

Title (en)
ULTRASONIC OBSTACLE DETECTION IN ALARM DEVICES

Title (de)
ULTRASCHALLHINDERNISERKENNUNG IN ALARMVORRICHTUNGEN

Title (fr)
DÉTECTION D'OBSTACLE ULTRASONORE DANS DES DISPOSITIFS D'ALARME

Publication
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Application
EP 24159781 A 20200311

Priority

- EP 19166739 A 20190402
- EP 19166743 A 20190402
- EP 22212653 A 20200311
- EP 20162532 A 20200311

Abstract (en)

An alarm device (1) detects smoke and has a housing having a longitudinal axis and containing a sensor and having vents (3) for access by ambient air to the sensor, a signal processing circuit (15) with a processor linked with the sensor, a power supply for the circuit and the sensor. An obstacle detector detects presence of an unwanted obstacle to flow of ambient air to the sensor. The obstacle detector has an ultrasonic transducer (16) mounted to reflect emitted ultrasonic waves in radial directions relative to the longitudinal axis. The guide comprises a dish-shaped guide element (6) mounted to the housing (2) so that a single ultrasonic transducer can emit radially to cover a very large field of view, but also that the guide element (60) can act as a secondary source directing ultrasonic waves axially, and also to direct waves through the vents (3) so that there is immediate and effective detection of inadvertent blocking of the vents by tape. Also, there is in-built determination as to whether the air is stable enough for accurate obstacle detection.

IPC 8 full level
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CPC (source: EP)
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Citation (search report)

- [Y] EP 2492882 A1 20120829 - HAGER CONTROLS [FR]
- [Y] EP 2348495 A1 20110727 - ATRAL SECAL GMBH [DE]
- [Y] EP 0549888 A1 19930707 - NOHMI BOSAI LTD [JP]
- [A] US 4975688 A 19901204 - GONZALES RONALD A [US]

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