

発明名称： 単相のアップダウンする AC/DC 変換器

**Single-phase step-up and step-down AC/DC converter by using only single stage of conversion to obtain high efficiency single-phase step-up and step-down AC/DC converter**

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説明

The present creation is composed of the power semiconductor switch device used conventionally, inductors, capacitors, power diode and one set of the control circuit of converter so as to convert the input single phase AC power source into a DC voltage output capable of being adjusted upwards or downwards. By serially connecting an inductor with the power source and the input terminal of conventionally used single-phase whole bridge type rectifier, after two sets of serially connected circuits, which are composed of a power diode and a power semiconductor switch device, are connected in parallel with the output terminal of the single-phase whole bridge type rectifier, a capacitor is serially connected with two connecting points of these two serially connected circuits and a serially connected circuit, which is composed of a filter inductor and a filter capacitor, is connected in parallel with both terminals of one of the power diodes stated above, in which the load resistor is connected in parallel with this filter capacitor. Another characteristic of the apparatus in this creation is that only a single stage of conversion is required to obtain high efficiency single-phase step-up and step-down AC/DC converter. In particular, this creation has the effects of both sine wave input current and unit power factor.

