

Title (en)

CIRCUIT ARRANGEMENT FOR ASCERTAINING A TYPE OF AND A VALUE OF AN INPUT VOLTAGE, AND ASSOCIATED METHOD

Title (de)

SCHALTUNGSANORDNUNG ZUM ERMITTELN EINER ART UND EINES WERTS EINER EINGANGSSPANNUNG UND ZUGEHÖRIGES VERFAHREN

Title (fr)

AGENCEMENT DE CIRCUIT POUR DÉTERMINER UN TYPE DE TENSION D'ENTRÉE ET UNE VALEUR D'UNE TENSION D'ENTRÉE, ET PROCÉDÉ ASSOCIÉ

Publication

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Application

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Abstract (en)

[origin: WO2021083810A1] The invention relates to a circuit arrangement, by means of which a voltage type and a voltage value, in particular an average value, of an input voltage (U<sub>e</sub>) of a power supply (SV) or of a switching-mode power supply (SV) is ascertained. The circuit arrangement (ME) is arranged such that the input voltage (U<sub>e</sub>) of the power supply (SV) decreases at the input side of the circuit arrangement (ME). The circuit arrangement (ME) comprises at least one differential amplifier (DIF) for converting the input voltage (U<sub>e</sub>) into a useful signal (NS), which signal is rectified by a first rectifier unit (GL1) arranged at an output of the differential amplifier (DIF), to which first rectifier unit a first compensation diode (K1) is assigned such that a forward voltage of the first rectifier unit (GL1) is compensated. The circuit assembly also comprises an inverter (INV) which generates an inverted useful signal (negNS) from the useful signal (NS). The inverted useful signal (negNS) is rectified by a second rectifier unit (GL2) arranged at an output of the inverter (INV), to which second rectifier unit a second compensation diode (K2) is assigned such that a forward voltage of the second rectifier unit (GL2) is compensated. The circuit arrangement also comprises a mixer unit (MS), by means of which a first output signal (AS1) is generated from the rectified useful signal (NS) and the rectified inverted useful signal (negNS), from which first output signal a second output signal (AS2) is derived by means of a filter unit. In the process, the voltage type can be determined from the first output signal (AS1), and a voltage value, in particular an average value, of the input voltage (U<sub>e</sub>) can be determined from the second output signal (AS2).

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