

Abstract of the Disclosure

In compensating for unbalanced voltages of three-phase AC, instantaneous values of wye-phase voltages 120° out of phase with each other are obtained from line
5 voltages using a centroid vector operation, symmetrical component voltages of three-phase balanced system are obtained from the instantaneous values of wye-phase voltages, a compensation signal to compensate unbalanced voltages of three-phase AC
10 is generated from zero-phase-sequence voltage of symmetrical component voltages is generated, wye-phase voltages 120° out of phase, the unbalanced voltages of which are compensated, are obtained from the compensation signal and the symmetrical component
15 voltages, a control signal of a PWM conversion is generated based on the compensated wye-phase voltage compensated, and the unbalanced voltages of three-phase AC are compensated. As the instantaneous values of wye-phase voltages 120° out of phase with each other
20 are derived from the instantaneous values of line voltages, the amount of time to compensate the three-phase unbalanced voltages required for detecting an unbalance of voltages and generating a control signal can be shortened. This will allow a
25 rated output retain and a three-phase balanced current output by a three-phase converter control without using an electric storage device, instantaneously without a time-delay.