

SORAA

Electrical compatibility – BR30 120V - North America

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General compatibility guidelines

Scope

This document provides the basic guidelines regards electrical compatibility of SORAA 120V BR30 and dimming compatibility tables.

Dimmer Compatibility

SORAA 120V BR30 lamps are made to work with trailing edge (reverse phase) and leading edge (forward phase) phase cut dimmers. However, the use of trailing edge dimmers is preferred and will show in general better behavior .

Dimmer compatibility tables are on pages **3-5**.

The percentages for each dimmer combination are the percentage of light output that we were able to dim down to without seeing any problems like flicker/shimmer. Anything 30% or above is considered not compatible and you will see a "NC" in a grey cell.

There might be a minimum wattage load on the dimmer. If this minimum load is not met, there might be compatibility issues.

Maximum number of lamps on a dimmer

The following need to be considered when determining the amount of lamps on a dimmer.

1. SORAA tests have been carried out with 1 lamp unless stated otherwise.
2. There is a repetitive, very brief current spike the LED will see twice per cycle. This current spike has to be provided by the dimmer, and will affect the recommended fixture load on each dimmer.
3. Ultimately the dimmer manufacturer is the only one with authority to rate their product, but SORAA can give an Engineering estimate.
4. We recommend to use a 5.0 de-rating factor for incandescent/halogen dimmers loaded with our 120V lamps.

For example for a 500W dimmer it would mean $500/5 = 100W$ of LED, so an estimated maximum of 8 lamps at 11.5W.

Disclaimer

Compatibility tests are conducted by Soraa only as guidance for the user.

All tests are conducted under bench conditions; results may differ from test results depending on conditions at the application site.

Results may vary due to variability in component choices and manufacturing processes by dimmer manufacturers.

For more information on the dimmers please find specs on the manufacturer's website.

SORAA BR30 lamps 120V - DIMMER COMPATIBILITY LIST - North America

| Manufacturer | Model | MD # | Dimmer mode | Lamps tested | Dim (%) | Comments |
|-----------------|---------------------|-------------|---------------|--------------|--------------------|--|
| Crestron | | DIN-1DIMU4 | Reverse Phase | 1-3 | 4% | |
| ETC | Sensor 3 | D20 | Forward Phase | 6 | 7% | Tested by dimmer manufacturer (*) |
| ETC | Sensor 3 | ELV10-S | Reverse Phase | 6 | 30% | Tested by dimmer manufacturer (*) |
| ETC | DRd | D20 | Forward Phase | 6 | 10% | Tested by dimmer manufacturer (*) |
| ETC | DRd | ELV10 | Reverse Phase | 6 | 5% | Tested by dimmer manufacturer (*) |
| ETC | Legacy Unison | D20 | Forward Phase | 6 | 46% | Tested by dimmer manufacturer (*) |
| ETC | Legacy Unison | ELV10 | Forward Phase | 6 | 46% | Tested by dimmer manufacturer (*) |
| ETC | ERP | 300W dimmer | Reverse Phase | 6 | 0.10% | Tested by dimmer manufacturer (*) |
| ETC | Echo | ELVD | Reverse Phase | 6 | 26% | Tested by dimmer manufacturer (*) |
| Leviton | SureSlide | 6633 | | 1-3 | 13% | |
| Leviton | | A2000 | Forward Phase | 3 | 1.9% (min 3 lamps) | Min load 40W. Lamps might hum. Tested by dimmer manufacturer (*) |
| Leviton | | D4206 | Forward Phase | 2 | 1.7% (min 2 lamps) | Min load 15W. Tested by dimmer manufacturer (*) |
| Leviton | Homekit Wall dimmer | DH6HD-1BZ | Forward Phase | 1 | 5% | Tested by dimmer manufacturer (*) |
| Leviton | Lumina Wall Dimmer | DL6HD-1BZ | Forward Phase | 1 | 0.1% | Tested by dimmer manufacturer (*) |
| Leviton | WiFi Wall Dimmer | DW6HD-1BZ | Forward Phase | 1 | 0.2% | Tested by dimmer manufacturer (*) |
| Leviton | Zwave Wall Dimmer | DZ6HD-1BZ | Forward Phase | 1 | 0.2% | Tested by dimmer manufacturer (*) |

SORAA BR30 lamps 120V - DIMMER COMPATIBILITY LIST - North America

| Manufacturer | Model | MD # | Dimmer mode | Lamps tested | Dim (%) | Comments |
|--------------|----------------|-------------------|---------------|----------------------|--------------------|---|
| Leviton | iSERIES | i48E | Forward Phase | 3 + 60W incandescent | 8% | Min load 100W. Tested by dimmer manufacturer (*) |
| Leviton | OMNI | 110A00-2 | Forward Phase | 1 | 0.4% | Tested by dimmer manufacturer (*) |
| Leviton | OMNI | 110A00-2 | Reverse Phase | 1 | 20% | Tested by dimmer manufacturer (*) |
| Leviton | Power Extender | PE100-10W | Forward Phase | 2 | 1.9% (min 2 lamps) | Min load 15W. Barely audible hum. Tested by dimmer manufacturer (*) |
| Leviton | Power Extender | PE400-10W | Reverse Phase | 2 | 9.9% (min 2 lamps) | Min load 15W. Tested by dimmer manufacturer (*) |
| Leviton | RENOIR II | AWSMT-EBW | Reverse Phase | 2+60W incandescent | 0% | Min load 64W. Tested by dimmer manufacturer (*) |
| Leviton | RENOIR II | AWSMT-MBW | Forward Phase | 2+60W incandescent | 15% | Min load 64W. Barely audible hum. Tested by dimmer manufacturer (*) |
| Lutron | Caseta | PD-5NE-XX | Reverse Phase | 1-3 | 19% | |
| Lutron | Diva | DVELV-300P | Reverse Phase | 1-3 | 7% | |
| Lutron | Diva | DVLV-600P | Forward Phase | 1-3 | 19% | |
| Lutron | Diva | DVCL-153P | Forward Phase | 1-3 | NC | (*) |
| Lutron | Grafik Eye QS | QSGR | Forward Phase | 1-3 | 27% | (*) |
| Lutron | Grafik Eye QS | QSGR + PHP module | Reverse Phase | 1-3 | 2% | |
| Lutron | Maestro | MACL-153M | Forward Phase | 1-3 | 21% | (*) |
| Lutron | Radio RA2 | RRD-6NA | Reverse Phase | 1-3 | 19% | (*) |
| Lutron | Skylark | SLV-600P | Forward Phase | 1-3 | 16% | |
| Lutron | Skylark | SELV-300P | Reverse Phase | 1-3 | 8% | |
| Lutron | Spacer | SPSELV-600 | Reverse Phase | 1 | 12% | |
| Marlin | Stellar | RMS 4 | Reverse Phase | 1 | 4% | |

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Notes:

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Results may vary due to variability in component choices and manufacturing processes by the dimmer manufacturer

Regards compatibility tests conducted by dimmer manufacturer, please contact the manufacturer for more details and/or reports.

(*) Test results with this dimmer added to the compatibility list as of Revision 18Q3.

| | |
|------------|---|
| --% | Dims to < 20% (of the measured light output) |
| --% | Dims to 20-30% (of the measured light output) |
| NC | Not compatible (or dims to >30%) |
| Blank cell | Not tested |