Installation general information

Socket outlets, switches and other MK wiring accessories can be wall or bench mounted. Do not use a trailing lead for sockets and connection units or mount any devices where they may be subject to excessive moisture or dampness.

Cable management

Socket outlets, switches and other MK wiring accessories can be mounted in a variety of MK trunking systems.

13A Socket Outlets

Standards and approvals

13A socket outlets comply with BS 1363 Part 2:1995.

Replacement fuses to the 3 gang switchsocket outlets (Logic Plus only) comply with BS 1362:1973.

TECHNICAL SPECIFICATION

ELECTRICAL

VOLTAGE RATING
250V a.c.

CURRENT RATING
13A
(3 Gang Switchsocket 13A total)

TERMINAL CAPACITY
Live, neutral & earth
3 x 2.5mm²
3 x 4mm²
2 x 6mm² (standard)
(Dual earth terminals on list Nos. K781, K2657, K2737, K2746, K2757, all standard Edge and Aspect sockets, K733, K2958, K2458, K2947, K2947D6, K850, K2977, K2477, K3045, K3077, K2945, K2945D6 and K5357)

PHYSICAL

AMBIENT OPERATING TEMPERATURE
–5°C to +40°C

IP RATING
IP2XD

MAX. INSTALLATION ALTITUDE
2000 metres

Description

A range of socket outlets designed for ease of installation and having all the advantageous design features of the MK range of wiring devices. The 2 gang sockets with outboard rockers (available in Logic Plus and Albany Plus) are of particular value for use by the infirm and partially sighted whilst the same feature in Metalclad Plus is ideal for use with gloved hands.

Non-standard clean earth sockets are for use on installations where restricted access is required and will only accept a 647WHI 13A non-standard plug with T-shaped earth pin. The sockets have two independent earth terminals so that they can also be used for ‘clean earth’ installations. The K2746CE and K2947CE also have two independent earth terminals for ‘clean earth’ installations.

A variety of sockets (see Technical Specification) are fitted with two earth terminals on a common busbar to provide a double earth facility for use when installations require a high integrity protective connection as specified within the latest edition of BS 7671 which should be referred to for guidance.

The products can be quickly installed as replacement for existing 13A sockets or in a new installation.

Fuse carriers

(Logic Plus 3 gang switchsocket only)

The fuse carrier is opened by a fast-acting, screwdriver-operated, worm-drive screw for ease of replacement.

For a full range of corresponding products, see pages 32-188 in the product selector.
## Wiring Devices Technical

### 13A Socket Outlets

**Installation**

1 gang switch/socket – view from rear

Top-facing, angled, backed-out terminals make wiring easier and quicker.

![1 gang switch/socket](image)

<table>
<thead>
<tr>
<th>FEATURES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>● Moulded ‘on’ indicator flash on plastic switches will not rub off – totally safe</td>
<td>● Additional electrical safety from DP Switch, neutral ‘make first’, ‘break last’ feature</td>
</tr>
<tr>
<td>● Matching Metal rocker Switches (Edge™ and Aspect only)</td>
<td>● Switch contacts with silver contacts on both surfaces for good continuity</td>
</tr>
<tr>
<td>● Optional neon indicators in the switch rockers with 175° visibility in the horizontal and vertical planes</td>
<td>● Only one size of screwdriver required for installation</td>
</tr>
<tr>
<td>● 3 pin operated safety shutter</td>
<td>● Selection of products incorporating dual earth terminals for high integrity earthing</td>
</tr>
<tr>
<td>● Printed terminal markings on grey rear mouldings for clearer identification</td>
<td>● Backed out and captive terminal screws</td>
</tr>
<tr>
<td>● Top access, angled terminals make wiring easier and quicker</td>
<td>● ‘Clean earth’ sockets available</td>
</tr>
<tr>
<td>● 3mm minimum switch contact gap</td>
<td>● Non-standard ‘clean earth’ sockets available</td>
</tr>
<tr>
<td>● Double pole switching</td>
<td></td>
</tr>
<tr>
<td>● Choice of inboard or outboard positioned rockers</td>
<td></td>
</tr>
</tbody>
</table>
2 Gang Switchsocket Outlet with Integrated Dual USB Charging Capability

Standards and approvals

Logic Plus™ 13A socket outlets and 2A USB charging outlets comply with BS 5733 and relevant parts of BS 1363-2 and IEC 61558-2-16.

EMC Compatibility:
- IEC 61000-6-1
- IEC 61000-6-3

Products are CE marked and meet the requirements of the Low Voltage, EMC and RoHS directives.

TECHNICAL SPECIFICATION

13A SOCKET OUTLETS

ELECTRICAL
- VOLTAGE RATING: 220-240V
- CURRENT RATING: 13A
- STANDBY POWER: < 150mW
- TERMINAL CAPACITY:
  - Live, neutral & earth: 3 x 2.5mm²
  - 2 x 6mm² (stranded)

PHYSICAL
- AMBIENT OPERATING TEMPERATURE: -5°C to +40°C
- IP RATING: IP2XD
- MAX. INSTALLATION ALTITUDE: 2000 metres

FEATURES
- Moulded ‘on’ indicator flash on switches will not rub off – totally safe
- 3 pin operated safety shutter on 13A socket outlets
- USB 2.0 and 3.0 compatible
- Can charge a device at up to a full 2A
- If only one device is connected to a USB outlet the total output current of 2A is available from either outlet
- If two devices are connected to USB outlets the the total rated current of 2A is divided between the two outlets
- Differing manufacturers devices can be charged simultaneously via the two USB outlets
- If the total charging current exceeds the rated level of 2A then the device will enter a current limiting safety mode
- Electronically protected against an overload or short circuit on either USB outlet
- USB outlets are designed to provide optimum charging compatibility across a wide range of devices
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Backed out and captive terminal screws
- Dual earthed

Installation

Logic Plus™ socket outlets can be wall or bench mounted.

Do not mount or use as a trailing socket or where they may be subject to excessive moisture or damp.

Cable management

Logic Plus™ socket outlets can be mounted in a variety of MK trunking systems.

Dimensions (mm)

Note: When carrying out insulation resistance testing, first DISCONNECT the product. Failing to do this could damage the product and will also give spurious insulation readings.
Wiring Devices Technical
– Aspect

2 Gang Switchsocket Outlet with Integrated Dual USB Charging Capability

Standards and approvals
Aspect 13A socket outlets and 2A USB charging outlets comply with BS 5733 and IEC 61558-2-16.

EMC Compatibility:
IEC 61000-6-1
IEC 61000-6-3

Products are CE marked and meet the requirements of the Low Voltage, EMC, RoHS and WEEE directives.

Description
A range of socket outlets designed for ease of installation and having all the advantageous design features of the Aspect range. Dual USB charging outlets offer end users easy access to power for charging a variety of devices such as smartphones, tablets and cameras.

FEATURES
- Slim screwless frontplate design
- Matching metal rocker switches
- 3 pin operated safety shutter on 13A socket outlets
- USB 2.0 and 3.0 compatible
- Can charge a device at up to a full 2A
- If only one device is connected to a USB outlet the total output current of 2A is available from either outlet
- If two devices are connected to USB outlets the the total rated current of 2A is divided between the two outlets
- Differing manufacturers devices can be charged simultaneously via the two USB outlets
- If the total charging current exceeds the rated level of 2A then the device will enter a current limiting safety mode
- Electronically protected against an overload or short circuit on either USB outlet
- USB outlets are designed to provide optimum charging compatibility across a wide range of devices
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Backed out and captive terminal screws
- Dual earthed

Dimensions (mm)

Box Types without Patress

<table>
<thead>
<tr>
<th>GANG</th>
<th>FLUSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 GANG</td>
<td>DEPTH 47MM</td>
</tr>
<tr>
<td></td>
<td>878 ZIC</td>
</tr>
</tbody>
</table>
2 Gang Switchsocket Outlet with Integrated Dual USB Charging Capability

**Standards and approvals**

Edge™ 13A socket outlets and 2A USB charging outlets comply with BS 5733 and IEC 61558-2-16.

EMC Compatibility:
- IEC 61000-6-1
- IEC 61000-6-3

Products are CE marked and meet the requirements of the Low Voltage, EMC, RoHS and WEEE directives.

**Description**

A range of socket outlets designed for ease of installation and having all the advantageous design features of the Edge™ range. Dual USB charging outlets offer end users easy access to power for charging a variety of devices such as smart phones, tablets and cameras.

**TECHNICAL SPECIFICATION**

**13A SOCKET OUTLETS**

**ELECTRICAL**
- VOLTAGE RATING: 220-240V
- CURRENT RATING: 13A
- Combined total 2A drawn from USB outlets
- STANDBY POWER: 150mW
- TERMINAL CAPACITY: Live, neutral & earth
  - 3 x 2.5mm²
  - 3 x 4mm²
  - 2 x 6mm² (stranded)

**PHYSICAL**
- AMBIENT OPERATING TEMPERATURE: -5°C to +40°C
- IP RATING: IP2XD
- MAX. INSTALLATION ALTITUDE: 2000 metres

**Installation**

Edge™ socket outlets can be wall or bench mounted.

Do not mount or use as a trailing socket or where they may be subject to excessive moisture or damp.

**Cable management**

Edge™ socket outlets can be mounted in a variety of MK trunking systems.

**FEATURES**

- Matching metal rocker switches
- 3 pin operated safety shutter on 13A socket outlets
- USB 2.0 and 3.0 compatible
- Can charge a device up to a full 2A
- If only one device is connected to a USB outlet the total output current of 2A is available from either outlet
- If two devices are connected to USB outlets the the total rated current of 2A is divided between the two outlets
- Differing manufacturers devices can be charged simultaneously via the two USB outlets
- If the total charging current exceeds the rated level of 2A then the device will enter a current limiting safety mode
- Electronically protected against an overload or short circuit on either USB outlet
- USB Outlets are designed to provide optimum charging compatibility across a wide range of devices
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Backed out and captive terminal screws
- Dual earthed

**Dimensions (mm)**

![Dimensions diagram](image-url)
Wiring Devices Technical
– Albany Plus™

2 Gang Switchsocket Outlet with Integrated Dual USB Charging Capability

Standards and approvals
Albany Plus™ 13A socket outlets and 2A USB charging outlets comply with BS 5733 and IEC 61558-2-16.

EMC Compatibility:
IEC 61000-6-1
IEC 61000-6-3

Products are CE marked and meet the requirements of the Low Voltage, EMC, RoHS and WEEE directives.

Description
A range of socket outlets designed for ease of installation and having all the advantageous design features of the Albany Plus™ range. Dual USB charging outlets offer end users easy access to power for charging a variety of devices such as smart phones, tablets and cameras.

Features
- Moulded ‘on’ indicator flash on switches will not rub off – totally safe
- 3 pin operated safety shutter on 13A socket outlets
- USB 2.0 and 3.0 compatible
- Can charge a device at up to a full 2A
- If only one device is connected to a USB outlet the total output current of 2A is available from either outlet
- If two devices are connected to USB outlets the total rated current of 2A is divided between the two outlets
- Differing manufacturers devices can be charged simultaneously via the two USB outlets
- If the total charging current exceeds the rated level of 2A then the device will enter a current limiting safety mode
- Electronically protected against an overload or short circuit on either USB outlet
- USB outlets are designed to provide optimum charging compatibility across a wide range of devices
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Backed out and captive terminal screws
- Dual earthed

Dimensions (mm)

Installation
Albany Plus™ socket outlets can be wall or bench mounted.

Do not mount or use as a trailing socket or where they may be subject to excessive moisture or damp.

Cable management
Albany Plus™ socket outlets can be mounted in a variety of MK trunking systems.

Technical Specification

<table>
<thead>
<tr>
<th>13A SOCKET OUTLETS</th>
<th>ELECTRICAL</th>
<th>VOLTAGE RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>220-240V</td>
<td></td>
</tr>
</tbody>
</table>

| CURRENT RATING | 13A
| STANDBY POWER | 150mW
| TERMINAL CAPACITY | Live, neutral & earth
| 3 x 2.5mm²
| 3 x 4mm² (stranded)
| PHYSICAL | AMBIENT OPERATING TEMPERATURE
| -5°C to +40°C
| IP RATING | IP2XD
| MAX. INSTALLATION ALTITUDE | 2000 metres

<table>
<thead>
<tr>
<th>BOX TYPES WITHOUT PATRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GANG</td>
</tr>
<tr>
<td>2 GANG</td>
</tr>
<tr>
<td>886 ZIC</td>
</tr>
</tbody>
</table>
Description
A range of socket outlets designed for ease of installation and having all the advantageous design features of the Metalclad Plus™ range. Dual USB charging outlets offer end users easy access to power for charging a variety of devices such as smart phones, tablets and cameras.

Features
- Moulded ‘on’ indicator flash on switches will not rub off – totally safe
- 3 pin operated safety shutter on 13A socket outlets
- USB 2.0 and 3.0 compatible
- Can charge a device at up to a full 2A
- If only one device is connected to a USB outlet the total output current of 2A is available from either outlet
- If two devices are connected to USB outlets the total rated current of 2A is divided between the two outlets
- Differing manufacturers devices can be charged simultaneously via the two USB outlets
- If the total charging current exceeds the rated level of 2A then the device will enter a current limiting safety mode
- Electronically protected against an overload or short circuit on either USB outlet
- USB outlets are designed to provide optimum charging compatibility across a wide range of devices
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Backed out and captive terminal screws
- Metallic powder paint finish is corrosion and scratch resistant
- Dual earthed
- High impact resistance

Installation
Metalclad Plus™ socket outlets can be wall or bench mounted.

Do not mount or use as a trailing socket or where they may be subject to excessive moisture or damp.

Cable management
Metalclad Plus™ socket outlets can be mounted in a variety of MK trunking systems.

Dimensions (mm)

TECHNICAL SPECIFICATION

13A SOCKET OUTLETS

ELECTRICAL
VOLTAGE RATING
220-240V
CURRENT RATING
13A
STANDBY POWER
150mW
TERMINAL CAPACITY
Live, neutral & earth
3 x 2.5mm²
3 x 4mm²
2 x 6mm² (stranded)

PHYSICAL
AMBIENT OPERATING TEMPERATURE
–5°C to +40°C
IP RATING
IP2XD
MAX. INSTALLATION ALTITUDE
2000 metres

TECHNICAL SPECIFICATION

13A SOCKET OUTLETS

ELECTRICAL
VOLTAGE RATING
220-240V
CURRENT RATING
13A
STANDBY POWER
150mW
TERMINAL CAPACITY
Live, neutral & earth
3 x 2.5mm²
3 x 4mm²
2 x 6mm² (stranded)

PHYSICAL
AMBIENT OPERATING TEMPERATURE
–5°C to +40°C
IP RATING
IP2XD
MAX. INSTALLATION ALTITUDE
2000 metres
Compliance with EC Directives, Standards and approvals

All Sentrysockets comply with the following EC Directives and are CE marked:

- Low Voltage Directive

Sentrysocket RCD DP Single Sockets comply with the requirements of the following standards:

- BS 7288:1990
- BS EN 50082-1:1998

Sentrysocket RCD SP Double Sockets also comply with the requirements of BS EN 61543:1996.

Description

Sentrysocket provides a high level of protection against electrocution and gives further protection when used with appliances vulnerable to insulation damage, particularly when they are in damp environments or outdoors. The Sentrysocket units are not suitable for mounting in damp environments or outdoors.

Sentrysocket, incorporating an RCD, is part of a complete range of fixed and portable wiring devices and circuit protection devices suitable for use in domestic, commercial and light industrial applications.

Active control circuits

Incorporate a ‘Re-set’ mechanism and are mains failure sensitive, i.e. they will function under all the normal conditions expected of an RCD, but will also trip in the event of a power cut or a sudden, dramatic reduction in mains voltage. This makes them ideal for use where it would be hazardous for equipment to suddenly energise after return of mains power, such as use with rotating machinery and heat developing apparatus.

Passive control circuits

Incorporate a ‘Stay-set’ mechanism and is mains failure proof, i.e. it will function under all the normal conditions expected of an RCD and will not trip in the event of a power cut. This makes it suitable for use with freezers or in inaccessible or unmanned locations.

Features

- Suitable for most residential, commercial and light industrial applications
- Masterseal Plus products are ideal for use with equipment subject to wet weather or high humidity
- Active and passive control circuit applications
- They are a.c. and pulsating d.c. sensitive for residual current
- Passive control circuits
- Single Sockets have double pole switching, double sockets are single pole switching
- Double Socket products have an enhanced RF Immunity performance

Cable management

Logic Plus™, Albany Plus™ and Metalclad Plus™ Sentrysockets can be mounted in a variety of MK trunking systems.

Installation

Flush mounting steel wall box

It should be noted that some of the conduit entries may be restricted, depending upon their positions and the depth of box used.

Dimensions (mm)

<table>
<thead>
<tr>
<th>Single socket</th>
<th>Double socket</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>Double</td>
</tr>
<tr>
<td>Switch</td>
<td>Switch</td>
</tr>
<tr>
<td>48 mm</td>
<td>26 mm</td>
</tr>
</tbody>
</table>

Sentrysockets products can be wall or bench mounted. Do not mount or use as a trailing socket or where they maybe subject to excessive moisture or dampness.
Sentrysocket

Installation

Flush mounting steel wall box
It should be noted that some of the conduit entries may be restricted, depending upon their positions and the depth of box used.

Socket Testing

Single Socket Testing
After installation, turn the mains electricity supply on.

To test that the Sentrysocket is functioning correctly:

1. Ensure that no appliance is connected to the Sentrysocket. **Switch Sentrysocket on:** The switch should remain closed and the red flag will appear in the window. If the switch fails to remain closed, check that the Supply L and N connections are not reversed or the Supply N connection is not open circuit. If the Sentrysocket is correctly connected and still trips after being switched on, the Sentrysocket is faulty and should not be used.

2. If the Sentrysocket stays on, **press the test button:** The switch will open and the white flag will appear in the window. If the Sentrysocket does not trip and there is mains voltage present at the socket outlet, Sentrysocket is faulty and should not be used.

3. **Switch Sentrysocket on:** Connect an RCD tester and ensure that the Sentrysocket trips within the specified time:
   - ≤ 200 ms AT RATED TRIP CURRENT
   - ≤ 40 ms AT 5 x RATED TRIP CURRENT

   If the Sentrysocket does not trip within the specified times then the product is faulty and should not be used (If more than one RCD is in series then there is no guarantee as to which device will trip first).

4. **Reset all tripped RCD’s including the Sentrysocket.**

5. **Switch off the mains supply switch disconnector.** On mains failure, a Sentrysocket with Active Control Circuit will trip, whilst a Sentrysocket with Passive Control Circuit will not trip. If the Active Control device does not trip, it is faulty and should not be used – see note below. If no faults have been found then installation testing has been completed successfully.

Double Socket Testing

After installation, turn the mains electricity supply on.

To test that the Sentrysocket is functioning correctly follow the steps 1 to 4 below:

1. Ensure that no appliance is connected to the Sentrysocket. **Switch Sentrysocket on.**

2. **Reset – Press the button marked R (for Reset) – the contact status indicator should show red, indicating that the socket outlets are now live (if the switches are in the ON positions).**

3. **Test – Press the TEST button marked T (for Test), the product should trip with the contact status indicator showing black. In this state the socket outlets are disconnected from the supply.**

4. **Reset – Press the button marked R again, the contact status indicator should show red.**

5. Connect an RCD Tester to either socket outlet and ensure that the Sentrysocket trips with the specified times below:
   - ≤ 200 ms AT RATED TRIP CURRENT
   - ≤ 40 ms AT 5 x RATED TRIP CURRENT

6. Reset the Sentrysocket as in step 2 above.

7. Switch off the Mains Supply Switch Disconnector.

8. A Sentrysocket with Active Control Circuit should trip while a Sentrysocket with Passive Control Circuit should not trip.

If all the operations in steps 2 to 8 above give correct results, the Sentrysocket RCD socket outlet is safe to use.

If the procedures in steps 2 to 8 above are not completed correctly, do not use the Sentrysocket product and seek professional advice or contact the MK Technical Sales and Service department on +44 (0)1268 563720.

Note: If a fault is identified at any stage of installation testing procedure do not use Sentrysocket, and contact your local electrician, or your local MK stockist.
Filtered Switchsocket Outlets (Logic Plus and Albany Plus)

**Standards and approvals**
Filtered socket outlets comply with BS 5733:2010.

**TECHNICAL SPECIFICATION**

**ELECTRICAL**
- **CURRENT RATING**: 13A maximum total for 2 sockets
- **VOLTAGE RATING**: 250V a.c.
- **EARTH LEAKAGE**: 0.5 mA
- **SUPPRESSION**: 150 kHz – 30 MHz (transients)
- **MAXIMUM ENERGY ABSORPTION**: 140 Joules L – N
- **TERMINAL CAPACITY**: 2 x 6mm²
  - 3 x 4mm²
  - 3 x 2.5mm²
  - 3 x 1.5mm²

**PHYSICAL**
- **AMBIENT OPERATING TEMPERATURE**: -5°C to +40°C
- **THERMAL OVERLOAD**: The K1826 and K2826 filter socket incorporates a thermal overload device in the RFI filter section. Overload current causes temperature rise, resulting in automatic ‘trip out’. The overload device will re-set as the temperature falls.
- **IP RATING**: IP2XD
- **MAX. INSTALLATION ALTITUDE**: 2000 metres

**DESCRIPTION**
A range of sockets in the Logic Plus and Albany Plus styles, designed to combat interference to or data losses on sensitive electrical products and systems due to mains borne voltage spikes and RFI.

Such systems include:
- Computer or microprocessor based equipment
- Telecommunications systems
- Electronic measurement equipment
- Cash registers
- Audio visual and hi-fi equipment

These products can be quickly installed as replacements for existing twin 13A sockets or in a new installation.

Fitted with two earth terminals to provide a double earth facility for use when installations require a high integrity protective connection as specified within the latest edition of BS 7671.

**Filter cassettes**
Filter cassettes are supplied with sockets and have an LED which shows green under normal conditions but will turn red or extinguish when a replacement cassette (K1800WHI) is required. An alarm will also beep at 5 second intervals to indicate replacement necessity. It can be de-activated if required.

**FEATURES**
- Moulded ‘on’ indicator flash on switches will not rub off – totally safe
- 3 pin operated safety shutter
- Printed terminal markings on grey rear mouldings for clearer identification
- Reduces risk of damage to equipment and down time
- Reduces risk of data loss
- 2 way filtering – into appliance and back into mains supply
- Additional electrical safety from DP Switch, neutral ‘make first’, ‘break last’ feature
- Double pole switches
- Dual earth terminals for high integrity earthing
- Clearly visible LED on filter cassette, changes from green to red when replacement required
- Simple replacement of cassettes
- 10 year guarantee (except filter cassette)
- 3mm minimum switch contact gap
- Backed out and captive terminal screws
Filtered Switchsocket Outlets

Product features

Ensure that the connecting pins protruding from the bottom of the replacement Filter Cassette are not damaged or bent before installation. If in doubt, contact MK Technical Sales Service Department on +44 (0)1268 563720.

The MK Filtered Switchsocket, in common with many other filters uses Voltage Dependant Resistors for spike suppression purposes. The performance of these devices will eventually degrade with use to a level where they will no longer provide adequate protection.

When this occurs the spike filter performance of the MK Filtered Switchsocket outlet can be restored by replacing the filter cassette.

When the filter cassette needs replacing, the green indicator on the Replacement Filter Cassette will glow red or go out, an audible beep every five seconds may also be heard.

Note: As with all filters, these Filter Sockets will reduce the magnitude of RFI and spikes and consequently their ability to interfere with connected equipment. They will not completely remove the interference from the supply.

4. Fit the new filter cassette by carefully sliding it into the aperture and gently pushing it down while turning the screw clockwise until the filter cassette is flush with the surface. Do not turn the screw any further as this will cause distortion of the plastic mouldings.

Product and packaging can safely be disposed of via standard refuse facilities at the end of its useful life.

Installation

Replaceable Spike Filter Cassette

Note: To ensure a safe installation;

- this product should be installed by a competent person.
- it is important that all connections are made as instructed.

1. The filter cassette can be removed and replaced without switching off the mains or removing any plugs from the filter socket.

2. Remove the filter cassette by turning the jacking screw anti-clockwise to partially eject it (see Figure 2), and then gently pulling the cassette upwards, (see Figure 2a).

3. Only fit the MK Replacement Filter Cassette (K1800WHI).

Unpack the new filter cassette and check that the pins along the bottom edge are not bent or broken. If these pins are damaged, do not fit the replacement cassette. The audible sound indicating that the filter cassette needs replacing, is optional. It may be prevented by removing the small connector on the two end pins, (see Figure 2b), before fitting it into the socket.
Standards and approvals

Round pin socket outlets comply with BS 546:1950.

**TECHNICAL SPECIFICATION**

**ELECTRICAL**

- **VOLTAGE RATING**: 250V a.c.
- **TERMINAL CAPACITIES**
  - **2A sockets**:
    - 7 x 1mm²
    - 4 x 1.5mm²
    - 2 x 2.5mm²
    - 1 x 4mm²
  - **5A sockets**:
    - 3 x 2.5mm²
    - 2 x 4mm²
    - 2 x 6mm² (stranded)
  - **15A sockets**:
    - 3 x 2.5mm²
    - 3 x 4mm²
    - 2 x 6mm² (stranded)

**PHYSICAL**

- **AMBIENT OPERATING TEMPERATURE**: -5°C to +40°C
- **IP RATING**: IP2X
- **MAX. INSTALLATION ALTITUDE**: 2000 metres

**Features**

- Top access terminals make wiring easier and quicker
- Integral ON indicator on plastic switches will not rub off – totally safe
- Switch contact gap, 3mm minimum
- Double pole switching
- Terminal screws backed out
- Additional electrical safety from neutral “make first”, “break last” feature on switched sockets
- Switch contacts with silver contact points on both surfaces for good continuity
- 5A and 15A sockets contain a 3 pin operated safety shutter.
- Printed terminal markings on grey rear mouldings for clearer identification

**Description**

A range of round pin socket outlets designed for ease of installation and having all the advantages and design features of the MK range of wiring devices.

These products can be quickly installed as replacements for existing socket outlets or in new installations.
Non UK Socket Outlets

Standards and approvals
15A American sockets comply with SASO 2004:2003
16A 2P+E German sockets comply with IEC 60884-1:2006

TECHNICAL SPECIFICATION

15A AMERICAN (Logic Plus*)

<table>
<thead>
<tr>
<th>GANG</th>
<th>FLUSH (FOR EXTRA WIRING SPACE)</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 GANG</td>
<td>861ZIC</td>
<td>866ZIC</td>
</tr>
<tr>
<td>2 GANG</td>
<td>862ZIC</td>
<td>866ZIC</td>
</tr>
</tbody>
</table>

16A 2P+E GERMAN (Logic Plus*)

<table>
<thead>
<tr>
<th>GANG</th>
<th>FLUSH</th>
<th>SURFACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 GANG</td>
<td>861ZIC</td>
<td>K2140WHI</td>
</tr>
<tr>
<td>2 GANG</td>
<td>862ZIC</td>
<td>K2142WHI</td>
</tr>
</tbody>
</table>

Note: 16A 2P+E German Outlet: These products are NOT suitable for 25mm deep boxes.

*15A American Sockets and 16A 2P+E German Sockets are also available in a modular format for MK decorative wiring device ranges.
Three Pole Fan Isolators

Standards and approvals
Comply with BS EN 60669-2-4:2005

TECHNICAL SPECIFICATION

ELECTRICAL
VOLTAGE RATING
250V a.c.
CURRENT RATING
10A
RATED CONDITIONAL SHORT CIRCUIT CURRENT (Inc)
3000A
TERMINAL CAPACITY
4 x 1mm²
4 x 1.5mm²
3 x 2.5mm²
2 x 4mm²
1 x 6mm²
CONTACT GAP
4mm switch contact gap
RECOMMENDED SCPD
GE Power Controls TIA32M40 32A IEC269-2-1 Fuse-link

PHYSICAL
AMBIENT OPERATING TEMPERATURE
-5°C to +40°C
IP RATING
IP4X
MAX. INSTALLATION ALTITUDE
2000 metres

Description
The MK Three Pole Fan Isolator provides a safe and simple method of isolating mechanical fan units and is particularly useful in bathrooms, toilets, storerooms and basements where there is little or no natural light.

For example, timer controlled fans are often linked into the lighting circuit for energy saving and convenience. In such an installation there is often a need for the lighting circuit to remain live to provide light whilst the fan unit is externally isolated so that routine maintenance and repairs can be carried out in complete safety.

The fan isolator can be used as a double pole or triple pole isolator. In addition it includes a clear on/off indicator and the frontplate features a fan isolator symbol for easy circuit identification.

Wiring diagrams

Two pole switching for fan units without timers

Three pole switching for fan units incorporating timers

Features
- Switchlock list no. K4858 is available to allow the isolator to be locked in the disconnected position to facilitate fan maintenance
Shaver Socket Outlets

Standards and approvals
Plug pin apertures, and engagement face dimensions comply with BS 4573:1970.

TECHNICAL SPECIFICATION

**ELECTRICAL**
- **VOLTAGE RATING**: 200-250V a.c. Input
- **MAXIMUM LOAD**: 200 mA (internal thermister trip current)
- **TERMINAL CAPACITIES**: Each terminal will accommodate 1 x 4mm², or 2 x 2.5mm², 3 x 1.5 solid conductors

**PHYSICAL**
- **AMBIENT OPERATING TEMPERATURE**: -5°C to +40°C
- **IP RATING**: IP2X
- **MAX. INSTALLATION ALTITUDE**: 2000 metres

Description
Designed for ease of installation and having many of the advantageous features of the Logic Plus™ range.
The shaver socket outlet accommodates the following plugs:
British 5mm dia pins on 16.6mm pitch (230V socket) to BS 4573:1970.
European 4mm dia pins on 17 to 19mm pitch (230V socket) to IEC 83:1975 Standard C5.
Australian 6.5 x 1.6 flat blades each set at 30° to the vertical on a nominal pitch of 13.7mm (230V socket).
AS C112:1964.
The fuse carrier is captive and opened by a fast acting, screwdriver operated worm drive screw for ease of replacement.

FEATURES
- Top access terminals make wiring quicker and easier
- Only one size of screwdriver required for installation
- Terminal screws supplied ‘backed out’ and held captive within the terminal moulding
- White printed terminal markings on grey rear mouldings for clearer identification
- Front plate fixing screws retained on rear case moulding

Installation
This shaver socket must not be used in bathrooms and washrooms. Non-isolated, fused, shaver socket outlets must never be installed in any location subject to splashes, condensation or damp conditions.
For installation in any other room where a wash basin or shower cubicle is installed then refer to the current IET wiring regulations.
Shaver/Toothbrush Supply Units

**Standards and approvals**
Shaver/Toothbrush supply units comply with BS 61558-2-5:1998

Accommodates plugs as follows:
- British 5mm dia pins on 16.6mm pitch (230V socket) to BS 4573:1970.
- European 4mm dia pins on 17 to 19mm pitch (230V socket) to BS EN 50075
- Australian 6.5 x 1.6 flat blades each set at 30° to the vertical on a nominal pitch of 13.7mm (230V socket) AS/NZS 3112:2000
- American 6.6 x 1.6 flat horizontal blades on 12.7mm pitch (115V socket) to UL498 / NEMA WD6.

### TECHNICAL SPECIFICATION

<table>
<thead>
<tr>
<th><strong>ELECTRICAL</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VOLTAGE RATING</strong></td>
<td></td>
</tr>
<tr>
<td>K701: 230V a.c. Input (will operate at 220-250V a.c.)</td>
<td></td>
</tr>
<tr>
<td>K706: 127V a.c. Input (will operate at 110-130V a.c.)</td>
<td></td>
</tr>
<tr>
<td><strong>CURRENT RATING</strong></td>
<td></td>
</tr>
<tr>
<td>K701: 200mA max. (internal thermister trip current)</td>
<td></td>
</tr>
<tr>
<td>K706: 400mA max. (internal thermister trip current)</td>
<td></td>
</tr>
<tr>
<td><strong>MAXIMUM LOAD</strong></td>
<td>20VA</td>
</tr>
<tr>
<td></td>
<td>No load voltage &lt; 275V</td>
</tr>
<tr>
<td><strong>TERMINAL CAPACITIES</strong></td>
<td>Each terminal will accommodate 1 x 4mm² or 2 x 2.5mm² solid conductors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>PHYSICAL</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AMBIENT OPERATING TEMPERATURE</strong></td>
<td>-5°C to +40°C</td>
</tr>
<tr>
<td><strong>IP RATING</strong></td>
<td>IP41 (In Zone 2 if fixed where direct spray from showers is unlikely)</td>
</tr>
<tr>
<td><strong>MAX. INSTALLATION ALTITUDE</strong></td>
<td>2000 metres</td>
</tr>
</tbody>
</table>

**Description**

Designed for ease of installation and having many of the advantageous design features of the MK range of wiring devices.

May be used in bathrooms and washrooms – must only be installed in accordance with the latest edition of BS 7671.

**FEATURES**
- Top access terminal screws make wiring quicker and easier
- Automatic primary supply switching on insertion of plug
- Choice of 230V or 115V output socket positions
- Safety interlocked shutters to prevent insertion of two plugs simultaneously
- Only one size of screwdriver required for installation
- Front plate fixing screws retained on rear case moulding
- Integral over current device to protect transformer
- Suitable for use with electric toothbrush chargers

**Installation**

Shaver/Toothbrush supply unit should be wall mounted.
13A Connection Units, 20A Switches and Flex Outlets

Standards and approvals

All Connection Units comply with BS 1363-4:1995.
All 20A DP Switches comply with BS EN 60669-1:1999.
Flex Outlet complies with BS EN 60670-22:2006.

Description

A range of 13A fused connection units and 20A DP switches designed for the connection of refrigerators, water heaters, central heating boilers and other fixed appliances.

The ranges are designed for ease of installation and have the advantageous design features of the MK range of wiring devices.

Neon indicators

Products are available with Neon indicators included in the rockers of the switched connection units. In the case of unswitched units, they are positioned centrally and uppermost on the face plate. Neon indicators are integrally wired into the product and do not require separate connection when installing. The design gives 175° visibility in the horizontal and vertical planes.

Fuse carriers

These are captive and are opened by a fast acting, screwdriver operated worm drive for ease of replacement. A tamper-proof version is also available.

Fuse carriers can be locked open using a padlock, List No. K2000.

Flex outlets

Bottom outlet types are supplied with blanking plug allowing use where the bottom outlet is not required.

The products are equipped with very strong, push-fit nylon cord grips making installation safe, quick and easy.

Flex outlet plate

An unfused flex outlet with cord grip and 3 pairs of terminals.

Installation

Wiring

Products must be installed in accordance with current IET Regulations.

Changing Fuses

1. Unscrew the fuse carrier screw to partially eject the carrier.

2. Carefully lever the carrier out further to remove the fuse.
   Note: The carrier does not come fully out.

3. Always replace with a BS 1362 type fuse (as used in 13A plugs) of the correct rating.

4. Consistent fuse blowing could mean a faulty appliance. If in doubt, consult a qualified electrician.

5. Push carrier back until engaging with jacking screw. Screw the carrier down until flush with surface of the plate. Do not over tighten the screw.
13A Connection Units, 20A Switches and Flex Outlets

FEATURES

- Optional indicators in the switch rockers with 175° visibility in the horizontal and vertical planes
- Worm-drive operated fuse carriers for additional security (tamper-proof version available)
- Fuse carrier lockable in open position
- All supply and load cables can be cut and stripped to the same length
- Integrally wired Neon indicators save installation time
- Push-fit cord grips, for safer, quicker installation
- Angled, top mounted terminal screws simplify wiring
- Moulded 'on' indicator flash on switches cannot rub off – totally safe
- Captive fuse carrier
- Additional electrical safety from DP Switch, neutral ‘make first’, ‘break last’ feature
- Secure cable and flexible cord connection
- All terminal and fixing screws operated by one-size (4mm) screwdriver
- Backed out and captive terminal screws

Note: These switches are not recommended for switching large banks of PCs
20A Key Operated Fire Alarm Isolator Switch

**TECHNICAL SPECIFICATION**

**ELECTRICAL**
- VOLTAGE RATING: 250V a.c.
- CURRENT RATING: 20A

**TERMINAL CAPACITIES**
- Live, Neutral & Earth
  - 3 x 2.5mm²
  - 3 x 4mm²
  - 2 x 6mm²

**PHYSICAL**
- AMBIENT OPERATING TEMPERATURE: -5°C to +40°C
- IP RATING: IP2XD
- MAX. INSTALLATION ALTITUDE: 2000 metres

**Description**

The isolators comply with BS 60669-2-4:2005

The Isolator is intended for use with building alarm systems that are required to comply with BS 5839 Part 1.

**FEATURES**
- The built in lock ensures power cannot be provided without the key being operated, making it safe to carry out maintenance to fire alarms
- Printed terminal markings on grey rear of the switch moulding for clearer identification
- Double Pole switching
- Only one size of screwdriver required for installation

Note: The lock fitted to these isolators is universal for all MK 20A Isolators in the range i.e. a common key profile.

However, the keys are different to those used on all other MK Key Operated Switched Products, for added security.
High Current Switches and Cooker Control Units

Standards and approvals

All DP switches in the range comply with BS 60669-1:1999.

All Cooker Control Units in the range comply with BS 4177:1992.

Cooker Connection Unit comply with BS 60670-22:2006

Technical Specification

**ELECTRICAL**

**VOLTAGE RATING**
250V a.c.

**CURRENT RATING**
- 32A Switch
- 45A Cooker Control Unit
- 45A Cooker Connection Unit
- 50A Switch (Resistive Load)

**SWITCH**
- 3mm contact gap
- Double pole operation – except socket switch on Cooker Control Units

**TERMINAL CAPACITY 50A SWITCHES**
- Cooker Control Units, and Cooker Connection Units: 4 x 4mm², 3 x 6mm², 1 x 10mm², 1 x 16mm²

**TERMINAL CAPACITY, 32A SWITCH**
- 3 x 2.5mm², 2 x 4mm², 1 x 6mm²

**PHYSICAL**

**AMBIENT OPERATING TEMPERATURE**
- -5°C to +40°C

**IP RATING**
- IP2XD
  - Cooker Control Units
- IP4X
  - 32A Switch, 50A Switch, Cooker Connection Unit

**MAX. INSTALLATION ALTITUDE**
- 2000 metres

Description

A range of switches and cooker control units suitable for the switching of all domestic, commercial and industrial appliances where higher current ratings are required, i.e. cookers, heaters, units etc. Metal units are particularly suitable for refurbishment projects.

Features

- Positive switch action
- Positive double pole switching
- Toggle action switches
- Metal front plates available
- Replaceable neon indicators
- Wide product choice

Note: These switches are not recommended for switching large banks of PCs
Plateswitches

Standards and approvals

All MK plateswitches comply with BS EN 60669-1:1999.

Technical Specification

**ELECTRICAL**

**VOLTAGE RATING**

250V a.c.

**CURRENT RATING**

10A – no derating when used on fluorescent or inductive loads
20A – no derating when used on fluorescent or inductive loads

**TERMINAL CAPACITY**

4 x 1mm²
4 x 1.5mm²
3 x 2.5mm²
2 x 4mm²
1 x 6mm²

**CONTACT GAP**

3mm switch contact gap

**PHYSICAL**

**AMBIENT OPERATING TEMPERATURE**

-5°C to +40°C

**IP RATING**

IP2X

**MAX. INSTALLATION ALTITUDE**

2000 metres

Operational testing (all plateswitches): tested to 100,000 operations for mechanical life tested to 40,000 operations at 10A rating tested to 10,000 operations at 20A rating.

Description

MK plateswitches are designed to blend in with the decor, whilst complementing a wide range of other MK wiring devices. They are designed for easy installation in plasterdepth boxes and are suitable for controlling lighting circuits in domestic, commercial and industrial applications.

Neon locator

A textured, polycarbonate moulding allowing the glow of the neon to be seen at almost any angle. Designed to complement the Logic Plus 1, 2, or 3 gang plateswitches.

It is easy to install in existing locations. For 3 gang applications using a 25mm deep box simplifies wiring.

Features

- Two way switches can be wired as one or two way
- Matching Grid switches available in 10 or 20A ratings
- 3mm switch contact gap
- Positive switch action
- Top access, backed out and captive terminal screws
- Neon locator available making switch easy to find in darkened rooms (Logic Plus™ only)
Plateswitches

Wiring diagrams

One-way switching

Two-way switching – 2 wire control

Two-way switching plus intermediate switching – 2 wire control

Two-way switching – 3 wire control

Two-way switching plus intermediate switching – 3 wire control

N.B. Terminal positions may alter. The above diagrams are to show wiring layout.
Dimmer Switches

Standards and approvals


*Non-UK dimmer switches see note below

TECHNICAL SPECIFICATION

**ELECTRICAL**

**MAINS SUPPLY VOLTAGE**

230V a.c. (Nominal)
220V a.c. (Nominal, Non-UK)
220V a.c. to 240V a.c. (For LED Intelligent Dimmer)

**MAINS SUPPLY VOLTAGE RANGE**

216V a.c. to 253V a.c.
200V a.c. to 250V a.c.
198V a.c. to 264V a.c. (For LED Intelligent Dimmer)

**MAINS SUPPLY FREQUENCY**

50Hz ±3Hz
60Hz ±3Hz

**TYPE OF LOADS**

**STANDARD DIMMERS**

Fused GLS Tungsten Filament lamps only to BS EN 60064:1996 and BS EN 60432-1:2000, rated at 230/240V.

**INTELLIGENT DIMMERS AND LED INTELLIGENT DIMMERS:**

Fused GLS Tungsten Filament lamps to BS EN 60064:1998 and BS EN 60432-1:2000, rated at 230/240V. Dimmable wire wound or electronic Low Voltage Transformers of good quality. Can also be used with good quality mains voltage halogen lamps incorporating GU10 bases. Please check with lamp manufacturer to determine suitability.

Note: Transformer must be suitable for dimming using phase delay (leading edge) and NOT only phase cut (trailing edge) type of dimmers.

**Warning:** These dimmer switches are not suitable for use with Fluorescent Lamps or Energy Saving Lamps.

**PHYSICAL**

**AMBIENT OPERATING TEMPERATURE**

0°C to +60°C

**IP RATING**

IP2X0

**MAX. INSTALLATION ALTITUDE**

2000 metres

**Description**

MK dimmer switches can fall into one of four categories:

1) Standard Dimmer Switches
2) Intelligent Dimmer Switches
3) Non-UK Dimmer Switches
4) LED Intelligent Dimmer Switches

**Standard Dimmer Switches**

Dimmer Switches belonging to this category employ simpler electronic circuitry and the CE marked products make use of thermal switches to conform to the very stringent requirements of the Standard BS EN 60669-2-1, for overload protection. They are only suitable for use with normal tungsten filament lamps, conforming to BS EN 60064:1996 and BS EN 60432-1 Standards and do not have any added features, e.g. soft start, ability to control dimmable transformers for low voltage, etc.

Standard Dimmer Switches are not suitable for use with transformers for Low Voltage Lighting or Fluorescent Loads, including Energy Saving Lamps.

**Intelligent and LED Intelligent Dimmer Switches**

Dimmer Switches belonging to this category, employ the latest, state of the art, micro-controller based electronic circuitry and use current sensing to compute the load conditions. These products show progressive reaction to overload conditions, depending on the extent of overload as shown in the table below. List numbers belonging to this category are identified by the suffix letters LV, e.g. K1501 WHI LV. All MK Intelligent Dimmer Switches employ one pole change over switches to facilitate two way switching.

MK Intelligent and LED Intelligent Dimmer Switches are not suitable for use with fluorescent Loads, including Energy Saving Lamps.

*Non-UK Dimmer Switches*

Dimmer switches belonging to this category only conform to the relevant parts of BS EN 66069-2-1. Loads suitable for use with standard dimmer switches above are also suitable for use with this category of dimmer switch.

Only one Dimmer Switch can be used in a two-way switching circuit.
Minimum Brightness Adjustment for LED Intelligent Dimmers

The light output of some LED lamps may appear to be too dim or invisible when the dimmer knob is at the minimum dim level. Follow the steps below to adjust the minimum brightness level. This feature is primarily for adjusting the minimum brightness level of the LED lamp although it can be used for other load types.

For a double gang dimmer, the light level of each gang has to be adjusted separately.

**Step 1 – Access To Programming Mode**

1. Push the dimmer knob so that it is in OFF state.
2. Set the dimmer knob to minimum level.

   ![Switch OFF and Min](image)

3. Turn on the dimmer and immediately rotate the knob 3 times in full rotary span within 5 seconds.

   ![Switch ON and Max to Min](image)

   **NOTE:** Wait for 3 seconds, the lamp will then dim to minimum before automatically brightening to about 30% level. Turning/pushing the dimmer knob before the end of automatic brightening will end access to programming mode.

4. Dimmer enters programming mode.

**Step 2 – Adjust Brightness Level and Exit Programming Mode**

5. Rotate the dimmer knob anticlockwise to adjust the lamp to the desired brightness level.

   **NOTE:** Some LED lamps may not work properly if the brightness level is set too low thus it is recommended to keep the brightness level of the lamp at a visible level. The dimmer will exit programming mode automatically without saving the new setting if there is no dimmer knob movement for 15 seconds. The dimmer will restore its factory default light level.

   ![Min to Max](image)

6. Confirm the new setting and exit programming mode by turning OFF the dimmer.

   ![Switch OFF](image)

**Step 3 – Success indication (Programming Complete)**

7. The next time the dimmer is turned on the lamp will automatically brighten to the maximum level before dimming to the brightness level corresponds to the knob level.
Dimmer Switches

FEATURES

Intelligent and LED Intelligent Dimmer Switches incorporate the following advanced features
- Suitable for dimming Low Voltage Halogen lamps via good quality, fully dimmable electronic or wire-wound transformers. In addition, LED Intelligent dimmer switches are suitable for dimmable LED bulbs for incandescent replacement.
- Can be used with good quality mains voltage halogen lamps incorporating GU10 bases. Please check with lamp manufacturer to determine suitability
- Load current sensing: These dimmers continuously monitor the load current to help prevent against overheating in wire wound transformers and to prevent overloading of the dimmer for long term reliability

Soft Start, which gradually increases the light output from the load over 1 to 3 seconds after switch on. The Soft Start feature is also particularly beneficial when used to dim Mains Voltage Tungsten Halogen lamps which inherently have a very high inrush current at switch on

Standard Dimmer Switches
- Suitable only for use with fused GLS Tungsten Filament lamps to BS EN 60064 and BS EN 60432-1
- One way dimmer switches incorporate manual soft start
- Incorporate thermal switches for protection against overload

LOAD TYPES AND LOADINGS

<table>
<thead>
<tr>
<th>DIMMER SERIES</th>
<th>DIMMER SIZE (1 GANG)</th>
<th>RATING</th>
<th>MAX NO. OF TRANSFORMERS AND LEDS (TOTAL RATING MUST NOT EXCEED MAX.VA RATING OF DIMMER)</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTELLIGENT DIMMER SWITCHES</td>
<td>single dimmer</td>
<td>40-300W</td>
<td>ELECTRONIC OR WIRE WOUND LV TRANSFORMERS</td>
</tr>
<tr>
<td></td>
<td>double dimmer</td>
<td>2 x 40-300W</td>
<td>2 x 40-240W/VA</td>
</tr>
<tr>
<td></td>
<td>single dimmer</td>
<td>60-500W</td>
<td>60-400W/VA</td>
</tr>
<tr>
<td></td>
<td>single dimmer</td>
<td>40-250W</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>double dimmer</td>
<td>2 x 40-250W</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>single dimmer</td>
<td>65-450W</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>double dimmer</td>
<td>2 x 40-300W</td>
<td>2 x 40-240W/VA</td>
</tr>
<tr>
<td>LED INTELLIGENT DIMMER SWITCHES</td>
<td>single dimmer</td>
<td>40-300W</td>
<td>4-70W</td>
</tr>
<tr>
<td></td>
<td>double dimmer</td>
<td>2 x 40-300W</td>
<td>2 x 40-240W/VA</td>
</tr>
</tbody>
</table>

Do not connect more than the maximum number of transformers stated for each dimmer.

One-way switching
Supply 230V a.c. - 50Hz
L - DIMMER
N

Two-way switching (only one dimmer can be used)
Supply 230V a.c. - 50Hz
L - 2 way switch
N - DIMMER
C

Wires must be connected to the correct dimmer terminals. DO NOT connect earth to dimmer.

OVERLOAD MANAGEMENT

<table>
<thead>
<tr>
<th>60-500W CIRCUIT</th>
<th>40-300W CIRCUIT</th>
<th>LED INTELLIGENT DIMMER</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-500W nominal</td>
<td>40-300W nominal</td>
<td>40-300W nominal</td>
</tr>
<tr>
<td>60-625W function without dimming</td>
<td>40-375W function without dimming</td>
<td>40-375W function without dimming</td>
</tr>
<tr>
<td>&gt; 625-750W dim to 68V±8V r.m.s.</td>
<td>&gt; 375-500W dim to 68V±8V r.m.s.</td>
<td>&gt; 375-600W dim to minimum level</td>
</tr>
<tr>
<td>&gt; 750W switch off</td>
<td>&gt; 500W switch off</td>
<td>&gt; 600W switch off</td>
</tr>
</tbody>
</table>

Please note the dimmer may be substituted for any Two-Way switches.
Euro and LJU6C Data Frontplates

Standards and approvals
BS 5733:2010

Description
Frontplates used for mounting snapfit modules.

FEATURES

- 1G, 2G and 3G Euro frontplates
- 1G LJU6C Frontplate
- Accept industry standard (Euro) and LJU6C snapfit modules
- 1G Euro frontplate accepts 2 Euro modules, (50 x 50mm aperture)
- 2G Euro frontplate accepts 4 Euro modules, (100 x 50mm aperture)
- 3G Euro frontplate accepts 6 Euro Modules, (150x50mm aperture)
- 1G LJU6C frontplate accepts two LJU6C modules (27 x 37mm aperture)
- 1/2, 1 and 2 module Euro Blanks available
- 1 module LJU6C Blank available
Wiring Devices Technical

Power Modules

Standards and approvals
K5830: BS 1363 Part 2:1995
K5831: IEC 60884-1:2006
K5832: SASO 2204:2003
K5833: BS 546:1950
K5834: French National Standard NF C 61-314

Description
A range of euro modules designed to provide a variety of power options.

TECHNICAL SPECIFICATION

<table>
<thead>
<tr>
<th>13A UK</th>
<th>5A UK</th>
<th>16A GERMAN</th>
<th>16A FRENCH/BELGIAN</th>
<th>15A AMERICAN</th>
<th>2A USB CHARGING MODULE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ELECTRICAL</strong></td>
<td><strong>ELECTRICAL</strong></td>
<td><strong>ELECTRICAL</strong></td>
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<td>VOLTAGE RATING</td>
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</tr>
<tr>
<td><strong>CURRENT RATING</strong></td>
<td><strong>CURRENT RATING</strong></td>
<td><strong>CURRENT RATING</strong></td>
<td><strong>CURRENT RATING</strong></td>
<td><strong>CURRENT RATING</strong></td>
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</tr>
<tr>
<td>13A</td>
<td>5A</td>
<td>16A</td>
<td>16A</td>
<td>15A</td>
<td>15A</td>
</tr>
<tr>
<td><strong>TERMINAL CAPACITY</strong></td>
<td><strong>TERMINAL CAPACITY</strong></td>
<td><strong>TERMINAL CAPACITY</strong></td>
<td><strong>TERMINAL CAPACITY</strong></td>
<td><strong>TERMINAL CAPACITY</strong></td>
<td><strong>TERMINAL CAPACITY</strong></td>
</tr>
<tr>
<td>Live, neutral &amp; earth</td>
<td>Live, neutral &amp; earth</td>
<td>Live, neutral &amp; earth</td>
<td>Live, neutral &amp; earth</td>
<td>Live, neutral &amp; earth</td>
<td>Live &amp; neutral</td>
</tr>
<tr>
<td>3 x 2.5mm²</td>
<td>3 x 4mm²</td>
<td>2 x 6mm² (stranded)</td>
<td>4 x 1.5mm²</td>
<td>2 x 2.5mm²</td>
<td>3 x 2.5mm²</td>
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<tr>
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<td><strong>PHYSICAL</strong></td>
<td><strong>PHYSICAL</strong></td>
<td><strong>PHYSICAL</strong></td>
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<td>AMBIENT OPERATING TEMPERATURE</td>
<td>AMBIENT OPERATING TEMPERATURE</td>
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<td>AMBIENT OPERATING TEMPERATURE</td>
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<td>-5°C to +40°C</td>
<td>-5°C to +40°C</td>
<td>-5°C to +40°C</td>
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<td>-5°C to +40°C</td>
<td>0°C to +40°C</td>
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<td>IP RATING</td>
<td>IP RATING</td>
<td>IP RATING</td>
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</tr>
<tr>
<td>IP2X</td>
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<td>MAX. INSTALLATION ALTITUDE</td>
<td>MAX. INSTALLATION ALTITUDE</td>
<td>MAX. INSTALLATION ALTITUDE</td>
</tr>
</tbody>
</table>

Dimensions (mm)

- **13A UK**
  - **K5830**
    - BOX TYPES:
      - MINIMUM: 35MM
      - EXTRA WIRING SPACE: 46MM
  - **K5833**
    - BOX TYPES:
      - MINIMUM: 35MM
      - EXTRA WIRING SPACE: 46MM

- **5A UK**
  - **K5831**
    - BOX TYPES:
      - MINIMUM: 35MM
      - EXTRA WIRING SPACE: 46MM
  - **K5834**
    - BOX TYPES:
      - MINIMUM: 35MM
      - EXTRA WIRING SPACE: 46MM

- **16A German**
  - **K5832**
    - BOX TYPES:
      - MINIMUM: 46MM
      - EXTRA WIRING SPACE: 46MM

- **16A French/Belgian**
  - **K5834**
    - BOX TYPES:
      - MINIMUM: 46MM
      - EXTRA WIRING SPACE: 46MM

- **15A American**
  - **K5832**
    - BOX TYPES:
      - MINIMUM: 46MM
      - EXTRA WIRING SPACE: 46MM

- **2A USB Charging Module**
  - **K5837**
    - BOX TYPES:
      - MK EURO FRONT PLATE THICKNESS:
        - > 7mm: Min 35MM
        - < 7mm: Min 46MM
Wiring Devices Technical

RJ45 Data Outlets

Standards and approvals
ISO/IEC 11801
EN 50173
TIA 568
EN 41003

Installation
- Maximum cable length 90m.
- Cable bend radii, 40mm during installation, 20mm after installation.
- Maximum pull force 8.7kg.
- Do not over tighten cable ties.
- Do not unwind the twists in the wire pairs by more than 13mm max.

Description
Suitable for use in all LJU6C and Euro frontplates, available in the Logic Plus range. Cat 5e and Cat 6 modules suitable for use in structured cabling distribution systems.

Installation details and wiring diagram illustrations

<table>
<thead>
<tr>
<th>TIA Wiring Scheme Colour Codes</th>
<th>568A</th>
<th>568B</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIN NO.</td>
<td>WHITE / green</td>
<td>WHITE / orange</td>
</tr>
<tr>
<td>1</td>
<td>GREEN / white</td>
<td>ORANGE / white</td>
</tr>
<tr>
<td>2</td>
<td>WHITE / orange</td>
<td>WHITE / green</td>
</tr>
<tr>
<td>3</td>
<td>BLUE / white</td>
<td>BLUE / white</td>
</tr>
<tr>
<td>5</td>
<td>WHITE / blue</td>
<td>WHITE / blue</td>
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<td>6</td>
<td>ORANGE / white</td>
<td>GREEN / white</td>
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<tr>
<td>7</td>
<td>WHITE / brown</td>
<td>WHITE / brown</td>
</tr>
<tr>
<td>8</td>
<td>BROWN / white</td>
<td>BROWN / white</td>
</tr>
</tbody>
</table>

Euro and LJU6C modules are to be wired as follows:

- RJ45 Cat.5e Euro - Angled K5844
- RJ45 Cat.5e Euro - LJU6C K5745
- RJ45 Cat.5e Screened K5845S - Euro
- RJ45 Cat.5e Euro - Angled K5746 - LJU6C K5846 - Euro Angled
- RJ45 Cat.6 Screened K5746S - LJU6C, K5846S - Euro
- RJ45 Cat.6 Euro - Angled K5746 - LJU6C K5846 - Euro, K5864 - Euro Angled
- RJ45 Cat.5e Screened K5845S - Euro
Telephone, RJ11/12, BNC Data and Blank Modules

Standards and approvals
Telephone sockets K5820 and K5821 comply with the following:
BS 6312: 2.2
Data sockets K5801, BS 5733: 2010 (where applicable).
K5887 complies with FCC68 and EN 41003.

Description
A range of telephone, data and blank modules to fit Euro and LJ6UC front plates.
BNC Euro modules with a 50Ohm crimp connector suitable for use with RG58, URM43, URM76 and Belden 9907 type coaxial cables are also available.

Installation (Telephone socket modules)
Product performance, systems compatibility
Master Sockets: For use as the first socket outlet on a direct exchange. They contain the required surge protector (for line protection against electrical surges) and ringing capacitor.
Secondary Sockets: for use as extension sockets when connected on the same line as a Master Socket.

Installation tools required IDC Connectors (telephone & RJ45 outlets)
MK insertion tool List No. 400NAT.
Wire pull-out force: 10.5 Newtons when installed correctly.

Wiring regulation restrictions
Domestic Installations: The total REN (Ring Equivalent Number) value of all telephone equipment connected on a line must not exceed 4.

FEATURES
- Meet all relevant BS and cabling standards
- Interchangeable modules clip into frontplates
- Front fixing facilitates easy exchange of modules
- Part of a complete range of products for telephone and data processing requirements

Data sockets
- Latest specification for high performance systems
- Wide range of data connectors available
For information on TV Satellite and FM Modules see pages 471-473

Telephone sockets
- Quick, simple and reliable IDC connectors
- Can be specified for all applications
Telephone, RJ11/12, BNC Data and Blank Modules

**Telephone Wiring Scheme**

1. GREEN / white
2. BLUE / white
3. ORANGE / white
4. WHITE / orange
5. WHITE / blue
6. WHITE / green

Note: Main wire colour is shown in capitals

**RJ11/12 Wiring Scheme**

<table>
<thead>
<tr>
<th>PIN NO.</th>
<th>STRIPPED COLOUR</th>
<th>SOLID COLOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>WHITE / green</td>
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<tr>
<td>2</td>
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<td>BLACK</td>
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<tr>
<td>3</td>
<td>BLUE / white</td>
<td>RED</td>
</tr>
<tr>
<td>4</td>
<td>WHITE / blue</td>
<td>GREEN</td>
</tr>
<tr>
<td>5</td>
<td>ORANGE / white</td>
<td>YELLOW</td>
</tr>
<tr>
<td>6</td>
<td>GREEN / white</td>
<td>BLUE</td>
</tr>
</tbody>
</table>

Note: Main wire colour is shown in capitals
Telephone, TV/FM and Satellite Socket Outlets

Standards and approvals

Telephone and TV sockets comply with the following:

**Telephone sockets K422 and K427**
BS 6312: 2.2, BS 5733:2010 (where applicable).
K4817: BS 5733:2010 (where applicable) and FCC68.

**TV sockets**
BS 5733:2010 (where applicable) and IEC65, clauses 10.1, 10.3.

**Satellite TV sockets**
BS 5733:2010 (where applicable).

### TELECHNICAL SPECIFICATION

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
</tr>
</thead>
</table>
| **TELEPHONE SOCKETS, CABLE SPECIFICATION**
| CW1311, CW1293, CW1308, CW1316 |
| **NO. OF CABLES PER TERMINATION**
| 2 |
| **RE-USABILITY**
| >9 reterminations (should not be reterminated with smaller diameter wire) |
| **TV SOCKETS**
| Cable specification: CT100 or equivalent Any standard |
| **LOW-LOSS TV CO-AXIAL CABLE**
| Outside 4-8mm diameter, inner conductor 0.5-2mm diameter |
| **INSERTION LOSS**
| Insertion loss data available on request |
| **F TYPE SATELLITE SOCKET (K3925), CABLE SPECIFICATION**
| Co-axial cable: inner core diameter – 0.5-1.2mm |
| **RJ11 (K4817), CABLE SPECIFICATION**
| Capable of taking 0.08 to 0.65mm² solid or stranded cable |

<table>
<thead>
<tr>
<th>PHYSICAL</th>
</tr>
</thead>
</table>
| **AMBIENT OPERATING TEMPERATURE**
| -5°C to +40°C |
| **IP RATING**
| IP2XD |
| **MAX. INSTALLATION ALTITUDE**
| 2000 metres |

**Features**

- Single screw termination on TV outlets
- Part of a complete range of products for telephone, television and data processing requirements
- Protected, fully enclosed PCBs
- Angled connector on TV outlets
- Meet all relevant BS requirements
- Quick, simple and reliable terminal connection
- IDC connectors on telephone outlets
- Sockets fit in plaster depth boxes (except K4817)
Telephone, TV/FM and Satellite Socket Outlets

**Installation (Telephone sockets)**

**Product performance, systems compatibility**
Master Sockets: for use as the first socket outlet on a direct exchange or PABX line. They contain surge protector (for line protection against electrical surges) and ringing capacitor.

**Secondary Sockets**
For use as extension sockets when connected on the same line as a Master Socket.

**Installation tools required**
MK IDC insertion tool List No. 400NAT (not supplied with product).

**Wiring regulation restrictions**

**Domestic installations**
Any number of MK sockets may be installed thereafter, with a total REN (Ring Equivalent Number) value of all telephone equipment connected on a line not exceeding 4.

---

**Telephone Wiring Scheme**

1. GREEN / white
2. BLUE / white
3. ORANGE / white
4. WHITE / orange
5. WHITE / blue
6. WHITE / green

*Note: Main wire colour is shown in capitals*
Digital TV and Telephone Outlets
(Logics Plus and Modular Datacoms)

Installation (TV sockets)

Product performance, systems compatibility
Isolated Outlets are intended for use where safety isolation (rated at 2000V ac) is required to provide protection against faults occurring within any mains powered product used on different parts of the distribution system. They are not suitable for use in systems where DC signals are passed through the socket, (e.g. where masthead/headend equipment is controlled by receiver/decoder equipment).

Diplexer Outlets are used in distribution systems where both TV and FM band signals are combined on a single aerial downlead. The filtering in the diplexer separates the appropriate signals and feeds them through to the relevant output connection port.

Cable Routing and Use of Cable Clamp
Sharp bends in the cable must be avoided during installation. The single TV/FM socket is fitted with a cable clamp that can be fixed on either side of the termination position to facilitate this.

When tightening the screening braid clamps ensure that the cable is firmly gripped and that the inner insulation is not squashed flat beyond a slight oval shape.

Safety Information
TV outlets or modules must not be installed in the same enclosure as equipment rated in excess of 50V, (e.g. mains rated 13A sockets or switches).

Method of installation of TV and FM aerial connection by using MK co-axial socket outlet and only one downlead.

Conventional distribution system for TV and FM signals using a single aerial downlead.

1. The signals from the TV and FM aerials and the satellite dish are combined together using two products. The first combines the TV and FM signals and the second adds the Sky signal to the TV/FM signal and provides a DC control path to power the LNB unit on the satellite dish. (These products are not supplied by MK).

   The single aerial down lead feeds into the triplexer (black lines in wiring diagram).

2. The separated satellite signal is then fed to the decoder. The decoded satellite signal is then fed into the VCR along with the TV signal from the Triplexer. The output signal from the VCR then feeds into the TV and also back to the single outlet and onto the distribution amplifier (black lines in wiring diagram).

3. The single cable back-feed then feeds back to the input of a multi-way distribution amplifier, (typically located in the loft or garage) (red lines in wiring diagram).

4. Each individual output from the distribution amplifier is then fed to the individual rooms in the house to a standard TV (single or diplexer) outlet to which the TV/VCR and/or Hi-Fi can be connected (blue lines in wiring diagram).
Digital TV, Radio and Telephone Outlets

Standards and approvals
All Logic Plus TV Outlets comply with BS 5733 and BS EN 50083 where applicable.
Also IEC 169-2, BS EN 60169-24 and BS 6312 Part 2
Modular products are Euro compatible.

Description
There are two ranges of diplexer and triplexer products, an established range suitable for VHF TV, and a range suitable for digital radio (DAB).

Diplexer modules are for connecting to a single co-axial aerial down lead carrying combined TV and FM signals. The filtering in the diplexer splits out the appropriate signal and feeds it to the relevant output connection.

A DC control path is provided in the TV signal path through the diplexer.

Triplexer modules are for connecting to a single co-axial aerial down lead carrying combined TV, FM and SAT signals. The filtering in the triplexer splits out the appropriate signal and feeds it to the relevant output connection.

A DC control path is provided in the SAT signal path through the triplexer.

The quad outlet contains a triplexer together with a separate satellite output, for use with Sky+, or more complex installations.

Telephone secondary outlets are provided on some products for connection of telephone or for interactive TV applications.

FEATURES
- Non Isolated
- Fully screened
- Earth terminal provided on TV modules
- Selected products with BT secondary outlets for interactive TV applications
- Selected products with supplementary TV outlet for back-feed for further distribution

BOX TYPES

<table>
<thead>
<tr>
<th>FLUSH</th>
<th>FLUSH (FOR EXTRA WIRING SPACE)</th>
<th>SURFACE INSULATED</th>
<th>SURFACE METAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 GANG</td>
<td>861ZIC</td>
<td>866ZIC</td>
<td>K2140WHI</td>
</tr>
<tr>
<td>2 GANG</td>
<td>862ZIC</td>
<td>886ZIC</td>
<td>K2142WHI</td>
</tr>
</tbody>
</table>

Minimum recommended box depth 32mm
Note: Edge mounted modular products require 46mm box
Installation

- When installing the TV co-axial cable ensure that all cable bends are smooth so that the inner insulation is not crushed or squashed, otherwise the TV signal quality may be affected.
- Not suitable for loop-in loop-out installations.
- Use CT100 cable (or equivalent).

TV Co-axial cable stripping details

When installing the TV co-axial cable ensure that all cable bends are smooth so that the inner insulation is not crushed or squashed, otherwise the TV signal quality may be affected.

Earth terminal

Cable clamping plate

Foil EMC screening gasket

Clamping plate fixing screws

Co-axial cable

View with cable clamp removed

Telephone Outlet Connection

Carefully strip 50mm of the telephone cable outer sheath to expose the inner insulated conductors. Using the insertion tool supplied, (MK List no. 400NAT) carefully push each lead into the appropriate IDC terminals according to the wiring colour code stated in the telephone Wiring Scheme diagram.

Pins 1 and 6 are frequently unused, 4 wire cable may be used in these installations.

If an existing installation uses a different wiring colour code system, this should be retained on any new or extended installation.

Additional secondary extension outlets should be wired in parallel with the existing installation via the IDC terminals, (i.e. pin 1 to pin1, pin 2 to pin 2, etc).

In the event that the earth terminal is required to be used, the installer must ensure that a suitable earth conductor is present to connect to the earth terminal. (In the case of 2G products both TV modules should be earthed).

In the event that the earth terminal is required to be used, the installer must ensure that a suitable earth conductor is present to connect to the earth terminal. (In the case of 2G products both TV modules should be earthed).

Telephone Wiring Scheme

<table>
<thead>
<tr>
<th>Pin</th>
<th>Colour</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GREEN / white</td>
</tr>
<tr>
<td>2</td>
<td>BLUE / white</td>
</tr>
<tr>
<td>3</td>
<td>ORANGE / white</td>
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<tr>
<td>4</td>
<td>WHITE / orange</td>
</tr>
<tr>
<td>5</td>
<td>WHITE / blue</td>
</tr>
<tr>
<td>6</td>
<td>WHITE / green</td>
</tr>
</tbody>
</table>

Note: Main wire colour is shown in capitals.

First Socket Outlet Master

1 2 3 4 5 6

Extension Outlet Secondary

1 2 3 4 5 6
Combination Plates 2/4-gang Stacked Combination Plate

4 Gang Plate Description
The 4-gang Combination Plate carries 2x 2-gang 13A DP switched sockets, plus a Quad TV, FM/DAB, Satellite outlet, single TV (IEC Female) and an additional Telephone socket.
Additionally, there is a 4-module Euro area capable of accommodating any additional telephone or media products from the Euro modular range.

2 Gang Plate Description
The 2-gang Combination Plate carries a 2-gang 13A DP switched sockets and an additional 4-module Euro area capable of accommodating any additional telephone or media products from the Euro modular range.

Note
- Pre-configured back boxes available shall be used with these plates. These are 853ZIC, which is 35mm deep, and for greater wiring space 854ZIC, which is 47mm deep
- These back boxes should always be used to ensure alignment of the fixing screws is correct and proper segmentation between mains and low voltage products is maintained
- Mains operated products and extra low voltage modules must not be installed within the same front plate aperture. Refers to BS 7671 IET Wiring regulations for detail
- When removing the fixing screws and front plate from an installation to gain access to low voltage modules, please be aware that there will also be access to the mains supply
Combination Plate

Standards and approvals

K24209 and K24210 comply with BS 5733:2010.

Description

A range of combination plates designed for ease of installation and having all the advantageous design features of the Aspect range.

These combination socket outlets provide interior designers and installers with a stylish and practical wiring device solution. The range also has larger euro module frontplates to house eight and twelve single euro modules without the inclusion of fixed socket outlets. The K24209 combination socket outlet, for example allows for the inclusion of up to eight single Euro modules, which could include datacoms, telecoms, plus TV and Satellite modules.

Alternatively, Euro Power Modules i.e. German, French/Belgium and American socket outlets may be used.

Note:
- Pre-configured back boxes are designed for use with the combination plates.
- For Aspect products, back boxes must be installed 10mm sub flush to the wall surface
- Mains operated products and extra low voltage modules must not be installed within the same frontplate aperture. Refer to BS 7671: 2008 for details
- When removing the fixing screws and frontplate from an installation to gain access to low voltage modules, please be aware that there will also be access to the mains supply

All pre-fitted sockets come complete and are fitted with two earth terminals on a common busbar to provide a double earth facility for use when installations require a high integrity protective connection as specified within BS 7671, IET Wiring Regulations.

TECHNICAL SPECIFICATION

| ELECTRICAL | VOLTAGE RATING | 250V a.c. |
| CURRENT RATING | 13A |
| TERMINAL CAPACITY | Live, neutral & earth |
| | 3 x 2.5mm² |
| | 3 x 4mm² |
| | 2 x 6mm² (stranded) |
| (Dual earth terminals) |

| PHYSICAL | AMBIENT OPERATING TEMPERATURE | -5°C to +40°C |
| IP RATING | IP2XD |
| MAX. INSTALLATION ALTITUDE | 2000 metres |

MOUNTING BOXES

<table>
<thead>
<tr>
<th>Combination Plate List Number</th>
<th>47mm Mounting Box</th>
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<tbody>
<tr>
<td>K24206</td>
<td>870ZIC</td>
</tr>
<tr>
<td>K24207</td>
<td>870ZIC</td>
</tr>
<tr>
<td>K24208</td>
<td>868ZIC</td>
</tr>
<tr>
<td>K24209</td>
<td>858ZIC</td>
</tr>
<tr>
<td>K24210</td>
<td>869ZIC</td>
</tr>
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</table>

Bespoke requirements can be achieved through the MK Design Service to deliver variation in colours, materials, finishes and markings.

Euro apertures can also be converted to grid-switch. For more information please visit www.mkelectric.co.uk or call 01268 563720.
Wiring Devices Technical
– Aspect

Combination Plate

**Features**

- Metal-capped rockers designed to match the chosen front plate finish
- 3 pin operated safety shutter
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Dual earth terminals on pre-fitted sockets are for high integrity earthing
- Backed out and captive terminal screws on pre-fitted sockets
- Pre-configured backboxes to ensure alignment of the fixing screws is correct and proper segregation between circuits is maintained to comply with BS 7671 17th Edition wiring regulations

**Installation**

Aspect socket outlets can only be mounted on a wall. Do not mount or use as a trailing socket or where they may be subject to excessive moisture or dampness.

Install corresponding back box 10mm sub flush to finished wall surface.

Aspect combination plates are supplied with clip on segregator.

**Dimensions (mm)**

<table>
<thead>
<tr>
<th>Combination Plate</th>
<th>K24206 and K24207</th>
<th>K24208</th>
<th>K24209</th>
<th>K24210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (mm)</td>
<td>233.3</td>
<td>320.6</td>
<td>146.4</td>
<td>206.3</td>
</tr>
</tbody>
</table>

K24206 and K24207

K24208

K24209

K24210
Combination Plate

Standards and approvals
All Edge 13A socket outlets comply with BS 1363: Part 2:1995.

Description
A range of combination plates designed for ease of installation and having all the advantageous design features of the Edge range.

These combination socket outlets provide interior designers and installers with a stylish and practical wiring device solution. The range also has larger euro module frontplates to house eight and twelve single euro modules without the inclusion of fixed socket outlets. The K14100 combination socket outlet, for example allows for the inclusion of up to eight single Euro modules, which could include datacoms, telecoms, plus TV and Satellite modules.

Alternatively, Euro Power Modules i.e. German, French/Belgium and American socket outlets may be used.

Note:
- Pre-configured back boxes are designed for use with the combination plates. These back boxes should always be used to ensure alignment of the fixing screws is correct and proper segregation between mains and extra low voltage products is maintained.
- For Edge products, back boxes must be installed flush to the wall surface.
- Mains operated products and extra low voltage modules must not be installed within the same frontplate aperture. Refer to BS 7671: 2008 for details.
- When removing the fixing screws and frontplate from an installation to gain access to low voltage modules, please be aware that there will also be access to the mains supply.

All pre-fitted sockets come complete and are fitted with two earth terminals on a common busbar to provide a double earth facility for use when installations require a high integrity protective connection as specified within BS 7671, IET Wiring Regulations.

Bespoke requirements can be achieved through the MK Design Service to deliver variation in colours, materials, finishes and markings.

Euro apertures can also be converted to grid-switch. For more information please visit www.mkelectric.co.uk or call 01268 563720.

Technological Hotline +44 (0)1268 563720

Wiring Devices Technical – Edge™
Wiring Devices Technical
– Edge™

Combination Plate

Features

- Metal-capped rockers designed to match the chosen front plate finish
- 3 pin operated safety shutter
- Printed terminal markings on grey rear mouldings for clearer identification
- Top access, angled terminals make wiring easier and quicker
- 3mm minimum switch contact gap
- Double pole switching
- Additional electrical safety from neutral ‘make first’, ‘break last’ feature
- Switch contacts with silver contacts on both surfaces for good continuity
- Dual earth terminals on pre-fitted sockets are for high integrity earthing
- Backed out and captive terminal screws on pre-fitted sockets
- Pre-configured backboxes to ensure alignment of the fixing screws is correct and proper segregation between circuits is maintained to comply with BS 7671 17th Edition wiring regulations

Installation

Edge socket outlets can be mounted on either a wall or suitable bench mounted trunking. Do not mount or use as a trailing socket or where they may be subject to excessive moisture or dampness.

Dimensions (mm)

<table>
<thead>
<tr>
<th>K14216 and K14217</th>
<th>K14200</th>
<th>K14209</th>
<th>K14210</th>
<th>K14100</th>
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</thead>
<tbody>
<tr>
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<td>442.8</td>
<td>146.4</td>
<td>206.3</td>
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<tr>
<td>86</td>
<td>86</td>
<td>173.3</td>
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<tr>
<td></td>
<td></td>
<td>86</td>
<td>86</td>
<td>86</td>
</tr>
</tbody>
</table>
Key Operated Switchsocket Outlet

Standards and approvals

All Edge 13A socket outlets comply with BS 1363: Part 2:1995.

TECHNICAL SPECIFICATION

<table>
<thead>
<tr>
<th>ELECTRICAL</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>VOLTAGE RATING</td>
<td>250V a.c.</td>
</tr>
<tr>
<td>CURRENT RATING</td>
<td>13A</td>
</tr>
<tr>
<td>TERMINAL CAPACITY</td>
<td>Live, neutral &amp; earth</td>
</tr>
<tr>
<td></td>
<td>3 x 2.5mm²</td>
</tr>
<tr>
<td></td>
<td>2 x 4mm²</td>
</tr>
<tr>
<td></td>
<td>1 x 6mm² (stranded)</td>
</tr>
<tr>
<td></td>
<td>(Dual earth terminals)</td>
</tr>
<tr>
<td>PHYSICAL</td>
<td></td>
</tr>
<tr>
<td>AMBIENT OPERATING TEMPERATURE</td>
<td>–5°C to +40°C</td>
</tr>
<tr>
<td>IP RATING</td>
<td>IP2XD</td>
</tr>
<tr>
<td>MAX. INSTALLATION ALTITUDE</td>
<td>2000 metres</td>
</tr>
</tbody>
</table>

Description

The Key Operated 13 amp socket is designed for ease of installation and has all the design features of the Edge range. The built-in lock ensures that power cannot be provided without key operation making it ideal for communal areas such as hotel lobbies. The key can be removed from the lock in the on or off position leaving the socket with or without power supply.

The product can be quickly installed as replacement for existing 2 gang 13 amp sockets or in a new installation (assuming suitable 47mm deep mounting box is in position).

Installation

Edge socket outlets can be wall or bench mounted. Do not mount or use as a trailing socket or where they may be subject to excessive moisture or dampness.

Features

- Built in lock ensures power cannot be provided without key operation
- Double pole switching
- Printed terminal markings on grey rear mouldings for clearer identification
- Only one size of screwdriver required for installation
- Dual earth terminals for high integrity earthing

Note: The lock fitted to each socket is universal, i.e. a common key profile. However, the keys are different to those used on MK Key Operated Fire Alarm Isolator Switches, for added security.
Wiring Devices Technical
– Edge™

Edge™ Technical: General information

Mounting Boxes

Due to the slimline design MK Edge accessories require deeper back boxes than standard. They are designed to fit into folded metal boxes that comply with BS 4662. To ensure products can be correctly installed, the box must always be installed flush or sub flush to the surface to a maximum depth of 6mm.

The recommended depth of boxes for the different types of wiring accessories are as follows:

<table>
<thead>
<tr>
<th>Product</th>
<th>Box Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Socket Outlets</td>
<td>35mm</td>
</tr>
<tr>
<td>Lockable Socket</td>
<td>47mm</td>
</tr>
<tr>
<td>Lockable Switch</td>
<td>47mm</td>
</tr>
<tr>
<td>German style 2 pole + E Socket Outlet mounted in Euro Frame</td>
<td>47mm</td>
</tr>
<tr>
<td>Connection Units</td>
<td>47mm</td>
</tr>
<tr>
<td>Plateswitches</td>
<td>35mm</td>
</tr>
<tr>
<td>Grid System Switches*</td>
<td>35mm</td>
</tr>
<tr>
<td>Dimmer Switches</td>
<td>35mm</td>
</tr>
<tr>
<td>Telephone, Television and Data Outlets</td>
<td>35mm</td>
</tr>
<tr>
<td>Cooker Control and 50A Switches</td>
<td>47mm</td>
</tr>
<tr>
<td>Shaver Supply Units</td>
<td>47mm</td>
</tr>
<tr>
<td>32A Triple Pole and Neutral Switch</td>
<td>List no. 5268ALM</td>
</tr>
</tbody>
</table>

*Note: If Grid system accessories are to be fitted and the installation requires the attachment of conduit via nuts inside the mounting box, then it is recommended that a box depth of 47mm is used.

Fixing Screws

The surface head of Edge fixing screws is treated and compliment the finish of the frontplate. To prevent damage to the fixing screw extreme care is required. It is recommended that a screwdriver with a maximum blade of 3.5mm is used.
Aspect Installation

The MK ‘Aspect’ range of products consists of the main product complete with its support frame and clipping medium, plus a separate front plate. The product is mounted to the wall, after wiring, and the front plate clipped onto the frame.

1. The frontplate is supplied loose to aid installation.
2. Make sure not to crush or deform the spring steel clips situated along one edge of the product support frame.
3. A gasket is also supplied with each product, which may prove useful on uneven walls. See note 5 below.
4. Using the gasket with all switches and the German socket, will ensure full compliance with the appropriate standards.
5. Both standards set out to guarantee full engagement of the front plate on uneven surfaces, even when there is a mismatch of as much as 1mm between the distance the main body of the product is from the wall and that of the front plate.
6. Where no gasket is used, if thick wallpapers are cut such that they fit around the support frame and therefore remain under the edge of the front plate, full plate engagement with the clips may be restricted.

Note: When installing Aspect do not over tighten screws, so as to prevent damage or distortion to the product or support frame.

Frontplate Removal

1. Turn off the power supply.
2. Carefully slide a screwdriver between the ramp on the main body of the product and the notch in the lower right hand edge of the plate.
3. On uneven walls, make sure the screwdriver does not go between the spring steel ramp and the wall, or damage to the wall and/or product could result.
4. Carefully slide the blade upwards and then gently lift the handle away from the wall, which will lever the plate away from the first clip. See Fig.4.
5. With the first clip released, support the plate with one hand and continue to move the blade to the left under.

Data products in euromounting frames

Products operating at extra low voltage levels (<50v) must not be mounted in the same Euro enclosures as equipment rated in excess of 50v.

Cleaning Frontplates

In order to protect the quality surface finish of the front plate, periodic cleaning should only consist of polishing with a dry lint free soft cloth.
Decorative Technical: General information

**Earthing: All Metal Frontplate Products**

To comply with the latest edition of the BS 7671 IET regulations: the metal front plate must be earthed. All earth terminals provided must be connected to the protective earth conductor.

**Telephone Secondary and Data Sockets**

To provide customers with a high level of flexibility the voice and data decorative wiring devices are available in modular formats.

For example to produce a Telephone Secondary Socket the following items are required:

<table>
<thead>
<tr>
<th>RANGE</th>
<th>PRODUCTS REQUIRED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany Plus</td>
<td>K181 K5821</td>
<td>K5821</td>
</tr>
<tr>
<td>Aspect</td>
<td>K24181 K5821</td>
<td>K5821</td>
</tr>
<tr>
<td>Edge</td>
<td>K14181 K5821</td>
<td>K5821</td>
</tr>
</tbody>
</table>

Or

<table>
<thead>
<tr>
<th>RANGE</th>
<th>PRODUCTS REQUIRED</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Albany Plus</td>
<td>K182 K5821 2 x K186</td>
<td></td>
</tr>
<tr>
<td>Aspect</td>
<td>K24182 K5821 2 x K186</td>
<td></td>
</tr>
<tr>
<td>Edge</td>
<td>K14182 K5821 2 x K186</td>
<td></td>
</tr>
</tbody>
</table>