

CROSS-CURRENT SUPPRESSION CONTROL DEVICE FOR POWER CONVERSION CIRCUIT

ABSTRACT

A power conversion device having inverter units connected in parallel, wherein not only cross-current caused by gate signal timing, but also cross-current caused by switching element characteristics errors as well as gate signal delay interference caused by, e.g., a physical configuration as a result of the distance or shape of a transmission circuit are suppressed. A specified gain is multiplied by a proportional amp (P), using as the cross-current the deviation between an inverter unit output current command value ($I_{invUdet}/N$) and an inverter unit output current detection value ($I_{invUNdet}$). Integral amps (I1-I4) are provided each time each switching element is turned ON or OFF, and the cross-current generated after the switching elements have turned ON or turned OFF is integral-amp processed and updated. The outputs of the proportional amp (P) and the integral amps (I1-I4) are added and a rising gate delay command value (DelayrefU) and a falling gate delay command value (DelayrefD) are output.

Fig. 2