

# A Thermography Success Story



## What is Thermography?

Infrared “thermographic” scans are non-contact, non-destructive examinations of a building’s electrical service panels and subpanels. These scans find abnormal thermal (heat) patterns or temperature differentials within the service panels. These thermal abnormalities may be an indication of a loose connection, overloaded circuit or phases, deteriorated or damaged insulation, or friction within the service panels.

A highly-sensitive infrared camera is used to scan the service panels. The camera used by our business partner, HSB, is the latest high definition FLIR infrared imaging system.

These photos illustrate how an infrared thermographic image will look.



## How and why do we use thermography?

The goal of an infrared thermographic scan is to proactively identify problems in an electrical system BEFORE there’s a failure. Business owners can plan for repairs rather than scrambling after a failure. It’s considered “best practice” to have a scan conducted on key electrical service systems every two to three years.

We look to use infrared thermographic scans for our customers who have a high electrical demand on the electrical system from production equipment and where a failure in the electrical system will lead to a significant interruption to business operations.

Scans are coordinated by West Bend’s Loss Control team. The scan is conducted by our business partners at HSB and their specialized thermography technicians. Our customer is required to have a “qualified” electrician participate in the scan to open service panels and disconnect panels for everyone’s safety. The cost of the electrical contractor is paid by the customer.

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## A Success Story

During an infrared scan at Daniels Sentry Foods, HSB Thermography identified that an industrial circuit breaker in the main breaker panel was operating at an excessively high temperature. The store had electricians onsite during the scan who planned to order a replacement immediately. However, it was discovered that the specific circuit breaker required for the 25-year-old panel was discontinued.


Unfortunately, it took the onsite electricians several weeks to identify alternative solutions. When they were unable to find a suitable option, management reached out to a larger electrical contractor, and they confirmed that while replacement circuit breakers for the panel weren't an option, they knew of a vendor that specialized in rebuilding obsolete circuit breakers.

The process of rebuilding and replacing the circuit breaker took about a month. As a grocery retailer, open seven days a week, downtime is not an option. If HSB Thermography had not detected the issue during the scan and the circuit breaker had failed completely, the store would have faced a critical situation. Finding a replacement or arranging for a rebuild after a failure would have been far more time-consuming, leaving the store potentially without power. The cost and impact on store operations—and ability to serve the community—would have been substantial.

Thanks to the proactive identification of the problem, management was able to address the issue before it became a crisis. Now, there's a clear plan for handling similar replacements in the future. The cost to repair the circuit breaker was \$2,134.

– Bill Melson Store Manager at Daniels Sentry Foods

Below is the image that captured the main disconnect switch problem.



A Munich Re company



P.O. Box 61509  
King of Prussia, PA 19406-0909  
Tel: (800) 333-4677  
Fax: (800) 801-3199  
www.hsb.com

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West Bend Insurance Company  
March 19, 2024

### Recommendations

#### Severe Recommendations

Rec. No.:	Initial/Follow-up:	Recommendation Status:	
2024-03-001	Initial	Open	
		Location Area:	Main Electrical Mezzanine
		Equipment Location:	Breaker Panel- A
		Equipment ID:	B Phase (Middle) Remote Switch Bus
		Est. Repair Cost Before Failure:	\$1,000.00
		Est. Repair Cost After Failure:	\$1,000.00
		Estimated % of Production:	10%
		Estimated Down Time:	4 Hours
			
Box 1 Max Temp	173.4°F		
Box 1 Temp Rise	100.7°F		

**Elevated Temperature**  
The B phase (middle) bus connection on the load side of the remote switch is showing an elevated temperature and damage to the bus. Due to the excessive temperatures and damage, it is recommended that the remote switch be replaced, and the bus repaired or replaced as needed. ELEVATED to **SEVERE** due to the possible downtime in the event of failure and the annealing of the bus. NOTE- The electrical contractor was ordering the new switch prior to departing the location.

This report does not purport to set forth all hazards nor to indicate that other hazards do not exist. By issuing this report, neither the Company nor any of its employees makes any warranty, express or implied, concerning the contents of this report. Furthermore, neither the Company nor any of its employees shall be liable in any manner (other than liability that may be expressed in any policy of insurance that may be issued by the Company) for personal injury or property damage or loss of any kind arising from or connected with this inspection or failure to inspect.

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HSB has many resources available to assist in loss control efforts.

For more information, go to:  
<https://www.munichre.com/hsb/en.html>.

Sign up for HSB's Equipment Breakdown Blog which automatically provides updates on various property and equipment breakdown loss prevention topics via email. Go to: <https://blog.hsb.com/>