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(54) **CONTROL DEVICE AND CONTROL METHOD FOR MODULAR MULTILEVEL CONVERTER**

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(57) **ABSTRACT**

A control device for an MMC is disclosed. The control device for an MMC including a plurality of converter arms that include a plurality of sub-modules connected in series and that are connected to a DC link includes: an arm controller, which detects the arm current of a converter arm so as to determine whether a DC failure has occurred, and, if it is determined that the DC failure has occurred, transmits a bypass control signal for protecting a sub-module and notifies of the DC failure; a sub-module controller for controlling the sub-module so as to bypass a DC failure current according to the bypass control signal received from the arm controller; and a main controller, which detects, in real-time, the arm current of the converter arm and a voltage (DC link voltage) of the DC link, determines whether the DC failure is a temporary DC failure or a permanent DC failure on the basis of the detected arm current and DC link voltage if the occurrence of the DC failure is notified by the arm controller, and transmits, to the arm controller, a normal operation control signal for normal operation of the sub-module or a bypass control signal for bypassing of the DC failure current.