Australian Standard®

TRAFFIC SIGNAL CONTROLLERS

Part 1—PHYSICAL AND ELECTRICAL COMPATIBILITY

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The following interests were represented on the committee responsible for the preparation of this standard:

Australian Automobile Association

Australian Electrical and Electrical Manufacturers Association

Australian Road Research Board

Confederation of Australian Industry

Department of Transport and Construction

National Association of Australian State Road Authorities

Railways of Australia Committee

State road authorities

State traffic authorities

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Part 1—PHYSICAL AND ELECTRICAL COMPATIBILITY

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PREFACE

This standard was prepared by the Association's Committee on Road Traffic Signals as part of a program of work on the development of standards for equipment associated with traffic signal installations.

It forms Part 1 of a standard for traffic signal controllers and primarily deals with requirements which are intended to facilitate physical and electrical interchangeability. It is envisaged that additional parts will deal with the operation and testing of traffic signal controllers.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
TRAFFIC SIGNAL CONTROLLERS

PART 1—PHYSICAL AND ELECTRICAL COMPATIBILITY

SECTION 1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for those characteristics of traffic signal controllers which interact with other equipment associated with road traffic signal installations, with the objective of ensuring that, as far as practicable—

(a) controllers from different manufacturers will be physically interchangeable; and

(b) the functioning of the controller will be independent of the characteristics of externally connected equipment.

It also specifies certain general requirements for the design and construction of traffic signal controllers.

NOTE: The requirements of this standard may not ensure total physical and electrical interchangcability, but should enable a replacement controller to be installed with a minimum of alteration.

1.2 REFERENCED DOCUMENTS. The following documents are referred to in this standard:

AS 1044 Limits of Electromagnetic Interference for Electrical Appliances and Equipment

AS 1055 Code of Practice for Noise Assessment in Residential Areas

AS 1275 Metric Screw Threads for Fasteners (Based on ISO Recommendations)

AS 1319 Rules for the Design and Use of Safety Signs for the Occupational Environment

AS 1939 Classification of Degrees of Protection Provided by Enclosures for Electrical Equipment

AS 2144 Traffic Signal Lanterns

AS 2276 Cables for Traffic Signal Installations
Part 1—Multicore Power Cables
Part 2—Feeder Cable for Inductive Type Vehicle-detector Loops*

AS 2339 Traffic Signal Posts and Attachments

AS 2353 Pedestrian Push-button Assemblies

AS 3000 SAA Wiring Rules

AS 3100 Approval and Test Specification for Definitions and General Requirements for Electrical Materials and Equipment

AS K185 Colours for Specific Purposes

AS XXXX Vehicle Loop Detector Sensors*

BS 1322 Aminoplastic Moulding Materials

British Electricity Supply Industry Standard 12-1 (1970), Terminal Blocks†

1.3 DEFINITIONS. For the purpose of this standard, the following definitions apply. Reference may also be necessary to definitions given in AS 2144.

1.3.1 Traffic signal controller—an automatic device which regulates the sequence and timing of the illumination of aspects.

NOTE: A traffic signal controller is hereinafter referred to as a 'controller'.

1.3.2 Ground-mounted controller—a controller which is designed for mounting on a concrete base.

1.3.3 Post-mounted controller—a controller which is designed for mounting on a traffic signal post or similar support.

1.3.4 Coordination facilities—equipment provided within a controller to enable it to operate in conjunction with one or more adjacent controllers, with a defined time relationship between their respective signal sequences.

1.3.5 Facility switch—an externally accessible means of switching a signal installation to ON, OFF or FLASH.

1.3.6 Flashing yellow facility—a feature which causes the flashing operation of a predetermined combination of yellow aspects on a controller, when the normal signal operation is discontinued.

1.3.7 Pedestrian push-button assembly—an enclosure incorporating a push-button switch which is designed for use in conjunction with a signalized intersection or crossing to register a pedestrian demand. It may also incorporate, or have associated with it, facilities for the generation of audible signals.

1.3.8 Active output—an output involving the supply of electrical power from the controller to an external load.

1.3.9 Passive output—an output which provides a decrease in impedance between the output terminals, but which does not supply electrical power to an external circuit.

1.3.10 Signal group—those signals which always have an identical display.

1.3.11 Housing (cabinet)—the weatherproof enclosure that provides physical protection and houses the signal control equipment.

* In course of preparation (see DR 82215).

† Published by the Central Electricity Generating Board, Sudbury House, 15 Newgate Street, London, E.C.1.