

SORAA

Electrical compatibility – AR111 18.5W 12V lamps – International

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Scope

This document provides the basic guidelines regarding electrical compatibility of SORAA 12V AR111 & PAR36 18.5W lamps and compatibility tables for transformers and dimmers.

Transformer Compatibility

SORAA 12V AR111 & PAR36 lamps are made to work with 12V AC magnetic (MLV) and electronic (ELV) transformers and 12V DC transformers. Transformer compatibility tables are on pages 3-7. If multiple lamps are installed on one transformer, they need to be connected in parallel. They cannot be installed in series.

- 12V AC Magnetic transformers and 12V DC transformers are in general compatible.
- 12V AC Electronic transformers generally have a minimum load, and SORAA recommends using only transformers that have been tested and found compatible. In general we recommend to use transformers with very little or no minimum load (0W). If your transformer is not in the compatibility tables below, it does not mean it is incompatible, but it means that we have not tested it to date, please contact techsupport@soraa.com for guidance.

Dimmer Compatibility

SORAA 12V AR111 & PAR36 lamps are made to work with trailing edge (reverse phase) and leading edge (forward phase) phase cut dimmers.

Electronic dimmable transformers need trailing edge dimmers, while Magnetic transformers need leading edge dimmers. Dimmer compatibility tables are on pages 8-15. Along the top of the dimmer compatibility tables you will see the different dimmers that we have tested, and along the left side of the chart you will see the different transformers we tested. The percentages for each transformer/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 transformer/dimmer. If this minimum load is not met, there might be compatibility issues.

Maximum number of lamps on a dimmer/transformer

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

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 transformer and/or dimmer, and will affect the recommended lamp load on each transformer or dimmer.
3. Ultimately the transformer/dimmer manufacturer is the only one with authority to rate their product, but SORAA can give an Engineering estimate.
4. For transformers, we recommend to use a 1.4 de-rating factor:
For example for a 50W transformer it would mean $50/1.4=35W$ of LED, so an estimated maximum of 1 lamp 18.5W.
5. For dimmers, we recommend to use a 2.0 de-rating factor for leading edge dimmers with magnetic transformers; and a 4.0 de-rating factor for trailing edge dimmers driving Low Voltage lamps on electronic transformers.
For example for a 500W leading edge dimmer it would mean $500/2=250W$ of LED, so an estimated maximum of 13 lamps 18.5W.
For example for a 400W trailing edge dimmer it would mean $400/4=100W$ of LED, so an estimated maximum of 5 lamps 18.5W.

Distance between transformer and lamp(s)

- 12V AC Magnetic transformers and 12V DC transformers do not have a limitation regarding the maximum length of the wires between transformer and lamp. Only the voltage drop has to be taken into account (losses because of the inner resistance of the conductors).
- 12V AC Electronic transformers have a limitation in the length of the wires between transformer and lamp(s). This length is usually stated by the transformer manufacturer on its specs or on the transformer itself, and generally it is limited to 2 meters (6 feet).

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 AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports one or more lamps up to the maximum wattage;

NC - SORAA does not recommend this transformer for use with its lamps;

Mfg	Model	Wattage	Voltage	Class / Frequency	Country	Transformer Type	1 Lamp
International							
ABB	ETR-DALI 105 230-12KF	105	230	50	EU	Electronic	NC
ABB	Speedy 105	105W	230	50	EU	Electronic	Pass
AcTec	Ultra 70	70	220-240	50	EU/Asia	Electronic	Pass
AcTec	DIM12-25	25W	220-240V	DC	EU/Asia	Electronic/DC	NC
AcTEC	Micro60	20-60W	220-240V	50/60	EU/Asia	Electronic	NC
Architectural Lighting	AG0927		230	50	EU	Electronic	Pass
ATCO	Speedy TED 105	35-105	240	50	Australia	Electronic	Pass
BERKER	TRONIC TRAF0	20-105W	230/240	50/60	EU	Electronic	Pass
BLV	45600101	0-60	230V	50	EU	Electronic	Pass
BLV	45600201	0-105W	230	50	EU	Electronic	Pass
Bright Star Lighting (MSD)	MSD-DALI-DIM-CV-30W	30W	230	DC	EU, CN	Electronic	NC
Eaglerise	EET105LT	35-105W	230	50	EU	Electronic	Pass
ECOPAC	ELED-100-12D	100	230	100	EU	Electronic/DC	Pass
ECOPAC	ELED-180-12D	180	230	180	EU	Electronic/DC	Pass
EldoLED	LINEARdrive 100	100	120-250	50/60	EU	Electronic/DC	Pass
ELR	DA12VPWM AR111	36	230	50	EU	Electronic	NC
EUCHIPS	EUP75T-1H12V-0	75	230	50/60	EU/Asia	Electronic/DC	Pass
Eutrac	99.778.1U	20-50W	220-240V	50/60	EU	Electronic	Pass
EVN	Pd.2150		230	50	EU	Electronic	Pass
EZ Lighting	SI-H2501SL	48	220	60	Korea	Electronic	Pass
Fullham	Pony PET		230	50	EU	Electronic	Pass
Fullham	T1M1UNV012V-60L	60	230	50	EU	DC	Pass
GATA	T50/209.23	50	220	50	Thailand	Magnetic	Pass
GIRA	TRONIC TRAF0	20-150W	230/240	50/60	EU	Electronic	Pass

SORAA AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports one or more lamps up to the maximum wattage;

NC - SORAA does not recommend this transformer for use with its lamps;

Mfg	Model	Wattage	Voltage	Class / Frequency	Country	Transformer Type	1 Lamp
International							
Gitronica	GET 60 FI VOX	20-60W	230/240	50/60	EU	Electronic	Pass
Govena	TE40W-DIMM-LED-IP64	40	230	50	EU	Electronic	Pass
Govena	YT50	0-50	230V	50	EU	Electronic	Pass
Govena	YT60	60	230V	60	EU	Electronic	Pass
Govena	YT105	105	230V	105	EU	Electronic	Pass
Hytronik	HE4030-A	30	230	50	EU/Asia	Electronic	Pass
IBL	4670	0-70	230	50	EU	Electronic	Pass
iGuzzini	1.193.908.00	100	230	50	EU	Electronic	Pass
iGuzzini	Le Perroquet 100W B0077.01 P16772/00	100	230	50	EU	Electronic	NC
JCC	JC4013	105W	230	50	EU	Electronic	Pass
Kanlux	Treto LED 30W	30	170~230	50/60	EU	Electronic	Pass
(Korean)	HIJ2501	50	220	50	Korea	Electronic	Pass
LCI	ET 3-60C	10-60	230	50	EU	Electronic	NC
LCI	DC DIM 1-10V 35W Code 1750129	35W	230	50/60	EU	Electronic/DC	Pass
Lighting-Dept	Ultra 70	70	220-240	50	Asia	Electronic	Pass
Lighting-Dept	DIM12-25	25W	220-240V	DC	EU/Asia	Electronic/DC	NC
Lighting-Dept	Micro60	20-60W	220-240V	50/60	EU/Asia	Electronic	NC

SORAA AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports one or more lamps up to the maximum wattage;

NC - SORAA does not recommend this transformer for use with its lamps;

Mfg	Model	Wattage	Voltage	Class / Frequency	Country	Transformer Type	1 Lamp
International							
Lightech	LET75/240	20-75	240	50/60	EU/Asia	Electronic	Pass
Lightech	LET105/240	35-105	240	50/60	EU/Asia	Electronic	Pass
LTF	TU75WA		230	50	EU	Electronic	Pass
LTSYS	DALI-36-12-F1P1	36	230	50/60	EU/Asia	Electronic/DC	NC
LTSYS	DALI-36-12-F1P1-SORAA	36	230	50/60	EU/Asia	Electronic/DC	Pass
Meanwell	LVP-35-12	DC 12V	100-240	50/60	Taiwan	Electronic	Pass
Meanwell	PWM-90-12 (300Hz version)	90	100-305	50/60	World	Electronic	Pass
Meanwell	PWM-120-12 (300Hz version)	120	100-305	50/60	World	Electronic	Pass
Mode Lighting	MOE-050-D-240	50	230	50	EU	Electronic	Pass
Mode Lighting	MOE-075-C-240	75	240	50/60	EU	Electronic	NC
Mode Lighting	MOE-105-D-240	105	230	50	EU	Electronic	Pass
Mode Lighting	ET-040-PL-230-RD (Puma LED)	40	240	50/60	EU	Electronic	Pass
Nobile	EN-60D		230	50	EU	Electronic	Pass
NOBILE	EN-150	150W	220/240	50/60	EU	Electronic	Pass
OSRAM	ET-LED 30	30	220/240	50/60	EU/Asia	Electronic	Pass
OSRAM	ET-Parrot 70	70	220-240	50	EU	Electronic	Pass
OSRAM	ET Parrot 105	35-70	220	50	Asia	Electronic	NC
OSRAM	ET-A 60	60	220-240	50	Singapore	Electronic	Pass
OSRAM	ET-P 60	20-60	220-240	50	Australia/ Thailand	Electronic	NC
OSRAM	ET-RedBack 60	60	230-240	50	Australia	Electronic	Pass
OSRAM	Halotronic HTB 105/230-240	35-105W	230-240	105	EU	Electronic	Pass
OSRAM	HTI DALI 105 DIM	35-105	230-240	50	EU	Electronic	1,4 lamps: NC 2,3 lamps: Pass
OSRAM	HTI DALIC 105/230...240DIM (Not a DALI dimmable transformer)	105	230	50/60	EU	Electronic	Pass
OSRAM	HTM 70	70	230/240	50	EU	Electronic	Pass
OSRAM	HTM 105	105W	230/240	50/60	EU,CN	Electronic	Pass
OSRAM	HTM 150	150W	230/240	50/60	EU	Electronic	Pass
OSRAM	HTN 75 230/240 I	20-75	230/240	50/60	EU Australia	Electronic	Pass
PHILIPS	CERTALINE 60W	60	230	50	EU	Electronic	Pass
Philips	EHC150F		110	50/60	Taiwan	Electronic	Pass
Philips	ET-E 60	20-60	220-240	50	Singapore	Electronic	NC
Philips	ET-S 60	20-60	220-240	50	Thailand	Electronic	Pass

SORAA AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International

PASS - The transformer supports one or more lamps up to the maximum wattage;

NC - SORAA does not recommend this transformer for use with its lamps;

Mfg	Model	Wattage	Voltage	Class / Frequency	Country	Transformer Type	1 Lamp
International							
PHILIPS	PRIMALINE 70	35-70W	220/240	50/60	EU,CN	Electronic	Pass
PHILIPS	PRIMALINE 105	35-105W	230	50/60	EU,CN	Electronic	Pass
Quanzhou Smarts Electronic & Technology Co	SMT-012-030VM	30W	100-265V	50/60	EU,CN	Electronic	Pass
Racer	RCT 50	60	220	50	Thailand	Magnetic	Pass
Servodan	74-212	10-105W	230	50	EU	Electronic	Pass
Soraa	Optima TCVW-P-12-600-70-01-S3	70	230	50/60	EU, Asia, Australia	Electronic	Pass
TCI	MW70LED	70	230	50	EU	Electronic	Pass
TCI	WU 105	105	230/240	50	EU	Electronic	Pass
Trafelstar	TISG 105.235-12	35-105	230	50/60	EU	Electronic	NC
Transtec	HP-300	300	230	50/60	EU	Magnetic	Pass
Tridonic	TE-0105 one4all sc	20-105W	230-240	50/60	EU, APAC	Electronic	NC
Tridonic	TE-0105 U 1-10V sc	20-105W	230-240	50/60	EU, APAC	Electronic	NC
Tridonic	TE-NE 1105	105	230-240	50/60	EU	Electronic	Pass
Truelux	AN12VPWM	0-20W	100-277V	50/60	EU	Electronic	Pass
Truelux	DA12VPWM	0-20W	100-277V	50/60	EU	Electronic	Pass
Truelux	PH12VLN	0-50	230V	50	EU	Electronic	Pass
Varilight	YT50	0-50	230V	50	EU	Electronic	Pass
Varilight	YT50LZ	0-50	230	50	EU	Electronic	Pass
Vossloh Schwabe	60.8159 (with built in potentiometer)		230	50	EU	Electronic	Pass
Vossloh Schwabe	EST105	20-105	230	50	EU & Australia	Electronic	Pass
Vossloh Schwabe	Liteline EST70/12.380	20-70W	230	50	EU	Electronic	Pass
Voltmaster	VMD30012EU	35~300	230	50	EU	Magnetic	NC
V-TAC	VT-22045 (SKU 3090)	45	90-264Vac	50/60	EU	Electronic	Pass

SORAA AR111 & PAR36 12V 18.5W - TRANSFORMER COMPATIBILITY - International

Transformer compatibility Notes:

- 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 manufacturer
- If the transformer's minimum wattage is not met, the lamp may only operate under nominal conditions (nominal line voltage and thermal conditions where the lamp is at full power).
- If the fixture/transformer is not listed as tested, please consult with Soraa first before making any recommendations to end customer.
- Above table is for applications where no dimmer is used. If a dimmer is used, the user should consult the Dimmer/Transformer table, or contact Soraa if their desired combination is not listed.
- Transformer maximum load should not be exceeded. Please follow transformer/dimmer manufacturer's guidelines regarding maximum load with LED lamps. To calculate the estimated maximum number of lamps, please download our calculator from the following link:
<https://res.cloudinary.com/soraa/raw/upload/v1452276139/content/max-lamp-load-calculator.xlsx>
Or following the guidelines stated on page 2 of this document.
- (*) This transformer added to the compatibility list as of this Revision

SORAA Optima 230V Electronic 12V transformer with 12V Soraa AR111 18.5W lamps - DIMMER COMPATIBILITY LIST

Dimmer Manufacturer	Dimmer family	Dimmer model number	Dimming mode	Number of transformers tested per dimmer	Number of lamps per transformer	Dim (%)	Comments
Aurora		DSP400X	Leading	2	1	NC	
Clipsal		32ELEDM	Trailing	2	1	9%	Limited by dimmer travel
Clipsal		L5504D2U	Adaptive-TE	5	1	9%	
DIGINET		DGLCDM400 (MEDM)	Trailing	2	1	2%	Limited by dimmer travel
ETC	DRd	EELV6	Trailing	6	1	34%	(*) Tested by dimmer manufacturer
Feller		3314.12 FMI.61	Trailing	2	1	11%	
Feller		40200.LED.FMI.61	Trailing	2	1	24%	Limited by dimmer travel
Gira		238500 / I01	Adaptive-TE	2	1	9%	Limited by dimmer travel
Helvar	Digidim	452	Trailing	5	1	7%	
Helvar	Digidim	454	Trailing	5	1	9%	
Honeywell	Inncom	H454	Trailing	5	1	8%	
Jung		1224 LED UDE	Trailing	2	1	9%	Limited by dimmer travel
Lutron	Grafik Eye QS	Grafik Eye QS	Leading			NC	
Lutron	Grafik Eye QS + Interface	NGRX-ELVI-CE with Grafik Eye QS main unit	Adaptive-TE	Min 1-Max 11	1	8%	(*) Tested by dimmer manufacturer
Lutron	Grafik Integrale	GXI-3104	Trailing	Min 1-Max 7 (per channel). Total per module is 40	1	9%	(*) Tested by dimmer manufacturer
Lutron	Homeworks QS Energy Savr Node QS (for Quantum and QS systems)	QSNE-4A-D (Gen2) / LQSE-4A-D (Gen2)	Trailing	Min 1-Max 7 (per zone)	1	10%	(*) Tested by dimmer manufacturer

SORAA Optima 230V Electronic 12V transformer with 12V Soraa AR111 18.5W lamps - DIMMER COMPATIBILITY LIST

Dimmer Manufacturer	Dimmer family	Dimmer model number	Dimming mode	Number of transformers tested per dimmer	Number of lamps per transformer	Dim (%)	Comments
Lutron	Homeworks QS / My Room	LQSE-4A1-D / MQSE-4A1-D / MQSE-3A1 / MQSE-2A1-D	Trailing	Min 1-Max 2	1	9%	(*) Tested by dimmer manufacturer
Lutron	Homeworks QS	HQRK-R25NE-240	Trailing	Min 1-Max 3	1	9%	(*) Tested by dimmer manufacturer
Lutron	Homeworks QS	HQRM-R25NE-240	Trailing	Min 1-Max 3	1	9%	(*) Tested by dimmer manufacturer
Lutron	LCP Panel	RPM-4A-230	Adaptive-TE	5	1	9%	
Lutron	RA2 Select	RRK-R25NE-240	Trailing	Min 1-Max 3	1	9%	(*) Tested by dimmer manufacturer
Mode Lighting	Tiger / Mirage / Evo	Trailing edge card	Trailing	1	1	6%	
Osram		HTI DALI 315 DIM	Trailing	2	1	17%	
Philips Dynalite		DGLEDM401	Trailing	1 and 5	1	16%	Limited by dimmer travel
Philips Dynalite		DGTM402	Trailing	5	1	28%	Limited by dimmer travel
RVE		RV-LED 250	Trailing	5	1	5%	Limited by dimmer travel
Varilight	V-PRO	JQP401W	Trailing	1 and 2	1	8%	Limited by dimmer travel
Vossloh-Schwabe		554591 (5-250W)	Trailing	1 and 2	1	10%	
Vossloh-Schwabe		554592 (5-500W)	Trailing	1	1	10%	
Vossloh-Schwabe		OneDim	Trailing	1 and 2	1	10%	

SORAA AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International

Phase dimmable transformers ↓	Phase Dimmers →		DeltaDore Tyxia 4840 (TE)	DeltaDore Tyxia 4940 (TE)	Philips Dynalite DDMC802GL+DGLLED401	Philips Dynalite DDMC802GL+DGLM402	Philips Dynalite DDMC802GL+DGTM402	EVO-DDM-305-TE	iLight SCT/SCI 04055	Hager EVN002 (TE)	Hager EV102/EV100 (adaptive - TE)	Helvar Digidim 452 (TE)	Helvar Digidim 452 (LE)	Helvar Digidim 454 (TE)	Lutron Energi Savr Node QS QSNE-4A-D (TE mode)	Lutron Energi Savr Node QS QSNE-4A-D (LE mode)	Lutron Grafik Eye QS OSGR-6PCE + NGRX-ELV-CE	Lutron LP-RPM-4A (TE)	Lutron Grafik Eye QS OSGRK-3PCE	Lutron Grafik Eye integrale
		ABB	Speedy 105	ELV			NC		NC	NC	NC			NC		NC	NC		6%	NC
ACTEC	Ultra 70	ELV			13%							7%		16%	NC		17%	19%	NC	1-2 lamps: NC 3 lamps= 29%
ATCO	SPEEDY TED105	ELV			28%		NC	24%	NC			NC			7%		3%	4%		
Berker	Tronic Trafo	ELV			14%		29%	0%	12%			13%		2%	NC		4%	8%		
BLV	45600101. Luxia 60W	ELV	28%	26%	16%	18%	26%	2%	12%	15%		5%		13%	NC	13%	20%	7%	NC	
BLV	45600201 Luxia 105W	ELV			13%		NC				NC	6%		13%	NC		NC		NC	
Eaglerise	EET105LT	ELV			NC										NC					
EUCHIPS	EUP75T-1H12V-0	ELV			7%							0%		1%	2%		1%			2%
EZ Lighting	SI-2501SL	ELV			17%		NC								NC	NC				NC
GATA	T50/209.23	MLV														NC				
Gira	Tronic Trafo	ELV			11%		25%	9%	22%			NC		8%	NC		6%	8%		
Govena	TE40W-DIMM-LED-IP64	ELV			17%		46%					8%		12%	NC					
Govena	YT50	ELV	22%	29%	NC					26%		5%		10%	NC		20%		NC	
Govena	YT60	ELV	28%	26%	16%	18%	26%	2%	12%	15%		NC		6%	NC	13%	6%	7%	NC	
Hatch	RS12-60-230M-LED	ELV			13%							7%		19%	NC		8%		NC	
iGuzzini	1.193.908.00	ELV			0%	46%						18%		20%	NC					NC
(Korean)	HIJ2051	ELV			10%		NC					19%		20%	NC	NC				NC
Lightech	LET75	ELV			NC							NC		NC	NC		20%		NC	NC
Mode Lighting	ET-040-PL-230-RD (Puma LED)	ELV			11%							6%		19%	NC		19%		28%	NC
Mode Lighting	MOE-050-D-240	ELV			NC							7%		12%	NC		19%		NC	
Niko	320-00101 70W	ELV	NC	24%						22%										

SORAA AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International

Phase dimmable transformers ↓	Phase Dimmers →	DeltaDore Tyxia 4840 (TE)		Philips Dynalite DDMC802GL+DGLM401			EVO-DDM-305-TE		iLight SCT/SCI 0405S		Hager EVN002 (TE)		Helvar Digidim 452 (TE)		Helvar Digidim 452 (LE)		Helvar Digidim 454 (TE)		Helvar 458/DIM8 Triac mode Dim table 5 (SSL)		Lutron Energi Savr Node QS QSNE-4A-D (TE mode)		Lutron Energi Savr Node QS QSNE-4A-D (LE mode)		Lutron Grafik Eye QS QSGR-6PCE + NGRX-ELVI-CE		Lutron LP-RPM-4A (TE)		Lutron Grafik Eye QS QSGRK-3PCE		Lutron Grafik Eye Integrale					
Nobile	EN-150	ELV			19%		NC	0%	12%				NC		9%					NC						10%	10%									
OSRAM	ET-A 60	ELV			18%		23%	NC	7%					17%						7%						5%	20%									
OSRAM	ET-LED 30	ELV			NC		NC							NC						NC		NC			NC				NC							
OSRAM	ET-P 60	ELV			14%		28%	NC	NC					NC						17%					11%	NC										
OSRAM	ET-PARROT 70	ELV			NC		NC	9%	22%					NC						NC					20%	10%		NC								
OSRAM	ET Parrot 105	ELV			NC		NC	NC						NC						NC					NC	NC										
OSRAM	ET-RedBack 60	ELV			15%		NC							16%						NC		NC												NC		
OSRAM	HTM 70	ELV	25%	23%	NC		27%		NC	29%				NC						NC						NC	NC		29%							
OSRAM	HTM 105	ELV	NC	28%	NC		24%		NC	29%				NC						NC						NC	NC		28%							
OSRAM	HTM 150	ELV			NC		NC	9%	NC					NC						NC						3%	NC									
OSRAM	HTN 75 230/240 I	ELV			12%	NC								9%						NC																
Philips	Certaline 60	ELV			16%		30%	10%	15%	26%				6%						NC						20%	11%		NC							
Philips	Primaline 105	ELV	25%	26%	16%		NC	0%	12%	19%				9%						NC						6%	7%									
Philips	Primaline 70	ELV			19%		NC	NC	NC					8%						NC						NC	NC									
Philips	ET-S 60	ELV			13%		NC							18%						NC		NC													NC	
Racer	RCT 50	MLV													22%																					NC
TCI	MW 70 LED	ELV												11%		2Lamps (2trans): 23%				NC																
VARILIGHT	YT50LZ	ELV			NC	26%								5%						9%	NC				20%	18%									NC	
Verbatim	V70 (#52900)	ELV			13%									6%							NC					11%										NC
Verbatim	52901	ELV																																		NC
Vossloh Schwabe	EST105	ELV			NC		29%	NC	NC					7%												8%	6%									

SORAA AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International

Phase dimmable transformers ↓	Phase Dimmers →		Lutron Rania	Rako RDT500	RVE RV5 (LE)	RVE RVLED250 (TE)	Yokis MTV500E (adaptive TE)	Lunatone DALI PD Art Nr 86458619 25W	Lunatone DALI PD Art Nr 86458619-300 300W	Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH LEADING EDGE CARD	Mode Lighting Mirage MP-10-01 / Tiger / Evolution WITH TRAILING EDGE CARD	DIGINET DGLCDM400 (adaptive - TE)	Feller 40300.RC Schneider SBD315RC Merten MEG5136-0000 ELKO 315GLE	Feller 40420.RC	Varilight JQP401W	Hamilton 7WC1x100LEDWH
ACTEC	Ultra 70	ELV									6%				6%	
BLV	45600101. Luxia 60W	ELV		NC				15%	15%	18%	5%		8%	13%	7%	7%
BLV	45600201 Luxia 105W	ELV									5%		7%		5%	
EUCHIPS	EUP75T-1H12V-0	ELV									4%				NC	
Gira	Tronic Trafo	ELV											6%			
Govena	YT50	ELV									4%				7%	
Govena	YT60	ELV		NC				15%	15%	18%			8%	13%	7%	7%
Hatch	RS12-60-230M-LED	ELV									8%				9%	
Lightech	LET75	ELV									3%				NC	
Mode Lighting	ET-040-PL-230-RD (Puma LED)	ELV								NC	2%				4%	
Mode Lighting	MOE-050-D-240	ELV									2%				NC	
OSRAM	ET-LED 30	ELV									NC				28%	
OSRAM	ET-PARROT 70	ELV									2%				NC	
OSRAM	ET-RedBack 60	ELV										NC				
OSRAM	HTM 70	ELV									3%				NC	
OSRAM	HTM 105	ELV									26%				NC	
Philips	Certaline 60	ELV			NC	8%	NC				2%				13%	
TCI	MW 70 LED	ELV	NC	NC												
Transtec	HP-300	MLV								16%						
VARILIGHT	YT50LZ	ELV		14%						8%	2%		6%	7%	8%	6%
Verbatim	V70 (#52900)	ELV									3%				8%	

SORAA AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - International

Phase dimmable transformers ↓	Phase Dimmers →		GIRA 0307 00 / 102	Gira 2385 00 / 101	Eltako EUD61NPN-230V	Merten (MEG5133-0000) SBD600RL	Berker 2867 10	Jung 1254 UDE	JUNG 243EX (TE)	Jung 225 T DE	Eiko 400GLE/I	Panasonic WEG 57813 (LE)	Tridonic DALI PDC 1-300 one4all Art nr 28000441	Vossloh Schwabe #554591 (5W to 250W)	Vossloh Schwabe #554592 (5W to 500W)	Vossloh Schwabe DimOne	Zano ZGRID:LED	Maintronic DAD1200 DALI (adaptive - LE) with DALI
ACTEC	Ultra 70	ELV												12%	10%	11%		
BLV	45600101. Luxia 60W	ELV	16%		6%	7%	15%			17%	12%		NC			7%	14%	
BLV	45600201 Luxia 105W	ELV	18%	7%				22%	18%	16%				11%	11%			
EUCHIPS	EUP75T-1H12V-0	ELV												NC	NC	8%		
Gira	Tronic Trafo	ELV	17%	7%				23%	18%	13%				11%	11%			
Govena	YT50	ELV														9%		
Govena	YT60	ELV	16%		6%	7%	15%			17%	12%		NC			7%	14%	
Hatch	RS12-60-230M-LED	ELV														10%		
Lightech	LET75	ELV														8%		
Mode Lighting	ET-040-PL-230-RD (Puma LED)	ELV														8%		
OSRAM	ET-LED 30	ELV							NC					NC	NC	NC		
Philips	ET-S 60	ELV										NC						
Racer	RCT 50	MLV										NC						
TCI	MW 70 LED	ELV	NC							NC								
Transtec	HP-300	MLV																24%
VARILIGHT	YT50LZ	ELV	16%		9%	30%	15%			17%	10%					9%		

SORAA AR111 & PAR36 12V 18.5W – NON PHASE-CUT DIMMER/TRANSFORMER COMPATIBILITY - International

Transformer	Controller, potentiometer, PWM Dimmer -->		DALI controller	0-10V	Potentiometer	Casambi CBU PWM4	DALCNET DLC1248-1CV-110	DALCNET DLB1248-1CV-DALI	Lunatone DALISWITCH PWM 10A 86459572	Lunatone DALI PWM 16A 89453829	Multiload LEDixia
Europe											
12V DC Power Supply	12V DC					8%	4%	0%	1%	1%	0%
ABB	ETR-DALI 105 230-12KF	Electronic	NC								
ECOPAC	ELED-100-12D	Electronic/DC	0%								
ECOPAC	ELED-180-12D	Electronic/DC	0%								
eldoLED	LINEARdrive 100	Electronic/DC	NC	NC	NC						
Fulham	T1M1UNV012V-60L	Electronic/DC		18%							
Hytronik	HE4030-A	Electronic/DC		2%							
LCI	DC DIM 1-10V 35W Code 1750129	Electronic/DC		4%							
LTSYS	DALI-36-12-F1P1-SORAA	Electronic/DC	4%								
Meanwell	PWM-90-12 (300Hz version)	Electronic/DC		14%							
Mode	MOE-105-D-240	Electronic			NC						
OSRAM	Halotronic HTI DALI 105 230-240	Electronic	1,4 lamps: NC 2,3 lamps: 18%								
Quanzhou Smarts Electronic & Technology	SMT-012-030VM	Electronic/DC	0%								
Truelux	AN12VPWM	Electronic/DC		4%							
Vossloh Schwabe	60.8159 (with potentiometer)	Electronic			27%						

SORAA AR111 & PAR36 12V 18.5W - DIMMER/TRANSFORMER COMPATIBILITY - North America

Dimming compatibility Notes:

- Compatibility tests are conducted by Soraa (unless stated otherwise) under bench conditions as guidance for the user; results at the application site may differ due to variability in usage conditions or in dimmer or transformer components/manufacturing.
- Regards compatibility tests conducted by dimmer manufacturer, please contact the manufacturer or Soraa for more details and/or reports.
- If the transformer’s minimum wattage is not met, the lamp may only operate under nominal conditions (nominal line voltage and thermal conditions where the lamp is at full power).
- The lamp load (or number of lamps) should meet minimum load requirement of respective dimmer.
- If the dimmer and transformer is not listed, please consult with Soraa before making recommendations to the end customer.
- Transformer/dimmer maximum load should not be exceeded. Please follow transformer/dimmer manufacturer's guidelines regarding maximum load with LED lamps. To calculate the estimated maximum number of lamps, please download our calculator from the following link: <https://res.cloudinary.com/soraa/raw/upload/v1452276139/content/max-lamp-load-calculator.xlsx>
Or following the guidelines stated on page 2 of this document.
- (*) One or more test results with this transformer 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
	Not valid combination