SORAA

Electrical compatibility – MR16-GU10 9W 230V lamps - International

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General compatibility guidelines

Scope
This document provides the basic guidelines regards electrical compatibility of SORAA 230V MR16 GU10 9W lamps and compatibility tables.

Dimmer Compatibility
SORAA 230V MR16 9W GU10 lamps are made to work with trailing edge (reverse phase) and leading edge (forward phase) phase cut dimmers.
However, **the use of leading edge dimmers is not recommended**, as the lamps may emit a low level of audible noise when used with some leading edge dimmers. Testing with the intended dimmer is recommended to ensure acceptable audible levels at the application site.

Dimmer compatibility tables are on pages 3-9.

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 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 halogen/incandescent dimmers loaded with our 230V 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 GU10 230V 9W - DIMMER COMPATIBILITY - International

Dimmer Manufacturer	Dimmer Brand	Dimmer Model	Dimming mode	Dim (%)	Note
AURORA		AU-DSP400X	L	18%	Please See Footnote
AURORA		AU-DSP651	L	17%	Please See Footnote
Berker		2830 10	L	NC	Please See Footnote
Berker		2861 10	T	30%	
Berker		2873	L	22%	Please See Footnote
Berker		286710	T	1 Lamp: 21% 2,3 Lamps: 19%	
Bticino		NT4411N	T	11%	
Busch		2200 UJ212	L	NC	Please See Footnote
Busch		2247 U	L	13%	Please See Footnote
Busch		2250 U	L	1 Lamp: N C 2,3 Lamps: 20%	Please See Footnote
Busch		6513 U102	T	NC	
Busch		6523 U102	L	15%	Please See Footnote
CABAC		HNS630DT	T	14%	(*)
Casambi		CBU-TED	T	3%	
Clik		MD9042	L	19%	Please See Footnote
Clipsal		C.S./433/S	L	15%	Please See Footnote
Clipsal		E8431EPD4	L	1 Lamp: N C 2,3 Lamps: 12%	Please See Footnote
Clipsal		L5504D2U	Adaptive - T	NC	
Clipsal		32E450UDM	T	NC	(*)

SORAA GU10 230V 9W - DIMMER COMPATIBILITY - International

Dimmer Manufacturer	Dimmer Brand	Dimmer Model	Dimming mode	Dim (%)	Note
DeltaDore	Tyxia	4840	T	1,2,3 lamps: 11-5%	
DeltaDore	Tyxia	4940	T	8%	
DIGINET		DGLCDM400	T	20%	
Electron		DMR.730	T	0%	
Electron		DMR.731	T	0%	
Elko		315GLE PH	T	1 Lamp: N C 2,3 Lamps: 11%	
Feller		40420.RLC	T	NC	
Feller		40300.RLC	T	11%	
Feller		40600.RL	L	12%	Please See Footnote
FIBARO		FGD211 v2.2	L	NC	Please See Footnote
FIBARO		2 FGD212 EU v3.2	T	8%	
Futronix		P400	L	NC	Please See Footnote
GIRA		302	L	23%	Please See Footnote
GIRA		0307 00 I02	T	1 Lamp: 21% 2,3 Lamps: 19%	
GIRA		1176 (117600/I03)	L	NC	Please See Footnote
GIRA		2000-2390 00 / I00	L	30%	Please See Footnote
GIRA		2262 00 / I00	L	8%	Please See Footnote
Govena		ProLED250	L	19%	Please See Footnote
Hager		EVN002	T	18%	

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Dimmer Manufacturer	Dimmer Brand	Dimmer Model	Dimming mode	Dim (%)	Note
Hamilton		H-LEDSTAT	T	1 Lamp: N C 2-4 Lamps: 11%	
Hamilton		A4002	L	22%	Please See Footnote
Hamilton		N4002	L	30%	Please See Footnote
Helvar	452	DALI Rotary	Adaptive T	14%	
Helvar	452	DALI Rotary	Adaptive L	12%	Please See Footnote
Helvar	454	DALI Slider	T	18%	
iLight		SCI0405S	L	NC	Please See Footnote
iLight		SCT0405S	T	NC	
JUNG		1224 LED UDE	T	1 Lamp: 21% 2,3 Lamps: 20%	
JUNG		1271 LED DE	L	14%	Please See Footnote
JUNG		225 NV	L	21%	Please See Footnote
JUNG		225 TDE	T	1 Lamp: 22% 2,3 Lamps: 19%	
JUNG		266 G DE	L	18%	Please See Footnote
Legend Tech		DIMEZE DZ3G450DIAL	T	15%	
Legrand		ref. 572239	T	NC	
Legrand		665114 A 14W3731	L	NC	Please See Footnote
Legrand		HPM Cat 300E	L	NC	Please See Footnote
Legrand	HPM	Cat 450P	L	NC	Please See Footnote
Lumex	Load Smart Gen2	LT1D450LS	T	NC	(*)

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Dimmer Manufacturer	Dimmer Brand	Dimmer Model	Dimming mode	Dim (%)	Note
Lunatone		DALI PD 25W Nr: 86458619	T	2%	
Lunatone		DALI PD 300W Nr: 86458619-300	T	4%	
Lutron	Energy Savr Node QS (for Quantum and QS systems)	QSNE-4A-D	T	20%	
Lutron	Energy Savr Node QS (for Quantum and QS systems)	QSNE-4A-D	L	26%	Please See Footnote
Lutron	Grafik eye QS	QSGR-6PCE	L	NC	Please See Footnote
Lutron	Grafik eye QS	QSGR-6PCE+NGRX-ELVI-CE	T	9%	
Lutron	Homeworks	LQSE-4A-D	T	20%	
Lutron	Homeworks	LQSE-4A-D	L	26%	Please See Footnote
Lutron	LCP128	LP-RPM-4A-230	T	9%	
Lutron	LCP128	LP-RPM-4U-240	L	18%	Please See Footnote
Lutron	Lyneo	LSSI-501B-FAW-M	L	8%	Please See Footnote
Lutron	Rania	RNSU-452B-FAW-M	T	NC	
Lutron	RA2 Select	RRK-R25NE-240	T	10%	(*)
Maintronic		DAD1200 15-0584 (DALI)	T	NC	
MARBO	Crabtree	DV21912	L	17%	Please See Footnote
Merten		MEG5131-0000 (SBD400R-1)	L	12%	Please See Footnote
Merten		MEG5133-0000 (SBD600RL)	L	12%	Please See Footnote
Merten		MEG5136-0000 (SBD315RC)	T	11%	

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Dimmer Manufacturer	Dimmer Brand	Dimmer Model	Dimming mode	Dim (%)	Note
MK	K1501 WHILV	47543SL	L	NC	Please See Footnote
MK	K1511		L	25%	Please See Footnote
MK	K1522 WHILV	43395PL	L	NC	Please See Footnote
MK	K1523WHILV	52470SL	L	NC	Please See Footnote
MK	K1526		L	25%	Please See Footnote
Mode Lighting	Evolution	EVO-SGP	T	14%	
Mode Lighting	Evolution	EVO-SGP	L	18%	Please See Footnote
Mode Lighting	Mirage	MP-10-01	L	1,2 Lamps: N C 3 Lamps: 0%	Please See Footnote
Nexus		BG881P-01	L	1 Lamp: N C 2,3 Lamps: 18%	Please See Footnote
Osram		HTI DALI 315 DIM	T	16%	
Panasonic		WEG 57813	L	12%	Please See Footnote
PDL		654M	L	24%	Please See Footnote
Philips	Dynalite	DGLM402	L	NC	Please See Footnote
Philips	Dynalite	DGTM402	T	25%	
Philips	Dynalite	DGLED401	T	22%	
Rako		RDL250 with control RCP07-W	L	0%	Please See Footnote
Rako		RDT500 with control RCP07-W	T	0%	
Rako		RMT500 with control RCP07-W	T	0%	
RVE		RV5	L	8%	Please See Footnote
RVE		RVLED	T	13%	

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Schneider		GD1G2W4	L	12%	Please See Footnote
Schneider		SBD315RC	T	11%	
Schneider		REG-K/2x230/300W	T	NC	
Shuttle		SDIM-T-LED-125W	T	9%	
Siemens		5TC8 263	L	10%	Please See Footnote
TCL		LM2	L	1,2 Lamps: N C 3 Lamps: 15%	Please See Footnote
Trader	Dimpala	DIMR	T	5%	(*)
Trader	Dimpala	DIMPR	T	5%	(*)
Vadsbo		LD 220 1-200W (E 13 774 40)	T	2%	
Varilight		HQ7W	L	17%	Please See Footnote
Varilight		IQP401W	L	NC	Please See Footnote
Varilight	V-PRO	JQP401W	T	2%	
Vossloh-Schwabe		Art. No. 553962	T	1%	(*)
Vossloh Schwabe		Art. No. 554591 (5W to 250W)	T	0%	
Vossloh Schwabe		Art. No. 554592 (5W to 500W)	T	0%	
Vossloh Schwabe		Dim One	T	12%	
Yokis		MTV500E	Adaptive T	10%	
Zano		WH400	L	12%	Please See Footnote
Zano		ZGRID500	L	28%	Please See Footnote
Zano		ZGRIDLED	T	NC	

Notes:

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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 manufacturer for more details and/or reports.

This lamp may emit a low level of audible noise when used with some leading edge dimmers. If using leading edge dimmers, testing with the intended dimmer is recommended to ensure acceptable audible levels at the application site.

(*) 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