Semiconductor converters in structures of such devices as adjustable speed drives, uninterruptible power systems or data processing and electronics devices represent sources of harmonic currents generated by them into the network to which these devices are supplied. The quality of supply voltage can be significantly affected by their operation. Thus supply voltage is distorted, which can have negative influences on a function of devices connected to the same network. Besides voltage distortion generated harmonic currents can cause other serious problems in the network and in devices connected to it. So the corresponding attention should be devoted to create convenient technical solutions resulting in the reduction of generated harmonic currents. There are various technical solutions of various levels of performance or efficiency in sense of their ability to reduce generated harmonics. In this sense, effects of some chosen technical devices are presented in this paper.