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(54) Title: PULSE WIDTH MODULATION SYSTEM PROVIDED WITH SYNCHRONIZED CONTROL BOARDS

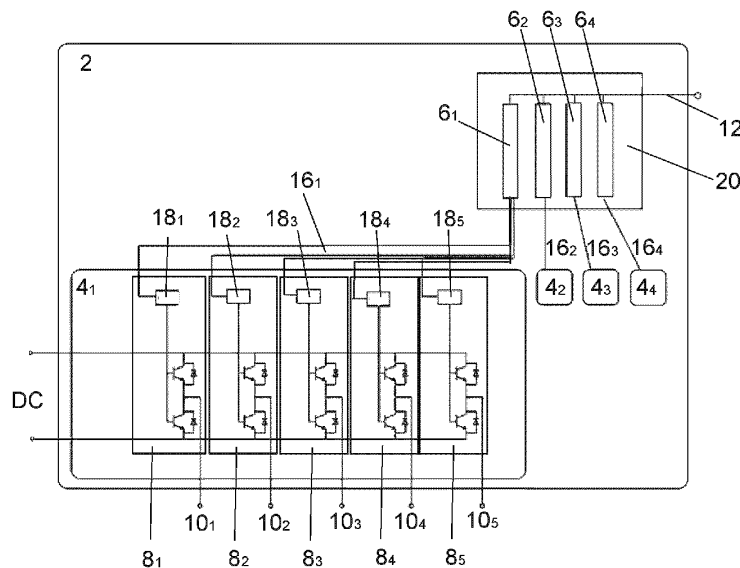


FIG. 1

(57) Abstract: A pulse width modulation (PWM) system (2) comprising a plurality of module building blocks (4₁-4₄), where each building block is connected to and controlled by a control board (6₁-6₄), each module building block comprises a set of function modules (8₁-8₅), provided with pulse width modulated phase outputs (10₁-10₅) adapted to be connected to predetermined loads. Each module building block (4₁-4₄) is connected to a direct current (DC) link, and that the control boards (6₁-6₄) are connected to each other via a communication bus (12), one of the control boards is a master control board (6₁) and the others are slave control boards (6₂, 6₃, 6₄). Each slave control board (6₂, 6₃, 6₄) is configured to determine a fictive master board timer based upon timer information received via said communication bus (12), and is further configured to synchronize the timer rate of a

[Continued on next page]

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slave board timer (14₂, 14₃, 14₄) to a timer rate of the master control board, or of an external timer rate. The timer information further comprises interlacing angle information defining an interlacing point for each of the control boards receiving the timer information, wherein the interlacing angles of a plurality of control boards are determined in relation to each other such that the variation of at least one predetermined operation parameter, related to the loads connected to said pulse width modulated phase outputs of said function modules, is minimized. Preferably, at least two control boards, for which the interlacing angles are determined, are arranged to control function modules at different module building blocks.