



## Electrical compatibility – MR16-GU10 & E11 100V 7.5W lamps – Japan

### Table of contents

- General compatibility guidelines.....Page 2
- Dimming compatibility.....Page 3-5

## **General compatibility guidelines**

### **Scope**

This document provides the basic guidelines regards electrical compatibility of SORAA 100V MR16 7.5W E11 and GU10 lamps and compatibility tables.

### **Dimmer Compatibility**

SORAA 100V MR16 7.5W E11 and GU10 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 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 100V lamps.

**For example for a 500W dimmer it would mean  $500/5 = 100W$  of LED, so an estimated maximum of 13 lamps 7.5W.**

### **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 the transformer and dimmer manufacturers.

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

**SORAA E11 100V 7.5W - DIMMER COMPATIBILITY LIST - Japan**

Dimmer Manufacturer	Dimmer Family	Dimmer Model	Dimming mode	Number of lamps tested	Dim (%)	Comments
<b>Japan</b>						
<b>DAIKO</b>		DP-34402F		1 - 3	17%	
<b>DAIKO</b>		DP-34406F		1 - 3	NC	
<b>DAIKO</b>		DP-37154E		1 - 3	1 lamp: NC >1 lamp: 8%	
<b>DAIKO</b>		LZA-90306E	Leading	1 - 3	1 lamp: 24% 2, 3 lamps: 3%	
<b>ENDO</b>		X-207W	Leading	1 - 3	1, 2 lamps: NC 3 lamps: 13%	
<b>ENDO</b>		RX116WC	Leading	1 - 3	1 lamp: 29% >1 lamp: 4%	
<b>ETC</b>	Sensor 3	D20	Leading	10	3%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>	Sensor 3	ELV10-S	Trailing	10	1%	(*) Tested by dimmer manufacturer, report available
<b>ETC</b>	Sensor 3	LED10NJ	Trailing	10	4%	(*) Tested by dimmer manufacturer, report available
<b>HELVAR</b>	Digidim	458	Leading	1 - 3	0%	
<b>JIMBO (神保電器)</b>		NKW-LC10N3	Leading	1 - 3	1 lamp: 11% >1 lamp: 5%	
<b>JIMBO (神保電器)</b>		NKW-LC10N3G	Leading	1 - 3	1 lamp: NC 2 lamps: 21% 3 lamps: 3%	
<b>JIMBO (神保電器)</b>		WJ-RL5N	Leading	1 - 3	1 lamp: 13% 2 lamps: 6% 3 lamps: 3%	
<b>KOIZUMI</b>		AE36745E	Leading	1 - 3	8%	
<b>KOIZUMI</b>		AE45676E	Leading	1 - 3	9%	

**SORAA E11 100V 7.5W - DIMMER COMPATIBILITY LIST - Japan**

Dimmer Manufacturer	Dimmer Family	Dimmer Model	Dimming mode	Number of lamps tested	Dim (%)	Comments
<b>Japan</b>						
<b>LUTRON</b>	Diva	DVCL-123P	Leading	1, 10	8%	
<b>LUTRON</b>	Grafik Eye QS	Grafik Eye QS + PHPM-PA	Trailing	1	2%	
<b>LUTRON</b>		HWD-4NE-JA	Trailing	1	NC	
<b>LUTRON</b>	Skylark	S-503P-JA	Leading	1	14%	
<b>MAXRAY</b>		OPO1230-04	Leading	1	2%	
<b>MAXRAY</b>		OP0734-04		1 - 3	4%	
<b>MAXRAY</b>		OP0735-04		1 - 3	NC	
<b>ODELIC</b>		LC 211	Leading	1 - 3	6%	
<b>PANASONIC</b>		NQ20203T		1 - 3	1, 2 lamps: NC 3 lamps: 29%	
<b>PANASONIC</b>		NQ20345	Leading	1 - 3	14%	
<b>PANASONIC</b>		WN57512		1 - 3	1%	
<b>PANASONIC</b>		WN575159		1 - 3	NC	
<b>PANASONIC</b>		WN575215K		1 - 3	1, 2 lamps: NC 3 lamps: 12%	
<b>PANASONIC</b>		WN575259	Leading	1	21%	
<b>PANASONIC</b>		WT57511W	Leading	1 - 3	5%	
<b>PANASONIC</b>		WT57515WK	Leading	1 - 3	1, 2 lamps: NC 3 lamps: 29%	
<b>PANASONIC</b>		WTA57583W	Trailing	1 - 3	9%	
<b>PANASONIC</b>		WTC57521W	Leading	1 - 3	13%	
<b>PANASONIC</b>		WTC57525WK	Leading	1 - 3	NC	

# **SORAA E11 100V 7.5W - DIMMER COMPATIBILITY LIST - Japan**

Dimmer Manufacturer	Dimmer Family	Dimmer Model	Dimming mode	Number of lamps tested	Dim (%)	Comments
<b>Japan</b>						
<b>PANASONIC</b>		WTC575251	Leading	1 - 3	NC	
<b>PANASONIC</b>		WTC57523W	Trailing	10, 13	6%	
<b>PANASONIC</b>		WTC57528WK	Leading	1 - 3, 5, 8, 12, 17	1 lamp: NC 2 lamps: 26% 3, 5, 8, 12, 17 lamps: 8%	
<b>TES LIGHTING</b>		TLC-0003	Leading	1 - 3	1 lamp: NC >1 lamp: 3%	
<b>TOYOSTAR</b>		TRD-100ULHE		1	2%	
<b>TOYOSTAR</b>		TRD-100ULHH	Leading	1 - 3	1, 2 lamps: 7% 3 lamps: 4%	

## **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