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*IEEE Standard Dictionary of  
Electrical and Electronics Terms*

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**IEEE  
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of  
Electrical and  
Electronics  
Terms**

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*See: fuel cell.* 223, 186

**fuel-cell working voltage.** The voltage at the terminals of a single fuel-cell delivering current into system auxiliaries and load. *See: fuel cell.* 223, 186

**fuel-control mechanism (gas turbines).** All devices, such as power-amplifying relays, servomotors, and interconnections required between the speed governor and the fuel-control valve. *See: speed-governing system.* 58

**fuel-control system (gas turbines).** Devices that include the fuel-control valve and all supplementary fuel-control devices and interconnections necessary for adequate control of the fuel entering the combustion system of the gas turbine. *Note:* The supplementary fuel-control devices may or may not be directly actuated by the fuel-control mechanism. *See: speed-governing system.* 58

**fuel-control valve (gas turbines).** A valve or any other device operating as a final fuel-metering element controlling fuel input to the gas turbine. *Notes:* (1) This valve or device may be directly or indirectly controlled by the fuel-control mechanism. (2) Variable-displacement pumps, or other devices that operate as the final fuel-control element in the fuel-control system, and that control fuel entering the combustion system are fuel-control valves. *See: speed-governing system.* 58

**fuel economy.** The ratio of the chemical energy input to a generating station to its net electric output. *Note:* Fuel economy is usually expressed in British thermal units per kilowatthour. *See: generating station.* 64

**fuel elements, nuclear (nuclear power generating station).** An assembly of rods, tubes, plates, or other geometrical forms into which nuclear fuel is contained for use in a reactor. 112

**fuel-pressure electric gauge.** A device that measures the fuel pressure (usually in pounds per square inch) at the carburetor of an aircraft engine. *Note:* It provides remote indication by means of a self-synchronous generator and motor. 328

**fuel replacement energy (power operations).** Energy generated to substitute for energy which would otherwise have been generated by a different fuel source. 516

**fuel reprocessing, nuclear (nuclear power generating station).** The processing of irradiated reactor fuel to recover the unused fissionable material, or fission products, or both. 112

**fuel stop valve (gas turbines).** A device that, when actuated, shuts off all fuel flow to the combustion system, including that provided by the minimum fuel limiter. *See: speed-governing system.* 58

**fulguration.** *See: electrodesiccation.*

**full automatic plating.** Mechanical plating in which the cathodes are automatically conveyed through successive cleaning and plating tanks. 328

**full availability (telephone switching systems).** Availability that is equal to the number of outlets in the desired group. 55

**full-direct trunk group (telephone switching systems).** A full trunk group between end offices. 55

**full duplex (data transmission) (communication circuit) (telecommunication).** Method of operation where each end can simultaneously transmit and receive. *Note:* Full duplex refers to a communications system or equipment capable of simultaneous transmission in two directions. 59

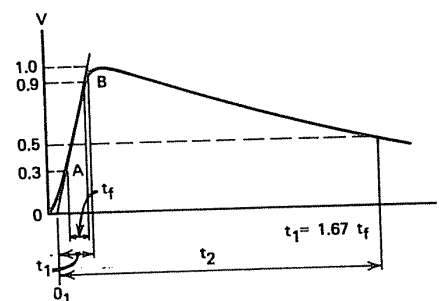
**full energy peak (for a monoenergetic photon spectrum for a semiconductor spectrometer system) (X-ray energy spectrometers).** The distribution of events within the peak of the pulse-height distribution spectrum representing response to the monoenergetic photon source. *Note:* Notwithstanding other definitions or procedures for subtracting background and other distortions, the full energy peak intensity is defined as not including any events which exceed a Gaussian distribution by more than a factor of two  $\sigma$ . 471

**full energy peak efficiency (of a semiconductor radiation detector) (X-ray energy spectrometers).** The ratio of the number of events in the full energy peak of the spectral distribution to the total number of photons incident on the active detector volume during the same time interval. 471

**full-field relay (industrial control).** A relay that functions to maintain full field excitation of a motor while accelerating on reduced armature voltage. *See: relay.* 206

**full float operation (large lead storage batteries).** Operation of a dc system with the battery, battery charger, and load all connected in parallel and with the battery charger supplying the normal dc load plus any self-discharge or charging current, or both, required by the battery. (The battery will deliver current only when the load exceeds the charger output.) 377

**full impulse voltage.** An aperiodic transient voltage that rises rapidly to a maximum value and falls, usually less rapidly, to zero. See the following figure. *See: test voltage and current; full-wave voltage impulse.*



Full impulse voltage.

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**full-impulse wave (surge arresters).** An impulse wave in which there is no sudden collapse. 244, 62

**full lightning impulse (high voltage testing) (lightning**