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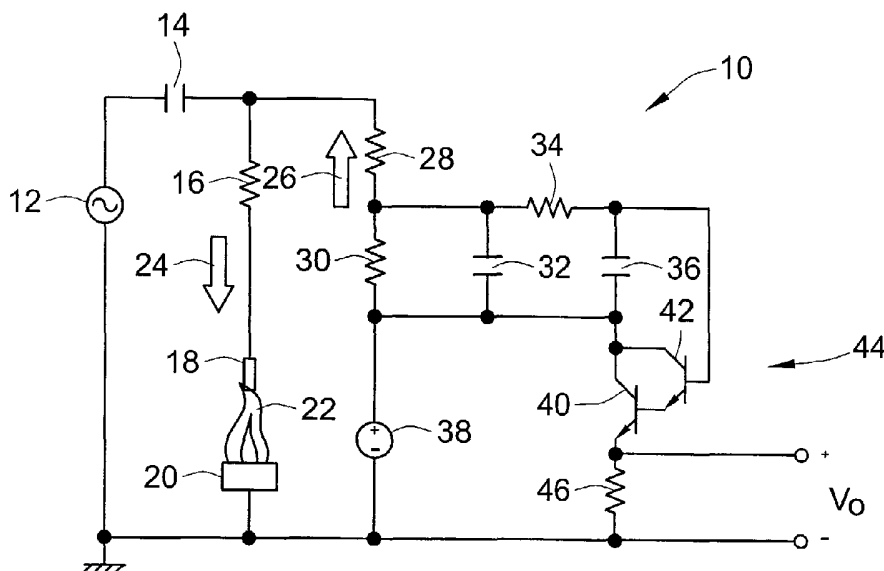
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[Continued on next page]

(54) Title: FLAME SENSE CIRCUIT AND METHOD WITH ANALOG OUTPUT



(57) Abstract: An analog flame sense circuit (10) is provided that utilizes the flame rectification method of sensing flame (22). The circuit uses an AC voltage source (12) and discrete components to provide the sensing of the flame current. Either a single-pole or a two-pole filter may be used to smooth the generated sense voltage. A DC bias is provided to the filter to ensure a positive voltage. The circuit also includes a high-gain, high-impedance amplifier to translate the high impedance voltage of the sensing portion of the circuit to a relatively low impedance voltage for use by an electronic control circuit. In one embodiment, a high-gain emitter-follower amplifier (44) constructed from two bi-polar junction transistors (BJTs) (40, 42) is used. An integrated Darlington configuration may be used, as well as a single BJTs (40, 42) having a high gain, and an integrated operational amplifier.

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<p>B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 340/577,578,579; 431/5,8,18,17,42,50</p> <p>Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched</p> <p>Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)</p>														
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