**A. SAFETY INSTRUCTIONS**

- This product must be isolated according to National Wiring Regulations and in accordance with the current IDE Wiring Regulations (IEE 7671). If necessary, connect your local building regulations.
- To prevent electrocution, do not work on any appliance live. Turn off the mains supply before commencing work.
- If this product has a metal front plate it must be earthed.
- To prevent the circuit does not exceed rated load specified for the product.
- Do not use this equipment if the mains supply voltage is different from that quoted on the rating plate.
- For single phase electric dimmer with a plate, as well as all other dimmers with fixed plates of at least 10mm deep, the minimum box depth required is 25mm.
- Double dimmer module with a plate, the minimum box depth required is 35mm.
- If this product is mounted with a plate that have a front plate less than 25mm deep require a minimum box depth of 35mm.
- For the Grid Plus dimmer, the minimum up-to-depth required is 40mm.
- Dimmer switches must not be used in bathrooms, washrooms or any location subject to splashes of water condensation or dampness.
- Waste electrical products should not be disposed of with the household waste. Please recycle where facilities exist. Check with your Local Authority or retailer for recycling advice.
- The mains supply to this dimmer must be protected by a type B or C MCB with rating not higher than 16A.
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Please leave this leaflet with the end user for future reference.

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**B. GENERAL INFORMATION**

- Dimmers are available with one or two modules mounted on the same front plate. Depending on power output, they are also available in one or two gang front plates with single or double dimmers.
- The control knob(s) has a push on/off actuation. Rotation of the knob(s) will vary the light setting.
- The terms one-way and two-way switching refer to the mode of switching required in installation.
- One-way switching is used in installations where a circuit is controlled by just one switch. A two-way switching will be used in installations where a circuit is controlled by two switches.
- Turning/pushing the dimmer knob before the end of automatic brightening will end brightening to about 30% level.
- 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.
- If any of the dimmer's are overloaded, the output to the lamp(s) will automatically be reduced to the minimum set level in accordance with the Intelligent Power Monitoring System (IPMS) used to provide protection for the dimmer. Overload protection is achieved by reducing the power level in the load(s) in a similar manner to when dimming off the power to the load(s), depending on the severity of the overload, as follow: (Note; The first figure in each case are the approximate load on the dimmer as a percentage of its maximum Power/Load rating).

<table>
<thead>
<tr>
<th>Overload Protection</th>
<th>Power to the Dimmer</th>
<th>Power to the Load</th>
</tr>
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<tbody>
<tr>
<td>&lt;25</td>
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<td>Load(s) will be switched off after a short delay.</td>
</tr>
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<td>&gt;25 to 125</td>
<td>Dimmer will exit programmed mode without saving the new setting.</td>
<td></td>
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<td>&gt;125 to 200</td>
<td>The output to the load(s) will be switched off after a short delay.</td>
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<td>&gt;200</td>
<td>The output to the load(s) will be reduced to the minimum set level of the dimmer within 20 seconds after switch on.</td>
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</table>

**D. MINIMUM BRIGHTNESS ADJUSTMENT**

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 in installations where a circuit is controlled by just one switch.

1. Access Programming Mode
   - Turn the dimmer knob to its minimum position.
   - Press and hold the Dimmer Switch for about 3 seconds.
   - The light setting will be adjusted to the lowest level.

2. Setting the Maximum and Minimum Level
   - Press and hold the Dimmer Switch for about 3 seconds.
   - The light setting will be adjusted to the highest level.

3. Automatic Brightening
   - The lamp will automatically brighten to a pre-set minimum and maximum level.

**E. SPECIFICATION**

<table>
<thead>
<tr>
<th>Nominal mains supply voltage</th>
<th>220 to 240V (~)</th>
<th>50 to 60Hz</th>
<th>230V to 240V (~)</th>
<th>50 to 60Hz</th>
</tr>
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<tbody>
<tr>
<td>Max. acceptable mains voltage</td>
<td>266V to 264V (~)</td>
<td>50 to 60Hz</td>
<td>230V to 240V (~)</td>
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<tr>
<td>Ambient temperature range</td>
<td>0°C to +40°C</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Rated dimmer lamp (W or VA)</td>
<td>Mains Tungsten GLS or Mains Electronic or LED Transformers</td>
<td></td>
<td>Mains Rated Halogen lamps with GU10 BASE</td>
<td></td>
</tr>
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<td>Wound Wound Light Transformers (laminated or braided) of good quality.</td>
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**Load Types and Loadings**

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**NOTE:** For initial operation, it is very important that the total load MUST NOT be less than the minimum Power/Load rating AND MUST NOT be greater than the maximum Power/Load rating marked on the dimmer for each load type. The rating is shown in Watts (W) & Volt-Ampere (VA) on the back of each dimmer.

**Soft Start:** When the dimmer is switched on, the brightness of the lights will be gradually increased over a period of 1 to 3 seconds until a pre-selected level (set by the control knob) is attained.

This feature alone will help to greatly extend the life expectancy of fluorescent lamps, by avoiding the initial power surge.

**Overload Protection:** If any of the dimmers are overloaded, the output to the lamp(s) will automatically be reduced to the minimum set level in accordance with the Intelligent Power Monitoring System (IPMS) used to provide protection for the dimmer. Overload protection is achieved by reducing the power level in the load(s) in a manner similar to when dimming off the power to the load(s), depending on the severity of the overload, as follow: (Note; The first figure in each case are the approximate load on the dimmer as a percentage of its maximum Power/Load rating).

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Up to 125: The load will receive the maximum rated power of the dimmer continuously.

>125 to 200: The output power to the load(s) will be reduced to the minimum set level of the dimmer within 20 seconds after switch on.

>200: The output to the load(s) will be switched off after a short delay.

**NOTE:** For initial operation, it is very important that the total load MUST NOT be less than the minimum Power/Load rating AND MUST NOT be greater than the maximum Power/Load rating marked on the dimmer for each load type. The rating is shown in Watts (W) & Volt-Ampere (VA) on the back of each dimmer.

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**Soft Start:** When the dimmer is switched on, the brightness of the lights will be gradually increased over a period of 1 to 3 seconds until a pre-selected level (set by the control knob) is attained.
F. INSTALLATION

INSTALLING THE DIMMER IN A ONE-WAY SITUATION

1. Make sure the previous sections of these instructions are fully understood and complied with prior to installing the dimmer.
2. Please note the colour codes used in the UK prior to April 2004 as follows:
   - Live = RED
   - Neutral = BLACK
   - Earth = GREEN/YELLOW
3. The colour codes indicated in the following text will be that used prior to April 2004. The second colour, shown in brackets, is the colour used after April 2004.
4. Please note; the colour codes used in the UK prior to April 2004 are as follows: -
   - Live = RED
   - Neutral = BLUE
   - Earth = GREEN/YELLOW
5. The first colour indicated in the following text will be used in the UK after April 2004.
6. When an earth lead is installed, ensure it is connected to the terminal in the mounting box. A length of green/yellow abuse must be fed over all earth conductors.
8. To ensure good thermal management and therefore reliability, please be sure to comply with the following:
   - Do not exceed the maximum Load rating of any dimmer, as printed on the back of the dimmer.
   - Screw the Grid mounting frame to the back box. Do not tighten the screws at this stage, use the provided fixing screws.
   - Prior to installation, remove the rotary control knob by gently pulling it away from the body of the dimmer.
   - Strip back the outer cable sheath from the inner cables to the appropriate length.
   - Carefully strip the inner cable insulation to expose them of the conductor.
   - All live conductors should have red (brown) sleeving. This is achieved by fitting a short length of sleeving over the end of any lead that has black insulation.
   - Use a 3mm blade screwdriver for the terminals.
   - Ensure there is a control switch, as shown in the typical diagram - Figure 1.
   - If an earth terminal is not present on the dimmer or mounting box and earth protection is not required, then any earth wires must be fully insulated by an appropriate means.
   - Using the screws provided, mount the Logic Plus dimmer onto the back box, making sure the screws are not over tightened to prevent damage or distortion to the front plate. Adjust so the front plate is square on the wall.

INSTALLING THE DIMMER IN A TWO-WAY SITUATION

1. A two-way installation is when a dimmer is used in conjunction with a two-way switch, to control one light from more than one position.
2. Please note; the colour codes used in the UK prior to April 2004 are as follows: -
   - Live = RED
   - Neutral = BLUE
   - Earth = GREEN/YELLOW
3. The colour codes indicated in the following text will be used in the UK after April 2004.
4. Please note; the colour codes used in the UK prior to April 2004 are as follows: -
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   - Use a 3mm blade screwdriver for the terminals.
   - Ensure there is a control switch, as shown in the typical diagram - Figure 1.
   - If an earth terminal is not present on the dimmer or mounting box and earth protection is not required, then any earth wires must be fully insulated by an appropriate means.
   - Using the screws provided, mount the Logic Plus dimmer onto the back box, making sure the screws are not over tightened to prevent damage or distortion to the front plate. Adjust so the front plate is square on the wall.

G. STANDARDS COMPLIANCE

The dimmers in this range comply with the following EC directives:
- Low Voltage Directive (73/23/EEC)
- They also comply with the requirements of the following standards: IEC 60669-1 and BS EN 60904-1-1

H. GUARANTEE

The Company undertakes to replace or repair, at its discretion this product should it become defective within a period of 10 years after delivery, solely as a result of faulty materials and/or workmanship, and such products will be maintained in accordance with the Company's instructions which have not been used improperly, and off any form of testing been made to rectify, dismantle or alter the product in any way, the guarantees will be invalidated.

This Guarantee states the Company's entire liability. It does not extend to cover consequential loss or damage or installation costs arising from the defective product. This Guarantee does not restrict or infringe the normal statutory or other rights of the consumer.

MK Electric Limited wishes to make it clear that it will take all necessary legal action in any part of the world against any party found to be manufacturing, distributing, selling or otherwise dealing with any article which infringes the company’s design rights, copyright or patents in its products, or any other rights of the company therein.