

IEEE Std 100-1996

The IEEE Standard Dictionary of Electrical and Electronics Terms

Sixth Edition



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Introduction

Since the first edition in 1941 of the American Standard Definitions of Electrical Terms, the work now known as IEEE Std 100, The IEEE Standard Dictionary of Electrical and Electronics Terms, has evolved into the unique compilation of terms that it is today.

The current edition includes all terms defined in approved IEEE standards through December 1996. Terms are categorized by their technical subject area. They are also categorized by the standard or publications in which they currently appear. In some cases, terms from withdrawn standards are included to give current readers an idea of how earlier editions of IEEE Std 100 reflected terms from withdrawn IEEE standards, such as technical journals. Some terms have been added to the book.

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The practice of defining terms varies from standard to standard. Many working groups that write standards prefer to work with existing definitions, while others choose to write their own. Thus terms may have several similar, although not identical, definitions. These definitions have been combined wherever it has been possible to do so by making only minor changes. Where they have been left as written in the original standard.

Users of IEEE Std 100 occasionally comment on the arbitrary inclusion of a particular term or term only used in an obscure standard. IEEE Std 100 is a compilation of terms from many groups. Other organizations have created a glossary of terms. IEEE Std 100 is a compilation of terms from many groups. Other organizations have created a glossary of terms. IEEE Std 100 is a compilation of terms from many groups. Other organizations have created a glossary of terms.

Standards Coordinating Committee 10, Terms and Definitions
Jane Radatz, Chair

IEEE working groups are encouraged to refer to IEEE Std 100. This standard is one of a number of information technology dictionaries being developed by standards organizations accredited by the American National Standards Institute. This dictionary was developed under the sponsorship of voluntary standards organizations, using a consensus-based process.

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- tral component in a machine-aided translation system. *See also:* automated dictionary; automated glossary. (C) 610.2-1987
- automated office** *See:* electronic office.
- automated teller machine (ATM)** An unattended terminal-type device that offers simple banking services such as cash withdrawals, transfer of funds between accounts, and account balance inquiry. *Synonym:* customer-bank communication terminal. (C) 610.2-1987
- automated test case generator** *See:* automated test generator.
- automated test data generator** *See:* automated test generator.
- automated test generator (software)** A software tool that accepts as input a computer program and test criteria, generates test input data that meet these criteria, and, sometimes, determines the expected results. *See also:* computer program; data. (C/SE) 729-1983s
- automated thesaurus** In machine-aided translation, a computer-resident thesaurus used in conjunction with an automated lexicon to handle words with multiple meanings. (C) 610.2-1987
- automated verification system (A) (software)** A software tool that accepts as input a computer program and a representation of its specification, and produces, possibly with human help, a proof or disproof of the correctness of the program. (B) (software) Any software tool that automates part or all of the verification process. (C) 610.12-1990
- automated verification tools (software)** A class of software tools used to evaluate products of the software development process. These tools aid in the verification of such characteristics as correctness, completeness, consistency, traceability, testability, and adherence to standards. Examples are design analyzers, automated verification systems, static analyzers, dynamic analyzers, and standards enforcers. *See also:* automated verification system; correctness; design analyzer; dynamic analyzer; software development process; static analyzer; testability; tool; verification. (C/SE) 729-1983s
- automatic (1)** Pertaining to a function, operation, process, or device that, under specified conditions, functions without intervention by a human operator. (C/PE/SUB) 610.10-1994, 610.2-1987, C37.1-1987s
- (2) Self-acting, operating by its own mechanism when actuated by some impersonal influence—as, for example, a change in current strength; not manual; without personal intervention. Remote control that requires personal intervention is not automatic, but manual. (NEC/T&D) C2-1997, C2.2-1960
- (3) Self-acting, operating by its own mechanism when actuated by some impersonal influence, as, for example, a change in current strength, pressure, temperature, or mechanical configuration. *See also:* nonautomatic. (IA/NEC/NESC) [60], [86]
- (4) Pertaining to a process or device that, under specified conditions, functions without intervention by a human operator. (PE/SWG) C37.100-1992
- automatic abstracting** In library automation, the automatic selection of words and phrases from a document to produce an abstract. (C) 610.2-1987
- automatic acceleration (1) (automatic train control)** Acceleration under the control of devices that function automatically to maintain, within relatively close predetermined values or schedules, current passing to the traction motors, the tractive force developed by them, the rate of vehicle acceleration, or similar factors affecting acceleration. *See also:* electric drive; multiple-unit control. (EEC/PE) [119]
- (2) Acceleration under the control of devices that function automatically to raise the motor speed. *See also:* electric drive; multiple-unit control. (IA) [60]
- Automatically Programmed Tools (APT) (1)** A problem-oriented programming language used for programming numerically controlled machine tools. (C) 610.13-1993
- (2) A programming system using English-like symbolic descriptions of part and tool geometry and tool motion for numerical control. (C) 610.2-1987
- automatically regulated (rotating machinery)** Applied to a machine that can regulate its own characteristics when associated with other apparatus in a suitable closed-loop circuit. (PE) [9]
- automatically reset relay** *See:* self-reset relay.
- automatic approach control** A system that integrates signals, received by localizer and glide path receivers, into the automatic pilot system, and guides the airplane down the localizer and glide path beam intersection. (EEC/PE) [119]
- automatic bias nulling** A circuit or system technique for setting the mean value of sensor output, averaged over a defined time period, to zero, or to some defined value. (AE) 528-1994
- automatic block signal system** A series of consecutive blocks governed by block signals, cab signals, or both, operated by electric, pneumatic, or other agency actuated by a train or by certain conditions affecting the use of a block. *See also:* block-signal system. (EEC/PE) [119]
- automatic cab signal system** A system that provides for the automatic operation of cab signals. *See also:* automatic train control. (EEC/PE) [119]
- automatic calendar** A component of some office automation systems that allows users to store their appointments in a database and to set up meetings by requesting a search for an available meeting time in each of the participants' calendars. (C) 610.2-1987
- automatic call distribution** A service that evenly distributes calls among incoming end user lines. (AMR) 1390-1995
- automatic call distributor (telephone switching systems)** The facility for allotting incoming traffic to idle operators or attendants. (COM) 312-1977w
- automatic capacitor control equipment** A piece of equipment that provides automatic control for functions related to capacitors, such as their connection to and disconnection from a circuit in response to predetermined conditions such as voltage, load, or time. (PE/SWG) C37.100-1992
- automatic carriage (1)** A control mechanism for a typewriter or other output device that can automatically control the feeding, spacing, skipping and ejecting of paper and preprinted forms. (C) [20], 610.10-1994
- (2) Pertaining to a function, operation, process, or device that, under specified conditions, functions without intervention by a human operator. (C) 610.10-1994
- automatic chart-line follower (navigation aid terms)** A device that automatically derives error signals proportional to the deviation of the position of a vehicle from a predetermined course line drawn on a chart. (AE) 172-1983w
- automatic check** A check that is built into a device in order to verify the accuracy of information transmitted, manipulated, or stored by that device. *Synonyms:* built-in check; hardware check. (C) 610.10-1994, 610.5-1990
- automatic circuit closer (supervisory control, data acquisition, and automatic control)** A self-controlled device for automatically interrupting and reclosing an alternating-current circuit, with a predetermined sequence of opening and reclosing followed by resetting, hold-closed, or lockout operation. (PE/SUB) C37.1-1987s
- automatic circuit recloser** A self-controlled device for automatically interrupting and reclosing an alternating-current circuit, with a predetermined sequence of opening and reclosing followed by resetting, hold-closed, or lockout operation. *Note:* When applicable, it includes an assembly of control elements required to detect overcurrents and control the recloser operation. (PE/SWG/SUB) C37.1-1987s, C37.100-1992
- automatic combustion control** A method of combustion control that is effected automatically by mechanical or electric devices. (PE/T&D) [10]