SignVue LED II
SERIES LUMINAIRE
Table of Contents

INDEX ................................................................................................................................................. 1

SAFETY GUIDE LINES ..................................................................................................................... 2

TROUBLESHOOTING .................................................................................................................... 3-4

COMPONENT PLACEMENT ............................................................................................................ 5-6

SURGE PROTECTION DEVICE ....................................................................................................... 7-9

LED DRIVER ...................................................................................................................................... 10-11

FIELD ADJUSTABLE OUTPUT DEVICE .......................................................................................... 12

LIGHT ENGINE ASSEMBLY ........................................................................................................... 13

WIRING SCHEMATICS .................................................................................................................... 14-17

The information presented in this LED Service Guide is generic in nature. It can be applied to and used in troubleshooting SignVue LED II Series Luminaires. This servicing guide contains information, illustrations on the following topics:

- Safety practices and equipment used when servicing LED lighting systems
- Construction and operating features affecting servicing.
• TO REDUCE THE RISK OF DEATH, PERSONAL OR PROPERTY DAMAGE FROM FIRE, ELECTRICAL SHOCK, FALLING PARTS, CUTS/ABRASIONS, AND OTHER HAZARDS PLEASE READ ALL WARNINGS AND INSTRUCTIONS
• TO AVOID THE RISK OF FIRE OR ELECTRICAL SHOCK, FIXTURE MUST BE INSTALLED IN COMPLIANCE WITH ALL APPLICABLE NATIONAL AND LOCAL ELECTRICAL / BUILDING CODES FOR CODE INTERPRETATION, CONSULT LOCAL CODE AUTHORITY
• BEFORE INSTALLING, SERVICING OR PERFORMING ROUTINE MAINTENANCE UPON THIS EQUIPMENT, FOLLOW THESE GENERAL PRECAUTIONS
• SERVICING OF THIS EQUIPMENT SHOULD BE PERFORMED BY A QUALIFIED LICENSED ELECTRICIAN AND MECHANICAL TECHNICIAN
• MAINTENANCE OF THE LUMINAIRE SHOULD BE PERFORMED BY PERSON(S) FAMILIAR WITH THE SIGNVUE LUMINAIRE CONSTRUCTION, OPERATION AND ANY HAZARDS INVOLVED
• DISCONNECT OR TURN POWER OFF BEFORE SERVICING
• VERIFY THAT THE SUPPLY VOLTAGE IS CORRECT BY COMPARING IT WITH THE LUMINAIRE LABEL INFORMATION
• MAKE SURE THAT ALL ELECTRICAL AND GROUNDED CONNECTIONS ARE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ANY APPLICABLE LOCAL CODE REQUIREMENTS
• ALL WIRING CONNECTION SHOULD BE CAPPED WITH UL APPROVED RECOGNIZED WIRING CONNECTORS.
• WEAR GLOVES, SAFETY GLASSES, HARD HATS AND SAFETY SHOES AT ALL TIMES WHEN SERVICING OR PERFORMING MAINTENANCE

THESE INSTRUCTIONS DO NOT PURPORT TO COVER ALL DETAILS OR VARIATIONS IN EQUIPMENT NOR TO PROVIDE EVERY POSSIBLE CONTINGENCY TO MEET IN CONNECTION WITH INSTALLATION, OPERATION, OR MAINTENANCE. SHOULD ADDITIONAL INFORMATION BE DESIRED OR SHOULD PARTICULAR PROBLEMS ARISE WHICH ARE NOT COVERED SUFFICIENTLY FOR THE PURCHASER’S OWNERS PURPOSES, THIS ISSUE SHOULD BE REFERRED TO ACUITY BRANDS LIGHTING TECHNICAL SUPPORT / FIELD SERVICE TEAM

FOR TECHNICAL OR FIELD SERVICE CONTACT:

PHONE: 1-740-349-4182 OR EMAIL fieldservice@acuitybrands.com
TROUBLESHOOTING PROCEDURES

If the luminaire is not performing per the product specification, review the following steps to determine root cause of failure. The following steps are recommendations for trouble shooting common failure modes

NON-FUNCTIONING LUMINAIRE

Insure power has been turned off or disconnected from the luminaire before completing steps #1 through #4 of the visual inspections

1. Visual inspection of the internal components for evidence of any failed components due to an electrical power surge event. Replace any components identified or contact your customer care representative to request a luminaire replacement.

2. Complete a visual inspection of the internal wirings to confirm there are no pinched or loose wire leads. Repair or replace wire leads identified or contact your customer care representative to request a luminaire replacement.

3. Complete a visual inspection of all internal wiring connectors to insure the leads have nested correctly inside of each connector. Complete a pull test on each of the leads separately to insure they do not pull out of the connectors. If one of the leads does pull out of the connector, repair it by re-inserting into the connector and lock in place, if the lead does not stay seated, replace the connector identified or contact your customer care representative to request a luminaire replacement.

4. Fusing (Optional) - Remove fusing from holder and validate that the fuse is in good condition. By using a multi-meter. Check continuity on the fuses to make sure they are not blown. Replace fusing if damaged.

NOTE: For the remainder of the troubleshooting process you will need to re-intergize the luminaire

- **Terminal Block** - Validate that there is AC voltage at the terminal block after luminaire has been re-entergized. Reference (Figure #1, A)

- **SPD** - (Acuity Brands Surge Protection Device 120-277v) Validate that there is AC voltage on the output side of the SPD. Disconnect the input side (Line/Com Leads) of the driver from the rest of the circuit by disconnecting the leads from the connector. Place the voltage probe test leads into the connector and measure the output AC voltage of the SPD device. If no voltage can be confirmed, replace the surge protection device and re-test. Reference (Figure #2,A,B)

- **LED Driver** – Confirm there is voltage on the output side of the LED driver. Disconnect the input leads at the connector from the light engine and the output leads of the LED driver. Place the voltage probe test leads into the connector. With the luminaire energized, measure the output DC voltage of the driver. If no voltage is present, replace the LED driver. Reference (Figure #3,A)
TROUBLESHOOTING PROCEDURES

- **Low Light Level Output** - Check for correct polarity between the LED driver output (Red & Blue Leads) and the LED light engine input, (Red & Blue Leads). Confirm polarity by checking the wiring between the driver and LED light engine with the wiring diagram supplied on the driver. Reversal of these leads will result in an outage and or low-level output of the light engine. If the symptom is still present you will need to contact your customer care representative to request a luminaire replacement. Reference (Figure #1,A)

- **Light Engine** – (Non-Functional) – If all of the previously internal components noted above have been identified as functional and the luminaire still does not function you will need to check the lead connections at the LED board to insure leads are secured correctly to the light engine board. If the symptom is still present you will need to contact your customer care representative to request a luminaire replacement. Reference (Figure #5)

  **Note:** Due to the nature of the LED light engine design and the special equipment required for assembly and testing, components related to the light engine assembly cannot be removed or repaired in the field.

- **Field Adjustable Output Module** – (Non-Functional) – If all of the previously internal components noted above have been identified as functional and the luminaire still not able to adjust the lumen you will need to check the lead connections at the FAOM to insure leads are secured correctly. If the symptom is still present you will need to replace the module or contact your customer care representative to request a luminaire replacement. Reference (Figure #4)
Measure Input AC Voltage to eliminate infrastructure related issues.

SPD Output - Supply AC voltage measured here would indicate SPD is operational.

Driver Output – DC voltage measured here would indicate driver is operational.

Non-Working Light engine - Check lead connections at the board level to insure that are secure.

FAQ - unable to adjust light level - Check lead connection to the field adjustable device.

Polarity - Check wiring, reversal of the driver or LED array leads will result in outage or low-level output.
Figure #1A
Internal Component Placement

Surge Protection Device with quick disconnect connectors
Input Terminal Block
LED Driver
Field Adjustable Light Level Output Device

Light Engine / Connections
Figure #2

SPD - (Acuity Brands Surge Protection Device)

CT-294 / SURGE SUPPRESSOR <\=277V GROUNDED UL SPD-03-277-040)

- SERVICING OF THIS EQUIPMENT SHOULD BE PERFORMED BY A QUALIFIED LICENSED ELECTRICIAN AND MECHANICAL TECHNICIAN

✓ Need to validate that there is AC voltage on the output side of the SPD
✓ Disconnect the input power to the luminaire
✓ Oper the door to the luminaire by releasing the 2 latches located on the front of the luminaire
✓ Disconnect the input leads of the driver from the wago connectors and from the rest of the circuit
✓ Place the test probe leads in the wago connectors were the input driver leads were removed
✓ Entergrize the luminaire and measure the AC voltage to confirm the correct voltage
✓ If no voltage can be confirmed, replace the surge production device and re-test

Reference (Figure #2, 2A, 2B)
Figure #2A

SPD Replacement

- **Replacement of SPD**
  - Disconnect the input power to the luminaire
  - Operate the door to the luminaire by releasing the 2 latches located on the front of the luminaire
  - Disconnect both input / output leads from the surge protection device
  - Remove the two screws that secure the device
  - Replace the surge protection device and re-secure by using the two screws previously removed
  - Reconnect the SPD input leads (3) to the terminal block spade terminals were previously removed.
  - Reconnect the SPD output leads (2) to the input driver leads using the 2 wago connectors previously removed
  - Close the power door to luminaire and resecure the two latches
  - Energize the luminaire to confirm correct operation of luminaire

**Note:** Surge protection replacement devices must be replaced with same type as approved by Acuity Brands Lighting

**Part Number:** *212E4A*

**Description:** - RKATB SPD MVOLT (CT-294 / SURGE SUPPRESSOR <=277V GROUNDED UL SPD-03-277-040)
BSP3 Surge Protector
“End-of-Life” Test Procedure

When a BSP3 Surge Protector reaches “end-of-life”, current still passes to the fixture. The luminaire continues to operate. This test is the only reliable way to determine whether or not a Surge Protector has reached end-of-life.

Test equipment:
- Ohmmeter
- Current Meter
- AC Voltage Supply
- Fuse
- Voltmeter

Continuity Test
0 – 5 Amp
0 – 750VAC
0.10 Amp
0 – 750VAC

Test For 10kA models
- Connect current meter and 0.1A fuse in series with the surge suppressor being tested.
- Starting at zero volts, very slowly (10 volts/second) dial up the voltage and monitor the current.
- You should see current of > 0.05 amp beginning to flow within voltage ranges shown below. (Do not raise the voltage higher than the values listed below.) If there is no current flow when you reach the upper voltage limit, the surge protector has reached end-of-life.
- Once the current starts to rise it will climb very fast; the 0.1A fuse will protect the surge suppressor from damage during test should the voltage go too high.

<table>
<thead>
<tr>
<th>BSP3 Model</th>
<th>Voltage Range</th>
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<tbody>
<tr>
<td>BSP3-120</td>
<td>150 – 250V</td>
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<tr>
<td>BSP3-208-240</td>
<td>300 – 400V</td>
</tr>
<tr>
<td>BSP3-277</td>
<td>350 – 450V</td>
</tr>
<tr>
<td>BSP3-347</td>
<td>480 – 600V</td>
</tr>
<tr>
<td>BSP3-480</td>
<td>580 – 750V</td>
</tr>
</tbody>
</table>

Repeat test on all 3 pairs of leads
- A. White - Black
- B. White - Green
- C. Black - Green

Test For 20kA models
Check continuity between all 3 pairs of wires (Should Be OPEN)
- A. White - Black
- B. White - Green
- C. Black - Green
Short or 0 ohms indicates end-of-life
SERVICING OF THIS EQUIPMENT SHOULD BE PERFORMED BY A QUALIFIED LICENSED ELECTRICIAN AND MECHANICAL TECHNICIAN

- Need to validate that there is DC voltage on the output side of the LED driver
- Disconnect the input power to the luminaire
- Oper the door to the luminaire by releasing the 2 latches located on the front of the luminaire
- Disconnect the input leads of the light engine from the wago connectors and from the rest of the circuit
- Place the test probe leads in the wago connectors where the input light engine leads were removed
- Energize the luminaire and measure the DC voltage to confirm the correct voltage based on driver specifications (Driver data is noted on the label of the driver)
- If no voltage can be confirmed, replace the LED driver and re-test

Reference (Figure #3, 3A)
Figure #3A

LED Driver Replacement

- Replacent of LED Driver
  - Disconnect the input power to the luminaire
  - Oper the door to the luminaire by releasing the 2 latches located on the front of the luminaire
  - Disconnect both driver input / output leads from the wago connectors
  - Remove the screws that secure the LED driver
  - Replace the LED driver and secure by using the screws previously removed
  - Reconnect the input leads (2) to the output wago connectors on the SPD that were previously removed
  - Reconnect the LED driver output leads (2) to the input light engine wago connectors that were previously removed
  - Close the power door to luminaire and re-secure the two latches
  - Energize the luminaire to confirm correct operation of luminaire

Note: LED drivers must be replaced with same type as provided /approved by Acuity Brands Lighting

Part Number: Part number is identified on the LED driver label
Description: - Driver description is identified on the LED driver label
Note: Provide this information when requesting a LED driver replacement
Figure #4
Field Adjustable Output Module Replacement

- **Replacement of Field Adjustable Output Device**
  - Disconnect the input power to the luminaire
  - Oper the door to the luminaire by releasing the 2 latches located on the front of the luminaire
  - Disconnect the purple and gray leads from the module. Use a small screwdriver to push down on the tab to release each lead
  - Remove the screws that secure the field adjustable output device module
  - Replace the field adjustable output module and secure by using the screws previously removed
  - Reconnect the two leads (Purple / gray) leads from the driver to the module that were previously removed
  - Reconnect the LED driver dimming leads (2) to the field adjustable output module
  - Make a quick pull test to insure the leads are secured
  - Adjust the setting on the device per requirements needed (1 through 8)
  - Close the power door to luminaire and resecure the two latches
  - Engergize the luminaire to confirm correct operation of luminaire

**Note:** Field Adjustable Output Device must be replaced with same type as provided /approved by Acuity Brands Lighting

**Part Number:** 701-00046-001
**Description:** - Assembly, Field Adjustable Output Module

**Note:** Provide this information when requesting the field adjustable output device replacement
**Figure #5**

Light Engine Lead Validation

- **Light Engine Lead(s) validation**
  - Disconnect the input power to the luminaire
  - Remove the optical cover from the housing assembly by removing the (6) screws
  - Lift off the optical cover and lens from the housing, set aside
  - Complete a visual inspection to insure leads (Red / Blue) have been attached to the light engine correctly and the leads are not pinched
  - Complete a pull test of the leads to insure they have been securely attached to the light engine assembly
  - Once the validation has been completed, reposition the optical lens back over the light engine and housing assembly, ensure it is positioned correctly to align with the optical cover
  - Re-attach the optical cover over the optical lens and position correctly
  - Secure the optical cover to the housing using the screws removed earlier
  - All screws must be tighten in the pattern noted above and torqued to 25-35 in LBS.

**Note:**
- All testing must be completed in a clean room environment as not to contaminate the light engine assembly
- The light engine can not be repaired or replaced in the field, if defective, contact your customer care representative to request a luminaire replacement
SignVue Series Wiring Schematics

Figure #6

480V Lumen Package
480V SPD Device
Figure #6
Field Adjustable Output
SignVue Series Wiring Schematics

Figure #6

24Volt DC
<table>
<thead>
<tr>
<th>VOLTAGE OPTION</th>
<th>PERFORMANCE PACKAGE</th>
<th>ACQUITY DRIVER PART #</th>
<th>MFG. PART #</th>
<th>SET VALUE (DRIVE CURRENT)</th>
<th>LABEL IDENTIFICATION</th>
<th>VENDOR</th>
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<td>1150MA</td>
<td>LBL-SVLED2-DRV03</td>
</tr>
</tbody>
</table>
Acuity Brands Lighting
3285 Columbus Road SW
Granville, Ohio 43023

Phone: 1-740-349-4182,
Email: fieldservice@acuitybrands.com