

Title (en)
Process for detecting a faulty fluorescent lamp operated by high-frequency.

Title (de)
Verfahren zur Erkennung einer defekten Leuchtstoffröhre bei höherfrequenter Ansteuerung.

Title (fr)
Procédé de détection d'un tube fluorescent défectueux alimenté en haute fréquence.

Publication
EP 0642296 A3 19950726 (DE)

Application
EP 94250220 A 19940907

Priority
DE 4330942 A 19930908

Abstract (en)
[origin: EP0642296A2] The present invention relates to a method for monitoring the lamp current of fluorescent tubes during operation at higher frequencies. It is known that the burning voltage (operating voltage, running voltage, maintaining voltage) of a fluorescent tube, during operation at 50 Hz, has voltage peaks which show that the tube must be restarted after each zero crossing. These restarting peaks are missing during operation at higher frequencies. In this case, the tube operates with the mostly sinusoidal burning voltage. It is furthermore known that fluorescent lamps have an unreliable starting behaviour at the end of their life and glow partly stochastically (randomly). This so-called flicker is regarded as disturbing, with the result that the corresponding tube must be replaced or switched off. With the invention, those states of the tube which inevitably lead to this flicker are recognised and the tube can be switched off automatically before this disturbing effect begins. Even during high-frequency (radio-frequency) operation, a used tube has a burning voltage curve which is not precisely sinusoidal. By detecting the associated burning current, unambiguous criteria can be determined for this state at the end of the life of the tube. In addition, too high a lamp current can be detected (recognised) as a further operating state which is damaging for the tube. <IMAGE>

IPC 1-7
H05B 41/29; **H05B 37/03**

IPC 8 full level
H05B 37/03 (2006.01); **H05B 41/285** (2006.01)

CPC (source: EP US)
H05B 41/2855 (2013.01 - EP US); **H05B 47/25** (2020.01 - EP US)

Citation (search report)
• [PX] EP 0576991 A2 19940105 - SANYO ELECTRIC CO [JP]
• [XA] WO 8201276 A1 19820415 - THOMAS INDUSTRIES INC [US], et al
• [PA] GB 2269279 A 19940202 - COOLITE LTD [GB]
• [A] WO 8707995 A1 19871230 - INNOVATIVE CONTROLS INC [US]
• [A] US 5023516 A 19910611 - ITO KAZUHIKO [JP], et al

Cited by
DE19983865B4; FR2789839A1; US5880563A; EP0794691A3; US9995364B2

Designated contracting state (EPC)
DE GB IT NL

DOCDB simple family (publication)
EP 0642296 A2 19950308; **EP 0642296 A3 19950726**

DOCDB simple family (application)
EP 94250220 A 19940907