AS 1284.4—2006

Australian Standard®

Electricity metering

Part 4: Socket mounting system

This Australian Standard® was prepared by Committee EL-011, Electricity Metering Equipment. It was approved on behalf of the Council of Standards Australia on 14 June 2006. This Standard was published on 12 July 2006.

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- Australian Chamber of Commerce and Industry
- Australian Electrical and Electronic Manufacturers Association
- Electrical Regulatory Authorities Council
- Electricity Engineers Association (New Zealand)
- Energy Networks Association
- Ministry of Economic Development (New Zealand)
- NEMMCO
- National Measurement Institute

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.

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PREFACE

This Standard was reviewed by the Australian members of the Joint Standards Australia/Standards New Zealand committee EL-011, Electricity Metering Equipment. After consultation with stakeholders in both countries Standards Australia and Standards New Zealand decided to republish this Australian Standard without technical alteration. Referenced documents have been updated to current editions.

The objective of this Standard is to provide the electricity metering industry with a dimensional and performance specification that will ensure that sockets, plug-in devices and other components of the system produced by different manufacturers are directly interchangeable and suitable for their intended purpose in terms of safety and performance.

This Standard is Part 4 of AS 1284, *Electricity metering*, which is published in Parts as follows:

Part 1: General purpose induction watthour meters

Part 4: Socket mounting system (this Standard)

Part 10.1: Data exchange for meter reading, tariff and load control—Direct local data exchange via hand-held unit (HHU)—IEC Standard interface

Part 10.2: Data exchange for meter reading, tariff and load control—Direct local data exchange via hand-held unit (HHU)—ANSI Standard interface

Part 11: Single-phase multifunction watthour meters

Part 12: Polyphase multifunction (non-demand) watthour meters (Class 1)

Part 13: In-service compliance testing

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.

CONTENTS

FOREWORD

The socket mounting system for electricity meters specified herein was developed in Australia in the mid-1970s. It was based on the North American plug-in system of the 1930s. (That system is complicated by the three-wire 120 V–0–120 V supply system.)

The basic design involves a single-element meter with three blades, and a socket with three jaws, A, N, L; the heavy current jaws (A and L) are arranged at an angle of 90° to each other in order to facilitate self-alignment of the blades and to avoid the application of torque to the current coil of the meter during insertion.

The positions of the three jaws are staggered in order that, for those meters where it is applicable, disconnection of supply can be carried out simply and safely by removing and reinserting the meter 90° anticlockwise from its 'normal' position and resealing the installation, all without touching the associated circuit wiring. No meter can be inserted 'upside-down' or in any position other than 'normal' or 'disconnected'.

However, in certain circumstances, a plug-in meter (or other device) might create a safety hazard to the installer if it were inserted in the 'disconnected' position; accordingly a 'non-rotatable' plug-in base is specified for such a meter or device to prevent insertion in other than the 'normal' position.

Staggering of jaws also facilitates factory connection of multiple sockets with straight sealed busbars, thereby achieving a significant reduction in space and in installation cost. The system allows for surface connection or back connection of wiring according to requirement.

Two additional jaws are provided for other purposes (see Appendix A). Bridging facilities are provided in the socket (see Figure 2.1) to accommodate an external shorting bridge for use in changing a meter without interrupting supply (or open-circuiting a current transformer).

The same jaw arrangement will also accept other devices for metering and load control purposes. Two sockets can be located adjacent to each other to allow a meter and a load control device to be conveniently interconnected (see Appendix B).

STANDARDS AUSTRALIA

Australian Standard
Electricity metering

Part 4: Socket mounting system

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies safety, performance and interchangeability requirements for sockets rated 500 V, 125 A, for plug-in devices, for retaining covers, and for blanking plates. This Standard also specifies standard connection arrangements (see Appendix A), and standard arrangements for multiple sockets (see Appendix B).

NOTES:

1 Where a socket is to be used with a device rated at more than 100 A, the socket should be wired with a minimum of 35 mm copper cable to terminals A and L.

2 To facilitate the specification and purchase of sockets and other components, the Standard lists information which should be supplied with enquiry and order (see Appendix C).

1.2 APPLICATION

This Standard is intended to be read in conjunction with AS 1284.1.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS		
1284	Electricity metering	
1284.1	Part 1:	General purpose induction watthour meters
60068.2.75	Part 2.75:	Environmental testing—Tests—Test Eh: Hammer tests
60529	Degrees of protection provided by enclosures (IP Code)	
AS/NZS		
3100	Approval and test specification—General requirements for electrical equipment	
60695.2.11	Part 2.11:	Fire hazard testing—Glowing/hot wire based test methods—Glow-wire flammability test method for end-products
IEC		
60028	International standard of resistance for copper	
ISO		
75	Plastics —Determination of temperature of deflection under load	
75-2	Part 2:	Plastics and ebonite