

# The New IEEE Standard Dictionary of Electrical and Electronics Terms

**Fifth Edition**  
**Newly Revised and Expanded**

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**The New IEEE Standard Dictionary  
of Electrical and Electronics Terms**  
[Including Abstracts of All Current IEEE Standards]

**Fifth Edition**

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**combination rubber tape.** The assembly of both rubber and friction tape into one tape that provides both insulation and mechanical protection for joints. [119]

**combinations of pulses and waveforms (pulse terms).** See: **bipolar pulse; double pulse; staircase.**

**combination starter (packaging machinery).** A starter having manually operated disconnecting means built into the same enclosure with the magnetic contactor. 333-1980w

**combination support (raceway systems for Class 1E circuits for nuclear power generating stations).** A support that serves either raceways or different types of raceway(s) and other mechanical or electric systems such as heating, ventilating, and air-conditioning (HVAC) ducts, piping, and lighting fixtures. 628-1987

**combination thermoplastic tape.** An adhesive tape composed of a thermoplastic compound that provides both insulation and mechanical protection for joints. [119]

**combination watch-report and fire-alarm system.** A coded manual fire-alarm system, the stations of which are equipped to transmit a single watch-report signal or repeated fire-alarm signals. See: **protective signaling.** [119]

**combined-line-recording trunk (CLR) (telephone switching).** A one-way trunk for operator recording and extending of toll calls. 312-1977w

**combined mechanical and electrical strength (insulator).** The loading in pounds at which the insulator fails to perform its function either electrically or mechanically, voltage and mechanical stress being applied simultaneously. Note: The value will depend upon the conditions under which the test is made. See: **insulator; tower.** [10]

**combined telephone set.** A telephone set including in a single housing all the components required for a complete telephone set except the handset which it is arranged to support. Note: Wall hand telephone sets are of this type, but the term is usually reserved for a self-contained desk telephone set to distinguish it from desk telephone sets requiring an associated bell box. A desk local-battery telephone set may be referred to as a combined set if it includes in its mounting all components except its associated local batteries. See: **telephone station.** [119]

**combined uncertainty.** The uncertainty resulting from combining category A and category B uncertainties, as defined by the Bureau International des Poids et Mesures (BIPM), using standard statistical methods. Category A uncertainties are evaluated by applying statistical methods to a series of repeated measurements and are characterized by the estimated

standard deviation,  $s_A$ ; category B uncertainties are assigned to quantities whose variation is not explicitly observed. Category B uncertainties are determined by estimating from other information an approximation to a corresponding "standard deviation,"  $s_B$ , whose existence is assumed. They are combined as if they are all standard deviations. N42.14-1991

**combined voltage and current influence (wattmeter).** The percentage change (of full-scale value) in the indication of an instrument that is caused solely by a voltage and current departure from specified references while constant power at the selected scale point is maintained. See: **accuracy rating (instrument).** [102]

**combustible materials (power and distribution transformer).** Materials which are external to the apparatus and made of or surfaced with wood, compressed paper, plant fibers, or other materials that will ignite and support flame. C57.12.80-1978

**combustion control.** The regulation of the rate of combination of fuel with air in a furnace. [10]

**COM device.** See: **computer output microfilmer.** 610.2-1987

**come-along.** See: **conductor grip.** 516-1987

**comic-strip oriented image.** In micrographics, an image appearing on a roll of microfilm in such a manner that the top edge of the image is parallel to the long edge of the film. Contrast with: **cine-oriented image.** Syn: **landscape image.** 610.2-1987

**command (1) (logical link control).** In data communications, an instruction represented in the control field of a protocol data unit (PDU) and transmitted by a logical link control (LLC). It causes the addressed LLC(s) to execute a specific data link control function. 799-1987, 8802-2:1989

**(2) (electronic computation).** (A) One of a set of several signals (or groups of signals) that occurs as a result of interpreting an instruction; the commands initiate the individual steps that form the process of executing the instruction's operation. (B) Loosely: an instruction in machine language. (C) Loosely: a mathematical or logic operator. (D) Loosely: an operation. 162-1963, [2], [20], [85]

**(3) (industrial control).** An input variable established by means external to, and independent of, the feedback (automatic) control system. It sets, is equivalent to, and is expressed in the same units as the ideal value of the ultimately controlled variable. See: **control system, feedback; set point.** [60]

**(4) (software).** An expression that can be input to a computer system to initiate an action or affect the execution of a computer program; for



example, the "log on" command to initiate a computer session. 610.12-1990

**command character.** See: **control character.** 610.5-1990

**command control (electric power system).** An automatic generation control methodology that reduces unit control error irrespective of area control error. 94-1991

**command-driven.** Pertaining to a system or mode of operation in which the user directs the system through commands. Contrast with: **menu-driven.** 610.12-1990

**command guidance (navigation aid terms).** Guidance in which information transmitted to a craft from an outside source causes it to follow a prescribed path. 172-1983

**command language (software).** A language used to express commands to a computer system. See also: **command-driven.** 610.12-1990

**command link (communication satellite).** A data transmission link (generally earth to spacecraft or satellite) used to command a satellite or spacecraft in space. [24]

**command PDU (protocol data unit) (logical link control).** All PDU's transmitted by a logical link control (LLC) in which the C/R (command/response) bit is equal to "0." 799-1987, 8802-2:1989

**command rate (gyro).** The input rate equivalent of a torquer command signal. 528-1984w

**command reference (servo or control system) (power supplies).** The voltage or current to which the feedback signal is compared. As an independent variable, the command reference exercises complete control over the system output. See: **operational programming.** [41]

**command transfer.** The passing of command information over the system control signal group, from the bus owner to the replying agent(s), during the request phase of a transfer operation. Command information includes parameters for the impending transfer operation, as well as additional address space information not transmitted with the address transfer. See: **system control signal group; request phase.** 1296-1987

**comment (software).** Information embedded within a computer program, job control statements, or a set of data, that provides clarification to human readers but does not affect machine interpretation. 610.12-1990

**commercial character.** (A) One of the set of characters used commonly in commercial operations; for example, CR (credit) and DB (debit). (B) A character within a picture specification that represents one of the characters as in (A). 610.5-1990

**commercial data processing (computer applications).** Data processing performed to sup-

port a commercial organization or function. 610.2-1987

**commercial grade part (replacement parts for Class 1E equipment in nuclear power generating stations).** A part that is: (A) not subject to design or specification requirements that are unique to nuclear power plants; (B) used in applications other than nuclear power plants; (C) ordered from the manufacturer/supplier on the basis of specifications set forth in the manufacturer's published product description (for example, a catalog). 934-1987

**commercial power (emergency and standby power).** Power furnished by an electric power utility company; when available, it is usually the prime power source. However, when economically feasible, it sometimes serves as an alternative or standby source. Syn: **utility power.** 446-1987

**commercial, residential, and institutional buildings.** All buildings other than industrial buildings and residential dwellings. 241-1990

**commercial tank (electrorefining).** An electrolytic cell in which the cathode deposit is the ultimate electrolytically refined product. See: **electrorefining.** [119]

**commissioning tests (rotating machinery).** Tests applied to a machine at site under normal service conditions to show that the machine has been erected and connected in a correct manner and is able to work satisfactorily. See: **asynchronous machine.** [9]

**common.** See: **common storage.** 610.12-1990

**common area.** See: **common storage.** 610.12-1990

**common-battery central office.** See: **common-battery office.**

**common-battery office (telephone switching systems).** A central office that supplies transmitter and signaling currents for its associated stations and current for the central office equipment from a power source located in the central office. 312-1977w

**common battery signaling (data transmission).** A method of actuating a line or supervisory signal at the distant end of a telephone line by the closure of a direct-current (dc) circuit with the exchange providing the feeding current. 599-1985w

**common-battery switchboard.** A telephone switchboard for serving common-battery telephone sets. [48]

**common block.** See: **common storage.** 610.12-1990

**common carrier (data communication).** In telecommunications, a public utility company that is recognized by an appropriate regulatory agency as having a vested interest and responsibility in furnishing communication services