



Adhesive Application Solutions | ISO 9001 certified

DM SR STEP-DOWN TRANSFORMER GROUPS 400/480 VAC

SERVICE MANUAL, #50-26, Rev.5.25
English - Original instructions

For SR5/10:

- PN 117320 XFMR ASY, 400 VAC, 2-Hose, SR5/10
- PN 117321 XFMR ASY, 480 VAC, 2-Hose, SR5/10
- PN 117322 XFMR ASY, 400 VAC, 4-Hose, SR5/10
- PN 117323 XFMR ASY, 480 VAC, 4-Hose, SR5/10
- PN 117324 XFMR ASY, 400 VAC, 6-Hose, SR5/10
- PN 117325 XFMR ASY, 480 VAC, 6-Hose, SR5/10

For SR22/45:

- PN 123706 XFMR ASY, 400 VAC, 2-Hose, SR22/45
- PN 123707 XFMR ASY, 480 VAC, 2-Hose, SR22/45
- PN 123708 XFMR ASY, 400 VAC, 4-Hose, SR22/45
- PN 123709 XFMR ASY, 480 VAC, 4-Hose, SR22/45
- PN 123710 XFMR ASY, 400 VAC, 6-Hose, SR22/45
- PN 123711 XFMR ASY, 480 VAC, 6-Hose, SR22/45
- PN 123712 XFMR ASY, 400 VAC, 2-Hose, 1-Grid, SR22/45
- PN 123713 XFMR ASY, 480 VAC, 2-Hose, 1-Grid, SR22/45
- PN 123714 XFMR ASY, 400 VAC, 4-Hose, 1-Grid, SR22/45
- PN 123715 XFMR ASY, 480 VAC, 4-Hose, 1-Grid, SR22/45
- PN 123716 XFMR ASY, 400 VAC, 6-Hose, 1-Grid, SR22/45
- PN 123717 XFMR ASY, 480 VAC, 6-Hose, 1-Grid, SR22/45

Information about this manual



Read all instructions before operating this equipment!

It is the customer's responsibility to have all operators and service personnel read and understand this information. Contact your ITW Dynatec customer service representative for additional copies.



NOTICE:

Please be sure to include the serial number of your application system each time you order replacement parts and/or supplies. This will enable us to send you the correct items that you need.

NOTICE: Most common screws, nuts and washers called out in the manual are not for sale and they can be obtained locally at your hardware Store. Specialty fasteners are available by contacting ITW Dynatec's Customer Service.

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Chapter 1

Safety Instructions

1.1 General Considerations



- **All operators and service personnel must read and understand this manual before operating or servicing equipment.**
- **All maintenance and service on this equipment must be performed by trained technicians.**



Read and adhere to the manual!

1. Read and follow these instructions.
Failure to do this could result in severe personal injury or death.
2. Keep the binding rules for accident prevention valid for your country and the place of installation. Also keep the approved qualified technical rules for safety-conscious and professional work.
3. Additional safety instructions and/ or symbols are located throughout this manual. They serve to warn maintenance personnel and operators about potentially hazardous situations.
4. Inspect the equipment for unsafe conditions daily and replace all worn or defective parts.
5. Keep work area uncluttered and well lit. Remove all material or things not needed for the production from the workspace of the equipment!
6. All covers and guards must be in place before operating this equipment.
7. Subject to technical modifications without notice!
8. To ensure proper operation of the equipment, use specified electrical and/ or air supply sources.
9. Do not attempt to alter the design of the equipment unless written approval is received from ITW Dynatec.
10. Keep all manuals readily accessible at all times and refer to it often for the best performance from your equipment.

1.2 Warning Labels

1. Read and obey all of the warning labels, signs and caution statements on the equipment.
2. Do not remove or deface any of the warning labels, signs and caution statements on the equipment.
3. Replace any warning labels, signs and caution statements which have been removed or defaced. Replacements are available from ITW Dynatec.

1.3 Safety Symbols in this Manual

Mandatory signs

	General mandatory sign		Wear foot guard!
	Read and adhere to the documentation!		Wear protective gloves!
	Switch the unit voltage-free before working! Main switch OFF!		Wear protective clothing!
	Wear headgear, protective goggles and ear protection!		

Warning signs

NOTE: The dangers and risks exist if the corresponding instructions are not heeded and the precautionary measures are not taken!

	Caution, danger spot! This sign points to possible dangers for life and physical condition or to possible risks for machine and material or to possible risks for environment. The word “DANGER” in addition with this points to possible dangers of life The words “WARNING” and “CAUTION” in addition with this sign point to possible risks of injury. The word “ADVICE” in addition with this sign points to possible risks for machine, material or environment.		Danger, high voltage! This sign points to possible dangers for life and physical condition caused by electricity. Risk of injury, mortal danger!
			Caution, hot surface! This sign points to possible risks of burns. Risk of Burns!
			Caution, high pressure! This sign points to possible risks of injury caused by high pressure. Risk of injury!
			Caution, rotating rolls! This sign points to possible risks of injury caused by inrunning nip (at rolls). Risk of injury!

Prohibition signs

	Fire danger! Smoking prohibited!		Fire danger! Fire and open flames prohibited!
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1.4 Safe Installation and Operation



Read and adhere to the manual!

1. Read this manual before applying electrical power to the equipment. Equipment may be damaged by incorrect electrical connections.
2. To avoid possible failure of hoses, make sure all hoses are routed to avoid kinking, tight radius turns (8" or less) and abrasive contact. Hot-melt hoses should not have prolonged contact with heat-absorbing surfaces such as cold floors or metal troughs. These heat-absorbing surfaces can alter adhesive flow and cause incorrect calibration. Hoses should never be covered with materials that prevent heat dissipation, such as insulation or sheathing. Hoses should be spaced apart from each other, not making direct contact.
3. Hoses and cables can present a trip hazard around the machinery. Provide hose/ cable management infrastructure whenever possible.
4. Do not use adhesive that is dirty or that may be chemically contaminated. Doing so can cause system clogging and pump damage.
5. When adhesive hand-held applicators or other movable applicators are used, never point them at yourself or at any other person. Never leave a hand-held applicator's trigger unlocked when not actually in use.
6. Do not operate the hopper or other system components without adhesive for more than 15 minutes if the temperature is 150° C (300° F) or more. To do so will cause charring of the residual adhesive.
7. Never activate the heads, hand-held applicators and/ or other application devices until the adhesive's temperature is within the operating range. Severe damage could result to internal parts and seals.
8. Always install the equipment on a flat surface. Never attempt to lift or move the unit when there is molten adhesive in the system.
9. Promptly wipe up fluid spills to avoid potential slips or falls.
10. In case of an emergency or exceptional incident, press the emergency stop button in order to stop the unit quickly.
11. Use the unit only as it is intended to.
12. Never let the unit run unattended.
13. Operate the unit only in a faultless and fully functional condition. Check and make sure that all safety devices work in proper form!



Smoking, fire and open flames prohibited! Fire danger!

Make absolutely sure that there is no smoking and no fire being lit in the work area!

1.5 Explosion/ Fire Hazard

1. Never operate this unit in an explosive environment.
2. Use cleaning compounds recommended by ITW Dynatec or your adhesive supplier only.
3. Flash points of cleaning compounds vary according to their composition, so consult with your supplier to determine the maximum heating temperatures and safety precautions.

1.6 Choice of Adhesive



DANGER! HARMFUL FUMES!

Substance(s) being processed (e.g., melted, pumped, applied) by ITW equipment is at the discretion of the user and beyond ITW Dynatec's control. Any health effects or other safety-related concerns arising from the melting of those particular substances (e.g., hazardous fumes) is the responsibility of the user to identify and mitigate.

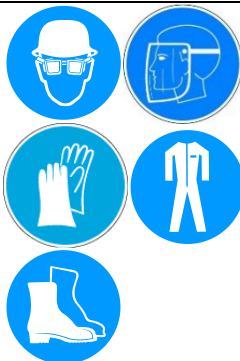
Use of PUR (Polyurethane) Adhesives:

PUR adhesives emit fumes (MDI and TDI) that can be dangerous to anyone exposed to them. These fumes cannot be detected by the sense of smell. ITW Dynatec strongly recommends that a power-vented exhaust hood or system be installed over any PUR system.

Consult with your adhesive manufacturer for specifics about required ventilation. See also the following Special Considerations When Using Reactive HMPUR Adhesives.

Because of the nature of PUR adhesives to strongly bond in the presence of moisture, care must be taken to prevent them from curing inside Dynatec equipment. If PUR adhesive solidifies in a unit, the unit must be replaced. Always purge old PUR adhesive from the system per your adhesive manufacturer's instructions and time table. **ALLOWING PUR ADHESIVE TO CURE IN A UNIT OR ITS COMPONENTS VOIDS ITW DYNATEC'S WARRANTY.**

1.7 Eye Protection & Protective Clothing



WARNING

Eye Protection & Protective Clothing Required

1. It is very important that you **PROTECT YOUR EYES** when working around hot melt adhesive equipment!
2. Wear a face shield conforming to ANSI Z87.1 or safety glasses with side shields which conform to ANSI Z87.1 or EN166.
3. Failure to wear a face shield or safety glasses could result in severe eye injury.
4. It is important to protect yourself from potential burns when working around hot melt adhesive equipment.
5. Wear heat-resistant protective gloves and long sleeved, protective clothing to prevent burns that could result from contact with hot material or hot components and to protect against cuts due to potential sharp edges on access panels, doors or lids.
6. Always wear steel reinforced safety shoes.

1.8 Electrical



DANGER HIGH VOLTAGE

1. Dangerous voltages exist at several points in this equipment. To avoid personal injury, do not touch exposed connections and components while input power is on.
2. Disconnect, lockout and tag external electrical power before removing protective panels.
3. A secure connection to a reliable earth ground is essential for safe operation.
4. An electrical disconnect switch with lockout capability must be provided in the line ahead of the unit. Wiring used to supply electrical power should be installed by a qualified electrician.
5. Notify the maintenance personnel immediately, if cables are damaged. Provide for exchanging the defective components immediately.

1.9 Lockout/ Tagout



Switch the unit voltage-free before working! Main switch OFF!

1. Follow OSHA 1910.147 (Lockout/ Tagout Regulation) for equipment's lockout procedures and other important lockout/tagout guidelines.
2. Be familiar with all lockout sources on the equipment.
3. Even after the equipment has been locked out, there may be stored energy in the application system, particularly in the capacitors within the panel box. To ensure that all stored energy is relieved, wait at least one minute after removing power before servicing electrical capacitors.

1.10 High Temperatures



WARNING HOT SURFACE

1. Severe burns can occur if unprotected skin comes in contact with molten adhesive or hot application system parts.
2. Face shields (preferred) or safety glasses (for minimum protection), heat-resistant protective gloves and long-sleeved clothing must be worn whenever working with or around adhesive application systems.

1.11 High Pressure



WARNING HIGH PRESSURE PRESENT

1. To avoid personal injury, do not operate the equipment without all covers, panels and safety guards properly installed.
2. To prevent serious injury from molten adhesive under pressure when servicing the equipment, disengage the pumps and relieve the adhesive system's hydraulic pressure (i.e. trigger the heads, hand-held applicators, and/or other application devices into a waste container) before opening any hydraulic fittings or connections.
3. IMPORTANT NOTE: Even when a system's pressure gauge reads "0" psi, residual pressure and trapped air can remain within it causing hot adhesive and pressure to escape without warning when a filter cap or a hose or hydraulic connection is loosened or removed. For this reason, always wear eye protection and protective clothing.
4. Either of the two High Pressure symbols shown may be used on ITW Dynatec equipment.
5. Keep the given operating pressure.
6. Notify the maintenance personnel immediately, if hoses or components are damaged. Provide for exchanging the defective components immediately.

1.12 Protective Covers



WARNING DO NOT OPERATE WITHOUT GUARDS IN PLACE

1. Keep all guards in place!
2. To avoid personal injury, do not operate the application system without all covers, panels and safety guards properly installed.
3. Never get your extremities and/or objects into the danger area of the unit. Keep your hands away from running parts of the unit (pumps, motors, rolls or others).

1.13 Servicing, maintenance

1. Only trained and qualified personnel are to operate and service this equipment.
2. Before any service work disconnect the external power supply and the pressure air supply!
3. Never service or clean equipment while it is in motion. Shut off the equipment and lock out all power sources (including pneumatic) before attempting any maintenance.
4. Follow the maintenance and service instructions in the manual.
5. Keep the maintenance rates given in this documentation!
6. Any defects in the equipment that impact safe operation have to be repaired immediately.
7. Check screws that have been loosened during the repair or maintenance, if they are tight again.
8. Replace the air hoses in preventive maintenance regularly, even if they have got no viewable damages! Adhere to the manufacturers' instructions!
9. Never clean control cabinets or other houses of electrical equipment with a jet of water!
10. Adhere to the current safety data sheet of the manufacturer when using hazardous materials (cleaning agents, etc.)!

1.14 Secure transport

1. Examine the entire unit immediately after receipt, if it has been delivered in perfect condition.
2. Let damages in transit certify by the carrier and announce them immediately to the ITW Dynatec.
3. Use only lifting devices that are suitable for the weight and the dimensions of the equipment (see drawing of the equipment).
4. The unit has to be transported upright and horizontally!
5. The unit has to cool down to room temperature before packaged and transported.

1.15 Treatment for Burns from Hot Melt Adhesives

Measures after being burned:

1. Burns caused by hot melt adhesive must be treated at a burn center. Provide the burn center's staff a copy of the adhesive's M.S.D.S. to expedite treatment.
2. Cool burnt parts immediately!
3. Do not remove adhesive forcibly from the skin!
4. Care should be used when working with hot melt adhesives in the molten state. Because they rapidly solidify, they present a unique hazard. Even when first solidified, they are still hot and can cause severe burns.
5. When working near a hot melt application system, always wear safety shoes, heat-resistant protective gloves, safety goggles and protective clothes that cover all vulnerable parts of the body.
6. Always have first-aid information and supplies available.
7. Call a physician and/or an emergency medical technician immediately. Let the burns medicate by a medic immediately.

1.16 Measures in case of fire

1. Please heed that not covered hot parts of the engine and molten hot melt may cause heavy burns. Risk of burns!
2. Work very carefully with molten hot melt. Keep in mind, that already jelled hot melt can be very hot, too.
3. When working near a hot melt application system, always wear safety shoes, heat-resistant protective gloves, safety goggles and protective clothes that cover all vulnerable parts of the body!

Measures in case of fire:

Wear safety shoes, heat-resistant protective gloves, safety goggles and protective clothes that cover all vulnerable parts of the body.

Firefighting - burning hot melt:

Please keep attention to the safety data sheet given by the adhesive manufacturer.



EXTINGUISH FIRE

Appropriate extinguishing agents:

Foam extinguisher, Dry powder, Spray, Carbon dioxide (CO₂), Dry sand.

For safety reasons not appropriate extinguishing agents: None.

Firefighting - burning electrical equipment:

Appropriate extinguishing agents:

Carbon dioxide (CO₂), Dry powder.

1.17 Keep attention to environmental protection standards



1. When working on or with the unit, the legal obligations for waste avoidance and the duly recycling / disposals have to be fulfilled.
2. Keep attention, that during installations, repairs or maintenance matters hazardous to water, like adhesive / adhesive scrap, lubricating grease or oil, hydraulic oil, coolant and cleaner containing solvent do not pollute the ground or get into the canalization!
3. These matters have to be caught, kept, transported and disposed in appropriate reservoirs!
4. Dispose these matters according to the international, national and regional regulations.

Chapter 2

Description, Specifications & Installation

2.1 Applicable Safety Regulations

2.1.1 Intended Use

The transformer groups may be used only to step down incoming 400 VAC or 480 VAC 3-phase delta electrical service so that a Dynamelt SR Adhesive Supply Unit can operate at 240 VAC. When in doubt, seek permission from ITW Dynatec.



If the unit is not used in accordance with this regulation, a safe operation cannot be guaranteed.

The operator - and not ITW Dynatec - is liable for all personal injury or property damages resulting from unintended use!



Intended use includes, that you

- read this documentation,
- heed all given warnings and safety instructions, and
- do all maintenance within the given maintenance rates.

Any other use is considered to be unintended.

2.1.2 Unintended Use, Examples

The transformer groups may not be used under the following conditions:

- In defective condition.
- In a potentially explosive atmosphere.
- With unsuitable operating/processing materials.
- When the values stated under Specifications are not complied with.

The transformer groups may not be used to process the following materials:

- Toxic, explosive and easily flammable materials.
- Erosive and corrosive materials.
- Food products.

2.1.3 Residual Risks

In the design of the transformer groups, every measure was taken to protect personnel from potential danger. However, some residual risks cannot be avoided.

Personnel should be aware of the following:



- Risk of burns from hot material.
- Risk of burns from hot components.
- Risk of burns when conducting maintenance and repair work for which the system must be heated up.



- Risk of burns when attaching and removing heated hoses.
- Material fumes can be hazardous. Avoid inhalation. If necessary, exhaust material vapors and/or provide sufficient ventilation of the location of the system.
- Risk of pinching parts of the body at running parts of the unit (pumps, motors, rolls or others).
- The safety valves may malfunction due to hardened or charred material.

2.1.4 Technical changes

Any kind of technical changes having impact to the security or the operational liability of the system should only be done by written agreement of ITW Dynatec. Suchlike changes made without given a corresponding written agreement will lead to immediate exclusion of liability granted by ITW Dynatec for all direct and indirect subsequent damages.

2.1.5 Using foreign components

ITW Dynatec takes no responsibility for consequential damages caused by using foreign components or controllers that have not been provided or installed by ITW Dynatec.

ITW Dynatec does not guarantee that foreign components or controllers used by the operating company are compatible to the ITW Dynatec-system.

2.1.6 Setting-up operation

We recommend asking for an ITW Dynatec-service technician for the setting-up operation, to ensure a functioning system. Let yourself and the people working with or working on the system be introduced to the system on this occasion.

ITW Dynatec takes no responsibility for damages or faults caused by any untrained personal.

2.2 Description

ITW Dynatec's 400/ 480 VAC transformer groups step down incoming 400 VAC or 480 VAC 3-phase delta electrical service so that a Dynamelt SR Adhesive Supply Unit can operate at 240 VAC. This voltage powers the ASU's electronics, the AC pump/ motor and drive, manifold heater and all head and hose temperature zones.

The incoming 400 VAC or 480 VAC service is routed through a 3-pole, 63A, 600 VAC switch and into a transformer set. Incoming power is split off inside the transformer set. 400/480 VAC is routed back to the ASU through a fuse block into a DC-controlled solid state relay and is used to power the ASU's hopper elements. 400/480 VAC power is also routed to a bank of 2.6KVA and 1.8KVA transformers. The 240 VAC transformer output power is routed through fuse blocks and into the mains connector on the ASU power board.

The ITW Dynatec step-down transformer groups are intended for either 400 VAC 3-phase delta connection without neutral or 480 VAC 3-phase delta connection without neutral. They should not be used in wash-down environments or in explosive atmospheres.

2.3 Transformer Sizing

The step-down transformer groups are available in 2 hose/ head, 4 hose/ head, and 6 hose/ head configurations. Each hose/ head pair is powered by one transformer. Each transformer is sized to deliver a total of 1800W to a pair of two heads and two hoses.

The first transformer provides 2600 W, with 800W dedicated to the manifold heater. 1800W is available for hose and head temperature zones 1 and 2. A second transformer provides 1800W to hose and head zones 3 and 4. If a third transformer is needed, it provides 1800W to hose and head zones 5 and 6.

Example 1:

Hose 1: a #6, 24ft Dynaflex hose	= 672 W
Head 1: a single-port BF head	= 220 W
Hose 2: a #6, 24ft Dynaflex Hose	= 672 W
Head 2: a single-port BF head	= 220 W
Total Wattage	= 1784 W

Since total wattage is less than 1800W, the combination above can be powered with one transformer.

Example 2:

Hose 1: a #6, 24ft Dynaflex hose	= 672 W
Head 1: a six-port BF head	= 775 W
Hose 2: a #6, 24ft Dynaflex hose	= 672 W
Head 2: a six-port BF head	= 775 W
Total Wattage	= 2894 W

Since total wattage exceeds 1800W, the combination above would require two transformers. Each transformer would supply 1447W required to power one hose and one head.

If Total Wattage exceeds 3600W, a third transformer is required.

2.4 Specifications

Environmental:

Storage/ shipping temperature	-40°C to 70°C (-40°F to 158°F)
Ambient service temperature	-7°C to 40°C (20°F to 104°F)

Physical:

Dimensions	see dimensional layouts on following pages
Number of heads/ hoses	2, 4 or 6
Weight:	
2-hose system	65 lb.
4-hose system	90 lb.
6-hose system	115 lb.

Electrical:

Adhesive Supply Unit switch	600 VAC/ 3ph/ 63 A
Primary transformer.....	2.6KVA isolated transformer
Transformer #2 & 3	1.8KVA isolated transformer
Primary taps	480/400/common
Secondary taps	240/common
UL class	180C insulation
Rated for	100% duty cycle
Operation.....	50 or 60 Hz

Total system wattage capacity:

DM SR05 & DM SR10	
2-hose system	4100W @ 480VAC/ 3640W @ 400VAC
4-hose system	5900W @ 480VAC/ 5440W @ 400VAC
6-hose system	7700W @ 480VAC/ 7240W @ 400VAV
DM SR22 & DM SR45	
2-hose system	5100W @ 480VAC/ 4350W @ 400VAC
4-hose system	6900W @ 480VAC/ 6150W @ 400VAC
6-hose system	8700W @ 480VAC/ 8000W @ 400VAV

Hopper wattage:

DM SR05 & DM SR10	1500W operating @ 480VAC
	1040W operating @ 400VAC
DM SR22 & DM SR45	2500W operating @ 480VAC
	1750W operating @ 400VAC

Fuses:

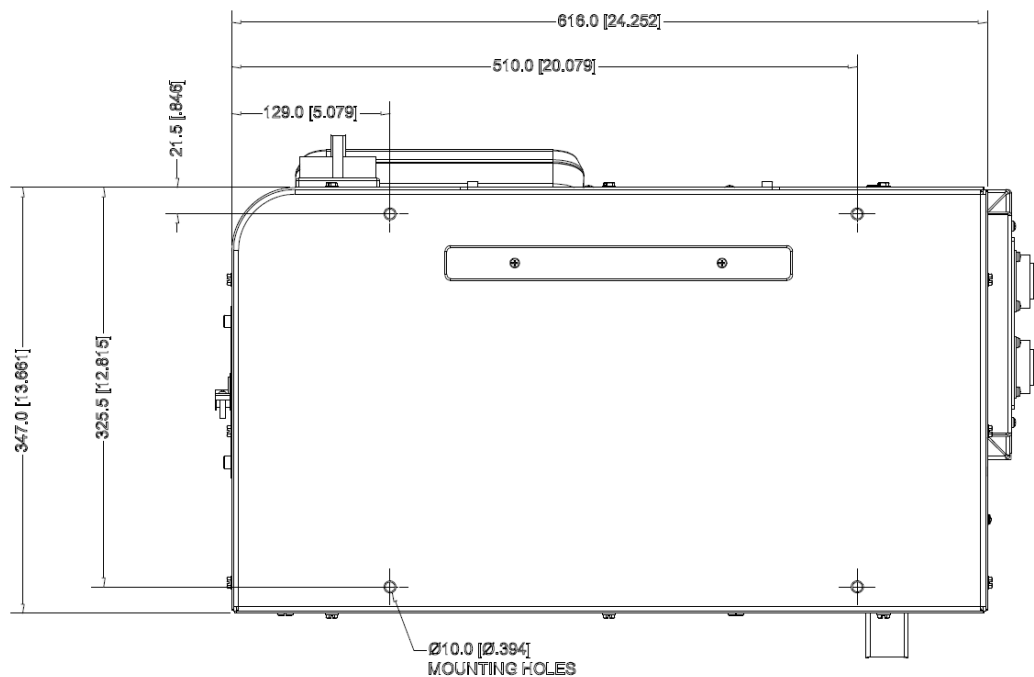
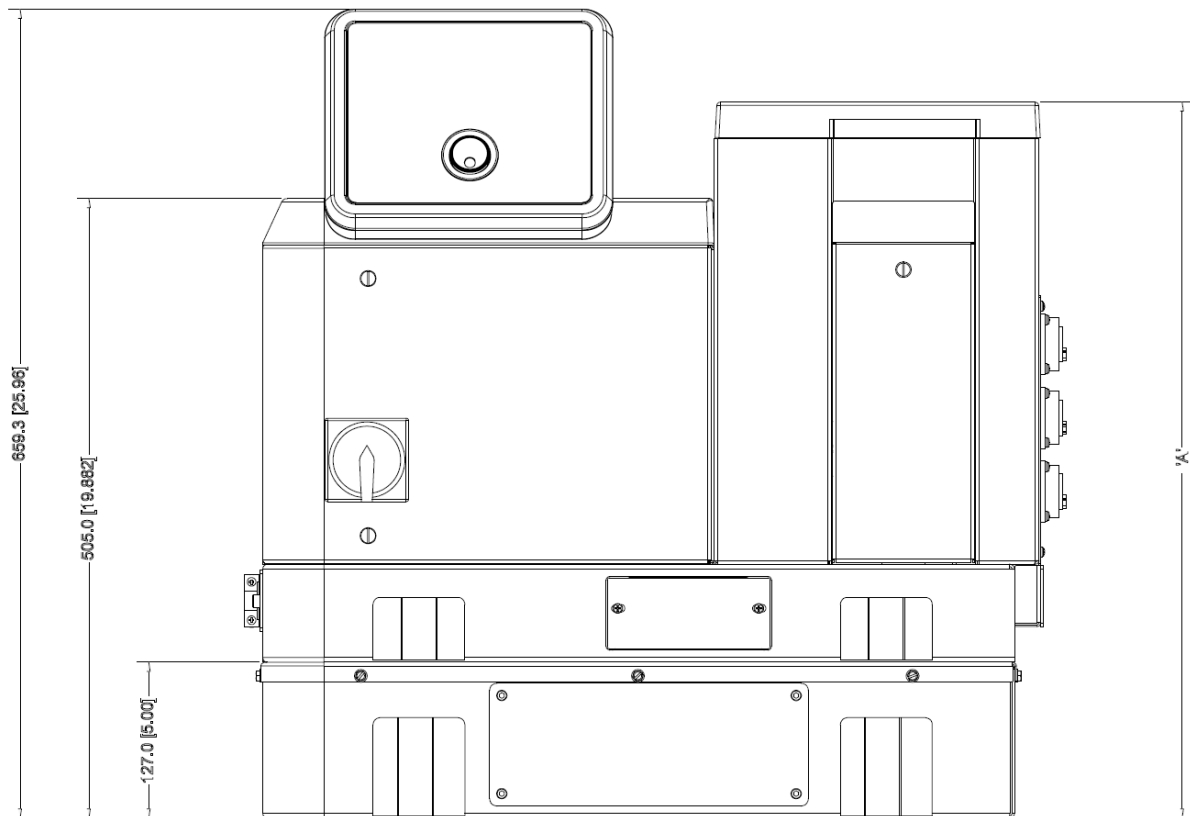
2-hose system	Four 10A, 600VAC LPCC fuses
4-hose system	Five 10A, 600VAC LPCC fuses
6-hose system	Six 10A, 600VAC LPCC fuses

2.4.1 Wattage/ Current for DM SR with Transformer Base

ASU/ Voltage	Category	2 Hoses	4 Hoses	6 Hoses
DM SR5/10 @ 480VAC	Maximum Current:	7.5 A	8.0 A	11 A
	Total System Wattage:	4100 W	5900 W	7700 W
	Wattage available for Hoses/Heads:	1800 W	1&2: 1800 W 3&4: 1800 W	1&2: 1800 W 3&4: 1800 W 5&6: 1800 W
DM SR5/10 @ 400VAC	Maximum Current:	8.1 A	9.6 A	12 A
	Total System Wattage:	3640 W	5440 W	7240 W
	Wattage available for Hoses/Heads:	1800 W	1&2: 1800 W 3&4: 1800 W	1&2: 1800 W 3&4: 1800 W 5&6: 1800 W
DM SR22/45 @ 480VAC	Maximum Current:	9.5 A	9.5 A	11 A
	Total System Wattage:	5100 W	6900 W	8700 W
	Wattage available for Hoses/Heads:	2600 W	1&2: 2600 W 3&4: 1800 W	1&2: 2600 W 3&4: 1800 W 5&6: 1800 W
DM SR22/45 @ 400VAC	Maximum Current:	9.5 A	9.6 A	12 A
	Total System Wattage:	4350 W	6150 W	8000 W
	Wattage available for Hoses/Heads:	2600 W	1&2: 2600 W 3&4: 1800 W	1&2: 2600 W 3&4: 1800 W 5&6: 1800 W

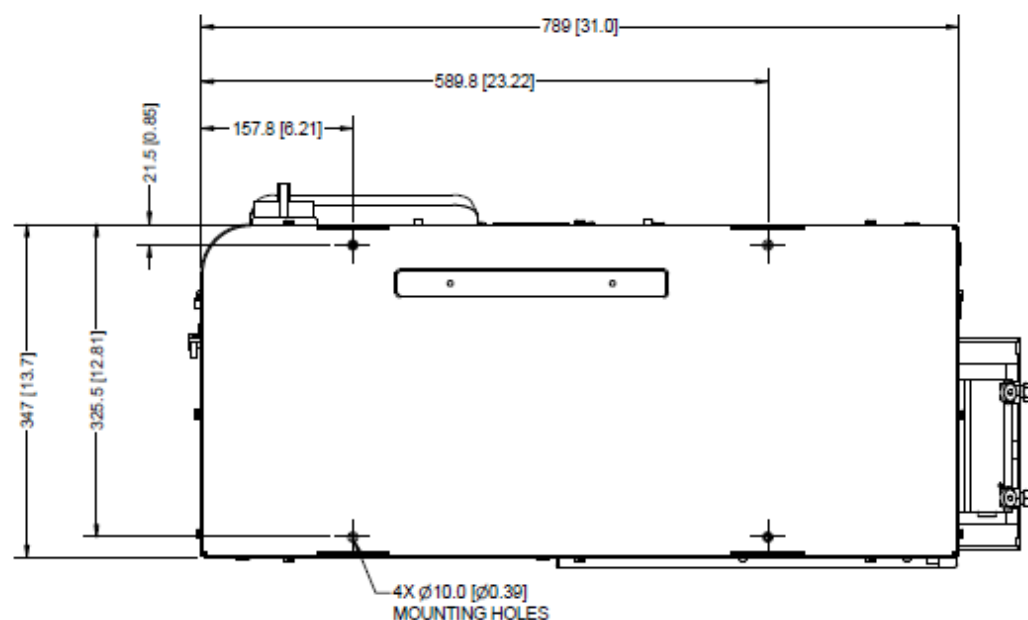
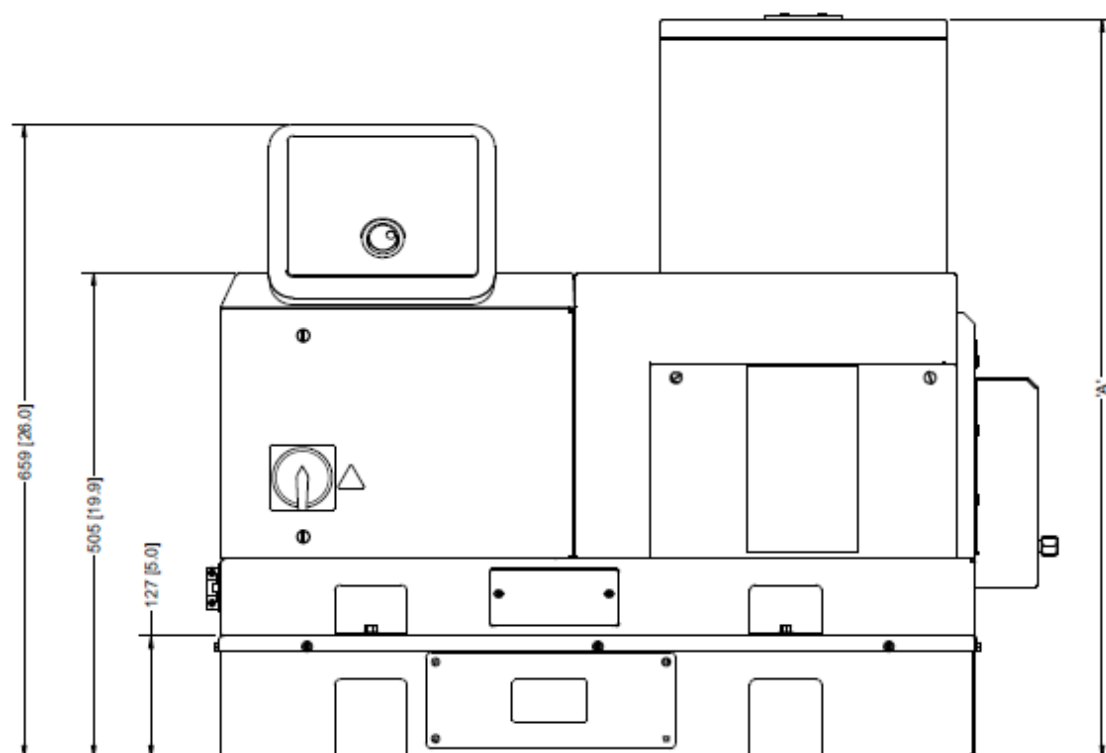
2.4.2 Dimensions Dynamelt SR5 or SR10 on Transformer Case

Dimensions are expressed as "mm [inch]"



Height dimension 'A'	
Model	Height
DM SR5	583.7 [23.98]
DM SR10	828.0 [32.60]

Dimensions are expressed as “mm [inch]”



Height dimension 'A'	
Model	Height
DM SR22	769 [30.3]
DM SR45	1175 [46.3]

2.5 Mounting



WARNING

Customer must supply an over-current protection device (for example: a circuit breaker or a disconnect) upstream of the Adhesive Supply Unit (ASU).

Transformer case can be mounted to the ASU by bolting to its base frame.

2.6 Installation

Make sure that the incoming line power to the ASU is disconnected and locked out.

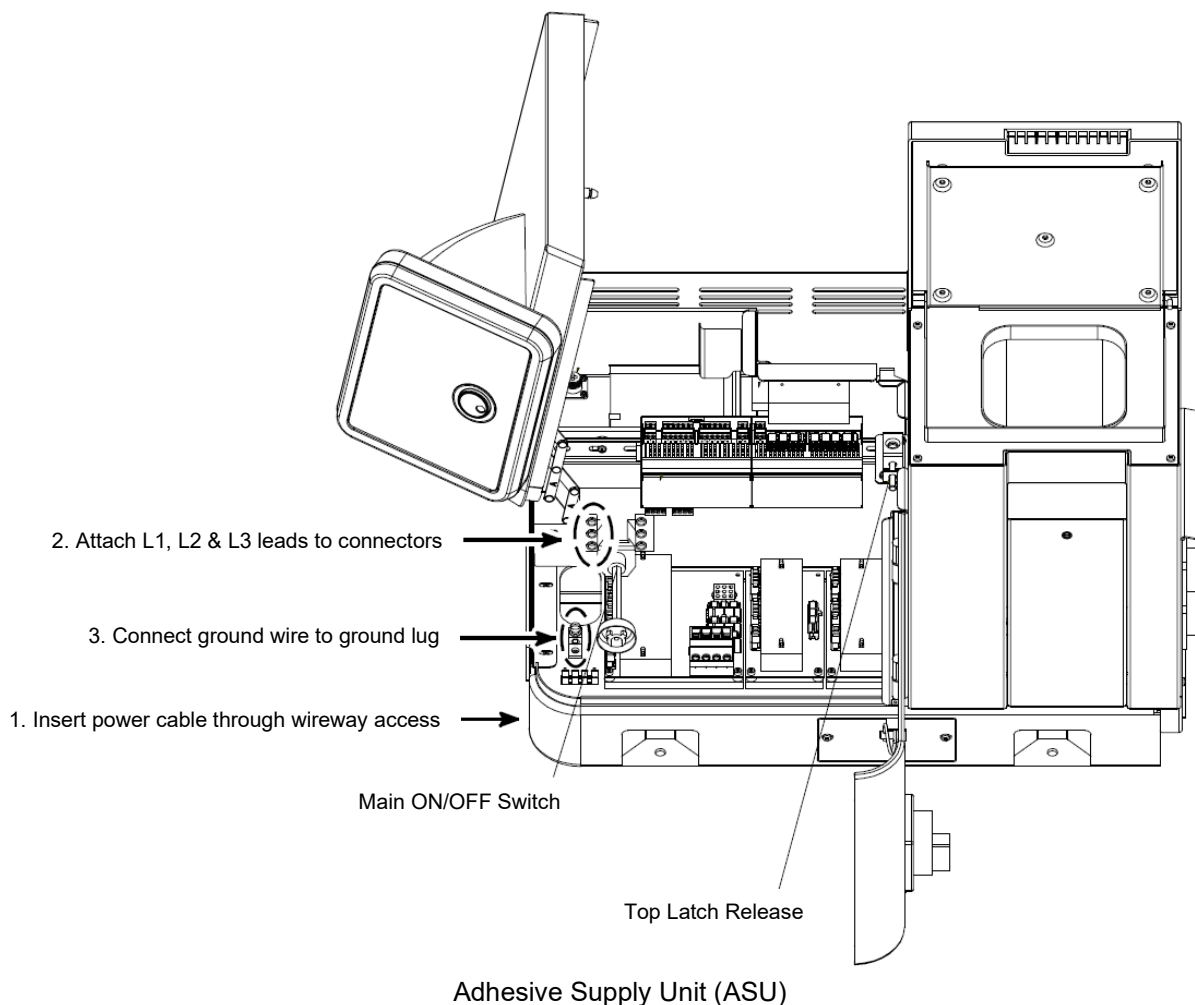
Turn OFF the ASU's main power switch.



DANGER HIGH VOLTAGE

Disconnect and lock out input power to the application system before starting any installation procedures. Make sure there is no electrical power on the leads you will be connecting.

1. Loosen the latch screws on the top and bottom of the ASU's electrical cabinet access door and open the unit.
2. Run the power cable through the wireway into the unit, using either the supplied strain relief or a customer-supplied sealite conduit.



3. Connect L1, L2 and L3 of the 400/480VAC supply to the L1, L2 and L3 connections on the ASU's main disconnect switch (connection order is not important).
4. Verify that the voltage connector plug is the same as the yellow, 240VAC/3 phase plug.
5. Connect the ground.
6. Close the ASU and turn ON.

Chapter 3

Service



CAUTION

Re-read Chapter 1 "Safety Precautions" before performing any service or maintenance procedures. All service or maintenance procedures must be performed by qualified, trained technicians.

3.1 Fuse Replacement

Disconnect 400/480VAC circuit breaker. Lockout and tag circuit breaker and plug.

Turn OFF the ASU's main power switch. Verify that power to the ASU is disconnected.



DANGER HIGH VOLTAGE

Disconnect and lock out input power to the application system before starting any installation procedures. Make sure there is no electrical power on the leads you will be connecting.

1. Remove the front fuse access panel.
2. Locate the failed fuse by checking continuity with a multi-meter.
3. Replace fuse.

3.2 Transformer Replacement

1. Drain all adhesive from the ASU's hopper.
2. Turn ASU power off and allow unit to cool.
3. Disconnect 400/480VAC circuit breaker. Lockout and tag circuit breaker and plug.
4. Verify that power to the ASU is disconnected.



DANGER HIGH VOLTAGE

Disconnect and lock out input power to the application system before starting any installation procedures. Make sure there is no electrical power on the leads you will be connecting.

5. Remove transformer case from ASU:
 - a. Remove all 13 thread-forming screws from lid of the case.
 - b. Lay the entire ASU on its side.
 - c. Remove the bolts attaching the transformer case from the machine's frame.

6. Separate the lid from the transformer case.
7. Remove the failed transformer:
 - a. Test transformer(s) to find failure by checking continuity (with a multi-meter) across primary and secondary coils. Refer to schematic in Ch. 4.
 - b. Note and record the location of all wiring before removing transformer.
 - c. Disconnect and remove wiring to failed transformer.
 - d. Install new transformer.
 - e. Re-connect wiring and re-assemble case to ASU.

3.3 Recommended Spare Parts List

Part Number	Description	Quantity
116268	Solid State Relay, 480VAC, 50A, DC IN (if no premelt grid is used)	1
815897	Solid State Relay Dual, 480VAC, 40A, DC IN (if premelt grid is used)	1
812419	Fuse, LPCC, 10A	Quantity dependent on ASU configuration: 2 Hose/ 2 Head ASU = 4 fuses 4 Hose/ 4 Head ASU = 5 fuses 6 Hose/ 6 Head ASU = 6 fuses

Chapter 4

Drawings, Bill of Materials & Wiring Schematics



WARNING

All parts must be periodically inspected and replaced if worn or broken. Failure to do this can affect equipment's operation and can result in personal injury.

This chapter contains the component illustrations (exploded-view drawings) for each assembly. These drawings are useful for finding part numbers as well as for use when maintaining or repairing the equipment.

Note: Most common screws, nuts and washers called out in the manual are not for sale and they can be obtained locally at your hardware Store. Specialty fasteners are available by contacting ITW Dynatec's Customer Service.

4.1 Transformers for SR5/10

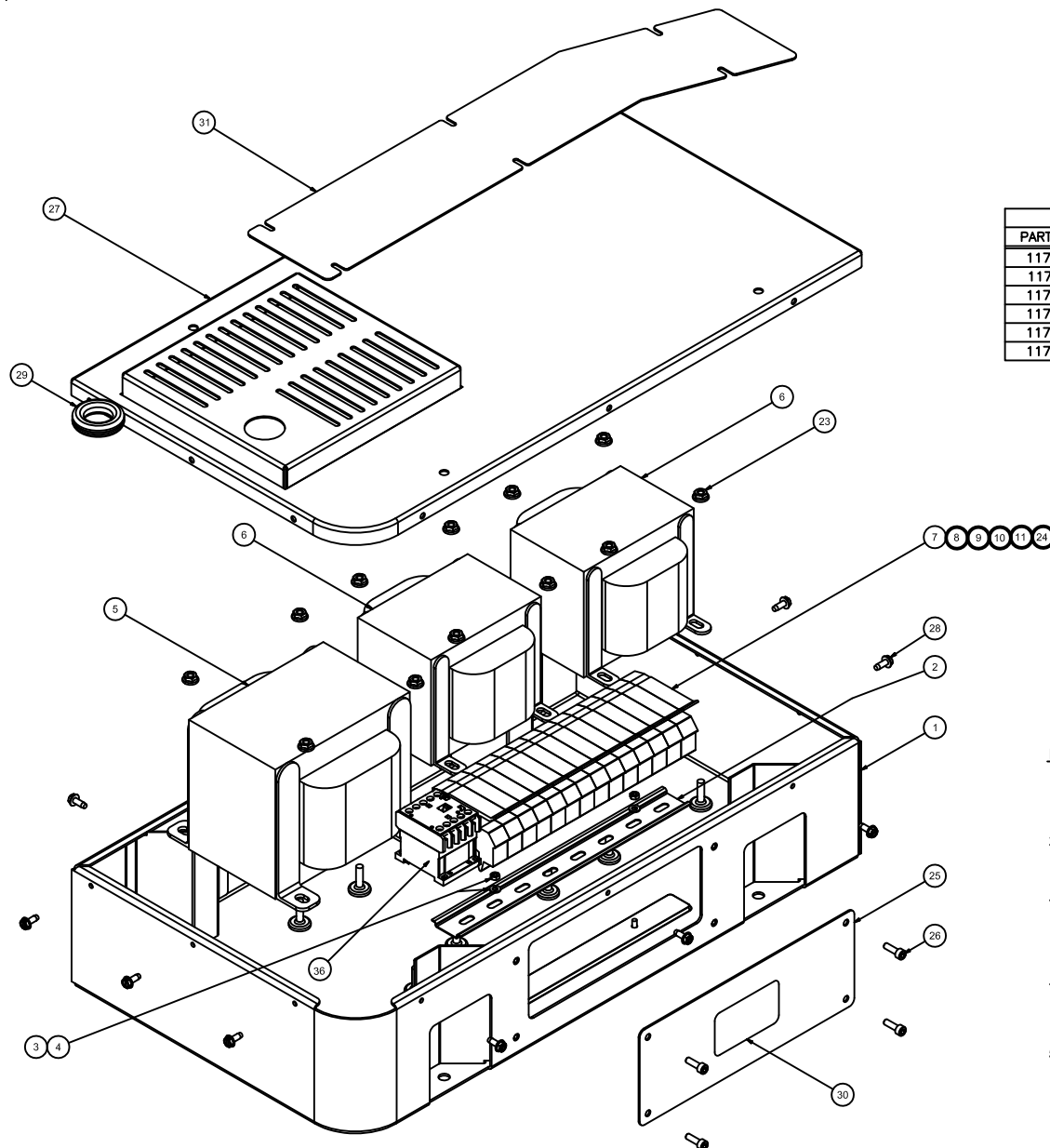
4.1.1 Transformer Assembly, 480/400 VAC, SR5/10, PN 115876D

Transformer Assembly		Schematics
PN	Description	PN
117320	Transformer Assembly, 400V, 2-Hose, SR5/10	115872 *
117321	Transformer Assembly, 480V, 2-Hose, SR5/10	115871 *
117322	Transformer Assembly, 400V, 4-Hose, SR5/10	115874 *
117323	Transformer Assembly, 480V, 4-Hose, SR5/10	115873 *
117324	Transformer Assembly, 400V, 6-Hose, SR5/10	115877 *
117325	Transformer Assembly, 480V, 6-Hose, SR5/10	115875 *

* See schematics on following pages.

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REVISIONS					
REL	REV	DESCRIPTION	DATE	BY	APPROVED
N09082	A	INITIAL RELEASE	12.14.11	CRF	
13056	B	REVISED & REDRAWN	6.07.13	PJD	
C923	C	ADD END STOP	5.1.18	DLR	
18117	D	CHNG ITEM 14 TO 10AWG,ADD ITEM 36	10.01.18	BFQ	

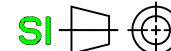


PARTS LIST TABULATION

TRANSFORMER ASSEMBLY		WIRING DIAGRAM ITEM 33	QUANTITIES					
PART NO.	DESCRIPTION		ITEM 6	ITEM 9	ITEM 10	ITEM 11	ITEM 19	ITEM 23
117320	XFMR ASSY, 400V, 2H, DMSR	115872	0	4	4	1	1	4
117321	XFMR ASSY, 480V, 2H, DMSR	115871	0	4	4	1	1	4
117322	XFMR ASSY, 400V, 4H, DMSR	115874	1	5	5	2	2	8
117323	XFMR ASSY, 480V, 4H, DMSR	115873	1	5	5	2	2	8
117324	XFMR ASSY, 400V, 6H, DMSR	115877	2	6	6	3	3	12
117325	XFMR ASSY, 480V, 6H, DMSR	115875	2	6	6	3	3	12

NOTES:

- FOR LOCATION, ASSEMBLY, AND CONNECTION DETAILS FOR ELECTRICAL COMPONENTS (ITEMS 5-22), REF. WIRING DIAGRAM (ITEM 33).
- PLACE SELF-STICK WARNING LABEL (ITEM 30) ON THE OUTSIDE OF FUSE ACCESS COVER (ITEM 25), IN THE CENTER OF THE COVER.
- MODIFIED WIRE CHANNEL COVER (ITEM 27) REPLACES THE WIRE CHANNEL COVER INCLUDED WITH THE DMSR-5/10 ASU TO BE ATTACHED TO THE TRANSFORMER ASSY. THE MODIFIED COVER FACILITATES WIRING BETWEEN THE TRANSFORMER ASSY AND THE ASU.
- SCREWS 108295 (ITEM 32, NOT SHOWN), ARE TO BE USED TO ATTACH THE DMSR ASU BASE TO THE TRANSFORMER CASE LID (ITEM 27), AFTER THE LID IS ATTACHED TO THE CASE (ITEM 1).
- ADD END STOP TO SECURE RAIL COMPONENTS (ITEM 35).



36	122702	1	EA	CONTACTOR ASSEMBLY
35	105256	2	EA	END STOP, DIN RAILS
34	750-26	1	EA	SERVICE MANUAL, DMSR XFMR ASSY'S
33	SEE TAB	0	REF	WIRING DIAGRAM, XFMR ASSY
32	108295	4	EA	SCREW, HEX FLNG HD, M8x1.25 x 12
31	117319	1	EA	COVER, WIRE CHNL, DMSR, MODIFIED
30	048K778	1	EA	LABEL, HAZARDOUS VOLT WARNING
29	113952	1	EA	GROMMET, 1.0 ID, 1.38 HOLE, BUNA
28	078A164	12	EA	SCREW, HEX WSHR HD, #10-24x.50, SELF-TAP TYPE F
27	115870	1	EA	LID, DMSR-5/10 XFMR CASE
26	106242	4	EA	SCREW, SHC, M5x16
25	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
24	105256	2	EA	END STOP, DIN RAIL, ES35
23	107390	SEE TAB	EA	NUT, M6x1.0, W/ LOCKWSHR
22	104396	2	EA	CABLE TIE, .10 x 5.6, BLACK NYLON
21	117107	1	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
20	117108	1	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
19	N04281	SEE TAB	EA	RING TONGUE TERM, 16-14 AWG, #.25
18	048J024	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
17	042X015	.67	FT	WIRE, TFE, 12AWG, 1000V, BLACK
16	042X131	5.5	FT	WIRE, TFE, 16AWG, 260C, BLACK
15	802822	2.0	FT	WIRE, AWM, 12AWG, 105C, GRN/YEL
14	802825	2.0	FT	WIRE, THHN, 10AWG, LT BLUE
13	N05860	8.0	FT	WIRE, THHN, 14AWG, BLACK
12	116268	1	EA	SSR, 480V, 50A, SINGLE, DC-IN
11	103379	SEE TAB	EA	TERM BLK, 50A
10	812419	SEE TAB	EA	FUSE, LPCC, 10A
9	048H126	SEE TAB	EA	FUSE HOLDER/DISCONNECT, .40x1.5
8	104161	3	EA	TERM, 105A, 600V, 4AWG
7	103663	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
6	115047	SEE TAB	EA	XFMR, 1.8KVA, 480/400V - 240V
5	117306	1	EA	XFMR, 2.6KVA, 480/400V - 240V
4	107391	2	EA	NUT, M4x0.7, W/ LOCKWSHR
3	105164	2	EA	WASHER, FLAT, #8, BLK
2	118427	1	EA	RAIL, TERM & FUSE MOUNT, XFMR ASSY
1	115869	1	EA	CASE, DMSR-5/10 XFMR ASSY

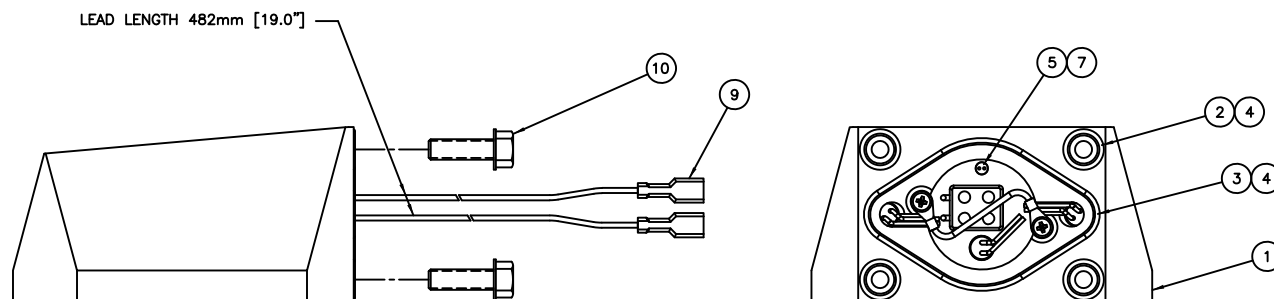
REFERENCE PARTS LIST		DATE		STATUS	
DATE	12.14.11	DATE	12.14.11	STATUS	R
DESIGNED BY	DMSR-5/10	DATE	12.14.11	STATUS	R
CHECKED BY	117320-117325	DATE	12.14.11	STATUS	R
APPROVED BY	117320-117325	DATE	12.14.11	STATUS	R
REF DWG/FMR ASSY GUIDE	115876	DATE	12.14.11	STATUS	R
DO NOT SCALE DRAWING		DATE	12.14.11	STATUS	R

4.1.2 Grid Group, 400/480 VAC, SR5/10, PN 119650B

Grid Group		Schematics		Sensor
PN	Description	400V	480V	PN
119650	Grid Group 400/480VAC, 3-PH Delta, 2-Hose, DCL, SR5/10	119628 *	119631 *	105279 PT100
119651	Grid Group 400/480VAC, 3-PH Delta, 4-Hose, DCL, SR5/10	119629 *	119632 *	105279 PT100
119652	Grid Group 400/480VAC, 3-PH Delta, 6-Hose, DCL, SR5/10	119630 *	119633 *	105279 PT100
119653	Grid Group 400/480VAC, 3-PH Delta, 2-Hose, NDSN, SR5/10	119628 *	119631 *	110720 N120
119654	Grid Group 400/480VAC, 3-PH Delta, 4-Hose, NDSN, SR5/10	119629 *	119632 *	110720 N120
119655	Grid Group 400/480VAC, 3-PH Delta, 6-Hose, NDSN, SR5/10	119630 *	119633 *	110720 N120

* See schematics on following pages.

DIR. NO. 119650		INC. 1 REL. 1	
REVISIONS			
REL.	REV.	DESCRIPTION	DATE BY APPROVED
N14021	A	ORIGINAL RELEASE	01.27.15 LF
ECN2194	B	REVISE 036H003 VIEWS; ITEM 3 WAS N00192; ITEM 6 WAS 036E043; ITEM 8 WAS 105100; REVISE NOTE 3; ADD ITEMS 11-19; ADD NOTE 6	13MAY25 EWB



1. TRIM GRID HEATER LEAD WIRES TO LENGTH INDICATED. TERMINATE LEAD WIRES WITH SLIP ON CONNECTOR N05889 (ITEM 9).
2. PRIOR TO ASSEMBLY OF GRID TO HOPPER, LUBRICATE ALL O-RINGS WITH HIGH TEMP O-RING LUBE (ITEM 4).
3. PRIOR TO ASSEMBLY, COAT SENSOR (ITEM 5) AND THE BOTTOM SURFACE OF THE SOLID STATE RELAY (SEE ITEM 20 ON THE TABULATED WIRING SCHEMATIC) WITH HEAT TRANSFER COMPOUND (ITEM 7).
4. GRID HEATER LEAD WIRE CONNECTIONS SHOWN ON TABULATED WIRING SCHEMATICS.
5. GRID SENSOR LEAD WIRES CONNECT TO HEADER LABELED Z.1 ON V6 TEMP MODULE 115735, SUPPLIED WITH ASU.
6. ITEMS 11-19, NOT SHOWN, ARE LOCATED IN THE MELTER CABINET AND THE TRANSFORMER CASE. SEE WIRING SCHEMATICS FOR DETAILS.

GRID GROUP	POWER SUPPLY	400V WIRING	480V WIRING	SENSOR ASSY
119650	400/480VAC, 3-PH DELTA,2HOSE DCL	119628	119631	105279
119651	400/480VAC, 3-PH DELTA,4HOSE DCL	119629	119632	105279
119652	400/480VAC, 3-PH DELTA,6HOSE DCL	119630	119633	105279
119653	400/480VAC, 3-PH DELTA,2HOSE NDSN	119628	119631	110720
119654	400/480VAC, 3-PH DELTA,4HOSE NDSN	119629	119632	110720
119655	400/480VAC, 3-PH DELTA,6HOSE NDSN	119630	119633	110720

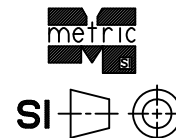
19	1162868	-1	EA	SSR, SINGLE, 50A, 480V
18	815897	1	EA	SSR, DUAL, 40A, 480V
17	N07106	1	EA	CAP, VINYL
16	810259	1	EA	PWAVE DIODE, 25A, 480V
15	117108	-1	EA	CABLE ASY, V6 SSR CTRL
14	828645	1	EA	CABLE ASY, V6 SSR CTRL
13	Q4X2131	5.5	FT	WIRE, TFE, BLACK, 16GA, 260C
12	812419	2	EA	FUSE, LPCC, 10A
11	O48H126	2	EA	FUSEHOLDER, .40 X 1.5
10	106297	4	EA	SCREW, HEX HD W/ SER FLNG, M8x1.25 x 20
9	N05889	2	EA	TERM.FE,-14,-12, 5SLUPN
8				
7	001V061	A/R	REF	COMPOUND, HEAT TRANSFER
6				
5	SEE TAB	1	EA	SENSOR ASSY
4	01U002	A/R	REF	LUBE, SILICONE, DOW 112
3	Q6BX169	1	EA	O-RING, -.039, VITON
2	N00181	4	EA	O-RING, -.014, VITON
1	Q36H003	1	EA	GRID, PRE-MELT, DM S10
REV	PART NUMBER	QTY.	UNIT	DESCRIPTION

MATERIALS: SEE PARTS LIST FOR MATERIALS AND SPECIFICATIONS
REVISIONS: DATE OF REVISION / BY WHOMEVER SPEC. APPROVED

DATE	BY	DESCRIPTION
01/27/15	JWS	CHANGED
01/27/15	JWS	CHANGED

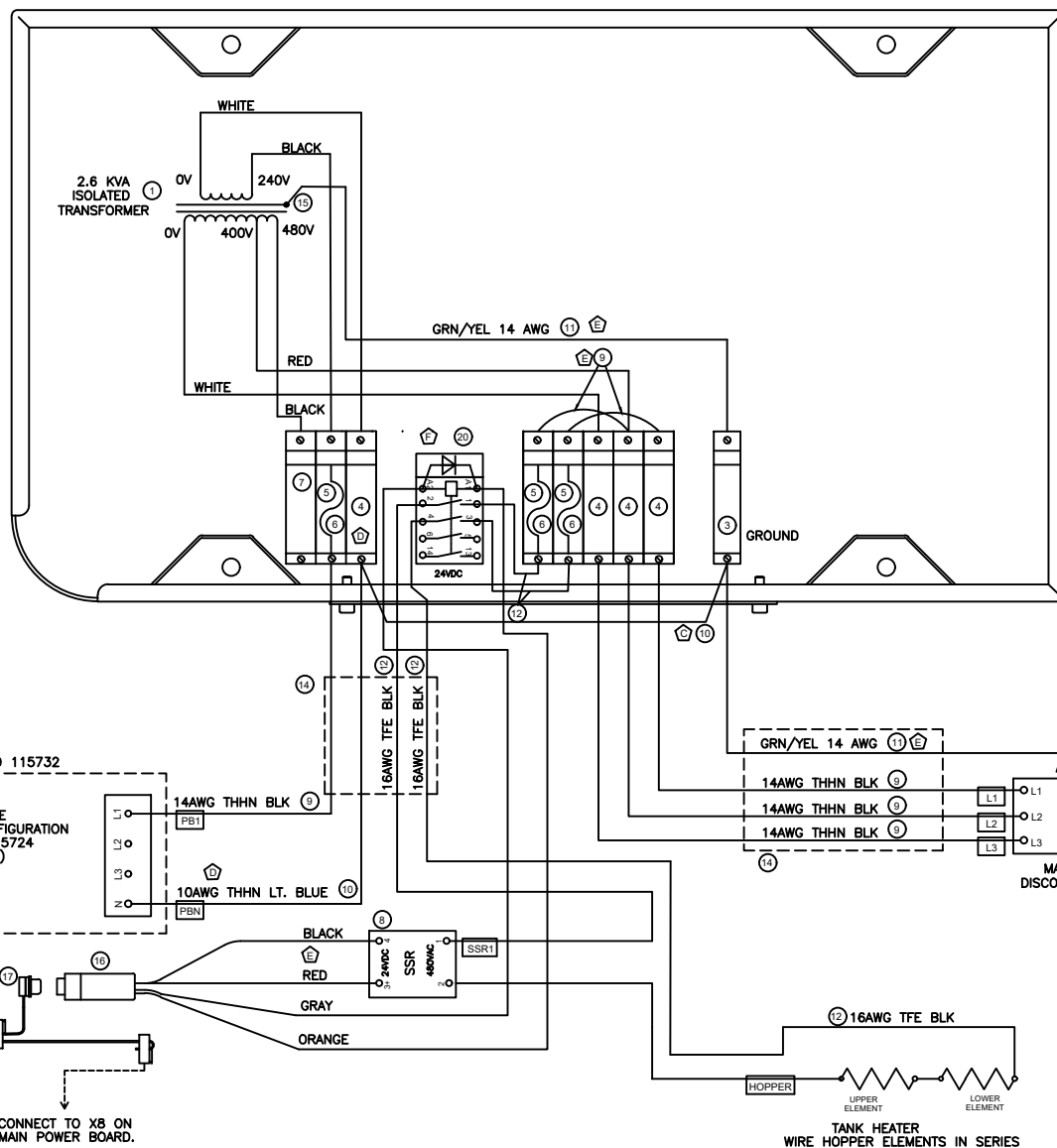
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 DRAWN: JWS
 CHECKED: JWS
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 DATE:
 COMMENTS: CONFIRM DESCRIPTIONS FROM PARTS LIST.
 DO NOT SCALE DRAWING

m Dynamic
 HENDERSONVILLE, TN
 U/A/E
 STANDARD P
 SOURCE
 GROUP



4.1.3 Schematics for Transformer Assy, 400V, 2-Hose, SR5/10, PN 115872G

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NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CONNECT CABLE 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLE 117108 INTO RIBBON CABLE ASSY. 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18), NOT SHOWN.
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.

ITEM	QTY	DESCRIPTION	REV	BY	DATE
NO9082	A	INITIAL RELEASE	12.14.11	CRF	
13056	B	REVISED & REDRAWN	4.07.13	PJD	
14073	C	SECONDARY NEUTRAL GROUND-BONDED	4.06.14	DH	
16007	D	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
CCN1107	E	CHANGED ITEM 10 TO 14AWG	09.12.18	BFC	
		DELETE ITEM 13, CHANGE USE TO ITEM 9			
		RED, BLK SSR WIRES			
		PER FIG 740			
18117	F	ADDED 24VDC CONTACTOR	09.28.18	JUB	
20.1272	G	SK22/45 ADDED	09.28.20	DH	

ITEM	QTY	DESCRIPTION
20	1	EA CONTACTOR, 24VDC COIL
19	2	EA ENDPLATE FOR 104161
18	2	EA CABLE TIE, .10 x 5.6, BLACK NYLON
17	1	EA CABLE ASSY, RIBBON, V6 SSR CTRL
16	1	EA CABLE ASSY, V6 SSR CTRL, HOPPER
15	1	EA RING TONGUE TERM, 16-14 AWG, #25
14	3.0	FT SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
13		
12	6.5	FT WIRE, TFE, 16 GA, 260C, BLACK
11	2.0	FT WIRE, GRN/YEL, 12 GA, 105C
10	2.0	FT WIRE, THHN, 10 GA, LT BLUE
9	8.67	FT WIRE, THHN, 14 GA, BLACK
8	1	EA SSR, 480V, 50A, SINGLE, DC-IN
7	1	EA TERM BLK, 50A
6	3	EA FUSE, LPCC, 10A
5	4	EA FUSE BLOCK, 600V, 4 AWG, DIN-RAIL
4	4	EA TERM, 105A, 600V, 4 AWG, P DIN-RAIL
3	1	EA TERM BLK, #6, GND, DIN RAIL MOUNT
2		
1	1	EA XFMR, 2.6KVA, 480/400V-240V

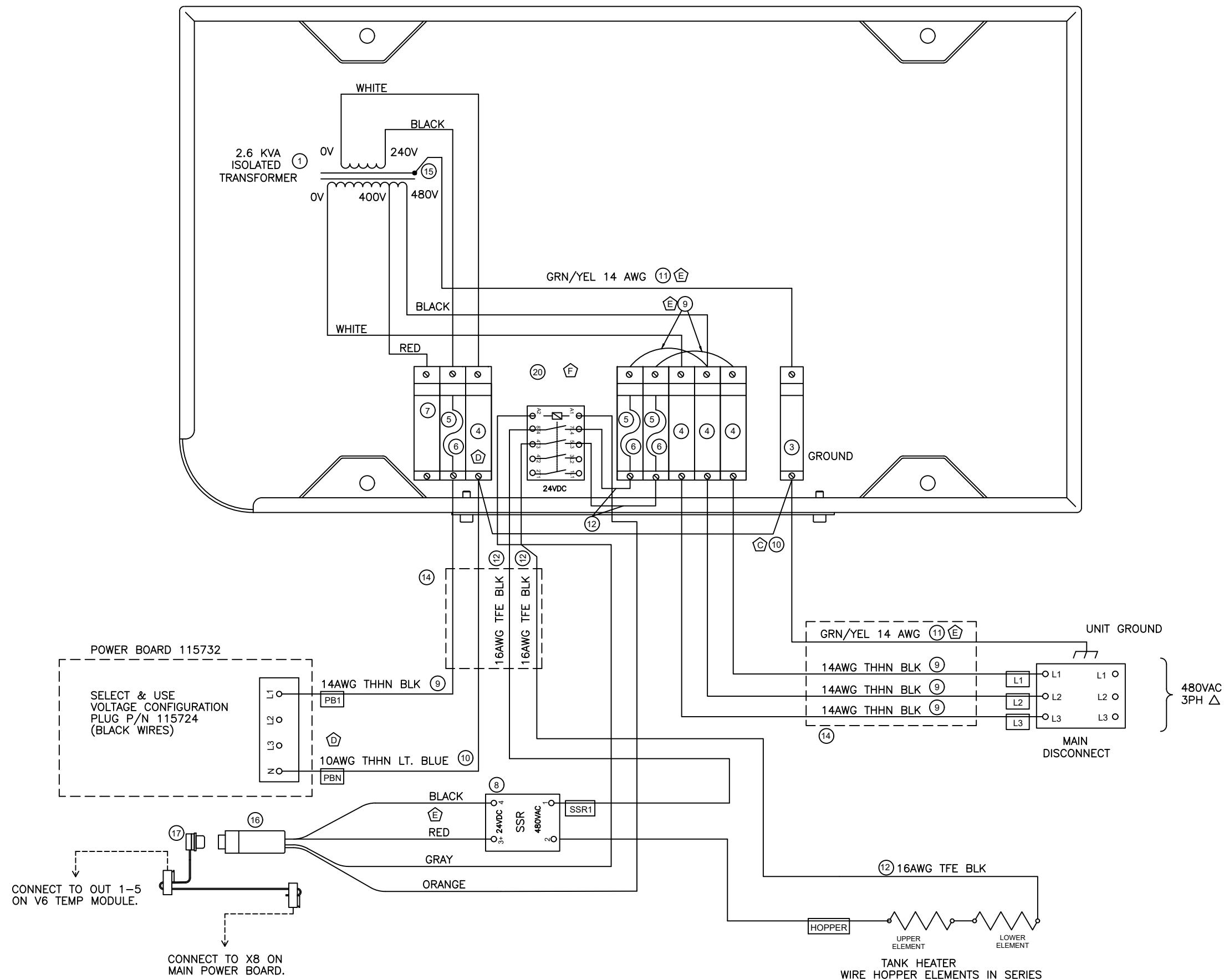
DATE	REV	DESCRIPTION
5/10/22/45		
117320		
115872		

FOR MACHINING SERVICES M/SHAW-WEE, AS8000	mti/dynalco	U/M EA
APPROVALS	DATE	REVISION
DESIGNED BY CBF	12/07/10	R
CHECKED BY		GROUP
DO NOT SCALE DRAWING	WIRE DIAG, 400V, 2H	1 of 1

4.1.4 Schematics for Transformer Assy, 480V, 2-Hose, SR5/10, PN 115871G

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REVISIONS					
REL.	REV.	DESCRIPTION	DATE	BY	APPROVED
N09082	A	INITIAL RELEASE.	12.14.11	CRF	
13056	B	REVISED & REDRAWN.	6.07.13	PJD	
14073	C	SECONDARY NEUTRAL GROUND--BONDED	4.06.14	DH	
16007	D	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
CCN1105	E	CHANGED ITEM 10 TO 14AWG	09.12.18	BFQ	
		DELETE ITEM 13,CHNGE USE TO ITEM 9			
		SWITCHED RED,BLK SSR WIRES			
		PER FTQS 598,604			
18117	F	ADDED CONTACTOR	09.25.18	JJB	
1103	G	REVISED CONTACTOR SYMBOL	10.15.20	JJB	



NOTES:

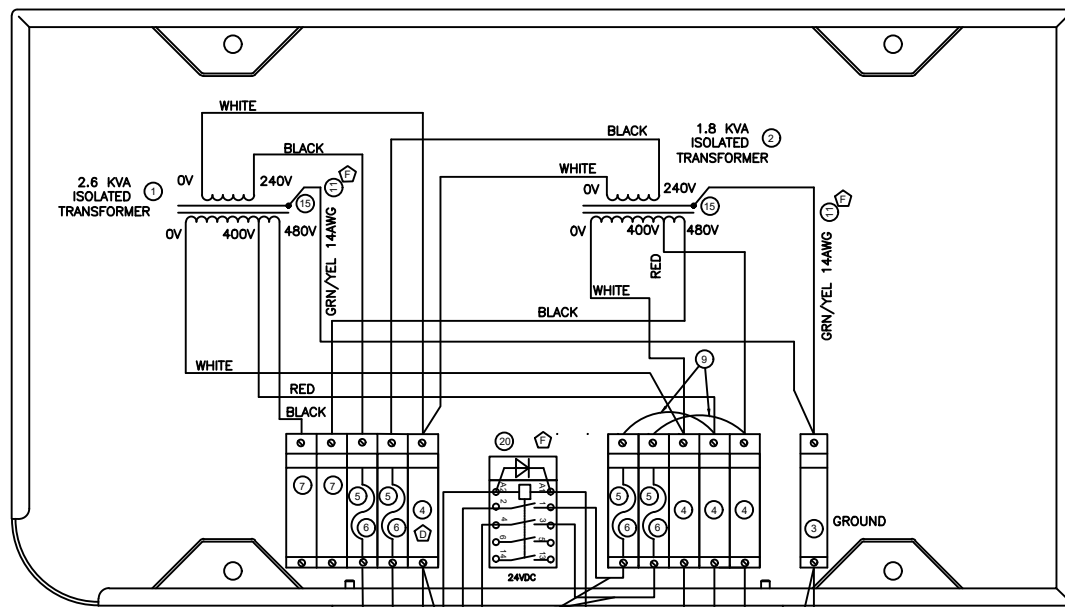
1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
2. WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
3. ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
4. TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
5. CONNECT CABLE 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLE 117108 INTO RIBBON CABLE ASSY 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18), NOT SHOWN.
6. BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
(F) 7. CONTACTOR, ITEM 20, PLACED INSIDE TRANSFORMER ENCLOSURE

FD	20	122702	1	EA	CONTACTOR, 24VDC COIL
	19	104162	2	EA	ENDPLATE FOR 104161
	18	104396	2	EA	CABLE TIE, .10 x 5.6, BLACK NYLON
	17	117107	1	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
EFEE	16	117108	1	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
	15	N04281	1	EA	RING TONGUE TERM, 16-14 AWG, Ø.25
	14	048J024	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
	13				
	12	042X131	6.5	FT	WIRE, TFE, 16 GA, 260C, BLACK
	11	802821	2.0	FT	WIRE, GRN/YEL, 14 GA, 105C
	10	802825	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
	9	N05860	8.67	FT	WIRE, THHN, 14 GA, BLACK
	8	116268	1	EA	SSR, 480V, 50A, SINGLE, DC-IN
	7	103379	1	EA	TERM BLK, 50A
E	6	812419	3	EA	FUSE, LPCC, 10A
	5	0481126	3	EA	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL
	4	104161	4	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
	3	103663	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT

[illegible]

4.1.5 Schematics for Transformer Assy, 400V, 4-Hose, SR5/10, PN 115874G

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POWER BOARD 115732

SELECT & USE
VOLTAGE CONFIGURATION
PLUG P/N 115726
(YELLOW WIRES)



CONNECT TO OUT 1-5
ON V6 TEMP MODULE.

CONNECT TO X8 ON
MAIN POWER BOARD.

TANK HEATER
WIRE HOPPER ELEMENTS IN SERIES

NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.8 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CONNECT CABLE 117108 (ITEM 16) TO SSR (ITEM 8), THEN PLUG CABLE 117108 INTO RIBBON CABLE ASSY 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18), NOT SHOWN.
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- CONTACTOR, ITEM 20, PLACED INSIDE TRANSFORMER ENCLOSURE

ITEM	QTY	DESCRIPTION	REF	QTY	DESCRIPTION
20	1	CONTACTOR, 24VDC COIL			
19	1	ENDPLATE FOR 104161			
18	2	CABLE TIE, .10 x 5.6, BLACK NYLON			
17	1	CABLE ASSY, RIBBON, V6 SSR CTRL			
16	1	CABLE ASSY, V6 SSR CTRL, HOPPER			
15	2	RING TONGUE TERM, 16-14 AWG, #25			
14	3.0	FT SLEEVING, SI RBR/FBRGLS, BLACK, 3/8			
13					
12	6.5	FT WIRE, TFE, 16 GA, 280C, BLACK			
11	2.0	FT WIRE, GRN/YEL, 14 GA, 105C			
10	2.0	FT WIRE, THHN, 10 GA, LT BLUE			
9	6.67	FT WIRE, THHN, 14 GA, BLACK			
8	1	SSR, 480V, 50A, SINGLE, DC-IN			
7	2	TERM BLK, 50A			
6	4	FUSE, LPCC, 10A			
5	4	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL			
4	4	TERM, 105A, 600V, 4 AWG, DIN-RAIL			
3	1	TERM BLK, #6, GND, DIN RAIL MOUNT			
2	1	XFMR, 1.8KVA, 480/400V-240V			
1	1	XFMR, 2.6KVA, 480/400V-240V			

DATE	BY	APP'D	DATE	DESCRIPTION	REVISION
5/10/22	DMR	5/10/22	12/07/18	WIRING DIAGRAM, XFMR ASSY, 400V, 4-HOSE	1
11/3/22	DMR	11/3/22	11/3/22	WIRING DIAGRAM, XFMR ASSY, 400V, 4-HOSE	2

DO NOT SCALE DRAWING

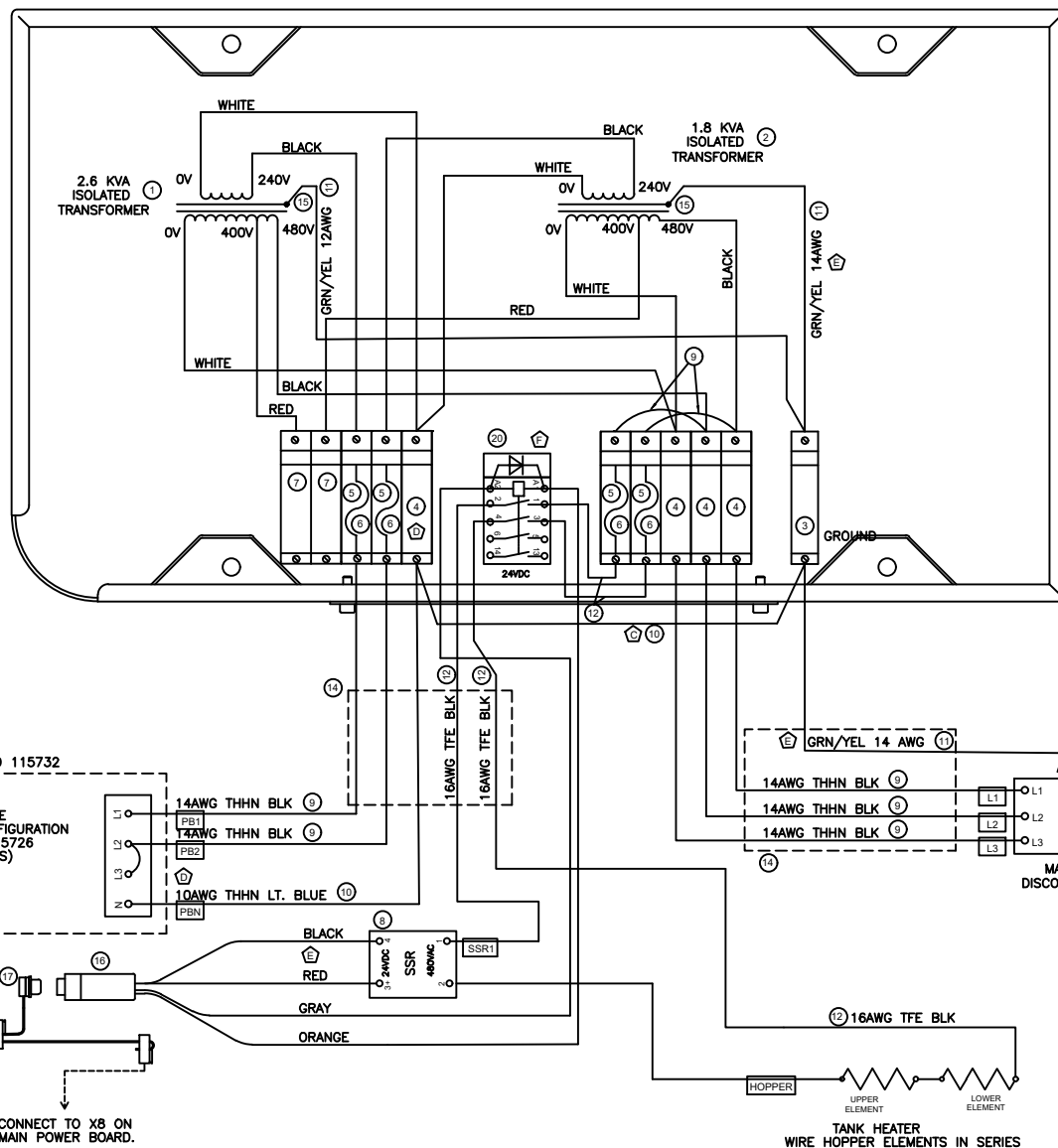
WIRE DIAGRAM, 400V, 4H

SCALE 1:1 CAD DRAWING

SHEET 1 OF 1

4.1.6 Schematics for Transformer Assy, 480V, 4-Hose, SR5/10, PN 115873G

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WITHOUT WRITTEN CONSENT FROM
DYNALIFE.



NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CONNECT CABLE 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLE 117108 INTO RIBBON CABLE ASSY 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18), NOT SHOWN.
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- CONTACTOR, ITEM 20, PLACED INSIDE TRANSFORMER ENCLOSURE

ITEM	QTY	DESCRIPTION	UNIT	REV
20	1	CONTACTOR, 24VDC COIL		
19	2	ENDPLATE FOR 104181		
18	2	CABLE TIE, .10 x 5.6, BLACK NYLON		
17	1	CABLE ASSY, RIBBON, V6 SSR CTRL		
16	1	CABLE ASSY, V6 SSR CTRL, HOPPER		
15	2	RING TONGUE TERM, 16-14 AWG, #25		
14	3.0	FT SLEEVING, SI RBR/FBRGLS, BLACK, 3/8		
13	6.5	FT WIRE, TFE, 16 GA, 260C, BLACK		
12	2.0	FT WIRE, GRN/YEL, 12 GA, 105C		
10	2.0	FT WIRE, THHN, 10 GA, LT BLUE		
9	8.67	FT WIRE, THHN, 14 GA, BLACK		
8	1	SSR, 480V, 50A, SINGLE, DC-IN		
7	2	TERM BLK, 50A		
6	4	FUSE, LPCC, 10A		
5	4	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL		
4	4	TERM, 105A, 600V, 4 AWG, DIN-RAIL		
3	1	TERM BLK, #6, GND, DIN RAIL MOUNT		
2	1	XFMR, 1.8KVA, 480/400V-240V		
1	1	XFMR, 2.6KVA, 480/400V-240V		

REV	DATE	BY	CHKD	DESCRIPTION
1	5/10/22/45	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
2	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
3	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
4	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
5	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
6	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
7	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
8	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
9	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE
10	11/27/10	DMR		WIRING DIAGRAM, XFMR ASSY, 480V, 4-HOSE

DO NOT SCALE DRAWING

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

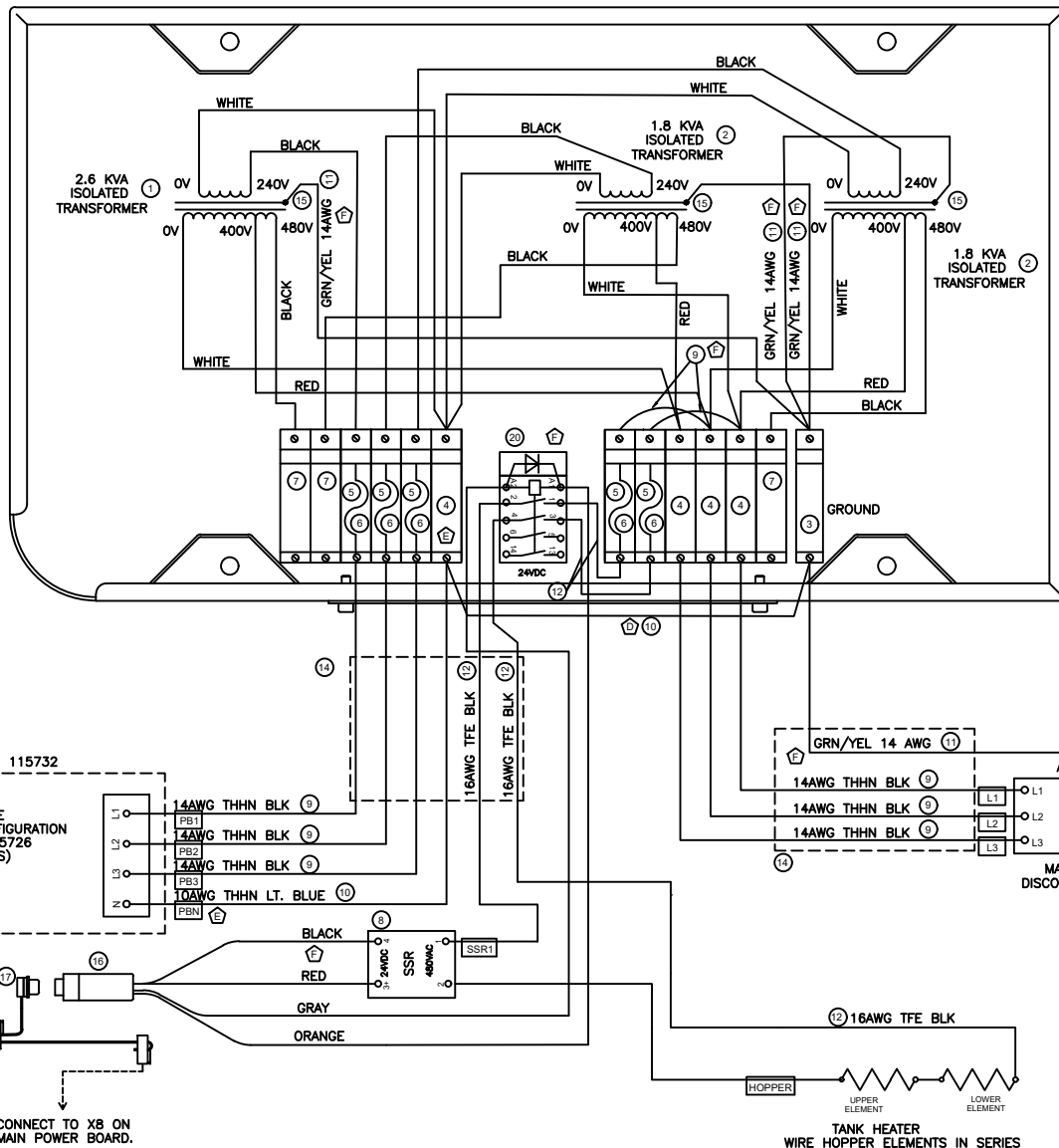
WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

WIRE DIA: 1/8" (1.25mm)

4.1.7 Schematics for Transformer Assy, 400V, 6-Hose, SR5/10, PN 115877G

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OTHERS WITHOUT EXPRESS WRITTEN
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REV.	DATE	DESCRIPTION	BY	APP'D
N09082	A	INITIAL RELEASE	12.14.11	CRF
13056	B	REVISED & REDRAWN	4.07.13	PLJ
14018	C	X-FORMER WIRING CORRECTED	2.15.14	DH
14073	D	SECONDARY NEUTRAL GROUND-BONDED	4.08.14	DH
16007	E	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH
18117	F	CHANGED ITEM 10 TO 14AWG	09.25.18	BFQ
		DELETE ITEM 13, CHANGE USE TO ITEM 9		
		RED, BLK SSR WIRES		
		PER FIG 740		
		ADDED 24VDC CONTACTOR	09.28.18	JJB
20.1272	G	SK22/46 ADDED	09.25.20	DH

NOTES:

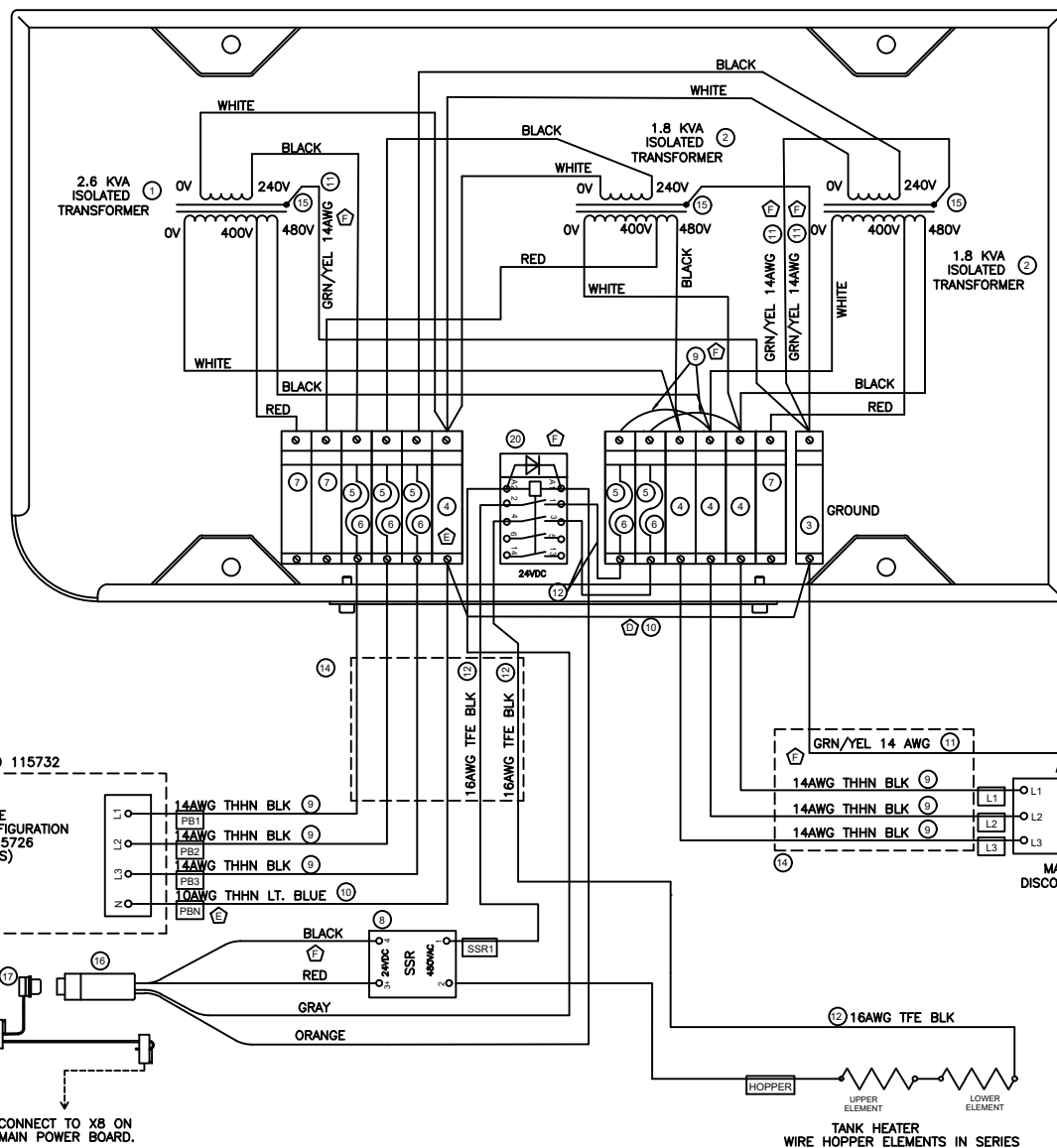
- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CONNECT CABLE 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLE 117108 INTO RIBBON CABLE ASSY. 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18), NOT SHOWN.
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY. CONTACTOR, ITEM 20, PLACED INSIDE TRANSFORMER ENCLOSURE

ITEM	QTY	DESCRIPTION	REFERENCE PARTS LIST
20	1	EA CONTACTOR, 24VDC COIL	
19	1	EA ENDPLATE FOR 104161	
18	2	EA CABLE TIE, .10 x 5.6, BLACK NYLON	
17	1	EA CABLE ASSY, RIBBON, V6 SSR CTRL	
16	1	EA CABLE ASSY, V6 SSR CTRL, HOPPER	
15	3	EA RING TONGUE TERM, 16-14 AWG, #25	
14	3.0	FT SLEEVING, SI RBR/FBRGLS, BLACK, 3/8	
13			
12	6.5	FT WIRE, TFE, 16 GA, 260C, BLACK	
11	2.0	FT WIRE, GRN/YEL, 14 GA, 105C	
10	2.0	FT WIRE, THHN, 10 GA, LT BLUE	
9	8.67	FT WIRE, THHN, 14 GA, BLACK	
8	1	EA SSR, 480V, 50A, SINGLE, DC-IN	
7	3	EA TERM BLK, 50A	
6	5	EA FUSE, LPCC, 10A	
5	5	EA FUSE BLOCK, 600V, 4 AWG, DIN-RAIL	
4	4	EA TERM, 105A, 600V, 4 AWG, DIN-RAIL	
3	1	EA TERM BLK, #6, GND, DIN RAIL MOUNT	
2	2	EA XFMR, 1.8KVA, 480/400V-240V	
1	1	EA XFMR, 2.6KVA, 480/400V-240V	

DATE	REV	DESCRIPTION	BY	APP'D
11/3/24	1	WIRING DIAGRAM, XFMR ASSY, 400V, 6-HOSE	115877	1
11/3/24	1	WIRING DIAGRAM, XFMR ASSY, 400V, 6-HOSE	115877	1

4.1.8 Schematics for Transformer Assy, 480V, 6-Hose, SR5/10, PN 115875G

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FROM DYNALIFE.



NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CONNECT CABLE 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLE 117108 INTO RIBBON CABLE ASSY 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18), NOT SHOWN.
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- CONTACTOR, ITEM 20, PLACED INSIDE TRANSFORMER ENCLOSURE

ITEM	QTY	DESCRIPTION	REV	BY	DATE
NO9082	A	INITIAL RELEASE	12.14.11	CRF	
13056	B	REVISED & REDRAWN	4.07.13	PLJ	
14018	C	X-FORMER WIRING CORRECTED	2.18.14	DH	
14073	D	SECONDARY NEUTRAL GROUND-BONDED	4.06.14	DH	
16007	E	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
18117	F	CHANGED ITEM 10 TO 14AWG	09.25.18	BFQ	
		DELETE ITEM 13, CHANGE USE TO ITEM 9			
		RED, BLK SSR WIRES			
		PER FIG 740			
		ADDED 24VDC CONTACTOR	09.28.18	JJB	
20.1272	G	SK22/46 ADDED	09.25.20	DH	

ITEM	QTY	DESCRIPTION	REV	BY	DATE
20	1	CONTACTOR, 24VDC COIL			
19	1	ENDPLATE FOR 104161			
18	2	CABLE TIE, .10 x 5.6, BLACK NYLON			
17	1	CABLE ASSY, RIBBON, V6 SSR CTRL			
16	1	CABLE ASSY, V6 SSR CTRL, HOPPER			
15	3	EA RING TONGUE TERM, 16-14 AWG, #25			
14	3.0	FT SLEEVING, SI RBR/FBRGLS, BLACK, 3/8			
13					
12	6.5	FT WIRE, TFE, 16 GA, 260C, BLACK			
11	2.0	FT WIRE, GRN/YEL, 14 GA, 105C			
10	2.0	FT WIRE, THHN, 10 GA, LT BLUE			
9	8.67	FT WIRE, THHN, 14 GA, BLACK			
8	1	EA SSR, 480V, 50A, SINGLE, DC-IN			
7	3	EA TERM BLK, 50A			
6	5	EA FUSE, LPCC, 10A			
5	5	EA FUSE BLOCK, 600V, 4 AWG, DIN-RAIL			
4	4	EA TERM, 105A, 600V, 4 AWG, DIN-RAIL			
3	1	EA TERM BLK, #6, GND, DIN RAIL MOUNT			
2	2	EA XFMR, 1.8KVA, 480/400V-240V			
1	1	EA XFMR, 2.6KVA, 480/400V-240V			

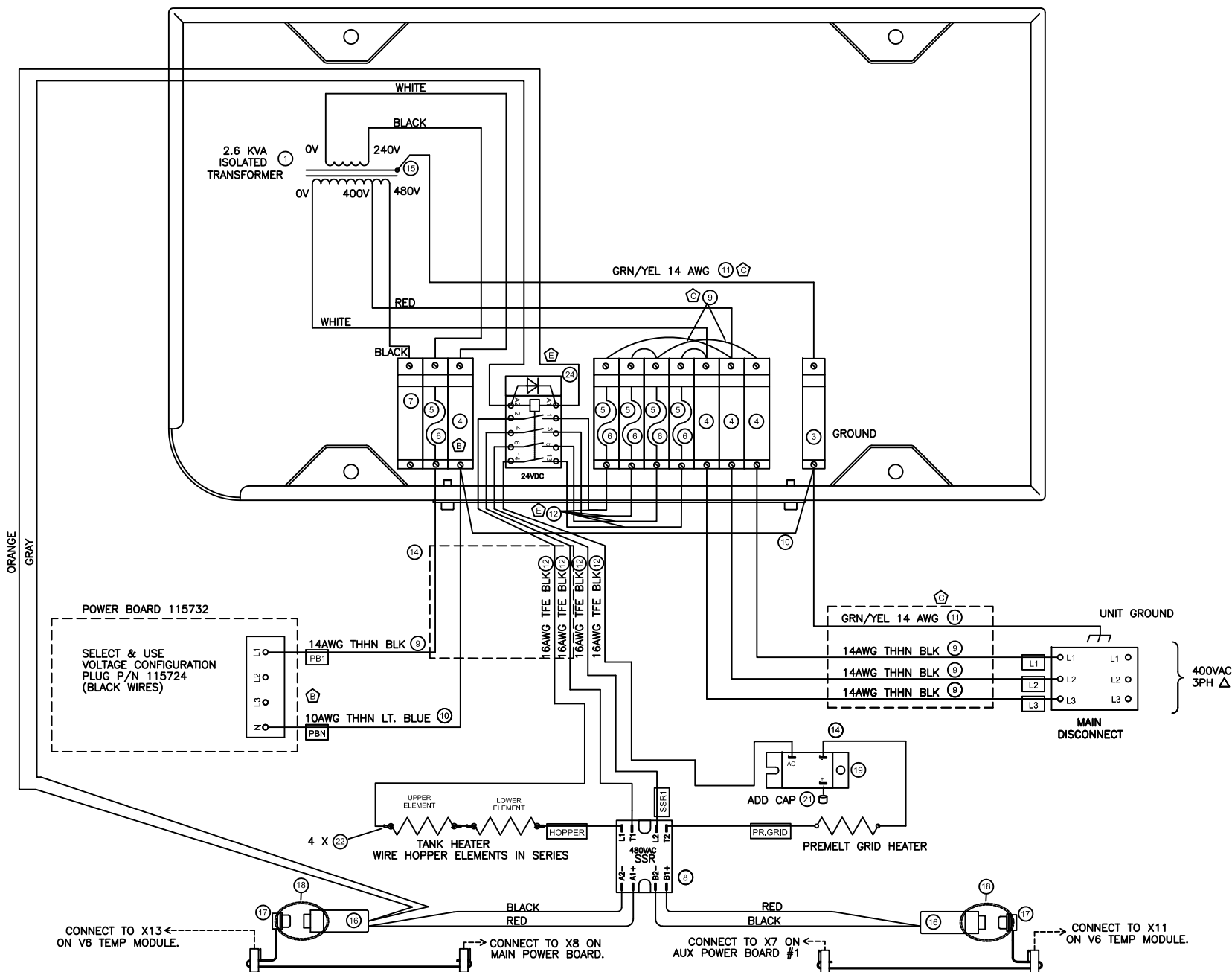
ITEM	QTY	DESCRIPTION	REV	BY	DATE
117325					
DO NOT SCALE DRAWING					

FOR MACHINE SIGNATURES BY: [Signature] DATE: 5/10/22/45	APPROVALS DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45
DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45
DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45

WIRING DIAGRAM, XFMR ASSY, 480V, 6-HOSE	115875	115875
DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45
DATE: 5/10/22/45	DATE: 5/10/22/45	DATE: 5/10/22/45

4.1.9 Schematics for Transformer Assy, 400V, 2-Hose w. 1 Grid, PN 119628G

REVISIONS					
REL.	REV.	DESCRIPTION	DATE	BY	APPROVED
Nxxxx	A	INITIAL RELEASE	1.21.15	DH	
16007	B	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
C1022	C	ADDED COMMENT LINE 7	7.16.18	DLR	
C1109	D	CHANGED GND TO 14AWG	09.13.18	BFC	
18117	E	ADDED 24VDC CONTACTOR	09.26.18	JJB	
2179	G	REMOVED ITEM 20, UPDATE ITEM 8&16	3.7.25	BG	



NOTES:

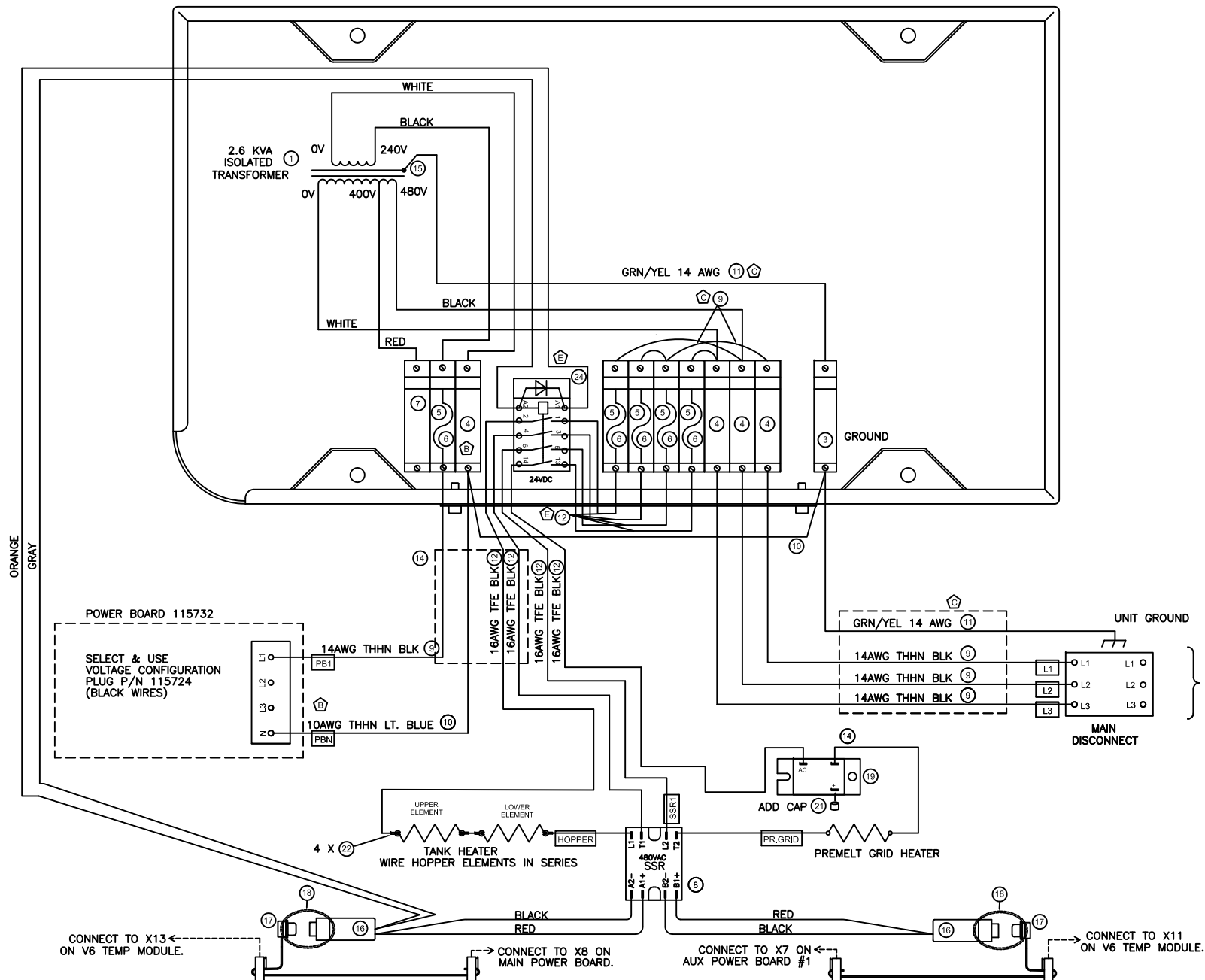
- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CUT OFF FORK TERMINALS FROM ITEMS 16 AND CRIMP IDC ITEM 20 CONNECT CABLES 117108 (ITEM 16) TO SSR (ITEM 8), THEN PLUG CABLES 117108 INTO RIBBON CABLE ASSY'S 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18)
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- WIRES TO HOPPER AND GRID ARE TO BE 16AWG TFE

24	122702	1	EA	CONTACTOR, 24VDC COIL
23	104162	2	EA	ENDPLATE FOR 104161
22	105154	4	EA	CON. FORK TERMINAL
21	N07106	1	EA	O-CAP, VINYL
20				
19	810259	1	EA	DIODE BLOCK 25A/480V
18	104396	2	EA	CABLE TIE, .10 x 5.6, BLACK NYLON
17	117107	1	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
16	828645	1	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
15	N04281	1	EA	RING TONGUE TERM, 16-14 AWG, #.25
14	048J024	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
12	042X131	12	FT	WIRE, TFE, 16 GA, 260C, BLACK
11	802821	2.0	FT	WIRE, GRN/YEL, 14 GA, 105C
10	802825	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
9	N05860	8.67	FT	WIRE, THHN, 14 GA, BLACK
8	815897	1	EA	SSR, 480V, 40A, DUAL, DC-IN
7	103379	1	EA	TERM BLK, 50A
6	812419	5	EA	FUSE, LPCC, 10A
5	048I126	5	EA	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL
4	104161	4	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
3	103663	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
2				
1	117306	1	EA	XFMR, 2.6KVA, 480/400V-240V

REFERENCE PARTS LIST		FOR MACHINING STANDARDS AND FINISHES SEE IN/DMC SPEC. ADDENDUM		IN/DMC	
ITEM NO.	DESCRIPTION	QTY.	UOM	DATE	STATUS
117321	WIRING DIAGRAM, XFMR ASSY 400V, 2-HOSE, PREM.GRID				
117321	WIRING DIAGRAM, XFMR ASSY 400V, 2-HOSE, PREM.GRID				
117321	WIRING DIAGRAM, XFMR ASSY 400V, 2-HOSE, PREM.GRID				

4.1.10 Schematics for Transformer Assy, 480V, 2-Hose w. 1 Grid, PN 119631H

REV.	DESCRIPTION	DATE	BY	APPROVED
NXXXX	A INITIAL RELEASE	1.21.15	DH	
16007	B FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
C1022	C ADDED COMMENT LINE 7	7.16.18	DLR	
C1109	D CHANGED GND TO 14AWG	09.13.18	BFC	
18117	E ADDED 24VDC CONTACTOR	09.26.18	JUB	
20.1272	F SR22/45 ADDED	08.26.20	DH	
E1344	G ITEM 24 WAS 112702 (TYPO)	07.07.21	JC	
2179	H REMOVED ITEM 20, UPDATE ITEM B&16	3.7.25	BG	



NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CUT OFF FORK TERMINALS FROM ITEMS 16 AND CRIMP IDC ITEM 20 CONNECT CABLES 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLES 117108 INTO RIBBON CABLE ASSY'S 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18)
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- WIRES TO HOPPER AND GRID ARE TO BE 16AWG TFE

ITEM	QTY	UOM	DESCRIPTION
24	1	EA	CONTACTOR, 24VDC COIL
23	1	EA	ENDPLATE FOR 104161
22	4	EA	CON. FORK TERMINAL
21	1	EA	O-CAP, VINYL
20			
19	1	EA	DIODE BLOCK 25A/480V
18	4	EA	CABLE TIE, .10 x 5.6, BLACK NYLON
17	1	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
16	2	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
15	1	EA	RING TONGUE TERM, 16-14 AWG, #25
14	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
13			
12	12	FT	WIRE, TFE, 16 GA, 260C, BLACK
11	2.0	FT	WIRE, GRN/YEL, 14 GA, 105C
10	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
9	8.67	FT	WIRE, THHN, 14 GA, BLACK
8	1	EA	SSR, 480V, 40A, DUAL, DC-IN
7	1	EA	TERM BLK, 50A
6	5	EA	FUSE, LPCC, 10A
5	5	EA	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL
4	1	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
3	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
2			
1	1	EA	XFMR, 2.6KVA, 480V/400V-240V

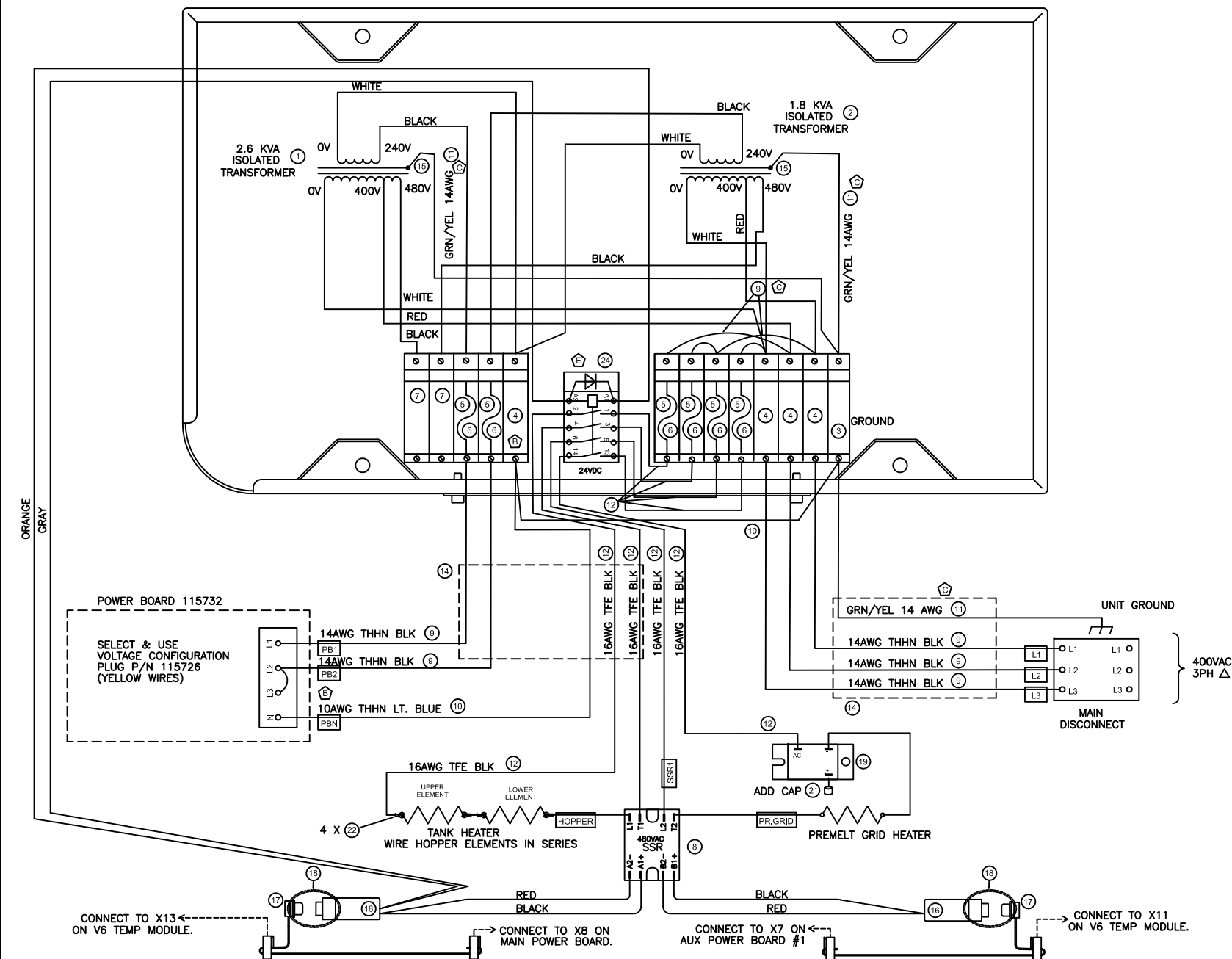
REV.	DESCRIPTION	DATE	BY	APPROVED
1	117321	5/10/22/45		
2	117321	5/10/22/45		
3	117321	5/10/22/45		
4	117321	5/10/22/45		
5	117321	5/10/22/45		
6	117321	5/10/22/45		
7	117321	5/10/22/45		
8	117321	5/10/22/45		
9	117321	5/10/22/45		
10	117321	5/10/22/45		
11	117321	5/10/22/45		
12	117321	5/10/22/45		
13	117321	5/10/22/45		
14	117321	5/10/22/45		
15	117321	5/10/22/45		
16	117321	5/10/22/45		
17	117321	5/10/22/45		
18	117321	5/10/22/45		
19	117321	5/10/22/45		
20	117321	5/10/22/45		
21	117321	5/10/22/45		
22	117321	5/10/22/45		
23	117321	5/10/22/45		
24	117321	5/10/22/45		

4.1.11 Schematics for Transformer Assy, 400V, 4-Hose w. 1 Grid, PN 119629G

REVISIONS					
REL.	REV.	DESCRIPTION	DATE	BY	APPROVED
Nxxxx	A	INITIAL RELEASE	1.21.15	DH	
16007	B	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
C1022	C	ADDED COMMENT 7	7.16.18	DLR	
C1109	D	CHANGED GND TO 14AWG	09.13.18	BFC	
18117	E	ADDED 24VDC CONTACTOR	09.27.18	JUB	
2179	G	REMOVED ITEM 20, UPDATE ITEM 8&16	3.7.25	BG	

NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CUT OFF FORK TERMINALS FROM ITEMS 16 AND CRIMP IDC ITEM 20
CONNECT CABLES 117108 (ITEM 16) TO SSR (ITEM 8).
THEN PLUG CABLES 117108 INTO RIBBON CABLE ASSY'S 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18)
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- WIRES TO HOPPER AND GRID ARE TO BE 16AWG TFE



24	122702	1	EA	CONTACTOR, 24VDC COIL
23	104162	2	EA	ENDPLATE FOR 104161
22	105154	4	EA	CON. FORK TERMINAL
21	N07106	1	EA	O-CAP, VINYL
20				
19	810259	1	EA	DIODE BLOCK 25A/480V
18	104396	4	EA	CABLE TIE, .10 x 5.6, BLACK NYLON
17	117107	2	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
16	828645	2	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
15	N04281	2	EA	RING TONGUE TERM, 16-14 AWG, #.25
14	048J024	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
13				
12	042X131	12	FT	WIRE, TFE, 16 GA, 260C, BLACK
11	802821	2.0	FT	WIRE, GRN/YEL, 14 GA, 105C
10	802825	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
9	N05860	8.67	FT	WIRE, THHN, 14 GA, BLACK
8	815897	1	EA	SSR, 480V, 40A, DUAL, DC-IN
7	103379	2	EA	TERM BLK, 50A
6	812419	6	EA	FUSE, LPCC, 10A
5	048I126	6	EA	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL
4	104161	4	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
3	103663	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
2	115047	1	EA	XFMR, 1.8KVA, 480/400V-240V
1	117306	1	EA	XFMR, 2.6KVA, 480/400V-240V

REFERENCE PARTS LIST		FOR MACHINING STANDARDS AND SYMBOLS, SEE IN/DMC SPEC. 400800		IN/DMC	
DATE	11/16/20	APPROVALS	DATE	STATUS	GROUP
DESIGNED BY	DMSR 5/10	DESIGNED		WIRING DIAGRAM, XFMR ASSY 400V, 4-HOSE, PRE-GRID	R
REV. NO.	119630	COMPUTER DESCRIPTIONS (FUNCTIONS)	REV. NO.	119629	G
DO NOT SCALE DRAWING		WIRE, DMSR, 400V, 4-HOSE	SCALE	1:1	1 of 1

4.1.12 Schematics for Transformer Assy, 480V, 4-Hose w. 1 Grid, PN 119632G

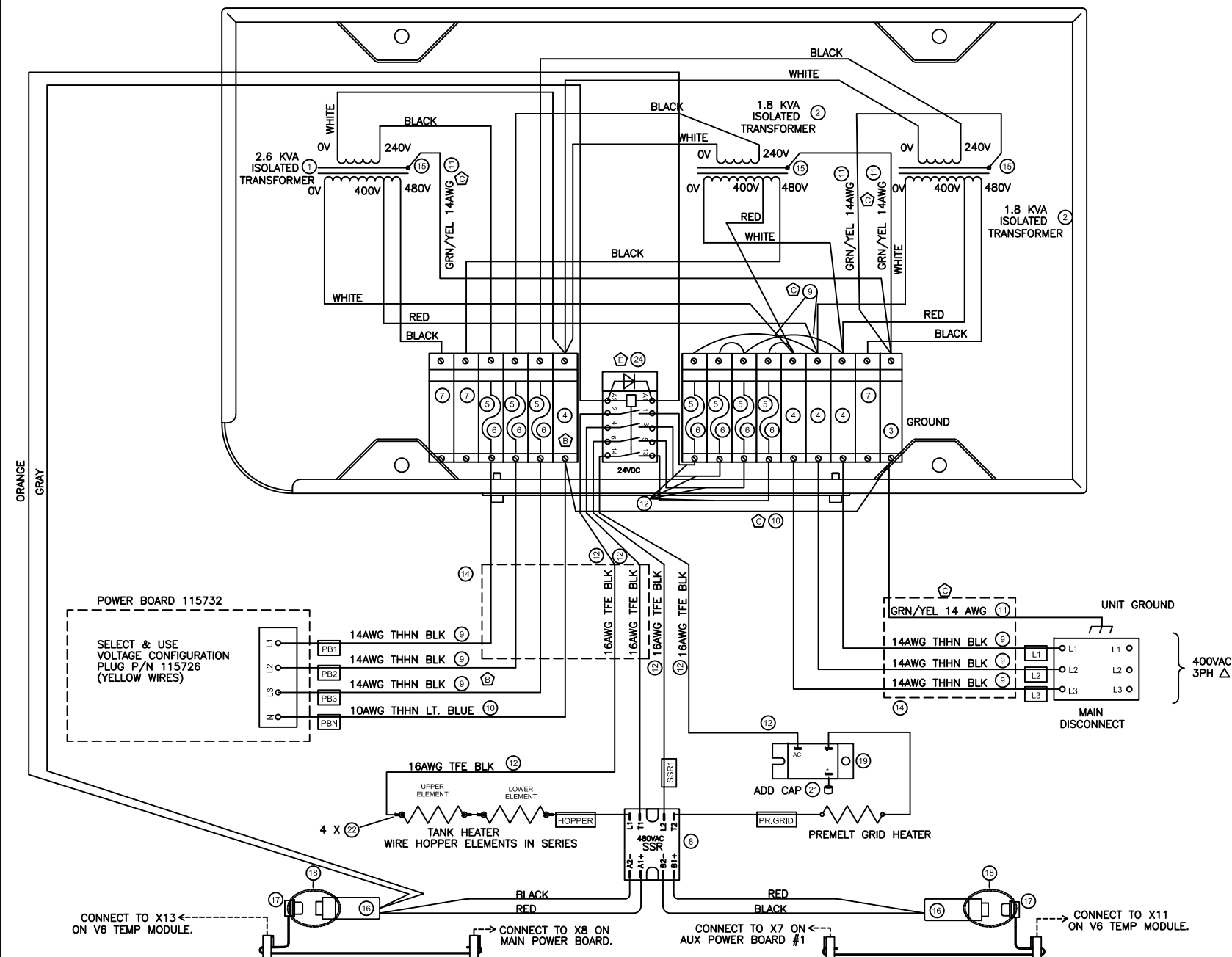


1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
2. WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
3. ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
4. TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
5. CUT OFF FORK TERMINALS FROM ITEMS 16 AND CRIMP IDC ITEM 20 CONNECT CABLES 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLES 117108 INTO RIBBON CABLE ASSY'S 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18)
6. BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
7. WIRES TO HOPPER AND GRID ARE TO BE 16AWG TFE

24	122702	1	EA	CONTACTOR,24VDC COIL
23	104182	2	EA	ENDPLATE FOR 104161
22	105154	4	EA	CON, FORK TERMINAL
21	N07106	1	EA	O-CAP, VINYL
20				
19	810259	1	EA	DIODE BLOCK 25A/480V
18	104396	4	EA	CABLE TIE, 10 X 5.6, BLACK NYLON
17	171107	2	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
16	828645	2	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
15	N04281	2	EA	RING TONGUE TERM, 16-14 AWG, #.25
14	048J024	3.0	FT	SLEEVING, SR RBR/FBRGLS, BLACK, 3/8
13				
12	042X131	12	FT	WIRE, TFE, 16 GA, 260C, BLACK
11	802821	2.0	FT	WIRE, GRN/YEL, 14 GA, 105C
10	802825	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
9	N05860	8.67	FT	WIRE, THHN, 14 GA, BLACK
8	815897	1	EA	SSR, 480V, 40A, DUAL, DC-IN
7	103379	2	EA	TERM BLK, 50A
6	812419	6	EA	FUSE, LPCC, 10A
5	0481126	6	EA	FUSE BLOCK, 800V, 4 AWG, DIN-RAIL
4	104161	4	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
3	103663	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
2	115047	1	EA	XFMR, 1.8KVA,480/400V-240V
1	117306	1	EA	XFMR, 2.6KVA,480/400V-240V

[illegible]

4.1.13 Schematics for Transformer Assy, 400V, 6-Hose w. 1 Grid, PN 119630G



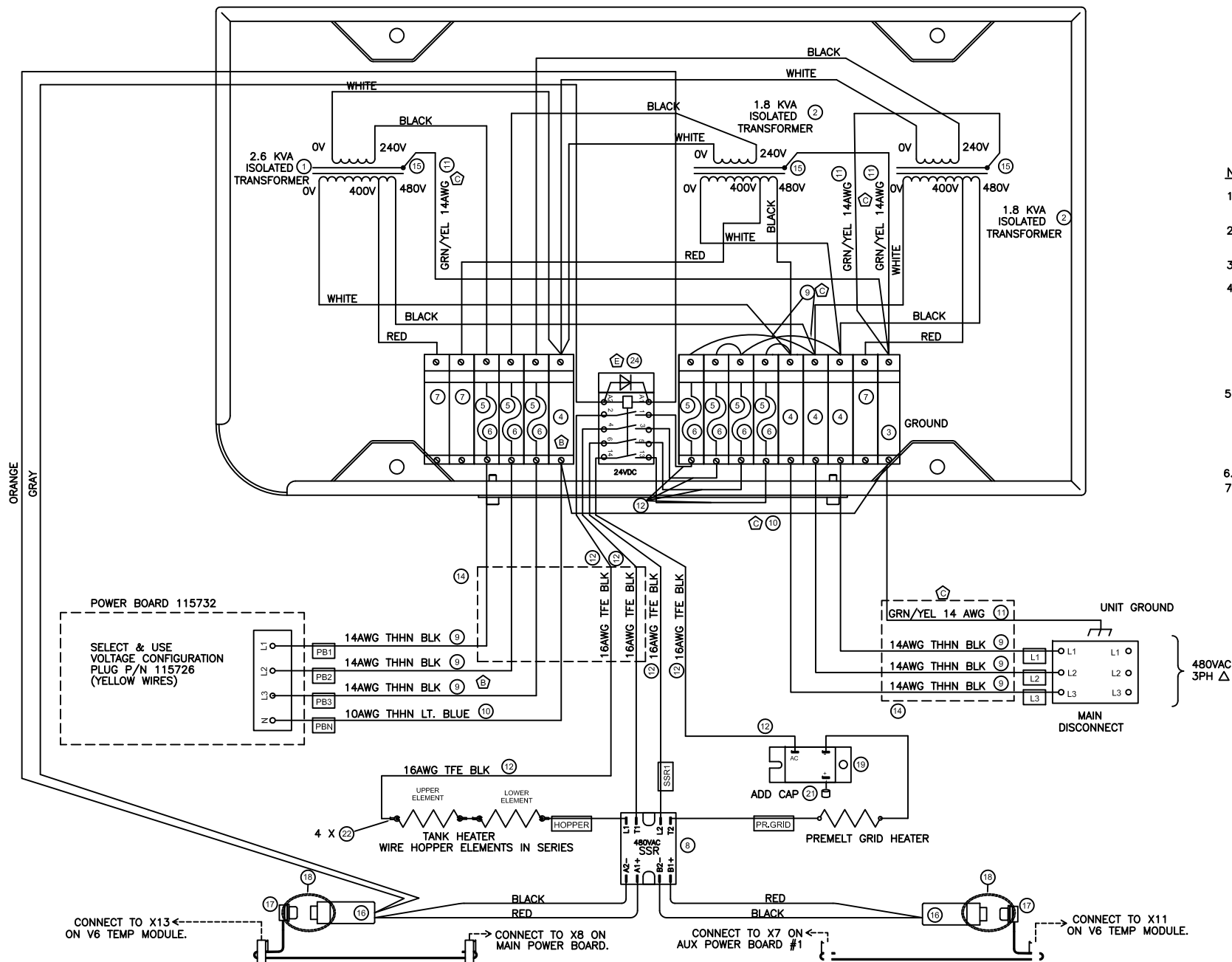
1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
2. WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
3. ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
4. TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
5. CUT OFF FORK TERMINALS FROM ITEMS 16 AND CRIMP IDC ITEM 20. CONNECT CABLES 117108 (ITEM 16) TO SSR (ITEM 8). THEN PLUG CABLES 117108 INTO RIBBON CABLE ASSY'S 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18)
6. BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
7. WIRES TO HOPPER AND GRID ARE TO BE 16AWG TFE

24	122702	1	EA	CONTACTOR,24VDC COIL
23	104162	2	EA	ENDPLATE FOR 104161
22	105154	4	EA	CON, FORK TERMINAL
21	N07106	1	EA	O-CAP, VINYL
20				
19	810259	1	EA	DIODE BLOCK 25A/480V
18	104396	4	EA	CABLE TIE, 10 x 5.6, BLACK NYLON
17	117107	2	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
16	828645	2	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
15	N04281	3	EA	RING TONGUE TERM, 16-14 AWG, #.25
14	048J024	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
13				
12	042X131	12	FT	WIRE, TFE, 16 GA, 260C, BLACK
11	802821	2.0	FT	WIRE, GRN/YEL, 14 GA, 105C
10	802825	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
9	N05860	8.67	FT	WIRE, THHN, 14 GA, BLACK
8	N15897	1	EA	SSR, 480V, 40A, DUAL, DC-IN
7	103379	3	EA	TERM BLK, 50A
6	812419	5	EA	FUSE, LPCC, 10A
5	0481126	5	EA	FUSE BLOCK, 800V, 4 AWG, DIN-RAIL
4	104161	4	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
3	103663	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
2	115047	2	EA	XFMR, 1.8KVA,480/400V-240V
1	117306	1	EA	XFMR, 2.6KVA,480/400V-240V

NAME OF FIRM OR ENGINEER PROJECT NO. DATE SHEET NO. OF		FOR MACHINING SETTING AND STRUCKS SEE (DYWIDAG) SEE: ADDRESS		REFERENCE PARTS LIST  HENDERSONVILLE, TN		W/AVE R	
USED ON DMSR 5/10/22/45		APPROVALS GIVEN CHECKED		WIRING DIAGRAM, XFMR Assy 400V, 6-HOSE, PREM.GRID		R SOURCE	
DO NOT SCALE DRAWING		COMPUTER OPERATIONS CHARACTERIZED WIRE DMC XFMR 400V/400V/400V		SIZE D 1 1/4 119630 C DRAWING		G 1	

4.1.14 Schematics for Transformer Assy, 480V, 6-Hose w. 1 Grid, PN 119633G

REL.	REV.	DESCRIPTION	DATE	BY	APPROVED
Nxxx	A	INITIAL RELEASE	1.21.15	DH	
16007	E	FUSE IN NEUTRAL CONDUCTOR REMOVED	2.10.16	DH	
C1022	C	ADDED COMMENT LINE 7	7.16.18	DJR	
C1109	D	CHANGED GND TO 14AWG	09.13.18	BFC	
18117	E	ADDED 24VDC CONTACTOR	09.27.18	JB	
2179	G	REMOVED ITEM 20, UPDATE ITEM 8&16	3.3.25	BG	



NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED AS PART OF THE TRANSFORMER ASSY.
- WIRES ROUTED THRU SLEEVING (ITEM 14) ARE TO BE LABELED AS NOTED, WITH SELF-ADHESIVE BRADY VINYL LABELS.
- ALL WIRING AT HOPPER TO BE 16 AWG TFE BLACK (ITEM 12).
- TORQUE ALL ELECTRICAL CONNECTIONS AS FOLLOWS:
ITEM 3: 4.0 NM [35 IN-LB]
ITEM 4: 1.6 NM [14 IN-LB]
ITEM 5: 2.5 NM [22 IN-LB]
ITEM 7: 4.0 NM [35 IN-LB]
ITEM 8, DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CUT OFF FORK TERMINALS FROM ITEMS 16 AND CRIMP IDC ITEM 20
CONNECT CABLES 117108 (ITEM 16) TO SSR (ITEM 8).
THEN PLUG CABLES 117108 INTO RIBBON CABLE ASSY'S 117107 (ITEM 17). CONNECT THE REMAINING TWO ENDS OF RIBBON CABLE AS SHOWN. SECURE CABLES 117107 & 117108 TOGETHER WITH CABLE TIES (ITEM 18)
- BILL-OF-MATERIAL INFO SHOWN IS FOR REFERENCE ONLY.
- WIRES TO HOPPER AND GRID ARE TO BE 16AWG TFE

ITEM	QTY	UOM	DESCRIPTION
24	1	EA	CONTACTOR, 24VDC COIL
23	1	EA	ENDPLATE FOR 104161
22	1	EA	CON. FORK TERMINAL
21	1	EA	O-CAP, VINYL
20			
19	1	EA	DIODE BLOCK 25A/480V
18	4	EA	CABLE TIE, .10 x 5.6, BLACK NYLON
17	2	EA	CABLE ASSY, RIBBON, V6 SSR CTRL
16	2	EA	CABLE ASSY, V6 SSR CTRL, HOPPER
15	3	EA	RING TONGUE TERM, 16-14 AWG, #.25
14	3.0	FT	SLEEVING, SI RBR/FBRGLS, BLACK, 3/8
13			
12	12	FT	WIRE, TFE, 16 GA, 260C, BLACK
11	2.0	FT	WIRE, GRN/YEL 14 GA, 105C
10	2.0	FT	WIRE, THHN, 10 GA, LT BLUE
9	8.67	FT	WIRE, THHN, 14 GA, BLACK
8	1	EA	SSR, 480V, 40A, DUAL, DC-IN
7	3	EA	TERM BLK, 50A
6	5	EA	FUSE, LPCC, 10A
5	5	EA	FUSE BLOCK, 600V, 4 AWG, DIN-RAIL
4	4	EA	TERM, 105A, 600V, 4 AWG, DIN-RAIL
3	1	EA	TERM BLK, #6, GND, DIN RAIL MOUNT
2	2	EA	XFMR, 1.8KVA, 480/400V-240V
1	1	EA	XFMR, 2.6KVA, 480/400V-240V

REV	DATE	DESCRIPTION
1	5/10	DMSR

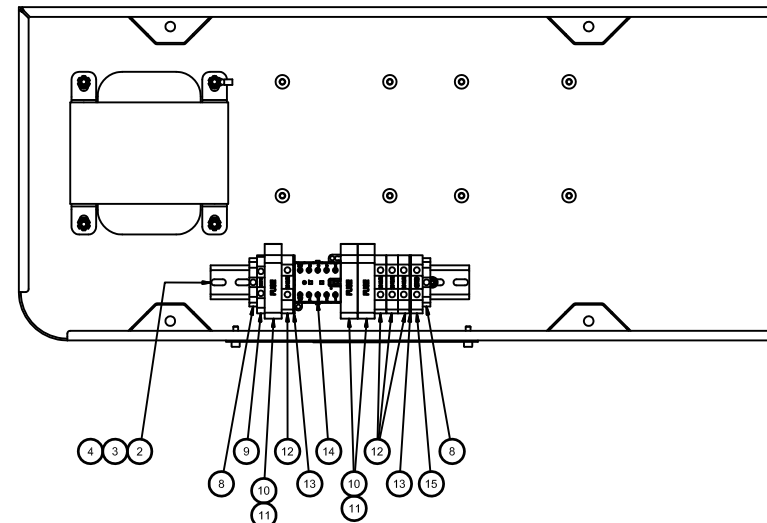
FOR MACHINING STANDARDS AND SYMBOLS SEE IN/PROTECH SPEC. 400800	APPROVALS	DATE
	DRAWN	
	CHECKED	
	COMPUTER DESCRIPTIONS CHECKED	
DO NOT SCALE DRAWING	WIRE, 24VDC, 480V, 400V, 240V	

DATE	DESCRIPTION	REV	GROUP
5/10	WIRING DIAGRAM, XFMR ASSY, 480V, 6-HOSE, PREM.GRID	1	G
11/96	119633		
1/1	CAD DRAWING		

4.2 Transformers for SR22/45

4.2.1 Transformer Assembly w. Schematics, 400 VAC, 2-Hose, SR22/45, PN 123706A

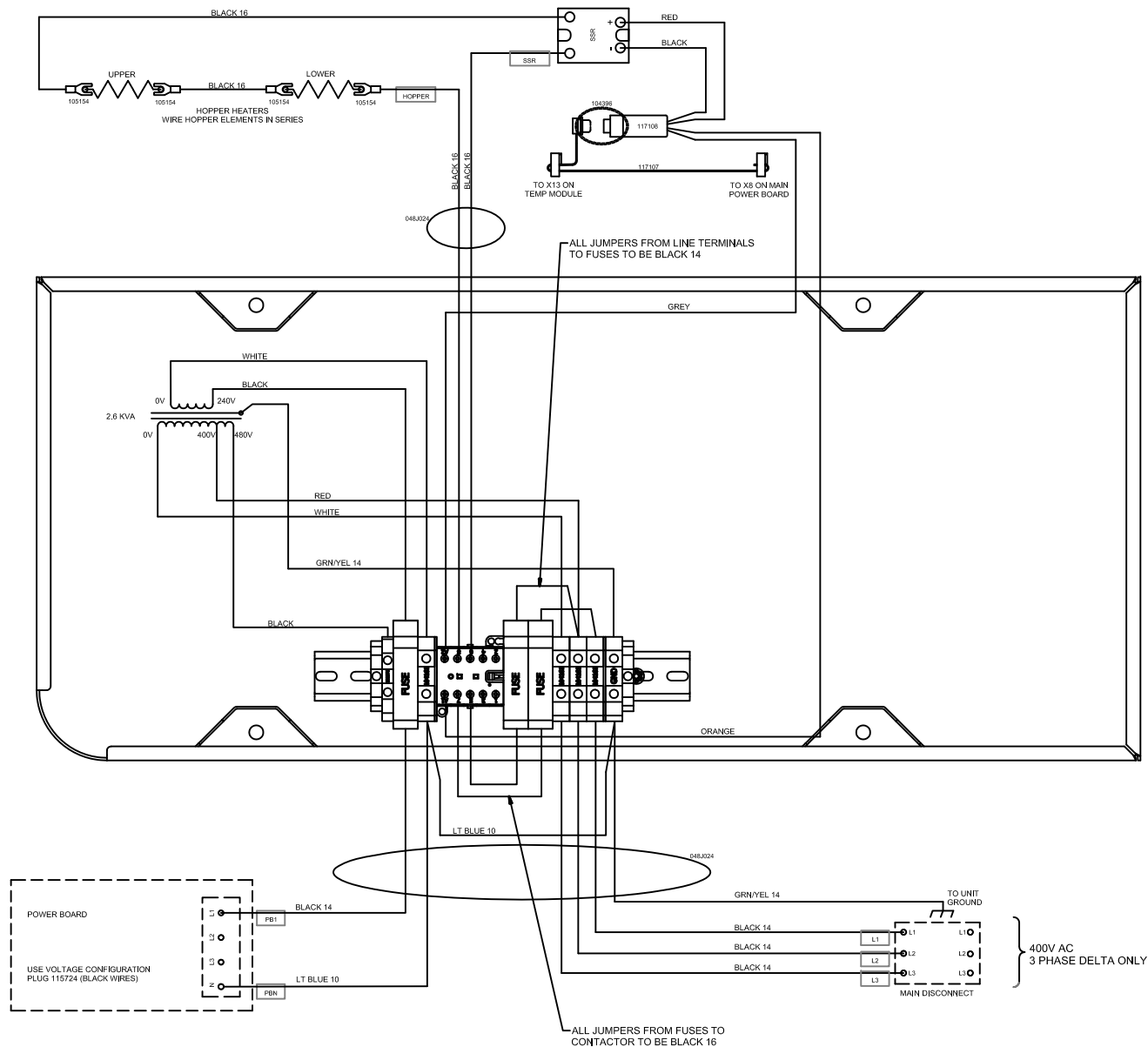
REVISIONS				
ORDER/CCR/ECR	REV	DESCRIPTION	DATE	BY
1905	A	ORIGINAL RELEASE	28DEC20	EWB



32	810262	1	EA	SSR, 480V, 25A, 4-32VDC		
31	7117108	1	EA	CABLE ASY V6 SSR CTRL HOP & GRID		
30	7117107	1	EA	CABLE ASY RBN V6 SSR CTRL		
29	105154	4	EA	FORM TERMINAL, NONINS		
PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET						
28	108295	4	EA	HCSS, SERRATED FLANGE, M8X1,25 X 12MM		
27	106242	4	EA	SCR, SHC, M5-0,8 X 16MM, BO		
26	049K778	1	EA	WARNING LABEL		
25	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR		
24	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F		
23	113952	1	EA	GROMMET, 1,0ID X 1,75OD		
22	123412	1	EA	LID, TRANSFORMER CASE, SR22/45		
21	104396	8	EA	CABLE TIE, 1" X 5,6", BLACK NYLON		
20	04J0824	3	FT	SLEEVING, SILICONE/F/GLASS, 3/8" ID		
19	042X131	8	FT	WIRE TFE, BLACK, 16GA, 260C		
18	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C		
17	802955	3	FT	WIRE THHN, 14 GA, BLUE		
16	105680	6	FT	WIRE THHN, 14 GA, BLACK		
15	105363	1	EA	TERMINAL BLOCK, GROUND		
14	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL		
13	104162	2	EA	END BARRIER, TERMINAL BLOCK		
12	104161	4	EA	TERMINAL BLOCK, 105A		
11	812419	3	EA	FUSE, LPCC, 10A		
10	0481126	3	EA	FUSEHOLDER, .40 x 1,5		
9	103379	1	EA	TERMINAL BLOCK, 50A		
8	105256	2	EA	END STOP, DIN RAIL		
7	N04281	1	EA	RING TERMINAL		
6	673930	4	EA	NUT, HEX, M6-1,0, KEPS, ZP		
5	117306	1	EA	TRANSFORMER, 2,6KVA, 480/400V-240V		
4	673931	2	EA	NUT, M4X0,7, KEPS		
3	105164	2	EA	WASHER, FLAT, #8, BLACK		
2	118427	1	EA	DIN RAIL, 35MM, 267MM LG		
1	123407	1	EA	CASE, TRANSFORMER, SR22/45		
ITEM PART NUMBER QTY UOM			DESCRIPTION			
NEED NOT BE REPRODUCED IF ANY DISCREPANCIES ARE FOUND, THE USER SHALL BE RESPONSIBLE FOR THE CORRECTION. DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 QUALITY ASSURANCE DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
DESIGN DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 ENGINEERING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
MANUFACTURING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 QUALITY ASSURANCE DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
DESIGN DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 ENGINEERING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
MANUFACTURING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 QUALITY ASSURANCE DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
DESIGN DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 ENGINEERING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
MANUFACTURING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 QUALITY ASSURANCE DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
DESIGN DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 ENGINEERING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
MANUFACTURING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 QUALITY ASSURANCE DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
DESIGN DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0 ENGINEERING DATE: 10/10/20 BY: J. B. J. B. REVISION: 1.0						
MANUFACTURING DATE: 10/10/20						



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DO NOT REPRODUCE OR DISCLOSE TO
OTHERS WITHOUT EXPRESS WRITTEN
CONSENT OF FINDERMATIC.



NOTES:

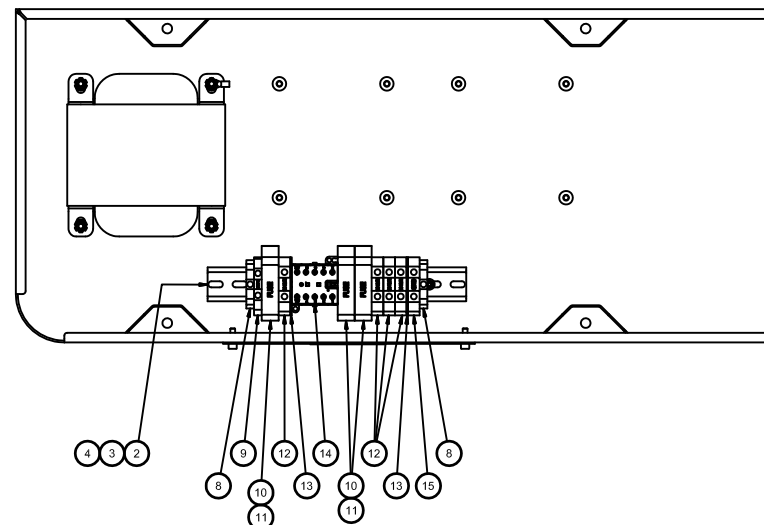
- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
- WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
- TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:
103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
1048126: 2.5 NM [22 IN-LB]
103378: 4.0 NM [35 IN-LB]
122702: DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.



DRAWN BY: J. H. H. (JHH) / DATE: 28DEC20		CHECKED BY: J. H. H. (JHH) / DATE: 28DEC20	
DESIGNED BY: J. H. H. (JHH) / DATE: 28DEC20		APPROVED BY: J. H. H. (JHH) / DATE: 28DEC20	
PROJECT NO: 123706		REV: A	
DRAWN AT SCALE: 5/8		SHEET: 2 OF 2	

TRANSFORMER ASY, 400V, 2-HOSE, NO GRID, SR22/45

4.2.2 Transformer Assembly w. Schematics, 480 VAC, 2-Hose, SR22/45, PN 123707A

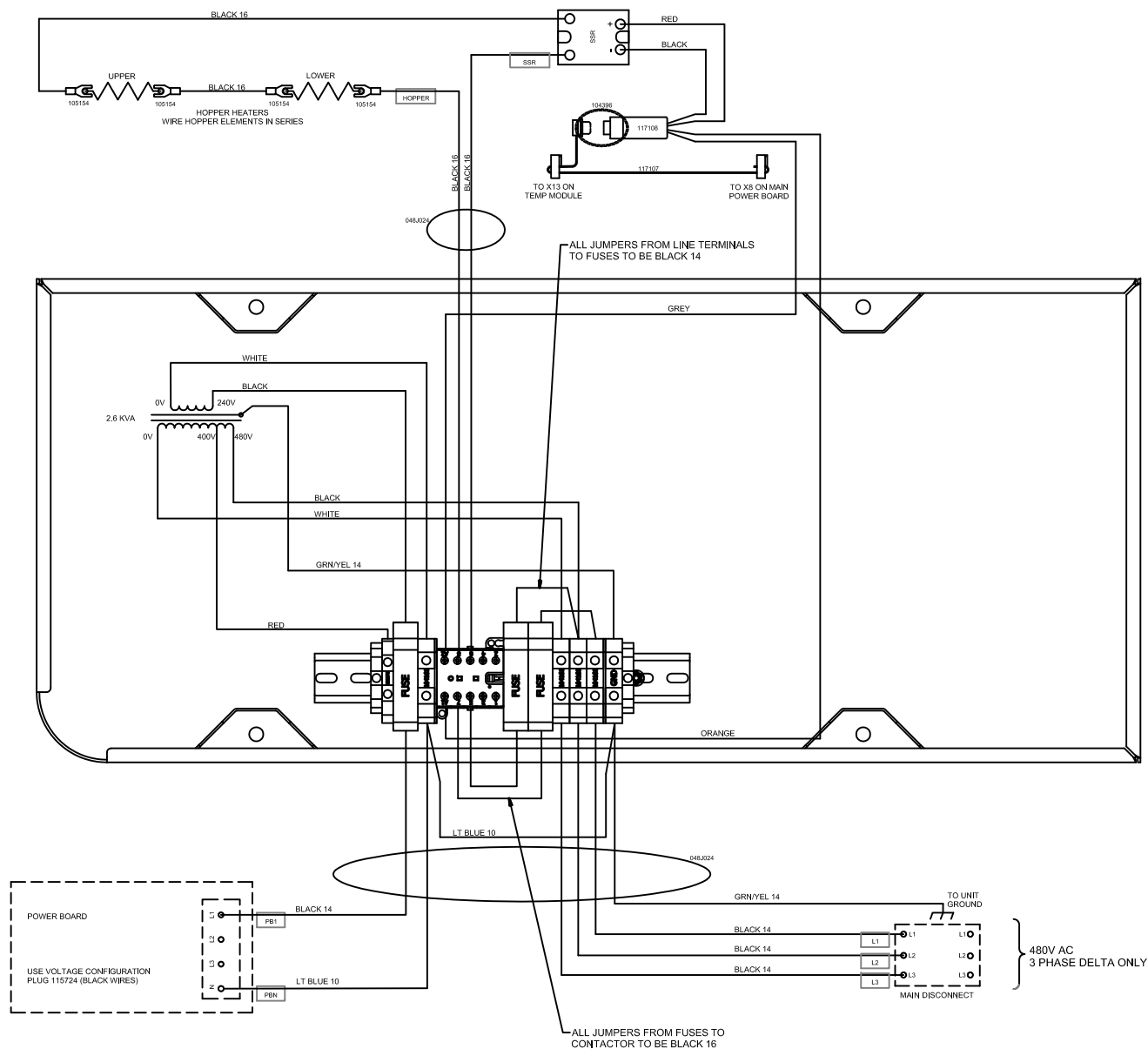


32	810262	1	EA	SSR, 480V, 25A, 4-32VDC
31	117108	1	EA	CABLE ASY V8 SSR CTRL HOP & GRID
30	117107	1	EA	CABLE ASY RBN V8 SSR CTRL
29	105154	4	EA	FORK TERMINAL, NONLINS
				PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET
28	108295	4	EA	HHCS, SERRATED FLANGE, M8X1,25 X 12MM
27	106242	4	EA	SCR, SHC, M5-0.8 X 16MM, BO
26	049K778	1	EA	WARNING LABEL
25	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
24	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F
23	113952	1	EA	GROMMET, 1.0ID X 1.75OD
22	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
21	104396	8	EA	CABLE TIE, .1 X 5.6" BLACK NYLON
20	040J824	3	FT	SLEEVING, SILICONE/FLASS, 3/8" ID
19	042X131	6	FT	WIRE, TFE, BLACK, 16GA, 260C
18	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
17	802825	3	FT	WIRE, THHN, 10 GA, LT BLUE
16	N05860	6	FT	WIRE, THHN, 14 GA, BLACK
15	103663	1	EA	TERMINAL BLOCK, GROUND
14	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL
13	104162	2	EA	END BARRIER, TERMINAL BLOCK
12	104161	1	EA	TERMINAL BLOCK, 105A
11	104219	3	EA	FUSE, 100A, 10A
10	0481126	3	EA	FUSEHOLDER, 10 X 1.5
9	103379	1	EA	TERMINAL BLOCK, 50A
8	105256	2	EA	END STOP, DIN RAIL
7	N04281	1	EA	RING TERMINAL
6	607390	4	EA	NUT, HEX, M6-1.0, KEPS, 2P
5	117306	1	EA	TRANSFORMER, 2 KVVA, 480/400V-240V
4	407391	2	EA	NUT, M4X0.7, KEPS
3	105164	2	EA	WASHER, FLAT, #8, BLACK
2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
1	123407	1	EA	CASE, TRANSFORMER, SR22/45
ITEM	PART NUMBER	QTY	U/M	DESCRIPTION

[illegible]

ITW Dynalene
HENDERSCHVILLE, TN
TRANSFORMER ASY, 480V,
2-HOSE, NO GRID, SR22/45

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CONSENT OF EPPHYMATIC.



NOTES:

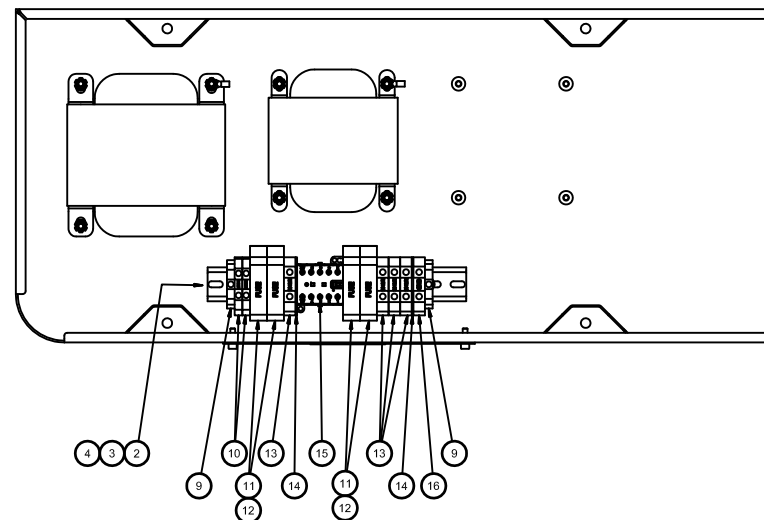
1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
2. WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
3. TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:
103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
1048126: 2.5 NM [22 IN-LB]
103379: 4.0 NM [35 IN-LB]
122702: DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
4. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.



DRAWN BY: J. H. H. (JHH) / DATE: 28DEC20		CHECKED BY: J. H. H. (JHH) / DATE: 28DEC20	
DESIGNED BY: J. H. H. (JHH) / DATE: 28DEC20		APPROVED BY: J. H. H. (JHH) / DATE: 28DEC20	
DRAWN: JHH		CHECKED: JHH	
DESIGNED: JHH		APPROVED: JHH	
PART NO: 123707		REV: A	
DRAWN AT SCALE: 5/8		SHEET: 2 OF 2	

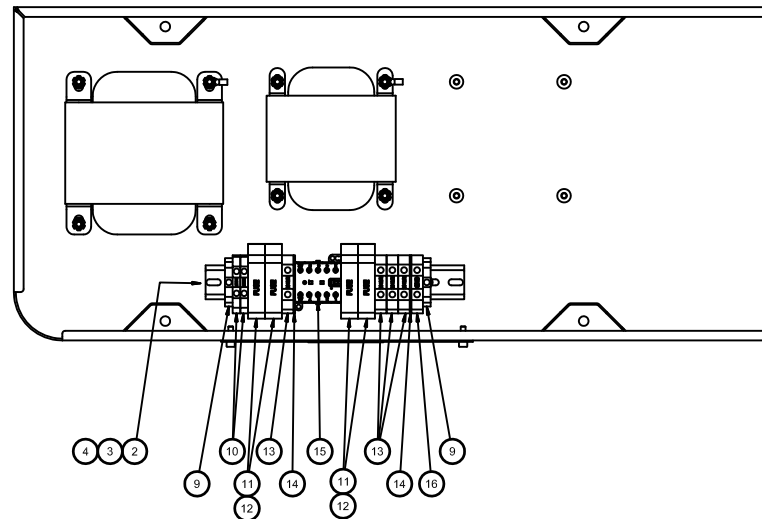
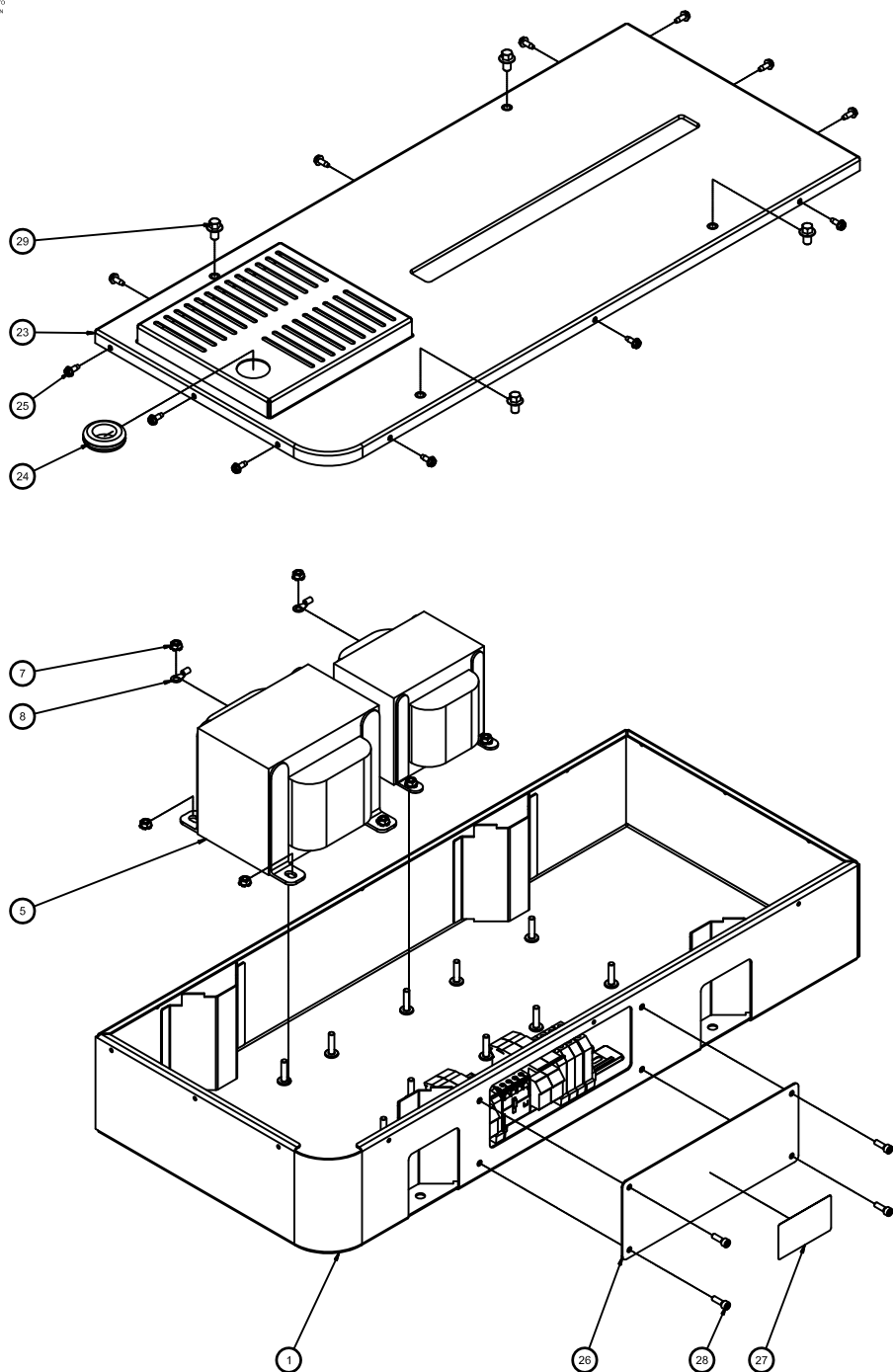
Transformer Assembly
TRANSFORMER ASY, 480V,
2-HOSE, NO GRID, SR22/45

4.2.3 Transformer Assembly w. Schematics, 400 VAC, 4-Hose, SR22/45, PN 123708A



4.2.4 Transformer Assembly w. Schematics, 480 VAC, 4-Hose, SR22/45, PN 123709A

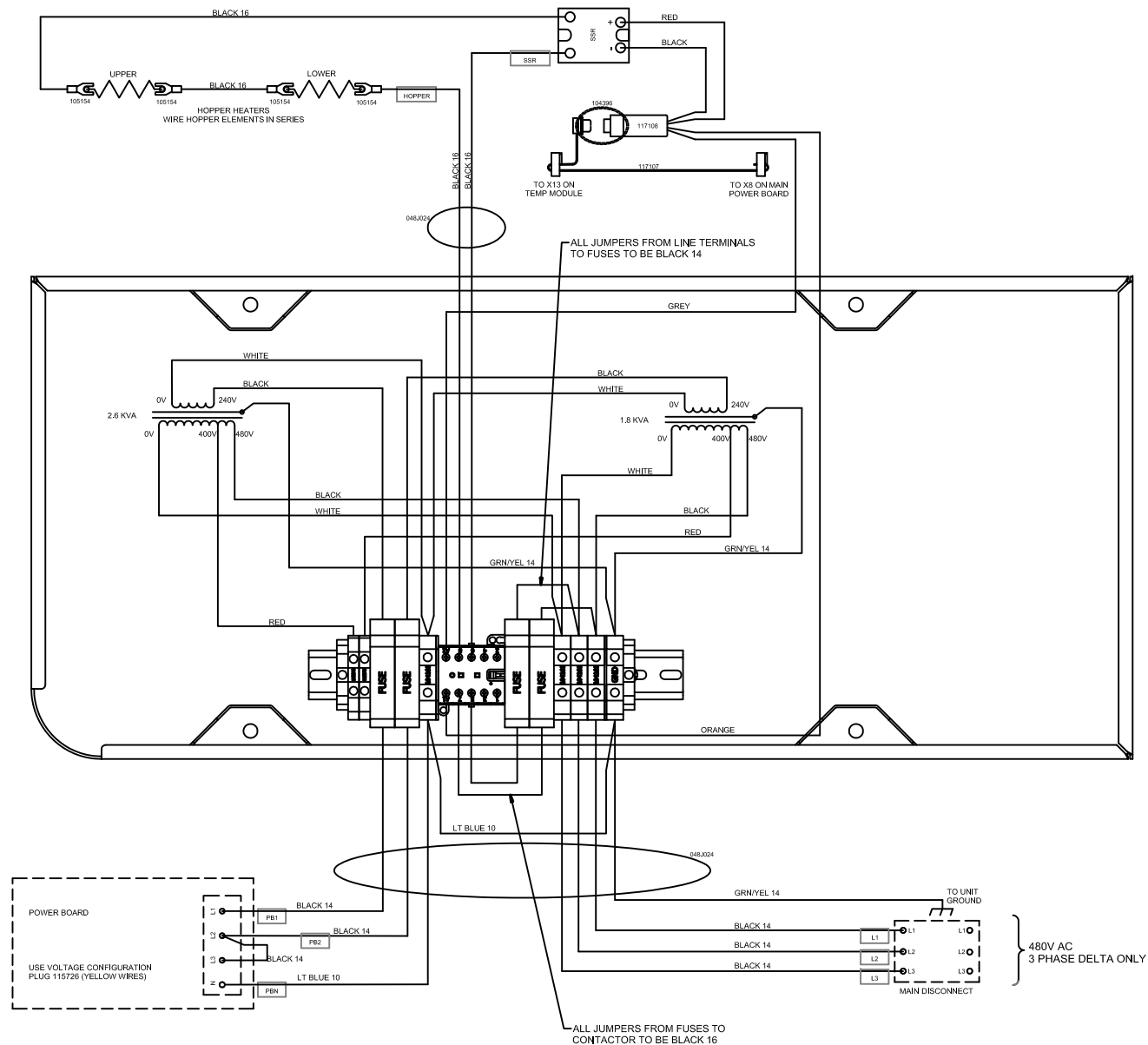
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ORDER/CCR/ECR		REV	REVISIONS		DATE	BY
1905		A	ORIGINAL RELEASE		28DEC20	EWB

ITEM	PART NUMBER	QTY	UM	DESCRIPTION
33	810262	1	EA	SSR, 480V, 25A 4-32VDC
32	117108	1	EA	CABLE ASY,V6 SSR CTRL,HOP & GRID
31	117107	1	EA	CABLE ASY,RBN,V6 SSR CTRL
30	105154	4	EA	FORK TERMINAL, NON-INS
PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET				
29	108295	4	EA	HHCS, SERRATED FLANGE, M8X1.25 X 12MM
28	106242	4	EA	SCR, SHG, M5-0.8 X 16MM, BO
27	048K778	1	EA	WARNING LABEL
26	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
25	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F
24	113952	1	EA	GROMMET, 1.0ID X 1.75OD
23	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
22	104396	8	EA	CABLE TIE, .1 X 5.6", BLACK NYLON
21	048J024	3	FT	SLEEVING, SILICONE/F GLASS, 3/8" ID
20	042X131	8	FT	WIRE, TFE, BLACK, 18GA, 260C
19	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
18	802825	3	FT	WIRE, THIN, 10 GA, LT BLUE
17	N05860	9	FT	WIRE, THIN, 14 GA, BLACK
16	103663	1	EA	TERMINAL BLOCK, GROUND
15	122702	1	EA	CONTACTOR, 480V, 20A 24VDC COIL
14	104162	2	EA	END BARRIER, TERMINAL BLOCK
13	104161	4	EA	TERMINAL BLOCK, 105A
12	812419	4	EA	FUSE, LPCC, 10A
11	048I126	4	EA	FUSEHOLDER, .40 x 1.5
10	103379	2	EA	TERMINAL BLOCK, 50A
9	105256	2	EA	END STOP, DIN RAIL
8	N04281	2	EA	RING TERMINAL
7	107390	8	EA	NUT, HEX, M6-1.0, KEPS, ZP
6	115047	1	EA	TRANSFORMER, 1.8KVA, 480/400V-240V
5	117306	1	EA	TRANSFORMER, 2.6KVA, 480/400V-240V
4	107391	2	EA	NUT, M4X0.7, KEPS
3	105164	2	EA	WASHER, FLAT, #8, BLACK
2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
1	123407	1	EA	CASE, TRANSFORMER, SR22/45
PARTS LIST				
DRAWING INFORMATION: DRAWN BY: J. J. JENSEN, DATE: 28DEC20, CHECKED BY: J. J. JENSEN, DATE: 28DEC20, APPROVED BY: J. J. JENSEN, DATE: 28DEC20				
DRAWING SCALE: 3/8, SHEET: 1 OF 2				
TRANSFORMER ASY, 480V, 4-HOSE, NO GRID, SR22/45				
REV: D, 123709, EWB, 28DEC20				

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OTHERS WITHOUT EXPRESS WRITTEN
CONSENT OF FINDERSONIC.



NOTES:

1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
2. WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
3. TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:
103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
0481126: 2.5 NM [22 IN-LB]
103379: 4.0 NM [35 IN-LB]
122702: DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
4. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

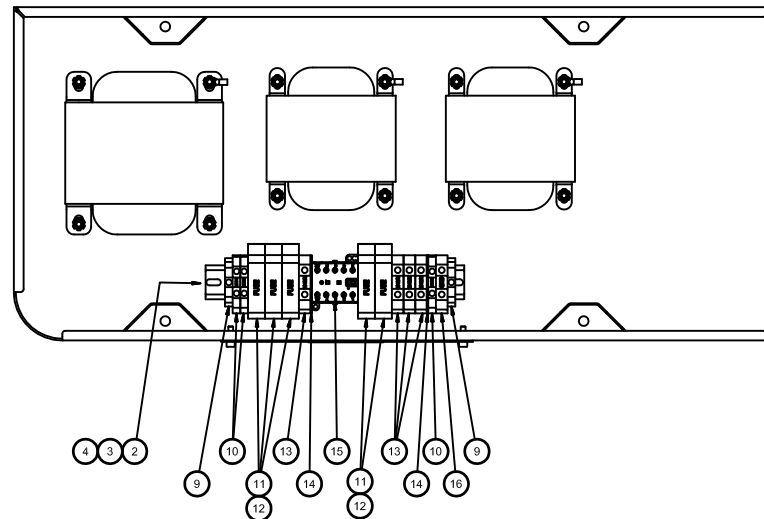
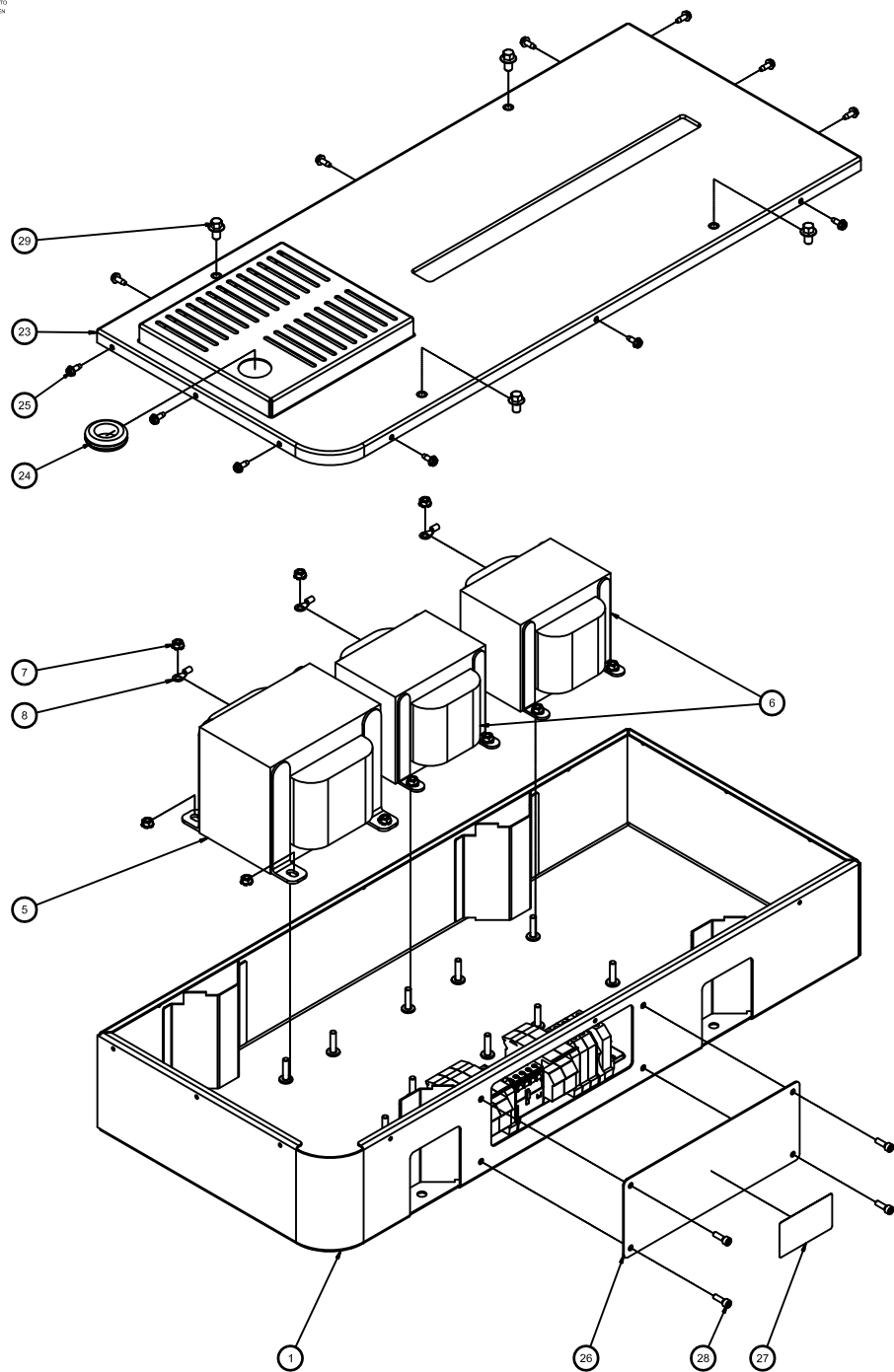


DRAWN BY: J. H. HENDERSON DATE: 28DEC20		CHECKED BY: J. H. HENDERSON DATE: 28DEC20	
APPROVED BY: J. H. HENDERSON DATE: 28DEC20		APPROVED BY: J. H. HENDERSON DATE: 28DEC20	
DRAWN: EWB		CHECKED: EWB	
PART NO: 123709		REV: A	
DRAWN AT SCALE: 5/8		SHEET: 2 OF 2	

rw Dynamics
HENDERSONVILLE, TN
TRANSFORMER ASY, 480V,
4-HOSE, NO GRID, SR22/45

4.2.5 Transformer Assembly w. Schematics, 400 VAC, 6-Hose, SR22/45, PN 123710A

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CONSENT OF EPCORPAC, INC.



ORDER/CCR/ECR		REV	REVISIONS		DATE	BY
1905		A	ORIGINAL RELEASE		28DEC20	EWB

ITEM	PART NUMBER	QTY	U/M	DESCRIPTION
33	810262	1	EA	SSR, 480V, 25A 4-32VDC
32	117108	1	EA	CABLE ASY,V6 SSR CTRL,HOP & GRID
31	117107	1	EA	CABLE ASY,RBN,V6 SSR CTRL
30	105154	4	EA	FORK TERMINAL, NON-INS
PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET				
29	108295	4	EA	HHCS, SERRATED FLANGE, M8X1.25 X 12MM
28	106242	4	EA	SCR, SHG, M5-0,8 X 16MM, BO
27	048K778	1	EA	WARNING LABEL
26	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
25	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F
24	113952	1	EA	GROMMET, 1.0ID X 1.75OD
23	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
22	104396	8	EA	CABLE TIE, .1 X 5.6", BLACK NYLON
21	048J024	3	FT	SLEEVING, SILICONE/F GLASS, 3/8" ID
20	042X131	8	FT	WIRE, TFE, BLACK, 18GA, 260C
19	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
18	802825	3	FT	WIRE, THIN, 10 GA, LT BLUE
17	N05860	9	FT	WIRE, THIN, 14 GA, BLACK
16	103663	1	EA	TERMINAL BLOCK, GROUND
15	122702	1	EA	CONTACTOR, 480V, 20A 24VDC COIL
14	104162	2	EA	END BARRIER, TERMINAL BLOCK
13	104161	4	EA	TERMINAL BLOCK, 105A
12	812419	5	EA	FUSE, LPCC, 10A
11	048I126	5	EA	FUSEHOLDER, .40 x 1.5
10	103379	3	EA	TERMINAL BLOCK, 50A
9	105256	2	EA	END STOP, DIN RAIL
8	N04281	3	EA	RING TERMINAL
7	107390	12	EA	NUT, HEX, M6-L0, KEPS, ZP
6	115047	2	EA	TRANSFORMER, 1.8KVA, 480/400V-240V
5	117306	1	EA	TRANSFORMER, 2.6KVA, 480/400V-240V
4	107391	2	EA	NUT, M4X0.7, KEPS
3	105164	2	EA	WASHER, FLAT, #8, BLACK
2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
1	123407	1	EA	CASE, TRANSFORMER, SR22/45
PARTS LIST				
DRAWING INFORMATION: DRAWN BY: J. J. JENSEN DATE: 11/14/2019 CHECKED BY: J. J. JENSEN DATE: 11/14/2019 APPROVED BY: J. J. JENSEN DATE: 11/14/2019 DRAWN BY: J. J. JENSEN DATE: 11/14/2019 CHECKED BY: J. J. JENSEN DATE: 11/14/2019 APPROVED BY: J. J. JENSEN DATE: 11/14/2019				
TRANSFORMER ASY, 400V, 6-HOSE, NO GRID, SR22/45				
REV: 1 OF 2				

1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.

2. WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.

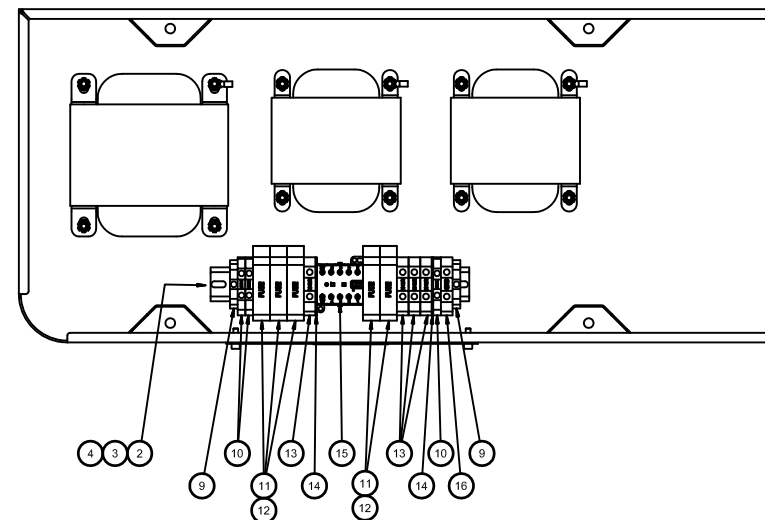
3. TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:

103863:	4.0 NM [35 IN-LB]
104161:	1.6 NM [14 IN-LB]
0481126:	2.5 NM [22 IN-LB]
105379:	4.0 NM [35 IN-LB]
122702:	DC INPUT: 1.1 NM [10 IN-LB]
	AC INPUT: 2.3 NM [20 IN-LB]

4. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

1. ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED DATE 08-01-2001 BY 60322 UCBAW/ML/AN/LES		GOAT FOR APPROVED 14-03-2001			
2. THIS DOCUMENT IS UNCLASSIFIED DATE 08-01-2001 BY 60322 UCBAW/ML/AN/LES		APPROVED _____ DATE _____		PERSHERSVILLE, TN	
3. THIS DOCUMENT IS UNCLASSIFIED DATE 08-01-2001 BY 60322 UCBAW/ML/AN/LES		CROWN _____ EWB _____		TRANSFORMER ASY, 40V 6-HOSE, NO GRID, SR22/45	
4. THIS DOCUMENT IS UNCLASSIFIED DATE 08-01-2001 BY 60322 UCBAW/ML/AN/LES		CHECKED _____		123710	
5. THIS DOCUMENT IS UNCLASSIFIED DATE 08-01-2001 BY 60322 UCBAW/ML/AN/LES		COMPUTER DESCRIPTION (24 CHARACTERS)		D 123710 CROWN AT BASE 6/23 SHEET 2 OF 2	
6. THIS DOCUMENT IS UNCLASSIFIED DATE 08-01-2001 BY 60322 UCBAW/ML/AN/LES		BEST COPY		123710	

4.2.6 Transformer Assembly w. Schematics, 480 VAC, 6-Hose, SR22/45, PN 123711A



33	810262	1	EA	SSR 480V, 25A, 4-32VDC
32	117108	1	EA	CABLE ASY V6 SSR CTRL HOP & GRID
31	117107	1	EA	CABLE ASY RBN V6 SSR CTRL
30	105154	4	EA	FORK TERMINAL, NONHS
PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET				
29	108295	4	EA	HHCS, SERRATED FLANGE, M8X1.25 X 12MM
28	106242	4	EA	SCR, SHC, M5-0.8 X 16MM, BO
27	048K778	1	EA	WARNING LABEL
26	117131	1	EA	COVER, FUSE ACCESS, DMSR XFMR
25	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F
24	113952	1	EA	GROMMET, 1.0ID X 1.75OD
23	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
22	104396	8	EA	CABLE TIE, .1 X 5.6" BLACK NYLON
21	048J024	3	FT	SLEEVE, SILICONE/F GLASS, 3/8" ID
20	042X131	8	FT	WIRE, TFE, BLACK, 16GA, 260C
19	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
18	802825	3	FT	WIRE, THHN, 10 GA, LT BLUE
17	105860	9	FT	WIRE, THHN, 14 GA, BLACK
16	103663	1	EA	TERMINAL BLOCK, GROUND
15	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL
14	104162	2	EA	END BARRIER, TERMINAL BLOCK
13	104161	4	EA	TERMINAL BLOCK, 105A
12	812419	5	EA	FUSE, LPCC, 10A
11	0481126	5	EA	FUSEHOLDER, .40 x 1.5
10	103379	3	EA	TERMINAL BLOCK, 50A
9	105256	2	EA	END STOP, DIN RAIL
8	N04281	3	EA	RING TERMINAL
7	073930	12	EA	NUT, HEX, M6-1.0, KEPS, ZP
6	115047	2	EA	TRANSFORMER, 1.8KVA, 480/400V-240V
5	117306	1	EA	TRANSFORMER, 2.8KVA, 480/400V-240V
4	073931	2	EA	NUT, M4X0.7, KEPS
3	105184	2	EA	WASHER, FLAT, #8, BLACK
2	116247	1	EA	DIN RAIL, 35MM, 267MM LG
1	123407	1	EA	CASE, TRANSFORMER SR22/45
ITEM	PART NUMBER	QTY	U/M	DESCRIPTION

DESIGNER: MICHAEL BRYAN, JR. (ELECTRONIC)
 ENGINEER: MICHAEL BRYAN, JR. (ELECTRONIC)
 CHECKED: J. J. JOCK & SUEEN
 DATE: 10/15/10

DESIGN: J. J. JOCK & SUEEN
 DATE: 10/15/10

Parts List

THENDERSON/ELIE, TN

DRAWN		DATE	
EWS		28DEC02	
CHECKED			
COMPUTER DESCRIPTION (OR CHARACTER)			

PRINT PART ID

PRINT ASBY

TRANSFORMER ASY, 480V,
 6-HOSE, NO GRID, SR22/45

Dwg. No. 123711
 REV 3.7.8
 SHEET 1 OF 2

PRINT PART ID

PRINT ASBY

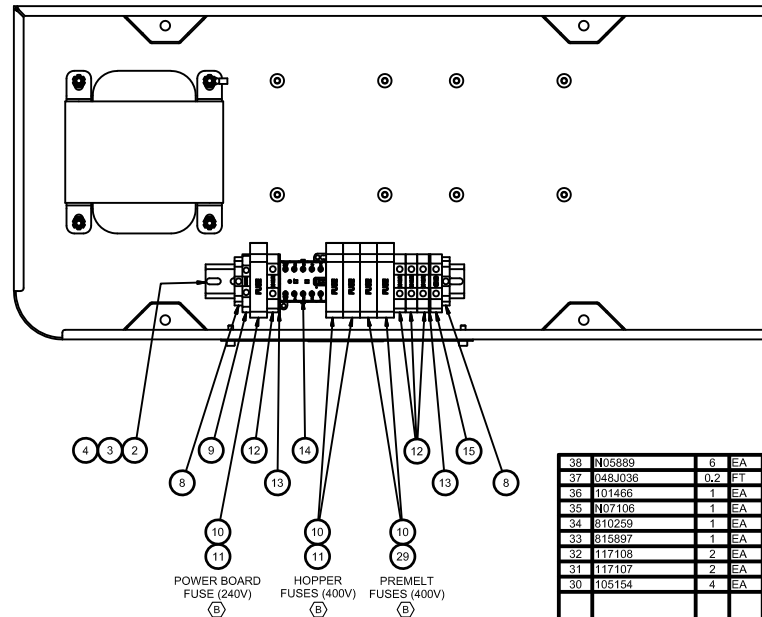
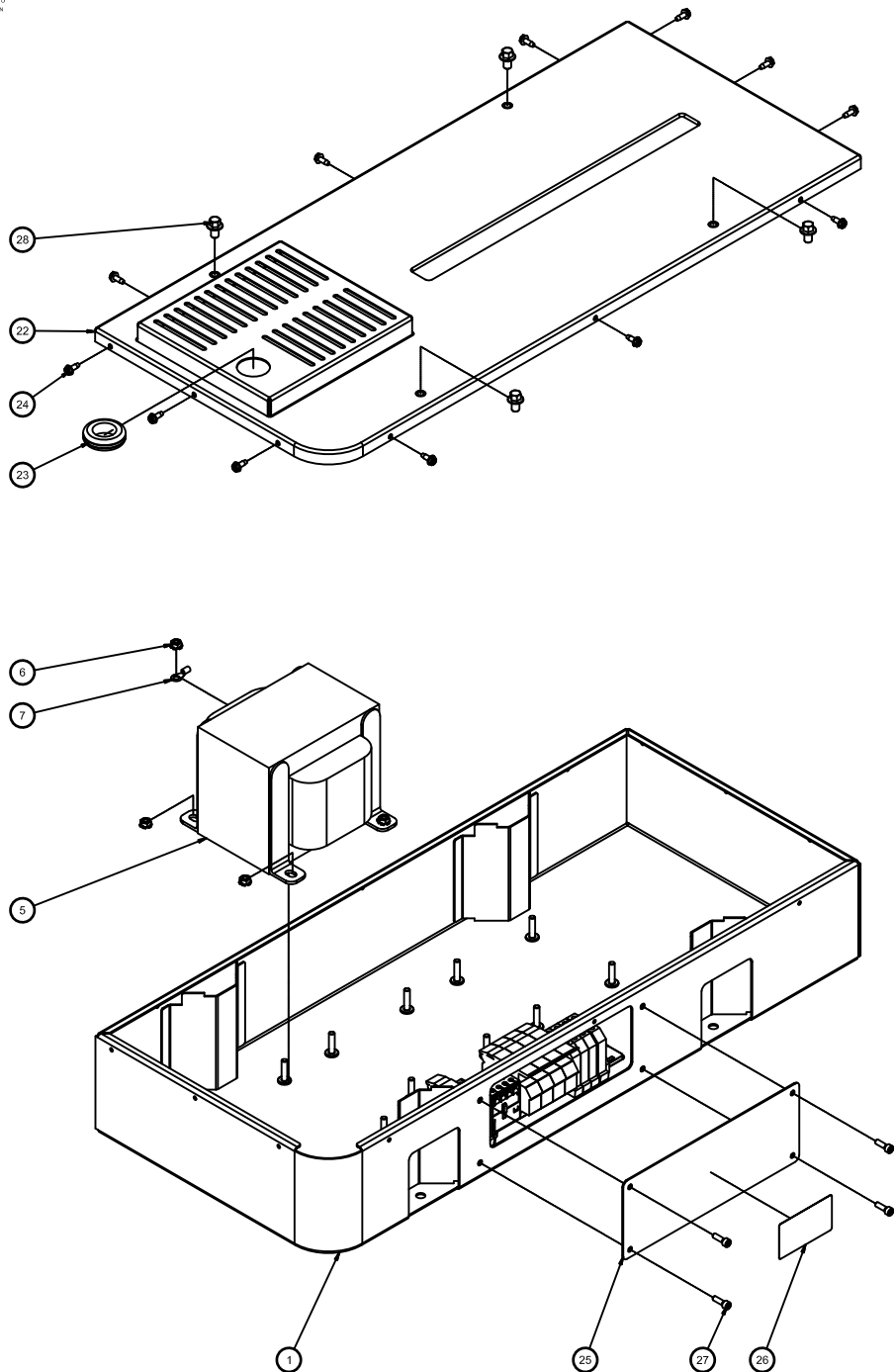
TRANSFORMER ASY, 480V,
 6-HOSE, NO GRID, SR22/45

Dwg. No. 123711
 REV 3.7.8
 SHEET 1 OF 2

4. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

4.2.7 Transformer Assembly w. Schematics, 400 VAC, 2-Hose w.1 Grid, SR22/45, PN 123712B

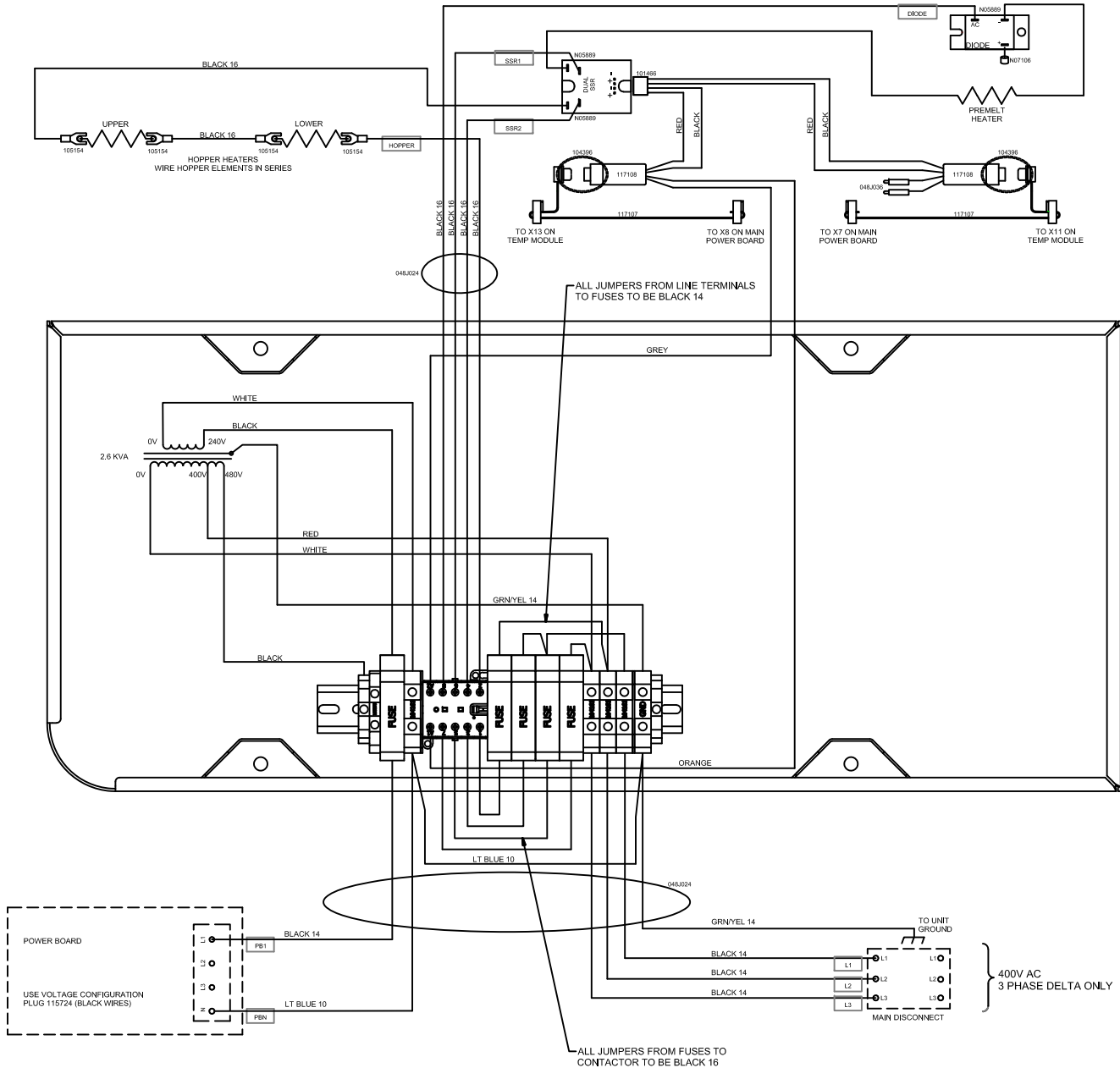
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ORDER/CCR/ECR		REV	REVISIONS		DATE	BY
			DESCRIPTION			
1905		A	ORIGINAL RELEASE		28DEC20	EWB
ECN1432		B	SHT 1: 812419 WAS QTY 5; ADD 804535, QTY 2; IDENTIFY FUSE LOCATIONS & VOLTAGE. SHT 2: SWAP HOPPER \$ PREMELT FUSE LOCATIONS.		09FEB22	EWB

39	N05889	6	EA	TERMINAL INSUL, 1/4" FEMALE SPADE, 16-14GA	
37	048J036	0.2	FT	TUBING, HEATSHRINK, 1/8" ID, BLACK	
36	101466	1	EA	CONN, IDC, 4-P, 100SP	
35	N07106	1	EA	CAP, VINYL, RED	
34	810259	1	EA	DIODE BLOCK, 480V, 25A	
33	815897	1	EA	SSR, DUAL, 480V, 24VDC CONTROL	
32	117108	2	EA	CABLE ASY,V6 SSR CTRL,HOP & GRID	
31	117107	2	EA	CABLE ASY,RBN,V6 SSR CTRL	
30	105154	4	EA	FORK TERMINAL, NON-INS	
PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET					
(B)	29	804535	2	EA	FUSE, LPCC, 15A
	28	108295	4	EA	HHCS, SERRATED FLANGE, M8X1,25 X 12MM
	27	106242	4	EA	SCR, SHG, M5-0,8 X 16MM, BO
	26	048K778	1	EA	WARNING LABEL
	25	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
	24	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F
	23	113952	1	EA	GROMMET, 1,0ID X 1,75OD
	22	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
	21	104396	8	EA	CABLE TIE, 1 X 5,6", BLACK NYLON
	20	048J024	3	FT	SLEEVING, SILICONE/FGLASS, 3/8" ID
	19	042X131	14	FT	WIRE TFE, BLACK, 10GA, 280C
	18	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
	17	802825	3	FT	WIRE THIN, 10 GA, LT BLUE
	16	N05860	6	FT	WIRE THIN, 14 GA, BLACK
	15	103663	1	EA	TERMINAL BLOCK, GROUND
	14	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL
	13	104162	2	EA	END BARRIER, TERMINAL BLOCK
	12	104161	4	EA	TERMINAL BLOCK, 105A
(B)	11	812419	3	EA	FUSE, LPCC, 10A
	10	048I126	5	EA	FUSEHOLDER, 40 x 1,5
	9	103379	1	EA	TERMINAL BLOCK, 50A
	8	105256	2	EA	END STOP, DIN RAIL
	7	N04281	1	EA	RING TERMINAL
	6	107390	4	EA	NUT, HEX, M6-1,0, KEPS, ZP
	5	117306	1	EA	TRANSFORMER, 2,6KVA, 480/400V-240V
	4	107391	2	EA	NUT, M4X0,7, KEPS
	3	105164	2	EA	WASHER, FLAT, #8, BLACK
	2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
	1	123407	1	EA	CASE, TRANSFORMER, SR22/45
ITEM PART NUMBER QTY U/M DESCRIPTION					

ITEM	PART NUMBER	QTY	U/M	DESCRIPTION
Parts List				
DATE: 28DEC2020 14:53:00				
DRAWN: EWB				
CHECKED: 28DEC20				
APPROVED: 28DEC20				
REVISIONS: 1 OF 2				
PART NAME: TRANSFORMER ASY, 400V, 2-HOSE, W/GRID, SR22/45				
REV: B				



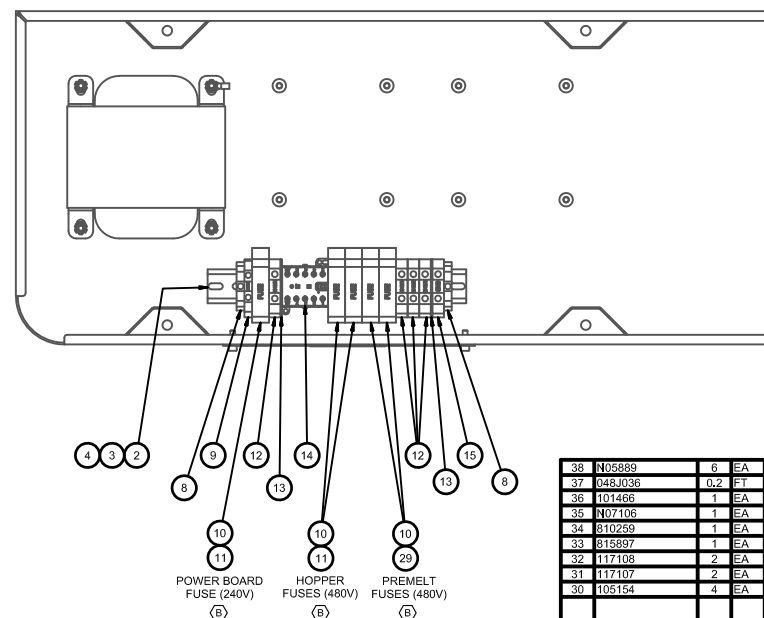
NOTES:

1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
2. WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
3. TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:

103663:	4.0 NM [35 IN-LB]
104161:	1.6 NM [14 IN-LB]
0481126:	2.5 NM [22 IN-LB]
103379:	4.0 NM [35 IN-LB]
122702:	DC INPUT: 1.1 NM [10 IN-LB] AC INPUT: 2.3 NM [20 IN-LB]
4. REMOVE FORK TERMINALS ON THE SSR ADAPTER CABLES AND ATTACH 4-PIN IDC CONNECTOR. CUT BACK THE ORANGE AND GREY WIRES ON THE SSR ADAPTER CABLE FOR THE PREMELT GRID. FOLD WIRES AND HEAT SHRINK ENDS TO SECURE.
5. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

[illegible]

4.2.8 Transformer Assembly w. Schematics, 480 VAC, 2-Hose w.1 Grid, SR22/45, PN 123713B



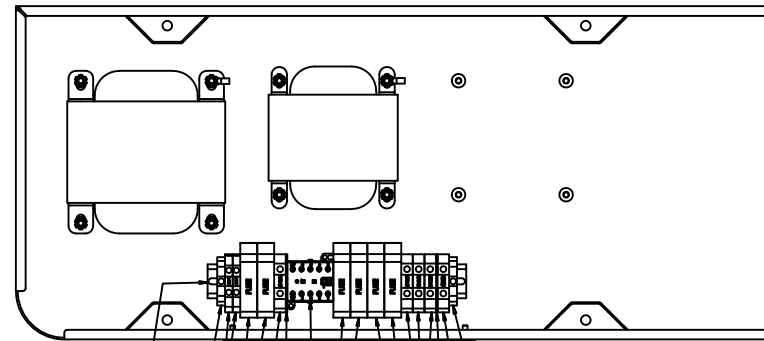
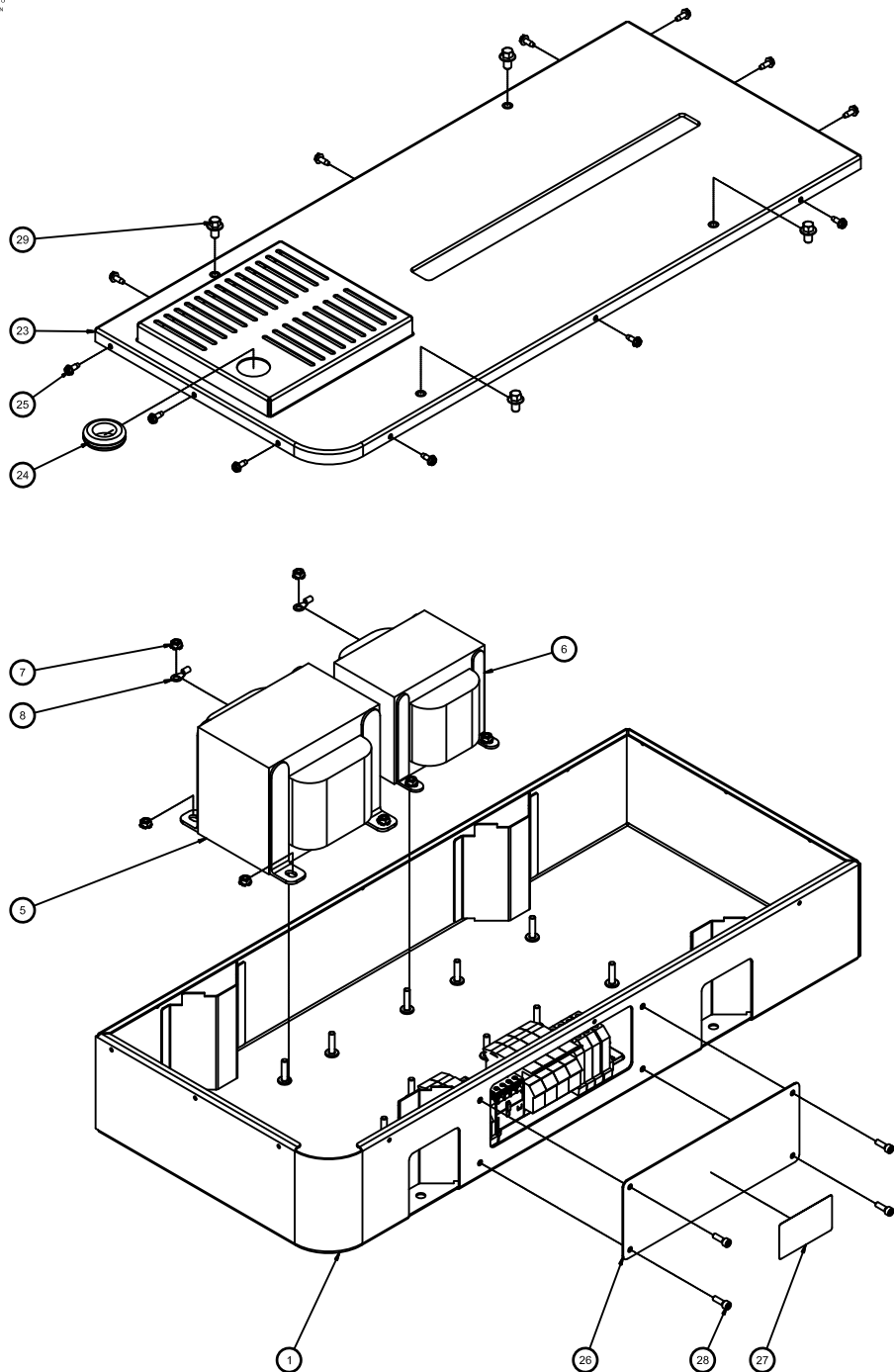
		REVISIONS		
ORDER/CCR/ECR	REV	DESCRIPTION	DATE	BY
1905	A	ORIGINAL RELEASE	28DEC20	EW
ECN1432	B	SHT 1: 812419 WAS QTY 5; ADD 804535, QTY 2; IDENTIFY FUSE LOCATIONS & VOLTAGE, SHT 2: SWAP HOPPER \$ PREMELT FUSE LOCATIONS	09FEB22	EW

	38	005889	6	EA	TERMINAL, INSUL, 1/4" FEMALE SPADE, 16-14GA
	37	0401386	0.2	FT	TUBING, HEAT-SHRINK, 1/8" ID, BLACK
	36	101486	1	EA	CONN, I/C, 4-7, 100SP
	35	007106	1	EA	CAP, VINYL, RED
	34	810259	1	EA	DIODE BLOCK, 480V, 25A
	33	815897	1	EA	SSR, DUAL, 480V, 24VDC CONTROL
	32	117108	2	EA	CABLE ASY, V6 SSR CTRL, HOP & GRID
	31	117107	2	EA	CABLE ASY, RBN V6 SSR CTRL
	30	105154	4	EA	FORK TERMINAL, NON-INS
	PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET				
(B)	29	804535	2	EA	FUSE, LPCC, 15A
	28	108295	4	EA	HHCS, SERRATED FLANGE, M8X1,25 X 12MM
	27	106242	4	EA	SCR, SHC, M5-0.8 X 16MM, BO
	26	048K778	1	EA	WARNING LABEL
	25	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
	24	078A164	12	EA	SCR, HWH, 10-24X1/2, TYPE F
	23	113952	1	EA	GROMMET, 1.0ID X 1.75OD
	22	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
	21	104396	8	EA	CABLE TIE, 1 X 5.6", BLACK NYLON
	20	048J024	3	FT	SLEEING, SILICONE/GLASS, 3/8" ID
	19	042X131	14	FT	WIRE, TFE, BLACK, 16GA, 260C
	18	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
	17	802825	3	FT	WIRE, THHN, 10 GA, LT BLUE
	16	005860	6	FT	WIRE, THHN, 14 GA, BLACK
	15	103663	1	EA	TERMINAL BLOCK, GROUND
	14	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL
	13	104162	2	EA	END BARRIER, TERMINAL BLOCK
	12	104161	4	EA	TERMINAL BLOCK, 105A
(B)	11	042149	3	EA	FUSE, LPCC, 10A
	10	0481126	5	EA	FUSEHOLDERS, 40 x 1.5
	9	103379	1	EA	TERMINAL BLOCK, 50A
	8	105256	2	EA	END STOP, DIN RAIL
	7	004281	1	EA	RING TERMINAL
	6	107390	4	EA	NUT, HEX, M6-1.0, KEPS, ZP
	5	117306	1	EA	TRANSFORMER, 2.6KVA, 480/400V-240V
	4	107391	2	EA	NUT, M4X0.7, KEPS
	3	105164	2	EA	WASHER, FLAT, #8, BLACK
	2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
	1	123407	1	EA	CASE, TRANSFORMER, SR22/45
ITEM PART NUMBER QTY U/M DESCRIPTION					

[illegible]

4.2.9 Transformer Assembly w. Schematics, 400 VAC, 4-Hose w.1 Grid, SR22/45, PN 123714B

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CONSENT OF RPP/OMATICS.



POWER BOARD
FUSES (240V)
(B)

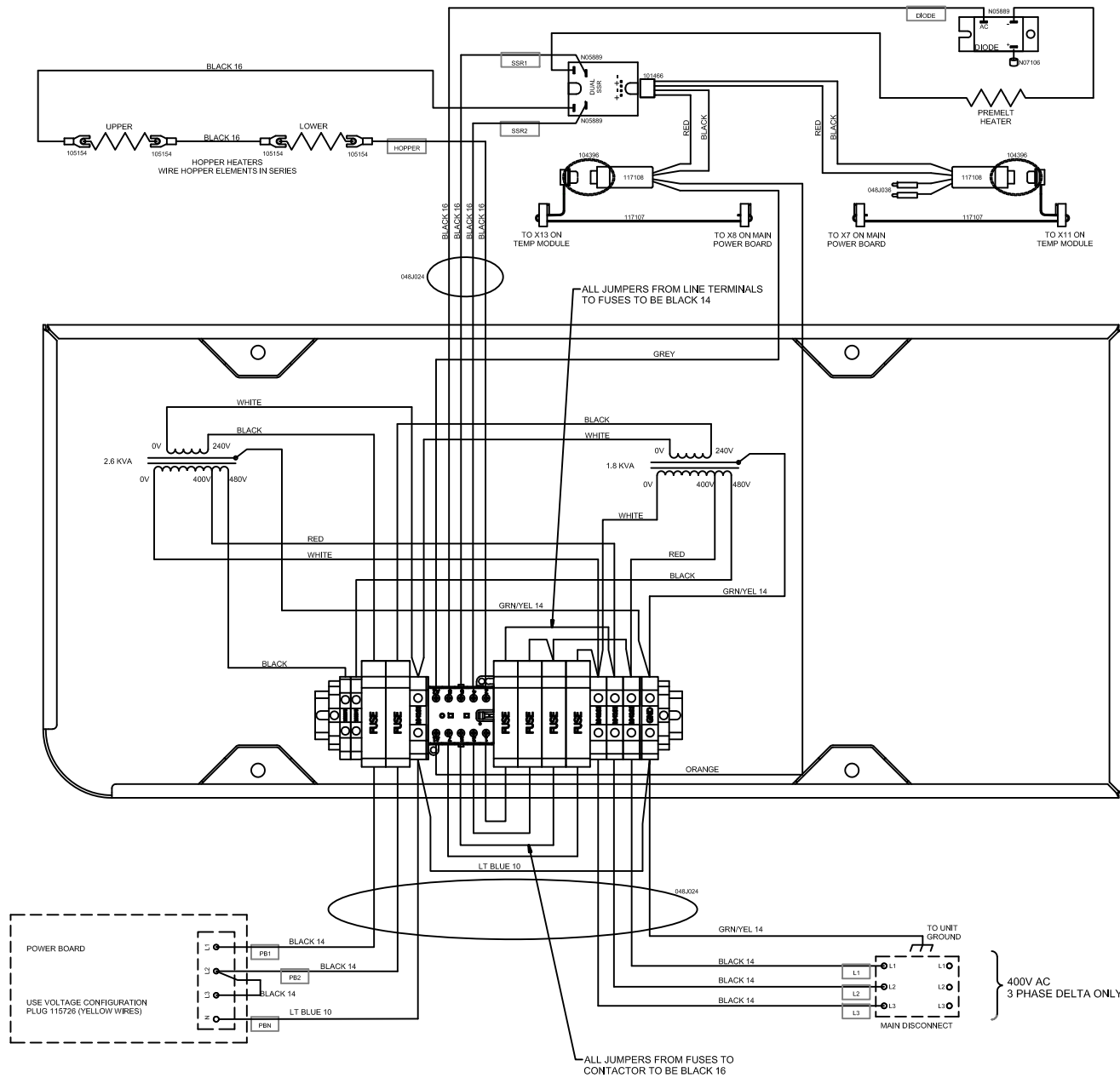
HOPPER
FUSES (400V)
(B)

PREMELT
FUSES (400V)
(B)

ORDER/CCR/ECR	REV	REVISIONS		DATE	BY
		DESCRIPTION			
ECN1432	A	ORIGINAL RELEASE		17DEC20	EWB
	B	SHT 1: 812419 WAS QTY 6; ADD 804535, QTY 2; IDENTIFY FUSE LOCATIONS & VOLTAGE.		09FEB22	EWB
		SHT 2: SWAP HOPPER \$ PREMELT FUSE LOCATIONS.			

	39	N05889	6	EA	TERMINAL INSUL, 1/4" FEMALE SPADE, 16-14GA
	38	048J036	0.2	FT	TUBING, HEATSHRINK, 1/8" ID, BLACK
	37	101466	1	EA	CONN. IDC, 4-P, .100SP
	36	N07106	1	EA	CAP. VINYL, RED
	35	810259	1	EA	DIODE BLOCK, 480V, 25A
	34	815897	1	EA	SSR, DUAL, 480V, 24VDC CONTROL
	33	117108	2	EA	CABLE ASY V6 SSR CTRL HOP & GRID
	32	117107	2	EA	CABLE ASY RBN V6 SSR CTRL
	31	105154	4	EA	FORK TERMINAL, NON-INS
					PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET
(B)	30	804535	2	EA	FUSE, LPCC, 15A
	29	108295	4	EA	HHCS, SERRATED FLANGE, M8X1.25 X 12MM
	28	106242	4	EA	SCR, SHG, M5-0.8 X 16MM, BO
	27	048K778	1	EA	WARNING LABEL
	26	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
	25	078A184	12	EA	SCR, HWH, 10-24X1/2, TYPE F
	24	113952	1	EA	GROMMET, 1.0ID X 1.75OD
	23	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
	22	104396	8	EA	CABLE TIE, .1 X 5.6", BLACK NYLON
	21	048J024	3	FT	SLEEVING, SILICONE/F GLASS, 3/8" ID
	20	042X131	14	FT	WIRE, TFE, BLACK, 16GA, 260C
	19	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
	18	802825	3	FT	WIRE, THIN, 10 GA, LT BLUE
	17	N05860	9	FT	WIRE, THIN, 14 GA, BLACK
	16	103663	1	EA	TERMINAL BLOCK, GROUND
	15	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL
	14	104162	2	EA	END BARRIER, TERMINAL BLOCK
	13	104161	4	EA	TERMINAL BLOCK, 105A
(B)	12	812419	4	EA	FUSE, LPCC, 10A
	11	048I126	6	EA	FUSEHOLDER, .40 x 1.5
	10	103379	2	EA	TERMINAL BLOCK, 50A
	9	105256	2	EA	END STOP, DIN RAIL
	8	N04281	2	EA	RING TERMINAL
	7	107390	8	EA	NUT, HEX, M6-L0, KEPS, ZP
	6	115047	1	EA	TRANSFORMER, 1.8KVA, 480/400V-240V
	5	117306	1	EA	TRANSFORMER, 2.6KVA, 480/400V-240V
	4	107391	2	EA	NUT, M4X0.7, KEPS
	3	105164	2	EA	WASHER, FLAT, #8, BLACK
	2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
	1	123407	1	EA	CASE, TRANSFORMER, SR22/45
ITEM	PART NUMBER	QTY	U/M	DESCRIPTION	

ITEM	PART NUMBER	QTY	UM	DESCRIPTION
Parts List				
DRAWING INFORMATION (SEE PARTS LIST FOR DETAILS)				
DRAWING NUMBER: 123714				
DRAWING DATE: 17DEC20				
DRAWING SCALE: 3/8				
DRAWING SHEET: 1 OF 2				
DRAWING TITLE: TRANSFORMER ASY, 400V, 4-HOSE, W/GRID, SR22/45				
DRAWING AUTHOR: RPP/OMATICS				
DRAWING CHECKER: RPP/OMATICS				
DRAWING APPROVER: RPP/OMATICS				
DRAWING DATE: 17DEC20				
DRAWING SCALE: 3/8				
DRAWING SHEET: 1 OF 2				



NOTES:

1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
2. WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.

3. TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:

103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
048126: 2.5 NM [22 IN-LB]
103379: 4.0 NM [35 IN-LB]
122702: DC INPUT: 1.1 NM
AC INPUT: 2.3 NM

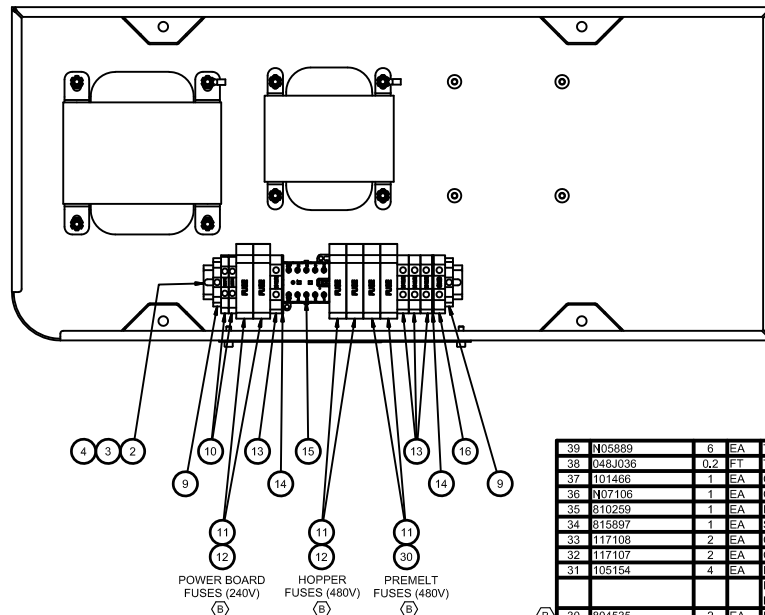
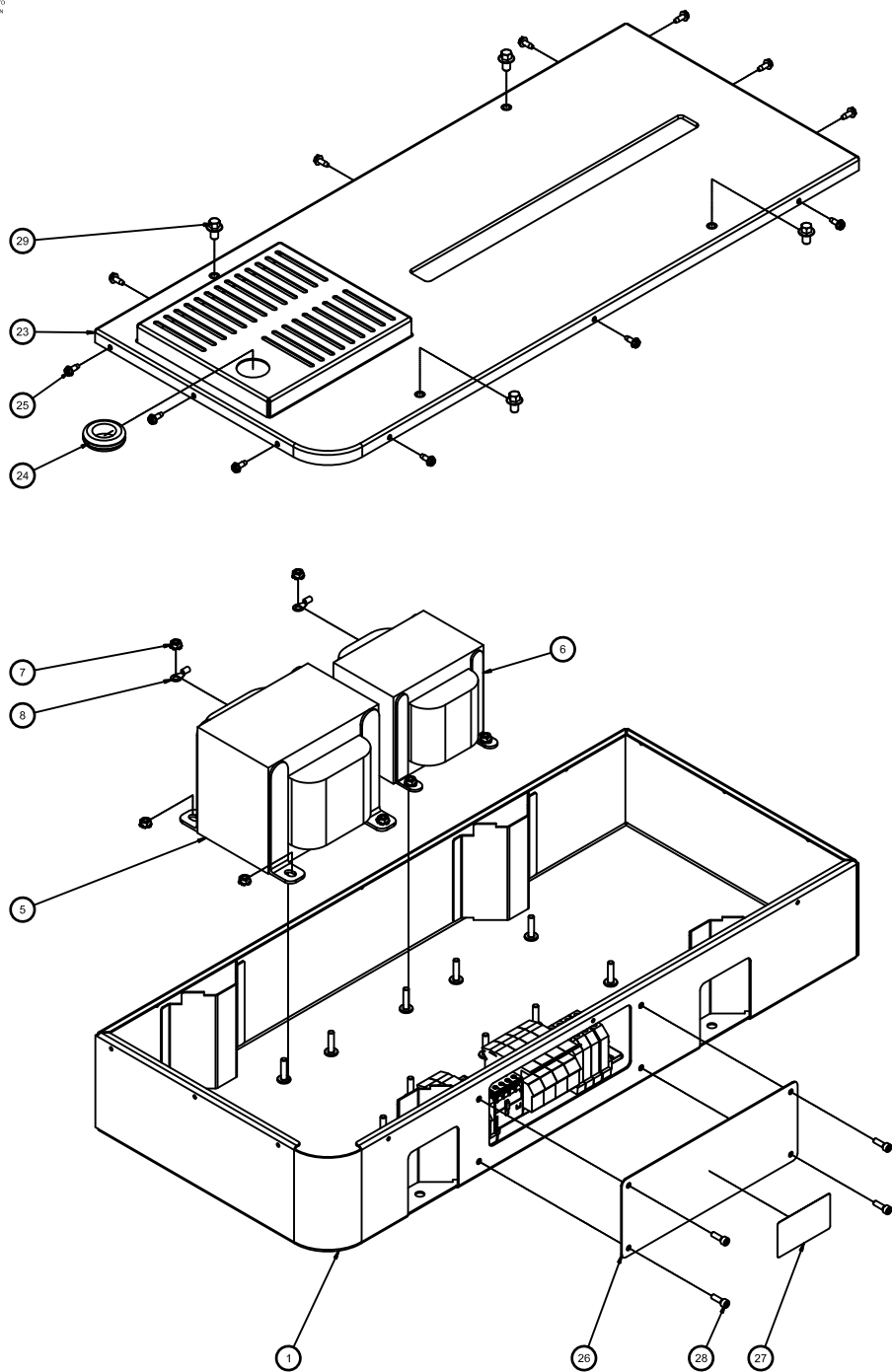
4. REMOVE FORK TERMINALS ON THE SSR ADAPTER CABLES AND ATTACH 4-PIN IDC CONNECTOR. CUT BACK THE ORANGE AND GREY WIRES ON THE SSR ADAPTER CABLE FOR THE PREMELT GRID. FOLD WIRES AND HEAT SHRINK ENDS TO SECURE.

5. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

[illegible]

4.2.10 Transformer Assembly w. Schematics, 480 VAC, 4-Hose w.1 Grid, SR22/45, PN 123715B

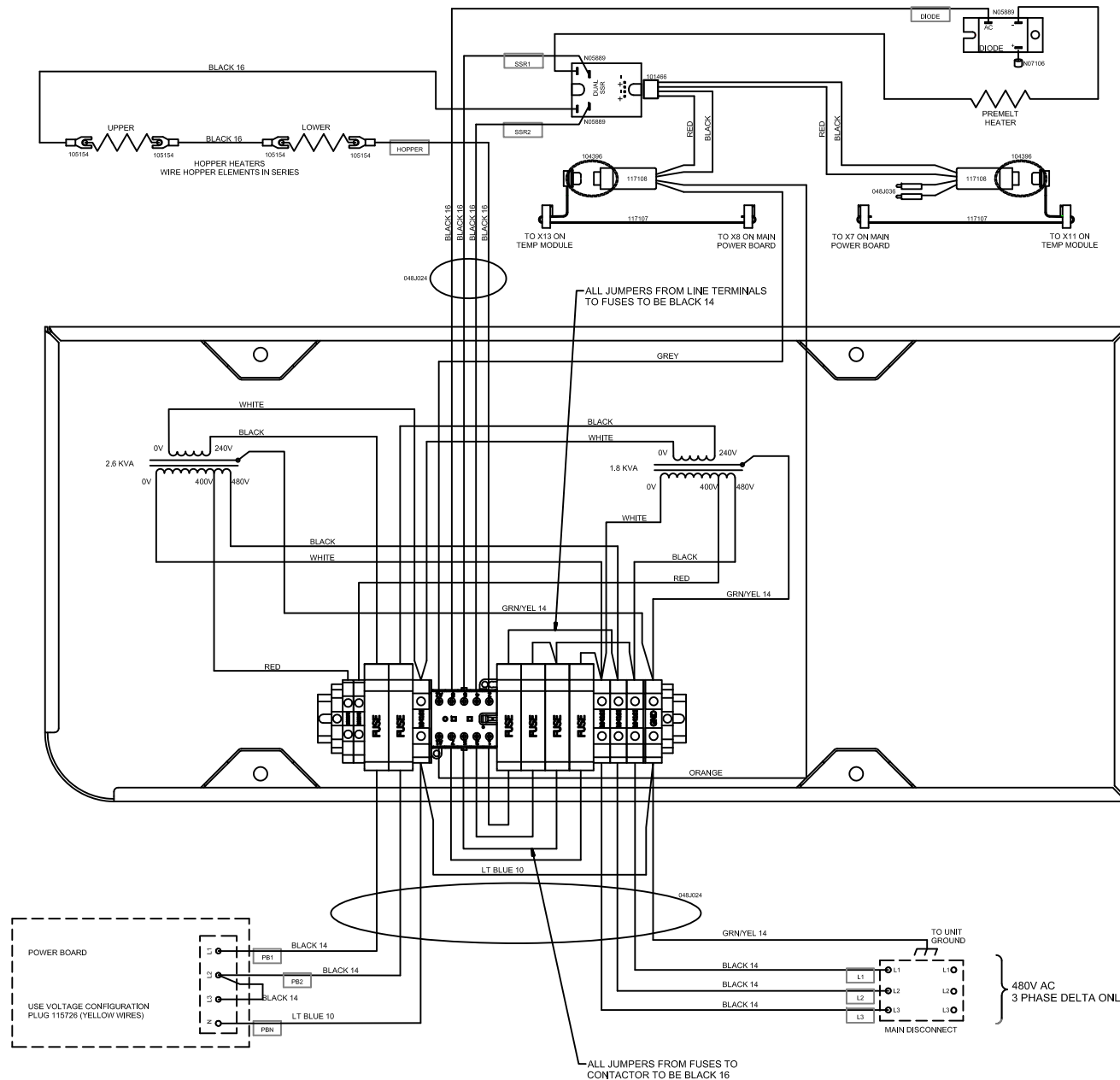
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CONSENT OF EPCORATICS.



ORDER/CCR/ECR		REV	DESCRIPTION	DATE	BY
1905		A	ORIGINAL RELEASE	17DEC20	EWB
ECN1432		B	SHT 1: 812419 WAS QTY 6; ADD 804535, QTY 2; IDENTIFY FUSE LOCATIONS & VOLTAGE. SHT 2: SWAP HOPPER \$ PREMELT FUSE LOCATIONS.	09FEB22	EWB

39	N05889	6	EA	TERMINAL INSUL 1/4" FEMALE SPADE, 16-14GA	
38	048J036	0.2	FT	TUBING, HEATSHRINK 1/8" ID, BLACK	
37	101486	1	EA	CONN. IDC, 4-P, 100SP	
36	N07106	1	EA	CAP, VINYL, RED	
35	810259	1	EA	DIODE BLOCK, 480V, 25A	
34	815897	1	EA	SSR, DUAL, 480V, 24VDC CONTROL	
33	117108	2	EA	CABLE ASY,V6 SSR CTRL,HOP & GRID	
32	117107	2	EA	CABLE ASY,RBN,V6 SSR CTRL	
31	105154	4	EA	FORK TERMINAL, NON-INS	
PARTS ABOVE ARE INCLUDED IN THIS ASSEMBLY BUT ARE LOCATED IN THE MELTER CABINET					
B	30	804535	2	EA	FUSE, LPCC, 15A
	29	108295	4	EA	HHCS, SERRATED FLANGE, M8X1.25 X 12MM
	28	106242	4	EA	SCR, SHG, M5-0.8 X 16MM, BO
	27	048K778	1	EA	WARNING LABEL
	26	117318	1	EA	COVER, FUSE ACCESS, DMSR XFMR
	25	078A184	12	EA	SCR, HWH, 10-24X1/2, TYPE F
	24	113952	1	EA	GROMMET, 1.0ID X 1.75OD
	23	123412	1	EA	LID, TRANSFORMER CASE, SR22/45
	22	104396	8	EA	CABLE TIE, 1/8 X 5.6", BLACK NYLON
	21	048J024	3	FT	SLEEVING, SILICONE/FGLASS, 3/8" ID
	20	042X131	14	FT	WIRE, TFE, BLACK, 16GA, 260C
	19	802821	3	FT	WIRE, 14 GA, GREEN/YELLOW, 105C
	18	802825	3	FT	WIRE, THHN, 10 GA, LT BLUE
	17	N05860	9	FT	WIRE, THHN, 14 GA, BLACK
	16	103663	1	EA	TERMINAL BLOCK, GROUND
	15	122702	1	EA	CONTACTOR, 480V, 20A, 24VDC COIL
	14	104162	2	EA	END BARRIER, TERMINAL BLOCK
	13	104161	4	EA	TERMINAL BLOCK, 105A
B	12	812419	4	EA	FUSE, LPCC, 10A
	11	048I126	6	EA	FUSEHOLDER, .40 x 1.5
	10	103379	2	EA	TERMINAL BLOCK, 50A
	9	105256	2	EA	END STOP, DIN RAIL
	8	N04281	2	EA	RING TERMINAL
	7	107390	8	EA	NUT, HEX, M6-L0, KEPS, ZP
	6	115047	1	EA	TRANSFORMER, 1.8KVA, 480/400V-240V
	5	117306	1	EA	TRANSFORMER, 2.6KVA, 480/400V-240V
	4	107391	2	EA	NUT, M4X0.7, KEPS
	3	105164	2	EA	WASHER, FLAT, #8, BLACK
	2	118427	1	EA	DIN RAIL, 35MM, 267MM LG
	1	123407	1	EA	CASE, TRANSFORMER, SR22/45
ITEM		PART NUMBER	QTY	U/M	DESCRIPTION

ITEM		PART NUMBER	QTY	U/M	DESCRIPTION
Parts List					
DRAWING APPROVED BY: [Signature] DATE: 17DEC20					
DESIGNED BY: [Signature] DATE: 17DEC20					
CHECKED BY: [Signature] DATE: 17DEC20					
DRAWN BY: [Signature] DATE: 17DEC20					
PART NAME: TRANSFORMER, 480V, 4-HOSE, W/GRID, SR22/45					
PART NUMBER: 123715					
REV: B					
SHEET: 1 OF 2					



NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
- WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
- TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:
103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
1048126: 2.5 NM [22 IN-LB]
103379: 4.0 NM [35 IN-LB]
122702: DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
- REMOVE FORK TERMINALS ON THE SSR ADAPTER CABLES AND ATTACH 4-PIN IDC CONNECTOR. CUT BACK THE ORANGE AND GREY WIRES ON THE SSR ADAPTER CABLE FOR THE PREMELT GRID. FOLD WIRES AND HEAT SHRINK ENDS TO SECURE.
- CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

SIZE IN MILLIMETERS (INCHES) DIMENSIONS ARE APPROXIMATE TOLERANCES UNLESS OTHERWISE SPECIFIED X 1.5 (3) X 2.5 (5) X 4.0 (10) X 6.0 (15)				GOVT PER ADVISORY 14.5-2009 DATE APPROVALS EWB 17DEC20 CHECKED DATE 123715 5/8			
DRAWN BY EWB 17DEC20 CHECKED DATE 123715 5/8				TRANSFORMER ASY, 480V, 4-HOSE, W/GRID, SR22/45 123715 5/8			
DRAWN BY EWB 17DEC20 CHECKED DATE 123715 5/8				TRANSFORMER ASY, 480V, 4-HOSE, W/GRID, SR22/45 123715 5/8			



**4.2.11 Transformer Assembly w. Schematics, 400 VAC, 6-Hose w.1 Grid,
SR22/45, PN 123716B**

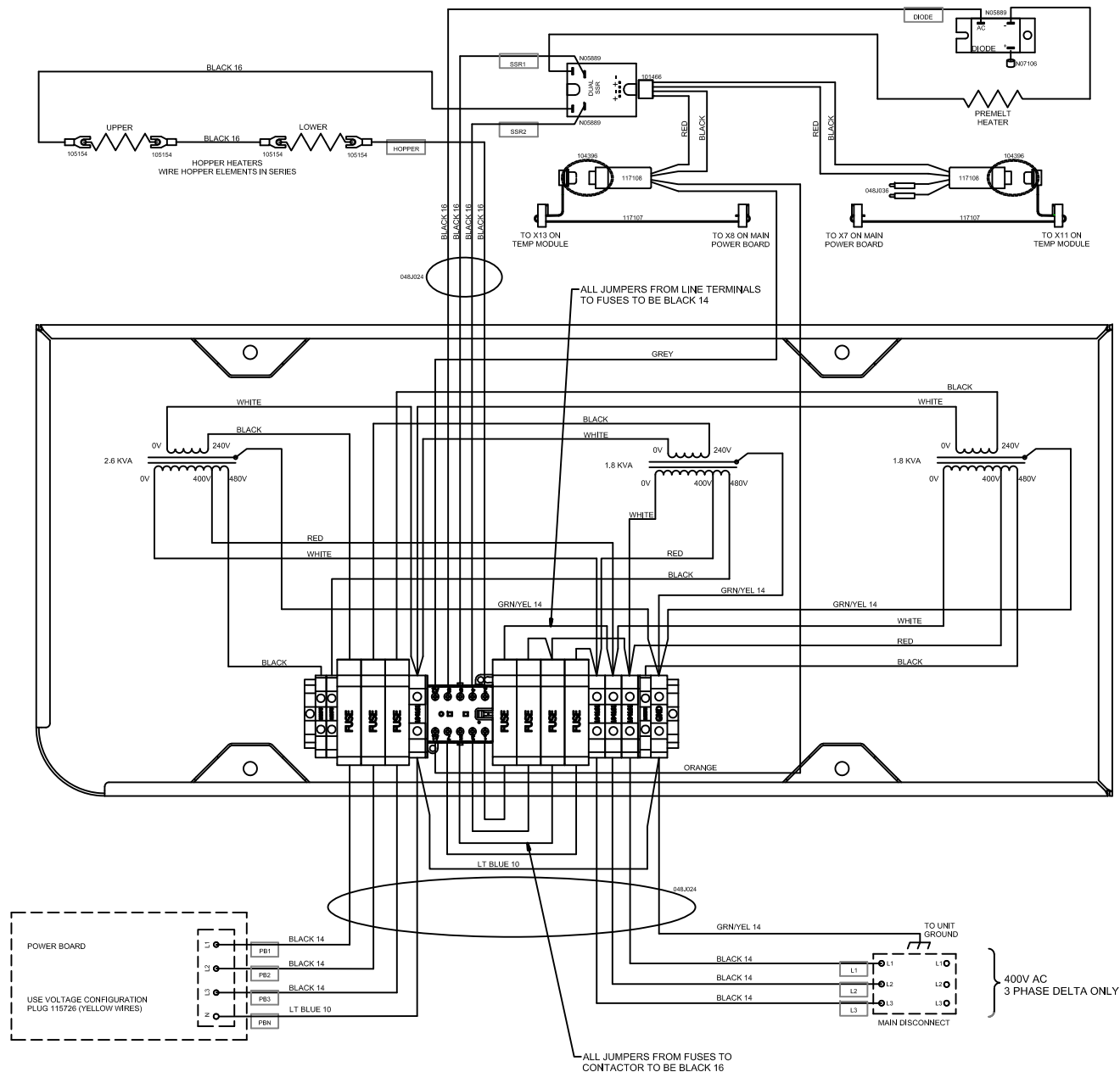
Diagram illustrating the rear panel of the 1000 Series Amplifier, showing the fuse block and component locations. The diagram includes three large rectangular components at the top, a central fuse block with multiple terminals, and a power board at the bottom. Callouts with numbers 2 through 16 point to specific terminals and components.

Legend:

39	N05989	6	EA
38	048J036	0.2	FT
37	101466	1	EA
36	N07106	1	EA
35	810259	1	EA
34	815897	1	EA
33	117108	2	EA
32	117107	2	EA
31	105154	4	EA



ITW Dynalene		HENDERSONVILLE, TN	
TRANSFORMER ASY, 400V 6-HOSE, W/GRID, SR22/45			
SIZE D	QWG. NO. 123716	R E	
DRAWN AT SCALE 3/8		SHEET 1 OF 2	



NOTES:

- WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
- WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
- TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:
103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
0481126: 2.5 NM [22 IN-LB]
103379: 4.0 NM [35 IN-LB]
122702: DC INPUT; 1.1 NM [10 IN-LB]
AC INPUT; 2.3 NM [20 IN-LB]
- REMOVE FORK TERMINALS ON THE SSR ADAPTER CABLES AND ATTACH 4-PIN IDC CONNECTOR. CUT BACK THE ORANGE AND GREY WIRES ON THE SSR ADAPTER CABLE FOR THE PREMELT GRID. FOLD WIRES AND HEAT SHRINK ENDS TO SECURE.
- CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

DRAWN BY: J. B. B. (JBB) / J. B. B. (JBB) CHECKED BY: J. B. B. (JBB) / J. B. B. (JBB) DESIGNED BY: J. B. B. (JBB) / J. B. B. (JBB) DATE: 17DEC20	GOVT PER ADVISORY 14-3-2009
DRAWN: EWB	DATE: 17DEC20
CHECKED: EWB	DATE: 17DEC20
PART NAME: TRANSFORMER ASY, 400V, 6-HOSE, W/GRID, SR22/45	REV: B
PART NO: 123716	REV: B
DRAWN BY: J. B. B. (JBB) / J. B. B. (JBB)	SHEET: 2 OF 2

4.2.12 Transformer Assembly w. Schematics, 480 VAC, 6-Hose w.1 Grid, SR22/45, PN 123717B

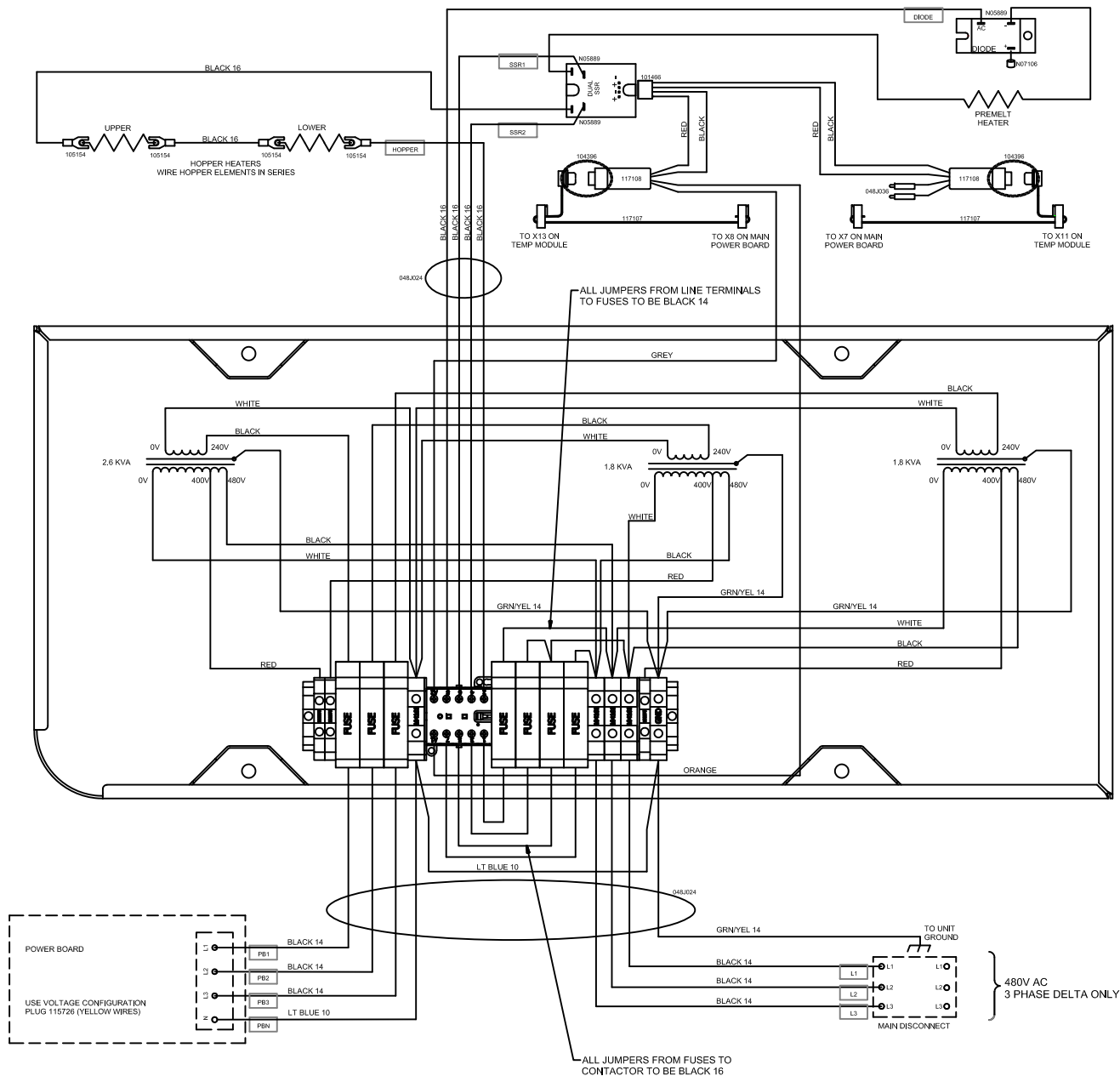
The diagram shows the rear panel of the 1000 Series Control Cabinet with three terminal blocks. The connections are as follows:

- POWER BOARD FUSES (240V) (B):**
 - Terminal 11: 2
 - Terminal 12: 3
 - Terminal 13: 4
 - Terminal 14: 9
 - Terminal 15: 10
- HOPPER FUSES (480V) (B):**
 - Terminal 11: 13
 - Terminal 12: 14
 - Terminal 13: 15
- PREMELT FUSES (480V) (B):**
 - Terminal 11: 16
 - Terminal 12: 10
 - Terminal 13: 9

39	N05889	6	EA
38	048J036	0.2	FT
37	101486	1	EA
36	N07106	1	EA
35	810259	1	EA
34	815897	1	EA
33	117108	2	EA
32	117107	2	EA
31	105154	4	EA



ITW Dynalene		HENDERSONVILLE, TN	
TRANSFORMER ASY, 480V 6-HOSE, W/GRID, SR22/45			
SIZE D	Q'NG. NO. 123717	R E	
DRAWN AT SCALE 3/8		SHEET 1 OF 2	



NOTES:

1. WIRES CONNECTED TO TRANSFORMER WINDINGS ARE SUPPLIED WITH THE TRANSFORMER.
2. WIRES ROUTED THROUGH SLEEVING ARE TO BE LABELED AS NOTED.
3. TORQUE ELECTRICAL CONNECTIONS AS FOLLOWS:
103663: 4.0 NM [35 IN-LB]
104161: 1.6 NM [14 IN-LB]
0481126: 2.5 NM [22 IN-LB]
103379: 4.0 NM [35 IN-LB]
122702: DC INPUT: 1.1 NM [10 IN-LB]
AC INPUT: 2.3 NM [20 IN-LB]
4. REMOVE FORK TERMINALS ON THE SSR ADAPTER CABLES AND ATTACH 4-PIN IDC CONNECTOR. CUT BACK THE ORANGE AND GREY WIRES ON THE SSR ADAPTER CABLE FOR THE PREMELT GRID. FOLD WIRES AND HEAT SHRINK ENDS TO SECURE.
5. CONNECT DB9 CONNECTORS OF THE SSR ADAPTER CABLE AND THE RIBBON CABLE ASSEMBLY. SECURE WITH CABLE TIES. LAND THE RIBBON CABLE CONNECTORS ON THE CONTROL BOARDS AS INDICATED.

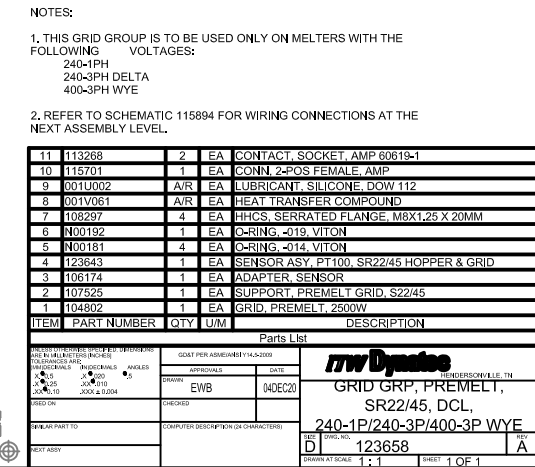
DRAWN BY: J. J. JONES CHECKED BY: J. J. JONES DATE: 17DEC20		GOVT PER ADVISORY 14-2009 DATE: 17DEC20	
PROJECT NO. 123717		REV B	
DRAWN AT SCALE: 5/8		SHEET 2 OF 2	



4.3 Premelt Grid Groups for Transformers SR22/45

4.3.1 Grid Group,SR22/45,240/400Y,DCL, PN 123658A

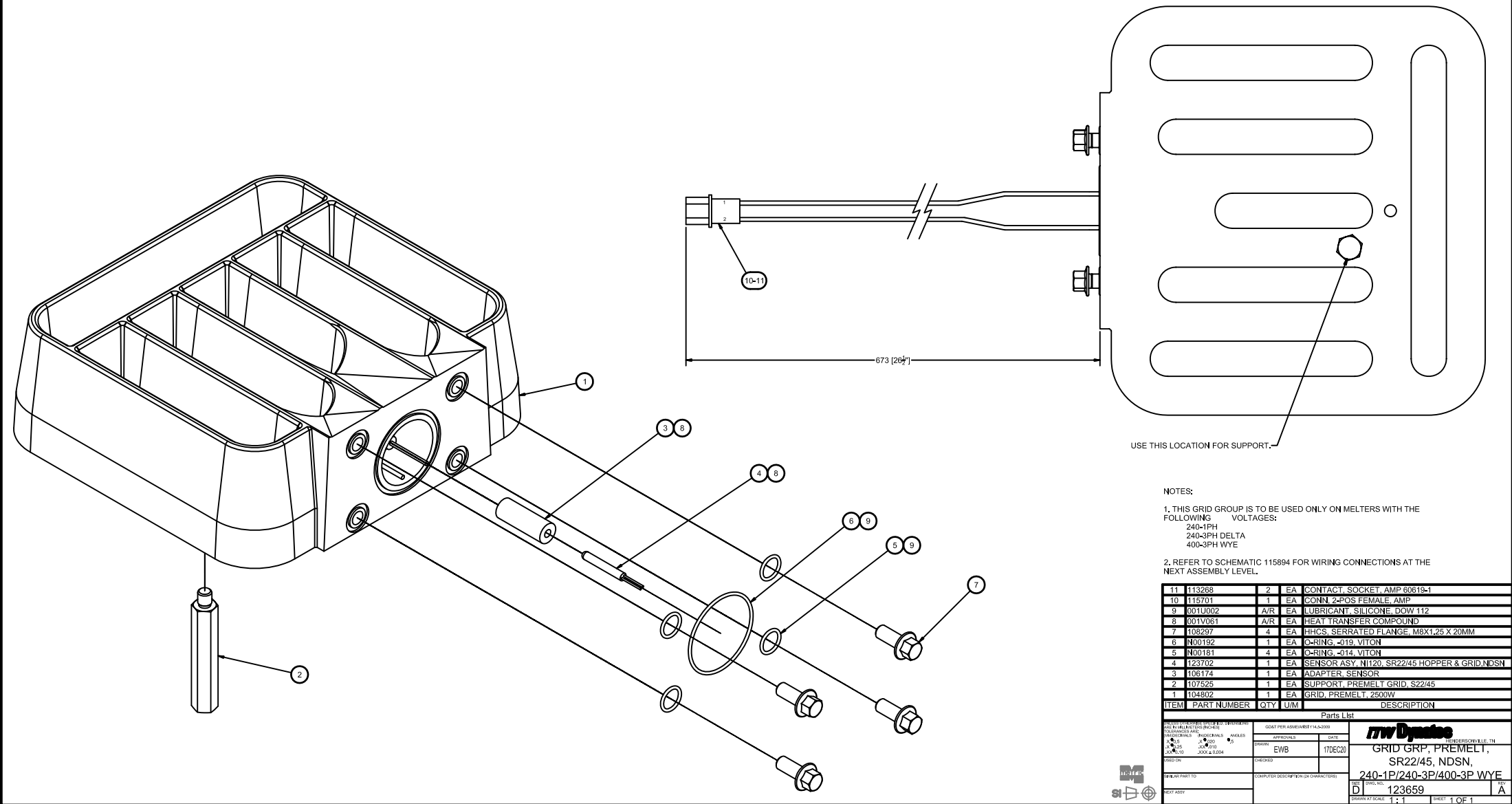
REVISIONS				
ORDER/CCR/ECR	REV	DESCRIPTION	DATE	BY
1905	A	ORIGINAL RELEASE	04DEC20	EWB



4.3.2 Grid Group,SR22/45,240/400Y,NDSN, PN 123659A

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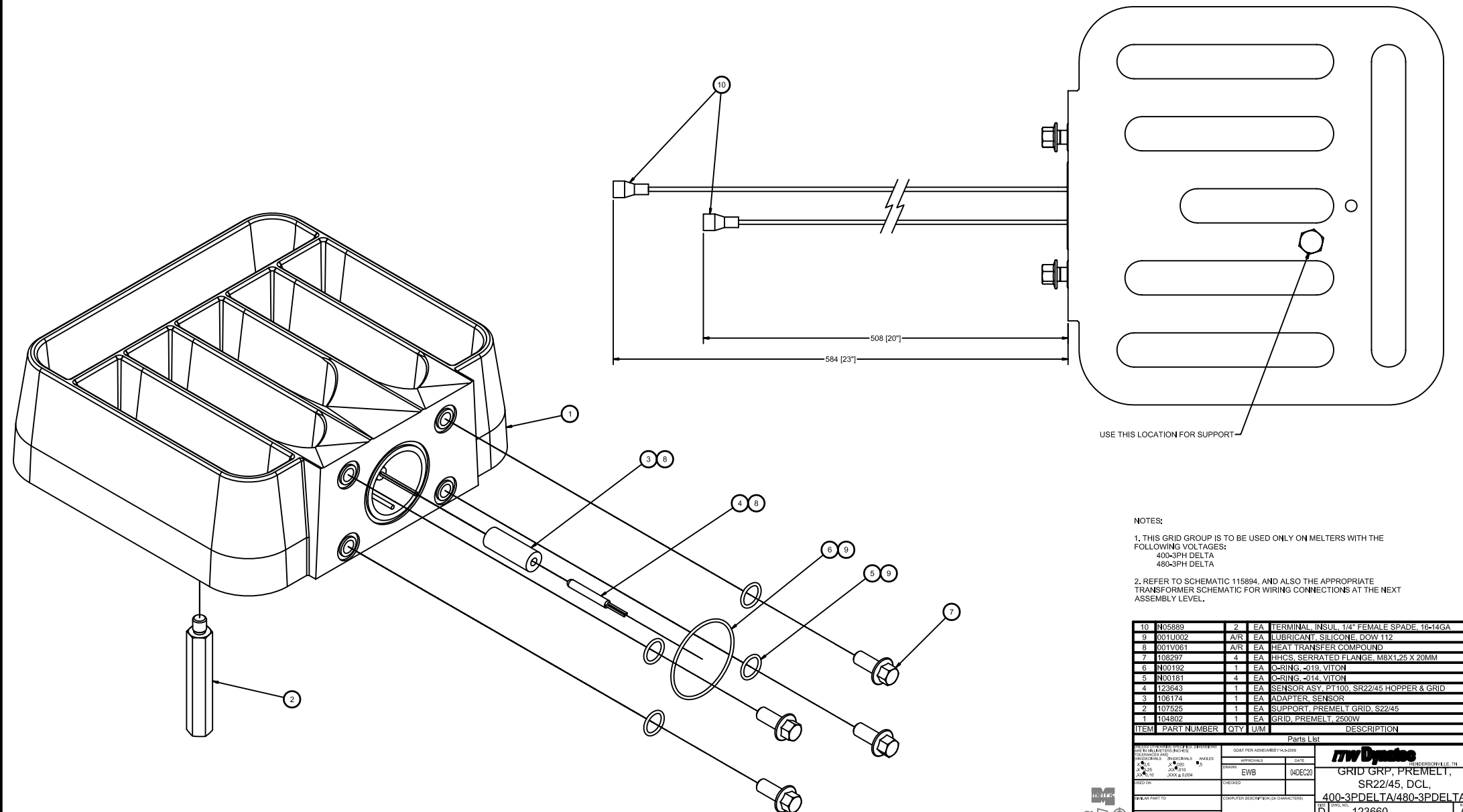
ORDER/CCR/ECR		REV	REVISIONS		DATE	BY
1905		A	ORIGINAL RELEASE		17DEC20	EWB



4.3.3 Grid Group,SR22/45,400D/480D,DCL, PN 123660A

REVISIONS			
ORDER/CCR/ECR	REV	DESCRIPTION	DATE
1905	A	ORIGINAL RELEASE	04DEC20

BY	EWB
----	-----



NOTES:

1. THIS GRID GROUP IS TO BE USED ONLY ON MELTERS WITH THE FOLLOWING VOLTAGES:
400-3PH DELTA
480-3PH DELTA

2. REFER TO SCHEMATIC 115894, AND ALSO THE APPROPRIATE TRANSFORMER SCHEMATIC FOR WIRING CONNECTIONS AT THE NEXT ASSEMBLY LEVEL.

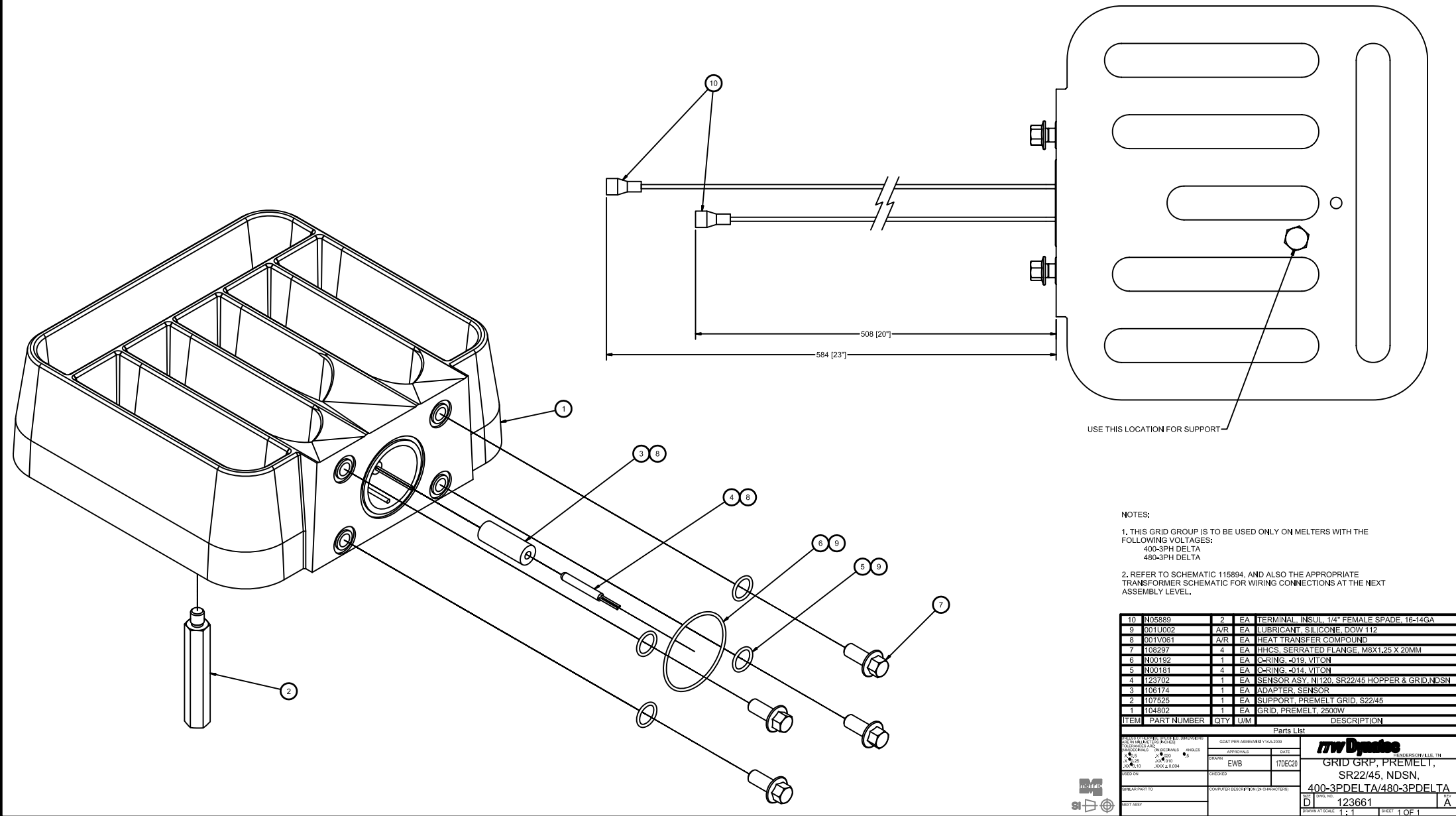
10	N05889	2	EA	TERMINAL, INSUL. 1/4\" FEMALE SPADE, 16-14GA
9	001U002	A/R	EA	LUBRICANT, SILICONE, DOW 112
8	001V061	A/R	EA	HEAT TRANSFER COMPOUND
7	108297	4	EA	HHCS, SERRATED FLANGE, M8X1.25 X 20MM
6	N00192	1	EA	O-RING, -.019, VITON
5	N00181	4	EA	O-RING, -.014, VITON
4	123643	1	EA	SENSOR ASY, PT100, SR22/45 HOPPER & GRID
3	106174	1	EA	ADAPTER, SENSOR
2	107525	1	EA	SUPPORT, PREMELT GRID, S22/45
1	104802	1	EA	GRID, PREMELT, 2500W

ITEM	PART NUMBER	QTY	UM	DESCRIPTION
Parts List				
DRAWING INFORMATION				
DRAWN BY: EWB		DATE: 04DEC20		
CHECKED BY: EWB		DATE: 04DEC20		
DESIGNED BY: EWB		DATE: 04DEC20		
PART NAME: GRID GRP, PREMELT, SR22/45, DCL, 400-3PDELTA/480-3PDELTA		REV: A		
PART NO: 123660		REV: A		
DRAWN AT SCALE: 1:1		SHEET: 1 OF 1		

4.3.4 Grid Group,SR22/45,400D/480D,NDSN, PN 123661A

REVISIONS			
ORDER/CCR/ECR	REV	DESCRIPTION	DATE
1905	A	ORIGINAL RELEASE	17DEC20

BY	EWB
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Manual Revisions

Revision	Page/Chapter	Description
Rev.10.18	Ch.4	All Schematics updated
Rev.1.19	Ch.4	All Schematics updated
Rev.1.20	Ch.4	Schematics 115876D updated
Rev.2.21	-	Transformers and Grids for SR22/45 added.
Rev.2.22	Ch.4	Transformers 123712B, 123713B, 123714B, 123715B, 123716B, 123717B updated.
Rev.4.24	P.1	Manual language added.
Rev.3.25	Ch.4.1.9 to 4.1.14	Schematics 119628G, 119629G, 119630G, 119631H, 119632G, 119633G updated.
Rev.5.25	4.1.2	Grid Group, 400/480 VAC, SR5/10, PN 119650B updated.

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