

Title (en)
LINEARIZATION CIRCUIT AND METHOD FOR LINEARIZING A MEASUREMENT SIGNAL

Title (de)
LINEARISIERUNGSSCHALTUNG UND VERFAHREN ZUM LINEARISIEREN EINES MESSSIGNALS

Title (fr)
CIRCUIT DE LINÉARISATION ET PROCÉDÉ DE LINÉARISATION D'UN SIGNAL DE MESURE

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Abstract (en)
[origin: WO2018108216A1] The invention relates to a linearization circuit for linearizing a measurement signal, wherein the linearization circuit has an input for inputting the measurement signal (Ud) and an output for outputting a linearized output signal. The linearization circuit comprises a reference component, a charging and discharging controller (7) and a comparator circuit (10). The reference component has a non-linear dependence on current or voltage and is preferably formed by a coil (L) or a capacitor (C). The charging and discharging controller (7) is designed to control alternating charging and discharging of the reference component. The voltage across the reference component or a voltage derived from a current flowing through the reference component forms a reference signal (Uc) or an alternating component of a reference signal (Uc). The charging and discharging are controlled in such a way that the reference signal (Uc) has a substantially periodic curve. The reference signal (Uc) and the measurement signal (Ud) are input into the comparator circuit (10), which comprises a first input (11), a second input (12) and an output; specifically, the reference signal (Uc) is input into the first input (11) and the measurement signal (Ud) is input into the second input (12). The comparator circuit (10) is designed to produce and output at the output thereof a square-wave signal (Ua) on the basis of a reference time point during a charge-discharge cycle and a result of a comparison of the reference signal (Uc) with the measurement signal (Ud), the square-wave signal representing a linearized output signal. The invention further relates to a corresponding method.

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