A cooker control plate comprises an insulated front mounting plate on whose rear are three connections for the live, neutral and earth conductors of a supply cable, three connections for the live, neutral and earth of a cooking appliance cable and three further connections for a second cooking appliance cable, of which a live connection is connected through a fuse carrier to the supply cable live conductor connection. The fuse carrier can accommodate a suitably sized BS1362 fuse, such as 13A, and be accommodated in an aperture on the front of the plate. The plate can be fixed to a dual mounting box by screws. Copper conductors on the rear of the plate can be housed in an insulated enclosure having holes for the entry of cables and a galvanised steel bar can provide earth continuity between the unit and a steel back box. The cooker control plate allows the safe electrical connection of two electrical cooking appliances, such as separate ovens and hobs, requiring protection from different size overcurrent protection devices and fed from one source of electrical energy, such as a 30 amp cooker circuit. The cooker control plate can include two cable clamps to individually secure of two appliance cables which may be from 1.5mm² to 10mm².
Background of the Invention

The majority of UK households currently cook by using either gas or electricity as their main source of energy. Conventionally cookers were designed to be free standing and were connected to their prospective source of energy by either a gas connection bayonet or electrical connection unit. With the introduction of built in cooking appliances such as electrical fan assisted ovens and gas hobs, these connection units were not always suitable to facilitate the safe connection of this equipment.

Traditionally electrical cooker circuits are wired in 6.0mm² cabling and connected at the fuseboard by either a 30 or 32 Amp fuse or circuit breaker. The majority of modern built in ovens require a 13 Amp electrical supply to feed them, whereas the existing cooker connection units would generally be fused at 30/32 Amps. If the 13 Amp rated oven was connected to the existing 30/32 Amp connection unit without being fused down there could be a potential risk of overloading of the appliance or its associated wiring and subsequently overheating or even the risk of fire may occur.

In some instances a built in electrical hob and electrical oven may be selected, therefore two items of electrical cooking equipment would need to be connected to the 30/32 Amp cooker circuit. In the case of traditional cooker connection units, these are manufactured to accommodate only one outgoing connection. This could pose a logistical problem when connecting the equipment safely. Generally the hob would require a 30Amp supply and the oven a 13Amp supply.

The SMK cooker control has been designed to allow for the safe connection of a 30 Amp electrical hob unit and a 13 Amp electrical oven unit in one convenient outlet plate. Alternatively the SMK cooker control can be used to connect the electrical ignition for a gas fuelled hob via its fused outlet. The unit has a connector block designed for the connection of the 30 Amp supply and load cables for the cooker supply circuit and hob load circuit. Additionally a 13 Amp fused connection is provided for the electrical connection of ovens and hob ignitions units.
Summary of the Invention

The SMK cooker control comprises of an all insulated front mounting plate with pre-drilled holes to allow for fixing to a suitable standard dual mounting box. The rear of the plate houses the copper connection unit for the 30 Amp supply and load cables. This comprises of three connections that are designed for the connection of the live, neutral and earth conductors of the supply and load cables of the cooker circuit. These are sized to accommodate a copper conductor of between 4.0mm² and 10.0mm². Connected to the live supply copper connection is a set of copper blades that will accommodate the cap of a suitably sized BS1362 type fuse.

In addition to the supply copper connection unit is a secondary 13 Amp copper connection unit. This also comprises of three connections designed to accommodate live, neutral and earth copper conductors of up to 4.0mm². Connected to the live of the connection unit is a matching pair of copper blades designed to locate the second cap of the BS1362 fuse. The copper conductors are housed within an insulated enclosure that covers the rear of the unit and is fixed to the front plate by means of screws. This insulated enclosure has pre-drilled holes to allow for entry of the cables into the unit so that they may access the copper connection units enclosed within.

The front of the SMK cooker control has an aperture cut into it to accommodate the fuse carrier unit. The fuse carrier has been designed to allow for the insertion of a suitably sized BS1362 fuse via the left hand side of the unit.

The lower bottom edge of the unit has two different sized cable clamps, one to secure the cooker load cable and the other to secure the fused load cable.

On the rear of the unit a galvanised steel bar that runs between the two pre-drilled fixings holes, this bar is connected to the fixings holes by pressed brass lugs and connected to the earth terminal of both connection blocks. This allows for earth continuity between the unit and back box when mounted on a standard steel mounting box.
Claims

- The SMK cooker control allows for the safe electrical connection of two fixed cooking appliances into one electrical accessory.
- The SMK cooker control has a built in easily accessible fuse carrier that will accommodate BS1362 fuses of up to 13 Amp.
- The SMK cooker control can be fed from a conventional 30 Amp cooker circuit connected to the local fuseboard.
- The SMK cooker control unit can be fitted to a British Standard dual mounting back box.
- The SMK cooker control has two cable clamps to individually secure the cables of both cooking appliances.
- The SMK cooker control is suitable for the electrical connection of free standing or fixed cooking appliances; including electric range cookers, gas hobs with electronic ignition and separate hob and oven arrangements.
- The SMK cooker control can accommodate electrical cables from 1.5mm² to 10.0mm² depending whether they are connected on the fused or un-fused side of the unit.
Amendment to the claims have been filed as follows

claims

1. A cooker control plate comprising an insulated front mounting plate on whose rear are three connections for the live, neutral and earth conductors of a supply cable, three connections for the live, neutral and earth of a cooking appliance cable and tree further connections for a second cooking appliance cable, of which a live connection is connected through a fuse carrier to the supply cable live conductor connection.

2. A cooker control plate according to claim 1 where the fuse carrier is accommodated in an aperture cut in the front of the insulated mounting plate.

3. A Fused cooker control plate according to claim 1 where the fuse carrier accommodates Bs 1362 fuses of up to 13 amps.

4. A Fused cooker control plate according to claim 1 when fitted to a standard dual mounting back box.

5. A Fused cooker control plate according to claim 1 further comprising an insulated enclosure that covers the rear of the mounting plat and houses copper conductors.

6. A Fused cooker control plate according to claim 1 further comprising two cable clamps to secure both cooking appliance cables.

7. A Fused cooker control plate according to claim 1 where the supply and cooking appliance connections accommodates cables from 4mm to 10mm.

8. A Fused cooker control plate according to claim 1 where the second cooking appliance connection accommodates up to 4mm.
Application No: GB1018683.1
Claims searched: All

Examiner: Robert Barrell
Date of search: 22 February 2011

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

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- X Document indicating lack of novelty or inventive step
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- E Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC:

Worldwide search of patent documents classified in the following areas of the IPC

H01H; H01R

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI, TXTE, INTERNET

International Classification:

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