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Title: ADAPTIVE ELECTRIC MOTORS AND GENERATORS PROVIDING IMPROVED PERFORMANCE AND EFFICIENCY

Abstract: An adaptive architecture for electric motors, **generators** and other electric machines. An adaptive electric machine provides optimal performance by dynamically adapting its **controls** to changes in user inputs, machine operating conditions and machine operating parameters. Isolating the machine's electromagnetic circuits allows effective **control** of more independent machine parameters, enabling greater freedom to optimize and providing adaptive motors and **generators** that are cheaper, smaller, lighter, more powerful, and more efficient than conventional designs. An electric vehicle with in-wheel adaptive motors enables delivery of higher power with lower unsprung mass, giving better torque-density. The motor **control** system can adapt to the vehicle's operating conditions, including starting, accelerating, turning, braking, and cruising at high speeds, thereby consistently providing higher efficiency. A wind powered adaptive **generator** can adapt to changing wind conditions, consistently providing optimal performance. An adaptive architecture may improve performance in a wide variety of electric machine applications, particularly those requiring optimal efficiency over a range of operating conditions.

Classifications:

International (IPC 8-9): B60L3/00 B60K1/00 B60K6/04 B60K6/26 B60K6/46 B60K6/52 B60L11/00 B60L11/12 B60L15/20 B60L8/00 B60W20/00 H02K1/12 H02K1/14 H02K1/18 H02K15/00 H02K15/02 H02K16/00 H02K16/04 H02K21/22 H02K3/52 H02P21/00 H02P21/14 H02P23/00 H02P25/02 H02P25/08 H02P27/00 H02P27/06 H02P5/00 H02P6/00 H02P6/08 H02P7/00 (Advanced/Invention); B60K7/00 B60L15/20 H02K11/00 H02K11/04 H02K16/00 H02K29/00 H02K3/28 H02K3/52 H02P25/08 H02P27/06 H02P5/06 H02P7/05 (Advanced/Non-invention); B60K6/00 B60L11/02 B60L15/20 B60L8/00 B60W20/00 H02K1/12 H02K1/14 H02K1/18 H02K15/00 H02K16/00 H02K21/22 H02K3/46 H02P21/00 H02P21/14 H02P23/00 H02P25/02 H02P27/00 H02P27/04 H02P6/00 H02P6/08 (Core/Invention); B60K7/00 H02K11/00 H02K11/04 H02K16/00 H02K29/00 H02K3/28 (Core/Non-invention)

International (IPC 1-7): B60K1/00 B60K6/00 B60K6/04 B60K7/00 B60L11/00 B60L11/12 B60L15/20 B60L3/00 H02K1/12 H02K1/18 H02K15/00 H02K15/02 H02K16/00 H02K21/22 H02K23/00 H02K3/52 H02P1/18 H02P21/00 H02P21/14 H02P25/08 H02P29/00 H02P5/06 H02P6/00 H02P6/08 H02P7/00 H02P7/05 H02P7/62 H02P7/63

CPC: Y02T10/644 Y02T10/645 B60L3/0061 H02K7/1838 H02K2213/06 H02K2213/12 Y02T10/642 B60L2220/18 B60L2220/44 H02K1/141 H02K1/187 H02K3/28 H02K7/183 H02K11/044 H02K11/046 H02K21/22 H02K29/00 H02K2213/09 H02P23/0077 Y02T10/641 H02P2209/07 H02K11/048 B60K1/04 B60K6/46 B60K6/52 B60K7/0007 B60K17/356 B60K2001/0411 B60K2001/0416 B60K2007/0038 B60K2007/0092 B60L3/102 B60L11/126 B60L11/1877 B60L2210/20 B60L2220/46 B60L2240/12 B60L2240/16 B60L2240/18 B60L2240/20 B60L2240/22 B60L2240/421 B60L2240/423 B60L2240/549 B60L2260/28 B60Y2400/61 Y02T10/6217 Y02T10/6265 Y02T10/646 Y02T10/705 Y02T10/7077 Y02T10/725 B60L3/003 B60L3/04 B60L11/1803 B60L2200/26 Y02T10/7275 Y10T29/49002 Y10T29/49009 Y10T29/49012 Y10T29/49071 Y10T29/53161 H02K16/04 B60L7/14 B60L8/003 B60L8/006 B60L11/007 B60L11/1864 B60L11/1885 B60L11/1887 B60L15/2009 B60L2200/12 B60L2210/30 B60L2210/40 B60L2220/14 B60L2220/16 B60L2240/14 B60L2240/32 B60L2240/429 B60L2240/441 B60L2240/443 B60L2240/445 B60L2240/461 B60L2240/465 B60L2240/622 B60L8/00 B60L2210/46 Y02T10/7061 Y02T10/7241 Y02T10/7291 Y02T90/16 Y02T90/162 Y02T90/34 H02K11/33 Y02T10/7083 H02P23/0004 H02P6/34 Y02T10/7258 H02P25/024 B60W20/00 B60K6/26 Y02T10/7005 H02P25/08 H02P27/06 B60L15/20

European: B60K1/04 B60K6/04B4 B60K6/04F B60K6/04H2 B60K6/04T2 B60K6/26 B60K6/46 B60K6/52 B60L11/12D2 B60L11/18M36 B60L15/20 B60L3/10B B60L8/00 H02K1/14B H02K1/18C H02K16/04 H02K21/22 H02K3/28 H02P21/00B H02P21/14 H02P23/00C H02P23/00M H02P25/02C H02P25/08 H02P27/06 H02P6/00B L60K1/04A1 L60K1/04A3 L60K17/356 L60K7/00E L60K7/00R L60K7/00W L60L210/20 L60L220/18 L60L220/44 L60L220/46 L60L240/12 L60L240/16 L60L240/18 L60L240/20 L60L240/22 L60L240/421 L60L240/423 L60L240/549 L60L260/28 L60W20/00 T02K11/00H1 T02K11/04C T02K11/04D T02K11/04D1 T02K213/09 T02K29/00 T02K3/28 T02K7/18A2W T02P209/07 Y02T10/62F10 Y02T10/62F2 Y02T10/64B Y02T10/64D Y02T10/64D4 Y02T10/64D6 Y02T10/64D8 Y02T10/70 Y02T10/70B Y02T10/70H4 Y02T10/70J2 Y02T10/70J2B Y02T10/72B6 Y02T10/72D

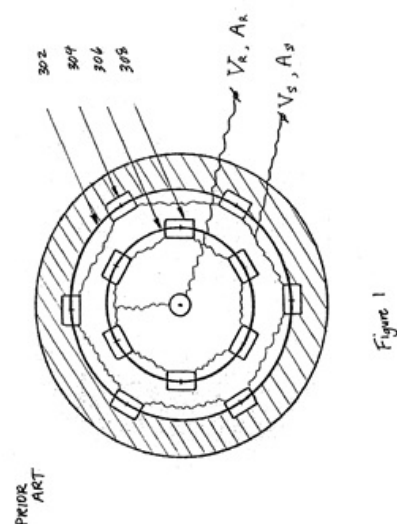
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Priority:

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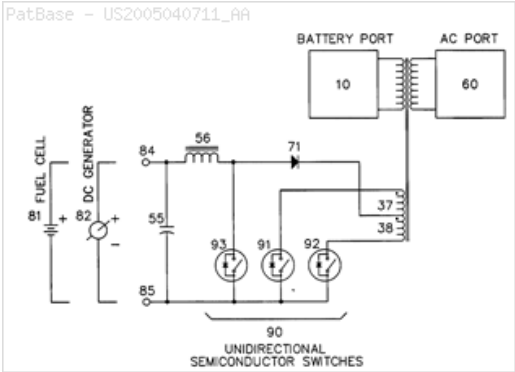
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Title: BI-DIRECTIONAL MULTI-PORT **INVERTER** WITH HIGH FREQUENCY LINK **TRANSFORMER**

Abstract: This invention is a multi-port power **converter** where all ports are coupled through different windings of a high frequency **transformer**. Two or more, and typically all, ports have synchronized switching elements to allow the use of a high frequency **transformer**. This concept and type of **converter** is known. This invention mitigates a number of limitations in the present art and adds new capabilities that will allow applications to be served that would otherwise not have been practical. A novel circuit topology for a four-quadrant **AC** port is disclosed. A novel circuit topology for a unidirectional DC port with voltage boost capabilities is disclosed. A novel circuit topology for a unidirectional DC port with voltage buck capabilities is disclosed. A novel circuit for a high efficiency, high frequency, bi-directional, **AC** semiconductor switch is also disclosed.

Classifications:

International (IPC 8-9): H02J1/00 H02J7/00 H02J9/00 H02M1/10 H02M7/48 H03K17/687 (Advanced/Invention)
International (IPC 1-7): H02H7/00
CPC: Y02B10/72 Y02B90/14 H02M7/4807 H02J3/387 H02J7/35 H02J2001/004 H02J2009/067 H02M1/10 H02M3/3374 Y10T307/50 Y10T307/615 Y10T307/625 Y10T307/658 Y10T307/707
European: H02J7/35 H02M1/10 H02M7/48H T02J1/00F T02J3/38 T02J3/38D2 T02J9/06M T02M3/337B2
US: 307/43 307/43S 307/64 307/66 307/72 307/82 307/82P 361/18 361/18S 363/16 363/97



Family:

Publication number	Publication date	Application number	Application date
US2005040711 AA	20050224	US20030604876	20030822
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USRE41965 E	20101130	US20080205743	20080905
USRE43572 E	20120814	US20100857250	20100816

Priority:

US20030604876 20030822 US20080205743 20080905 US20100857250 20100816

Probable Assignee: SCHNEIDER ELECTRIC SOLAR INVERTERS USA INC

Assignee(s): (std): DISTRIBUTED POWER INC ; WEST RICHARD T ; XANTREX TECHNOLOGY INC

Assignee(s): XANTREX TECHNOLOGY INC (A WASHINGTON CORPORATION) ; XANTREX TECHNOLOGY INC A WASHINGTON CORP ; XANTREX TECHNOLOGY INC A WASHINGTON CORPORATION ; WEST RICK ; SCHNEIDER ELECTRIC SOLAR INVERTERS USA INC

Inventor(s): (std): WEST RICHARD T ; WEST RICK

Agent(s): DISTRIBUTED POWER; NIXON PEABODY LLP

Title: IGBT/FET-BASED **ENERGY** SAVINGS DEVICE, SYSTEM AND METHOD

Abstract: An IGBT/FET-based **energy** savings device, system and method (1) wherein a predetermined amount of voltage below a nominal line voltage and/or below a nominal appliance voltage is saved, thereby conserving **energy**. Phase input connections (2) are provided for inputting analog signals into the device and system (1). A magnetic flux concentrator (3) senses the incoming analog signal (20) and a volts zero crossing point detector (5) determines the zero volts crossing point (21) of the signal (20). The positive half cycle (22) and negative half cycle (23) of the signal (20) are identified and routed to a digital signal processor (10) for processing the signal (20). The signal (20) is reduced by pulse width modulation and the reduced amount of **energy** is outputted, thereby yielding an **energy** savings for an end user.

Classifications:

International (ipc 8-9): G01R15/20 G01R21/00 G05B15/02
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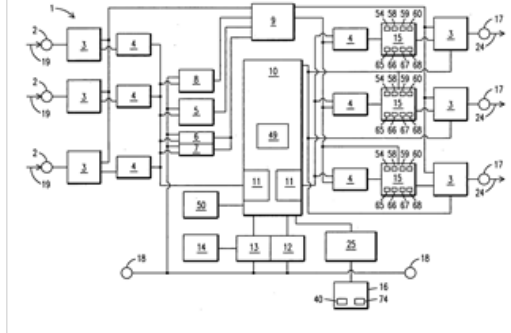
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H02M5/293

European: H02J1/14 H02M5/257C2 H02M5/293

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US2009046490 AA	20090219	US20080185442	20080804
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US2011182094 AA	20110728	US20110026931	20110214
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Priority:

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Probable Assignee: POWERWISE GROUP INC

Assignee(s): (std): LUMSDEN JOHN L ; POWER GROUP INC ; POWERWISE GROUP INC ; POWERWISE GROUP LLC A NEVADA L ; ZAGA RAFAEL E

Assignee(s): THE POWERWISE GROUP LLC A NEVADA LIMITED LIABILITY COMPANY ; POWERWISE GROUP LLC ; THE POWERWISE GROUP INC ; POWERWISE GROUP INC A DELAWARE CORP ; THE POWER GROUP INC ; POWERWISE GROUP INC BOCA RATON ; POWERWISE GROUP INC THE ; POWERWISE GROUP LLC A NEVADA LIABILITY CO LTD

Inventor(s): (std): JOHN L LUMSDEN ; ZAGA RAFAEL E ; LUMSDEN JOHN ; LUMSDEN JOHN L

Inventor(s): LUMSDEN JOHN L DENTON ; LUMSDEN JOHN L BOCA RATON ; RAFAEL E ZAGA

Agent(s): SPRUSON AND FERGUSON; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; KIRBY EADES GALE BAKER; MARKS AND CLERK LUXEMBOURG LLP; ROBERTS PETER DAVID; RIZZO SERGIO; ONDA MAKOTO; ONDA HIRONORI; EDWARD M LIVINGSTON PA; STRASBURGER AND PRICE LLP; NOVAK DRUCE CONNOLLY BOVE AND QUIGG LLP; INGRAM IP LAW PA; LIVINGSTON EDWARD M; MURCHISON JACK MILLER

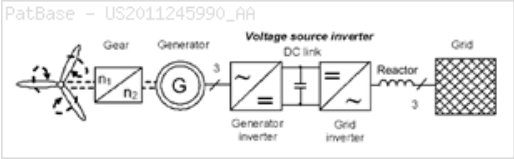
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Title: SYSTEM AND METHOD FOR CONNECTING A CONVERTER TO A UTILITY GRID

Abstract: The present invention relates to a system and a method for connecting and/or interfacing a converter, such as a switched mode converter, to an electrical power grid. The invention furthermore relates to control of the converter. The present invention facilitates that the point of common coupling (PCC) between a utility grid and a converter is provided at the converter output. This facilitates that a converter, and thereby an electrical power source, may be connected to an electrical power grid without use of an inductor, such as a reactor.

Classifications:

International (IPC 8-9): G06F1/26 H02J3/40 H02J3/48
H02J3/50 (Advanced/Invention);
H02J3/40 H02J3/46 (Core/Invention)
CPC: H02J3/40 H02J3/48 H02J3/50
European: H02J3/40 H02J3/48 H02J3/50
US: 700/298 700/298P



Family:

Publication number	Publication date	Application number	Application date
EP2351180 A1	20110803	EP20090760704	20091028
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Priority:

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Probable Assignee: TECHNICAL UNIV OF DENMARK

Assignee(s): (std): RASMUSSEN TONNY WEDERBERG ; TECHNICAL UNIV OF DENMARK ; UNIV DENMARK TECH DTU ; WEDERBERG RASMUSSEN TONNY

Assignee(s): TECHNICAL UNIVERSITY OF DENMARK

Inventor(s): (std): RASMUSSEN TONNY WEDERBERG ; WEDERBERG RASMUSSEN TONNY

Agent(s): HOEIBERG SUSANNE; DINSMORE AND SHOHL LLP; HOEIBERG A S

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: FAST **CHARGE** STATIONS FOR ELECTRIC VEHICLES IN AREAS WITH LIMITED POWER AVAILABILITY

Abstract: Systems and methods for charging a vehicle are provided. Electric or hybrid electric vehicles may be **charged** in areas with limited power availability or in situations where a gradual draw of power from an external **energy** source is desired. The external **energy** source may be used to **charge** a stationary **energy** storage system at a first rate, and the stationary **energy** storage system may be used to **charge** the vehicle **energy** storage system at a second rate. Preferably, the second rate may be greater than the first rate.

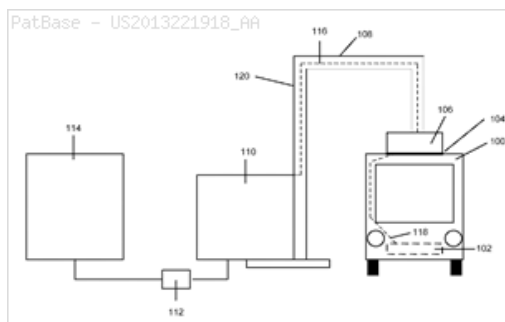
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CPC: B60L11/1824 B60L11/185 B60L11/1837 B60L2200/18 Y02T10/6269 Y02T10/7005 Y02T90/128 Y02T90/14 Y02T90/121 Y02T10/7072 H02J7/34

European: B60L11/18L7F B60L11/18L7J12 L60L200/18 Y02T10/62F12 Y02T10/70B Y02T10/70J4 Y02T90/12L Y02T90/14

US: 320/109 320/160



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: PROTERRA INC

Assignee(s): (std): FINNERN MICHAEL ALAN ; GALLEGOS NICKY G ; HILL DALE ; PROTERRA INC ; SARKAR REUBEN

Inventor(s): (std): FINNERN MICHAEL ALAN ; GALLEGOS NICKY G ; HILL DALE ; SARKAR REUBEN

Agent(s): KIM ELAINE A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEMS AND METHODS FOR PROVIDING POSITIONING FREEDOM, AND SUPPORT OF DIFFERENT VOLTAGES, PROTOCOLS, AND POWER LEVELS IN A WIRELESS POWER SYSTEM

Abstract: Systems and methods for modifying the magnitude and/or phase of an electromagnetic field in one or multiple dimensions. Applications for use in charging or powering multiple devices with a wireless power **charger** system are also described. Applications include beam shaping, beam forming, phase array radar, beam steering, etc. and inductive charging and power, and particularly usage in mobile, electronic, electric, lighting, or other devices, batteries, power tools, kitchen, industrial applications, vehicles, and other usages. Embodiments of the invention can also be applied generally to power supplies and other power sources and **chargers**, including systems and methods for improved ease of use and compatibility and transfer of wireless power to mobile, electronic, electric, lighting, or other devices, batteries, power tools, kitchen, military, industrial applications and/or vehicles.

Classifications:

International (IPC 8-9): B60L11/18 H01F38/14 H02J1/00 H02J17/00 H02J5/00 H02J50/00 H02J7/00 H02J7/02 H04B5/00 (Advanced/Invention);

H02M1/40 H02M3/337 (Advanced/Non-invention)

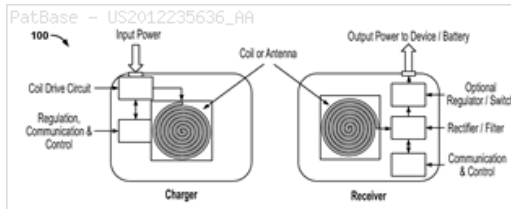
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H01F27/365 H02J5/005 H02J7/025 H02M3/3376 H02M2001/0045

H04B5/0037 H04B5/0087 H04B5/0093 Y02T90/12 Y02T90/121 Y02T90/125 B60L11/182 B60L2210/30 B60L2240/547

H01F38/14 H02J7/0027 H02J7/0042 H02J50/12 H02J50/50 H02J50/80 H04B5/0081 Y02T10/7005 Y02T10/7072 Y02T10/7241 Y02T90/122 Y02T90/127 Y02T90/14 Y02T90/16

US: 1/1 307/104 307/9.1 320/108 320/137



Family:

Publication number	Publication date	Application number	Application date
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EP2664054 A4	20170517	EP20120736464	20120118
TW201347349 A	20131116	TW20130109907	20130320
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WO12099965 A2	20120726	WO2012US21729	20120118
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Priority:

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Probable Assignee: MOJO MOBILITY INC

Assignee(s): (std): MOJO MOBILITY INC ; PARTOVI AFSHIN

Inventor(s): (std): PARTOVI AFSHIN ; MOJO MOBILITY INC

Agent(s): JENNINGS MICHAEL JOHN; LOUIS; KENNA KARL F ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: EXTREMELY LOW RESISTANCE COMPOSITIONS AND METHODS FOR CREATING SAME

Abstract: The invention pertains to creating new extremely low resistance (ELR) materials, which may include high temperature superconducting (HTS) materials. In some implementations of the invention, an ELR material may be modified by depositing a layer of modifying material onto the ELR material to form a modified ELR material. The modified ELR material has improved operational characteristics over the ELR material alone. Such operational characteristics may include operating at increased temperatures or carrying additional electrical **charge** or other operational characteristics. In some implementations of the invention, the ELR material is a cuprate-perovskite, such as, but not limited to BSCCO. In some implementations of the invention, the modifying material is a conductive material that bonds easily to oxygen, such as, but not limited to, chromium.

Classifications:

International (IPC 8-9): C04B35/45 F16C32/04 G01B7/16 G01D5/16 G01F1/34 G01F1/69 G01F23/22 G01H11/06 G01J1/42 G01K7/00 G01K7/16 G01L1/18 G01L21/12 G01L9/06 G01L9/14 G01N27/12 G01N27/22 G01N27/414 G01P15/08 G01P15/09 G01R33/035 G01R33/28 H01B12/00 H01B12/02 H01F36/00 H01F6/00 H01F6/06 H01L H01L21/822 H01L27/04 H01L39/00 H01L39/02 H01L39/12 H01L39/14 H01L39/16 H01L39/22 H01L39/24 H01M2/20 H02K3/02 H02K55/00 (Advanced/Invention);

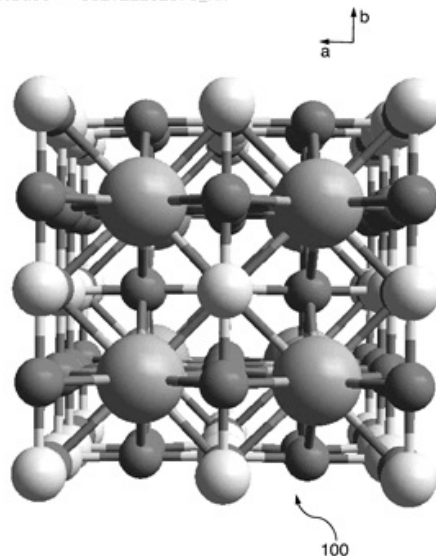
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European: H01L39/12C H01L39/24J4

US: 1/1 252/500 427/62 428/457 428/471 428/702 505/100 505/121 505/150 505/236 505/237 505/470

PatBase - US2012252676_AA



Family:

Publication number	Publication date	Application number	Application date
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WO12135683 A1	20121004	WO2012US31554	20120330

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Probable Assignee: AMBATURE INC

Assignee(s): (std): AMBATURE LLC ; CALE TIMOTHY S ; GREENLAND PAUL ; COPPA BRIAN ; NORTH FORREST ; HANNA JOEL PATRICK ; SHTEYN YEVGENIY EUGENE ; GILBERT DOUGLAS J ; SHTEYN Y EUGENE ; NORTH FORREST J ; COPPA BRIAN J ; EMBACHER INK ; SMITH MICHAEL J ; AMBATURE INC

Assignee(s): AMBATURE INC5235 S. 39TH STREETPHOENIXAZ85040US ; AHRE INVESTMENTS LLC ET AL

Inventor(s): (std): NORTH FORREST ; GILBERT DOUGLAS J ; SHTEYN YEVGENIY EUGENE ; HANNA JOEL PATRICK ; GREENLAND PAUL ; COPPA BRIAN ; SMITH MICHAEL J ; CALE TIMOTHY S ; NORTH FORREST J ; COPPA BRIAN J ; SHTEYN Y EUGENE ; KOPPA BRAJAN ; SMIT MAJKL DZH ; SHTEJN EVGENIJ YUDZHIN ; KHANNA DZHOEL PATRIK ; GRINLEND POL ; GILBERT DUGLAS DZH ; NORT FORREST ; DOUGLAS J GILBERT ; YEVGENIY EUGENE SHTEYN ; MICHAEL J SMITH ; JOEL PATRICK HANNA ; PAUL GREENLAND ; BRIAN J COPPA ; FORREST J NORTH

Inventor(s): GREENLAND PAULUS ; NORTH FORRESTUS ; HANNA JOEL PATRICKUS ; COPPA BRIANUS ; GILBERT DOUGLAS JUS ; SHTEYN YEVGENIY EUGENEUS ; SMITH MICHAEL JUS ; GILBERT DOUGLAS ; HANNA JOEL ; SMITH MICHAEL ; SHTEYN YEVGENIY

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; BECK SIMON ANTONY; REINHOLD COHN AND PARTNERS; TANI AND ABE PC; WOMBLE CARLYLE SANDRIDGE AND RICE LLP; TOERING PATENTS PLLC; TOERING RICK A

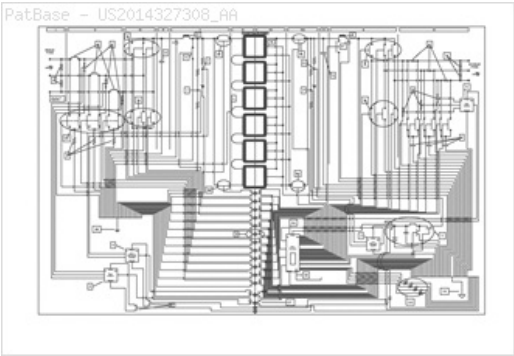
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SOLID-STATE BI-DIRECTIONAL BALANCED ENERGY CONVERSION AND MANAGEMENT SYSTEM

Abstract: The present invention is a modular solid-state bi-directional energy conversion system, which regardless of scale and directional flow, measures, adjusts, harvests, and manages the conversion of frequency, phase, and voltage between the primary and secondary sides providing for safer, efficient, lower-cost energy distribution. The system may include voltage suppression devices at either of its connection sides; network communication devices for system diagnostics, reporting, metering, and power distribution grid management; and on-board communication devices for field maintenance and other applications.

Classifications:

International (IPC 8-9): H02J3/00 (Advanced/Invention)
CPC: H02J3/00 H02J3/28 H02J3/34 H02J3/36 Y02E60/60 H02M5/12 Y10T307/406
US: 307/31 323/350



Family:

Publication number	Publication date	Application number	Application date
US2014327308 AA	20141106	US20140269918	20140505

Priority:

US20130819639P 20130505 US20140269918 20140505

Probable Assignee: PALMETTO POWER LLC

Assignee(s): (std): PALMETTO POWER LLC

Inventor(s): (std): CARGILE ANTHONY ; FABIAN FRED

Title: ELECTRICAL POWER DISTRIBUTION SYSTEM FOR ENABLING DISTRIBUTED **ENERGY** GENERATION

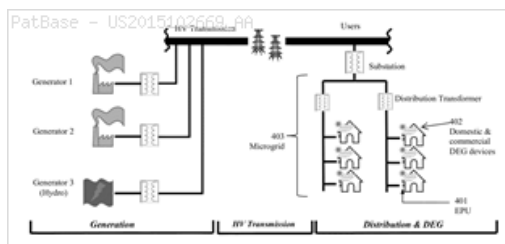
Abstract: In the present legacy electrical power generation and distribution system, the power quality delivered to end consumers is being degraded by a number of disruptive technologies and legislative impacts; especially with the rapidly increasing myriad of privately owned and operated domestic and commercial distributed **energy** generation (DEG) devices connected at any point across a low voltage (LV) distribution network. The present invention bypasses this increasing critical DEG problem by offering a solution comprising an **energy** processing unit (EPU) that is installed at the electrical power point of use (POU).

Classifications:

International (IPC 8-9): G05F1/26 G05F1/44 G05F1/45 H02J3/00 H02J3/10 H02J3/12 H02J3/18 H02J3/32 H02J3/38 H02M H02M1/08 H02M1/32 H02M1/44 H02M3/158 H02M5/22 H02M5/257 H02M5/293 (Advanced/Invention); G05F1/12 G05F1/44 G05F1/445 H02J3/10 H02J3/14 H02J3/18 H02J3/38 H02M1/00 H02M1/38 H02M5/22 H02M5/257 H02M5/275 (Advanced/Non-invention)

CPC: H02M3/158 H02M1/38 H02J3/18 H02J3/386 H02M5/22 H02M1/08 H02M2001/0009 H02M3/1582 H02M1/44 H02M1/32 H02J3/14 H02J3/381 H02J3/383 Y02B10/14 Y02E10/563 Y02E10/763 Y02E40/30 G05F1/44 H02J3/382 H02J3/387 H02J3/46 Y10T307/352 H02M5/293 H02J3/12 G05F1/12 G05F1/445 H02M5/257 H02M5/275 H02M2001/0022 H02M2001/0048 H02J3/10

US: 1/1 307/24 323/271



Family:

Publication number	Publication date	Application number	Application date
AU2014334308 AA	20150416	AU20140334308	20141010
AU2014344411 AA	20150507	AU20140344411	20141028
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AU2015271571 AA	20151210	AU20150271571	20150112
AU2015271571 BB	20180621	AU20150271571	20150112
AU2016380289 AA	20170706	AU20160380289	20161227
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US2015102669 AA	20150416	US20140511187	20141010
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US9819279 BB	20171114	US20160565444	20160411
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WO15085926 A1	20150618	WO2014CN093475	20141210
WO15184804 A1	20151210	WO2015CN070538	20150112
WO17113432 A1	20170706	WO2016CN000714	20161227
WO18073719 A1	20180426	WO2017IB56399	20171016
ZA201608863 A	20180228	ZA20160008863	20161222

Priority:

US20130889543P	20131011	US20130896635P	20131028	US20130896639P	20131028
US20130908763P	20131126	US20130913932P	20131210	US20130913934P	20131210
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US20140525230	20141028	WO2014CN089721	20141028	WO2014CN89721	20141028
US20140565444	20141210	WO2014CN93475	20141210	WO2014CN093475	20141210
US20150316162	20150112	WO2015CN070538	20150112	US20150979475	20151227

Probable Assignee: EDGE ELECTRONS LTD

Assignee(s): (std): EDGE ELECTRONICS LTD ; EDGE ELECTRONS LTD ; POWER QUALITY ENG LTD ; POWER QUALITY ENGINEERING LTD ; STEWART NEAL GEORGE

Inventor(s): (std): CHENG WING LING ; CURRIE GORDON ; GEORGE STEWART NEAL ; LING CHENG WING ; MCINDOE RICHARD ; STEWART NEAL GEORGE ; ZAPATA JIAN ; ZHENG YONGNING

Agent(s): PIPERS; CREATEIP; MODIANO GABRIELLA DIANA; ARPE FERNANDEZ MANUEL DE; ASAMURA PATENT OFFICE PC; SAM T; ELLA CHEONG HONG KONG; IDEA INTELLECTUAL LTD; MARGARET A; CHINA PAT INTELLECTUAL PROPERTY OFFICE; CHINA LONGRIVER PATENT AND TRADEMARK OFFICE GENERAL PARTNERSHIP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: DEVICES, SYSTEMS AND METHODS FOR COLLECTING, GENERATING, TRACKING AND/OR SHARING **ENERGY**

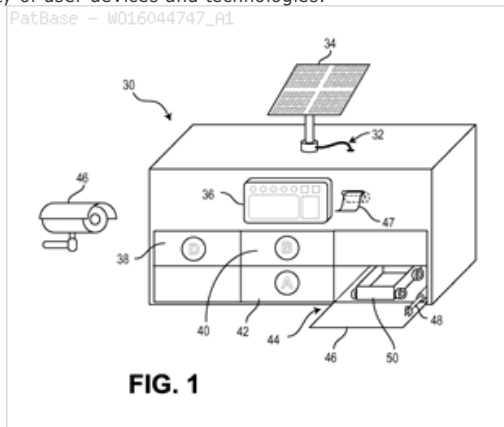
Abstract: A system and method for collection and/or sharing of **energy**. The system and method include universal storage cells **chargeable** by supplier user devices and used to power consumer user devices. The cells preferably are exchanged via one or more central kiosks and may be used across a wide variety of user devices and technologies.

Classifications:

International (IPC 8-9): B60L11/18 B60S5/06 G06Q10/00

G07F15/00 (Advanced/Invention)

CPC: G07F15/00 B60S5/06 B60L11/1842 B60L11/1824 B60L2230/22 B60L2230/30 Y02T10/7005 Y02T90/124 Y02T90/128 Y02E60/721 Y02T90/121 Y02T90/14 Y02T90/163 Y04S10/126 B60L11/1848 B60L11/1816 B60L11/182 B60L11/1822 B60L2230/16 Y02T10/7088 H02J7/0027 H02J7/0044 Y02T10/7055 Y02T90/122 Y02T90/169 Y04S30/14 B60L11/1846 B60L11/1857 B60L11/1861 B60L2230/24 B60L2240/545



Family:

Publication number	Publication date	Application number	Application date
WO15161259 A1	20151022	WO2015US26482	20150417
WO16044747 A1	20160324	WO2015US50983	20150918

Priority:

US20140981315P 20140418 US20140052471P 20140919 WO2015US26482 20150417

Probable Assignee: KOONS CURTIS

Assignee(s): (std): KOONS CURTIS ; SUNNY SANWAR AZAM

Inventor(s): (std): KOONS CURTIS ; SUNNY SANWAR AZAM

Agent(s): COOK CRISSA A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

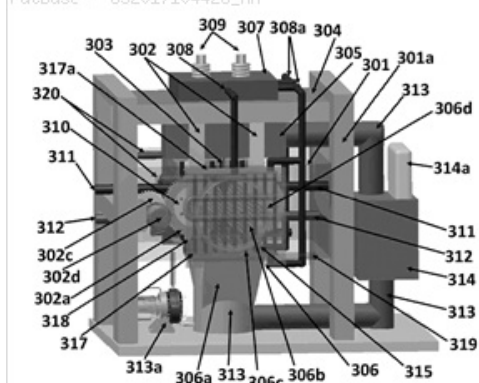
Title: ELECTRICAL POWER GENERATION SYSTEMS AND METHODS REGARDING SAME

Abstract: A solid or liquid fuel to plasma to electricity power source that provides at least one of electrical and thermal power comprising (i) at least one reaction cell for the catalysis of atomic hydrogen to form hydrides, (ii) a chemical fuel mixture comprising at least two components chosen from: a source of H₂O catalyst or H₂O catalyst; a source of atomic hydrogen or atomic hydrogen; reactants to form the source of H₂O catalyst or H₂O catalyst and a source of atomic hydrogen or atomic hydrogen; one or more reactants to initiate the catalysis of atomic hydrogen; and a material to cause the fuel to be highly conductive, (iii) a fuel injection system such as a railgun shot injector, (iv) at least one set of electrodes that confine the fuel and an electrical power source that provides repetitive short bursts of low-voltage, high-current electrical energy to initiate rapid kinetics of the hydride reaction and an energy gain due to forming hydrides to form a brilliant-light emitting plasma, (v) a product recovery system such as at least one of an augmented plasma railgun recovery system and a gravity recovery system (vi) a fuel pelletizer or shot maker comprising a source of hydrogen and a source of H₂O, a dripper and a water bath to form fuel pellets or shot, and an agitator to feed shot into the injector, and (vii) a power converter capable of converting the high-power light output of the cell into electricity such as a concentrated solar power device comprising a plurality of ultraviolet (UV) photoelectric cells or a plurality of photoelectric cells, and a UV window.

Classifications:

International (IPC 8-9): B22F9/08 C25B1/04 C25B13/04 G21B G21B1/15 G21B1/21 G21B3/00 G21G5/00 H01L31/0304 H01L31/0725 H01L31/0735 H02N3/00 H02S10/10 H02S10/30 H02S10/40 H02S40/22 H02S40/32 H02S40/38 H02S40/42 H02S40/44 H05H1/24 H05H1/48 (Advanced/Invention); G21B (Subclass/Invention)
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US: 310/306

PatBase - US2017104426_AH



Family:

Publication number	Publication date	Application number	Application date
AU2015266760 AA	20151203	AU20150266760	20150529
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CA2985328 AA	20171107	CA20162985328	20160108
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EA201692463 A1	20171031	EA20160092463	20150529
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KR20170013357 A	20170206	KR20167037020	20150529
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MX2016015386 A1	20180126	MX20160015386	20150529
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TW201712691 A	20170401	TW20160100629	20160108
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US2018159459 AA	20180607	US20160572898	20160108
WO15184252 A1	20151203	WO2015US33165	20150529
WO15184252 A9	20160324	WO2015US33165	20150529
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Priority:

US20030469913	20030905	US20040494571	20040506	US20140004883P	20140529
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US20150217411P	20150911	US20150220582P	20150918	US20150237375P	20151005
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Probable Assignee: BRILLIANT LIGHT POWER INC

Assignee(s): (std): BLACKLIGHT POWER INC ; BRILLIANT LIGHT POWER INC ; MILLS RANDELL LEE

Assignee(s): MILLS RANDELL L

Inventor(s): (std): MILLS RANDELL L ; MILLS RANDELL LEE ; RANDELL L MILLS ; RANDELL LEE MILLS

Agent(s): SPRUSON AND FERGUSON; RIDOUT AND MAYBEE LLP; UEXKUELL AND STOLBERG; ADOLF MARTUA
PANGGABEAN MAROLITA SETIATI; MAROLITA SETIATI; SWEET MARK D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR
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SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ELECTRIC VEHICLE CHARGING DEVICE OBSTACLE AVOIDANCE AND WARNING SYSTEM AND METHOD OF USE

Abstract: Techniques for electric vehicle systems, and in particular to an electric vehicle charging device obstacle avoidance system and method of use. In one embodiment, a system for obstacle avoidance of a charging panel of an electrical vehicle is disclosed, the system comprising: a charging panel interconnected to the electric vehicle; an actuator interconnected to the charging panel, the actuator configured to position the charging panel; at least one sensor configured to sense an obstacle location measurement in a predicted travel path of the electric vehicle; and an obstacle avoidance **controller** that receives the obstacle location measurement and determines if an obstacle avoidance action is recommended.

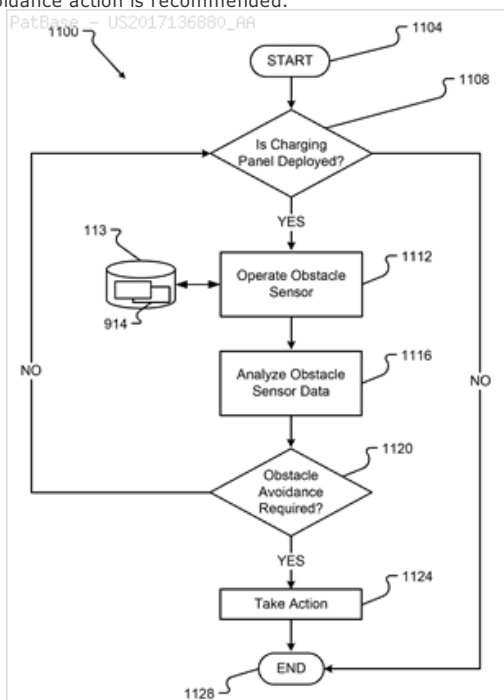
Classifications:

International (IPC 8-9): A61B5/01 A61B5/024 A61B5/08

A61B5/1171 A61B5/1172 A61B5/16 A61B5/18 B08B7/02 B60C19/00
B60C23/04 B60L11/00 B60L11/10 B60L11/18 B60L3/00 B60L5/00
B60L5/06 B60L5/08 B60L5/16 B60L5/24 B60L5/28 B60L7/18
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G01R31/42 G01S13/86 G01S17/89 G01S17/93 G01S7/40 G01S7/481
G01S7/497 G02B27/00 G05B15/02 G05D1/00 G05D1/02 G06F11/14
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B60W40/08 B60W50/14 G01S13/93 G05D1/00 H01G11/08
H04W4/00 (Advanced/Non-invention)

CPC: B60L11/1827 B60M7/00 B60L5/24 B60L5/16 B60L5/06

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Assignee(s): (std): NEXTEV USA INC ; NIO USA INC ; TRANSLATIONAL DRUG DEV LLC ; NEXT EV USA INC

Assignee(s): NEXTEV ; TRANSLATIONAL DRUG DEVELOPMENT LLC

Inventor(s): (std): BAIK EDWARD ; BAIK EDWARD H ; COX JONATHAN ; COX JONATHAN A ; FREYTAG PATRICK ; GATELY STEPHEN ; HIRSHBERG YANIR ; MURALIDHAR GAUTAM ; NEWMAN AUSTIN ; NEWMAN AUSTIN L ; NORTH CRAIG ; POULIOT CHRISTOPHER ; POULIOT CHRISTOPHER F ; RICCI CHRISTOPHER ; RICCI CHRISTOPHER P ; SINGHAL ABHISHEK ; WANG TONG ; XIAO FEI

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

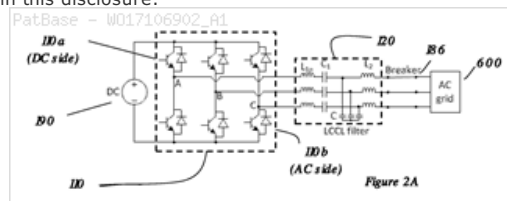
Title: CIRCUITS OF VOLTAGE SOURCE DC/**AC CONVERTER** WITH LCCL OR LCC FILTER AND OTHER MODIFIED FORMS, AND OPERATION OF MICROGRID WITH SUCH CIRCUITS

Abstract: This invention presents a new circuit topology formed by passive filter LCCL or LCC and voltage source DC/**AC converter**, which is named as fundamental forming unit. Compared with conventional LCL filter based DC/**AC converter**, the new **converter** circuits can handle wider range of power without suffering from disturbance by harmonic voltages and currents. For high voltage and high power application, circuits with multiple stages and multiple parallel branches are developed based on multiple fundamental forming units. Such circuits can be for general purpose application. They can also be for microgrid applications. Furthermore a new series of multistage DC/**AC converters** with LCL filter have also been developed to handle high power conversion at high voltage and high current levels. By applying such circuits to acting as grid-forming, grid-supporting and grid-feeding **generators** in a microgrid operating at constant frequency, the microgrid system can handle much higher power and can adapt to drastic change of **renewable energy** generation and load change. Such microgrid is operated using newly invented methods described in this disclosure.

Classifications:

International (IPC 8-9): H02M3/338 (Advanced/Invention)

CPC: H02M7/49 H02M1/126 H02M7/48



Family:

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Priority:

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Probable Assignee: ZHANG DAMING

Assignee(s): (std): ZHANG DAMING

Inventor(s): (std): ZHANG DAMING

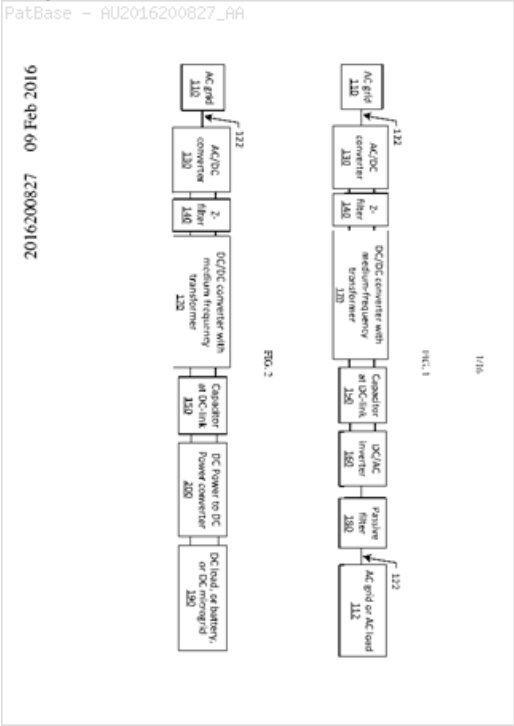
Agent(s): BAXTER PATENT ATTORNEYS PTY LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: CONVERTER TOPOLOGIES FOR AC-TO-AC AND AC-TO-DC POWER TRANSFERRING THROUGH SOLID-STATE TRANSFORMER AND THEIR CONTROL METHODS

Abstract: A series of circuit topologies for AC-to-AC and AC-to-DC power transferring through solid state transformer (SST) and their control methods are invented. By having passive filters and reactive power compensator, such SST can operate at high frequency close to several hundred kilohertz even higher. A new multi-stage AC/DC converter is adopted to interface SST with high voltage AC grid, from which power is supplied or exchanged. A first system based on the developed SST is adopted to transfer power between two AC grids. A second system based on the developed SST is used to charge battery or power DC load or DC microgrid from AC grid. A third system based on the developed SST is used to supply power to multiple loads, including AC grid, DC load, charging battery, and powering DC microgrid. Furthermore bi-directional AC/DC or AC/AC systems based on the developed SST have also been invented. -o - D r D <~r ~n 0 u0-ss 0-ss 1 D (D ~ (D - 3 co 3 co 3 co D 7- (1 D 7- D 7 = 0C- 0 CD0 0D 0 C0 CD 0 Ln ~ QD Ln QD LIA 3w CD D _0 _D-0_ rDD 0 r 0 m

Classifications:
International (IPC 8-9): H02M1/00 H02M3/158 H02M5/297 H02M7/219 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
AU2016200827 AA	20170824	AU20160200827	20160209

Priority:

AU20160200827 20160209

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Assignee(s): (std): RAHMAN FAZ ; LI RUI ; ZHANG DAMING ; XIAO DAN ; TSENG KINGJET

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