AS 2703—2008

Australian Standard®

Vehicle loop detector sensors

This Australian Standard® was prepared by Committee LG-006, Road Traffic Signals. It was approved on behalf of the Council of Standards Australia on 13 November 2008.
This Standard was published on 17 December 2008.

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- ARRB Transport Research Limited
- Australian Industry Group
- AUSTROADS
- Brisbane City Council
- Department for Transport, Energy and Infrastructure (SA)
- Hire and Rental Industry Association of Australia
- IES: The Lighting Society
- Lighting Council of Australia
- Main Roads Department, Qld
- Roads and Traffic Authority of NSW
- VicRoads

This Standard was issued in draft form for comment as DR 07371.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Originally as AS 2703—1984.
Previous edition 1987.
Third edition 2008.

Published by Standards Australia GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 8984 6

PREFACE

This Standard was prepared by Standards Australia Committee LG-006, Road Traffic Signals, to supersede AS 2703—1987. It is one of the following group of Standards, which set out requirements for equipment associated with traffic signal installations:

AS
2339 Traffic signal posts and attachments

2353 Pedestrian push-button assemblies

2578 Traffic signal controllers
2578.1 Part 1: Physical and electrical compatibility

2703 Vehicle loop detector sensors (this Standard)

2979 Traffic signal mast arms

4113 Traffic signal lamps
4113.1 Part 1: Lamps for 240 V a.c. operation
4113.2 Part 2: Lamps for a.c. operation at extra-low voltage

4191 Portable traffic signal systems

4192 Illuminated flashing arrow signs

AS/NZS
2144 Traffic signal lanterns

This Standard applies particularly to the electronic equipment used in traffic control and counting systems for the detection of vehicles. Such equipment is used in conjunction with inductive wire loops buried beneath the surface of the road pavement to provide the detection system. To a major extent the detection characteristics are determined by the actual loop configuration used. Standards for the cables used in the construction of these loops are as follows:

AS/NZS
2276 Cables for traffic signal installations
2276.2 Part 2: Feeder cable for vehicle detectors
2276.3 Part 3: Loop cable for vehicle detectors

The requirements of Section 4 of this Standard have been framed in such a way that the performance of vehicle loop detector sensors can be assessed independently of other elements of the detection system. A suggested series of type tests for checking the operational performance of the sensors is provided in Appendix B. Recommended routine tests are described in Appendix C.

The major changes to this edition of the Standard relate to the addition of integral detector units, which are sensor units incorporated integrally within a traffic signal controller. Also, the size restriction for independent multi-channel detector units has been reduced significantly. Other changes involve corrections of existing requirements or editorial clarifications.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

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STANDARDS AUSTRALIA

Australian Standard
Vehicle loop detector sensors

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the design, construction and performance of vehicle loop detectors. These detectors may also be designed to operate with trams/light rail. The type of detectors covered in this Standard are independent, rack-mounted and integrated vehicle loop detectors.

NOTE: See Appendix D for the information which should be supplied with an enquiry or order for vehicle loop detectors to this Standard.

1.2 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS	
1199	Sampling procedures for inspection by attributes
2578	Traffic signal controllers
AS/NZS	
2276	Cables for traffic signal installations
2276.2	Part 2: Feeder cable for vehicle detectors
3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
3100	Approval and test specification—General requirements for electrical equipment
3191	Electric flexible cords
60320	Appliance couplers for household and similar general purposes
60320.1	Part 1: General requirements
61000	Electromagnetic compatibility (EMC) (all parts)
61558	Safety of power transformers, power supply units and similar (all parts)
AS/NZS CISPR	
14.1	Electromagnetic compatibility—Requirements for household appliances, electric tools and similar apparatus—Emission
ANSI/NEMA TS1	Traffic control systems. Part 15: Inductive loop detectors
MIL-C-5015G	Military specification—Connectors, electrical, circular threaded, AN type, general specification for*
MIL-HDBK-217B	Reliability, stress and failure rate data for electronic/equipment*

* Published by the US Department of Defense.