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LF PCN# A0089 Notification for Fuse Strip Voltage Rating Change

Dear Valued Customer,

Regarding the recent data sheet update on the max voltage Standards:

Strip fuses were designed to specific standards which are different from those for automotive. Such standards occasionally do not consider the maximum voltage during test and approval conditions. As an example the 157.5700.xxxx, 157.5701.xxxx, 157.5916.xxxx and 157.5917.xxxx series rated with 80V were designed on the DIN43560/1 for industrial trucks.

DK 621.316.923 : 621.868.2-83	DEUTSCHE NORM	Juli 1981
	Sicherungen für Elektro-Flurförderzeuge Streifen-Sicherungseinsätze 80 V	DIN 43 560 Teil 1
Fuses for battery powered industrial trucks; fuse-links 80 V		

This DIN electrical test procedure describes a breaking capacity testing at 80V but with I=0 (no current load). The real power load testing is starting from 48V with 600% of fuse rating. In other words, the specification requires the fuse to be tested under 48V during overload conditions even though the specification qualifies the product to 80V.

This standard is not valid anymore and no replacement specification has been issued.

As DIN43560/1 is no longer valid, Littelfuse has updated the datasheets to reflect the voltage rating based on typical automotive specifications which rate the fuse based on the maximum voltage applied during overload test. This was done in order to ensure that new projects consider these facts and the systems are designed properly.

There has not been any change to the actual product. If this fuse has been proven in the application, there is no need to change or redesign the system. The performance of the fuse has not changed.

6 Prüfung

Nennstrom ¹⁾ A	Prüfstromdauer bei		Schmelzzeit bei			Prüfung zwischen Klemmen DIN 46260 – CM 10 Anschlußleitung je 500 mm lang
	1,5fachem Nennstrom h	1,6fachem Nennstrom s min.	2,2fachem Nennstrom s max.	2,5fachem Nennstrom s	4fachem Nennstrom s	
35 50 63 80 100 125 160 200	1	–	60	0,8 bis 10	0,2 bis 2	50 mm ² Cu
250 300 355 425	–	60				

1) Sicherungseinsätze für Nennströme ab 200 A dürfen nicht dauernd mit Nennstrom belastet werden. Die zulässige Belastbarkeit ist durch die Leitung bestimmt (siehe DIN 57 117/VDE 0117, Ausgabe Mai 1976, Tabelle 1).

Ausschaltvermögen: 6facher Nennstrom

 Prüfstromkreis: 80 V – bei $I = 0$; 48 V bei $I = 6 I_N$; Zeitkonstante 3 ms

Kennlinienpunkte können mit reduzierter Spannung geprüft werden.

Test Procedure

For automotive and truck applications, it is important to consider vehicle conditions during component testing to automotive standards (ISO 8820). This will avoid problems during system level testing. Strip fuses do not necessarily follow such test specifications and therefore Littelfuse decided not to specify the strip fuse products as Automotive or Truck fuses.

1. Protection level

- The purpose of a fuse is to protect the wires in the circuit. With that load, a wide range of overloads should be specified and put in the protection considerations.
- Strip fuses, in general, offer less overload gates in comparison to current automotive fuse designs.
- Mostly low over definitions are not covered by strip fuses.
- Current automotive fuse designs protect more robustly and are approved to a lot of different component and system level test standards.



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2. Conclusion

The voltage change in the datasheets for the Littelfuse strip fuses was necessary due to the following factors:

- Industry specification changes/cancelation.
- Clarifying product performance for new applications to avoid wrong fuse selection.
- The need to change focus to new fuse types for better wire protection and more robustness in vehicles.

3. Final statement

The voltage rating reductions in the new data sheets for strip fuses are not impacting the fuse performance. The fuses are physically unchanged and their performance is the same. If this product has already been proven-out for an existing application, it should continue to perform in the same manner for that application.

Please contact your local Littelfuse representative if you have any additional questions. We will be pleased to answer any questions you may have. Thank you for your continued support.

Best Regards,

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