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(54) **Alarm system power supply housing that has integrated signal transmitting means**

(57) A power supply for an alarm system, comprising, or having associated with it, a means for transmitting an alarm signal to a remote monitoring means.

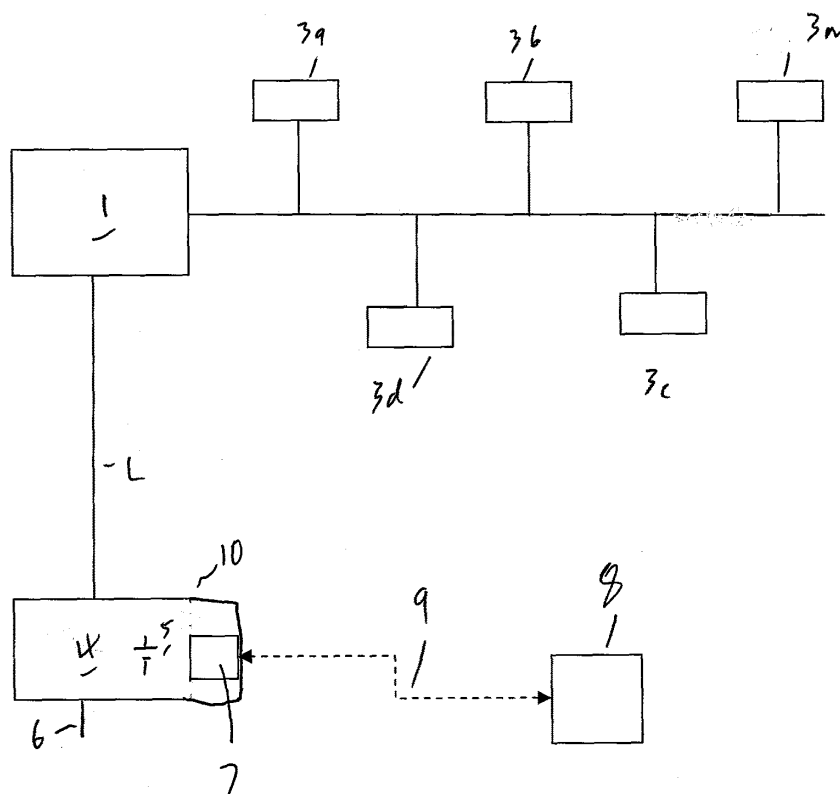


FIG 1

Description

[0001] This invention relates to a power supply. In particular, it relates to a power supply for an alarm system.

[0002] Alarm systems for commercial and domestic premises generally include one or more control panels and a number of devices such as sounders and sensors (which may be fire or smoke sensors, intruder sensors of various sorts or other types of sensors) and a means for the various sensors and control panels to communicate with each other, which is often a wired bus arrangement but may be a wireless bus. Many systems also include means for communicating with an external alarm receiving centre (alarm receiving centre - ARC) which will generally monitor alarms from many different clients or many different sites. Thus, when an alarm is actuated a signal is sent to the ARC and an operator at the ARC can call the owner of the alarm, the police or take other action. The communicator might be a simple modem such as a PSTM (pulse switch telephone modem), or an Internet communication, or a GPRS or 3G modem, or an ISDN modem, or any other system that can pass alarm signals to a remote receiving centre.

[0003] The communicator generally forms part of an alarm panel or is directly connected to it so that when the alarm panel receives an alarm actuation, it can immediately cause the communicator to issue the alarm signal to the remote centre.

[0004] Many systems include a built-in delay so that after an alarm is actuated an alarm is not actually sent from the communicator to the remote centre for a predetermined time period, which might be up to a few minutes after the alarm has actuated. In some circumstances, this may enable an intruder for example to physically knock the control panel including the communicator, or the communicator off a wall or to otherwise disable the communicator before it can transmit the alarm message.

[0005] The present invention arose in an attempt to provide an improved apparatus for signalling an alarm to a remote alarm receiving centre.

[0006] According to the present invention there is provided a power supply for an alarm system, comprising, or having associated with it, a means for transmitting an alarm signal to a remote monitoring means.

[0007] The means for transmitting an alarm signal is preferably a modem or similar device which can transmit signal over a telephone or a computer network to a remote receiver provided at an alarm receiving centre (ARC) or otherwise.

[0008] The transmitting means may be mounted within a housing of a power supply unit.

[0009] The power supply unit may be connected to one or more control panels of an alarm system such that alarm signals can be transmitted from the control panel to the power supply unit to thereby actuate the transmitting means.

[0010] The transmitting means may alternatively, or in addition, be adapted such that upon failure of a mains

supply or failure of a communication link between the power supply and one or more other components in an alarm system, such as a control panel, the transmitting means is adapted to automatically instigate an alarm signal.

[0011] The power supply most preferably includes a battery or other back up power supply such that the communicator can send an alarm message autonomously even in the event of mains failure.

[0012] The transmitting means may be termed 'a communicator'.

[0013] An embodiment of the present invention will now be described, by way of example only, with reference to the accompanying drawing, which shows schematically an intruder alarm system.

[0014] Referring to Figure 1, an intruder alarm system comprises one or more control panels and a control bus 2. A single panel 1 is shown by way of example. A number of devices 3a, 3b, ... 3n are attached to the bus and adapted to communicate with the control panel over the bus. In a typical intruder system, some of these devices may be sounders or other alarm signalling devices but most of the devices will be detectors such as PIR (Passive Infra-Red) detectors, door sensors, microwave sensors, combined detectors and many other types of detectors.

[0015] A power supply 4 is connected to the control panel. This will be mounted in any convenient location and may be recessed within a wall or other surface. It may be located behind a wall or otherwise hidden or located at a secure place where it is very difficult to access. It may also be placed in a discrete position where its location is not obvious.

[0016] The power supply receives a mains power supply source 6 (or from any other external supply such as a generator, PV (solar) supply, other sustainable source or any other external power supply). The power supply 4 preferably also includes a battery or other reserve power supply 5 or power generating means as a back-up power supply and this may be rechargeable. A communicator 7 is associated with the power supply. Most preferably, this is mounted within the housing 10 of the power supply. Alternatively, it may be bolted or otherwise affixed by screws, glue or any other means to the housing or may be a device which is otherwise connected to or associated with the power supply.

[0017] The communicator 7 may be a modem, for example a PSTN modem, a broadband modem or other device, an Internet communicator, a GPRS, 3G or 4G modem, an ISDN device or any other device which pass alarm signals over a network such as a telephone network and/or a data network, or other cellular modem or device, and which may be any wired system, or a wireless system (such as using WiFi, Bluetooth, cellular networks, or other means) to a remote alarm receiving centre 8. The transmission path is shown schematically by dotted lines 9.

[0018] The alarm receiving centre (ARC) 8 may of course receive alarms from many different sites and the

functioning of these is well-known.

[0019] The power supply 4 may be connected to the control panel 1 by a simple power cable or by a connection which allows single or bi-directional data communication. In this way, when the power supply receives an alarm signal from a connected device such as device 3a, it can provide an immediate signal to the power supply 4 and hence to the communicator 7, that the ARC 8 is to be notified. Even if the communicator 7 is arranged to allow for a delay of up to a few minutes say before it begins transmitting the signal, once it has received the alarm notification from the control panel, it is 'set'. Thus, even if the control panel is subsequently disabled, perhaps violently by an intruder, as long as he cannot access, or at least realise that the power supply has a communicator, the communicator will still issue its appropriate signal, over the connection route 9 to the ARC 8.

[0020] It may in practice be very difficult for an intruder to discover where the communicator actually is, particularly if the power supply is provided in a remote location or at a 'hidden' or discrete location for example, and so by the time the alarm panel has been disabled the communicator will already be ready to send its message autonomously. Even if the mains supply is disabled, the battery back up 5 in the power supply is used to power the communicator.

[0021] Communicator information may be transmitted over the key pad, control panel and expander bus (so that the communicator knows what to send).

[0022] For example, the bus may carry, as part of this system:

Power

Specific alarm signal commands eg 'intruder alarm', 'confirmed alarm', 'system set' and a reverse 'tamper' signal if someone tries to open the communicator box or remove it from the wall.

Text strings originating from the alarm system eg 'intruder alarm sitting room' and free-format text if required

Fault signals comms fail path A, comms fail path B' low GSM 13 G signal strength, etc.

[0023] Other miscellaneous housekeeping signals.

[0024] It may carry any or none of these or other types of information or data and the above are only examples.

[0025] Communication may be uni-directional or bi-directional.

[0026] Thus, the communicator (transmitting means) may be provided with means for communicating with one or more other components of an alarm system. This may be over the system bus, including over link L.

Claims

1. A power supply for an alarm system, comprising, or having associated with it, a means for transmitting

an alarm signal to a remote monitoring means.

2. A power supply as claimed in Claim 1, wherein the means for transmitting comprises a device for transmitting a signal over a network to a remote receiver.
3. A power supply as claimed in Claim 1 or Claim 2, wherein the network is a telephone or computer network.
4. A power supply as claimed in any preceding claim, wherein the transmitting means is mounted within or upon a housing of a power supply unit.
5. A power supply as claimed in any preceding claim, adapted to be connected to one or more control panels of an alarm system such that an alarm signal can be transmitted from the control panel to the power supply to thereby actuate the communicator.
6. A power supply as claimed in any preceding claim, wherein the transmitting means is adapted such that upon failure of a mains supply, and/or upon failure of any communication link between the power supply and one or more other components in an alarm system, the communicator is adapted to automatically transmit an alarm signal.
7. A power supply as claimed in Claim 6, wherein the communicator automatically transmits the alarm signal after a delayed period.
8. A power supply as claimed in any preceding claim, including a back-up power supply such that the transmitter can send an alarm message autonomously even in the event of mains failure.
9. A power supply as claimed in any preceding claim, wherein the transmitting means includes means for communicating with one or more other components of an alarm system.
10. A power supply substantially as hereinbefore described with reference to, and as illustrated by, the accompanying drawings.
11. An alarm system comprising a power supply and at least one other component connected to the power supply, adapted such that upon an alarm event being triggered by said component or a component attached thereto, a signal is sent to the transmitter to cause the transmitter to transmit an alarm signal.
12. An alarm system as claimed in Claim 1, wherein the transmitter is capable of communicating with one or more other components of the alarm system.
13. Apparatus as claimed in Claim 10 or 11, wherein the

additional component is a control panel.

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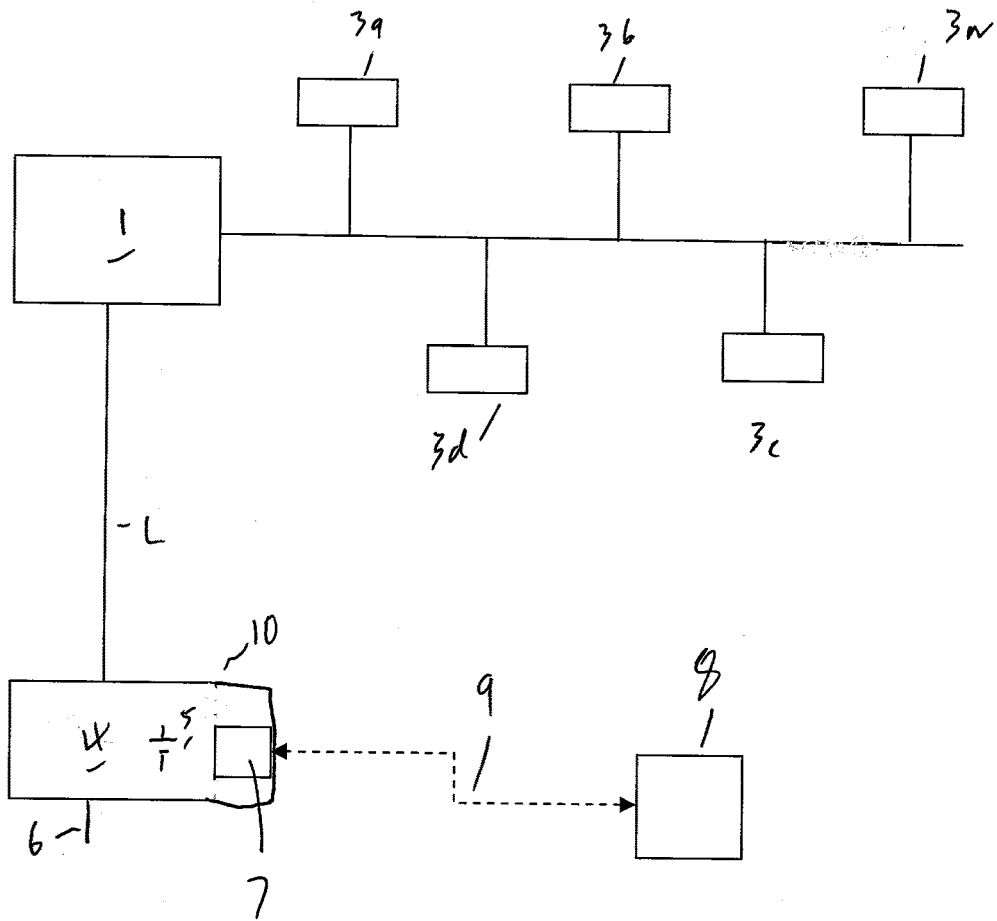


FIG 1



EUROPEAN SEARCH REPORT

Application Number
EP 11 18 3703

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	EP 0 391 566 A1 (PAYRISE LTD [GB]) 10 October 1990 (1990-10-10) * figure * * column 1, line 1 * * column 3, lines 25,26,33-35,48,49,54 * * column 4, lines 35-38 * * column 5, lines 30-36 * -----	1-13	INV. G08B25/08 G08B25/10
X	US 2008/169922 A1 (ISSOKSON PETER ALAN [US]) 17 July 2008 (2008-07-17) * abstract * * figure 1 * * sentences 1,4-6, paragraph 14 * * sentences 1,4,6, paragraph 19 * * sentence 1, paragraph 21 * * sentences 1,5,6, paragraph 23 * * last sentence, paragraph 25 * * sentence 1, paragraph 27 * * sentence 2, paragraph 31 * * sentence 7, paragraph 37 * * sentence 7, paragraph 42 * -----	1-13	
X	EP 1 909 540 A2 (KATES LAWRENCE [US]) 9 April 2008 (2008-04-09) * sentences 2,7,8, paragraph 12 * * column 5, lines 4,7 * * sentences 1,2, paragraph 20 * * sentences 3,4, paragraph 21 * * figures 6,7 * -----	1-4,11,12	G08B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 20 December 2011	Examiner Plathner, B
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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EPO FORM 1503.03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 18 3703

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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20-12-2011

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EP 0391566	A1	10-10-1990	NONE	

US 2008169922	A1	17-07-2008	NONE	

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