



Electrical compatibility – Vivid MR16-GU10 9W 120V lamps - North America

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General compatibility guidelines

Scope

This document provides the basic guidelines regards electrical compatibility of SORAA VIVID 120V MR16 GU10 9W lamps and compatibility tables.

Dimmer Compatibility

SORAA 120V MR16 GU10 lamps are made to work with reverse phase and forward phase phase cut dimmers. However, the use of reverse phase dimmers is preferred and will show in general better behavior .

Dimmer compatibility tables are published on this document.

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.

The “number of lamps per dimmer tested” is the amount of samples tested, it is not necessarily the maximum amount of lamps the dimmer can handle. 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 lamp will see twice per cycle. This current spike has to be provided by the dimmer, and will affect the recommended lamp 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 forward phase 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 11 lamps 9W.

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 the transformer and dimmer manufacturers.

For more information on the dimmers/transformers, please find specs on the manufacturer’s website.

SORAA VIVID GU10 120V 9W - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer family	Dimmer Model	Dimming phase	Number of lamps per dimmer tested	Dim (%)	Comments
Ecosense Lighting	Control 0-10V to ELV	LDCM	Reverse	10	0%	(*)
Lutron	Diva	DVCL-153P	Forward	10	0.13%	(*)
Lutron	Diva	DVELV-300P	Reverse	1	0%	(*)
Lutron	Diva	DVLV-600P	Forward	10	3%	(*)
Lutron	Interface	PHPM with Grafik Eye QS	Reverse	1	0%	(*)
Lutron	Maestro PRO	MA-PRO	Reverse	10	0%	(*) wired with neutral
Lutron	Radio Ra2	RRD-6NA	Adaptive (Reverse)	1	0%	(*)
Lutron	Skylark	SELV-300P	Reverse	1	0%	(*)
Marlin	SMP ELV Dimmer	600-10-001-00-4	Reverse	1	0%	(*)

Notes:

Compatibility tests are conducted by Soraa (unless stated otherwise) 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 the dimmer manufacturer

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

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

--%	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