

circuit protection

SOLUTIONS

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New MEGA Protectors Safeguard High Amp Applications

With more high amp applications on vehicles than ever before, the time is right for MEGA® Protectors, Littelfuse's latest circuit protection breakthrough debuting at the SAE 2003 World Congress in Detroit. With amperage ratings going up to 500A, MEGA Protectors provide essential protection from short circuits in high amp applications.

Each new model year brings more electrical applications on vehicles,



and ensuing new requirements for circuit protection. OEMs have been taking protection of high amp electrical applications very seriously in recent years. Powerful batteries placed in non-traditional remote locations requiring long cable lengths running through firewalls make cables vulnerable to damage and resulting short circuits. MEGA Protectors are the newest solution from Littelfuse. OEM designers no longer need to place two MEGA

Fuses in parallel to protect applications such as battery or starter cables – one MEGA Protector will cover it.

MEGA Protectors are built on the proven design of Littelfuse's popular MEGA Fuse, the industry standard for high current automotive protection. MEGA Fuse is available in current ratings between 80 and 250 amperes at 32 volts, while MEGA Protectors cover the higher ratings between 300A and 500A in 25A

increments. MEGA Protectors feature the MEGA Fuse's renowned bolt-down design, ideal for high current automotive applications, and facilitating easy installation and replacement.

"To enable MEGA

Protector's higher current carrying capacity in a standard MEGA Fuse package, Littelfuse has specially engineered the fuse element shape and increased blade thickness," said Mike Sammons, Littelfuse Automotive Division General Manager. "With its one-piece skived element, low melting temperature diffusion technology and riveted housing, MEGA Protector is the only fuse of its kind on the market."

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SAE 2003
World Congress

Littelfuse at SAE 2003

At the SAE 2003 World Congress, the focus is on technologies that drive the development of tomorrow's vehicles. With high-current and high-voltage solutions, EV fuses and the industry's most comprehensive selection of automotive electronics devices, Littelfuse maintains the lead in circuit protection innovation. Stop by the Littelfuse booth at SAE to find out more.

Littelfuse booth # 3039 in Detroit Hall at Cobo Center will feature:

- The new MEGA Protector for high amp protection.
- Littelfuse's groundbreaking new surface mount overvoltage load dump protection device.
- Samples of CablePro® and the full line of Littelfuse circuit protection.
- Circuit protection experts from Europe, Asia and the Americas.

SAE 2003

Visit Littelfuse Booth # 3039 in Detroit Hall
The SAE International Congress and Exhibition
March 3-6, 2003
Cobo Center, Detroit, Michigan

Driving the Development of Tomorrow's Vehicles

For the first time at the SAE World Congress, automotive OEMs will display their advanced vehicle technology on the exhibition floor. More than ever, our industry is looking to the future of automotive design, as new technologies emerge every year to make vehicles more safe, comfortable, and environmentally friendly while boosting vehicle performance.

This year, the SAE 2003 World Congress Technical Program will focus on important core technology areas including advanced electronics, advanced materials, environment/emissions and safety/testing. Each of these issues is at the forefront of Littelfuse engineering as we drive the development of tomorrow's circuit protection. At the Littelfuse SAE booth, you can witness our commitment to each of these key technology areas:

Advanced Electronics: The Littelfuse booth will feature our complete line of voltage suppression and circuit protection devices for automotive electronics applications, recently reinforced by the addition of the well-respected line of Semitron products.

Advanced Materials: At SAE 2003 we will display our new high-clarity nylon housings for both MINI and MAXI Fuses.

Environment and Emissions: Littelfuse will also offer samples of our leading-edge EV fuses designed to meet the needs of zero emission vehicles. Littelfuse programs targeted at environmental protection also include the recent revamping of our product line for lead-free compliance.

Testing and Safety: The foundation of Littelfuse engineering is testing and safety. We provide the most extensive testing program of any circuit protection provider – in fact, every Littelfuse product is 100% inspected – and all Littelfuse products are designed to guarantee safety.

At Littelfuse, we believe that reliability and safety are cornerstones of innovation, and our commitment to these values has made us a leader in the circuit protection industry. We further that leadership by partnering with the world's automakers to drive the development of tomorrow's vehicles.

Mike Sammons
General Manager
Automotive Division

Littelfuse Strengthens European Team

Offering Localized Sales and Service

In our continuing effort to provide top customer service worldwide, Littelfuse has strengthened its European Sales and Marketing Group by reorganizing into regional teams.

Providing more localized service, concentrating on specific geographic areas, each team is headed by an Area Manager and supported by local circuit protection experts that will focus on the unique needs of the region.

With these important changes, Littelfuse customers in Europe are already gaining:

- *Faster responsiveness*
- *More personal attention*
- *Sales reps with superior market knowledge*
- *Streamlined ordering and delivery processes*

"Europe is one of the world centers for automotive development, and Littelfuse has always made a firm commitment to OEMs across the continent," said Mike Sammons, General Manager, Littelfuse Automotive.

"With the only complete product line offering all the automotive and electronics protection required by automotive OEMs, Littelfuse is proud to have been selected by the major European automakers as the standard for circuit protection in Europe.

The establishment of our new European team is our assurance to customers that we will build on this commitment."

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Introduction of Nylon Housings Continues

In 2003, Littelfuse is continuing the conversion to nylon housings for the MINI® and MAXI™ Fuses. The conversion for fuses sold in North America is almost complete, and Littelfuse is in the process of converting fuses sold in Europe and Asia, with completion expected by mid-2003. Customer



feedback has been extremely positive due to the vibrant, easily discernible colors. The advanced high-clarity nylon material

is well-suited for extreme under-the-hood conditions, providing a more durable housing with higher melting characteristics and insulation resistance. In addition, nylon offers increased color contrast for improved amperage recognition by OCR systems, as well as visibility of fuse elements through a more transparent housing, for blown fuse identification – with no cost increase to Littelfuse customers.

Awarded for Excellence

In 2002, Littelfuse's dedication to customers paid off with the presentation of several supplier awards.

Littelfuse Named AFL Supplier of the Year for the Second Year in a Row

For the second consecutive year, Littelfuse has been named Supplier of the Year by AFL Automotive, a division of Alcoa and leading global supplier of complete electrical distribution architecture. The award was presented at AFL's Annual Supplier Day in San Antonio, at an event with the company's top 20 suppliers.

"The award recognizes your outstanding performance supporting the AFL Supplier Rating System Metrics and your consistent commitment to customer satisfaction," said Greg Jones, Director of Purchasing for Alcoa Fujikura Limited, addressing Littelfuse Automotive. "Keep up the good work!"

Yazaki Presents Littelfuse with Award of Excellence

Littelfuse won an Award of Excellence from Yazaki, a global leader in vehicle power and data solutions, and advanced electronic technologies for vehicle applications. Yazaki's purchasing department selects a supplier for this award based on the company's *Purchasing Score Card*. Within the score card, each supplier must meet the following four criteria: cost reduction; quality; delivery; and S.A.V.E. (Supplier Achievement of Value Enhancement).

"Littelfuse is a preferred supplier of Yazaki and exemplifies the type of supplier Yazaki wants to work with and would consider for future business," said Brandon Dent of Yazaki North America Corporate Affairs & Communications. "At last year's event, Yazaki only awarded two suppliers with this distinguished award."

This was the first time Littelfuse received this award from Yazaki North America. The award was presented at Yazaki's Supplier Appreciation Day, where Mike Sammons, General Manager of the Littelfuse Automotive Division, gave a special presentation on Littelfuse quality.

New MEGA Protectors *continued from page 1*

MEGA protectors are available with stackable holders, and two-way and three-way busbars, to allow Littelfuse customers to customize vehicle over-current main protection units. For fuse selection purposes, Littelfuse has developed thermal-electrical SPICE modeling, which helps reduce test time and estimates fuse selectivity issues.

The 500A MEGA Protector is currently being used in the majority of Jaguar

vehicles, as well as the Mercedes Benz Maybach, and the 300A MEGA Protector is deployed in the Volkswagen Pheaton. Additional automotive OEMs are testing MEGA Protector in prototype vehicles.

Visit Littelfuse at booth #3039 during SAE 2003 to see samples of the new line of MEGA Protectors.



WORLDWIDE NEWS

■ **Littelfuse has opened a new North American distribution center** incorporating best practices in warehousing and distribution. The new facility – located in Elk Grove Village, near Littelfuse world headquarters in Des Plaines, Illinois – is 30% larger than the previous warehousing facility. During the planning process, Littelfuse benchmarked 10 best-in-class distribution operations, and designed the new facility to meet world-class quality standards. Littelfuse automotive customers will enjoy benefits including shorter turnaround time and improved quality control over order processing and shipping. Currently, the warehouse is serving automotive OEM and aftermarket customers, as well as handling North American electronics needs including overcurrent and overvoltage products.

■ **Littelfuse has acquired Semitron Industries** of Swindon, England, a manufacturer of transient voltage suppression devices that provide circuit protection for numerous markets including automotive. "The addition of Semitron's well-respected line of suppression products further validates Littelfuse's unrivaled position as the only company in the world that can offer all necessary automotive circuit protection technologies," said Mike Sammons, General Manager of Littelfuse's Automotive Division.

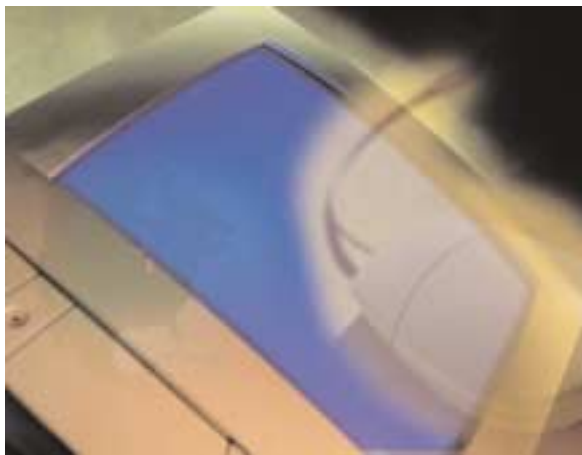
■ **Littelfuse is revamping product lines for lead-free compliance.** This major effort has been undertaken to support customer needs to meet emerging lead-free requirements such as the European Union directive on Waste Electrical and Electronic Equipment. To meet these requirements, Littelfuse is introducing lead-free variations of several key product families including surface mount Resettable PTCs. All lead-free components have been redesigned and modified to accommodate the higher soldering temperatures and more challenging placement requirements that are associated with lead-free manufacturing. In addition, the company will ensure that all existing products satisfy lead-free manufacturing requirements.

Updating the Littelfuse Website

Taking Littelfuse.com to the Next Level

Littelfuse.com has become the #1 method for customers to get technical information on Littelfuse products and applications. Recognizing the importance the Internet plays in the design and specification of circuit protection for the automotive market, Littelfuse is redesigning its website to better serve automotive customers who want to interact with Littelfuse online. Expected to be unveiled later this year, the new site will include expanded search functionality; a new, more modern design; improved technical and customer support functions; faster downloading; and easier access to the information our customers need.

Whether they are using littelfuseonline.com to transact via the Web or simply searching for product, engineering or contact information, Littelfuse automotive customers have been turning to the Web to do more of their business. With this in mind, we are including a market section that focuses on the needs of the automotive market, especially design engineers and



purchasing managers.

The new site will be more intuitive, and organized to enhance the user experience, making it easier to find and access up-to-

date news, technical resources and other information for online reading or downloading. Littelfuse is also employing the latest Web-based tools to ensure easy navigation within Littelfuse.com and between all related websites.

The new Littelfuse.com will also feature:

- *Dynamic new search capabilities.*
- *Easy online sample and literature ordering processes.*
- *Technical, financial and customer service FAQs.*
- *Comprehensive contact information for Littelfuse offices, sales people and distributors worldwide.*
- *Detailed tradeshow and event updates.*
- *Improved product information.*

"Our customers have been demanding greater access to a variety of information online," said Scott Hawkinson, Sales and

Marketing Manager, Littelfuse Automotive Division. "The new website will deliver that by providing more information and making it easier to find and use. We want Littelfuse.com to be a highly valuable and effective resource for all our automotive customers, providing easy access to Littelfuse 24 hours a day."

Littelfuse values your input. If you have suggestions for the Littelfuse website, send your email to shawkins@Littelfuse.com.



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