

SORAA

Electrical compatibility – BRILLIANT HL 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 Brilliant HL 120V MR16 GU10 9W lamps and compatibility tables.

Dimmer Compatibility

SORAA Brilliant HL 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 available 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 not necessarily the maximum amount of lamps the dimmer can handle, it is just what it was tested at our lab. 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 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 BRILLIANT HL GU10 120V 9W - DIMMER COMPATIBILITY LIST - North America

Dimmer Manufacturer	Dimmer family	Dimmer Model	Dimming phase	Number of lamps per dimmer tested	Dim (%)	Comments
Cooper	SKYE	SLC03P	Forward	3	NC	
Creston		DIN-1DIMU4	Reverse	3	4%	
Ecosense Lighting	Control 0-10V to ELV	LDCM	Reverse	10	0%	(*)
Legrand	Radiant	RH703PTU	Reverse	3	6%	Limited by dimmer travel
Leviton	Decora	DSL06-1LZ	Forward	3	6%	Limited by dimmer travel
Leviton	Illumatech 150	R50-IPL06-10M	Forward	3	5%	
Leviton	Decora Sureslide	R12-06672-1LW	Reverse	3	12%	Limited by dimmer travel
Leviton	Decora Sureslide	nr. 6674	Forward	3	5%	Limited by dimmer travel
Lutron	Caseta	PD-3PCL	Forward	3	4%	Limited by dimmer travel
Lutron	Caseta	PD-5NE	Reverse	3	5%	
Lutron	Caseta	PD-6WCL	Forward	3	5%	Limited by dimmer travel
Lutron	Caseta	PD-10NXD	Forward	3	5%	Limited by dimmer travel
Lutron	Diva	DVCL-153P	Forward	10	0.6%	(*)
Lutron	Diva	DVELV-300P	Reverse	3	4%	
Lutron	Diva	DVLV-600P	Forward	3	8%	
				10	27%	(*)
Lutron	Grafik Eye QS	QSGRJ-3P	Forward	3	4%	
Lutron	Interface	PHPM with Grafik Eye QS	Reverse	3	0%	
Lutron	Maestro	MA-600-WH	Forward	3	NC	
Lutron	Maestro	MAELV-153M	Forward	3	10%	
Lutron	Maestro	MAELV-600	Reverse	3	2%	Limited by dimmer travel
Lutron	Maestro	MALV-600-WH	Forward	3	NC	
Lutron	Maestro PRO	MA-PRO	Reverse	10	0.3%	(*) Wired with neutral

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

Dimmer Manufacturer	Dimmer family	Dimmer Model	Dimming phase	Number of lamps per dimmer tested	Dim (%)	Comments
Lutron	Maestro Wireless	MRF2-6ND-120	Forward	3	5%	
Lutron	Maestro Wireless	MRF2-6ELV-120	Reverse	3	2%	Limited by dimmer travel
Lutron	Maestro Wireless	MRF2S-6CL	Forward	3	5%	
Lutron	Nova T	NTELV-600	Reverse	3	7%	Limited by dimmer travel
Lutron	Radio Ra2	RRD-10D	Forward	3	NC	
Lutron	Radio Ra2	RRD-6NA	Reverse	3	4%	
Lutron	Remote Power Modules / Homeworks	HW / LP-RPM-4A-120	Reverse	3	5%	
Lutron	Remote Power Modules / Homeworks	HW / LP-RPM-4U-120	Forward	3	6%	
Lutron	Skylark	SLV-600P	Forward	3	9%	(*)
				10	27%	
Lutron	Skylark	SELV-300P	Reverse	3	5%	
Lutron	Skylark Contour	CTCL-153P	Forward	3	5%	
Lutron	Toggler	TGCL-153PH-WH	Forward	3	5%	
Marlin	SMP ELV Dimmer	600-10-001-00-4	Reverse	3	3%	

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

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 Soraa or the manufacturer 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