



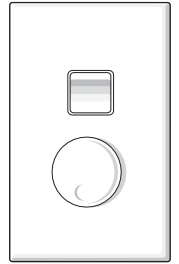
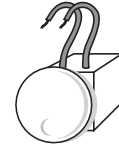
ROTARY DIMMER CONTROL



PDL

Cat 654 and 654M Universal Dimmer

450W



Installation and consumer instructions for Cat 654M Dimmer Control Module and Cat 654 Dimmer Control Switch.

OPERATION

Designed for true universal load compatibility, the 654 Universal Dimmer is a separately switched, compact, modular dimming mechanism rated at 450W (1.8A). The unit utilises powerful and sophisticated dimming technology to provide full control of almost any type of load, whether it be incandescent lighting, 240V halogen or dichroic lamps, iron-core or electronic low voltage lighting transformers as used in down light applications.

This universal dimmer provides smooth dimming control from full brightness down to soft candle glow. The new electronic design of the PDL 654 eliminates dimmer buzzing and humming even at minimum light settings, as well as incorporating the use of a soft start ramp on feature. The Universal Dimmer also incorporates over-current and over-temperature protection devices and is capable of withstanding persistent short circuit conditions.

SPECIFICATIONS at 25°C





Parameter	Value	
Nominal Operating Voltage	220 - 240V a.c.	
Nominal Operating Frequency	50Hz	
Maximum Load	450W (1.8A) Derate for multi-gang applications	
Minimum Load	20W (0.1A)	
Dimming Technique	Leading Edge / Trailing Edge Phase Control (dynamically auto-selected)	
Compatible Loads		Incandescent light Halogen 240V lamps
		Low Voltage lighting with electronic transformers
		Low voltage lighting with iron-core transformers
Incompatible Loads		Fluorescent Lighting or any other load with a ballast
Operating Temperature Range	0 to 40°C	
Operating Humidity Range	10 to 90% R.H.	
Shipping Weight	25g Dimmer Mechanism Only	
EMC Emission Compliance	AS/NZS CISPR 15:2002	
	Complies with AS/NZS3100; IEC60669.2.1; and AS/NZS CISPR15:2002	
	No User Serviceable Parts Inside	

Table 1

Load Type:		Max Load	Comments
Incandescent globes	✓	450W	
240Volt halogen lighting.	✓	450W	
Resistive loads	✓	450W	
Low voltage halogen lighting supplied by electronic transformers.	✓	450W	Check transformer specifications to ensure dimming is possible with brand selected
Low voltage halogen lighting supplied by wire wound transformers.	✓	450W	
Fluorescent Load	X		Not Suitable for any product using ballast

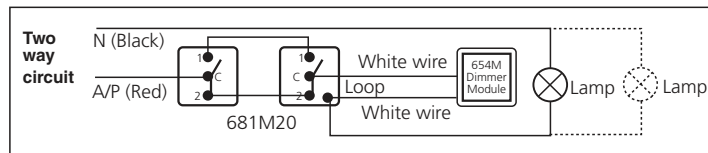
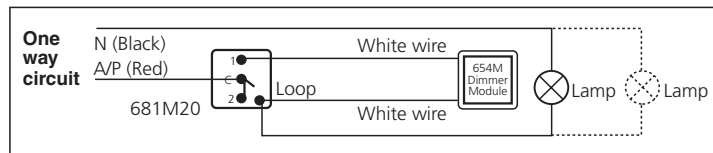
Plate mounting

Due to the additional heat dissipation created by multiple units fitted to one plate, the total loading of each dimmer must be de-rated as per Table 2. A maximum of 3 dimmer modules (654M) can be fitted to one PDL 600 series plate.

Table 2.

No of Dimmers	Max Load per dimmer
1	450W
2	275W
3	225W

WIRING/INSTALLATION INSTRUCTIONS



Mounting: Flush mounting use PDL cat.144 wiring box, cat 145V, 148V or 146V mounting bracket. (one dimmer per mounting block). Mounting centres: 84mm

Note:

- 1 Prior to installation ensure the maximum rated load and load type are not likely to be exceeded.
- 2 The dimmer operates in series between phase and load. **Do not** connect supply P&N across dimmer as this will result in damage and void the product warranty.
- 3 Not suitable for fluorescent lamp loads or appliances with ballast.

Wiring Detail:

- 1 Disconnect power to the relevant circuit at the main switchboard
- 2 Remove existing switch from wall (if applicable)
- 3 Connect the dimmer in accordance with the wiring diagrams shown over the page
- 4 Fit switch plate to wall
- 5 Reconnect power
- 6 Turn switch on and check dimmer operation by turning control knob through full range

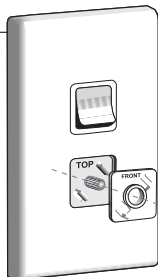
INSTALLATION ONTO PLATE

When installing the dimmer into the aperture of the switch plate, ensure that the text on both the dimmer case and retainer plate "TOP" and "FRONT" are facing upwards, before clipping into position (see figure1).

Note:

After installation please ensure a copy of the instructions remain at the installation site.

Figure 1



SETTING MINIMUM BRIGHTNESS

It is important to set the minimum brightness before fitting the dimmer knob. We recommend for safety reasons that the minimum brightness is set at a visible level. When the dimmer unit is wired up as per the installation instructions and mounted into the surface plate, switch on the power.

- 1 Turn the splined shaft carefully by hand until the desired minimum brightness is obtained.
- 2 The dimmer knob should then be fitted, ensuring that the dimple is facing downwards and lined up with the vertical (see figure 2).

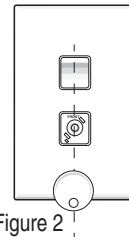


Figure 2

SOFT START FEATURE

The Universal Dimmer incorporates a soft start feature providing a noticeably smooth lamp illumination at turn on. This feature also minimises lamp filament start up stress, which may increase lamp life.

THERMAL OVERLOAD PROTECTION

The PDL 654 Universal Dimmer incorporates two levels of thermal overload protection

Thermal Overload Compensation

Automatically reduces lamp brightness should the dimmer be inadvertently overloaded. Primary defence against overload or short circuit. Resets automatically once overload conditions are corrected.

Thermal Cutout

The unit contains a non-resettable thermal fuse device, designed to blow in case of catastrophic circuit failure. This is a secondary protection measure, intended to operate as a backup in case of persistent or prolonged overload conditions. If the thermal cut-out fuse blows, then the dimmer will be rendered permanently inoperable and must be replaced.

Any significant overload should be avoided in order to prevent damage to the load, fixed wiring of the installation or other hardware connected to the affected circuit.

SHORT CIRCUIT PROTECTION

The PDL 654 Universal Dimmer is capable of withstanding a dead short circuit condition. This feature is unique in a mechanism format dimmer, making it the most rugged and robust dimmer available in the market today. The short circuit protection feature ensures the protection of the dimmer in case of wiring fault, or catastrophic failure of the load.

TROUBLESHOOTING GUIDE

Symptom	Possible Cause	Solution
Light dims down by itself	Dimmer is overloaded, short circuit at load	
Dimmer hot	Incorrect load type, most possibly excessive load.	Check wiring and load. Refer to specifications table 1.
Lights go off	a Blown light globes b Lighting Circuit protection operated	Replace light globes. Check fuse or circuit breaker and lighting circuit for overloading.
Lights go dim	Load exceeds 450W	Reduce load to 450W or less
Dimmer not operating	Incorrect wiring	Check circuit and correct wiring.
Full dimming range not available	Incorrect positioning of knob	Remove knob and re-check instructions
Flickering or interference on circuit or surrounding circuits	Unit subjected to over voltage spikes	Should be checked if problems persists

IMPORTANT Ensure all work is undertaken by a Registered Electrical trades person only.

WARRANTY

This product is guaranteed for a period of twelve months from the date of purchase against defects in workmanship and materials. Defects will be rectified by replacement of the product purchased except where, at our discretion, minor adjustments can be undertaken.

The guarantee become invalid if in our opinion the product has been misused, abused, incorrectly installed, tampered with, connected to a power supply not corresponding with specifications, or subject to power surges. The guarantee does not include any labour or other associated expenses that may be involved in removal or installation of the product.

To obtain a replacement under this guarantee, return the goods (prepaid) to the place of purchase or direct to the Australian/NZ Distributor. Proof of purchase must be supplied.

This product does not contain any user serviceable parts. Spare parts and repair facilities are not available.

This guarantee is in addition to and does not affect your rights under applicable law except where that law expressly provides otherwise. The consumer Guarantees Act 1993 (NZ) will not apply if this product is purchased for the purpose of business.



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