

# New Wall Receptacle Technology Promotes Fire Safety

Michael Strauss, Chairman & CEO, BSafe Electrix, Inc.



Images courtesy of BSafe Electrix, Inc.



As new technology proliferates in the consumer electronics market (e.g., smartphones, iPads, and Google TV), a new technology has started to make its way into the vernacular of electrical contractors for installation in the consumer's home—the UL-listed TFCI™.

- high incidence of vibration during product use
- wide temperature and humidity fluctuations
- corrosive environments, for example salty air in oceanfront communities

## Technology Fills the Gap

It is a common misunderstanding that TFCI is not required because of the use of GFCI and AFCI devices. GFCIs only detect current leakage, i.e., current that is not returning on the correct path. AFCIs do not reliably detect series arcing for currents below 5 amps, a threshold that still can easily cause ignition. TFCI works on absolute temperature detection.

According to the U.S. Fire Administration (USFA), an entity of the Department of Homeland Security's Federal Emergency Management Agency, most electrical fires result from problems with fixed wiring, such as faulty electrical outlets and old wiring. Data from USFA shows that in 2006, more than 67,000 fires, 485 deaths, and \$868 million in property losses was caused by electrical wiring problems.

Liberty Mutual Group, a home insurer, along with the International Association of Fire Fighters reported in their 2006 Fire Safety Census that home fires are the number one concern for homeowners—more than tornadoes, terrorist attacks, hurricanes, earthquakes, floods, or wildfires.

In today's safety climate, there is no reason for an electrical fire to initiate at the wall outlet. Old units should be replaced, wiring checked at the connection, and TFCI technology should be installed throughout the home.

Just like smoke and CO2 detectors have become common safety practice for homeowners, so should TFCI technology. Electrical contractors now have something new to discuss with their customers. This simple solution adds peace of mind.

To learn more about TFCI technology, visit [www.FireSafeOutlets.com](http://www.FireSafeOutlets.com). ☎

*Michael Strauss is the former chairman and CEO of the Sherwood Group, a management advisory firm, founder and chairman of ExecuLeaders Forum for Marketing and Sales, and a member of several advisory boards.*

Developed by BSafe Electrix, the TFCI thermal cut-off technology receptacle joins the family of ground-fault circuit interrupters (GFCI) and arc-fault circuit interrupters (AFCI) to detect outlet overheating and subsequent fires. TFCI incorporates a multi-sensors thermal switch mechanism to discern abnormal temperature at each plug outlet and wiring screw terminal on the device and shut off electrical power.

If abnormal overheating occurs, an indicator with a red strip protrudes from the face of the receptacle, shutting off the load and eliminating the hazard. The device is not resettable, ensuring the consumer's safety. Since heat generated by a loose or faulty wire connection may still be present, the situation would necessitate inspection by a professional.

To the electrical contractor, the TFCI receptacle is exactly the same size as a standard wall receptacle, and installation is exactly the same.

To the consumer, the receptacle matches décor. The only difference is the small indicator pin in the center of the receptacle, barely noticeable when not engaged.

## Common Causes of Fire

TFCI technology can reduce the results of a "glowing connection," which is a series micro-arcing condition that can develop at a loose binding head screw connection, loose splicing wire connection, or on damaged insulated wire.

There are a number of contributing factors that lead to overheating and glowing connections, including:

- incompatibility between the wiring conductor materials and device terminal materials, i.e., expansion and contraction of the copper conductor around a steel binding head screw
- workmanship and installation techniques, i.e., insufficient, low-tightening torque is applied at the screw terminal or wire splicing connection at initial installation