

### Lamp Buzz With Solid State Incandescent/Halogen Dimmers

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A solid-state dimmer is an electronic switch that rapidly turns the current on and off 120 times per second to achieve the dimming effect. This rapid switching can cause incandescent/halogen lamp filaments to vibrate, resulting in a buzzing noise. Lamp buzz is generally noisiest at mid-range (50%) dimming level.

Some lamps are noisier than others when dimmed, depending on the physical characteristics of the lamp. Lamps of higher wattage (100 W and above) tend to produce a louder buzz. Therefore, use a lower wattage lamp whenever possible to reduce lamp buzz.

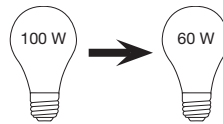
Other factors that affect perceived noise level of lamp buzz are:

- Pitch of lamp buzz
- Type of light fixture
- Ambient noise level of room
- Surrounding surfaces/finishes
- Relative proximity of light fixture to ears
- Individual sensitivity to noise

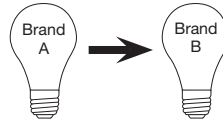
### Recommendations

The following suggestions may help to reduce audible lamp buzz.

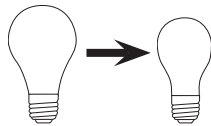
- Use lower wattage lamps (100 W or less) whenever possible



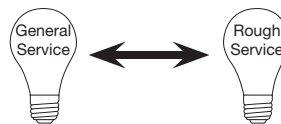
- Selecting another brand of lamp can sometimes reduce lamp buzz. Name brand bulbs may have sturdier construction than generic bulbs.



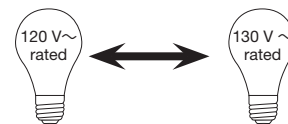
- Use a lamp of a different size.



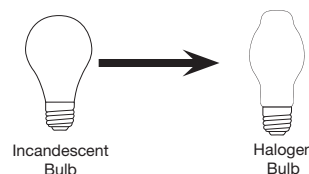
- If you are currently using a general service bulb, try using a rough service bulb. If you are currently using a rough service bulb, try using a general service bulb.



- If you are currently using a 120 V~ bulb try using a 130 V~ bulb. If you are currently using a 130 V~ bulb try using a 120 V~ bulb.



- A newer halogen lamp can reduce wattage by 30% over a traditional incandescent lamp. This will reduce electric current and should help with acoustic noise.



## Lamp Debuzzing Coils (LDCs)<sup>1</sup>

If all other solutions are ineffective or impractical, an LDC can be used to reduce lamp buzz. When an LDC is wired in series with the dimmer, it slows down the inrush of current during the rapid switching cycle of the dimmer. As the current inrush is slowed down, the lamp filament vibration and lamp buzz are reduced.

Lutron has four LDC models available to help reduce lamp buzz. The type of LDC required depends on the total wattage of the lighting load. Listed below are the model numbers and their respective capacities.

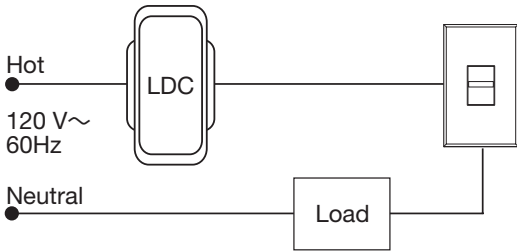
Model	Ratings	
	120 V~ 60 Hz	277 V~ 60 Hz
CPW0035 (formerly LDC-17-TCP)	100—200 W	100—450 W
CPW0036 (formerly LDC-33-TCP)	200—400 W	450—900 W
CPW0037 (formerly LDC-67-TCP)	400—800 W	900—1500 W
CPW1346-OCP (replaces LDC-10-TCP)	600—1200 W	N/A

**Note:** For loads over 1200 W, call Lutron® Technical Support at 1.800.523.9466

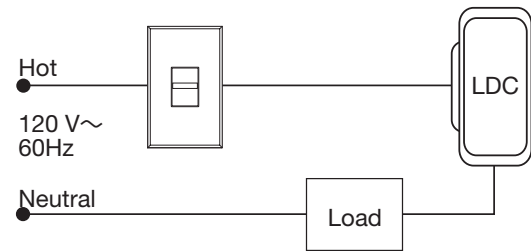
## LDC Installation

LDCs may be wired in series with the dimmer on the line side or load side. Each dimmer requires its own LDC. During normal operation, LDCs may make an audible buzz and, therefore, should be mounted in an area where the noise will not be objectionable (e.g., an electrical closet, a basement, or above a drop ceiling). LDCs are designed to easily mount onto a standard 4 in x 4 in (102 mm x 102 mm) junction box.

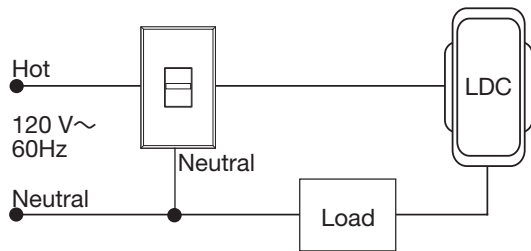
### Line Side Installation



### Load Side Installation



### Load Side Installation with Neutral-based Dimmer<sup>2</sup>



<sup>1</sup> LDCs are not to be used with reverse-phase dimmers

<sup>2</sup> Required for neutral-based dimmers (e.g., NLV-600, GRAFIK Eye® control unit, VT-1000MN, MRF2-6ND, or RRD-10ND)

For product specifications see Lutron P/N 369834.

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