

# Specification for universal modular fuses

## Committees responsible for this Draft for Development

The preparation of this Draft for Development was entrusted by the Power Electrical Engineering Standards Policy Committee (PEL/-) to Technical Committee PEL/78, upon which the following bodies were represented:

Association of Supervisory and Executive Engineers  
 ERA Technology Ltd.  
 Electrical Installation Equipment Manufacturers Association (BEAMA Ltd.)  
 Electrical Power Engineers' Association  
 Electricity Supply Industry in England and Wales  
 Engineering Equipment and Materials Users Association  
 London Regional Transport

The following bodies were also represented in the drafting of the Draft for Development, through subcommittees and panels:

British Telecommunications plc  
 Electrical Contractors' Association  
 Electronic Components Industry Federation  
 Institution of Electrical Engineers  
 Ministry of Defence

This Draft for Development, having been prepared under the direction of the Power Electrical Engineering Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 31 December 1989

© BSI 02-2000

The following BSI references relate to the work on this Draft for Development:  
 Committee reference PEL/78

ISBN 0 580 17976 1

### Amendments issued since publication

Amd. No.	Date of issue	Comments

---

# Contents

	Page
Committees responsible	Inside front cover
National foreword	ii
<hr/>	
1 Gates	1
2 Types of UMF	1
3 Package size — Dimensions	1
4 Voltage ratings	1
5 Spacings for temperatures	1
6 Breaking capacity	1
7 Terminations	1
8 Type classification	1
<hr/>	
Publications referred to	Inside back cover
<hr/>	

# National foreword

This Draft for Development has been prepared under the direction of the Power Electrical Engineering Standards Policy Committee. It is identical with IEC 127-4 TTD:1989, “*Technical Trend Document (TTD) for Universal modular fuses (UMF)*”, published by the International Electrotechnical Commission (IEC). It includes the essential elements of future international standardization of a new type of fuselink now being referred to as universal modular fuses (UMF).

## Cross-reference

International Standard	Corresponding British Standard
IEC 97:1970	BS 5830:1979 <i>Specification for grid system for printed circuits</i> (Identical)

## This publication is not to be regarded as a British Standard

It is being issued in the Draft for Development series of publications and is of a provisional nature because the subject matter is in the process of development by IEC Technical Committee No. 32, Fuses. It should be applied on this provisional basis, so that information and experience of its practical application may be obtained.

A review of this Draft for Development will be carried out not later than two years after its publication. Notification of the start of the review period, with a request for the submission of comments from users of this Draft for Development, will be made in an announcement in the appropriate issue of *BSI News*. According to the replies received, the responsible BSI committee will judge whether the Draft for Development can be converted into a British Standard or what other action should be taken.

## Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 and 2, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

## Characteristics of UMF

### 1 Gates

A harmonized UMF gate  $1.25/_{n}$  ("non-fusing") and  $1.7/_{n}$  ("fusing"). This means a fuse-link shall not operate within 1 h at  $1.25/_{n}$  and shall operate within 300 s at  $1.7/_{n}$ .

### 2 Types of UMF

For the time being, the following types are covered:

- a) fuse-links, through hole radial type;
- b) fuse-links, surface mount type.

Fuse-links for use with holders are not covered for the time being.

Since the pin spacing of axial type fuse-links is determined by the user, it is impossible to make such fuse-links non-interchangeable. Therefore they have not been included.

### 3 Package size — dimensions

Dimensions will be established on the basis of envelope dimensions. A distinctive marking for UMF will be introduced to avoid confusion with non-UMF types which may fit within the same envelope dimensions.

### 4 Voltage ratings

Standard voltage ratings (r.m.s. values) are:

- 63 V
- 125 V
- 250 V

The need for higher a.c. voltages and for d.c. voltages is under consideration.

## 5 Spacings for terminations

The standard spacings are

(value for  $e$  as specified in IEC Publication 97)

$1e$  = 63 V low breaking capacity (LBC)

$2e$  = 125 V low breaking capacity (LBC)

$3e$  = 250 V low breaking capacity (LBC)

$4e$  = 250 V high breaking capacity (HBC)

## 6 Breaking capacity

Provisionally, the following values are being considered:

63 V                      35 A    or  $10/_{n}$  (1.0 power factor)

125 V                     50 A    or  $10/_{n}$  (1.0 power factor)

250 V (LBC) 100 A    (1.0 power factor)

250 V (HBC) 500 A    or higher (0.7 to 0.8 power factor)

## 7 Terminations

The cross-section is not defined, but the cross-sectional area shall be such that the terminations fit within a 1 mm diameter hole for fuse-links with radial leads.

## 8 Type classification

In addition to the standard harmonized gate (see Clause 1), supplementary overload gates will need to be defined, such as very quick acting (FF), quick acting (F), time-lag (T), and long time-lag (TT).



## Publications referred to

See national foreword.

---

---

# BSI — British Standards Institution

BSI is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by Royal Charter.

## Revisions

British Standards are updated by amendment or revision. Users of British Standards should make sure that they possess the latest amendments or editions.

It is the constant aim of BSI to improve the quality of our products and services. We would be grateful if anyone finding an inaccuracy or ambiguity while using this British Standard would inform the Secretary of the technical committee responsible, the identity of which can be found on the inside front cover. Tel: 020 8996 9000. Fax: 020 8996 7400.

BSI offers members an individual updating service called PLUS which ensures that subscribers automatically receive the latest editions of standards.

## Buying standards

Orders for all BSI, international and foreign standards publications should be addressed to Customer Services. Tel: 020 8996 9001. Fax: 020 8996 7001.

In response to orders for international standards, it is BSI policy to supply the BSI implementation of those that have been published as British Standards, unless otherwise requested.

## Information on standards

BSI provides a wide range of information on national, European and international standards through its Library and its Technical Help to Exporters Service. Various BSI electronic information services are also available which give details on all its products and services. Contact the Information Centre. Tel: 020 8996 7111. Fax: 020 8996 7048.

Subscribing members of BSI are kept up to date with standards developments and receive substantial discounts on the purchase price of standards. For details of these and other benefits contact Membership Administration. Tel: 020 8996 7002. Fax: 020 8996 7001.

## Copyright

Copyright subsists in all BSI publications. BSI also holds the copyright, in the UK, of the publications of the international standardization bodies. Except as permitted under the Copyright, Designs and Patents Act 1988 no extract may be reproduced, stored in a retrieval system or transmitted in any form or by any means – electronic, photocopying, recording or otherwise – without prior written permission from BSI.

This does not preclude the free use, in the course of implementing the standard, of necessary details such as symbols, and size, type or grade designations. If these details are to be used for any other purpose than implementation then the prior written permission of BSI must be obtained.

If permission is granted, the terms may include royalty payments or a licensing agreement. Details and advice can be obtained from the Copyright Manager. Tel: 020 8996 7070.