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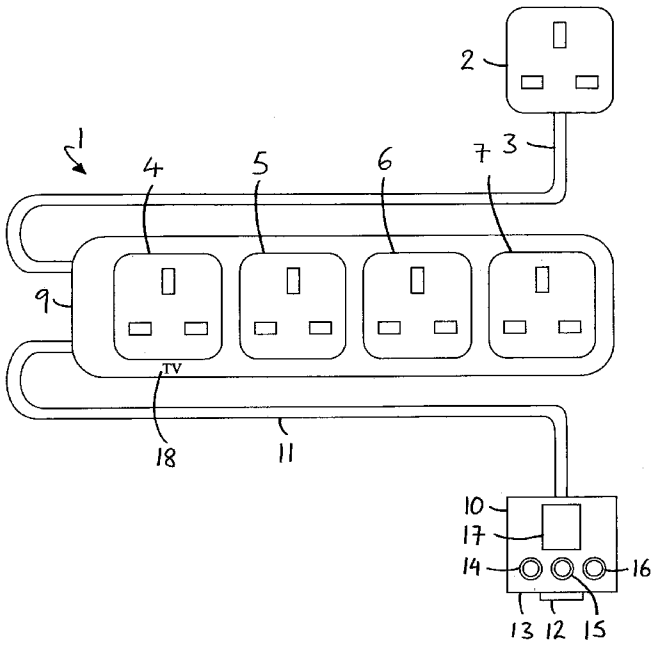
(54) **Title:** ELECTRICITY SUPPLY CONTROL DEVICE



(57) **Abstract:** An electricity supply control device comprising a connector for connecting to an electricity supply, a plurality of electricity sockets, and an electrical consumption measuring means, in which the electrical consumption measuring means is adapted to measure the electrical consumption of an electrical device plugged into a first of the plurality of electricity sockets, and in which the electricity supply control device is adapted to isolate all of the plurality of electricity sockets from an electricity supply if the electrical consumption of said electrical device drops below a pre-determined threshold.

WO 2007/135429 A2

ELECTRICITY SUPPLY CONTROL DEVICE

This invention relates to an electricity supply control device, for use particularly, but not exclusively, to fully switch off a television set and associated devices when they are not in use.

An enormous amount of energy is wasted when modern electrical devices are left in a standby mode. An average colour television set consumes about 40 watts of electricity when it is fully on, and about 10 watts when it is switched to a standby mode. Many users of such devices consider them to be switched off when they are in a standby mode, and as such they leave them on standby for long periods, for example over night. Most modern television sets can be switched to a standby mode remotely, but can only be switched fully off at the set itself. As a result some people find it more convenient to use the remote standby option than to physically approach the television set to switch it fully off.

Television sets are now commonly used in conjunction with other devices including VCRs, DVD players and Digital Receiver boxes. These devices are similar to television sets in that they can be switched to a standby mode remotely, and can only be fully turned off at the devices themselves, if at all. A VCR commonly consumes 15 watts of electricity on standby, a DVD player 8 watts and a Digital Receiver box 7.5 watts. Thus, the standby power consumption of a home entertainment system (HES) with all four types of device is around 40.5 watts.

If a television set and Digital Receiver are used for an average three hours a day, and a VCR and DVD player for an average one hour a day, and these devices are left on standby for the rest of the time, then the total wasted energy for one HES in one year is about 327 kWh, which costs £27.77 in electricity charges according to today's prices.

When this figure is multiplied by the number of households with one or more HESs in an entire country, the huge scale of the wastage will be appreciated.

The present invention is intended to overcome some of the above problems.

Therefore, according to the present invention an electricity supply control device comprises a connector for connecting to an electricity supply, a plurality of electricity sockets, and an electrical consumption measuring means, in which the electrical consumption measuring means is adapted to measure the electrical consumption of an electrical device plugged into a first of the plurality of electricity sockets, and in which the electricity supply control device is adapted to isolate all of the plurality of electricity sockets from an electricity supply if the electrical consumption of said electrical device drops below a pre-determined threshold.

Thus, the present invention provides a device which can automatically switch an electrical device fully off if its power consumption drops below a threshold which would indicate that it has been switched from fully on to a standby mode.

The electricity supply control device can be provided with reconnection means which can be adapted to reconnect the plurality of electricity sockets to the electrical supply when it is operated, and in a preferred construction the reconnection means can comprise a remote signal receiver, and the electrical sockets can be reconnected to the electrical supply when the remote signal receiver receives a pre-determined transmitted remote signal.

With this arrangement, a remotely operated electrical device, such as a television set, can be reconnected to the power supply when the TV remote is operated to switch the television set on. Once the power is reconnected to the television set it will return to standby mode, and then it will also receive the transmitted signal, and switch fully on. These two steps can be almost simultaneous,

so the user will not need to hold down the remote button for much longer than normal.

Therefore, in a preferred embodiment of the invention the pre-determined transmitted remote signal can be adapted to be substantially the same as a remote signal which remotely switches on said electrical device.

Preferably the electricity supply control device can be adapted to only isolate the plurality of electricity sockets from the electricity supply if the electrical consumption of said electrical device remains below said pre-determined threshold for a pre-determined time period. This prevents the electricity supply control device from being operated more often than necessary. The pre-determined time period can conveniently be five minutes.

Preferably the plurality of electricity sockets can comprise said first electricity socket, and one or more secondary electricity sockets; and the plurality of electricity sockets can be connected to a single relay. Thus, when the electrical device plugged into the first electricity socket is switched to standby, every electrical device plugged into the electricity supply control device will be fully switched off. Therefore, when a television set is switched to standby, a VCR, a DVD player, a Digital Receiver box and any other electrical equipment plugged into the electricity supply control device will all be fully switched off.

It will be appreciated that the invention can be used with any electrical device or devices, however it is most practical where a number of devices comprise a

primary device, and secondary devices which are only used when the primary device is used. Thus, when the primary device is switched off, the other devices are no longer required, and can also be safely switched fully off. A television set and its associated devices, referred to herein as a home entertainment system (HES), generally fit this definition, as would a CRT monitor with an associated PC, printer, modem and so on.

However, there are circumstances when secondary devices may need to be switched fully on when the primary device is switched off. For example, it is possible to use a VCR to record a television broadcast, without an associated television set being switched on.

Therefore, in one version of the invention the electricity supply control device can further comprise an override means which prevents the electricity supply control device from isolating the plurality of electricity sockets from the electricity supply if the electrical consumption of said electrical device drops below said pre-determined threshold.

The override means can be provided with programmable timer means, and the override means can be adapted to operate for a time duration programmed into the programmable timer means. Alternatively, or in addition to this, the override means can be operable indefinitely.

Thus, a user can operate the override means so an HES will not be disconnected from the power supply when a television set plugged into the first socket is switched to standby, or fully off. The user can set the duration of this condition so the HES can be left connected for the duration of a television program to be recorded, and then isolated after it has finished.

As the purpose of the device is somewhat defeated by the override means, in a preferred construction the electricity supply control device can be adapted to emit a

warning when the override means is operated indefinitely. The warning can be a flashing LED.

It will be appreciated that the electricity supply control device can take many forms, and can even be integrated into the construction of a primary device. However, in a preferred embodiment the electricity supply control device can be a separate device so it can be used with existing electrical devices.

Preferably the electricity supply control device can comprise a first body means and a second body means functionally connected thereto. The first body means can carry the connector for connecting to an electricity supply and the plurality of electricity sockets, and the second body means can carry the remote signal receiver. The first body means and the second body means can be physically connected to one another by a cable. This arrangement is advantageous when the device is used with an HES as described above, because the first body means can be placed behind the HES devices where a plug socket adapter would normally be placed, and the second body means can be placed adjacent to the front of the television set, such that the remote signal receiver will pick up a signal aimed at the television set.

The above described functions can be facilitated in various ways with known electronic means. However, in a preferred embodiment the control functions of the electricity control device can be controlled by a micro controller device, housed in the second body means.

Further, the second body means can carry operating buttons and display means to enable the electricity supply control device to be controlled. Preferably there can be a first button adapted to programme a time duration into the programmable timer means, such that the override means is operated for said time duration, and a second button adapted to operate the override means indefinitely. In

addition the reconnection means can be operable by a third button carried on the second body means, which can be used if the TV remote cannot be located.

The display means can comprise a visual display adapted to display the time remaining of said time duration.

Power cuts may occur, so preferably the electricity supply control device can be adapted to resume its status prior to a power cut when the power is reconnected. In particular, the electricity supply control device can be adapted to operate the override means for the time remaining of a time duration if the electricity supply control device is reconnected to an electricity supply after a cut in said electricity supply during said time duration. Further, the electricity supply control device can be adapted to operate the override means indefinitely if the electricity supply control device is reconnected to an electricity supply after a cut in said electricity supply when the override means was operated indefinitely. These features ensure that if a VCR is left on to record a program at some future time, a power cut prior to that time will not affect the status of the VCR when it needs to operate.

The measuring means described above can be any electric or electronic arrangement which can monitor the power consumption of an appropriate electronic device connected to the first electricity socket, and there are many known ways this can be achieved. However, in a preferred construction a resistor can be connected in series with said first electricity socket, and the measuring means can comprise an optocoupler connected to said resistor such that it is only switched on when the electrical consumption of said electrical device is above said pre-determined threshold. The electricity supply control device can be adapted to sense the on/off condition of the optocoupler, and to retain the connection of the plurality of electricity sockets to the electricity supply when it is on, and isolate the plurality of electricity sockets from the electricity supply when it is off. This is a very simple and expedient way to monitor the electrical consumption above and below the pre-

determined threshold, which will obviously be that at which the optocoupler switches on and off.

It will be appreciated that in the above described arrangement the pre-determined threshold is fixed. However the invention also includes embodiments in which the threshold can be varied if required in use. The means to provide such an arrangement are known.

As referred to above, the electricity supply control device can preferably be adapted to co-operate with a television set, and as such the pre-determined threshold can be anywhere between about 10 watts and about 40 watts, which is the difference between being fully on and in standby mode and fully on.

In addition, the remote signal receiver can be adapted to receive a transmitted infra red remote signal which is substantially the same as an infra red remote signal which remotely switches on said television set. The remote signal receiver can also be adapted to react to any and all the possible infra red remote signals which operate the television set.

During testing it was found that the electricity supply control device sometimes switches on when the TV remote has not been operated. This was caused by background interference. Therefore, in a preferred construction the electricity supply control device can be adapted to only reconnect the plurality of electricity sockets to the electrical supply when the remote signal receiver receives a plurality of infra red signal pulses in a pre-determined time period. This time period can be very short, and still provide sufficient tolerance in the system.

When the electricity supply control device isolates all the sockets, it must still be powered so it can operate the micro controller and infra red receiver to receive the infra red signal. There are a number of ways this can be done, including the provision of a batteries, rechargeable or otherwise, or super capacitors which can be charged

up when the electricity sockets are not isolated from the electricity supply. However, batteries are expensive and environmentally unfriendly, and super capacitors require more power to operate than the preferred option described below.

Preferably the electricity supply control device can be adapted to operate at a low power level when all the sockets are isolated, sufficient only to operate the infra red receiver and micro controller, and the override means and the visual display if necessary. This can be achieved in a known way with a transformer. Such an arrangement will consume less than 0.5 watts on average. In theory, if no override means is operated, and the electricity supply control device is awaiting an infra red signal, the power consumption can be as low as 0.0125 watts. However, this multiplies by a factor of about 20 if the override means and the visual display are operated.

Any number of secondary sockets can be provided on the first body means, depending on the number of components in an HES. However, in a preferred simple embodiment three secondary electricity sockets can be provided. The connector for connecting to an electricity supply can comprise an electrical cable with an electrical plug on its end, and a transformer means.

The invention can be performed in various ways, but one embodiment will now be described by way of example and with reference to the accompanying drawings, in which:

Figure 1 is a top view of an electricity supply control device according to the present invention;

Figure 2 is a circuit diagram of a measurement circuit forming part of the electricity supply control device as shown in Figure 1;

Figure 3 is a circuit diagram of a relay circuit forming part of the electricity supply control device as shown in Figure 1;

Figure 4 is a circuit diagram of an infra red receiver circuit forming part of the electricity supply control device as shown in Figure 1;

Figure 5 is a circuit diagram of a control buttons circuit forming part of the electricity supply control device as shown in Figure 1; and,

Figure 6 is a circuit diagram of a display circuit forming part of the electricity supply control device as shown in Figure 1.

As shown in the Figures, an electricity supply control device 1 comprises a connector for connecting to an electricity supply, in the form of plug 2 and cable 3, a plurality of electricity sockets, in the form of four sockets 4-7, and an electrical consumption measuring means, the circuit diagram for which 8 is shown in Figure 2. As described below, the electrical consumption measuring means 8 is adapted to measure the electrical consumption of an electrical device (not shown) plugged into a first 4 of the plurality of electricity sockets 4-7, and to isolate the all of the plurality of electricity sockets 4-7 from an electricity supply if the electrical consumption of said electrical device drops below a pre-determined threshold.

Referring to Figure 1, the electricity supply control device 1 comprises a first body means, in the form of sockets strip box 9, and a second body means, in the form of control box 10. The socket strip box 9 and the control box 10 are connected by cable 11, which contains a number of signal and power wires.

The control box 10 carries a remote signal receiver 12, at its front 13. It also carries first 14, second 15 and third 16 buttons, and display 17, on its top, the purpose of which are described below. The first socket 14 is marked underneath with the letters TV at 18.

The sockets strip box 9, the cable 11 and the control box 10 contain the electric and electronic circuitry to control the device 1, however none of those components are visible in Figure 1. Figures 2 to 6 show circuit diagrams which show the various features of the electric and electronic circuitry diagrammatically, and it will be readily appreciated how those components can be incorporated into the boxes 9 and 10 and cable 11.

Therefore, Figure 2 shows power measurement circuit 8. The left side 19 of the circuit 8 is that part which is carried in or on the socket strip box 9, and the right side 20 of the circuit 8 is that part which is carried in the control box 10. The electronic connections between the sides 19 and 20 of the circuit are housed in the cable 11.

First socket 14 is connected to the power supply at 21, and a resistor 22 is connected in series with the first socket 14. Optocoupler 23 is connected to said resistor 22 in the circuit 8, and switches on when the power consumption of the device connected to the first socket 14 exceeds the pre-determined threshold, which in this case is 30 watts. The circuit 8 senses at 24 when the optocoupler 23 is switched on and a signal is sent to micro controller 25 through one of its inputs.

Figure 3 shows relay circuit 26. The left side of the circuit 27 is that part which is carried in the control box 10, and the right side of the circuit 28 is that part which is carried in or on the socket strip box 9, which is the reverse of Figure 2.

As shown in Figure 3, the micro controller 25 is connected to a latching DPDT relay 29 via two of its outputs. The micro controller 25 is programmed such that when the optocoupler 23 is switched on the micro controller 25 energises the latching DPDT relay 29, and the four sockets 4-7 are connected to the power supply. Conversely, if the optocoupler 23 is switched off the micro controller 25 de-energises the latching DPDT relay 29 and the sockets 4-7 are isolated from the power supply. The micro controller 25 is provided with a clock, and it is programmed to de-energise

the latching DPDT relay 29 only when the optocoupler has been switched off for a continuous period of five minutes.

The electricity supply control device 1 is provided with reconnection means, and the circuit which facilitates that is shown in Figure 4. In Figure 4 infra red receiver circuit 30 simply comprises infra red receiver 12, which is connected to the power supply, and is connected to an input of the micro controller 25. The micro controller 25 is programmed such that when a transmitted infra red signal is received by the infra red receiver 12, the micro controller 25 re-energises the latching DPDT relay 29 and the four sockets 4-7 are reconnected to the power supply. The micro controller 25 is programmed to do this when any or a number of different infra red signals are received, which correspond to the infra red signals which operate an electrical device plugged into first socket 4.

The electricity supply control device 1 is adapted to operate at a low power level when the sockets 4-7 are isolated from the power supply. The electricity supply control device 1 is provided with a transformer (not shown in the Figures) which is housed in the socket strip box 9. When the micro controller 25 de-energises the latching DPDT relay 29 and the sockets 4-7 are isolated from the power supply, the only power consumed by the electricity supply control device 1 is that required to operate the infra red receiver 12 and micro controller 25. The power consumption in this state is about 0.0125 watts.

The micro controller 25 is programmed to only re-energise the latching DPDT relay 29 when the infra red receiver 12 receives a plurality of infra red signal pulses in a pre-determined time period. This prevents any interference from affecting the device 1.

(It will be appreciated that the infra red signals used to remotely control different electrical devices vary from device to device. Either the micro controller 25 can be adapted to respond to any of a number of common signals, or it can be

programmed prior to use to respond to particular signals which the user sends, so it is specifically adapted to work with the very device plugged into first socket 4. The technology to facilitate this feature is well known and will not be further described here.)

The electricity supply control device 1 is provided with two override means which prevent it from isolating the sockets 4-7 from the electricity supply if the optocoupler 23 switches off, and the circuit which facilitates these functions is shown in Figure 5. In Figure 5 circuit 31 comprises first switch 32, which is connected to the micro controller 25 via one of its inputs, and first switch 32 is operated by first button 14, shown in Figure 1. The first switch 32 is a spring-return switch, so depression of the first button 14 completes the circuit to the micro controller 25, and release of the first button 14 breaks the circuit to the micro controller 25. The micro controller 25 is programmed to keep the latching DPDT relay 29 energised for one hour when the first switch 32 is switched once. If the first switch 32 is switched again during that first hour, a further hour will be added to the duration of time that the micro controller 25 will keep the latching DPDT relay 29 energised. This can be done a maximum of nine times, so the maximum override using the first switch 32 is nine hours.

Second switch 33 is also connected to the micro controller 25 via one of its inputs, and second switch 33 is operated by second button 15, shown in Figure 1. The second switch 33 is also a spring return switch, so depression of the second button 15 completes the circuit to the micro controller 25, and release of the second button 15 breaks the circuit to the micro controller 25. The micro controller 25 is programmed to keep the latching DPDT relay 29 energised indefinitely when the second switch 33 is switched once. Once in this state, the micro controller 25 is programmed to de-energise the latching DPDT relay 29 when the second switch 33 is switched once. Thus, the indefinite override feature can simply be switched on and off.

The micro controller 25 is programmed such that if the first switch 32 has been switched one or more times, and a timed override has been initiated as described above, this override is changed to a permanent override if the second switch 33 is switched once. Thus, if a timed override has been initiated, pressing the second switch 33 twice will cancel it. Further, if a permanent override has been initiated, this is changed to a one hour timed override if the first switch 32 is switched once. Further depression of the first switch 32 will increase the duration of the timed override as described above.

The electricity supply control device 1 is provided with display 17, as shown in Figure 1, and the circuit which operates the display 17 is shown in Figure 6. In Figure 6, circuit 34 comprises seven segment display 17, which is connected to the micro controller 25 via several inputs and outputs. The micro controller 25 is programmed to make the display 17 show the number of hours left of a programmed timed override as described above. Thus, when the first switch 32 is operated, the display shows a digit 1, and if it is switched again, it shows a digit 2 and so on.

The display 17 further comprises decimal LED 35, and the micro controller 25 is programmed to make the LED 35 flash on and off if an indefinite override has been initiated as described above.

If the override means is operated in any of the ways described above, the power consumption of the electricity supply control device 1 itself is about 0.5 watts depending on the number of segments of the seven segment display 17 which are illuminated.

Referring back to Figure 5, the circuit 31 further comprises third switch 36, which is operated by third button 16 shown in Figure 1. Again, the third switch 36 is a spring return switch, so depression of the third button 16 completes the circuit to the micro controller 25, and release of the third button 16 breaks the circuit to the micro controller 25. The micro controller 25 is programmed to energise the latching DPDT

relay 29 when the third switch 36 is switched in the same manner as if a signal had been received by the infra red receiver 12. Thus the third switch 36 provides a reconnection means which can be used if the remote transmitter for the electrical device plugged into the first socket 4 cannot be located.

The micro controller 25 is programmed such that if either of the override functions described above have been initiated, and the power supply to the electricity supply control device 1 is interrupted, for example if there is a power cut, then when the power is back on again the override functions remain in place. If a timed override has been initiated as described above, and the power supply is interrupted, when the power comes back on again the micro controller 25 restarts the programmed time period from the start of the hour it was in when the power was cut off.

Therefore, in use the user plugs the plug 2 into a mains electricity socket, thereby supplying mains electricity power to the device 1. A primary electrical device, for example a television set (not shown), is plugged into the first socket 4, and secondary electrical devices, for example a VCR, a DVD player and a Digital Receiver box (not shown) are plugged into the other sockets 5-7. The control box 10 is placed adjacent the television set with the infra red receiver 12 facing the user.

In order to connect the sockets 4-7 to the power supply, the electricity supply control device 1 must be "reconnected" in either of the two ways described above, by transmitting an infra red signal which is detected by the infra red receiver 12, or by depressing the third button 16.

The television set can then be switched fully on, so it consumes approximately 40 watts of power. The power measurement circuit 8 detects this electrical consumption, and the relay circuit 26 keeps the sockets 4-7 connected to the power supply.

When the television set is switched to standby mode, or is turned fully off, the power consumption drops below the threshold of 30 watts, to either 10 watts or zero. When this happens the power measurement circuit 8 detects this, and the relay circuit 26 isolates the sockets 4-7 from the power supply after five minutes, switching everything fully off. The only power being consumed is the tiny amount required to operate the infra red receiver 12 and micro controller 25.

To reconnect the power supply a recognisable infra red signal of sufficient pulse duration must be received by the infra red receiver 12 as described above, or the third button 16 must be depressed.

The most convenient way to use the electricity supply control device 1 is to do so remotely. In other words, the television set should be switched off by remotely switching it to standby mode, and not by switching it off entirely. This is because if the television set is switched off entirely, when the power supply is reconnected as described above, the television set will still need to be switched back on at the set itself. However, if the power is isolated with the television set in standby mode, when the power is reconnected the television set will return to standby mode and can be switched back on remotely.

In particular, the user can reconnect the power supply and turn the television set fully on in one action. The TV remote is pointed at the television set, and therefore also at the control box 10, and the button is pressed to switch the television set back on. The signal transmitted from the TV remote is received by the infra red receiver 12, and the power is reconnected to the sockets 4-7 as described above, and as soon as this happens the same transmitted signal will turn the television set back on. These two steps are almost simultaneous, so the user will not need to hold down the remote button for much longer than normal.

If it is desired to turn the television set off but not to isolate the power supply to the sockets 4-7, and in particular to sockets 5-7, then one or other of the override

features described above can be used. The user presses the first button 14 to set the desired number of hours they want the override to last, and uses the display 17 to check how many hours have been programmed in. Alternatively, the user presses the second button 33 to override the device 1 indefinitely. If this is done the LED 35 will flash on and off to warn the user that the device 1 has been overridden indefinitely.

The above described embodiment can be altered without departing from the scope of Claim 1. For example, in one alternative embodiment (not shown) an electricity supply control device is adapted to be used with a PC monitor and associated electrical devices, and the power consumption threshold is determined according to the power consumption of the monitor when it is fully on and in a standby mode.

Thus, an electricity supply control device is provided which automatically eliminates the huge waste of electrical power caused by electrical devices being left in a standby mode. Further such a device is provided which is expedient and efficient of construction and which has a number of convenient features, including remote operability and overrides.

Claims

1. An electricity supply control device comprising a connector for connecting to an electricity supply, a plurality of electricity sockets, and an electrical consumption measuring means, in which the electrical consumption measuring means is adapted to measure the electrical consumption of an electrical device plugged into a first of the plurality of electricity sockets, and in which the electricity supply control device is adapted to isolate all of the plurality of electricity sockets from an electricity supply if the electrical consumption of said electrical device drops below a pre-determined threshold.

2. An electricity supply control device as claimed in Claim 1 in which the electricity supply control device is provided with reconnection means which is adapted to reconnect the plurality of electricity sockets to the electricity supply when it is operated.

3. An electricity supply control device as claimed in Claim 2 in which the reconnection means comprises a remote signal receiver, and in which the reconnection means is adapted to reconnect the plurality of electricity sockets to the electricity supply when the remote signal receiver receives a pre-determined transmitted remote signal.

4. An electricity supply control device as claimed in Claim 3 in which the pre-determined transmitted remote signal is adapted to be substantially the same as a remote signal which remotely switches on said electrical device.

5. An electricity supply control device as claimed in Claim 4 in which the electricity supply control device is adapted to only isolate the plurality of electricity sockets from the electricity supply if the electrical consumption of said electrical device remains below said pre-determined threshold for a pre-determined time period.

6. An electricity supply control device as claimed in any of the preceding Claims in which the plurality of electricity sockets comprises said first electricity socket, and one or more secondary electricity sockets.

7. An electricity supply control device as claimed in Claim 6 in which the plurality of electricity sockets are connected to a single relay.

8. An electricity supply control device as claimed in any of the preceding Claims in which the electricity supply control device further comprises override means which prevents the electricity supply control device from isolating the plurality of electricity sockets from the electricity supply if the electrical consumption of said electrical device drops below said pre-determined threshold.

9. An electricity supply control device as claimed in Claim 8 in which the override means is provided with programmable timer means, and in which the override means is adapted to operate for a time duration programmed into the programmable timer means.

10. An electricity supply control device as claimed in Claim 8 or 9 in which the override means is operable indefinitely.

11. An electricity supply control device as claimed in Claim 10 in which then the electricity supply control device is adapted to emit a warning when the override means is operated indefinitely.

12. An electricity supply control device as claimed in Claim 11 in which the warning is a flashing LED.

13. An electricity supply control device as claimed in any of Claims 3 to 12 in which the electricity supply control device comprises a first body means and a second body means functionally connected thereto, in which the first body means carries the connector for connecting to an electricity supply and the plurality of electricity sockets, and in which the second body means carries the remote signal receiver.

14. An electricity supply control device as claimed in Claim 13 in which the first body means and the second body means are physically connected to one another by a cable.

15. An electricity supply control device as claimed in Claim 14 in which the functions of the electricity supply control device are controlled by a micro controller device, and in which the micro controller device is carried by the second body means.

16. An electricity supply control device as claimed in Claim 15 in which the second body means further carries operating buttons and display means.

17. An electricity supply control device as claimed in Claim 16, when dependent on Claim 8, in which the operating buttons comprise a first button adapted to programme a time duration into the programmable timer means such that the override means is operated for said time duration, and a second button adapted to operate the override means indefinitely.

18. An electricity supply control device as claimed in Claim 17 in which the reconnection means is operable by a third button carried on the second body means.

19. An electricity supply control device as claimed in any of Claims 16 to 18 in which the display means comprises a visual display adapted to display the time remaining of a time duration programmed into the programmable timer means.

20. An electricity supply control device as claimed in any of Claims 9 to 19 in which the electricity supply control device is adapted to operate the override means for the time remaining of a time duration if the electricity supply control device is reconnected to an electricity supply after a cut in said electricity supply during said time duration.

21. An electricity supply control device as claimed in Claim 20 when dependent on any of Claims 10 to 19, in which the electricity supply control device is adapted to operate the override means indefinitely if the electricity supply control device is reconnected to an electricity supply after a cut in said electricity supply when the override means was operated indefinitely.

22. An electricity supply control device as claimed in any of Claims 5 to 21 in which the pre-determined time period in which the electrical consumption of said electrical device must remain below said pre-determined threshold before the electricity supply control device will isolate the plurality of electricity sockets from the electricity supply is five minutes.

23. An electricity supply control device as claimed in any of the preceding Claims in which said pre-determined threshold is variable.

24. An electricity supply control device as claimed in any of Claims 1 to 22 in which said pre-determined threshold is fixed.

25. An electricity supply control device as claimed in Claim 24 in which a resistor is connected in series with said first electricity socket, in which the measuring means comprises an optocoupler connected to said resistor such that it is only switched on when the electrical consumption of said electrical device is above said pre-determined threshold, in which the electricity supply control device is adapted to sense the on/off condition of the optocoupler, and to connect the one or more

electricity sockets to the electricity supply when it is on, and isolate the plurality of electricity sockets from the electricity supply when it is off.

26. An electricity supply control device as claimed in any of the preceding Claims in which the electricity supply control device is adapted to operate with a television set connected to said first electricity socket, in which the pre-determined threshold is between about 10 watts and about 40 watts.

27. An electricity supply control device as claimed in Claim 26 when dependent on any of Claims 4 to 22 in which the remote signal receiver is adapted to receive a transmitted infra red remote signal which is substantially the same as an infra red remote signal which remotely switches on said television set.

28. An electricity supply control device as claimed in Claim 27 in which the remote signal receiver is adapted to receive any transmitted infra red remote signal which remotely operates said television set.

29. An electricity supply control device as claimed in Claim 28 in which the electricity supply control device is adapted to only reconnect the one or more electricity sockets to the electrical supply when the remote signal receiver receives a plurality of infra red signal pulses in a pre-determined time period.

30. An electricity supply control device as claimed in any of Claims 2 to 29 in which the electricity supply control device is battery powered.

31. An electricity supply control device as claimed in any of Claims 2 to 29 in which the electricity supply control device is powered by the electricity supply.

32. An electricity supply control device as claimed in Claim 31 in which the electricity supply control device is provided with one or more super capacitors, and in which when the plurality of electricity sockets are connected to the power supply the one or more super capacitors are charged, and in which when the plurality of electricity sockets are isolated from the power supply the electricity supply control device is powered by the charge in the one or more super capacitors.

33. An electricity supply control device as claimed in Claim 31 in which the electricity supply control device is provided with a transformer, and in which when the plurality of electricity sockets are isolated from the power supply the electricity supply control device draws power through the transformer.

34. An electricity supply control device as claimed in Claim 6 in which three secondary electricity sockets are provided.

35. An electricity supply control device as claimed in any of the preceding Claims in which the connector for connecting to an electricity supply comprises an electrical cable with an electrical plug on its end, and a transformer means.

36. An electricity supply control device substantially as described herein and as shown in the accompanying drawings.

FIG 1

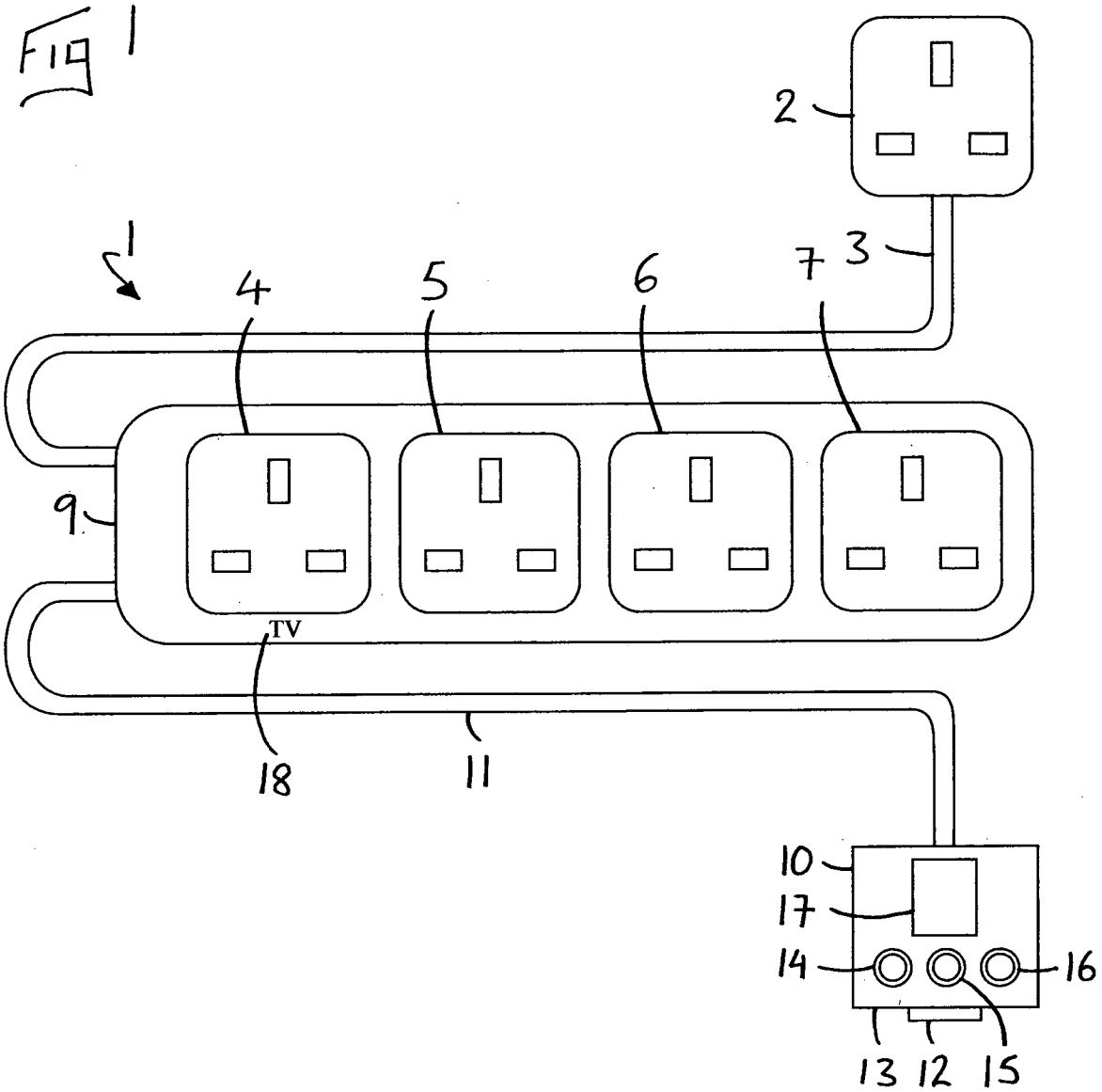


Fig 2

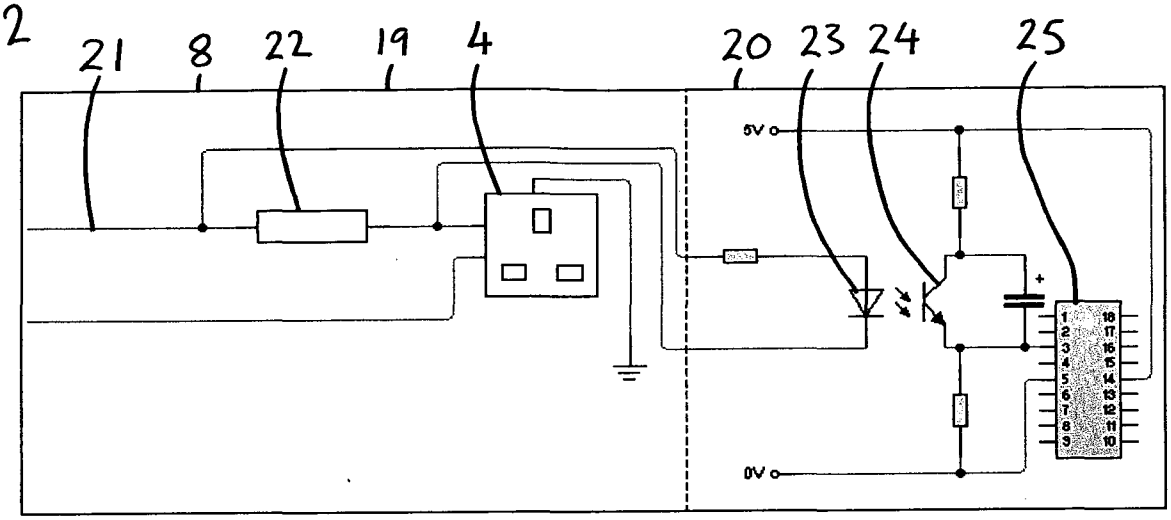


Fig 3

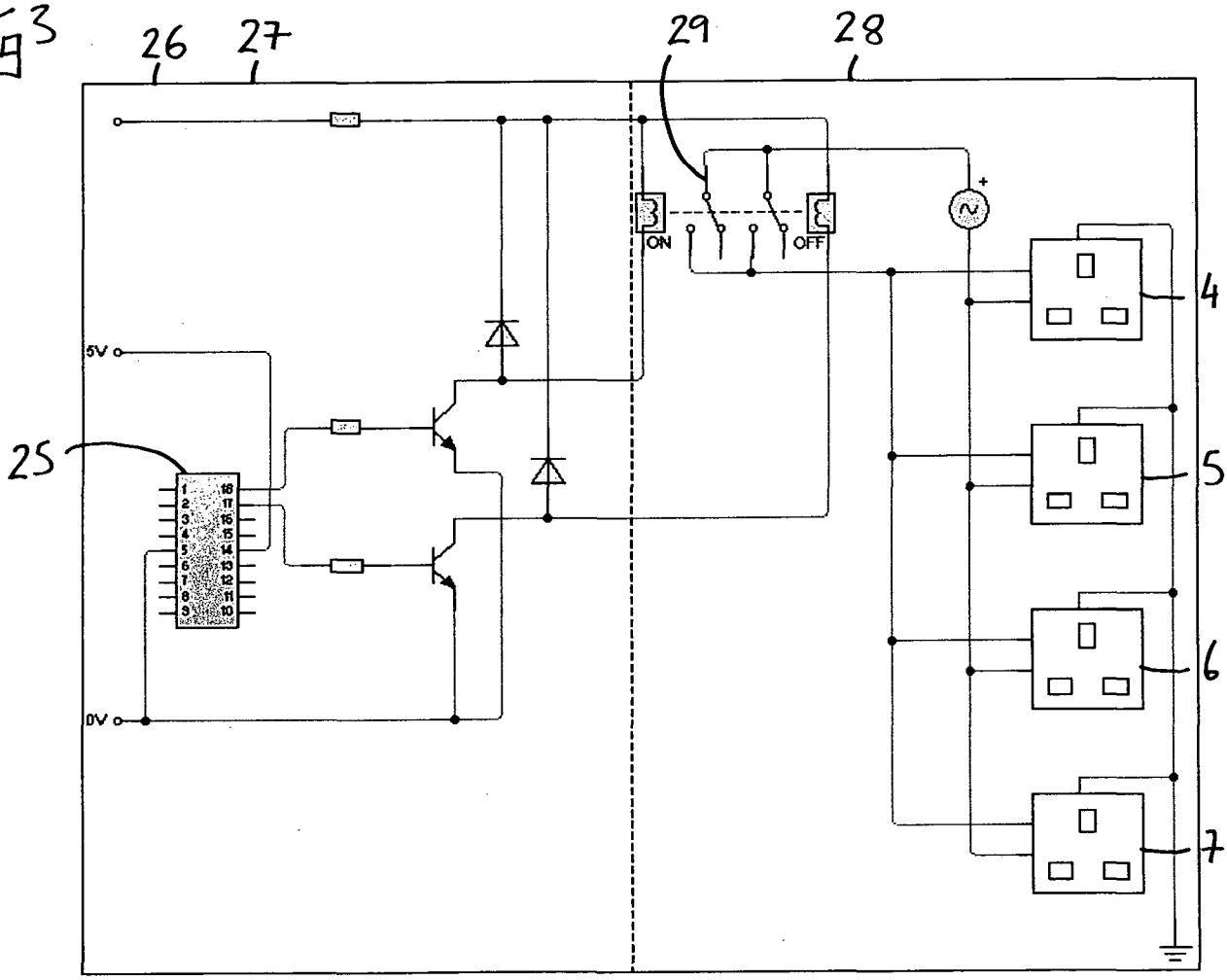


Fig 4

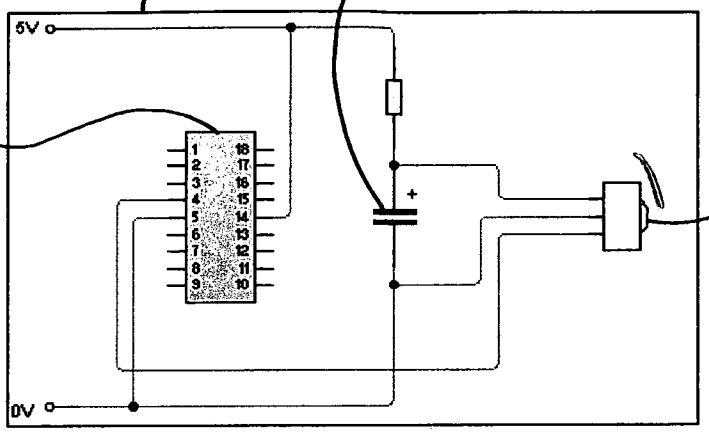


Fig 5

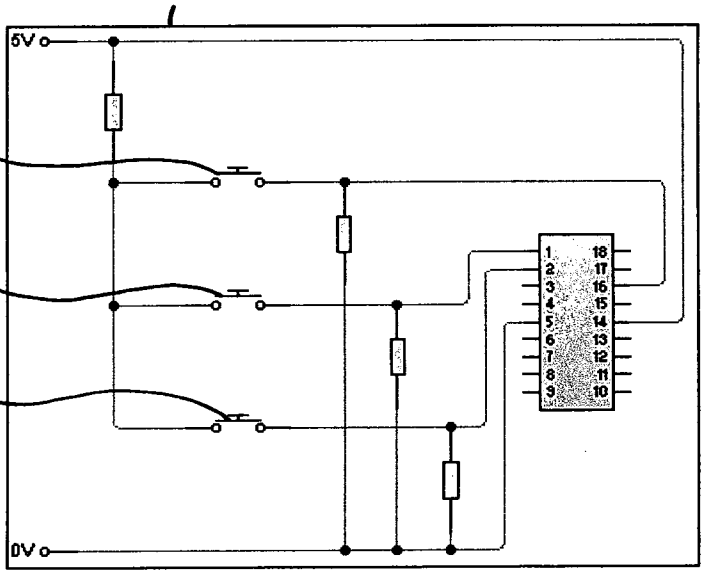


Fig 6