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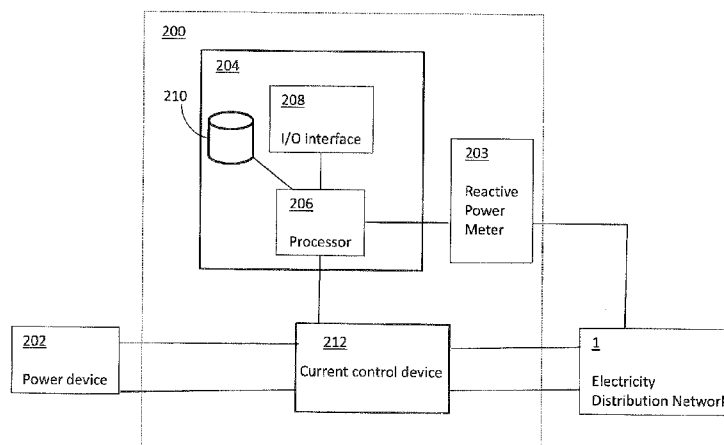


Fig. 2

(57) **Abstract:** Embodiments of the invention relate to devices and methods and systems for controlling a reactive power contribution to reactive power flowing in an electricity distribution network, so as to optimise this reactive power flow. Conventional methods of controlling reactive power flow focus on minimising a reactive power contribution by power provision and power consumption devices connected to the electricity distribution network, in accordance with, for example, regulations governing a maximum allowed power factor and/or under the control of a central controlling entity. However, such methods are slow to react to changing network conditions, and do not take account of local variations in reactive power. In an embodiment of the present invention, there is provided a reactive power control device for use with a power consumption and/or provision device. The reactive power control device comprises detecting means for detecting, at the power device, a reactive power characteristic of electrical power flowing in the electric power distribution network, the reactive power characteristic relating to a reactive power component of electricity flowing in the network. The reactive power control device further comprises control means for controlling, on the basis of the detected reactive power characteristic, a reactive power contribution to the electricity distribution network so as to adjust a value of the detected reactive power characteristic. This enables individual power consumption and/or provision devices to react autonomously to local variations in the electricity distribution network, and to provide a reactive power contribution, to drive the detected reactive power characteristic towards a desired value.