

The present invention relates to the elements of automatic control systems and relay protection equipment. The proposed device for measuring the power angle of a synchronous electric machine implies using the relationship between the tangential and radial components of the magnetic flux density vector of the resulting magnetic field in the air gap of the machine. For measuring the said magnetic flux density vector components, two Hall-effect transducers are used that are arranged at the angle $2\pi/p$ relative to each other, where p is the number of the machine poles. In order to remove the effect of slot, end-coil, and differential leakage, the output signals of the Hall-effect transducers are processed by active selective filters. The band pass of each filter corresponds to frequency range of the mains to which the machine is connected.