LED SERVICING GUIDE

SignVue *SERIES LUMINAIRE*

AcuityBrands Lighting

Table of Contents

The information presented in this LED Service Guide is generic in nature. It can be applied to and used in troubleshooting SignVue LED 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.

IMPORTANCE OF SAFETY

WARNING / CAUTION

IMPORTANT SAFETY INSTRUCTIONS

- TO REDUCE THE RISK OF DEATH, PERSONSAL 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 ELECTRICAN AND MECHANICAL TECHNICIAN
- MAINTENANCE OF THE LUMINAIRE SHOULD BE PERFORMED BY PERSON(S) FAMILIER WITH THE AUTOBHAN 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 REQUIRMENTS
- ALL WIRING CONNECTION SHOULD BE CAPPED WITH UL APPROVED RECOGNIZED WIRING CONNECTORS.
- WEAR GLOVES, SAFETY GLASSES, HARD HATS ANS SAFETY SHOES AT ALL TIMES WHEN SERVICING OR PERFORMAING 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 COVER SUFFICIENTLY FOR THE PURCHASER'S OWENERS 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

TROUBLESHOOOTING
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 recommondations for trouble shooting common failure modes

NON-FUNCTIONING LUMINAIRE Insure power has been turn 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 replace luminaire.

2. Complete a visual Inspection of the internal wirings to confirm there are no pinch wire leads. Repair wire leads identified or replace luminaire

3. Complete a visual inspection of all internal wiring connectors to insure pins have nested correctly inside of each connector. Disconnect each of the connectors one at a time and complete a pull test on each of the leads seperately to insure they do not pull out of the connector. 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 harness identified or replace the luminaire.

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.

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

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

- **SPD** - (Acuity Brands **S**urge **P**rotection **D**evice 120-277v) Vailadate that there is voltage on the output side of the SPD. Disconnect the output side of the SPD from the rest of the circuit by disconnecting the harness connector. Measure the output voltage at the connector to confirm the correct voltage. If no voltage can be confirmed, replace the surge production device and re-test. (Figure #1)

- **Light Engine Driver –** Confirm there is voltage on the output side of the LED driver. Disconnect the output connector from the LED driver and the input connector from the LED light engine. With the luminaire energized, confirm the output voltage of the LED driver using a DC voltmeter. If no voltage is present, replace the LED driver. (Figure #1)

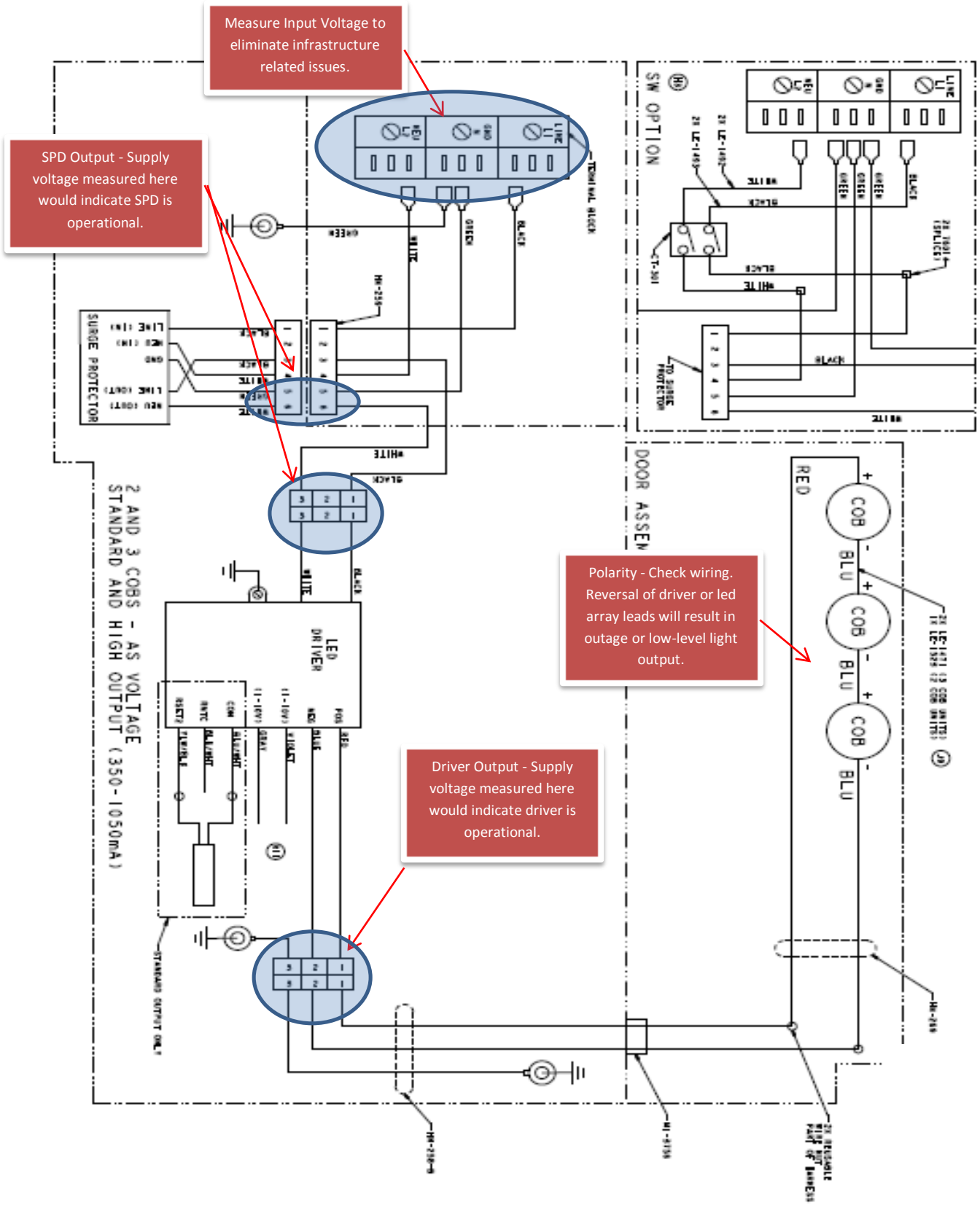
TROUBLESHOOOTING
PROCEDURES

- **Low Light Level Output** - Check for correct polarity between the LED driver output leads and the LED light engine input leads. Confirm polarity by checking the wiring between driver(s) and LED light engine(s) with the wiring diagram supplied inside of the luminaire. Reversal of the leads will result in an outage and or low-level output of one of the light engines. (Figure #1) If the symptom is still present, replace the LED light engine or replace luminaire.

- **Light Engines** – (Non-Functional) – If all of the components noted above have been identified as functional and the luminaire still does not function you need to contact your customer care representative to request for an optical door assembly replacement.

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

Figure#1


Measure Input Voltage to eliminate infrastructure related issues.
SPD Output - Supply voltage measured here would indicate SPD is operational.
Polarity - Check wiring. Reversal of driver or led array leads will result in outage or low-level light output.
Driver Output - Supply voltage measured here would indicate driver is operational.
SURGE PROTECTOR
LED DRIVER
2 AND 3 COBS - AS VOLTAGE
STANDARD AND HIGH OUTPUT (350-1050mA)
SW OPTION
DOOR ASSEM
COB
BLU
RED
BLACK
WHITE

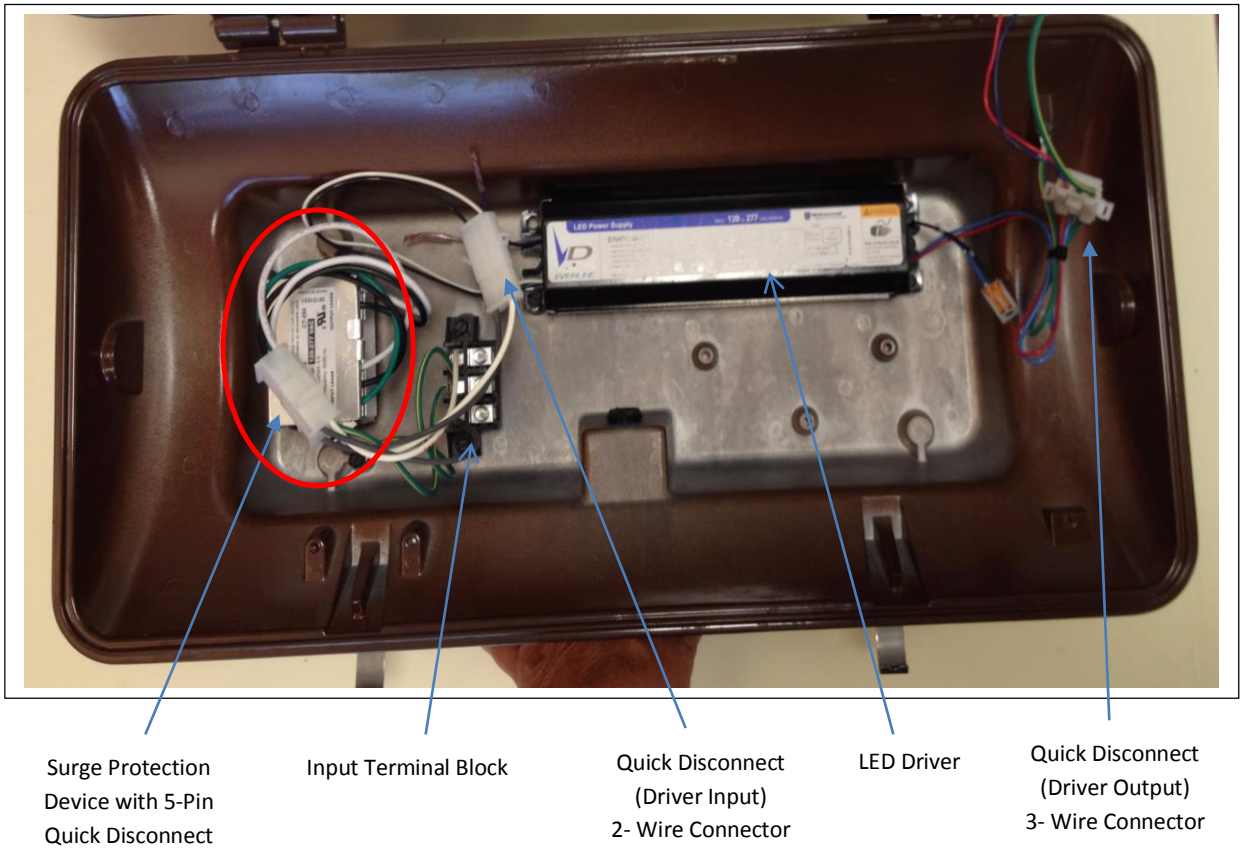
Figure#1

SPD - (Acuity Brands **S**urge **P**rotection **D**evice)

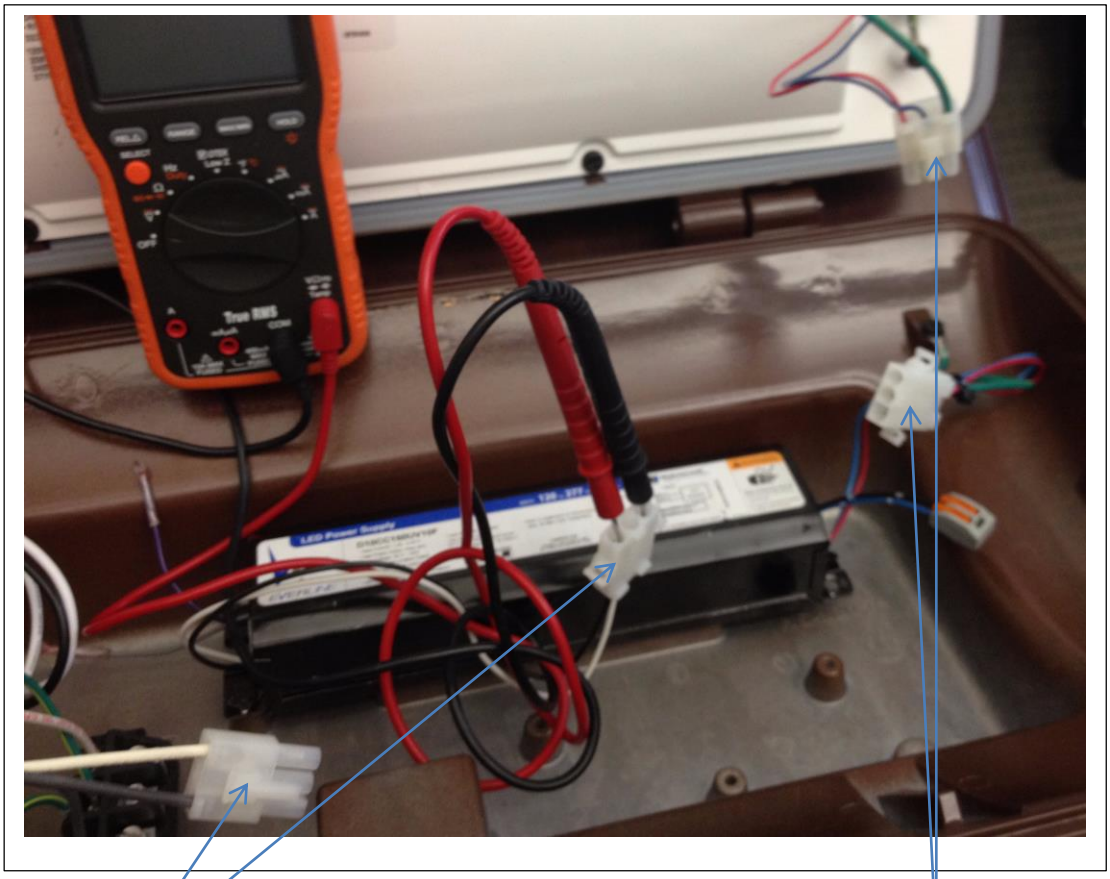
CT-294 / SURGE SUPPRESSOR </=277V GROUNDED UL SPD-03-277-040)

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

  - ✓ Need to vailadate that there is voltage on the output side of the SPD
  - ✓ Disconnect the output side of the SPD from the rest of the circuit by disconnecting the 5-pin molex connector
  - ✓ Measure the voltage at the output connector to confirm the correct voltage (120/277).
  - ✓ If no voltage can be confirmed, replace the surge production device and re-test. (Figure #2)



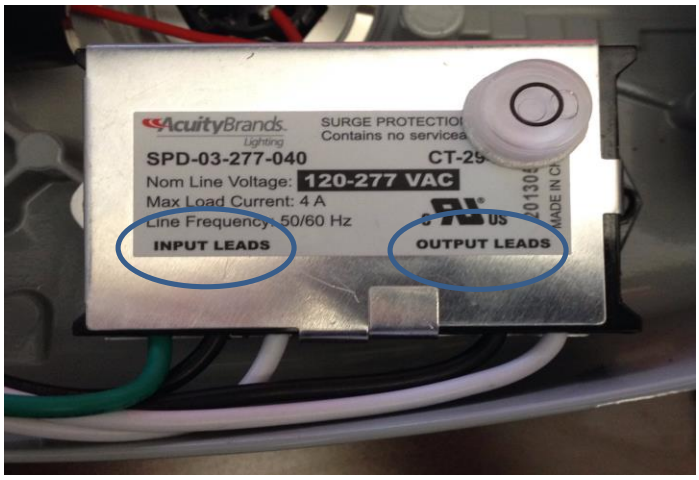
Figure#1
LED Driver Validation

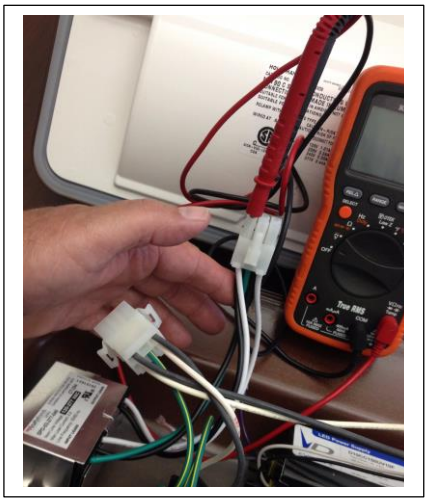


Quick Disconnect
(Driver Input)
2- Wire Connector

Quick Disconnect
(Driver Output)
3- Wire Connector

Figure#2





- **Replacent of SPD**
  - ✓ Disconnnect the input power to the luminaire
  - ✓ Oper the power door to the luminaire
  - ✓ Unplug both input / output plugs from the surge production device
  - ✓ Remove the two screws that secure the device
  - ✓ Replace the surge protection device and secure by using the two screws previosuly removed
  - ✓ Plug in both the input/out connectors previously removed from the surge protection device
  - ✓ Close the power door to luminaire
  - ✓ Engergize 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)

Figure#2

480V

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:

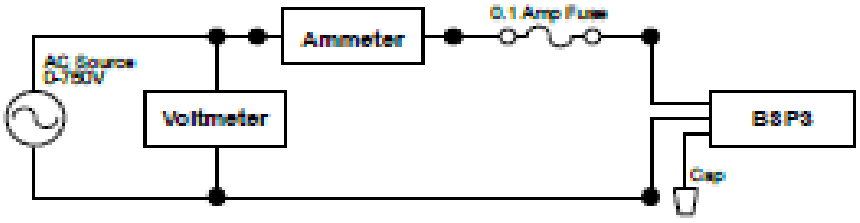
• Ohmmeter	Continuity Test
• Current Meter	0 – 5 Amp
• AC Voltage Supply	0 – 750VAC
• Fuse	0.10 Amp
• Voltmeter	0 – 750VAC

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 show 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.

BSP3-120	150 – 250V
BSP3-208-240	300 – 400V
BSP3-277	350 – 450V
BSP3-347	480 – 600V
BSP3-480	580 – 750V

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

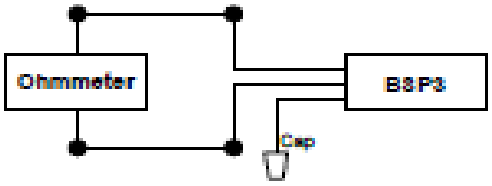
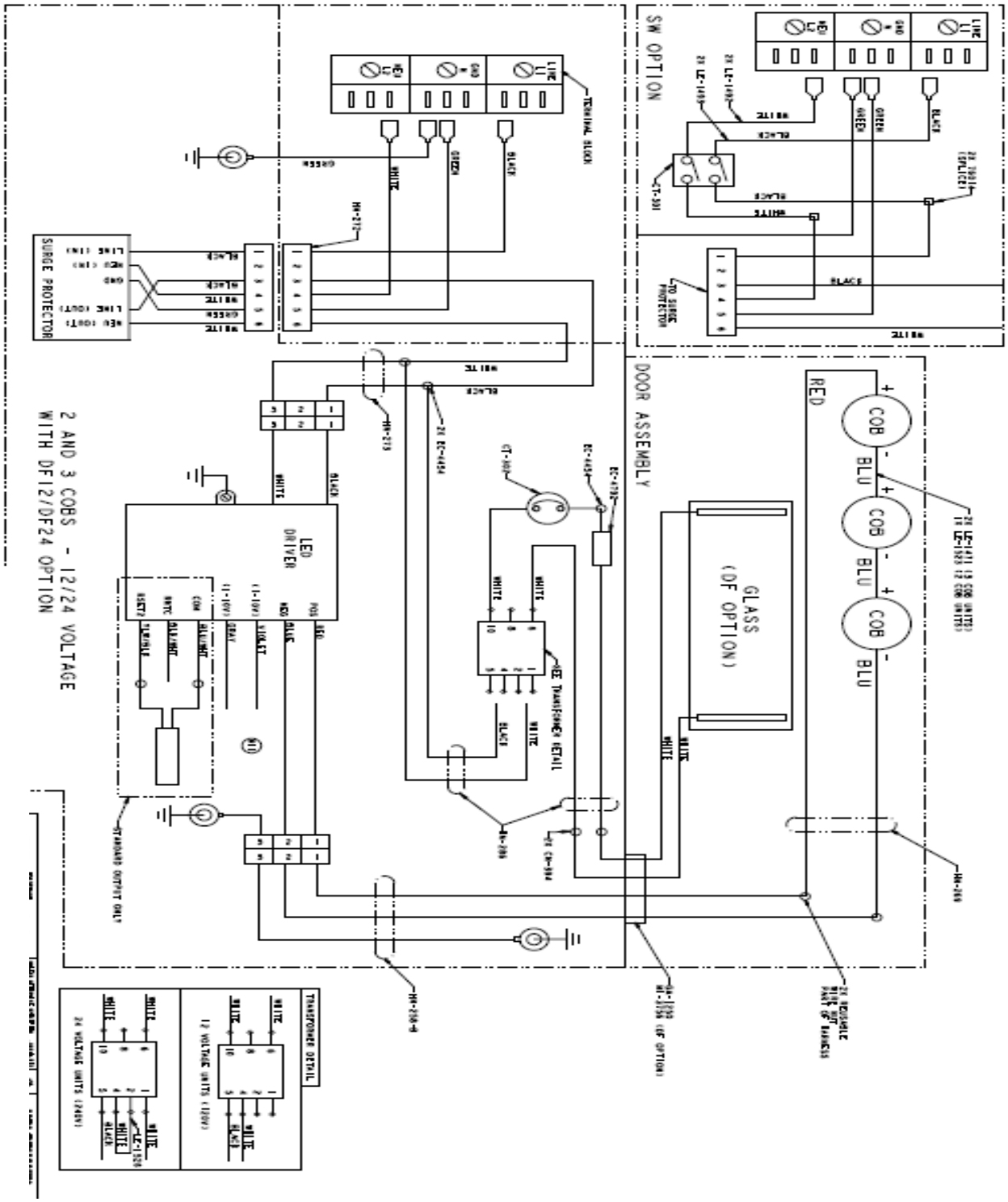
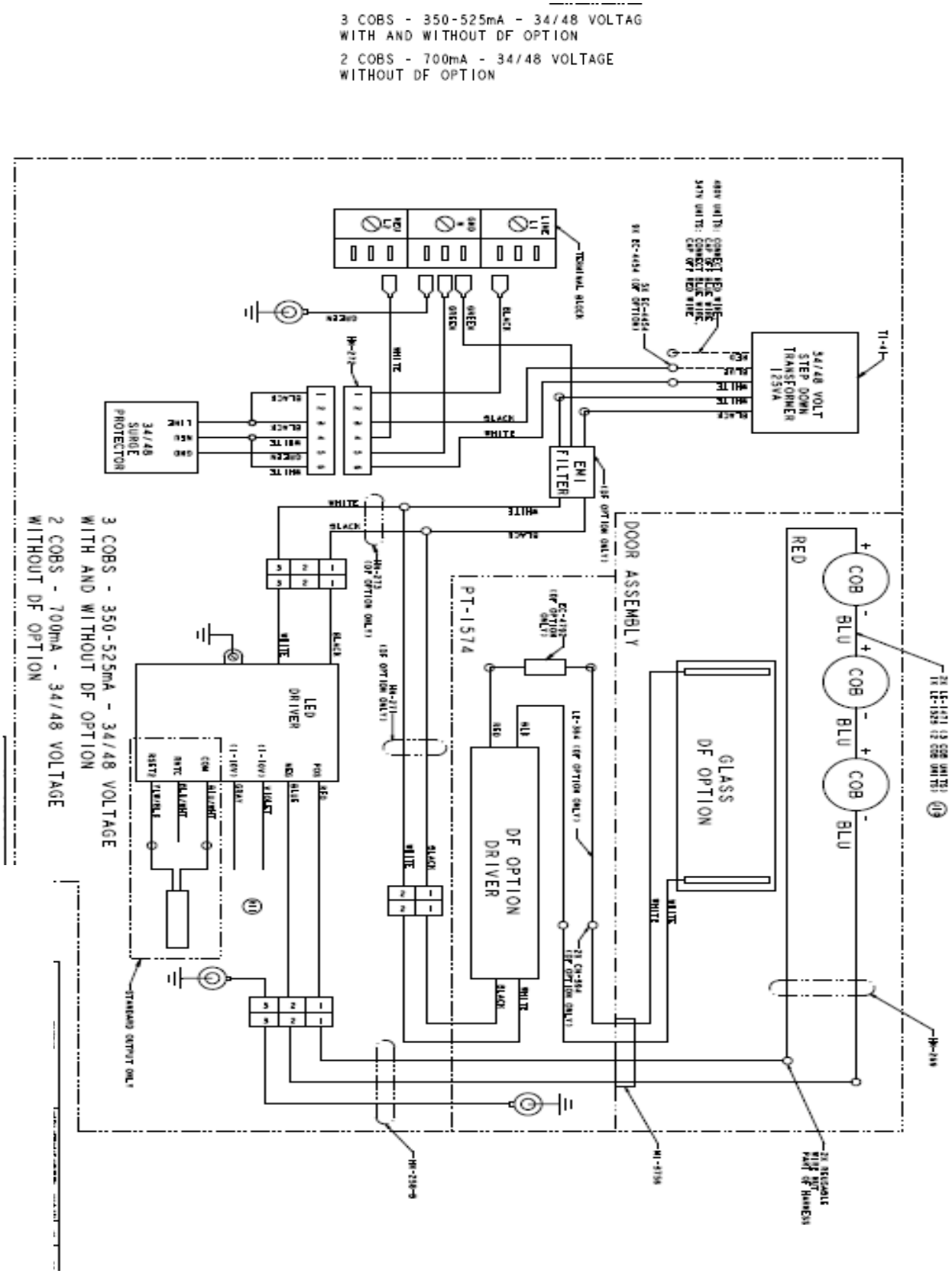


Figure #3


2 AND 3 COBS - 12/24 VOLTAGE
WITH DF12/DF24 OPTION
SW OPTION
DOOR ASSEMBLY
GLASS
(DF OPTION)
COB
BLU
RED
LED
DRIVER
SURGE PROTECTOR
TERMINAL BLOCK
TRANSFORMER DETAIL
12 VOLTAGE UNITS (12V)
24 VOLTAGE UNITS (24V)
WHITE
BLACK
GREEN

SignVue Series Wiring Schematics

Figure #3



SignVue Series Wiring Schematics

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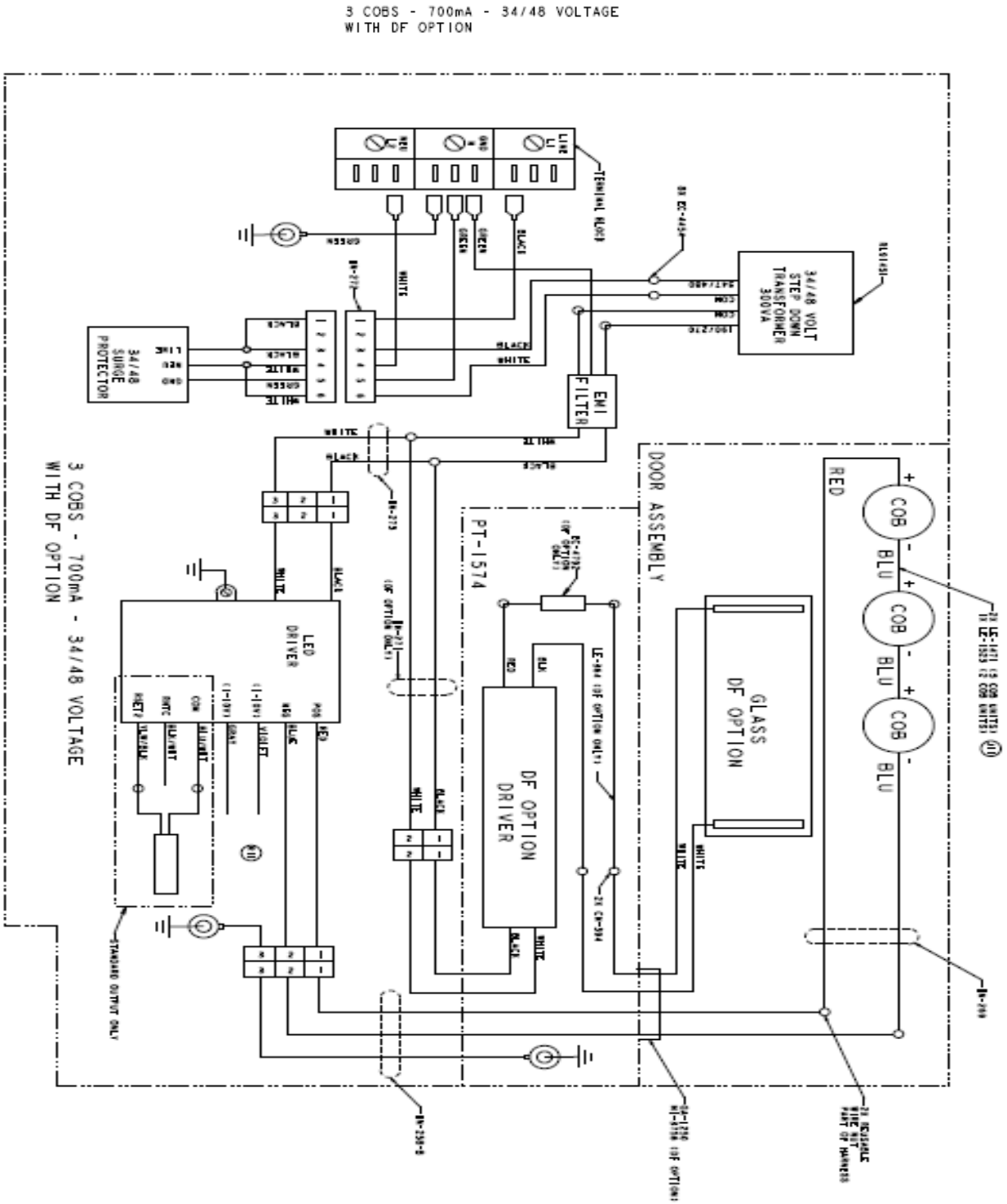

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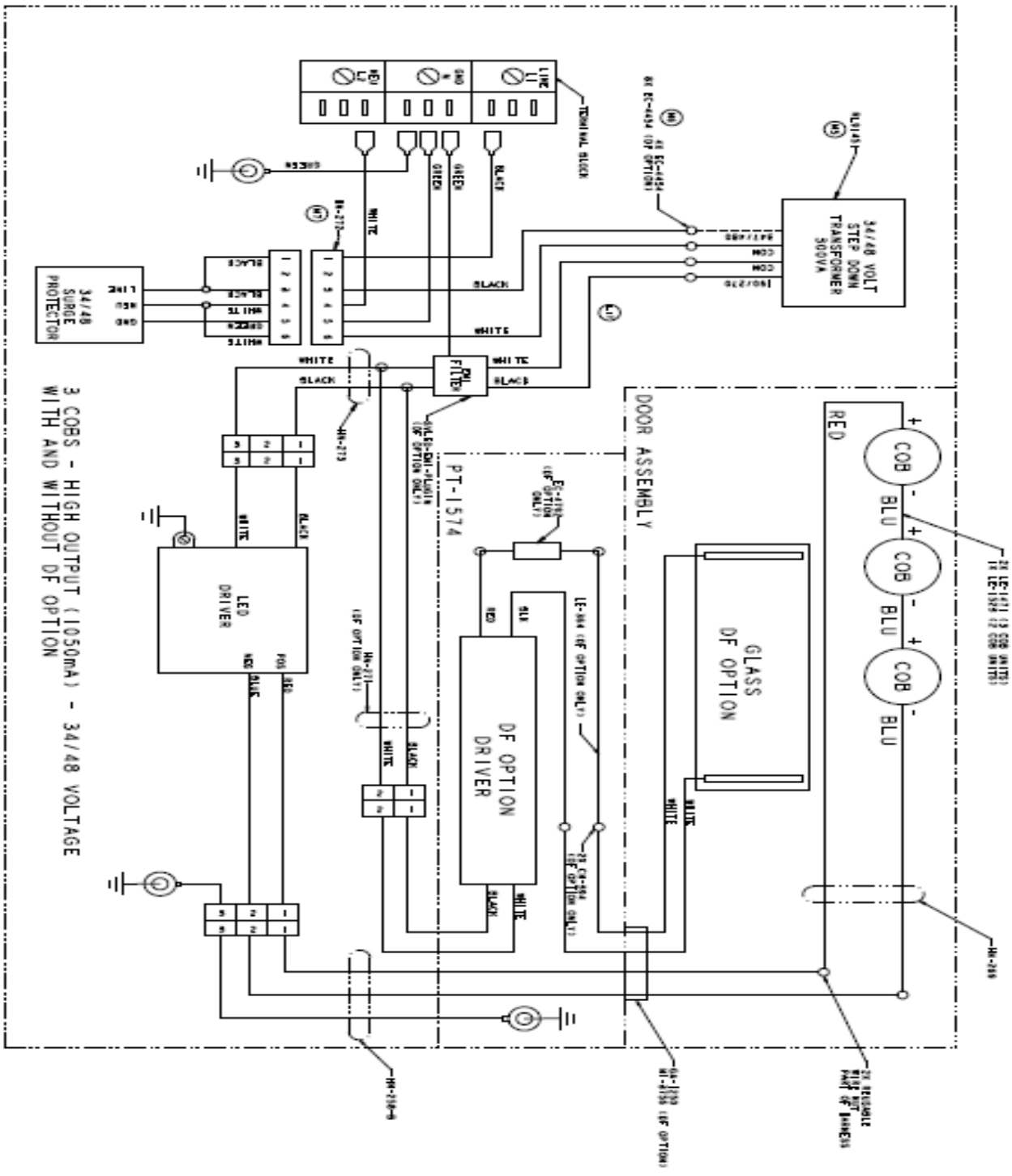
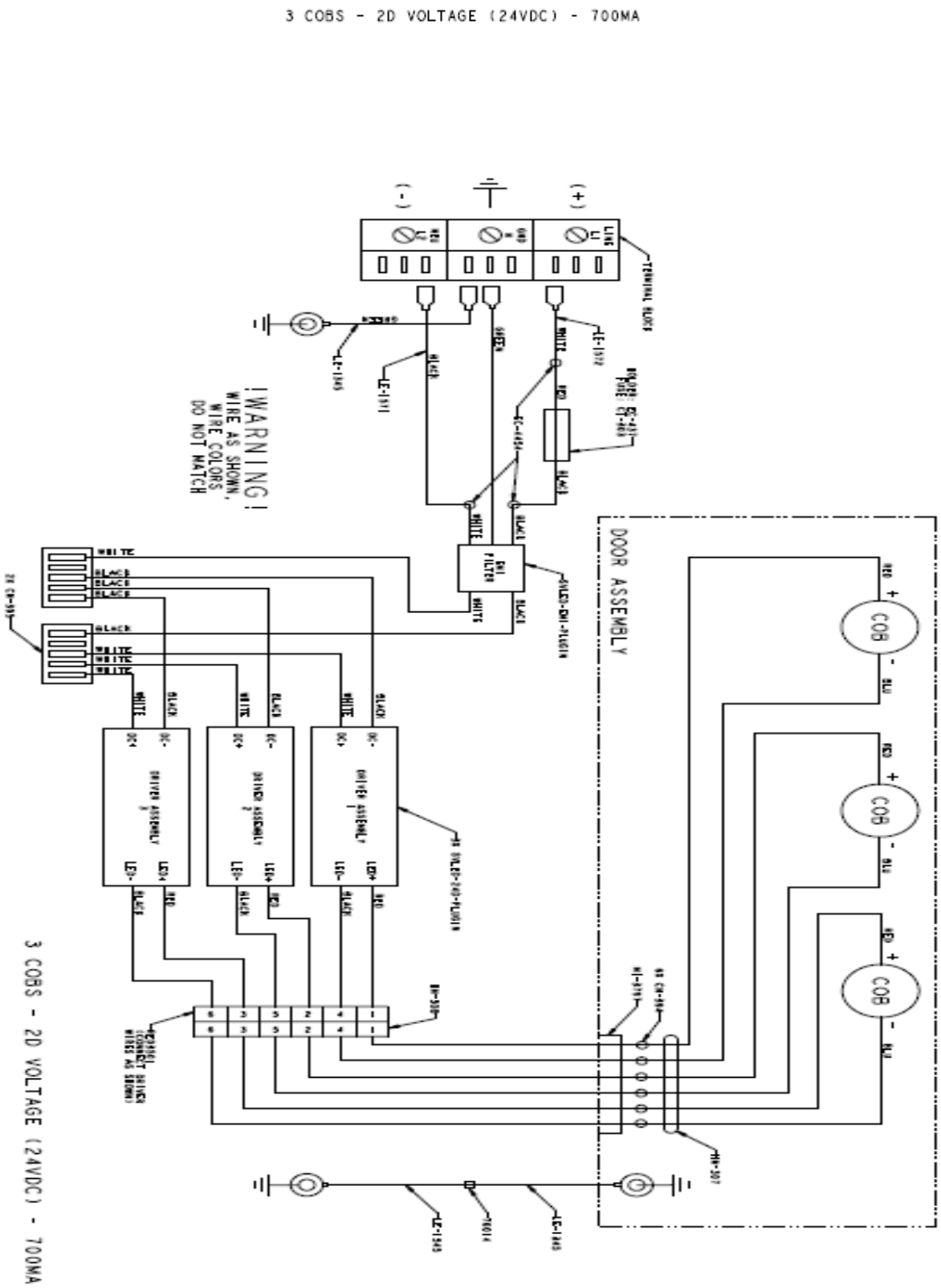


SignVue Series Wiring Schematics

Figure #3



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