

Title (en)

Process and circuit for varying the light intensity (dimming) of gas discharge lamps.

Title (de)

Verfahren und Schaltungsanordnung zur Regelung der Helligkeit (Dimmen) von Gasentladungslampen.

Title (fr)

Procédé et circuit pour régler l'intensité lumineuse (atténuer) de lampes à décharge.

Publication

EP 0461441 B1 19941130 (DE)

Application

EP 91108352 A 19910523

Priority

DE 4018127 A 19900606

Abstract (en)

[origin: EP0461441A1] A process and electronic ballast allow the brightness (dimming) of gas-discharge lamps (GE) to be controlled, especially in the case of gas-discharge lamps of a different type, such as argon or krypton lamps, and gas-discharge lamps of different rated power (PN). In this case, an inverter (20) is provided which emits an AC output voltage (uw) of variable frequency (f) and/or of variable duty cycle (d) to a load circuit (10) containing a gas-discharge lamp (GE). Furthermore, a first and a second current measuring element (25, 26) are provided for detecting a lamp current (IW_{rms}, I_{lamp}) and a DC current (Idc) taken by the inverter (20) or intermediate-circuit smoothing capacitor (C0), and a first voltage measuring element (27) for detecting intermediate-circuit DC voltage (U0, Udc) for the inverter (20). The circuit arrangement and the specified process are intended to achieve an improved brightness control, particularly in a small brightness range. In addition, it is intended to achieve independence from the lamp type. To this end, the current measurement variables (IW_{rms}, Idc) are combined in a synthetic current measurement variable (Iq), and the synthetic measurement variable (Iq) thus formed is multiplied by, or quasi-multiplied by, the DC voltage measurement variable (Udc), as a result of which an actual power variable (P_{mess}) which essentially represents the absorbed or emitted lamp power (P_{out}, P_{in}) can be formed for a power control loop (40, 20, p, P_{des}, GE, 10). <IMAGE>

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Cited by

EP1309230A3; EP0853445A1; AU697750B2; US6072282A; DE4425890A1; US6088249A; AU2006237227B2; US6181066B1; WO2007104666A1; WO9955125A1; WO2006111422A1; WO0237904A1; WO2011070470A1; WO9727726A1; EP1309230A2; US8664894B2; EP2271187B1

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