Australian Standard®

Customer/utility information exchange

Part 1: System architecture and functionality

This Australian Standard was prepared by Committee TE/18, Customer Metering and Services Interfaces. It was approved on behalf of the Council of Standards Australia on 17 January 1995 and published on 5 May 1995.

The following interests are represented on Committee TE/18:

Agriculture and Resource Management Council of Australia and New Zealand
Association for Metering and Customer Services
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Australian Gas Association
Australian Information Industry Association
Electricity Supply Association of Australia
Telecom Australia
University of Ballarat

AS 4141.1—1995

Australian Standard®

Customer/utility information exchange

Part 1: System architecture and functionality

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140
ISBN 0 7262 9650 3

PREFACE

This Standard was prepared by the Standards Australia Committee on Customer Metering and Services Interfaces to supersede AS 4141.1(Int)—1993.

The objective of this Standard is to provide the utility metering industry with details of the architecture and functionality of a system that will provide for ready interconnection of the various elements in a system of information exchange between utilities and customers, including provision for automatic meter reading, load control, value-added customer services and system control automation.

This edition incorporates minor editorial improvements.

This Standard is Part 1 of AS 4141, *Customer/utility information exchange*, which is published in Parts as follows:

Part 1: System architecture and functionality
Part 2: Applications and performance
Part 3: Customer premises interfaces

Other Parts are under consideration.

CONTENTS

Page

Page

FIGURES

Originated as AS 4141.1(Int)—1993.
Revised and designated AS 4141.1—1995.

STANDARDS AUSTRALIA

Australian Standard

Customer/utility information exchange

Part 1: System architecture and functionality

1 SCOPE This Standard specifies the communications architecture and functionality for customer/utility information exchange (CUIE) for a utility, a combined utility, or a group of utilities. It defines the interfaces and protocols that will enable a two-way metering, control and monitoring system to be implemented, with equipment from a variety of manufacturers, providing the maximum degree of compatibility but without stifling innovation and technological development. Most facilities mentioned in this Standard entail wide area two-way communications.

This Standard specifies the type and quantity of information that may be required to be transmitted across the communications network for present and future systems particularly in relation to the following aspects:

(a) Remote reading of customer electricity, gas and water meters.

(b) Remote setting of tariffs at the customer premises equipment (CPE).

(c) Remote control of some or all of the customer load/supply.

(d) Remote monitoring of quality of service provided to the customer.

(e) Display of information including electricity, gas and water bills, tariffs and quantities at the customer premises, and provision of other customer service facilities such as remote supply connect/disconnect.

(f) Provision of appropriate alarm and status information.

(g) Transmission of messages between a service provider and the customer for value added services (VAS).

(h) Limited distribution system automation (DSA) not provided by high performance supervisory control and data acquisition (SCADA) systems.

This Standard is not intended to limit the flexibility available to a utility in its choice of media. For example, combinations of the following media may be used to suit various applications and performance requirements (the listing is not exhaustive):

(i) Distribution line carrier (DLC).

(ii) Power line carrier (PLC).

(iii) Mains signalling.

(iv) Public Switched Telephone Network (PSTN).

(v) Integrated Services Digital Network (ISDN).

(vi) Radio.

(vii) Satellite.

(viii) Cable television.

(ix) Optical fibre.

This Standard does not cover the realization for the metering and control devices, hand-held unit or home automation bus at the customer premises, nor the realization for the operating/control equipment in DSA applications.