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[Continued on next page]

(54) Title: DC TO DC CONVERTER ASSEMBLY

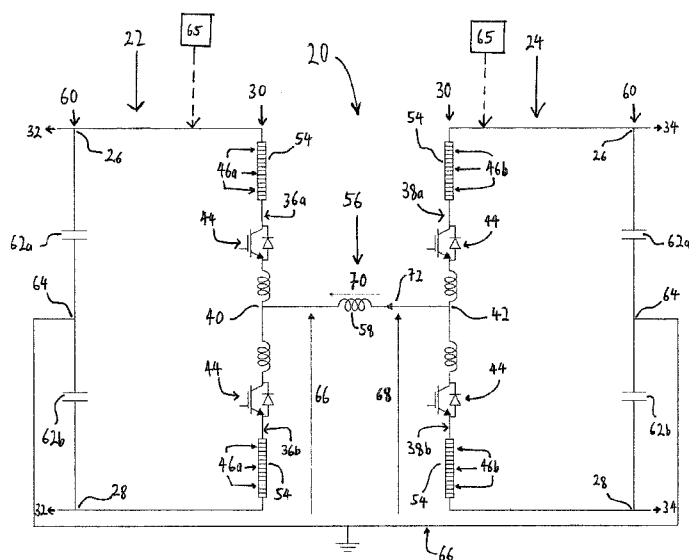


Figure 1

(57) Abstract: There is provided a DC to DC converter assembly (20) for interconnecting DC electrical networks (32, 34). The DC to DC converter assembly (20) comprises: first and second converters (22, 24), each converter (22, 24) including first and second DC terminals (26, 28) for connection to a respective one of the DC electrical networks (32, 34), each converter (22, 24) including a converter limb (30) extending between the corresponding first and second DC terminals (26, 28), the converter limb (30) of the first converter (22) having a pair of first limb portions (36a, 36b) separated by a first AC terminal (40), the converter limb (30) of the second converter (24) having a pair of second limb portions (38a, 38b) separated by a second AC terminal (42), each limb portion (36a, 36b, 38a, 38b) including at least one switching element, at least one first limb portion (36a, 36b) including at least one first module (46a), at least one second limb portion (38a, 38b) including at least one second module (46b), the or each module (46a, 46b) including at least one switching element and at least one energy storage device, the or each switching element and the or each energy storage device in each module (46a, 46b) combining to selectively provide a voltage source, the or each switching ele-

ment in each limb portion (36a, 36b, 38a, 38b) being switchable to switch the corresponding limb portion (36a, 36b, 38a, 38b) into or out of circuit between the corresponding AC and DC terminals (26, 28, 40, 42) to control the configuration of an AC voltage (66, 68) at the corresponding AC terminal (26, 28, 40, 42); an AC transmission link (56), the first AC terminal (40) being connected to the second AC terminal (42) via the AC transmission link (56), the first AC terminal (40) being connected at a first end of the AC transmission link (56), the second AC terminal (42) being connected at a second end of the AC transmission link (56); and a control-ler (65) configured to selectively control switching of the or each switching element in each limb portion (36a, 36b, 38a, 38b) to control the configuration of the AC voltage (66, 68) at the corresponding

[Continued on next page]



TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

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AC terminal (40, 42) to: form a current circulation path that includes the AC transmission link (56), at least one first limb portion (36a, 36b) and at least one second limb portion (38a, 38b); and inject a circulation current into the current circulation path to transfer energy between at least one first module (46a) and at least one second module (46b) in the circulation path.

INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
INV. H02M3/335 H02M7/483
ADD.

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)
H02M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, COMPENDEX, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A		6,7



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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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