

ABSTRACT

ELECTRONIC BALLAST FOR A DISCHARGE LAMP

An electronic ballast for a discharge lamp having a capability of detecting operating condition of the discharge lamp, yet being designed to have a

5 compact arrangement of the electric parts forming the circuit of the ballast.

The ballast includes an AC-DC converter receiving a source AC voltage and converting the source AC voltage into a DC voltage, and an inverter giving a high frequency output voltage from the DC voltage for operating the lamp.

The inverter includes at least one switching element, a control circuit for the

10 switching element, and an output transformer for connection with the lamp.

The control circuit activates the switching element to provide the high frequency output voltage to the lamp through the output transformer.

Included in the ballast is a single circuit board mounting thereon the electric parts forming the converter and the inverter. The circuit board mounting the

15 electric parts is accommodated within a tubular casing together with a dielectric sheet which is provided for insulating the circuit board as well as the electric parts from the casing. The output transformer is mounted on a top surface of the circuit board together with some of the other electric parts. The ballast includes a plurality of chip components forming a detection circuit for

20 detection of the operating condition of the lamp, and the circuit board mounts the chip components of the detection circuit on a bottom surface at a location immediately opposite of the output transformer.

(Fig. 1)