Littelfuse setP™ Temperature Indicators Provide Improved Prevention of Overheating Damage to USB Type-C Connectors

Expanded portfolio helps prevent resistive faults in cables with USB Type-C connectors on each end

CHICAGO, June 4, 2019 — Littelfuse, Inc. (NASDAQ: LFUS) a global manufacturer of leading technologies in circuit protection, power control and sensing, today announced an expanded PolySwitch® setP™ series of digital temperature indicators, designed to protect USB Type-C and USB power delivery charging cables from dangerous overheating. The newest addition to the product family, the SETP0805-100-CC, is optimized for use in cables equipped with USB Type-C connectors at both ends.

Typical applications for SETP0805-100-CC temperature indicators include consumer electronics, primarily for mobile and wearable devices equipped with:

- USB Type-C cables (with a Type-C plug on each end)
- USB Type-C chargers (such as cables fixed or captive to a charger "brick" for laptops)

When dust, dirt, or other debris becomes trapped in a USB Type-C cable connector or the connector has deformed pins, it creates a resistive fault from the power line to ground, which can cause a dangerous temperature rise without increasing the current. When the temperature reaches the setP's indicating temperature (100°C), the setP switches from low resistance to very high resistance, shutting down the flow of power. Once the user disconnects the cable and removes the debris, the cable can resume normal operation.

The compact 0805 (mils) footprint of setP temperature indicators makes them at least 50 percent smaller than other solutions that require placing a device on the power line. The setP devices can be used to protect cables designed for 100 W of power or more.

"Market experts estimate the number of consumer electronics, wireless, and computing devices equipped with USB Type-C connectors sold each year will reach 5 billion by 2021, spurring demand for solutions that can protect cables and connectors from overheating damage," said Stephen Li, Global Product Manager at Littelfuse. "Like the original setP, this new addition to the series offers the smallest, most energy-efficient solution available on the market, making it simpler than ever to protect people and electronics against overheating."

The setP temperature indicators offer these key benefits:

- Their compact size and sensitivity to temperature helps to simplify, keeping the cable surface temperatures safe for users.
- The rigid structure is compatible with conventional assembly and molding operations used in cable and connector manufacturing.
- Being independent of power simplifies part selection and allows protecting systems that operate at 100 W of power or more.
- No disruption of the communication channel makes the setP an easy drop-in solution for reliable overtemperature protection for existing designs.

Availability

Both the original (single-end) setP series digital temperature indicator (part number SETP0805-100-SE) and the latest version (part number SETP0805-100-CC) are available as surface mount devices in tape and reel packaging in packs of 4,000 with a minimum order quantity of 20,000 pieces. Sample requests may be placed through authorized Littelfuse distributors worldwide. For a listing of Littelfuse distributors, please visit Littelfuse.com.