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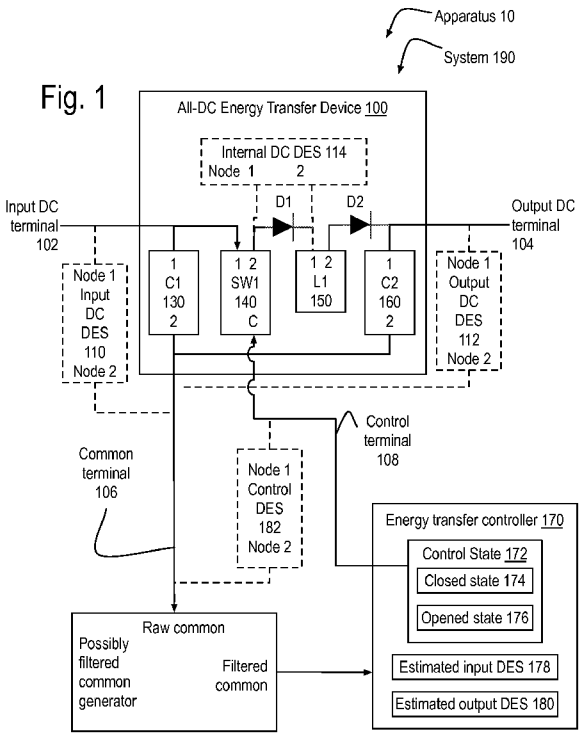
[Continued on next page]

(54) Title: DC ENERGY TRANSFER APPARATUS, APPLICATIONS, COMPONENTS, AND METHODS

Fig. 1



(57) Abstract: This discloses apparatus including, but not limited to, an all Direct Current (DC) energy transfer circuit, a energy transfer controller, an all-DC energy transfer network, components of use in such circuits, and application apparatus that benefits from including and/or using said all-DC energy transfer device and methods of operating said above in accord with this invention. Said application apparatus may include, but are not limited to, a hybrid electric vehicle, an electric vehicle, and/or a solar power device, in particular, a hybrid electric/internal combustion engine automobile.

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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B60L 11/18; H02P 27/06; G05F 1/40; G05F 1/46; H02J 3/18; H02M 3/155; B60L 1/00; H02J 3/01

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Korean utility models and applications for utility models
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
eKOMPASS(KIPO internal) & keywords: energy transfer, common terminal, capacitive, switch, inductive, control

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2014-147294 A1 (MERUS POWER DYNAMICS OY) 25 September 2014 See page 7, lines 8-18, page 14, lines 1-20, claim 1, and figure 1.	1-24
A	US 2012-0229061 A1 (TAKESHI ITOH et al.) 13 September 2012 See paragraphs 37-46, and figure 1.	1-24
A	JP 4435647 B2 (MARVELL WORLD TRADE LTD.) 24 March 2010 See paragraphs 10-14, claim 1, and figure 1a.	1-24
A	US 2005-0218877 A1 (RICHARD OSWALD et al.) 06 October 2005 See paragraphs 36-47, claim 1, and figure 2.	1-24
A	US 2011-0193409 A1 (TAKASHI HARA et al.) 11 August 2011 See paragraphs 35-39, claim 1, and figure 1.	1-24

☐ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
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"&" document member of the same patent family

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