Electric power single-core cable contains at least copper or aluminum conductive wire, the main electrical insulation of the conductor, two semiconductor electric screens which are located on the surface of the conductor, and the main electrical insulation conductor, copper electromagnetic screen and insulating outer sheath of the cable. The cable comprises a layer of copper electromagnetic shield, two concentric layers of steel tape which are arranged along the axis of the cable so that the distance of the tapes from each other in the layer is not less than half the width of the tape. The top layer of steel tape is positioned so that the central axis of each tape in the upper layer coincides with the center of the non-magnetic gap between the steel tapes of the lower layer and these two layers of steel tape are insulated from each other and insulated from the copper electromagnetic shield.