

According to the present invention, a method for switching alternating current by symmetrical switching elements in an electric converter with the number of input phases no less than three is proposed. Each of the switching elements contains two gates, which conduct current in opposite directions. The proposed method consists in that the switching of the load current from an input phase circuit to another one is accomplished at several stages, using the corresponding switching elements. At the first stage, one of the gates of the closing switching element is rendered conducting so as to prevent the short-circuit current between the first and the second phase circuits under existing relationships between the amplitudes and polarities of the corresponding phase voltages. At the second stage, the gate of the opening switching element that conducts current in the same direction as the said first gate of the closing switching element is cut off. At the third stage, the second gate of the closing switching element is rendered conducting. At the fourth stage, the second gate of the opening switching element is cut off. If there is the need to close one switching element and open the other switching element, when these switching elements are connected to the different converter input phase circuits for which it is impossible to determine the existing relationships between the amplitudes and polarities of the corresponding phase voltages, the intermediate switching of the load current from the phase circuit with the closing switching element to the third or the other next phase circuit with maximal phase voltage value is accomplished, using the corresponding switching elements, and then the switching element for connecting to the required phase circuit is rendered conductive, using the above mentioned gate switching operations. The proposed method can be employed for switching current in a converter with three input and three output phase circuits, in which pulse-duration modulation is provided by summing a number of zero and nonzero input voltage vectors within each cycle of pulse-duration modulation, when the cycle of the converter input voltage is divided into six intervals that are separated from each other by the points in which the polarity of the input phase voltages changes. In such a converter, for generating nonzero voltage vectors, two line voltages are used, which values exceed the value of the third line voltage. The generation of zero voltage vectors is provided by concurrently closing all the switching elements connected to the input phase circuit, which voltage value is maximal and polarity differs from that of the other two phase voltages within the given cycle of the converter input voltage.