

SAMPLE EXAMPLE



Thermographic Inspection – Electrical Busway Feeding Air Handling Units (AHUs)

Project: _____

Date of Inspection: _____

Location: _____

Inspector: _____

System ID: _____

Load at Time of Test: _____%

Busway ID: _____

Ambient Temperature: _____

1. Purpose

To verify that the electrical busway supplying air handling units is operating within acceptable thermal limits under typical operating load, identifying potential hotspots or loose terminations that could lead to failure.

2. References

- NFPA 70B – Recommended Practice for Electrical Equipment Maintenance
- IEEE Std 141 – Electrical Power Distribution for Industrial Plants
- Manufacturer's busway installation & maintenance manual
- Project Basis of Design and Commissioning Plan

3. Safety

- Work to be performed under live energized conditions – follow facility Energized Work Permit requirements.
- PPE: Arc-rated clothing, insulated gloves, face shield, safety footwear.
- Maintain minimum approach distances per arc flash label.

4. Pre-Inspection Checks

Item	Completed (Y/N)	Notes
IR camera calibration confirmed		
Emissivity set for metallic surfaces (0.90 with electrical tape)		
Load verified $\geq 40\%$ of rated		
Area cleared for safe access		
Busway identification confirmed with drawings		

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5. Inspection Points & Temperature Recording

Acceptance Criteria: $\Delta T \leq 10^{\circ}\text{C}$ above ambient or $\leq 5^{\circ}\text{C}$ difference between phases under balanced load.

Component / Location	Phase A (°C)	Phase B (°C)	Phase C (°C)	Neutral (°C)	Ambient (°C)	ΔT Max	Severity Code*	Observations / Actions
Main Feed – Termination End								
Main Feed – Load End								
AHU #___ Tap-Off Unit – Line Side								
AHU #___ Tap-Off Unit – Load Side								
Coupler Joint #___								

Severity Code Legend

- S1 – Acceptable: Within limits, no action required.
- S2 – Monitor: $\Delta T > 10^{\circ}\text{C}$ but $\leq 20^{\circ}\text{C}$ – retest after torque verification.
- S3 – Critical: $\Delta T > 20^{\circ}\text{C}$ or signs of damage – immediate corrective action.

6. Image Documentation

- Attach thermal image and visible light image for each inspected component.
- Annotate image with location ID, measured temp, and ambient temp.

7. Findings & Recommendations

Finding ID	Severity	Description	Recommended Action	Responsible Party	Target Completion
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8. Sign-Off

Inspector: _____ Date: _____

Commissioning Authority: _____ Date: _____