

Title (en)
IONISATION FIRE ALARM DEVICE WITH MALFUNCTION SIGNALIZATION

Publication
EP 0033888 B2 19910206 (DE)

Application
EP 81100552 A 19810126

Priority
DE 3004753 A 19800208

Abstract (en)
[origin: EP0033888A2] 1. A fire alarm means comprising: at least one ionization fire detector (M), in particular a plurality of ionization fire detectors (M) connected parallel to each other to a detecting line (L; 10, 12) and including a measuring chamber (MK) accessible to ambient air and a reference chamber (RK) more closed against the access of ambient air, the series connection of said measuring chamber and of said reference chamber being connected to a direct current supply voltage; a smoke alarm circuit (62, 64, 66) being connected at its input side to the connection point (38) of said chambers (MK, RK) and generating a smoke alarm signal when smoke enters into said measuring chamber (MK); and a fault alarm circuit (46, 48, 50) being supplied by said direct current supply voltage, being connected at its input side to the connection point (38) of said chambers (MK, RK), and generating a fault alarm signal when the insulation resistance of said measuring chamber (MK) drops below a predetermined threshold value; with the smoke alarm circuit (62, 64, 66) comprising at its input side a field-effect transistor (90) connected with its control electrode to the connection point (38) of said chambers (MK, RK), the drain electrode of said field-effect transistor being connected through a load resistor (92, 94) to that terminal (28) of said direct current supply voltage which said reference chamber (RK) is connected to; characterized in that for the additional emission of an alarm signal in case of faults influencing the voltage drop at said measuring chamber (MK) said fault alarm circuit (46, 48, 50) and said smoke alarm circuit (62, 64, 66) are, with respect to the input threshold voltage necessary for their actuation and being measured between their inputs and a terminal (28, 30) of said direct current supply voltage, at least approximately voltage-independent with respect to said direct current supply voltage, that the voltage source (14) providing said direct current supply voltage is switchable to a voltage which is increased with respect to the nominal value of said direct current supply voltage, and that the threshold voltage of said self-locking field-effect transistor (90) is such that the voltage occurring at the control path of said field-effect transistor (90) due to the switching to the increased voltage exceeds the threshold voltage only when said measuring chamber (MK), due to the contamination of the radiation source ionizing the measuring chamber shows an internal resistance increased with respect to the so far undisturbed status, and that in dependency from the switching to the increased voltage the transmission of the smoke alarm signal possibly generated by said smoke alarm circuit (62, 64, 66) to an evaluating circuit (26) is suppressed and a fault alarm signal is generated instead thereof and transmitted to the evaluating circuit (26).

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IPC 8 full level
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CPC (source: EP)
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