

Maximum road speed limiters for motor vehicles —

Part 2: Specification for system and component requirements

UDC 629.11-585.7

Confirmed
January 2011

NO COPYING WITHOUT BSI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

BSI
Documents

AVA

Document Sharing Hub

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Automobile Standards Policy Committee (AUE/-) to Technical Committee AUE/13, upon which the following bodies were represented:

- British Railways Board
- Bus and Coach Council
- Department of Transport (Highways)
- Department of Transport (TRRL)
- Freight Transport Association
- Health and Safety Executive
- Institute of Road Transport Engineers (Incorporated)
- London Regional Transport
- Ministry of Defence
- Road Haulage Association Ltd.
- Society of Motor Manufacturers and Traders Limited

This British Standard, having been prepared under the direction of the Automobile Standards Policy Committee, was published under the authority of the Board of BSI and comes into effect on 28 February 1990

© BSI 02-2000

The following BSI references relate to the work on this standard:
Committee reference AUE/13
Draft for comment 87/75795 DC

ISBN 0 580 17249 X

Amendments issued since publication

Amd. No.	Date of issue	Comments

Contents

	Page
Committees responsible	Inside front cover
Foreword	ii
1 Scope	1
2 Definitions	1
3 Durability and environmental performance	1
4 Marking	2
Appendix A System durability test	3
Appendix B Time and temperature stability test	3
Appendix C Transient voltage test severity levels	4
Appendix D Sinusoidal vibration test	4
Appendix E Additional tests	5
Figure 1 — Test layout	3
Figure 2 — Driving rain test: test cabinet nozzle arrangement (6 nozzles: 4 angled, 2 horizontal)	7
Table 1 — Maximum supply line interference levels	2
Table 2 — Transient voltage test severity levels	4
Publications referred to	Inside back cover

Foreword

This Part of BS AU 217 has been prepared under the direction of the Automobile Standards Policy Committee.

Part 1 of this standard deals with the requirements relating to the performance of the assembled system making up the speed limiter device when installed in a vehicle.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, 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.

1 Scope

This Part of BS AU 217 specifies requirements for the performance of systems and components designed to form part of a speed limiter intended to limit the maximum road speed of motor vehicles by control of engine power.

Appendix A gives a system durability test, Appendix B, a time and temperature stability test, Appendix C shows transient voltage test severity levels, Appendix D a sinusoidal vibration test and Appendix E gives additional tests which systems manufacturers may wish to include in their own specifications.

NOTE 1 Not all the requirements given will necessarily apply to every speed limiter system. For example, some are of a mechanical nature and therefore electrical characteristics will not be applicable.

NOTE 2 The titles of the publications referred to in this standard are listed on the inside back cover.

NOTE 3 All voltages are quoted for nominal 24 V systems and, in brackets, for 12 V systems i.e. 24(12).

2 Definitions

For the purposes of this Part of BS AU 217 the definitions given in BS AU 217-1 apply, together with the following.

2.1

permanent damage

damage sustained by a component or system which renders it inoperative. For the purpose of this definition the rupture of a fuse or the operation of other user serviceable circuit protection devices is not taken to be permanent damage

2.2

normal function

functioning in accordance with the requirements of Part 1 of this standard

2.3

failure to function

functioning outside the requirements of Part 1 of this standard but not suffering any permanent damage

2.4

nominal voltage

a voltage of 28(14) $\pm$ 1 V d.c

3 Durability and environmental performance

3.1 System durability

The system, in a condition equivalent to new, shall be tested in accordance with Appendix A and, after completion of the test, shall comply with the manufacturer's specification.

3.2 Time and temperature stability

The system, in a condition equivalent to new, shall be tested in accordance with Appendix B. During the procedures in **B.1** to **B.7** and **B.9** the sensed speed shall not differ from the set speed by more than 2 mile/h.

3.3 Electrical power supply

3.3.1 *Steady state voltage*

3.3.1.1 The system shall function normally when connected to a power supply in the range 20 V to 30 V (10 V to 16 V) d.c.

3.3.1.2 The system shall be tested at 10 V and 40 V (5 V and 20 V) d.c., for a period of 10 min at each, with a sweep between these maximum and minimum values. The change from nominal voltage to each extreme and from each extreme to nominal voltage shall take place over a time interval of 10 ms.

The system may fail to function but it shall not be permanently damaged and shall return to normal function when the power supply is returned to normal.

3.3.2 *Ripple*. Normal operation of the system shall not be affected by regular or irregular variations in voltage about the prevailing supply level (excluding transients) not exceeding 3 V (2 V) peak to peak in the range 10 Hz to 10 kHz.

3.3.3 *Reverse polarity*. The system may fail to function but it shall not be permanently damaged when subjected to a reversal of polarity of the supply referred to in **3.3.1.1** for 1 min and shall return to normal function when the power supply is returned to normal.

3.3.4 *Transients*. Tests for immunity to transients shall be conducted in accordance with ISO 7637-1 for 12 V systems and ISO 7637-2 for 24 V systems. Transient voltage test severity levels are given in Appendix C.

3.3.5 *Input/output protection*

3.3.5.1 Each output in turn shall withstand connection to earth for 1 min duration, without permanent damage, with the system operating and shall return to normal function when the connection is removed.

3.3.5.2 Each input in turn shall withstand a connection to earth and to supply for 1 min, without permanent damage, with the system operating and shall return to normal function when the connection is removed.