
GLOSSARY OF TECHNICAL TERMS

“AC”	alternating current, an electric current which periodically reverses direction and changes its magnitude continuously with time
“AC-AC”	an electronic device that converts alternating current (AC) power from one voltage, frequency, or waveform to another AC form
“AC-DC”	an electronic device that converts alternating current (AC) power into direct current (DC) power
“AI”	artificial intelligence
“API”	application programming interface, a connection between computers or between computer programs
“BDU”	battery distribution unit
“BMS”	battery management system, a system that monitors, manages, and protects batteries, ensuring safe operation, optimal performance, and extended lifespan
“Busbar”	a metallic strip or bar, typically housed inside switchgear, panel boards, and busway enclosures for local high current power distribution, transmission, or switching substations
“CO”	carbon monoxide
“DAB”	dual active bridge, an isolated DC-DC converter that enables efficient, bidirectional power transfer by controlling the phase shift between its two active switching bridges
“dB”	decibel, a relative unit of measurement equal to one tenth of a bel
“DC”	direct current, an electric current which flows only in one direction
“DC-DC”	an electronic device that converts one level of direct current (DC) voltage to another DC voltage level
“EIS”	electrochemical impedance spectroscopy, a non-destructive diagnostic technique that characterizes the internal electrochemical properties of a battery cell by measuring its impedance response across a spectrum of AC frequencies, used in BMS applications for online battery health assessment and degradation monitoring
“EMS”	energy management system, a system that monitors, controls, and optimizes energy usage and storage
“ESG”	environmental, social and governance
“ESS”	energy storage system, a system designed to store energy in various forms, such as chemical, thermal, or mechanical, for later use
“EV”	electric vehicle
“GaN”	gallium nitride, a binary III/V direct bandgap semiconductor commonly used in blue light-emitting diodes
“GWh”	Gigawatt-hour, a unit of energy measurement equal to one billion watt-hours, commonly used to quantify the amount of energy produced or consumed over time, particularly in large-scale energy systems

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“HVAC”	heating, ventilation and air conditioning, systems designed to provide thermal comfort and to control airborne contaminants through heating, cooling, ventilation, filtration, and humidity control
“ICT”	In-Circuit Test, a widely used and cost-efficient method for testing medium- to high-volume electronic printed circuit board assemblies
“Incoterms”	International Commercial Terms, a series of pre-defined commercial terms published by the International Chamber of Commerce (ICC) relating to international commercial law, which define the responsibilities of exporters and importers in the arrangement of shipments and the transfer of liability involved at various stages of the transaction
“IP55”	a protection rating defined by the International Electrotechnical Commission, indicating protection against dust ingress in quantities insufficient to interfere with equipment operation, and protection against low-pressure water jets from any direction
“IP65”	a protection rating defined by the International Electrotechnical Commission, indicating complete protection against dust ingress (dust-tight), and protection against low-pressure water jets from any direction
“IP66”	a protection rating defined by the International Electrotechnical Commission, indicating complete protection against dust ingress (dust-tight), and protection against strong water jets from any direction
“I ² R losses”	the power dissipated as heat when electric current flows through a conductor with resistance
“kWh”	Kilowatt-hour, a unit of energy equal to one kilowatt (1,000 watts) of power sustained for one hour.
“LFP”	lithium iron phosphate, an inorganic compound
“LLC”	inductor-inductor-capacitor, a type of resonant DC-DC converter that uses a resonant tank circuit composed of two inductors and a capacitor to achieve high efficiency across a wide range of input voltages and output loads
“MLPS”	Multi-Level Protection Scheme, a cybersecurity certification framework in China
“MOSFET”	the metal-oxide-semiconductor field-effect transistor, a type of field-effect transistor, most commonly fabricated by the controlled oxidation of silicon
“MW”	Megawatt, a unit of power measurement equal to one million watts (1,000,000 W)
“MWh”	Megawatt-hour, a unit of energy measurement equal to one million watt-hours, commonly used to quantify the amount of energy produced or consumed over a period, particularly in medium-scale energy systems
“OTA”	over-the-air, a technology that enables wireless delivery of updates, upgrades, or configurations to devices, ensuring functionality improvements and feature enhancements without physical intervention

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“PCS”	power conversion system, a system that converts electrical energy between different forms, such as alternating current and direct current, enabling efficient energy transfer and integration in energy storage or renewable energy systems
“PDU”	power distribution unit, a device fitted with multiple outputs designed to distribute electric power, especially to racks of computers and networking equipment located within a data center
“PV”	photovoltaic, a technology that converts sunlight directly into electricity using solar cells
“Round-trip efficiency”	the ratio of usable energy output to total energy input over a complete charge-discharge cycle, expressed as a percentage
“SMT”	surface-mount technology, a method in which the electrical components are mounted directly onto the surface of a printed circuit board
“SOC”	State of Charge, a measure of the current energy level in a battery, expressed as a percentage of its total capacity, indicating how much charge is available for use
“SOH”	State of Health, a metric used to assess the overall condition and performance of a battery relative to its original specifications, indicating its remaining useful life and efficiency
“VPP”	virtual power plant, a system that aggregates and manages distributed energy resources, such as solar panels, batteries, and wind turbines, to operate as a single power plant
“Wh”	Watt-hour, a unit of energy equal to one watt of power sustained for one hour