

### Noticias

La Oficina Española de Patentes y Marcas estuvo presente en la II edición del **Salón del Vehículo y Combustible Alternativos**, celebrado en la Feria de Valladolid entre el 14 y el 16 de octubre de 2010. En este certamen se analizó, desde el punto de vista de los profesionales, el presente y los retos de futuro planteados en el sector de automoción, gestión de flotas, investigación en materia de combustibles y movilidad sostenible.

Las jornadas técnicas son un hecho diferenciador del salón y en ellas participaron más de 70 ponentes para hablar sobre el presente y las perspectivas que se abren de cara al horizonte 2015. Los contenidos se distribuyeron según cuatro bloques temáticos, que fueron:

- Vehículos eléctricos e híbridos.
- Vehículos de GLP y GNC.
- Los biocombustibles en el sector transporte.
- Hidrógeno como combustible alternativo.

La sesión dedicada a vehículos híbridos y eléctricos contempló las siguientes áreas específicas: fabricantes, técnicos, flotistas y

talleres. En el grupo de técnicos, la OEPM impartió la ponencia titulada "Vigilancia tecnológica en el coche eléctrico. Situación y perspectivas".

Además de participar en las jornadas técnicas, la OEPM acudió con un stand donde dos Técnicos Superiores Examinadores dieron respuesta a dudas relacionadas con todos los títulos de Propiedad Industrial. También se puso a disposición del público copias en papel de los Boletines de Vigilancia Tecnológica del Coche Eléctrico y del Coche Inteligente.

La feria contó con 55 expositores entre los que destacaron las empresas RENAULT, MERCEDES-BENZ, HONDA, MICHELIN, PIAGGIO, REPSOL y GAS NATURAL FENOSA.

La movilidad eléctrica o híbrida, desde bicicletas hasta vehículos industriales, fue la principal atracción entre los modelos presentados a la feria. La zona de pruebas permitió a los asistentes a la feria probar los modelos disponibles.

### CONTENIDO:

- **TECNOLOGÍAS VEHICULARES**
  - [Baterías](#)
  - [Supercondensadores](#)
  - [Sistemas de recuperación de energía, p.ej. frenos regenerativos](#)
  - [Máquinas eléctricas](#)
  - [Convertidores, inversores](#)
- **INFRAESTRUCTURAS DE CARGA**
  - [Recarga de baterías](#)
  - [Cambio de baterías](#)

## Solicitudes de Patente Publicadas

Los datos que aparecen en la tabla corresponden a una selección de las solicitudes de patentes publicadas durante el trimestre. Se puede acceder al documento completo haciendo doble clic sobre el mismo.

### BATERÍAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010100736 A1</a>	TOYOTA JIDOSHA KK	Charge and discharge control system of hybrid vehicle, has process unit that sets control target to be more during abnormality non-detection state, when abnormality is detected corresponding to electrical storage apparatus
<a href="#">WO2010101396 A2</a>	LG CHEM LTD	Positive electrode material used for lithium secondary battery, contains oxide powder including lithium-cobalt-metal oxide, and another oxide powder including lithium-nickel-manganese cobaltate, in specified ratio
<a href="#">WO2010101307 A2</a>	NGK INSULATORS LTD	Positive electrode active material used for lithium secondary battery for e.g. hybrid electric vehicles, consists of crystal particles which comprise lithium manganate with spinel structure
<a href="#">WO2010100731 A1</a>	TOYOTA JIDOSHA KK	Closed type battery for e.g. portable electronic device, has safety valve section that includes thin-walled section having portions with different breaking pressure
<a href="#">WO2010100924 A1</a>	TOYO ALUMINIUM KK	Aluminum alloy foil for positive-electrode collectors, comprises large-diameter crystallized substance having average diameter of preset range, and iron, silicon, copper, manganese, magnesium and zinc, in mass ratio of preset range
<a href="#">WO2010101306 A2</a>	NGK INSULATORS LTD	Positive electrode active material for lithium secondary battery, contains crystalline particles including particles having specified particle diameter and bismuth-containing compound, and has specified range of specific surface area
<a href="#">WO2010100749 A1</a>	TOYOTA JIDOSHA KK	Air cell for use as power source in electric vehicle, portable devices, has hydrogen sensor that is provided in casing which seals oxygen-containing gas
<a href="#">WO2010100910 A1</a>	MATSUSHITA DENKI SANGYO KK; PANASONIC CORP	Positive electrode active material for nonaqueous electrolyte secondary battery, comprises complex oxide particles containing primary particles with larger content of specific element in surface layer portion
<a href="#">WO2010100940 A1</a>	PANASONIC CORP	Square-shaped battery used in various applications, has active material layer section that terminates at position at which negative electrode is folded back for second time and folded back for third time
<a href="#">WO2010101308 A2</a>	NGK INSULATORS LTD	Positive electrode active material for lithium secondary battery, consists of crystalline particles comprising lithium manganate with spinel structure which includes lithium and manganese as constituent elements
<a href="#">WO2010100081 A2</a>	RWE AG	Electric vehicle i.e. car, charging method, involves determining energy required to completely charge battery, and receiving service offering matched to determined information from service offerings by station using obtained information
<a href="#">WO2010099909 A1</a>	AMPHENOL TUCHEL ELECTRONICS GMBH	High current connection device for contacting multiple energy storage units of an energy storage in parallel and/or in series, comprises two poles for connecting the high current connection device to a current consumer
<a href="#">WO2010102821 A1</a>	LI-TEC BATTERY GMBH	Flat battery cell useful in a battery arrangement, comprises a jacket to receive an electric cell, and a current conductor having a base section and contact sections, which are angled in relation to the base section around a bending axis
<a href="#">WO2010098177 A1</a>	TOYOTA JIDOSHA KK; UNIV OSAKA PREFECTURE	Solid sulfide electrolyte material used for lithium cell, comprises raw-material composition comprising lithium sulfide and sulfide of specific element, and does not contain crosslinked sulfur
<a href="#">WO2010099355 A2</a>	ADURA SYSTEMS INC	Thermal management system useful for energy storage units comprises energy storage units and a thermal transfer channel that provides structural support to the energy storage units
<a href="#">WO2010095572 A1</a>	ASAHI KASEI E-MATERIALS CORP; ASAHI KASEI E-MATERIALS KK; UNIV YAMAGUCHI	Electrolyte solution used for lithium ion secondary battery, contains nonaqueous solvent, lithium salt and sulfonyl group-containing compound
<a href="#">WO2010098598 A2</a>	LG CHEM LTD	Case for medium-to large-sized battery i.e. secondary battery, pack for e.g. electromobile, has downward facing projection part formed on inner surface of upper edge of coolant inflow part from edge part opposite to coolant inflow port

<a href="#">WO2010097678 A1</a>	TOYOTA CHUO KENKYUSHO KK; TOYOTA JIDOSHA KK	Lithium-ion secondary battery used as power source for e.g. motor vehicles, contains positive electrode active material, negative electrode active material and nonaqueous electrolytic solution including carbonate and anion compound
<a href="#">WO2010095281 A1</a>	NIPPON JIDOSHA BUHIN SOGO; NIPPON SOKEN INC; TOYOTA JIDOSHA KK	Non-contact power supply equipment for vehicle e.g. electric vehicle, has control apparatus in which frequency range of spread-spectrum is set based on transfer constant from input of primary coil
<a href="#">WO2010095230 A1</a>	TOYOTA JIDOSHA KK	All-solid state battery e.g. lithium ion secondary battery used as motive power source of electric vehicle, has space between inner surface of case and solid electrolyte/electrode assembly that is filled with pressurized fluid
<a href="#">WO2010097242 A1</a>	LI-TEC BATTERY GMBH	Frame for galvanic cell, comprises electrode stack having film-like packaging, from which conductors are guided, where frame is designed in such a way that the frame is rigidly connected to packaging of cell during production of the cell
<a href="#">WO2010095260 A1</a>	TOYOTA JIDOSHA KK	Battery system for motor vehicle, has temperature control unit that maintains temperature of lithium ion battery at predetermined temperature range for predetermined time
<a href="#">WO2010094517 A2</a>	BOSCH GMBH ROBERT	Charging device for producing current-carrying contact with e.g. plug-in hybrid vehicle, has electric accumulator device electrically connected to device through contact arm that is movably attached to device
<a href="#">WO2010094990 A1</a>	NUMEXIA SA	Contact-free inductive power transfer system for battery loaded electrical vehicle, has primary and secondary coils in which same volume of current is circulated, such that currents circulating in coils are of opposite phase
<a href="#">WO2010093368 A1</a>	BEHNAME B; SAMII A; SAMII G; VENOD	Battery separator useful in lithium ion battery comprises a mixture of kaolin clay or alumina and silica, and polyolefin
<a href="#">WO2010093659 A1</a>	DOW GLOBAL TECHNOLOGIES INC	Polymeric electrolyte composition for secondary batteries, comprises phase including hollow and/or porous organic microparticles, and another continuous phase including ethylene oxide-containing polymer
<a href="#">WO2010092689 A1</a>	TOYOTA JIDOSHA KK	Lithium secondary battery for vehicles, has electrode containing iron oxide film which can occlude-discharge lithium provided on electroconductive substrate having surface roughness above preset value
<a href="#">WO2010092976 A1</a>	DAIKIN IND LTD	Slurry for positive electrode for lithium secondary battery, contains lithium-containing composite metal oxide as positive electrode active material, fluoropolymer as binder, and organic solvent
<a href="#">WO2010092977 A1</a>	DAIKIN IND LTD	Slurry for electrode mixture of lithium secondary battery, comprises electrode active material, binder containing fluoropolymer and solvent-soluble thermoplastic resin, and organic solvent
<a href="#">WO2010091743 A2</a>	ABB RES LTD	Device for charging of electric vessel equipped with battery, includes converter, provided in voltage conversion arrangement, providing bidirectional active and reactive power exchange with three-phase alternating current (AC) network
<a href="#">WO2010094545 A1</a>	ZF FRIEDRICHSHAFEN AG	Drive train operating method for use in motor vehicle, involves controlling and/or regulating operation of drive train by hybrid strategy based on reference charging conditions of energy storage and reference emission limiting values
<a href="#">WO2010091401 A1</a>	XTREME POWER INC	Battery discharging method e.g. for lead acid battery, involves discharging battery with discharge current profile comprising current pulses having frequency component selected based on determined target frequency
<a href="#">WO2010091809 A1</a>	LI-TEC BATTERY GMBH	Battery for use in e.g. hybrid vehicle, has multiple battery cells i.e. flat secondary battery cells, that are held in battery housing, where heat exchanger unit is arranged within battery housing
<a href="#">WO2010089650 A1</a>	TOYOTA JIDOSHA KK	Manufacture of electrode slurry used for active material of positive electrode plate, involves agitating unprocessed slurry including solvent, active material particles and resin, and flowing obtained slurry to storage portion
<a href="#">WO2010091170 A1</a>	MAGNA-LASTIC DEVICES INC	Apparatus for monitoring state of charge of lithium-iron-phosphate battery cell comprises battery state of charge sensor adapted to being attached proximate to a battery cell, where sensor comprises inductive drive coil; and flux coil
<a href="#">WO2010089898 A1</a>	TOYOTA JIDOSHA KK	Lithium secondary battery used for vehicles e.g. hybrid vehicle and electric vehicle, has positive electrode and/or negative electrode with active material layer and insulating particle-containing layer, and nonaqueous electrolyte
<a href="#">WO2010089891 A1</a>	TOYOTA JIDOSHA KK	Manufacture of solid-electrolyte material-containing sheet for solid-electrolyte layer, involves radical-polymerizing sheet-like composition obtained by coating raw-material composition containing sulfide-solid electrolyte material
<a href="#">WO2010089939 A1</a>	KONICA MINOLTA HOLDINGS INC	Manufacture of electrode used for secondary battery for e.g. mobile telephone, involves coating liquid containing active material to surface of collector layer provided on belt-shaped support and drying coated liquid
<a href="#">WO2010090224 A1</a>	TOSHIBA KK	Nonaqueous electrolyte secondary battery used for battery pack, has positive electrode containing lithium-nickel complex oxide, and negative electrode containing lithium-titanium complex oxide and lithium-containing phosphorus oxide

<a href="#">WO2010093500 A1</a>	BATTELLE MEMORIAL INST	Fabrication of nanowires used for energy storage device, by introducing vapor source during heating which comprises element and that chemically interacts with liquid mixed phase to consume another element to induce product condensation
<a href="#">WO2010092318 A1</a>	AUTOLIV DEV AB; PARRY S J	Safety arrangement for e.g. motor vehicle, is configured such that internal pressure within enclosed space around battery is raised above atmospheric pressure by flow of gas from tank into enclosed space
<a href="#">WO2010089483 A1</a>	SOC VEHICULES ELECTRIQUES; SOC VEHICULES ELECTRIQUES SAS	Heat managing method for e.g. lithium-ion battery in electric motor vehicle, involves activating fluid circulation, heating and cooling devices if value of difference between preconditioning and average temperatures is higher than set point
<a href="#">WO2010088998 A1</a>	BOSCH GMBH ROBERT	Battery i.e. traction battery, for use in e.g. hybrid vehicle, has battery modules including battery module poles, which are short-circuited by bridging device that is inserted between module poles when bridging device is triggered
<a href="#">WO2010089002 A1</a>	BOSCH GMBH ROBERT	Battery cell i.e. lithium ion battery cell, for traction battery in e.g. electric vehicle, has separating and bypass device that short-circuits battery terminals with appropriate control, when interruption to connection is caused
<a href="#">WO2010086911 A1</a>	PANASONIC CORP	Non-aqueous electrolyte secondary battery for e.g. consumer appliance, has flat-shaped electrode group accommodated in case and provided with positive and negative electrode leads such that preset equation is satisfied
<a href="#">WO2010087225 A1</a>	TOYOTA JIDOSHA KK	Collector used for manufacturing electrode sheet for lithium ion battery, consists of substrate, titanium membrane and binder-less carbon film formed in order on substrate
<a href="#">WO2010089079 A1</a>	LI-TEC BATTERY GMBH	Battery i.e. lithium ion battery, storage device for use in motor vehicle, has closable opening attached to wall, and battery holding device holding battery and designed such that battery is released by predetermined controls
<a href="#">WO2010086226 A1</a>	SIEMENS AG	Method for potential-independent functional testing of insulated gate bipolar transistor utilized in electric car, involves using measuring blocks for determining impedance, and determining conductivity state of switch from impedance
<a href="#">WO2010084583 A1</a>	TOYOTA JIDOSHA KK	Sulfide type solid electrolyte material for lithium cell, has lithium antimony sulfide structure
<a href="#">WO2010084622 A1</a>	TOYOTA JIDOSHA KK	Positive electrode for lithium secondary battery, consists of conductive layer containing water-insoluble polymer and active material layer containing aqueous polymer soluble or dispersible in water, laminated in order
<a href="#">WO2010084808 A1</a>	NAT INST ADVANCED IND SCI & TECHNOLOGY	Manufacture of iron-sulfide-lithium complex for use in positive-electrode active materials, involves heating raw material containing sulfur-, iron- and lithium-containing compounds by electric sintering in non-oxidizing atmosphere
<a href="#">WO2010086054 A1</a>	BOSCH GMBH ROBERT	Method for detecting overload situation in power tool, involves comparing calculated temperature margin with current measured temperature of battery, and avoiding thermal overloading of battery based on comparison result
<a href="#">WO2010084709 A1</a>	KUREHA CORP	Manufacturing method of negative electrode material for non-aqueous electrolyte secondary battery, involves compression-molding of pitch microparticles to form porous compression-molded element from which infusible pitch is obtained
<a href="#">WO2010084654 A1</a>	TOSHIBA KK	Negative electrode active material for nonaqueous electrolyte battery, comprises particles containing substance having specified lithium adsorption/desorption potential, and spinal-type lithium-titanium complex oxide coating layer
<a href="#">WO2010084260 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Vehicle e.g. electric motor vehicle, has storage device for storing electric energy and cooled by primary ventilation device, and activation unit to activate cooling ventilator when vehicle is in parking mode
<a href="#">WO2010084261 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Thermal power electric or hybrid vehicle e.g. electric or hybrid motor vehicle, has secondary air circuit formed by secondary incoming air conduit that is opened under central lower part of passenger compartment of vehicle
<a href="#">WO2010084073 A1</a>	BOSCH GMBH ROBERT	Evaluation circuit for battery cells, in series, applies a current to resistances for each cell for comparison of the voltage drop with the cell voltages
<a href="#">WO2010086230 A1</a>	BOSCH GMBH ROBERT	Battery testing uses a circuit with at least an inductive and a capacitive component forming an oscillation circuit with the battery for excitation by a temporary charge at the capacitive component
<a href="#">WO2010083981 A1</a>	LI-TEC BATTERY GMBH	Battery system i.e. lithium-ion battery system, for motor vehicle, has cold absorption device providing usable ambient cooling to cool battery, and latent heat accumulator designed as heat source to provide drive heat to absorption device
<a href="#">WO2010082402 A1</a>	GS YUASA INT LTD	Positive electrode active material for lithium secondary battery, comprises lithium-transition metal phosphate compound
<a href="#">WO2010081427 A1</a>	BYD CO LTD; DENG L; WU X; ZHANG J	Managing device for battery pack used in e.g. hybrid power vehicle, has single chip which controls charging device coupled to managing device to charge the battery pack with determined charging voltage and charging current

<a href="#">WO2010082229 A1</a>	PANASONIC CORP	Nonaqueous electrolyte secondary battery e.g. lithium ion battery for tool e.g. electric drive tool, has positive electrode that is stacked or rolled on negative electrode through aramid resin made insulating layer functioning as separator
<a href="#">WO2010082230 A1</a>	PANASONIC CORP	Battery electrode manufacturing method e.g. for lithium ion secondary battery, involves adjusting coating width of paste based on distance between pair of thin steel plates in opening of discharge flow path
<a href="#">WO2010081704 A3</a>	LI-TEC BATTERY GMBH	Electric energy storage device i.e. lithium-ion accumulator, for e.g. hybrid vehicle, has tensioning device for holding storage cells together between pressure plates, where each cell is held in edge region between retaining frames
<a href="#">WO2010082532 A1</a>	SHOWA DENKO KK; SHOWA DENKO PACKAGING CO; SHOWA DENKO PACKAGING KK	Electrochemical device used in e.g. lithium ion secondary battery, has sealing portion formed by melting and heat-sealing electrochemical element in state in which lead terminal is interposed through laminated coating film
<a href="#">WO2010082657 A1</a>	NEC TOKIN CORP	Non-aqueous electrolyte secondary battery for notebook computer, has positive electrode, electrolyte having carbonate solvent, negative electrode containing silicon oxide, and gel having crosslinked carboxylic ester polymer
<a href="#">WO2010082506 A1</a>	INST ENERGY APPL TECHNOLOGIES CO LTD	Direct current electric power supply system for supplying electric power to e.g. electric vehicle, has two switches that are set in OFF and ON states respectively, when stop of power supply to server is detected
<a href="#">WO2010082254 A1</a>	TOYOTA JIDOSHA KK	Electrical storage apparatus e.g. secondary battery module for vehicle, has foaming agent at base material of spacer, that is thermally decomposed based on temperature rise accompanying the heat generation of electrical storage element
<a href="#">WO2010083435 A1</a>	FISKER AUTOMOTIVE INC	Photovoltaic storage and charging system for vehicle has low voltage direct current (DC)/DC converter to boost energy to predetermined level for charging energy storage device and deliver boosted electrical energy to energy storage device generation of electrical storage element
<a href="#">WO2010084072 A1</a>	BOSCH GMBH ROBERT	Aging state determining method for lithium-ion battery utilized for e.g. electric vehicle, involves determining evaluation parameter and aging state of battery cell based on comparison of parameter with reference value
<a href="#">WO2010083945 A1</a>	LI-TEC BATTERY GMBH	Protection device for protecting e.g. primary cell in lithium ion battery utilized as e.g. traction battery in electric vehicle, has activation unit provided for activating device, where device bridges cell that is assigned to device
<a href="#">WO2010079938 A3</a>	LG CHEM LTD	Spacer for battery pack of notebook computer, has temperature detection member inserted in space formed between battery cells, and vertical opening connected with horizontal aperture
<a href="#">WO2010080058 A1</a>	SCANIA CV AB	Method of providing dual battery unit for starting batteries used in vehicle e.g. truck, involves expanding clamping device towards batteries arranged with their battery terminals facing each other on opposing sides of fixed insulator
<a href="#">WO2010074838 A1</a>	DOW GLOBAL TECHNOLOGIES INC	Battery electrolyte solution, useful in e.g. lithium ion battery, comprises at least one lithium salt and a non-aqueous solvent in which the lithium salt is soluble, where specific percent of the solution is aromatic phosphorus compound
<a href="#">WO2010078974 A1</a>	BOSCH GMBH ROBERT	Electric vehicle controlling method, involves verifying whether charge state of battery is sufficient to reach destination, and activating auxiliary drive when verification illustrates that state is not sufficient to reach destination
<a href="#">WO2010076767 A1</a>	LITHIUM BALANCE AS	Battery cell module e.g. lithium battery cell module for electrical car, has metallic plates that are electrically connected to flat contacts extending from two adjacent gaps of different gap pairs in switch board
<a href="#">WO2010076454 A1</a>	RENAULT SAS	Battery e.g. lithium battery, cooling device for hybrid electric vehicle, has evaporator arranged in housing, where housing is connected to air conduit whose outlet is oriented towards radiator provided on outer surface of battery case
<a href="#">WO2010076452 A1</a>	RENAULT SAS	Battery e.g. lithium battery, cooling device for hybrid electric vehicle, has evaporator arranged outside case and provided in contact with thermally conductive part of case, where conductive part is integrated in outer wall of case
<a href="#">WO2010076451 A1</a>	RENAULT SAS	Battery e.g. lithium battery, cooling device for hybrid electric vehicle, has exchanger exchanging heat between refrigerant fluid flowing in bypass circuits and water flowing in loops arranged under thermal exchange conditions with battery
<a href="#">WO2010076453 A1</a>	RENAULT SAS	Battery e.g. lithium battery, cooling device for hybrid electric vehicle, has air conduit arranged between evaporator and battery for recuperating portion of cold air from evaporator and sending recuperated air to battery to cool battery
<a href="#">WO2010076055 A1</a>	BOSCH GMBH ROBERT	Rechargeable battery e.g. nickel-metal hydride-battery, module for e.g. hybrid vehicle, has battery cells accommodated in battery case, where cells include layer of cathode, anode and separator element

<a href="#">WO2010076053 A1</a>	BOSCH GMBH ROBERT	Battery module e.g. nickel metal hydride battery, for use as wind-powered device in e.g. hybrid vehicle, has battery cell provided with layer structure that comprises cathode, anode and deformable layer element
<a href="#">WO2010074247 A1</a>	NIPPON OIL CORP	Raw material oil composition used as carbon material for negative electrode of lithium ion secondary battery, has preset normal paraffin content, aromatic component content, distillation temperature and density
<a href="#">WO2010073328 A1</a>	TOYOTA JIDOSHA KK	Control device of vehicle e.g. motor vehicle, has electronic control device which newly activates rear window defogger and side mirror heater so as to respond to forced increase of field current of alternator
<a href="#">WO2010073464 A1</a>	TOYOTA JIDOSHA KK	Temperature control structure for adjusting temperature of battery pack mounted in e.g. hybrid car, has projection in air flow duct, that projects outwards with respect to surface of duct and located above connector
<a href="#">WO2010073466 A1</a>	TOYOTA JIDOSHA KK	Temperature control structure for adjusting temperature of battery pack in e.g. hybrid car, has inclined surface at bottom of air intake duct, that extends upward from lower end of inlet port of duct and faces inlet port side
<a href="#">WO2010073809 A1</a>	MITSUBISHI HEAVY IND CO LTD; MITSUBISHI JUKOGYO KK	Battery module mounted in e.g. electric car, has liquid leakage sensor which is connected to liquid detector through signal cable
<a href="#">WO2010073931 A1</a>	KUREHA CORP	Manufacture of negative electrode carbon material used for nonaqueous electrolyte secondary battery, involves performing detarring process by heating infusibilized pitch, when flowing inert gas at preset space velocity
<a href="#">WO2010071463 A1</a>	IMPACT AUTOMOTIVE TECHNOLOGIES SP ZOO	Thermo-stabilized electrical battery module for use in e.g. mobile electrical device e.g. electric car, has housing with electrical cells placed between sidewall and separating plate that remains in contact with sidewall
<a href="#">WO2010071166 A1</a>	NEC TOKIN CORP	Negative electrode for nonaqueous electrolyte secondary battery, comprises lithium-containing silicon oxide particles having surface protrusions whose height is of preset range with respect to average particle diameter of particles
<a href="#">WO2010069099 A1</a>	DENG Y	Automatic charging system of electric vehicle, has transmission chains connected to multi generators and battery that drive generators to generate power for charging battery in driving state of vehicle
<a href="#">WO2010070954 A1</a>	PIONEER CORP	vehicle-mounted information apparatus for information transfer systems for, e.g. electric vehicle, performs reception of updated information to update updatable information, with management apparatus when battery is charging
<a href="#">WO2010069078 A1</a>	BASIR O A; INTELLIGENT MECHATRONIC SYSTEMS INC	Energy meter for electric vehicle has CPU which receives current location and measure of energy charged in battery then associates measure of charge energy with location at which battery was supplied with charge energy
<a href="#">WO2010073924 A1</a>	TOYOTA JIDOSHA KK	Manufacture of electrode used for manufacturing lithium ion battery, involves forming porous inorganic layer using slurry containing inorganic particles, binder and solvent, on surface of active material layer with preset moisture content
<a href="#">WO2010067943 A1</a>	LG CHEM LTD	Battery module used as power source for electric vehicles, hybrid electric vehicles, or plug-in hybrid electric vehicles comprises electrode assembly of cathode/separator/anode structure and heat exchange member
<a href="#">WO2010077982 A3</a>	SLOOP S E	Processing spent energy storage and conversion devices for recycling, comprises obtaining spent energy storage and conversion device, disassembling spent energy storage and device, and discharging cells of the energy storage device
<a href="#">WO2010069713 A1</a>	BOSCH GMBH ROBERT	Rechargeable battery e.g. nickel metal hydride battery, for e.g. hybrid vehicle, has clamping arrangement formed by battery cell and conduction device and tensed with battery element and heat conduction device against each other
<a href="#">WO2010067559 A1</a>	HITACHI LTD	Manufacturing method of lithium secondary battery for hybrid vehicle, involves coating slurry to metal foil and drying through die head, while iron type metal foreign material mixed in slurry is removed by iron removal portion
<a href="#">WO2010070805 A1</a>	MATSUSHITA DENKI SANGYO KK; PANASONIC CORP	Battery such as lithium ion battery, has negative electrode lead which is extended out of negative electrode collector ranging over edge of exposed portion and is welded to exposed portion
<a href="#">WO2010068524 A3</a>	ENVIA SYSTEMS INC; KARTHIKEYAN D K; KUMAR S; LOPEZ H; VENKATACHALAM S	Positive electrode active material for lithium ion battery, comprises lithium metal oxide composite, a first material, and a metal/metalloid fluoride coating on composite, where active material has cycle specific discharge capacity
<a href="#">WO2010067410 A1</a>	TOYOTA JIDOSHA KK; KUMAR S	Lithium ion battery for, e.g. motor vehicle, has porous inorganic layer formed on active material layer, whose mass per unit area ratio between end and plane portions of inorganic layer is in specific range

<a href="#">WO2010074106 A1</a>	TOYODA AUTOMATIC LOOM WORKS; TOYOTA JIDOSHA KK; TOYOTA JIDOSHOKKI KK	Resonance type non-contact charging device for charging system of secondary battery, has electronic control unit that controls switching element of charger by monitoring output and output voltage of charger during battery charging
<a href="#">WO2010071370 A2</a>	LG CHEM LTD	Battery module for use in medium-to-large-sized battery pack of e.g. electromobile, has multiple flake-type battery cells laminated with each other, and heat-sinking members made of metal plate and extended in outermost battery cells
<a href="#">WO2010086903 A1</a>	MATSUSHITA DENKI SANGYO KK; PANASONIC CORP	Non-aqueous electrolyte secondary battery mounted in motor vehicle, sets stretching elongation rate of positive electrode greater than or equal to ratio between thickness of anode mix layer and minimum curvature radius of electrode
<a href="#">WO2010101909 A2</a>	CONSOL EDISON CO NEW YORK; CONSOL EDISON CO NEW YORK INC	Mobile electrical metering device for plug-in electric vehicle i.e. car, has controller including processor responsive to executable computer instructions for storing data indicative of electrical power consumption by vehicle

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## SUPERCONDENSADORES

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010101415 A2</a>	LG CHEM LTD	Relay controlling apparatus for battery control system, has battery pack for supplying power to electric driver, controller that controls switching of relay, and memory unit for storing reference value of residual current
<a href="#">WO2010097554 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Charging state managing device for e.g. lithium-ion battery, in hybrid vehicle, has comparing unit acting on hybrid traction chain control unit when distance is lower than distance value to apply control law decrease charge state of battery
<a href="#">WO2010092330 A1</a>	AUTOLIV DEV AB; PARRY S J	Safety arrangement for motor vehicle, has cutting mechanism comprising a knife that is operated under action of flow of gas to sever a conductor that electrically connects battery to electrical circuit within vehicle
<a href="#">WO2010079302 A2</a>	VALEO EQUIP ELECTRIQUES MOTEUR	Energy storage unit i.e. battery, controlling method for micro-hybrid system of motor vehicle, involves determining limitation of availability of functions when temperature information reaches temperature threshold
<a href="#">WO2010079296 A3</a>	VALEO EQUIP ELECTRIQUES MOTEUR	Supercapacitors-based energy storage controlling method for microhybrid system of motor vehicle, involves deciding availability limitations of functions when maximum elementary voltage information reaches voltage threshold
<a href="#">WO2010072786 A2</a>	DELACHAUX SA	Electrical connection system for electrically connecting e.g. lithium ion battery, of motor vehicle to energy source, has electrically conductive bars electrically connected to electric energy storage units of vehicle
<a href="#">WO2010075100 A1</a>	ISE CORP	Propulsion energy storage system i.e. ultra capacitor energy storage system for use in metropolitan transit bus, has controller controlling cooling functions of closed-loop cooling system and/or electrical functions of cell pack assembly
<a href="#">WO2010102791 A2</a>	HEMPEL J R; IMP GMBH	Electricity production device for moped, has ion cell and consumer load that is connected parallel to four parallelly connected capacitors, where capacitors are electrolytic capacitors

[...volver a CONTENIDO](#)



## SISTEMAS DE RECUPERACIÓN DE ENERGÍA; FRENOS REGENERATIVOS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010100776 A1</a>	MITSUBISHI HEAVY IND CO LTD (MITO ) MITSUBISHI JUKOGYO KK	Charging method for wireless traffic vehicle, involves charging wireless traffic vehicle with charging device when vehicle carrying electrical storage apparatus is stopped at station on track
<a href="#">WO2010098881 A2</a>	GTR DEV LLC	Wheeled vehicle includes hybrid braking system (HBS) controller connected to hybrid brake mechanism to actuate energy recovery machine in braking mode or in drive mode only when vehicle is in motion
<a href="#">WO2010092939 A1</a>	HONDA MOTOR CO LTD	Brake device for vehicle, has pair of pumps which is arranged to supply brake fluid of hydraulic-pressure chambers to wheel cylinders
<a href="#">WO2010087705 A1</a>	DTI GROUP BV	Flywheel module for use in vehicle, has reduction gear unit comprising output connected to input/output of flywheel unit that is connected to output shaft of coupling unit, and coupling device connected to reduction gear unit
<a href="#">WO2010083925 A1</a>	CONTINENTAL TEVES & CO OHG AG	Electrohydraulic brake system for passenger car, has control unit distributing braking effect on generator and/or recuperation and friction portions, and brake booster designed in electrically controlled manner by control unit
<a href="#">WO2010086046 A1</a>	SIEMENS AG	Driven vehicle e.g. hybrid vehicle, axle, has electrical machine alternatively driven by motor or generator, and brake device provided with eddy current brake, where electrical machine and current brake are provided for driving wheel
<a href="#">WO2010082079 A1</a>	RENAULT TRUCKS	Powertrain for, e.g. hybrid electric vehicle, has power split transmission device with couplings coupled to fly wheel, electric machine, vehicle driveline, and friction brake, respectively
<a href="#">WO2010076607 A1</a>	RENAULT TRUCKS	Method for controlling braking system of hybrid vehicle, involves activating retarders of braking system to deliver preset torque, based on compliance of received response time with delivery time of required torque
<a href="#">WO2010071540 A1</a>	ELECTROENGINE IN SWEDEN AB	Production kit of electric motor driven vehicle e.g. car, supplies electric power regenerated during braking of vehicle to climate control system
<a href="#">WO2010070717 A1</a>	TOYOTA JIDOSHA KK	Motor locking device for drive device of vehicle, has actuator that drives lock plate between locked and unlocked positions

[...volver a CONTENIDO](#)

## MÁQUINAS ELÉCTRICAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010102842 A2</a>	BOSCH GMBH ROBERT	Electric machine for use in hybrid drive device of car, has delivery device for delivering cooling fluid into region of stator and/or rotor to cool machine, and rotor with duct to conduct cooling fluid through rotor using delivery device
<a href="#">WO2010100143 A1</a>	BOSCH GMBH ROBERT	Electric machine for driving car, has channel for guiding cooling fluid, where geometry or alignment of sections of channel is designed such that fluid flows with deviation of less than forty degrees in direction of axle
<a href="#">WO2010100748 A1</a>	TOYOTA JIDOSHA KK	Control apparatus of hybrid vehicle, starts limiting of charging/discharging electric power when battery temperature is lower than specific temperature in the period in which catalyst warming-up is not carried out direction
<a href="#">WO2010100318 A1</a>	MAJALAHTI T	Electro-mechanical gear has inverter unit set on exterior of gear and which conducts electrical energy to electric motor unit at set voltage with desired frequency through generator unit
<a href="#">WO2010095639 A1</a>	SUMITOMO HEAVY IND LTD	Hybrid type shovel such as hybrid type hydraulic shovel for assisting engine, determines demagnetization of permanent magnet of electric generator by comparing detected induced voltage
<a href="#">WO2010094589 A1</a>	SIEMENS AG	Housing for use in traction motor, has individual segments in circumferential direction, where segments together provide non-positive press fitting of stator laminated core and axial length of segments corresponds to axial length of core
<a href="#">WO2010094530 A1</a>	ZF FRIEDRICHSHAFEN AG	Hybrid drive for motor vehicle, has radial shaft seal arranged at end of bearing neck pointing towards rotor of electric machine, and transmission oil for cooling and lubricating fixed radial bearing and loose radial bearing
<a href="#">WO2010095610 A1</a>	MIYAMOTO Y	Hybrid electric vehicle, has hollow drive shaft that is connected to rotor of motor to drive wheels and connection shaft is connected to output shaft of engine and generators are inserted into hollow drive shaft
<a href="#">WO2010095060 A1</a>	LUK LAMELLEN&KUPPLUNGSBAU BETEILIGUNGS	Drive device for vehicle, has drive and wheel that is propelled by drive, where two-stage traction drive is arranged between drive and propelled wheel
<a href="#">WO2010094172 A1</a>	DAI S	Electrical vehicle, has generator output voltage detecting module detecting generator output voltage and sending detected voltage value to CPU, where CPU performs analysis, and controls operation and output state of generator
<a href="#">WO2010094375 A1</a>	BAYERISCHE MOTOREN WERKE AG	Coolant pump for vehicle, particularly for motorcycle, comprises housing, in which electric motor is arranged, and rotor is provided, which is connected with pumping organ
<a href="#">WO2010094312 A1</a>	LI-TEC BATTERY GMBH	Method for charging motor vehicle battery during operation of motor vehicle, involves charging current for motor vehicle battery by converting mechanical power at vehicle suspension in partial manner
<a href="#">WO2010092403 A2</a>	ISIS INNOVATION LTD	Electric machine e.g. generator, for use in hybrid vehicle, has bars with shoe, where shoe on one side of coil facing one stage is skewed with respect to shoe on another side of coil facing another stage
<a href="#">WO2010092400 A2</a>	ISIS INNOVATION LTD	Rotary electric machine used as motor and/or generator in vehicle e.g. hybrid vehicle, has stator bars and coils enclosed by stator housing that defines a chamber which accommodates a cooling medium for cooling the coils
<a href="#">WO2010091820 A1</a>	LI-TEC BATTERY GMBH	Arrangement for supplying energy to e.g. motorized vehicle, has heat engine partially converting heat into kinetic energy of vehicle, and feeding portions of lost heat to heat accumulator, where electric generator is driven by engine
<a href="#">WO2010092402 A1</a>	ISIS INNOVATION LTD	Shaftless electric machine e.g. dual-drive four-slice motor, for use in e.g. hybrid vehicle, has rotor whose output includes flange connection unit by which flange is connected to rotor for transmitting rotary power from rotor

<a href="#">WO2010089841 A1</a>	HONDA MOTOR CO LTD	Power transmission device for hybrid vehicle, has power combining mechanism equipped with sun gear, carrier and ring gear that are configured to rotate differentially with respect to each other
<a href="#">WO2010089734 A2</a>	KISLEV V; ROZINSKY E; SHABINSKI R	Electrical machine for use as electrical drive of shaft in vehicle, has electromagnet comprising magnet coil provided on magnet conductor, and extension member made of magnetic material with electric resistance in specific Ohms
<a href="#">WO2010089246 A1</a>	ZF FRIEDRICHSHAFEN AG	Drive train operating method for motor vehicle, involves closing starting element such that starting element transmits starting torque depending on driver request, where element is external to or internal to automatic transmission
<a href="#">WO2010087786 A1</a>	BABADAGLI Y	Hybrid vehicle transformation for use in e.g. automobile, has wheels coupled with electromechanic unit that functions as engine and generator, and electric power supply unit is mounted in electromechanic unit
<a href="#">WO2010086997 A1</a>	TOYOTA JIDOSHA KK	Stator of motor mounted in e.g. hybrid vehicle, has insulator that is arranged at periphery of side confronted with slot of teeth, and top face which is not confronted with slot
<a href="#">WO2010087066 A1</a>	HONDA MOTOR CO LTD	Axial gap-type motor for e.g. hybrid vehicle, has sub-magnets that are positioned in sides of main magnet and magnetized in orthogonal direction so that magnetic poles having same polarity oppose each other in axis of rotation
<a href="#">WO2010087103 A1</a>	HONDA MOTOR CO LTD	Axial gap type motor mounted in e.g. hybrid vehicle, has grooves for preventing positional displacement of main magnet sections circumferentially arranged in rotor frame, which are formed on inner peripheral side of magnet sections
<a href="#">WO2010087311 A1</a>	HONDA MOTOR CO LTD	Hybrid vehicle has connection device for enabling or disabling transmission of power between output shaft of electric motor and transmission input shaft
<a href="#">WO2010088985 A1</a>	BOSCH GMBH ROBERT	Drive device i.e. hybrid drive device, for car, has electric machine including stator and rotor and arranged in housing, where housing is provided with cooling rib that is formed in direction of axle of shaft of machine
<a href="#">WO2010079794 A1</a>	SUMITOMO HEAVY IND LTD	Warm-up method for hybrid construction machine, involves heating electricity storage unit of machine by drive of engine when temperature of electricity storage unit is lower than previously set temperature
<a href="#">WO2010081979 A9</a>	RENAULT SAS	Range extender for electric motor vehicle, has connection interface permitting removable connection of extender to vehicle and with connector forming inlet for heat engine and with another connector forming outlet evacuating exhaust gas
<a href="#">WO2010072435 A2</a>	BOSCH GMBH ROBERT	Device for supplying electricity to electric motor for electrical vehicle drive, has controllable switching arrangement, which is formed in switching status to provide current path to power input
<a href="#">WO2010081123 A1</a>	ECOMOTORS INT INC; GARRARD T; HIPPEN W; HOFBAUER P; LAIMBOECK F	Electrically controlled turbocharger used in hybrid vehicle, has channel which is formed within turbocharger main structure, and directed onto stator of motor
<a href="#">WO2010079078 A1</a>	BOSCH GMBH ROBERT	Device for supplying electricity for electrical consumers in hybrid vehicle, has voltage converter for converting high input voltage produced by high voltage energy source to low output voltage that is supplied to electrical consumers
<a href="#">WO2010081597 A1</a>	BOSCH GMBH ROBERT	Electric drive for vehicle, particularly motor vehicle, has electric motor, where electric motor has electric drive unit for generating rotary motion, and has heating device
<a href="#">WO2010079714 A1</a>	AISIN AW CO LTD	Device for controlling vehicle drive apparatus, has hydraulic controller that is arranged to release oil pressure of lock-up clutch, when gear ratio of lock-up clutch is smaller than predetermined value
<a href="#">WO2010073309 A1</a>	TOYOTA JIDOSHA KK	Hybrid vehicle switches driving mode between one mode in which rotary electric machine is driven, and other mode in which internal combustion engine is driven, based on changes in voltage levels of control line
<a href="#">WO2010074263 A1</a>	SANYO ELECTRIC CO LTD	Molded motor mounted in electric vehicle, has circular partition that is formed in space formed between one motor case and gear case so that gear case is fitted into partition

<a href="#">WO2010071779 A1</a>	GOODWIN J; KRUGER U; YOUNG N	Motor system for use in e.g. car, has motor component, motor stator modules and binary controller, where binary controller is coupled to stator modules, which comprise two load bearing module components
<a href="#">WO2010073802 A3</a>	TOYOTA JIDOSHA KK	Wheel drive device for vehicle, has motor with its stator attached to wheel inner housing and rotor attached to wheel outer housing
<a href="#">WO2010073073 A1</a>	TOYOTA JIDOSHA KK	Control system of alternating current (AC) motor for electric vehicle, calculates torque compensation amount according to difference of torque instruction values so that voltage phase variation quantity is calculated
<a href="#">WO2010069679 A1</a>	BOSCH GMBH ROBERT	Method for controlling activation of brake of e.g. anti-lock brake system of hybrid vehicle, involves exerting pedal force on brake pedal by brake booster during braking of vehicle, where pedal force is directed opposite to muscle force
<a href="#">WO2010069659 A2</a>	BOSCH GMBH ROBERT	Hydraulic vehicle brake system activation controlling method for use in hybrid vehicle, involves conducting braking fluid volumes into hydraulic accumulator by opening valve, and reducing wheel brake pressure in wheel brakes
<a href="#">WO2010070725 A1</a>	TOYOTA JIDOSHA KK	Power transmission device for vehicle e.g. four wheel drive vehicle, has rotary machine whose driving state is controlled so that carrier and sun gear are in predetermined differential state
<a href="#">WO2010070750 A1</a>	TOYOTA JIDOSHA KK	Control apparatus of power transmission device for, e.g. hybrid vehicle, reduces electric efficiency of electric motors when input to electric storage device that stores electric energy generated by motors is limited
<a href="#">WO2010071539 A1</a>	ELECTROENGINE IN SWEDEN AB	Production kit for electric motor driven vehicle, has rotor which is hollow so that at least part of drive shaft arrangement is extendable inside rotor
<a href="#">WO2010068988 A1</a>	ASMODELLE E	Electric motor e.g. brushless AC or DC motor for e.g. industrial application, electric vehicle, has rotor magnets whose opposed poles interact with opposed poles of stator magnets to provide a rotational torque to the motor
<a href="#">WO2010070761 A1</a>	TOYOTA JIDOSHA KK	Hybrid vehicle has electronic control unit that returns vehicle driving mode to initial mode in which primary power source is used, when switching instruction is not received for predetermined time period from reference time point
<a href="#">WO2010070833 A1</a>	HONDA MOTOR CO LTD	Wiring structure of vehicle e.g. hybrid vehicle, has power cable that is inserted through metal pipe to connect power source and electrical load
<a href="#">WO2010070834 A1</a>	HONDA MOTOR CO LTD	Vehicle wiring structure has pipe whose end portion inserted through electrical-load-side through-hole reaches as far as cable guide installation position
<a href="#">WO2010070900 A1</a>	TOSHIBA KK	Permanent magnet-type rotary electric machine for use in hybrid motor vehicle, has projections formed on outer peripheries of rotor core, whose positions are shifted along circumferential direction
<a href="#">WO2010073866 A1</a>	AISIN AW CO LTD	Hybrid drive device for hybrid vehicle, has sensorless motor control device that estimates magnetic pole position of specific motor based on detected current flowing to motor, and drivingly controls motor
<a href="#">WO2010070285 A2</a>	SCIMAR ENG LTD	Axial flux motor assembly useful in modern electric and hybrid road vehicles, comprises a stack of first and second discs arranged alternately such that there is a gap allowing rotation between each disc
<a href="#">WO2010067147 A1</a>	RENAULT TRUCKS	Method of controlling hybrid automotive vehicle, involves determining running status of engine and electric machine to deliver torque to its output shaft
<a href="#">WO2010067657 A1</a>	TOYOTA JIDOSHA KK	Stator for generator used as drive source in e.g. electric vehicle, has steel plate having rough surface formed in stator core, such that surface roughness of rough surface is greater than that of end surfaces of yoke portion
<a href="#">WO2010067680 A1</a>	TOYOTA JIDOSHA KK	Rotary electric machine e.g. motor for vehicle e.g. hybrid vehicle, has temperature sensor that is accommodated in hole of coil end, which detects temperature of resin-molded coil end and contacts coil end by predetermined load

<a href="#">WO2010067852 A1</a>	NSK LTD	Ball bearing for use in e.g. transmission for hybrid vehicle, has resin-made holder with pockets formed in axial direction end surface of annular base, to rollably hold several balls arranged between races of inner and outer rings
<a href="#">WO2010067985 A3</a>	TOP R & D CO LTD; TOP R&D CO LTD	Electromobile, has drive motors generating torque for output to input shafts, and drive equipment provided with differential combination part that receives torque of input shaft as inputs and outputs single torque to single output shaft
<a href="#">WO2010072446 A2</a>	BOSCH GMBH ROBERT	Electric machine e.g. motor, for hybrid drive device of motor vehicle, has rotor coupled with drive shaft by connecting element, where drive shaft and connecting element are torque-proof and connected with one another
<a href="#">WO2010098006 A1</a>	KURA GIJUTSU KENKYUSHO YG; KURA LAB CORP	Rotary electric machine system used in hybrid car, has excitation unit that supplies magnetizing current to exciting coil and changes magnetizing state of magnet field irreversibly to obtain optimize output of rotary electric machine
<a href="#">WO2010082438 A1</a>	KURA GIJUTSU KENKYUSHO YG; KURA LAB CORP	Rotary electric machine system for hybrid car, has excitation structure at inner side of armature, which changes magnetization state of magnetic field from poles irreversibly to change supply amount of magnetic flux to armature coil
<a href="#">WO2010089347 A3</a>	AVL LIST GMBH	Power generation apparatus, particularly for range expansion of electrically operated vehicle, has internal combustion engine and generator that is arranged on axis to output shaft of internal combustion engine

[...volver a CONTENIDO](#)

## CONVERTIDORES, INVERSORES

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010101032 A1</a>	HITACHI AUTOMOTIVE SYSTEMS LTD	Power converter of electric vehicle, has discharge control circuit which outputs interruption signal for interrupting discharge resistor switching element
<a href="#">WO2010095445 A1</a>	MITSUBISHI HEAVY IND CO LTD; MITSUBISHI JUKOGYO KK	Inverter control apparatus of alternating current (AC) motor used for driving compressor of air conditioner mounted in e.g. hybrid vehicle, detects direct current having sampling time more than fixed interval of carrier wave
<a href="#">WO2010095641 A1</a>	HITACHI CHEM CO LTD	Power supply device for vehicle, has control unit that controls pre-charge switching circuit connected to switching circuit and limits pre-charge current of capacitor, when voltage of capacitor is lower than voltage of battery
<a href="#">WO2010092896 A1</a>	MITSUBISHI HEAVY IND CO LTD; MITSUBISHI JUKOGYO KK	Inverter used in electric compressor for vehicle-mounted air conditioner, has noise suppression coils that are connected to power source line by connecting output side lead wire of noise suppression coils to PN terminal of inverter module
<a href="#">WO2010094547 A1</a>	BOSCH GMBH ROBERT	Intermediate circuit-capacitor charging method for use in e.g. hybrid vehicle, involves coupling intermediate circuit to power network, and charging capacitor by voltage induced during generation of magnetic field in inductive component
<a href="#">WO2010089888 A1</a>	TOYOTA JIDOSHA KK	Power source system mounted in vehicle e.g. electric vehicle, has control apparatus that controls converters so that waveform signal switching operations of converters are out of phase with respect to each other
<a href="#">WO2010090092 A1</a>	HITACHI AUTOMOTIVE SYSTEMS LTD	Power converter for controlling drive motor of hybrid electric vehicle, has projections that fit into grooves of electronic circuit board and housing
<a href="#">WO2010086823 A2</a>	BRUSA ELEKTRONIK AG	Direct current to direct current converter for alternating current to direct current converter, has multiple two-pole inverters connected in parallel or in series
<a href="#">WO2010082275 A1</a>	NISSAN MOTOR CO LTD	Electric power converter mounted in electric vehicle, controls electric power of power source and batteries by turning on and off switches of inverter circuits that selectively connect specific and battery to windings of transformer
<a href="#">WO2010073819 A1</a>	HONDA MOTOR CO LTD	Control apparatus of electric motor used in hybrid electric vehicle (HEV), has electric current detector that detects electric current flowing through switching elements provided in inverter, to control switching elements
<a href="#">WO2010073846 A1</a>	MITSUBISHI HEAVY IND CO LTD; MITSUBISHI JUKOGYO KK	Inverter integrated electric compressor used for vehicle-mounted air-conditioning apparatus, has high-speed and low-speed controller area network (CAN) receiver circuits that are connected to high-speed and low-speed CAN buses
<a href="#">WO2010070899 A1</a>	MATSUSHITA DENKI SANGYO KK; PANASONIC CORP	Power inverter circuit for motor drive system, changes output voltage of gate power supply unit to voltage lower than preset off voltage during period between turnoff operation of lower arm and turn-on operation of upper arm
<a href="#">WO2010066578 A1</a>	CONTI TEMIC MICROELECTRONIC GMBH	Vehicle for use with power supply device for electric motor, has vehicle battery, intermediate storage device and converter for supplying power to electric motor

[...volver a CONTENIDO](#)

## RECARGA DE BATERÍAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010097897 A1</a>	TOYOTA JIDOSHA KK	Control apparatus of vehicle e.g. hybrid vehicle, controls converters to increase direct current (DC) voltage supplied from main power supply and selected dependent source when target value of DC voltage is less than preset value
<a href="#">WO2010103063 A1</a>	RENAULT SAS	Battery charging device for electric vehicle, has regulating units regulating average current from rectifier input stage based on coefficient that is equal to ratio between maximum voltage rectified by input stage and battery voltage
<a href="#">WO2010098412 A1</a>	MASPRO DENKO KK	Electric power supply system for electric vehicle e.g. car, has cylindrical shaped insulator that is arranged to enclose space formed by projected planes of electric power supply and reception units in opposite direction
<a href="#">WO2010100164 A1</a>	MAGNA STEYR FAHRZEUGTECHNIK AG&CO KG	Vehicle has movable flap on front or rear side of vehicle and flap lock arranged on vehicle structure for fixing and locking flap in closed position, where flap lock has lock support, by which flap lock is supported on vehicle structure
<a href="#">WO2010094302 A1</a>	SIEMENS AG	Method for controlling transmission of electrical energy between electrical energy storage of electric car and connection points of electric energy distribution network, involves terminating transfer of energy and communication connection
<a href="#">WO2010099135 A2</a>	AMERICAN AXLE&MFG INC ; GILMORE C D; OLIVEIRA G A	Battery charging system for hybrid electric vehicle, has alternating current (AC) to direct current (DC) converting circuit which converts high AC voltage signal into high DC voltage signal in order to charge high-voltage battery
<a href="#">WO2010096508 A1</a>	BAXTER D; COULOMB TECHNOLOGIES INC; LOWENTHAL R; SOLOMON J; TORMEY M	Method for preventing electricity from flowing through charging cord plugged into power receptacle of electric vehicle charging station, involves de-energizing receptacle to prevent electricity from flowing through receptacle and cord
<a href="#">WO2010093444 A2</a>	NAT SEMICONDUCTOR CORP	Battery test system for determining magnetic state of charge of battery e.g. lithium iron phosphate battery, has test unit with impedance measuring circuit coupled to conductive sensor wire located within complex electrolytic material
<a href="#">WO2010094875 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Power supply storage battery e.g. lithium battery, recharge managing system for motor vehicle, has program unit to program charge set points so that battery attains raised charge state before usage so as to remain in low charge state
<a href="#">WO2010090333 A1</a>	MASPRO DENKO KK	Electric power supply system for electric vehicle e.g. car, has power supply unit and power reception unit positioned opposite to each other before and after power supply process, when electric vehicle is mounted on vehicle base
<a href="#">WO2010089071 A1</a>	SEW EURODRIVE GMBH&CO KG	Drive system for use in battery-powered vehicle, has electric motor whose stator winding is supplied with current that is controlled by switch, where current is supplied by external electrical energy source different from energy storage
<a href="#">WO2010089844 A1</a>	TOYOTA JIDOSHA KK	Charging system for hybrid vehicle, has guard processing unit that limits corrected target value using upper limit guard processing unit based on guard target value corrected by feedback control unit
<a href="#">WO2010089843 A1</a>	TOYOTA JIDOSHA KK	Charging system for vehicle e.g. electric vehicle, monitors abnormality of charger, if target value of charging power for power storage device is within abnormality detectable range
<a href="#">WO2010093583 A1</a>	GEN ATOMICS; GUROL H; JETER P L; SCHAUBEL K M	All-electric vehicle i.e. tractor, has electrical system mounted on undercarriage, and linear synchronous motor provided between magnet array and three-phase winding in power segment of roadway for moving vehicle along roadway
<a href="#">WO2010092296 A1</a>	PEUGEOT CITROEN AUTOMOBILES SA	Electrochemical storage source's e.g. lithium-ion battery, state of charge managing device for e.g. plug-in hybrid vehicle, has battery management system controller controlling sockets to charge source till preset state of charge value
<a href="#">WO2010089001 A1</a>	BOSCH GMBH ROBERT	Battery i.e. traction battery, for hybrid vehicle, has jumpers connected between battery poles and service plug connections for short circuiting battery poles and service plug connections
<a href="#">WO2010086788 A3</a>	BRUSA ELEKTRONIK AG	Converter for battery charger of motor vehicle, has switch that connects coil to mains during three-phase operation

<a href="#">WO2010087608 A2</a>	KOREA ADV INST SCI & TECHNOLOGY; KOREA ADV INST SCI&TECHNOLOGY; SK ENERGY CO LTD	Intelligently controllable charge equalization apparatus for series-connected battery string, has microprocessor determining charge or discharge of battery by receiving voltage value measured in voltage sensing module
<a href="#">WO2010084599 A1</a>	TOYOTA JIDOSHA KK	Charge control apparatus for battery e.g. lithium ion battery mounted in hybrid vehicle e.g. car, completes additional charging of battery when charging state of battery reaches threshold value determined based on temperature of battery
<a href="#">WO2010084598 A1</a>	TOYOTA JIDOSHA KK	Charge control apparatus for battery e.g. lithium ion battery mounted in hybrid vehicle e.g. car, determines resumption time of charging based on use status of vehicle
<a href="#">WO2010079074 A1</a>	BOSCH GMBH ROBERT	Power supply device controlling method for electric vehicle, involves providing choke current by inverter for three-phase and single-phase operations of electric machine in accordance with specific relationship
<a href="#">WO2010076608 A1</a>	RENAULT TRUCKS	System for controlling charge and discharge cycle of battery used in vehicle, has shifting unit to interrupt charge and discharge sequence with discharge and charge pulse respectively, when battery is in charge and discharge sequence
<a href="#">WO2010079281 A2</a>	PEUGEOT CITROEN AUTOMOBILES SA	Battery management device for use in electric or hybrid propulsion vehicle, has additional circuit allowing discharge of battery at time of stop of vehicle for long duration so as to obtain average charge state
<a href="#">WO2010079080 A1</a>	BOSCH GMBH ROBERT	On-board network operating method for hybrid vehicle, involves connecting sub network to load, where voltage delivered by generator is lowered to value in case of fault when energy is flown from sub network into another sub network
<a href="#">WO2010074856 A1</a>	GENERAL ELECTRIC CO; LITRELL N B	Vehicle charging station for use with vehicle charging system i.e. electricity delivery system, for charging hybrid electric vehicle, is communicatively and electrically coupled to vehicle to meter quantity of power delivered to vehicle
<a href="#">WO2010069916 A3</a>	APPLIED SWEEPERS LTD	Electric vehicle i.e. road cleaning machine, operating method, involves connecting batteries in parallel when instantaneous state of charge of one of batteries reaches predetermined percentage of initial state of charge of other battery
<a href="#">WO2010074863 A1</a>	GENERAL ELECTRIC CO; LITRELL N B	Electrical energy delivery method for hybrid electric vehicle, involves delivering amount of energy to electric vehicle, and determining transaction amount related to amount of energy delivered to electric vehicle at energy delivery point
<a href="#">WO2010071484 A1</a>	VOLVO CONSTR EQUIP AB	Energy supplying method for work machines by accomplishing upgrading of the respective energy storage unit provided that information received by the control station indicates that charging level is below a predetermined threshold value
<a href="#">WO2010069830 A1</a>	SIEMENS AG	Operating arrangement for e.g. car, has battery for storage of electricity, and control device controlling converter circuit, where arrangement operates converter circuit such that voltage in intermediate circuit is in preset value
<a href="#">WO2010076458 A1</a>	RENAULT SAS	Electric energy storage unit's load state controlling method for electric or hybrid motor vehicle, involves positioning load state of storage unit in set of load states compatible with absence of utilization of unit during long period
<a href="#">WO2010074644 A3</a>	EVANDER A; NYMAN M	Electrical energy charging system for vehicle, has plug-in type charging station provided with unique identification code for vehicle, where outgoing and incoming charging energies of vehicle are compared to count charging cost of battery
<a href="#">WO2010081141 A9</a>	GENERAL MOTORS CORP; GENERAL MOTORS LLC; GM GLOBAL TECHNOLOGIES OPERATIONS INC; GM GLOBAL TECHNOLOGY OPERATIONS INC	Onboard energy storage systems charging management, billing and controlling system for e.g. hybrid electric vehicle, has database coupled to controller, where database stores data related to power consumption of vehicles

[...volver a CONTENIDO](#)



## CAMBIO DE BATERÍAS

Nº PUBLICACIÓN	SOLICITANTE	CONTENIDO TÉCNICO
<a href="#">WO2010094892 A1</a>	RENAULT SAS	Battery fixing lock for body support part of electric vehicle, has lower tab cooperating with pressure element mounted on body part for engaging lower tab with projecting part of battery to fix battery to body support part of vehicle
<a href="#">WO2010075978 A2</a>	DEUT POST AG	Charging station for electrical propelled transport vehicle, has control unit for controlling exchange of storage medium against another storage medium, and attaching unit attaching former storage medium to holder of vehicle
<a href="#">WO2010076457 A1</a>	RENAULT SAS	Motor vehicle e.g. car, has bolt forming fingers for fixing battery on receiving element, where battery is installed through bottom of chassis by ascending movement, and removed through bottom of chassis by descending movement
<a href="#">WO2010070642 A1</a>	GERMAN G; GERMAN Y	Portable electric vehicle i.e. car battery replacement method, involves providing platform for holding electric vehicle upon it, storing electric vehicle batteries, and loading charged batteries into electric vehicle

[...volver a CONTENIDO](#)