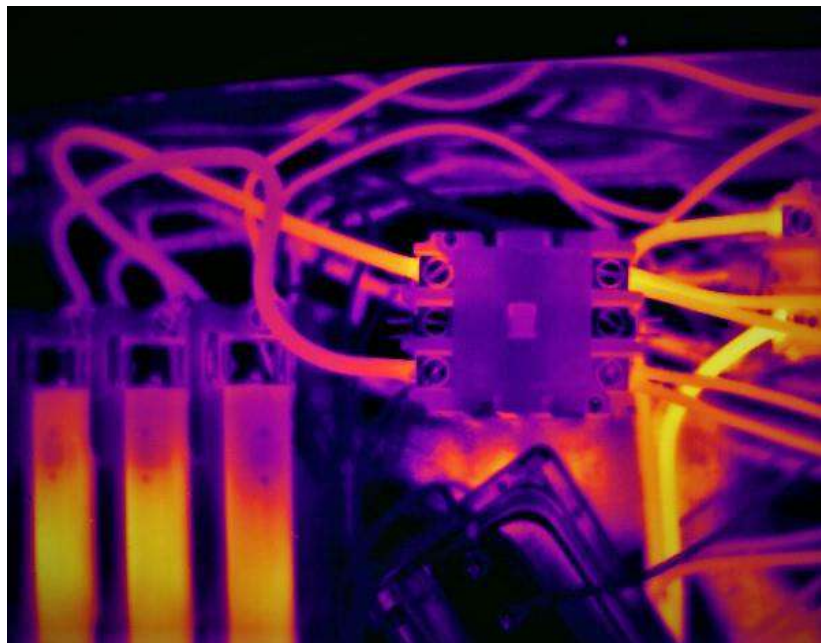
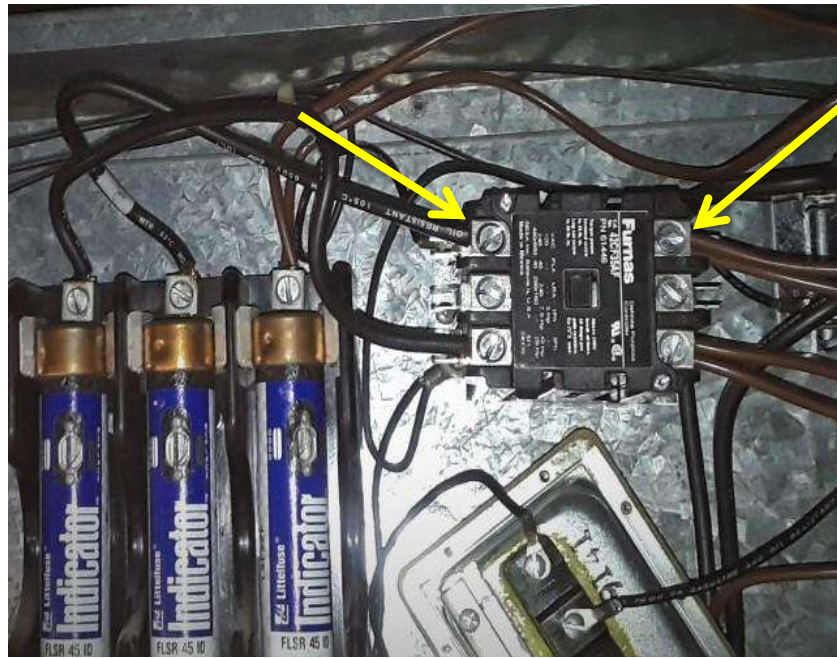
Temperature Rise Above

* Adjacent Phase

Rating: 60 A

Amperage Rating:

Phase A: 33
Phase B: 33
Phase C: 33



Description:

Wire heating as indicated, Phase A, Line and Load Sides.

Recommendations:

Re-wire Contactor. Replace as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 13

AREA: Floor 3 Mechanical Room

EQUIPMENT:
AHU 3 Panel

COMPONENT:
Heat Strip 1 Fuse

Date: 10/05/2021
Time: 11:16 AM

Reference Temperature:
79 °F
Maximum Temperature:
95 °F

Temperature Rise:
16 °F

Severity - Minor

Temperature Rise Above

* Adjacent Phase

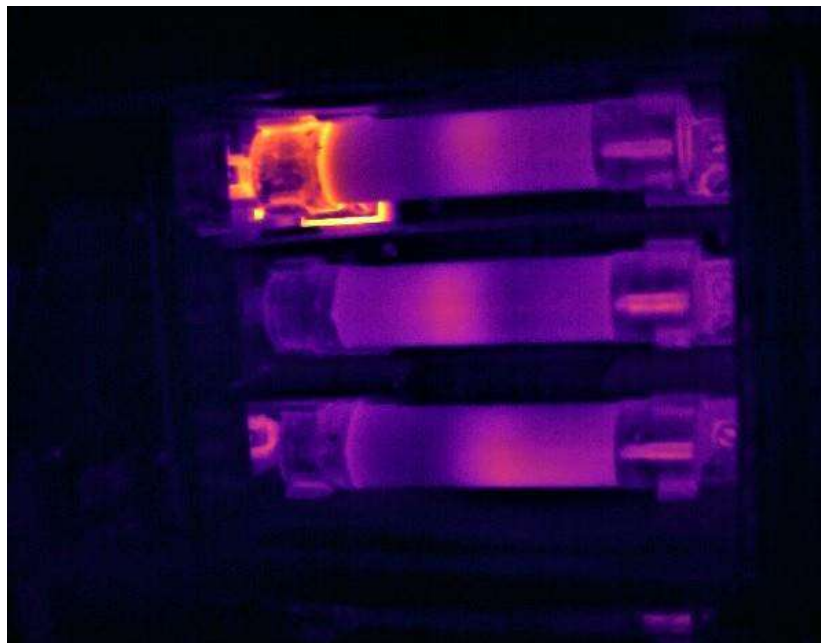
Rating: 60 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuse/Fuse Clip heating as indicated, Phase A, Line Side.

Recommendations:

Clean/Tighten Fuse/Fuse Clip. Replace Fuse Block as necessary.

Rating	Temp. Rise	Recommendation
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 14

AREA: Floor 3 Mechanical Room

EQUIPMENT:
Heater Control Box 3

COMPONENT:
Heater 1 Fuse

Date: 10/05/2021
Time: 11:50 AM

Reference Temperature:
91 °F
Maximum Temperature:
129 °F

Temperature Rise:
38 °F

Severity - Serious

Temperature Rise Above

* Adjacent Phase

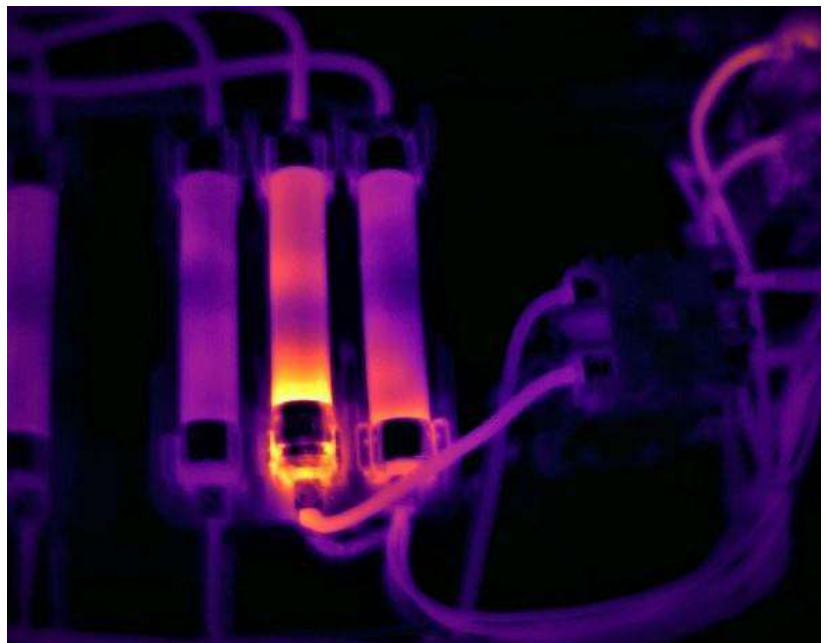
Rating: 45 A

Amperage Rating:

Phase A: 34

Phase B: 34

Phase C: 33



Description:

Fuse/Fuse Clip heating as indicated, Phase B, Line Side.

Recommendations:

Clean/Tighten Fuse/Fuse Clip. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 15**

AREA: Floor 3 Electrical Room

EQUIPMENT:
Panel L3

COMPONENT:
Circuit Breaker 4

Date: 10/05/2021
Time: 1:23 PM

Reference Temperature:
79 °F
Maximum Temperature:
98 °F

Temperature Rise:
19 °F

Severity - Alert

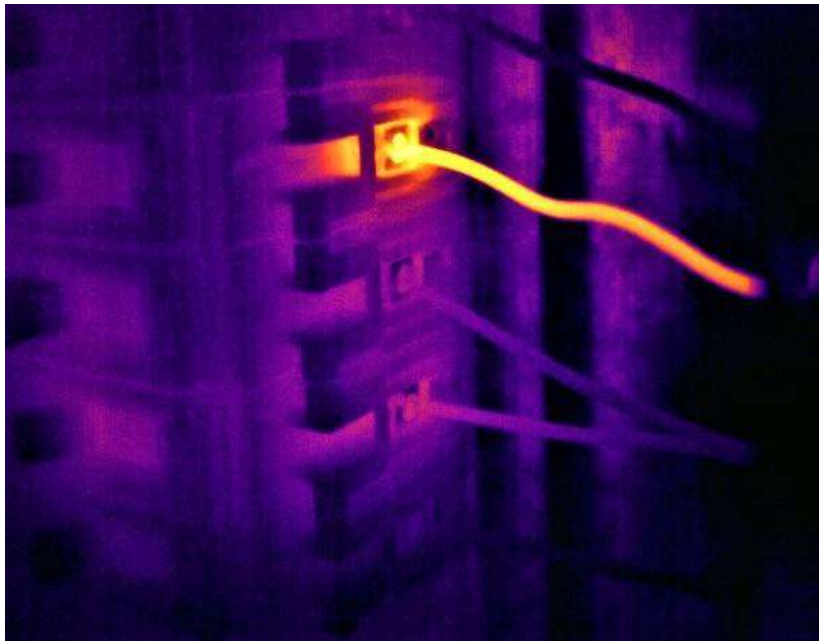
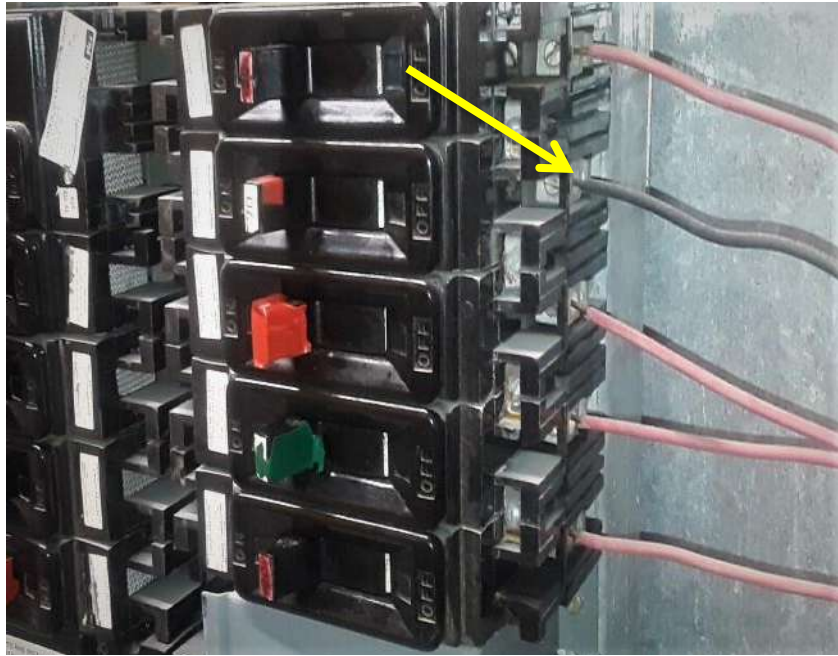
Temperature Rise Above

* Direct Measurement

Rating: 20 A

Amperage Rating:

Phase B: 16.6



Description:

Wire heating as indicated. Circuit Overloaded, Phase B, Line Side.

Recommendations:

Reduce the Load on Circuit. Tighten all Connections.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 16**

AREA: Floor 2 Mechanical Room

EQUIPMENT:
AHU 2 Panel

COMPONENT:
Heat Strip 1 Fuse

Date: 10/05/2021

Time: 2:02 PM

Reference Temperature:
79 °F

Maximum Temperature:
96 °F

Temperature Rise:
17 °F

Severity - Minor

Temperature Rise Above

* Adjacent Phase

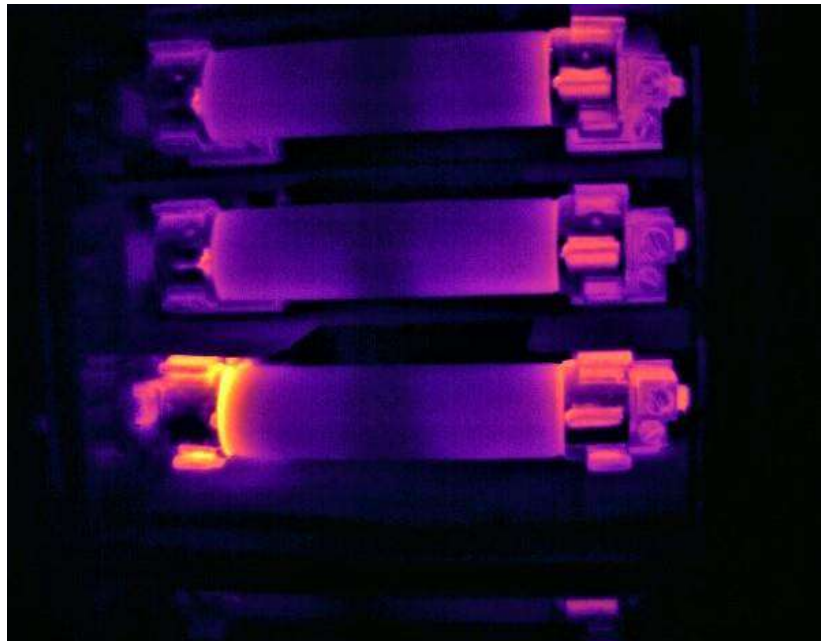
Rating: 60 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuse/Fuse Clip heating as indicated, Phase C, Line Side.

Recommendations:

Clean/Tighten Fuse/Fuse Clip. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 17**

AREA: Floor 2 Mechanical Room

EQUIPMENT:
AHU 2 Panel

COMPONENT:
Heat Strip 2 Fuses

Date: 10/05/2021
Time: 2:12 PM

Reference Temperature:
Phase A:75 °F C:84 °F
Maximum Temperature:
Phase A:124 °F C:108 °F
Temperature Rise:
Phase A:49 °F C:24 °F

Severity – Alert/Serious

Temperature Rise Above

* Adjacent Phase

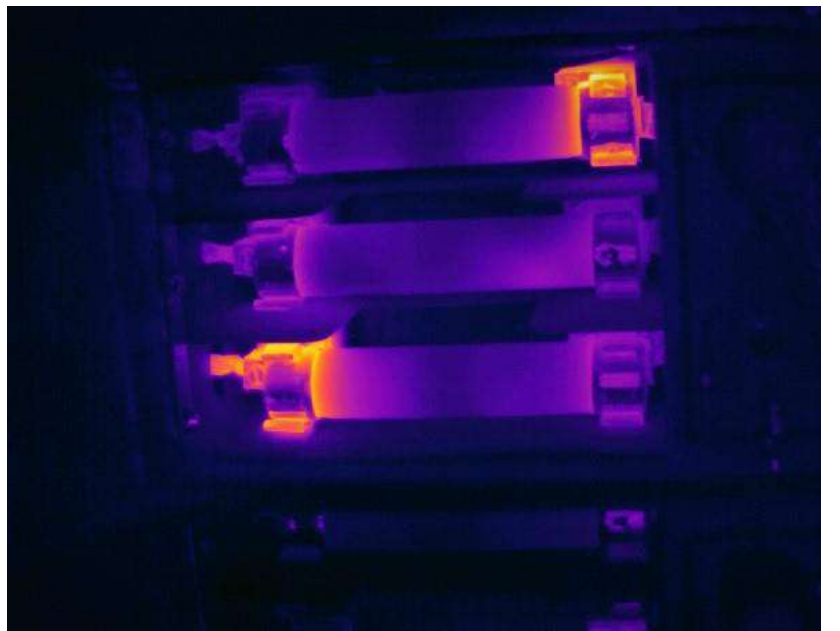
Rating: 60 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuses/Fuse Clips heating as indicated, Phase A, Line Side, Phase C, Load Side.

Recommendations:

Clean/Tighten Fuses/Fuse Clips. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 18**

AREA: Floor 2 Mechanical Room

EQUIPMENT:
Heater Control Box 2

COMPONENT:
Heater 2 Contactor

Date: 10/05/2021
Time: 2:21 PM

Reference Temperature:
85 °F
Maximum Temperature:
142 °F

Temperature Rise:
57 °F

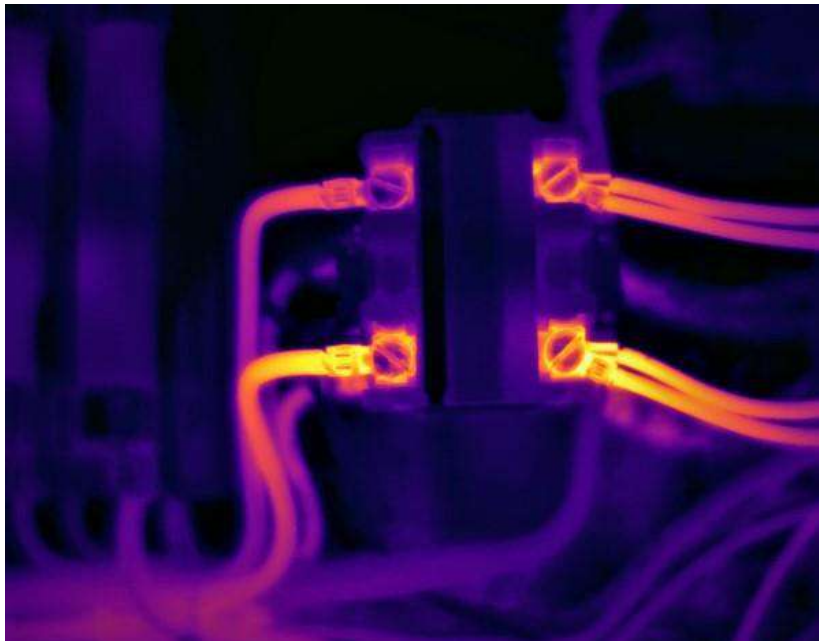
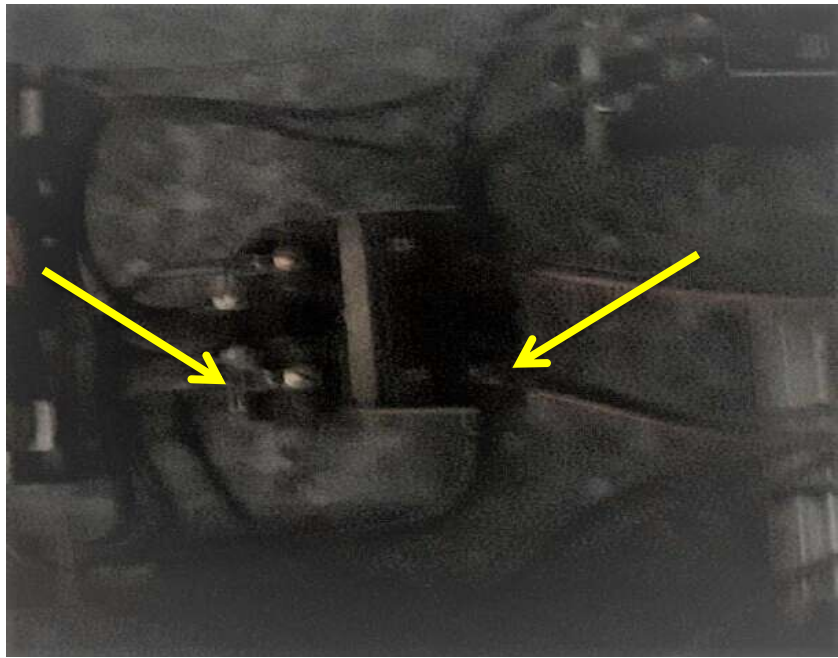
Severity - Critical

Temperature Rise Above

* Direct Measurement

Amperage Rating:

Phase A: 33
Phase B: 33
Phase C: 33



Description:

Contactor/Wiring heating as indicated, Line and Load Sides.

Recommendations:

Replace and Re-wire Contactor as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 19**

AREA: Floor 2 Electrical Room

EQUIPMENT:
Panel L2

COMPONENT:
Circuit Breaker 6

Date: 10/05/2021
Time: 1:47 PM

Reference Temperature:
79 °F
Maximum Temperature:
121 °F

Temperature Rise:
42 °F

Severity - Serious

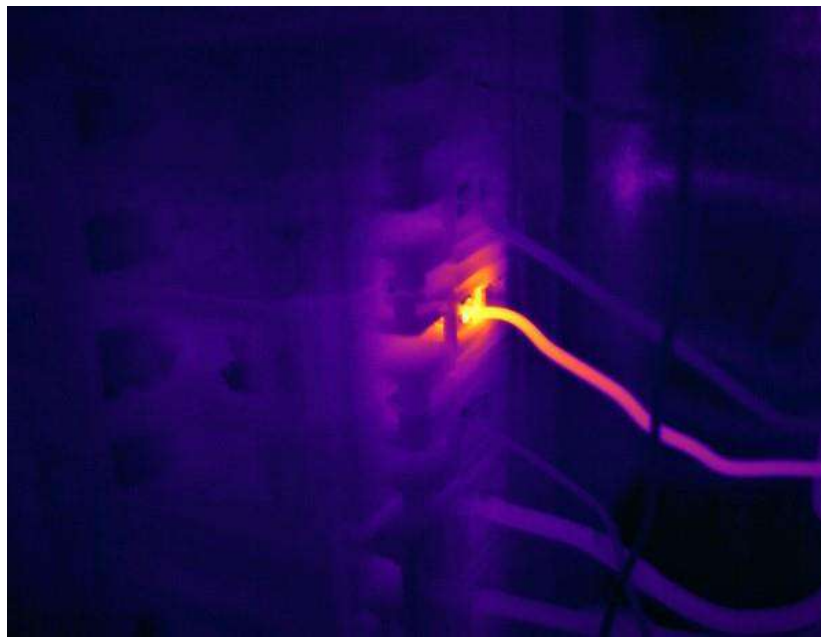
Temperature Rise Above

* Adjacent Phase

Rating: 20 A

Amperage Rating:

Phase C: 4.2



Description:

Wire heating as indicated, Phase C, Line Side.

Recommendations:

Clean/Tighten Breaker Lug Connection. Replace Breaker as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



THERMOGRAPHIC REPORT # 20

AREA: Floor 1 Mechanical Room

EQUIPMENT:
AHU 1 Panel

COMPONENT:
Heat Strip 1 Fuses

Date: 10/05/2021
Time: 2:41 PM

Reference Temperature:
81 °F

Maximum Temperature:
Phase B: 107 °F C: 102 °F

Temperature Rise:
Phase B: 26 °F C: 21 °F

Severity - Alert

Temperature Rise Above

* Adjacent Phase

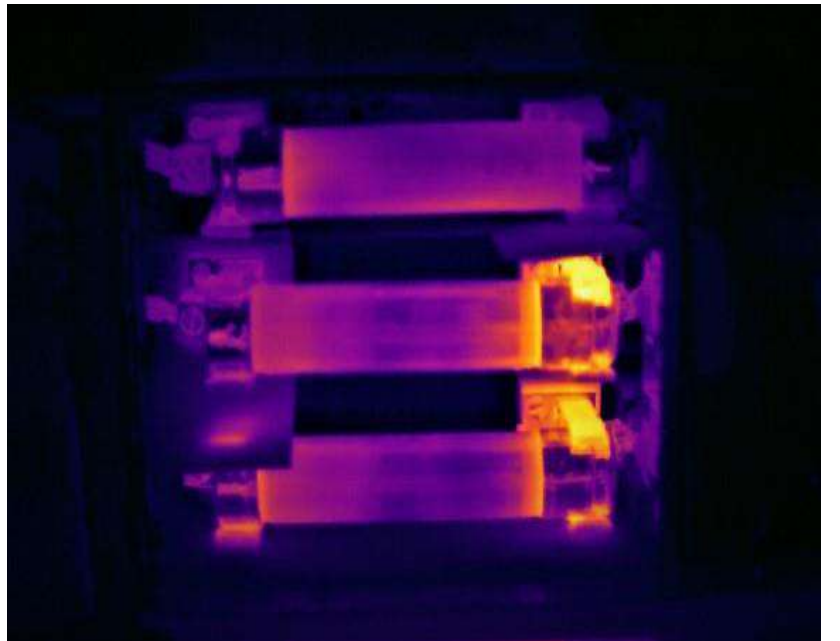
Rating: 40 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuses/Fuse Clips heating as indicated, Phases B and C, Line Sides.

Recommendations:

Clean/Tighten Fuses/Fuse Clips. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 21**

AREA: Floor 1 Mechanical Room

EQUIPMENT:
AHU 1 Panel

COMPONENT:
Heat Strip 2 Fuse

Date: 10/05/2021
Time: 2:46 PM

Reference Temperature:
75 °F
Maximum Temperature:
91 °F

Temperature Rise:
16 °F

Severity - Minor

Temperature Rise Above

* Adjacent Phase

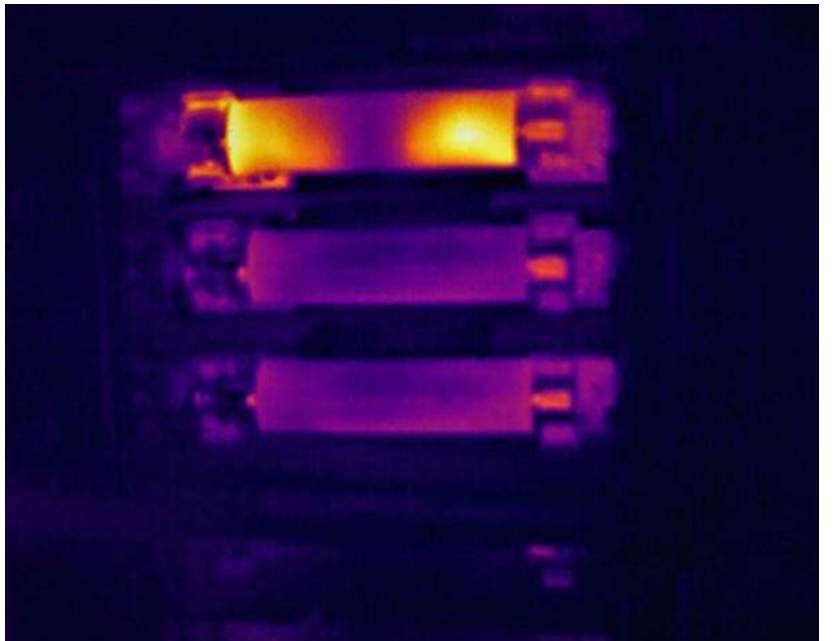
Rating: 40 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuse heating as indicated, Phase A, Line and Load Sides.

Recommendations:

Clean/Tighten Fuse Connection. Replace Fuse as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 22**

AREA: Chiller Room

**EQUIPMENT:
Panel ME**

**COMPONENT:
Circuit Breaker 2/4/6**

**Date: 10/05/2021
Time: 7:31 AM**

**Reference Temperature:
81 °F
Maximum Temperature:
94 °F**

**Temperature Rise:
13 °F**

Severity - Minor

Temperature Rise Above

*** Adjacent Phase**

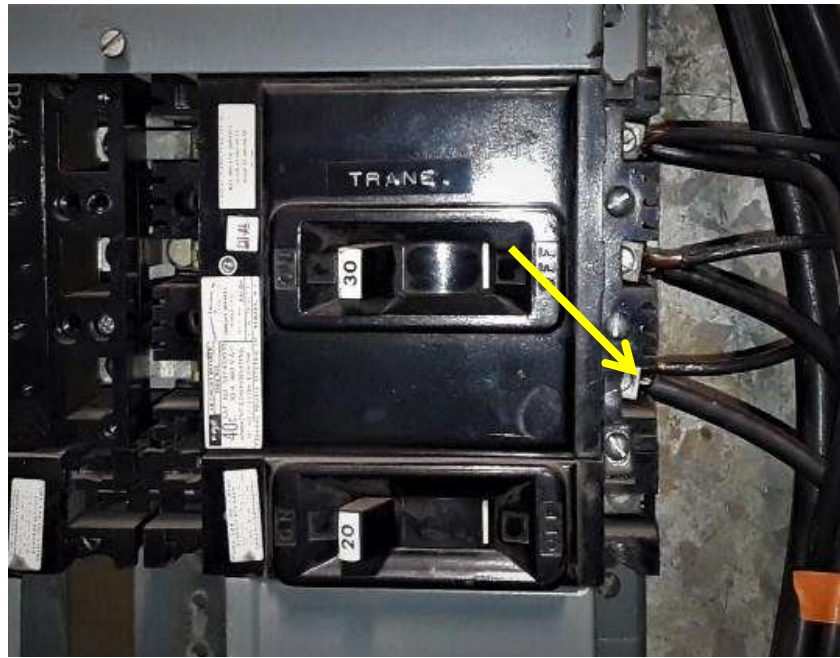
Rating: 30 A

Amperage Rating:

Phase A: 7

Phase B: 6

Phase C: 12



Description:

Breaker Lug heating as indicated, Phase C, Line Side.

Recommendations:

Check/Tighten Breaker Lug connection. Replace Breaker as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 23**

AREA: Chiller Room

**EQUIPMENT:
MCC-2 Chill Water Pump No 1**

**COMPONENT:
Fuse**

**Date: 10/05/2021
Time: 7:51 AM**

**Reference Temperature:
101 °F
Maximum Temperature:
126 °F**

**Temperature Rise:
25 °F**

Severity - Alert

Temperature Rise Above

*** Adjacent Phase**

Rating: 30 A

Amperage Rating:

Phase A: 20

Phase B: 20

Phase C: 19



Description:

Fuse heating as indicated, Phase A, Load Side.

Recommendations:

Clean/Tighten Fuse Clip. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 24**

AREA: Chiller Room

**EQUIPMENT:
MCC-2 Chill Water Pump No 2**

**COMPONENT:
Contactor**

**Date: 10/05/2021
Time: 8:04 AM**

**Reference Temperature:
128 °F
Maximum Temperature:
170 °F**

**Temperature Rise:
42 °F**

Severity - Serious

Temperature Rise Above

*** Adjacent Phase**

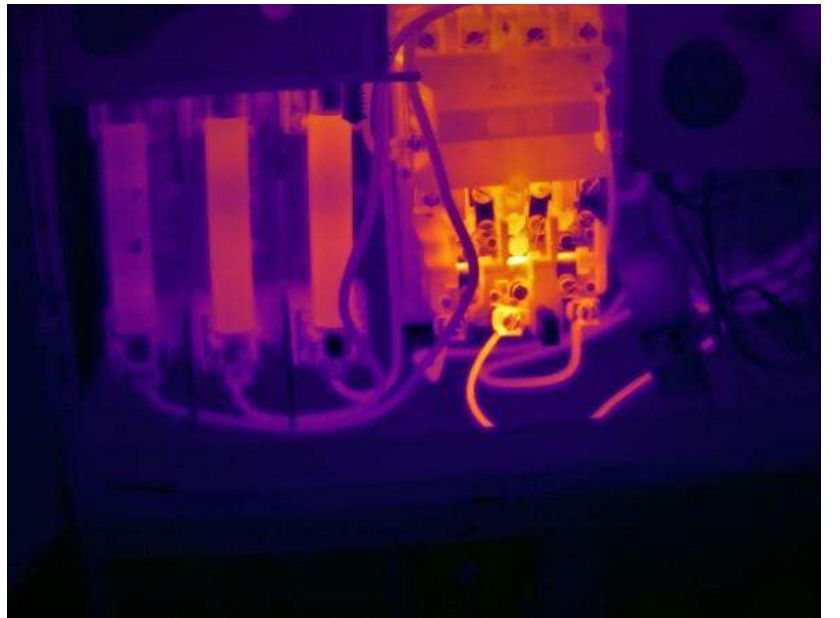
Rating: 30 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Contactor/Wiring heating as indicated, Phase A, Load Side.

Recommendations:

Replace and Re-wire Contactor as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 25**

AREA: Chiller Room

EQUIPMENT:
MCC-2 Condenser Pump No 2

COMPONENT:
Fuse

Date: 10/05/2021
Time: 7:46 AM

Reference Temperature:
101 °F
Maximum Temperature:
121 °F

Temperature Rise:
20 °F

Severity - Alert

Temperature Rise Above

* Adjacent Phase

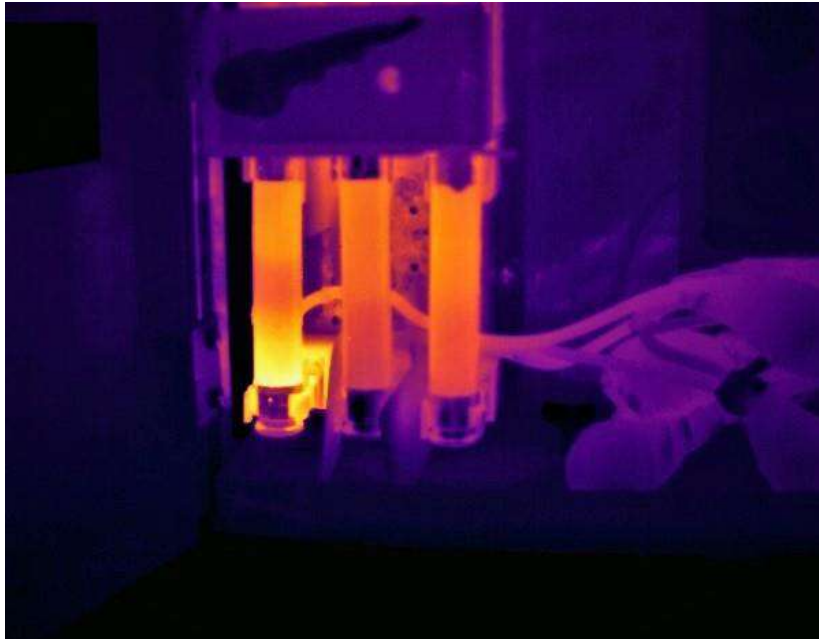
Rating: 40 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuse/Fuse Clip heating as indicated, Phase A, Load Side.

Recommendations:

Clean/Tighten Fuse/Fuse Clip. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!



**THERMOGRAPHIC
REPORT # 26**

AREA: Basement Mechanical Rm

EQUIPMENT:
Basement AHU

COMPONENT:
Fuses

Date: 10/05/2021

Time: 3:15 PM

Reference Temperature:
85 °F

Maximum Temperature:
Phase A:111 °F B:110 °F C:104 °F

Temperature Rise:
Phase A: 26 °F B: 25 °F C: 19 °F

Severity - Alert

Temperature Rise Above

* Adjacent Phase

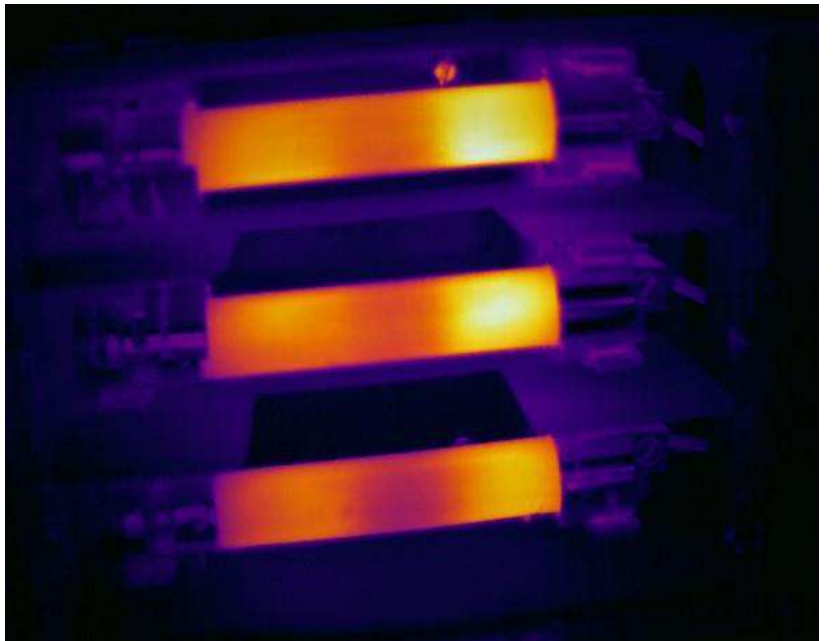
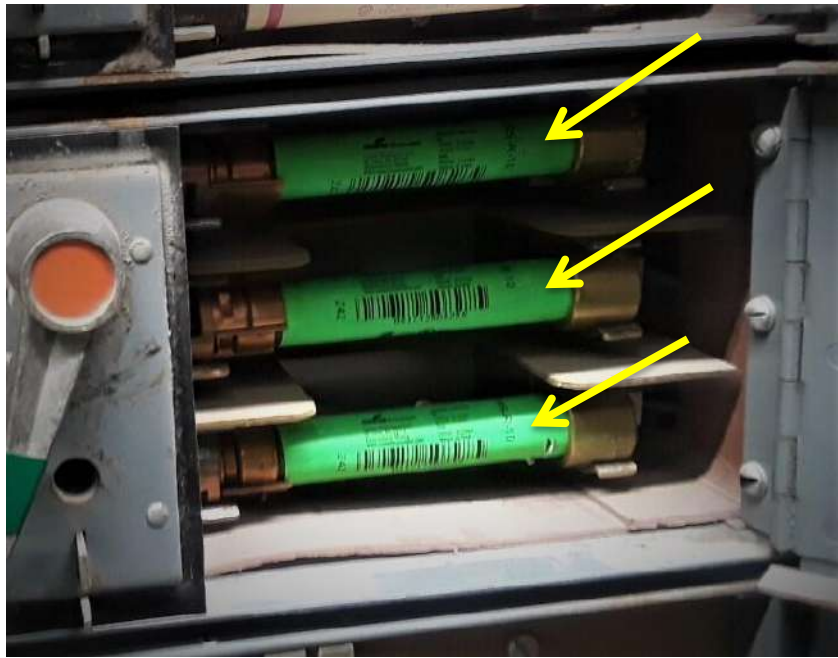
Rating: 10 A

Amperage Rating:

Phase A: N/A

Phase B: N/A

Phase C: N/A



Description:

Fuses heating as indicated, Phases A, B, and C, Load Sides.

Recommendations:

Clean/Tighten Fuses/Fuse Clips. Replace Fuse Block as necessary.

<u>Rating</u>	<u>Temp. Rise</u>	<u>Recommendation</u>
Minor	1-18 °F	Routine, Repair during regular maintenance, little chance of physical damage.
Alert	19-36 °F	Repair within 30 days, watch load and inspect for physical damage.
Serious	37-54 °F	Repair/Replace ASAP. Inspect surrounding components for physical damage.
Critical	55+ °F	Immediate repair/replace. Danger exists!