

SORAA

Electrical compatibility – AR111 12.5W 12V lamps – North America

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Scope

This document provides the basic guidelines regards electrical compatibility of SORAA 12V AR111 12.5W lamps and compatibility tables for transformers and dimmers.

Transformer Compatibility

SORAA 12V AR111 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@ecosenselighting.com for guidance.

Lamp performance may vary based on field conditions, including but not limited to THD, shared neutral wires, power-quality. Whenever possible, test lamps in-situ to verify satisfactory performance.

Dimmer Compatibility

SORAA 12V AR111 lamps are made to work with reverse phase and forward phase dimmers.

Electronic dimmable transformers need ELV rated, reverse phase dimmers, while Magnetic transformers need MLV rated, forward phase dimmers. On the dimmer compatibility tables, the percentages for each transformer/dimmer combination are the percentage of measured 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 2 lamps 12.5W.
5. For dimmers, we recommend to use a 2.0 de-rating factor for MLV dimmers with magnetic transformers; and a 4.0 de-rating factor for ELV dimmers driving Low Voltage lamps on electronic transformers.

For example for a 500W forward phase dimmer it would mean $500/2=250W$ of LED, so an estimated maximum of 20 lamps 12.5W.

For example for a 400W reverse phase dimmer it would mean $400/4=100W$ of LED, so an estimated maximum of 8 lamps 12.5W.

Distance between transformer and lamp(s)

- 12V AC Magnetic transformers and 12V DC transformers do not have a limitation regards 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 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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;

| Brand | Model | Wattage | Voltage (Vac) | Transformer Type | 1 Lamp | 2 Lamps | 3 Lamps |
|----------------------|-----------------------|---------|---------------|------------------|--------|---------|---------|
| North America | | | | | | | |
| B+L | CV90001 (CV-10/75-12) | 10-75 | 120 | Electronic | Pass | Pass | Pass |
| B+L | CV90010 | 10-105 | 120 | Electronic | Pass | Pass | Pass |
| B+L | CV90012 | 10-150 | 120 | Electronic | Pass | Pass | Pass |
| B+L | CV90021 | 10-200 | 120 | Electronic | Pass | Pass | Pass |
| B+L | CV90112 | 75 | 277 | Electronic | Pass | | |
| B+L | FX95100 | 0-75 | 120 | Electronic | Pass | Pass | Pass |
| B+L | LS94117 | 75 | 120 | Electronic | NC | NC | NC |
| B+L | MS90117 | 35-75 | 120 | Electronic | NC | NC | NC |
| B+L | MS90119 | 35-75 | 120 | Electronic | Pass | Pass | Pass |
| BK Lighting | TRSS150-277 | 150 | 277 | Electronic | NC | NC | NC |
| BK Lighting | TRSS75-277 | 75 | 277 | Electronic | NC | NC | NC |
| ELG | 250LT2512 | 75 | 120 | Electronic | NC | NC | Pass |
| Hatch | RL12-60A | 60 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | RL12-60M-LED | 60 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | RS12-60M-LED-277 | 60 | 277 | Electronic | Pass | | |
| Hatch | RL12-75 | 75 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | RL12-75A | 75 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | RS12-150 | 150 | 120 | Electronic | NC | NC | NC |
| Hatch | RS12-300 | 60 | 120 | Electronic | NC | NC | NC |
| Hatch | RS12-60 (any suffix) | 60 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | RS12-75BF-LED | 75 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | RS12-80 (any suffix) | 80 | 120 | Electronic | NC | NC | NC |
| Hatch | VS12-150 | 150 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | VS12-105WD | 105 | 120 | Electronic | NC | Pass | Pass |
| Hatch | VS12-60WD | 60 | 120 | Electronic | Pass | Pass | Pass |
| Hatch | VS12-75WD | 75 | 120 | Electronic | Pass | Pass | Pass |
| K-Light | KL-789 | | 120 | Electronic | Pass | Pass | Pass |

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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;

| Brand | Model | Wattage | Voltage (Vac) | Transformer Type | 1 Lamp | 2 Lamps | 3 Lamps |
|----------------------|---------------------------------------|---------|---------------|------------------|---------------------------------|---------------------------------|---------------------------------|
| North America | | | | | | | |
| Lightech | LET 75 277 R | 75 | 277 | Electronic | Pass (Date code 1526 and after) | Pass (Date code 1526 and after) | Pass (Date code 1526 and after) |
| Lightech | LET-60, LET 60 BF | 60 | 120 | Electronic | Pass | Pass | Pass |
| Lightech | LET-105W | 105 | 120 | Electronic | Pass | Pass | Pass |
| Lightech | LET-151 | 150 | 120 | Electronic | NC | NC | NC |
| Lightech | LET-303-12 | 300 | 120 | Electronic | Pass | NC | NC |
| Lightech | LET-60-LW | 60 | 120 | Electronic | NC | NC | NC |
| Lightech | LET-75 | 75 | 120 | Electronic | Pass | Pass | Pass |
| LTF | TA15WA12LED | 15 | 120 | Electronic | Pass | | |
| LTF | TA60WA12LED | 60 | 120 | Electronic | Pass | Pass | Pass |
| Meanwell | PWM-90-12 | 90 | 100-305 | Electronic | Pass | Pass | Pass |
| MDL Corp | 316-0002 | 150 | 120 | Electronic | NC | Pass | Pass |
| Philips | ET-RZ17LED | 17 | 120 | Electronic | Pass | | |
| PONY | PET-120-12-75 | 75 | 120 | Electronic | Pass | Pass | Pass |
| PowerSelect Inc | PS20B75A | 75 | 120 | Electronic | NC | NC | NC |
| PowerSelect Inc | PS20B75S | 75 | 120 | Electronic | NC | NC | NC |
| Prescolite | JK-347A | 75 | 120 | Electronic | Pass | Pass | Pass |
| RSA | RT60A | 60 | 120 | Electronic | Pass | Pass | Pass |
| Tech Lighting | 700FJ4RFS (LTF TA75WA12-0000) | 75 | 120 | Electronic | Pass | Pass | Pass |
| Tech Lighting | 700MOPRT301ES-LED | 300 | 120 | Electronic | NC | NC | NC |
| Tech Lighting | 700MOSRT100ES-LED (LTF TA105WA12LED) | 105 | 120 | Electronic | Pass | Pass | Pass |
| TOPSTAR | SL-728 | 150 | 120 | Electronic | Pass | Pass | Pass |
| WAC | EN1260-R(B)2 | 60 | 120 | Electronic | Pass | Pass | Pass |
| WAC | EN-12100-R-AR | 100 | 120 | Electronic | Pass | Pass | Pass |
| Tech Lighting | 700AT152EL (LTF TA150WD12LEDRE) | 150 | 120 | Electronic (DC) | Pass | Pass | Pass |
| Tech Lighting | 700AT302EL (LTF TA300WDS12LEDRE-0000) | 300 | 120 | Electronic (DC) | Pass | Pass | Pass |
| Basler Electric | MI-5481E | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Cooper | TF-149911 | 50 | 120 | Magnetic | Pass | Pass | Pass |

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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;

| Brand | Model | Wattage | Voltage (Vac) | Transformer Type | 1 Lamp | 2 Lamps | 3 Lamps |
|-----------------------|---|---------|---------------|------------------|--------|---------|---------|
| North America | | | | | | | |
| Cooper | TF149911-TP120XFMR | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Cooper | TFA4120 | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Hammond Manufacturing | 166Q12 | 75 | 120 | Magnetic | Pass | Pass | Pass |
| Hatch | RL12-50(E, EN, ENT) | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Hatch | RL12-75(E, EN, ENT) | 75 | 120 | Magnetic | Pass | Pass | Pass |
| Iris | TFA-212 | 75 | 120 | Magnetic | Pass | Pass | Pass |
| Iris | TFA-311T | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Iris | TFA-3TR | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Iris | TFA-400 | 75 | 120 | Magnetic | Pass | Pass | Pass |
| Iris | TFA-51T | 75 | 120 | Magnetic | Pass | Pass | Pass |
| Juno | 310-1333 | 300 | 120 | Magnetic | Pass | Pass | Pass |
| MDL Corp | 315-0071A – IRIS RPN3MR Fixture dimmer/ Tap | 50 | 120 | Magnetic | Pass | Pass | Pass |
| MDL Corp | 315-0071A – IRIS RPN3MR Fixture Normal Tap | 50 | 120 | Magnetic | Pass | Pass | Pass |
| MDL Corp | 315-0126 – 12.3V | 50 | 120 | Magnetic | Pass | Pass | Pass |
| LINEA | 701970 | 300 | 120 | Magnetic | Pass | Pass | Pass |
| Orientronic | DLR1250BN | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Philips | Removed from Fixture | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Q-TRAN | Q6S-DC-120-12 (Rectified) | 60 | 120 | Magnetic | Pass | Pass | Pass |
| Q-TRAN | QT20-120/12-TP-RC | 20 | 120 | Magnetic | Pass | NC | NC |
| Q-TRAN | QT50-75CK-PT-277-RC | 75 | 277 | Magnetic | Pass | Pass | Pass |
| Q-TRAN | QT-50-75CK-PT-RC | 50-75 | 120 | Magnetic | Pass | Pass | Pass |
| Q-TRAN | QT50SV-120/12-RC | 50 | 120 | Magnetic | Pass | Pass | Pass |
| Q-TRAN | QTM60-DC+CAP (Rectifier + Filtered) | 60 | 120 | Magnetic | Pass | Pass | Pass |
| TechnoMagnet | ODC75S12 | 75 | 120 | Magnetic | Pass | Pass | Pass |

SORAA AR111 12V 12.5W - TRANSFORMER COMPATIBILITY - North America

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
- For transformer-lamp compatibility, Soraa only tests up to 5 transformers per circuit. Consult Soraa, controls provider and transformer manufacturer for latest compatibility when installing 5 or more fixtures per circuit. Lamp performance may vary based on field conditions, including but not limited to THD, shared neutral wires, power-quality. Whenever possible, test lamps in-situ to verify satisfactory performance.
- 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 AR111 12V 12.5W - DIMMER / ELECTRONIC TRANSFORMER COMPATIBILITY - North America

| Dimmer (120V) → | | | | | | | | | | | | | | |
|-------------------------|------------------------|------------|--------------------|---|-------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|---------------------|--|----------------------------------|-------------------------|----------------------|
| Transformer (120V) ↓ | | | Creston DIN-1DIMU4 | Lutron Grafik Eye QS + PHPM-PA-DV-WH module | Lutron Diva DVELV-300P | Lutron SPSELV-600 | Lutron Maestro MAELV-600 | Lutron Nova T NTELV-300 | Lutron Skylark SELV-300P | Leviton 6615-P 300W | MARLIN CONTROLS Stellar-DIMMING CABINET P/N 6-3-08-20-3-103T | Lutron Radio RA2 RRD-6NA-WH 600W | Lutron Caseta PD-5NE-XX | Lutron LP-RPM-4A-120 |
| North America | | | | | | | | | | | | | | |
| B+L | CV90001 (CV-10/75-12) | Electronic | | 10% | 10% | 18% | 16% | 17% | 12% | NC | | 14% | | |
| B+L | CV90021 (CV-10/105-12) | Electronic | | 10% | 11% | 17% | 17% | 19% | 12% | NC | | 14% | | |
| B+L | FX95100 | Electronic | | 10% | 9% | 18% | 13% | 15% | 10% | NC | | 16% | | |
| B+L | MS90119 | Electronic | | 10% | 1,2 lamps: 8% 3 lamps: N C | 1,2 lamps: 17% 3 lamps: N C | 14% | 1,2 lamps: 15% 3 lamps: N C | 10% | NC | | 17% | | |
| ELG | 250LT2512 | Electronic | | 1,2 lamps: N C 3 lamps: 10% | 1 lamp: N C 2,3 lamps: 10% | 1 lamp: N C 2,3 lamps: 15% | 1 lamp: N C 2,3 lamps: 14% | NC | 1 lamp: N C 2,3 lamps: 11% | NC | | 13% | | |
| Hatch | RL12-75 | Electronic | | | | | | 9% | 12% | | | | | |
| Hatch | RS12-150 | Electronic | | 10% | 8% | 15% | 15% | 16% | 10% | NC | NC | 15% | | |
| Hatch | RL12-60M-LED | Electronic | 6% | 5% | 4% | | | | | | 6% | 7% | 13% | 6% |
| Hatch | RS12-60M-LED | Electronic | | 10% | 7% | 13% | 12% | 14% | 8% | NC | 10% | 17% | | |
| Hatch | VS12-105 | Electronic | | 1 lamp: N C 2-3 lamps: 20% | 1 lamp: N C 2-3 lamps: 20% | 1 lamp: N C 2-3 lamps: 25% | 1 lamp: N C 2-3 lamps: 22% | 1 lamp: N C 2-3 lamps: 23% | 1 lamp: N C 2-3 lamps: 19% | NC | NC | 1,2 Lamps: N C 3 lamps 23% | | |
| Hatch | VS12-150 | Electronic | | 10% | 9% | 18% | 15% | 15% | 10% | NC | 1, 2 Lamps: N C 3 Lamps: 21% | | | |
| Hatch | VS12-60 | Electronic | | 10% | 7% | 14% | 12% | 13% | 8% | NC | 1 Lamp: N C 2,3 lamps: 19% | 15% | | |
| Hatch | VS12-60WD | Electronic | | 10% | 8% | 16% | 14% | 15% | 10% | 27% | 1 Lamp: N C 2,3 Lamps: 19% | 16% | | |
| Hatch | VS12-75WD | Electronic | | 9% | 8% | 16% | 13% | 15% | 9% | 25% | NC | 16% | | |
| Lightech | 303 AC 120 12 | Electronic | | 10% | 10% | 19% | 1,3 lamps: 26% 2 lamps: N C | 18% | 1,3 lamps: 21% 2 lamps: N C | 26% | NC | | | |
| Lightech | LET 105 | Electronic | | 10% | 7% | 12% | 12% | 14% | 9% | NC | 1 Lamp: N C 2 Lamps: 23% 3 Lamps: N C | 15% | | 7 |

SORAA AR111 12V 12.5W - DIMMER / ELECTRONIC TRANSFORMER COMPATIBILITY - North America

| Dimmer (120V) → | | | | | | | | | | | | | |
|----------------------|---|--------------------|--|-------------------------------|-------------------|-------------------|---------------------------------|-----------------------------|------------------------|--|--|-------------------|-------------------|
| Transformer (120V) ↓ | | | Grafik Eye 3000 + PHPM-PA-DV-WH module | Diva DVELV-300P | Lutron SPSELV-600 | Maestro MAELV-600 | Nova T NTELV-300 | SkyJarK SELV-300P | Leviton 6615-P 300W | MARLIN CONTROLS Stellar DIMMING CABINET P/N 6-3-08-20-3- 103TI | Lutron Radio RA2 RRD-6NA-WH 600W | Lutron CTELV-303P | Lutron FAELV-500M |
| North America | | | | | | | | | | | | | |
| Lightech | LET 151 R LDC | Electronic | 1,2 lamps: N C 3 lamps: 19% | NC | NC | NC | 13% | 7% | NC | 1 Lamp: N C 2,3 Lamps: 20% | 1 lamp: N C 2,3 Lamps: 21% | | |
| Lightech | LET 60 | Electronic | 10% | 7% | 13% | 12% | 13% | 9% | 36% | 16% | 16% | | |
| Lightech | LET 60LW | Electronic | NC | NC | NC | NC | NC | NC | NC | 1 Lamp: N C 2, 3 lamps: 20% | | | |
| Lightech | LET 75 | Electronic | 10% | 5% | 11% | 10% | 12% | 7% | NC | 1,2 Lamps: 23% 3 Lamps: N C | NC | | |
| Lightech | 9/24/2015 | Electronic | 9% | | | | | | | | | | |
| LTF | TA15WA12LED | Electronic | 3% | | 5% | 6% | 6% | 2% | | | | 6% | 6% |
| LTF | TA60WA12LED | Electronic | 10% | 8% | 13% | 12% | 14% | 9% | NC | | 16% | | |
| Magnitude | E60L12DC-KO | Electronic | | 1 Lamp: N C 2,3 Lamps: 10% | NC | NC | 1 lamp: N C 2,3 Lamps:14% | 1 Lamp: N C 2,3Lamps: 9% | | | | | |
| MDL Corp | 316-002 | Electronic | 10% | 5% | 12% | 12% | 12% | 7% | NC | | 16% | | |
| PONY | PET-120-12-75 | Electronic | 10% | 7% | 12% | 12% | 14% | 8% | NC | | 14% | | |
| Prescolite | JK-347A | Electronic | | | | 14% | 12% | 9% | | | | | |
| Tech Lighting | 700MOSRT100ES-LED (LTF TA105WA12LED) | Electronic | | | | | 15% | 13% | | | 16% | | |
| Topstar | SL-728 | Electronic | 10% | 8% | 13% | 12% | 13% | 9% | NC | | 13% | | |
| WAC | EN1260-R(B)2 | Electronic | | 7% | | 15% | | | | | 20% | | |
| WAC | EN-12100-R-AR | Electronic | 7% | 9% | 16% | 15% | 16% | 11% | NC | | 14% | | |
| Tech Lighting | 700AT152EL (LTF TA150WD12LEDRE) | Electronic (DC) | | | | | 16% | 14% | | | 13% | | |
| Tech Lighting | 700AT302EL (LTFTA300WDS12LEDRE- 0000) | Electronic (DC) | | | | | 16% | 13% | | | 14% | | |
| Tech Lighting | 700FJ4RFS (LTF TA75WA12-0000) | Electronic (DC) | | | | | 14% | 8% | | | 13% | | |

SORAA AR111 12V 12.5W – DIMMER(ELECTRONIC)/TRANSFORMER COMPATIBILITY - North America

| Dimmer (120V) → | | | Lutron VTELV-600M-B | Lutron Skylark SLV-600P | Crestron CLS-C6(M) | Crestron CLS-EXP-DIM | Crestron CLS-EXP-DIMU | Crestron CLX-1DIM4, CLX-1DIM8, CLX-2DIM8 | Crestron CLX-1DELV4 | Crestron DIN-1DIM4 | Crestron DIN-1DIMU4 | Crestron CLW-DIMSWEX, CLW-DIMSWCN, CLW-DIMEX, CLW-DIMCN, P-DIMEX | Crestron GLX-DIM6 | Crestron GLXX-2DIM8 |
|----------------------|--------------|------------|---------------------|-------------------------|--------------------|----------------------|-----------------------|--|---------------------|--------------------|---------------------|--|-------------------|---------------------|
| Transformer (120V) ↓ | | | | | | | | | | | | | | |
| North America | | | | | | | | | | | | | | |
| Hatch | RL12-75 | Electronic | 8% | 10% | | | | | | | | | | |
| Hatch | RS12-60M-LED | Electronic | | | NC | NC | 10% | NC | 10% | NC | 8% | NC | NC | NC |
| Lightech | LET 75 | Electronic | | | NC | NC | 5% | NC | 12% | NC | 5% | NC | NC | NC |
| Prescolite | JK-347A | Electronic | 10% | | | | | | | | | | | |

| TESTED BY DIMMER MANUFACTURER | | Dimmer → | ETC | | | | | | | |
|-------------------------------|--------------|------------|------------------|---------------------|----------------|---------------------|-----------|--------------------|-----------|----------|
| Transformer ↓ | | | (Unison DRd) D20 | (Unison Legacy) D20 | (Sensor 3) D20 | Legacy Unison ELV10 | DRd ELV10 | (Sensor 3) ELV10-S | Echo ELVD | ERP 300W |
| North America | | | | | | | | | | |
| Hatch | RS12-60M-LED | Electronic | NC | NC | NC | NC | 16% | 18% | 32% | 12% |

| Dimmer (277V) → | | | |
|----------------------|------------------|------------|---------------------------------|
| Transformer (277V) ↓ | | | Leviton Renoir II AWSMT-EA (TE) |
| North America | | | |
| Hatch | RS12-60M-LED-277 | Electronic | 8% |

SORAA AR111 12V 12.5W - DIMMER / MAGNETIC TRANSFORMER COMPATIBILITY - North America

| Dimmer (120V) → Transformer (120V) ↓ | | | Lutron Grafik Eye #3000 | Lutron Skylark SLV-600P | Lutron Diva DVLV-600P | Lutron Ceana CNLV-600P | Lutron NTLV-600 | MARLIN CONTROLS Stellar DIMMING CABINET P/N 6-3-08-20-3-103T with RMS 8 Control Unit - approx. 6 Kilo-Watts Total | Lutron Radio RA2 RRD-6NA-WH 600W | Lutron Radio RA2 RRD-10D-SW 800W | Lutron QSGRJ-4P + Custom PHPM (forced leading edge) @277Vac |
|--|--|----------|-------------------------|-------------------------|--------------------------------|------------------------|-----------------|---|----------------------------------|----------------------------------|---|
| North America | | | | | | | | | | | |
| Basler Electric | MI-5481E | Magnetic | 10% | NC | NC | NC | | 9% | | | |
| Cooper | T50W120VSL | Magnetic | | | NC | | | | 13% | | |
| Cooper | TF-149911 | Magnetic | 11% | NC | NC | NC | | 7% | | | |
| Cooper | TF 149911-TP120 | Magnetic | 10% | NC | NC | NC | | 9% | | | |
| Cooper | TFA4120 | Magnetic | | | 28% | | | | 19% | | |
| Hammond Manufacturing | 166Q12 | Magnetic | 13% | NC | NC | NC | | 10% | | | |
| Hatch | LT12-75-JIL-1 | Magnetic | | | 1-3 lamps: 23% 4 lamps: 20% | | 20% | | 13% | | |
| Iris | TFA212 | Magnetic | | | | | 19% | | 24% | | |
| Iris | TFA311T | Magnetic | | | | | 19% | | 15% | | |
| Juno | 310-1333 | Magnetic | 13% | NC | NC | NC | | 10% | | | |
| Linea | 701970 | Magnetic | 13% | NC | NC | NC | | 9% | | | |
| MDL Corp | 315-0071A – IRIS RPN3MR Fixture dimmer Tap | Magnetic | | 28% | NC | | | | | | |
| MDL Corp | 315-0071A – IRIS RPN3MR Fixture Normal Tap | Magnetic | | 27% | NC | | | | 9% | 10% | |
| MDL Corp | 315-0126 – 12.3V | Magnetic | | 26% | NC | | | | 9% | 8% | |
| Orientronic | DLR1250BN | Magnetic | 13% | 27% | 27% | 27% | | 8% | | | 28% |

SORAA AR111 12V 12.5W - DIMMER / MAGNETIC TRANSFORMER COMPATIBILITY - North America

| Dimmer (120V) → Transformer (120V) ↓ | | | Lutron Grafik Eye #3000 | Lutron Skylark SLV-600P | Lutron Diva DVLV-600P | Lutron Ceana CNLV-600P | Lutron NTLV-600 | MARLIN CONTROLS Stellar DIMMING CABINET P/N 6-3-08- 20-3-103T with RMS 8 Control Unit - approx. 6 Kilo-Watts Total | Lutron QSGRJ-4P + Custom PHPM (forced leading edge) @277Vac |
|--|--|----------|-------------------------|-------------------------|-----------------------|------------------------|-----------------|---|---|
| North America | | | | | | | | | |
| Q-Tran | Q6S-DC-120-12 (Rectified) | Magnetic | 13% | 21% | 21% | 21% | | 10% | |
| Q-TRAN | QT10-120/12-TP-RC | Magnetic | 9% | 24% | 24% | 24% | | 8% | |
| Q-TRAN | QT20-120/12-TP-RC | Magnetic | 9% | 28% | 28% | 28% | | 9% | 30% |
| Q-Tran | QT50-75CK-PT-277-RC | Magnetic | | | | | | | 27% |
| Q-TRAN | QT-50-75CK-PT-RC Date 11/11 | Magnetic | 10% | 23% | 23% | 23% | | 1 Lamp: N C 2,3 Lamps: 20% | |
| Q-TRAN | QT50SV-120/12-RC | Magnetic | 13% | 30% | 30% | 30% | | | |
| Q-Tran | QTM60-DC+CAP (Rectified + Filtered) | Magnetic | 10% | NC | NC | NC | | 1 Lamp: 10% 2,3 Lamps: N C | |

| | | | | | | | | | | | | | | |
|--|------------------|---------------|----------------------------|---------------------|----------------------|---|--------------------|-------------------|-------------------|--------------------------------------|------------------|--------------------|--------------------------------|-------------------------|
| <p style="text-align: center;">Dimmer (120V) →</p> <p style="text-align: center;">Transformer (120V) ↓</p> | | | Creston CLS-C6(Any Suffix) | Creston CLS-EXP-DIM | Creston CLS-EXP-DIMU | Creston CLX-1DIM\$, CLX-1DIM8, CLX-2DIM2, CLX-2DIM8 | Creston CLS-1DELV4 | Creston DIN-1DIM4 | Creston DIN1DIMU4 | Creston CLW-DIM(any suffix), P-DIMEX | Creston GLX-DIM6 | Creston GLXX-2DIM8 | Creston CLW-DELVEX(any suffix) | Forbes & Lomax FLRL603P |
| | | North America | | | | | | | | | | | | |
| Hatch | LS12-50EN | Magnetic | | | | | | | | | | | | NC |
| Q-TRAN | QT50SV-120/12-RC | Magnetic | | | | | | | | | | | | NC |
| TechnoMagnet | ODC75S12 | Magnetic | 12% | 10% | NC | 14% | NC | 8% | NC | 8% | 8% | 8% | NC | |

| <p style="text-align: center;">TESTED BY DIMMER/TRANSFORMER MANUFACTURER</p> <p style="text-align: center;">Transformer ↓</p> | | <p style="text-align: center;">Dimmer →</p> | ETC | | |
|---|---------|---|------------------|---------------------|----------------|
| | | | (Unison DRd) D20 | (Unison Legacy) D20 | (Sensor 3) D20 |
| North America | | | | | |
| Q-TRAN | Q6S-300 | Magnetic | TESTED | TESTED | TESTED |

SORAA AR111 12V 12.5W - 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 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 |