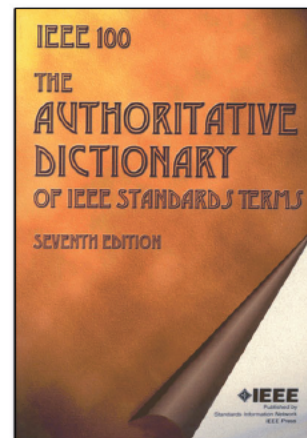


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pull-in test (synchronous machines) A test taken on a machine that is pulling into synchronism from a specified slip.

(PE) [9]

pull-in time (acquisition time) (communication satellite) The time required for achieving synchronization in a phase-lock loop.

(COM) [25]

pull-in torque (synchronous motor) The maximum constant torque under which the motor will pull its connected inertia load into synchronism, at rated voltage and frequency, when its field excitation is applied. *Note:* The speed to which a motor will bring its load depends on the power required to drive it and whether the motor can pull the load into step from this speed depends on the inertia of the revolving parts, so that the pull-in torque cannot be determined without having the Wk^2 as well as the torque of the load.

(PE) [9]

pull or transfer box A box without a distribution panel, within which one or more corresponding electric circuits are connected or branched.

(T&D/PE) [10]

pull-out test (rotating machinery) A test to determine the conditions under which an alternating-current machine develops maximum torque while running at specified voltage and frequency. *See also:* asynchronous machine.

(PE) [9]

pull-out torque The maximum sustained torque that a synchronous motor will develop at synchronous speed with rated voltage applied at rated frequency and with normal excitation.

(IA/MT) 45-1998

pull rope A rope, attached to the cable, that is used to pull the cable through the conduit system. *Synonym:* bull rope.

(PE/IC) 1185-1994

pull setting *See:* sag section.

pull site (conductor stringing equipment) The location on the line where the puller, reel winder, and anchors (snubs) are located. This site may also serve as the pull or tension site (anchor) for the next sag section. *Synonyms:* reel setup; tugger setup.

(T&D/PE) 524a-1993r, 524-1992r

pull-up torque (alternating-current motor) The minimum torque developed by the motor during the period of acceleration from rest to the speed at which breakdown torque occurs with rated voltage applied at rated frequency.

(PE) [9]

pulsating function A periodic function whose average value over a period is not zero. For example, $f(t) = A + B \sin \omega t$ is a pulsating function where neither A nor B is zero.

(Std100) 270-1966w

pulse (1) (impulse) (data transmission) A brief excursion of a quantity from normal.

(PE) 599-1985w

(2) **(automatic control)** A variation of a signal whose value is normally constant; this variation is characterized by a rise and a decay, and has a finite duration.

(PE/EDPG) [3]

(3) **(pulse terminology)** A wave that departs from a first nominal state, attains a second nominal state, and ultimately returns to the first nominal state. Throughout the remainder of this document the term pulse is included in the term wave.

(IM/WM&A) 194-1977w

(4) A wave that departs from an initial level for a limited duration of time and ultimately returns to the original level. *Note:* In demand metering, the term "pulse" is also applied to a sudden change of voltage or current produced, for example, by the closing or opening of a contact.

(ELM) C12.1-1988

(5) A variation in the value of a magnitude which is short in relation to the time schedule of interest, the final value being the same as the initial value. *Note:* In digital logic circuits, a pulse is usually a voltage. *See also:* recovery time; strobe.

(C) 610.7-1995, 610.10-1994w

(6) **(relaying)** A brief excursion of a quantity from its initial level.

(SWG/PE) C37.100-1992

pulse accumulator (or register) (of a telemeter system) A device that accepts and stores pulses and makes them available for readout on demand.

(SWG/PE) C37.100-1992

pulse advance (pulse terminology) (delay) The occurrence in time of one pulse waveform before (after) another pulse waveform.

(IM/WM&A) 194-1977w

pulse advance interval (pulse terminology) (delay interval) The interval by which, unless otherwise specified, the pulse start time of one pulse waveform preceded (follows), unless otherwise specified, the pulse start time of another pulse waveform.

(IM/WM&A) 194-1977w

pulse amplifier (pulse techniques) An amplifier designed specifically for the amplification of electric pulses. *See also:* pulse.

(NPS) 175-1960w

pulse amplifier or relay A device used to change the amplitude or waveform of a pulse for retransmission to another pulse device.

(ELM) C12.1-1988

pulse amplitude, A_M (1) (pulse transformers) That quantity determined by the intersection of a line passing through the points on the leading edge where the instantaneous value reaches 10% and 90% of A_M and a straight line that is the best least-squares fit to the pulse in the pulse-top region (usually this is fitted visually rather than numerically). For pulses deviating greatly from the ideal trapezoidal pulse shape, a number of successive approximations may be necessary to determine A_M . *Note:* The pulse amplitude A_M may be arrived at by applying the following procedure.

- 1) Visually or numerically determine the best straight line fit to the pulse in the pulse-top region and extend this straight line into the leading-edge region.
- 2) An initial estimate of A_M is the first intersection of the pulse (in the late leading-edge or early pulse-top regions) with the straight line fitted to the pulse top.
- 3) Using the estimate of A_M calculate $0.1 A_M$ and $0.9 A_M$ and draw a straight line through these two points of the pulse-leading edge.
- 4) The intersection of the leading-edge straight line and the pulse-top straight line gives an improved estimate of A_M .
- 5) Repeat steps 3 and 4 until the estimate of A_M does not change. The converged estimate is the pulse amplitude A_M .

(PEL/ET) 390-1987r

(2) The algebraic difference between the top magnitude and the base magnitude.

(IM/WM&A) 194-1977w

(3) A general term indicating the magnitude of a pulse measured with respect to the normally constant value unless otherwise stated.

(ED) [127]

pulse amplitude modulation (PAM) (1) (data transmission) (pulse terminology) Modulation in which the modulating wave is caused to amplitude modulate a pulse carrier.

(IM/AP/WM&A/ANT) 194-1977w, 145-1983s

(2) A form of pulse modulation in which the amplitude of a pulse carrier is varied.

(C) 610.7-1995

pulse amplitude, peak *See:* peak pulse amplitude.

pulse amplitude, root-mean-square *See:* root-mean-square (effective) pulse amplitude.

pulse average time (light-emitting diodes) The time interval between the instants at which the instantaneous pulse amplitude first and last reaches a specified fraction of the peak pulse amplitude, namely, 50%.

(ED) [127]

pulse bandwidth (pulse terminology) The smallest continuous frequency interval outside of which the amplitude (of the spectrum) does not exceed a prescribed fraction of the amplitude at a specified frequency. *Caution:* This definition permits the spectrum amplitude to be less than the prescribed amplitude within the interval. *Notes:* 1. Unless otherwise stated, the specified frequency is that at which the spectrum has its maximum amplitude. 2. This term should really be pulse spectrum bandwidth because it is the spectrum and not the pulse itself that has a bandwidth. However, usage has caused the contraction and for that reason the term has been accepted. *See also:* signal.

(IM/WM&A) 194-1977w

pulse base (pulse waveform) (pulse techniques) That major segment having the lesser displacement in amplitude from the baseline, excluding major transitions. *See also:* pulse.

(IM/HFIM) [40]

pulse, bidirectional *See:* bidirectional pulse.

pulse broadening (fiber optics) An increase in pulse duration. *Note:* Pulse broadening may be specified by the impulse re-