

Customer Requirement:

Verify defroster wires in rear windows reach correct temp during test procedure

Banner Solution:

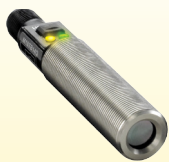
T-GAGE™ M18T Series

Why Banner?

Ease of use—because it requires no emitter, controller or external amplifier, the T-GAGE is easier for the customer to install, set up, maintain and troubleshoot compared to infrared imaging technologies

Customer Benefits:

- **Affordable solution**—the T-GAGE enables cost-effective testing of each defrost wire without requiring complicated maintenance
- **Improved quality control**—by leveraging the sensors' output data, the supplier can verify that window components have been fully tested and avoid noncompliance penalties



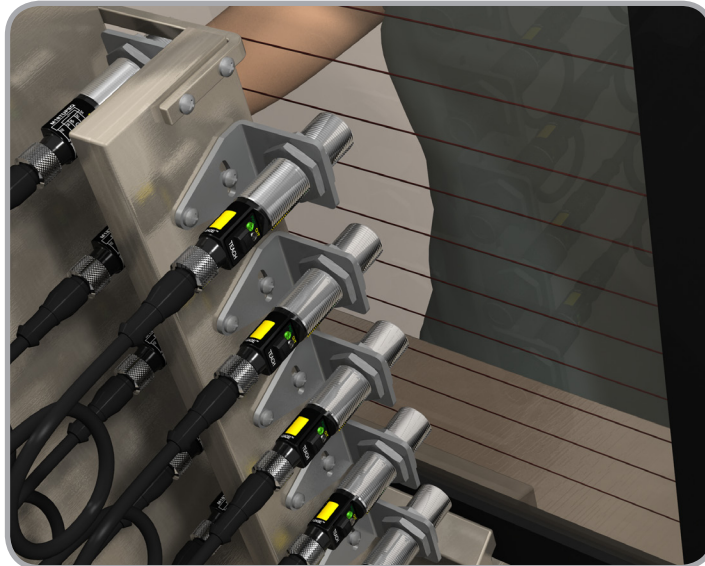
T-GAGE M18T Features:

- Passive infrared sensing
- Provides an analog output corresponding to temperature sensed
- Averages temperature within its field of view

More on bannerengineering.com:

- [T-GAGE M18T Overview](#)
- [Product Literature](#)

T-GAGE temperature sensor gives window supplier a more reliable product



T-GAGE sensors are installed in rear window test equipment. The solution helps the supplier verify that each defrost wire heats to specification prior to shipping the product to the automotive assembler.

Background

In the tier one automotive world, component testing is key. A single defective part in a production order and the manufacturer may scrap the entire shipment, placing potential re-testing and shipment costs on the supplier.

Challenge

An automotive manufacturer was rejecting a supplier's shipment of rear window assemblies due to faulty defroster grids. The supplier's existing test procedure measured current draw across the entire heating system to detect an overall failure, but it could not detect the subtle impact of a single heating wire being broken. The window supplier partnered with a Michigan-based machine automation company to create a better test fixture—one that can verify each defrost wire heats to specification prior to shipping.

Solution

Before Banner recommended the T-GAGE, the Michigan OEM was considering using infrared imaging technology. Infrared testing is complex, costly and requires end users to learn proprietary software and have PCs readily available. With the cost effective, self-contained and easy-to-use T-GAGE, the OEM was able to assign one temperature sensor per defrost wire for a comprehensive test fixture and procedure, enabling the supplier to produce a more reliable product.