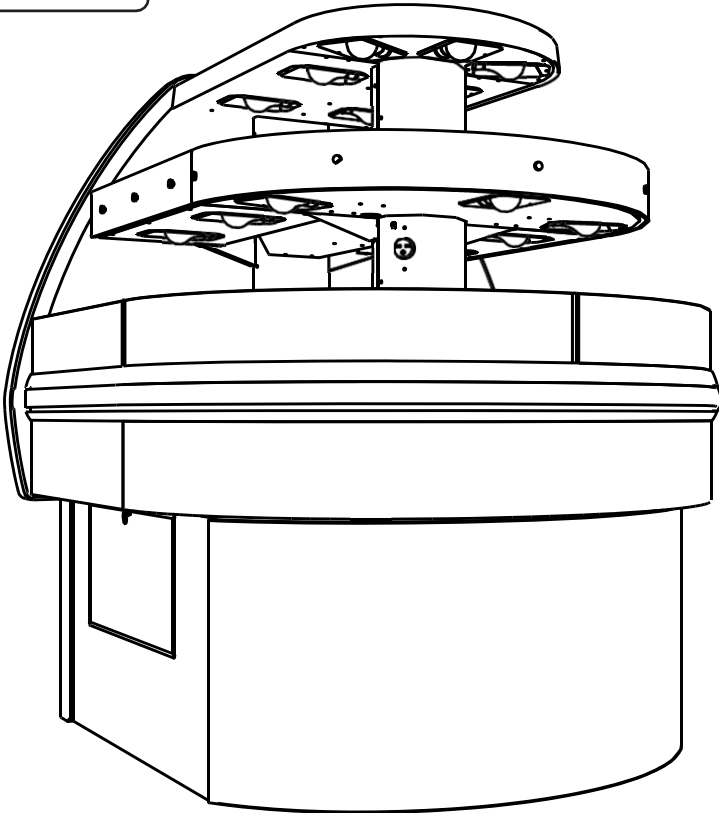


HUSSMANN® /CHINO

Installation
& Operation
Manual

REV. 0523

**TY3, TY4 (ENTYCE)
HOT ISLAND END CASE**



**TY3, TY4
ENTYCE
HOT ISLAND END CASE**

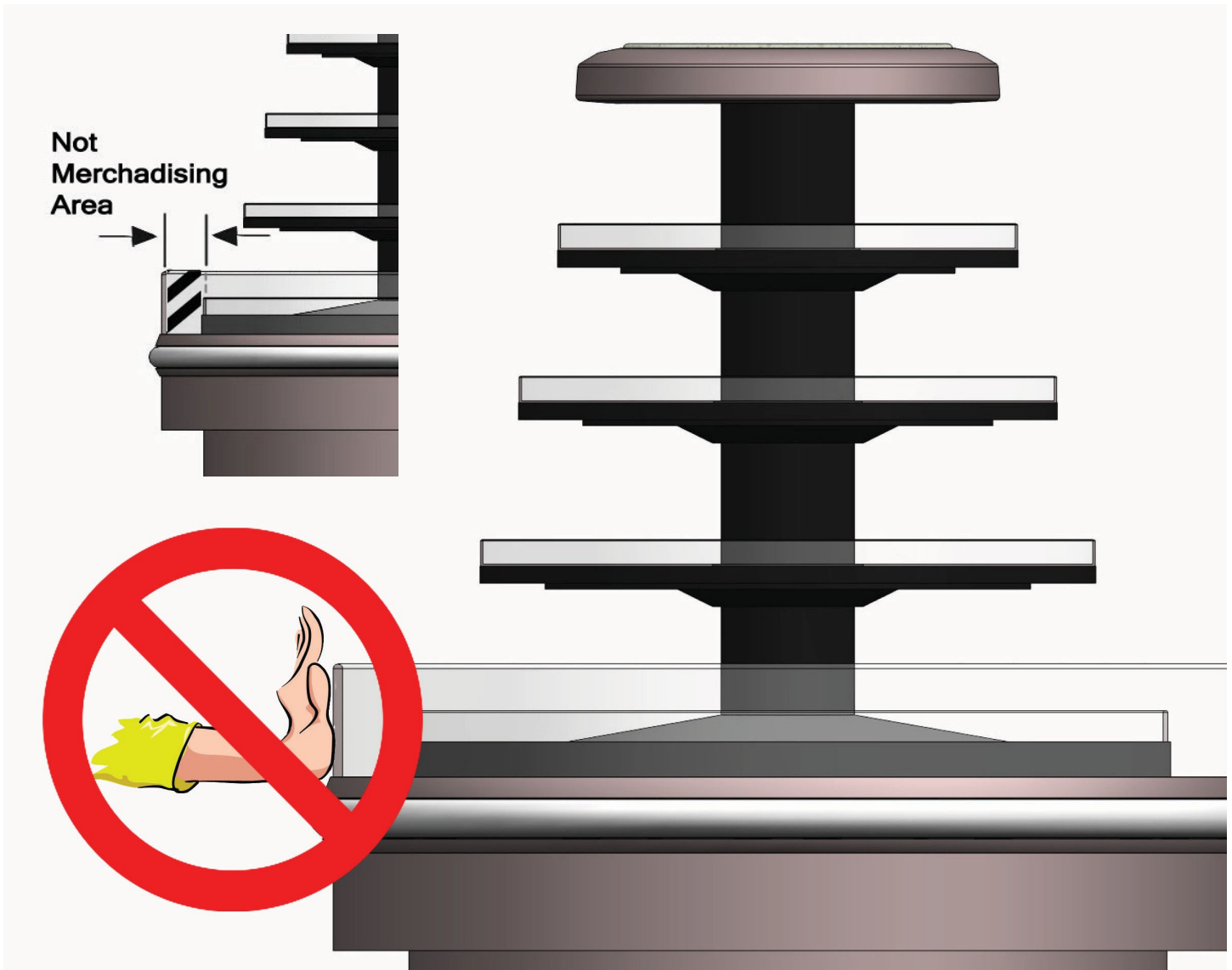
Table of Contents

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Warning



1. Do Not Push, Pull, Adjust, or Manipulate the TY case by any glass component.
 - Doing so will result in severe damage to such components
 - Glass breakage may result in serious injury
2. Never stand on the TY Top, Deck, or any Shelves for any reason.
 - Misusing these surfaces as steps will result in damage to the case
 - Misusing these surfaces as steps may result in serious injury to the user
 - These surfaces are intended for the storage and merchandising of food products only
 - Use a ladder or designed structure to work above the case (Do not lean on case)
3. DO NOT remove shelves. WARNING! will adversely impact case performance when merchandising.



General Information

Case Description:

This Booklet specifically covers the

Following models:

Entyce TY3

Description: The ENTYCE HOT model series are Multi-deck island merchandisers designed for medium temperature applications such as: Deli/Dairy/Beverage. The case is a combination of a remote type models, which require separate condensing unit connections as well as a self-contained model. Each self-contained model will have it's own condensing unit, factory installed beneath the display area of the case ready for operation when electrical service is connected.

Shipping Damage: All equipment should be thoroughly examined for shipping damage before and during unloading. This equipment has been carefully inspected at our factory and the carrier has assumed responsibility for safe arrival. If damaged, either apparent or concealed, claim must be made to the carrier.

Apparent Loss or Damage: If there is an obvious loss or damage, it must be noted on the freight bill or express receipt and signed by the carrier's agent; otherwise, carrier may refuse claim. The carrier will supply necessary claim forms.

Concealed Loss or Damage: When loss or damage is not apparent until after all equipment is uncrated, a claim for concealed damage is made. Make request in writing to carrier for inspection within 15 days, and retain all packaging. The carrier will supply inspection report and required claim forms.

Location/Store Conditions: The refrigerated merchandisers have been designed for use only in air conditioned stores where temperature and humidity are maintained either 75°F ambient and 55% RH. DO NOT allow air conditioning, electric fans, ovens, open doors or windows (etc.) to create air currents around the merchandiser, as this will impair its correct operation.

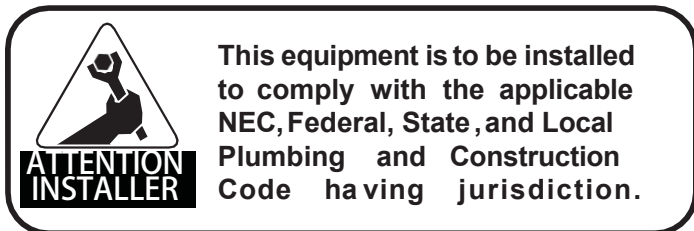
Shortages: Check your shipment for any possible shortages of material. If a shortage should exist and is found to be the responsibility of Hussmann Chino, notify Hussmann Chino. If such a shortage involves the carrier, notify the carrier immediately, and request an inspection. Hussmann Chino will acknowledge shortages within ten days from receipt of equipment.

Hussmann Chino Product Control: The serial number and shipping date of all equipment has been recorded in Hussmann's files for warranty and replacement part purposes. All correspondence pertaining to warranty or parts ordering must include the serial number of each piece of equipment involved, in order to provide the customer with the correct parts.

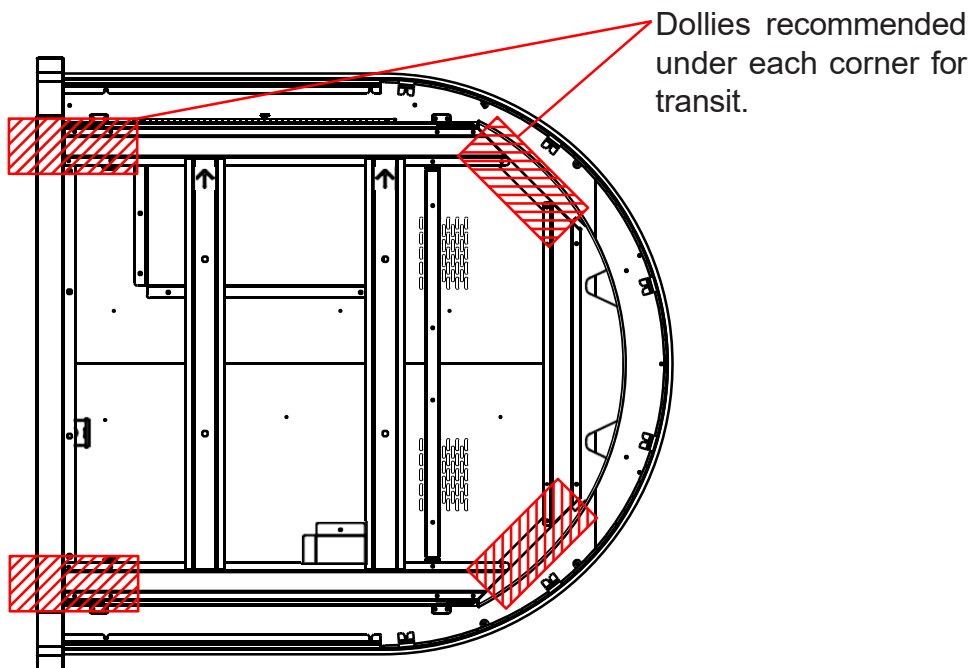
Keep this booklet with the case at all times for future reference.

HUSSMANN®/CHINO

A publication of HUSSMANN® Chino
13770 Ramona Avenue • Chino, California 91710
(909) 628-8942 FAX
(909) 590-4910
(800) 395-9229



Entyce Hot Lifting Instructions



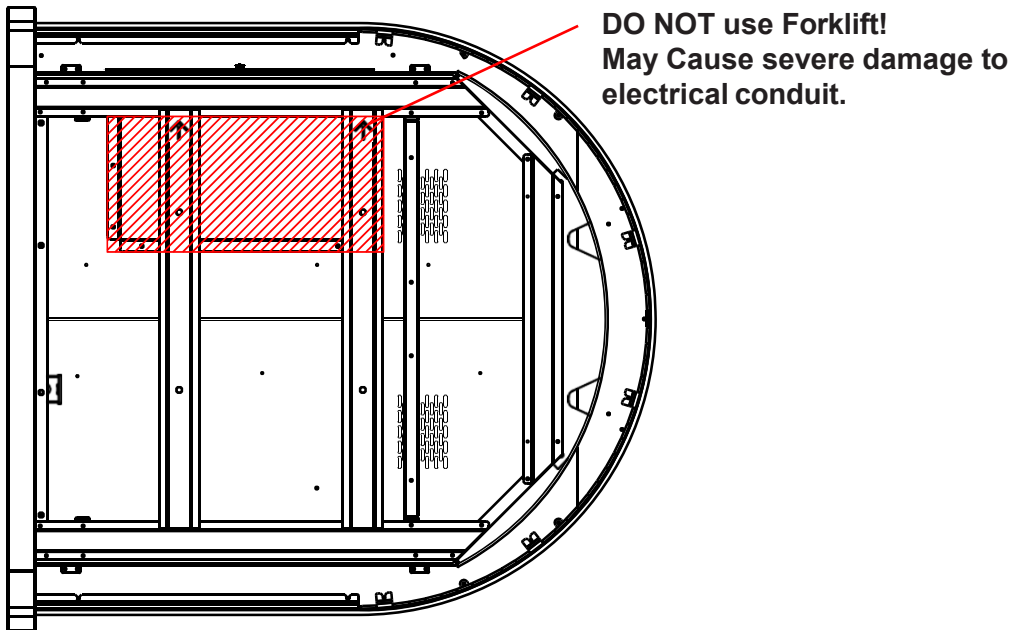
1. The Entyce Hot can be lifted by a forklift underneath the base only at the specified location in the diagram with proper lifting equipment.



Improper placement of forks may damage drainage piping. Use a spotter when placing forks. Make sure that piping will not be damaged. Use J-Bars or Jacks if Forks cannot be used safely

2. Remove close offs and lower body panels before lifting case. Serious damage will occur if the body panels are not removed.
 - Remove the end case lower panels first if not done so already.
 - A Phillips head screwdriver/drill is needed for lower and bottom panel removal
3. Make sure that fork spacing and width will not damage drain, piping, or electrical lines
4. The Entyce can be raised at one end with a forklift to allow the placement of rollers or dollies. See figure above on page 5 for J-bar and jacking instructions
5. Never drag or push the Entyce by ANY COMPONENT including ANY GLASS COMPONENT. This will result in damage to the base, and possibly damage to other components
6. Evenly support the entire base structure on rollers or dollies before attempting to move. Each Base Leg must have its own dollie to properly support the case.

Lifting (Cont'd)



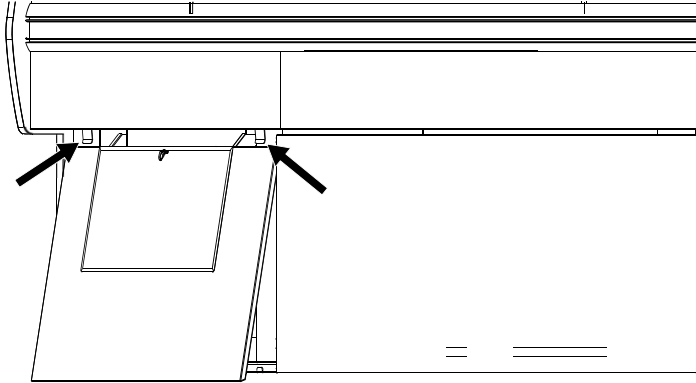
8. If using J-Bars, use the specified jacking points to raise the case
 - Raise one side of the case first.
 - Use as many J-Bars as possible to lift from the base channels
 - A minimum of 2 J-Bars is required
 - Place Dollies and chock wheels before lifting the other side. Be sure that the dollies are evenly spaced to carry the weight of the case as demonstrated on page 5

9. If using Floor-jacks or Bottle-jacks, use the recommended lifting points located at the underside of the case
 - These points will be visible channels
 - Lift simultaneously to place dollies or rollers

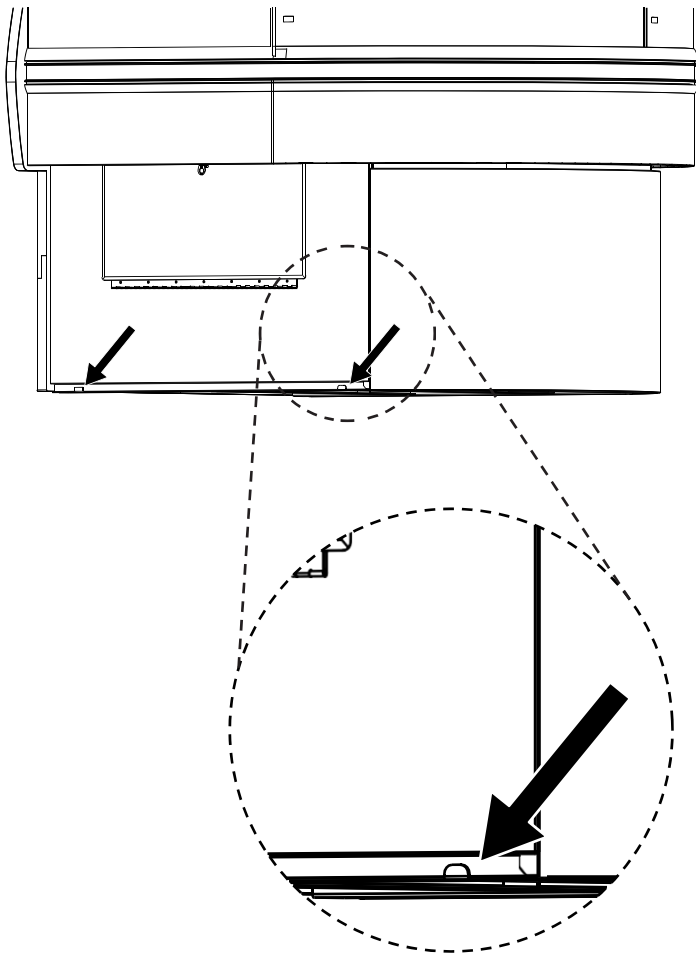
Close-Off Installation

Close-off removal for Entyce case Typical

Step 1
Slide the slotted close-off upward toward the tabs underneath the base.



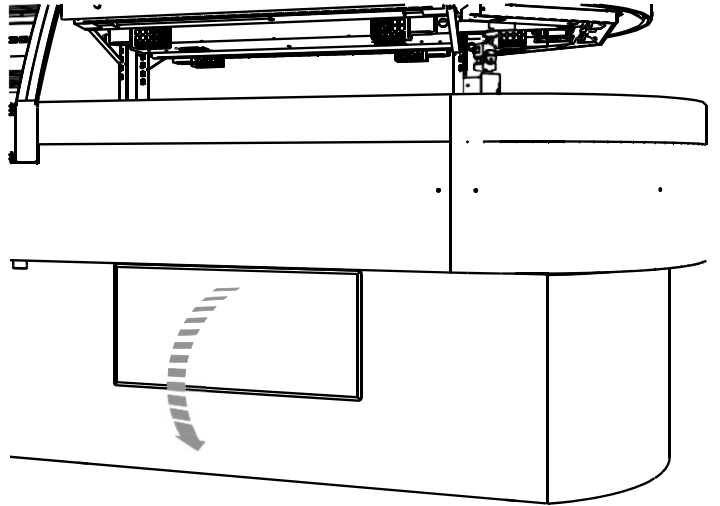
Step 2
Lift the close-off high enough to clear the tabs at the bottom of the base.



Hot Case Heating Control Panels

Hot case section has an access panels on the side of the case for access to heating controls for shelves and overhead heating.

See illustrations below for access to panel.



Start up

Startup Instructions

1. Turn Power to ON
2. Preheat merchandiser for 10 minutes before loading.
3. Load fully cooked / heated foods only (internal product temperatures > 160°F). Case is not designed to heat food.
4. Use only approved hot food containers in direct contact with shelves; Do NOT stack containers.
5. Check Internal Product Temperature periodically, using a pocket food thermometer.
6. Adjust *SHELF Setpoint as needed to maintain ideal Internal Product Temperatures:
 - (1) Press SET key, (2) Press UPARROW / DOWNARROW keys to change *SHELFSetpoint, (3) Press SET key again.
 - When increasing *SHELF-temperatures, heat food in a separate cooking/warming oven, then reload.

NOTES:

- ***Controller temperature indicates SHELF-temperature only (not Internal Product Temperature).**
- **Shelves are pre-set to 185°F, suitable for many foods in approved containers. Do not overheat as containers may melt.**
- **Refer to Instruction Manual for detailed operating instructions.**
- **Refer to NSF- and local- regulations for internal product temperature requirements.**
- **SERVICE: For heated component failures, contact HATCO Parts and Service at 800-558-0607.**

Operation

- Food must be preheated BEFORE loading; this case MUST NOT be used to cook or heat product.
- Check Internal Product Temperatures (IPTs) periodically with a portable food thermometer
- Do not stack containers.
- Be careful not to overheat as containers may melt.
- When restocking, rotate food products: oldest foods should be placed in front and served first.
- Wipe spills immediately to maintain product freshness, minimize odors, reduce end-of-day cleanup (See Maintenance Section).

Adjustment

- Use a pocket food thermometer regularly to check internal product temperatures.
- Before adjusting shelf temperatures, ensure only pre-heated foods are being loaded into the case.
- Shelves are pre-set to 185°F, suitable for many food and container types.
- Adjust SHELF-Setpoint as needed to maintain ideal Internal Product Temperatures:
 - (1) Press SET key,
 - (2) Press UPARROW / DOWNARROW keys to change *SHELF-Setpoint,
 - (3) Press SET key again.
 - (4) When increasing SHELF-temperatures, heat food in a separate cooking/warming oven, then reload.
- Temperature controls should be adjusted to the lowest possible setting that will maintain proper internal product temperature.
- See troubleshooting guide if, after adjustment, pre-heated product does not maintain regulatory temperature.

Holding Temperature Guide

- Food must be preheated BEFORE loading the case; the case must not be used to heat product.
- Always consult local health and sanitation regulations for internal product temperature and holding requirements.
- Holding Temperatures listed below are internal product temperatures, and are guidelines only.

HOLDING TEMPERATURE GUIDELINES* Internal Product Temperatures (IPT)	
MEAT	*IPT
CHICKEN / POULTRY	160° - 175°F

Start up

Overhead Heating System

Overhead heaters and Incandenscent lights are located above each shelf to provide both top heat and illumination.

To obtain the proper food temperatures, the shelf heater and overhead heater must be adjusted. Maximum limits should be avoided to prevent overcooking or drying out of food.

Food temperatures can be accurately determined only through the use of food thermometers!

Important Food Handling Tips:

1. Preheat case 30 minutes before loading product.
2. Never place food directly into the warmer. Always use an inset.
3. Food must be displayed in a single layer, in contact with the heat source at all times.
4. Using thermometer, check product before loading in case (160°F-180°F).
5. At start, set control to "6". After loading, recheck temperature every ½ hour to see that unit is operating properly. Adjust the temperature to maintain a product temperature of 140°F (60°C) and above. The setting will depend on the type and quantity of product being displayed. Be sure to test product temperature with a thermometer frequently for good product maintenance.
6. Food should be rotated periodically.
7. At the end of the day, remove product and let case cool. Then clean with soap and water.

Standard Hot Case Settings

When Heater are installed

Straight Section Components		Minimum Controller Setting
Buffet Warmer on Deck	208 Vac, 780 Watts Minimum.	200°F
Buffet Warmer on Shelf	208 Vac, 590 Watts Minimum.	200°F
Incandescent Bulbs	120/130 Vac. 100watts minimum. Minimum 2 per warming surface.	N/A

½ Round Section Components		Minimum Controller Settings
½ Round Buffet Warmer on Deck	208 Vac, 894 Watts Minimum.	210°F
½ Round Buffet Warmer on Shelf	208 Vac, 520 Watts Minimum.	210°F
Incandescent Bulbs	120/130 Vac, 100 watts minimum. Minimum 2 per warming surface.	N/A

When Heater (Cal Rods) are not installed (Fluorescent/Incandescent bulbs may not be provided):

Straight Section Components		Minimum Controller Setting
Buffet Warmer on Deck	208 Vac, 780 Watts Minimum.	210°F
Buffet Warmer on Shelf	208 Vac, 590 Watts Minimum.	210°F

½ Round Section Components		Minimum Controller Settings
½ Round Buffet Warmer on Deck	208 Vac, 894 Watts Minimum.	215°F
½ Round Buffet Warmer on Shelf	208 Vac, 520 Watts Minimum.	215°F

Operation

Instruction sheet

Use the instructions below to operate the controls for a unit with multiple heated shelves. The controls are located in a remote mounted control panel and consist of a Power ON/OFF switch and three, four, or five digital temperature controllers, depending on the number of heated shelves in the unit.

Operation

Use the following instructions to operate the controls on a multi-heated shelf control panel.

1. Move the Power ON/OFF switch to the ON position.
 - The digital temperature controllers will energize and the current temperature of each shelf will appear on the corresponding display.
 - The phrase "out 1" will appear in the upper left corner of each display to show that the shelves are in heat mode.



BURN HAZARD: Some exterior surfaces on unit will get hot. Use caution when touching these areas.

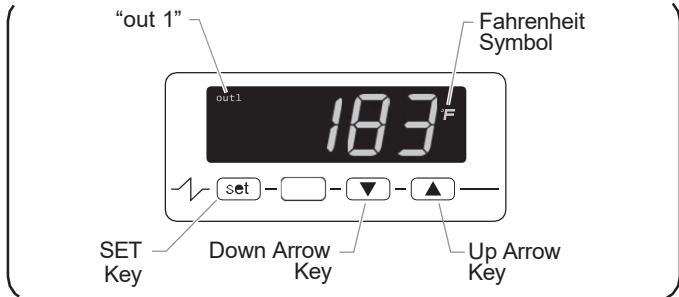


Figure 1. Digital Temperature Controller

2. On each digital temperature controller, press and release the **set** key to verify the setpoint temperatures.
 - The setpoint temperature will be shown for 15 seconds. After 15 seconds, the display will revert to the current temperature of the corresponding shelf. To change a setpoint temperature, refer to the "Changing the Setpoint Temperature" procedure.

NOTE: Once a setpoint temperature is changed, the new setpoint temperature will remain in memory until it is changed again.

3. Allow the heated shelves 10 minutes to reach operating temperature before loading preheated food product.

Changing the Setpoint Temperature

Use the following procedure to change the setpoint temperature on a digital temperature controller.

1. Press and release the **set** key. The current setpoint temperature will be shown on the display and "out 1" will flash in the upper left corner.
2. Press the **▲** key or **▼** key within 15 seconds to change the setpoint temperature. If no key is pressed within 15 seconds, the display will revert to the current temperature of the unit.
3. Press the **set** key or wait 15 seconds to lock in the new setpoint temperature.

Locking/Unlocking a Digital Temperature Controller

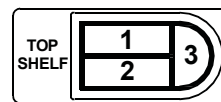
The keys on a digital temperature controller can be locked to prevent unauthorized changes to the settings.

To lock the keys of a digital temperature controller:

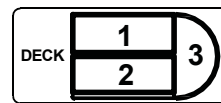
- Press and hold both the **set** key and **▼** key at the same time for over two seconds. The message "Loc" will appear on the display.

To unlock the keys of the digital temperature controller:

- Press and hold both the **set** key and **▼** key at the same time until the message "UnL" appears on the display.

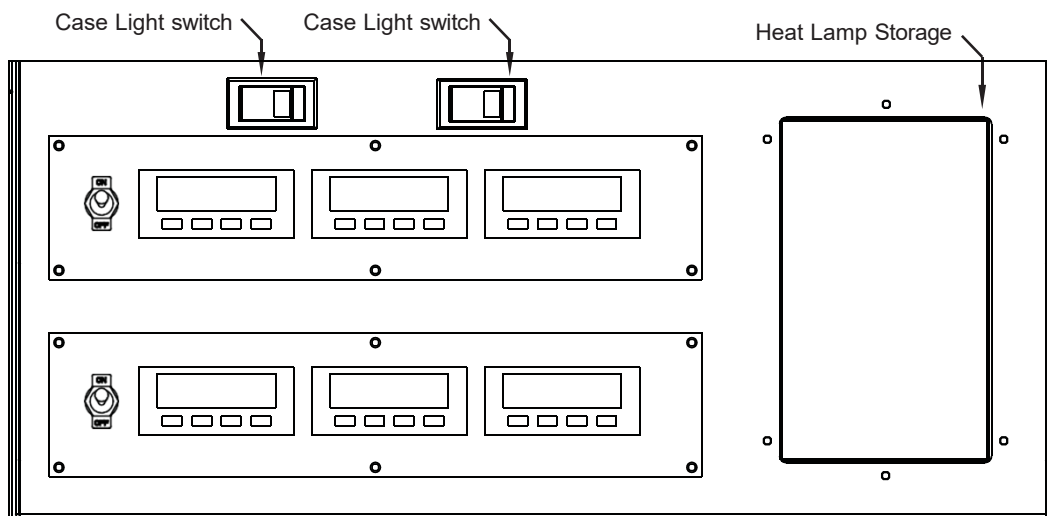


Heated Shelf Control Reference Guide



DECK	TOP SHELF
1	1
2	2
3	3

Cal Rod Control Reference Guide



Controller temperature indicates *SHELF-temperature only (not product temperature)

General

The Hatco Glo-Ray Heated Shelf Units are designed for maximum durability and performance with minimum maintenance.



ELECTRIC SHOCK HAZARD:

- Turn the power switch OFF, unplug the power cord, and allow the unit to cool before performing any maintenance or cleaning.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.

Cleaning

To preserve the finish of the Glo-Ray Heated Shelf, it is recommended that the surfaces stains may be removed with a non-abrasive cleaner. Hard to reach areas should be cleaned with a small brush and mild soap.

NOTICE

Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of the unit, marring its appearance and making it susceptible to soil accumulation.

CAUTION

CLEANING PRECAUTIONS

When cleaning:

- Do not use high pressure water hoses
- Do not introduce water faster than waste outlet can drain
- NEVER INTRODUCE WATER ON SELF CONTAINED UNIT WITH AN EVAPORATOR FAN
- NEVER USE A CLEANING OR SANITIZING SOLUTION THAT HAS AN OIL BASE (these will dissolve the butyl sealants) or an AMMONIA BASE (this will corrode the copper components of the case)
- TO PRESERVE THE ATTRACTIVE FINISH:
 - DO USE WATER AND A MILD DETERGENT FOR THE EXTERIOR ONLY
 - DO NOT USE A CHLORINATED CLEANER ON ANY SURFACE
 - DO NOT USE ABRASIVES OR STEEL WOOL SCOURING PADS (these will mar the finish)

Electrical

IMPORTANT! IT IS IMPERATIVE THAT CASES BE LEVELED FROM FRONT TO BACK AND SIDE TO SIDE PRIOR TO JOINING. A LEVEL CASE IS NECESSARY TO INSURE PROPER OPERATION.

ALL CASES WERE LEVELED AND JOINED PRIOR TO SHIPMENT, TO INSURE THE CLOSEST POSSIBLE FIT WHEN CASES ARE JOINED IN THE FIELD.



TO AVOID REMOVING CONCRETE FLOORING, BEGIN LINEUP LEVELING FROM THE HIGHEST POINT OF THE STORE FLOOR.

CASE MUST BE GROUNDED



DANGER
BEFORE SERVICING
ALWAYS DISCONNECT ELECTRICAL
POWER AT THE MAIN DISCONNECT
WHEN SERVICING OR REPLACING ANY
ELECTRICAL COMPONENT.

This includes (but not limited to) Heaters and Lights.

Electrical Circuit Identification

Standard lighting for all models will be full length fluorescent lamps located within the case. The switch controlling the lights is located at the top right of the case.

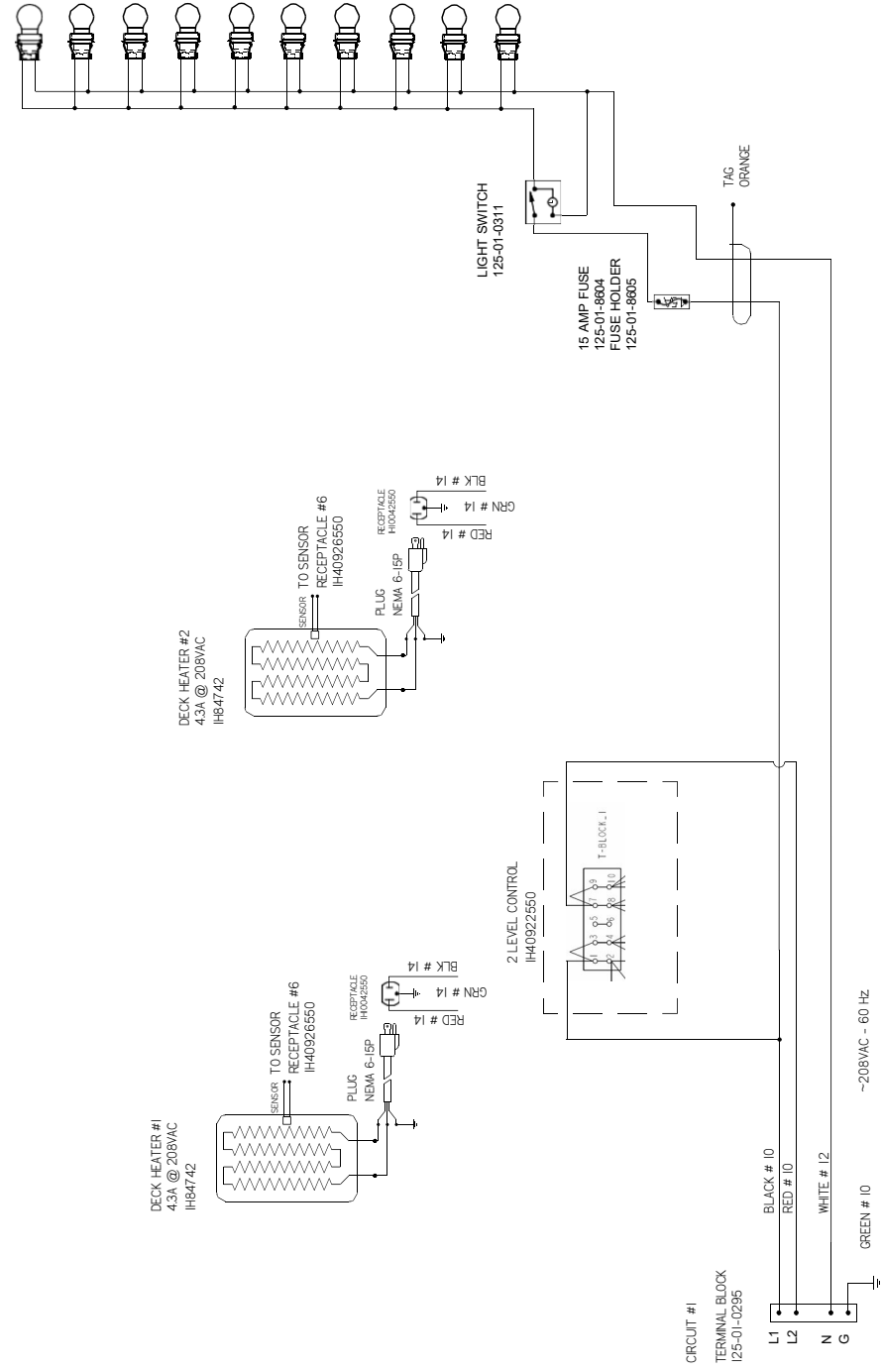
Wiring Diagram Index

TY1	4X4I-H NEW CTRLR	4'	W6600496
TY2	4X4I-H NEW CTRLR	4'	W6600188
TY3	4X4E-H W/BULBS NEW CTRLR	4'	W6600136
	4X4C-H W/BULBS NEW CTRLR	4'	W6600507
	EC-4X4E-H EXTENDED CANOPY NEW CTRLR	4'	W6600697
	4X5E-H W/CAL RODS NEW CTRLR	5'	W6600075
	4X5E-H W/BULBS NEW CTRLR	5'	W6600103
	4X6I-H W/BULB NEW CTRLR	6'	W6600763
TY4	4X4E-H W/BULBS	4'	W6600234

REV	EN	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
A	EN-CAP-0015589	20/01/19	RELEASED TO PRODUCTION	CB	CB	CB
B	EN-COD-0015279	20/27/2011	REVISED CULR WRANG	CB	CB	CB

CIRCUIT #1	LOADING	208V	169	186	351W @ 208VAC

INCANDESCENT LAMP-TOP
 BULB 100W 115V
 (10) 2H06888550



Hussmann
 DIAGRAM-
 TY1-4X41-
 H

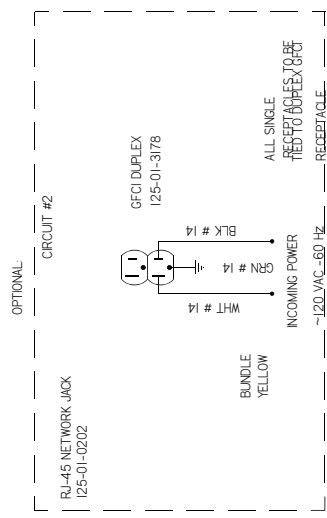
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 DRAWN BY - CRAIG BOOREY
 REVIEWED BY - CRAIG BOOREY
 APPROVED BY - CRAIG BOOREY
 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 FIRST
 SECOND
 THIRD
 DECIMALS .XX +0.3 .XXX +0.10
 ANGL
 E
 ANGLES ± 2°

W6600496 D

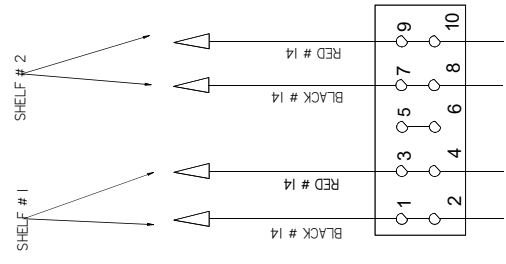
NOTES:
 CASE MUST BE GROUNDED

PROJECTION

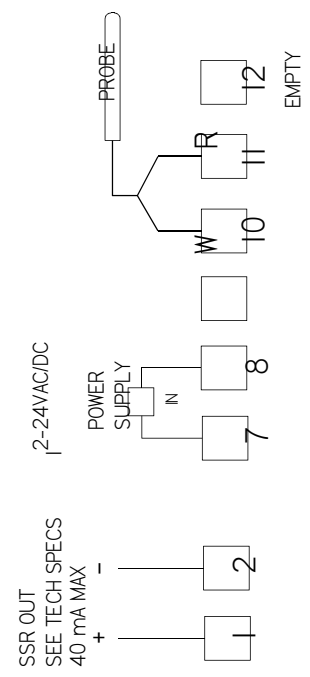
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B	EN-CO-0015279	20220311	REVISED CLR WIRING	CS	CS	CS



HEATER RECEPTACLE WIRING
CONTROL PANEL



SENSOR RECEPTACLE WIRING
CONTROL PANEL



MATERIAL - INVA
DATE DRAWN - 12-19-18
DRAWN BY - CRAIG BOOREY
REVIEWED BY - CRAIG BOOREY
APPROVED BY - CRAIG BOOREY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
TOLERANCES ARE:
DECIMALS .XX ±0.3 .XXX ±0.10
ANGLES 3' ±2'

THIRD ANGLE PROJECTION

Hussmann
DIAGRAM-
TY1-4X41-H

W6600496 D

NOTE: CASE MUST BE GROUNDED

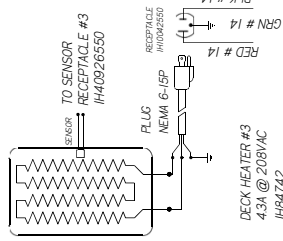
CIRCUIT #1

LOADING	
208V	
L1	
L2	
L3	
N	
G	

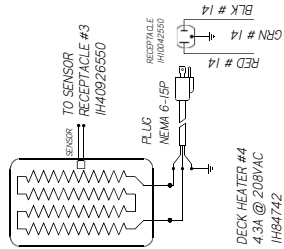
6266W @ 208VAC

3

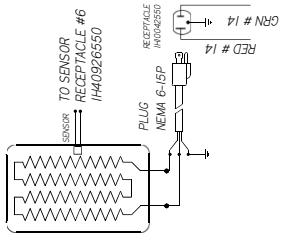
TOP-SHELF HEATER #1
2.5A @ 208VAC
IH84741



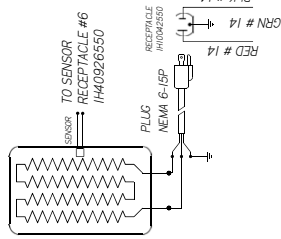
TOP-SHELF HEATER #2
2.5A @ 208VAC
IH84741



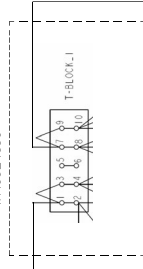
DECK HEATER #3
4.3A @ 208VAC
IH84742



DECK HEATER #4
4.3A @ 208VAC
IH84742

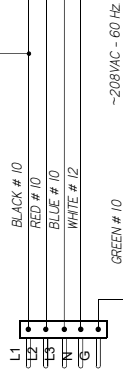


4 LEVEL CONTROL
IH40926550



CIRCUIT #1

TERMINAL BLOCK
I25-01-0295



CONTINUED ON SHEET-3

MATERIAL - N/A

DATE DRAWN - 3-10-16

DRAWN BY - CRAIG BOOREY

REVIEWED BY - CRAIG BOOREY

APPROVED BY - CRAIG BOOREY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ARE:

DECIMALS .XX ±0.03 .XXX

ANGLES ± 2°

PROJECTION

HUSSMANN

DIAGRAM-

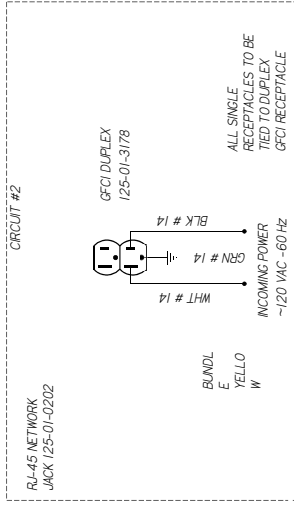
TY2-4X41-

H

W6600188

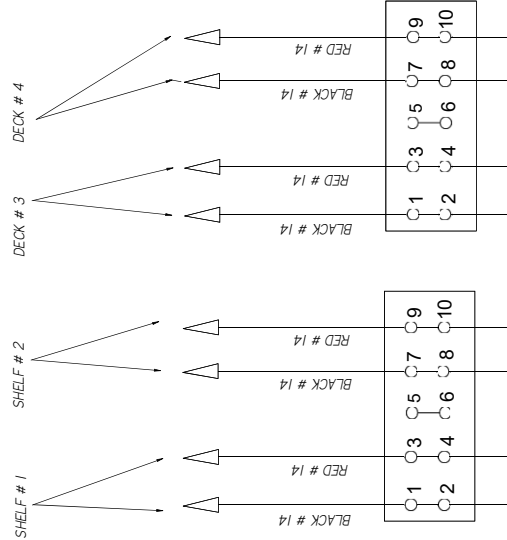
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2	ECN-COB-005279	2022/03/11	REVISED C.TLR WRANG	CB	CB	CB

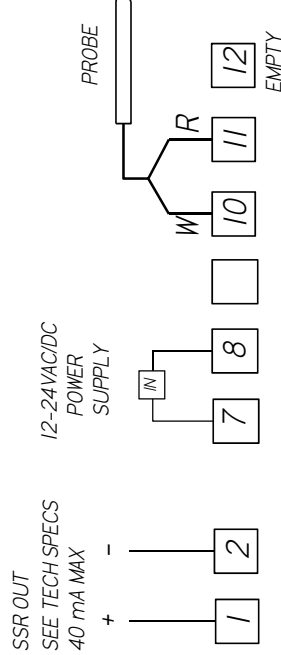


RL-45 NETWORK JACK 125-01-0202

HEATER RECEPTACLE WIRING CONTROL PANEL



SENSOR RECEPTACLE WIRING CONTROL PANEL

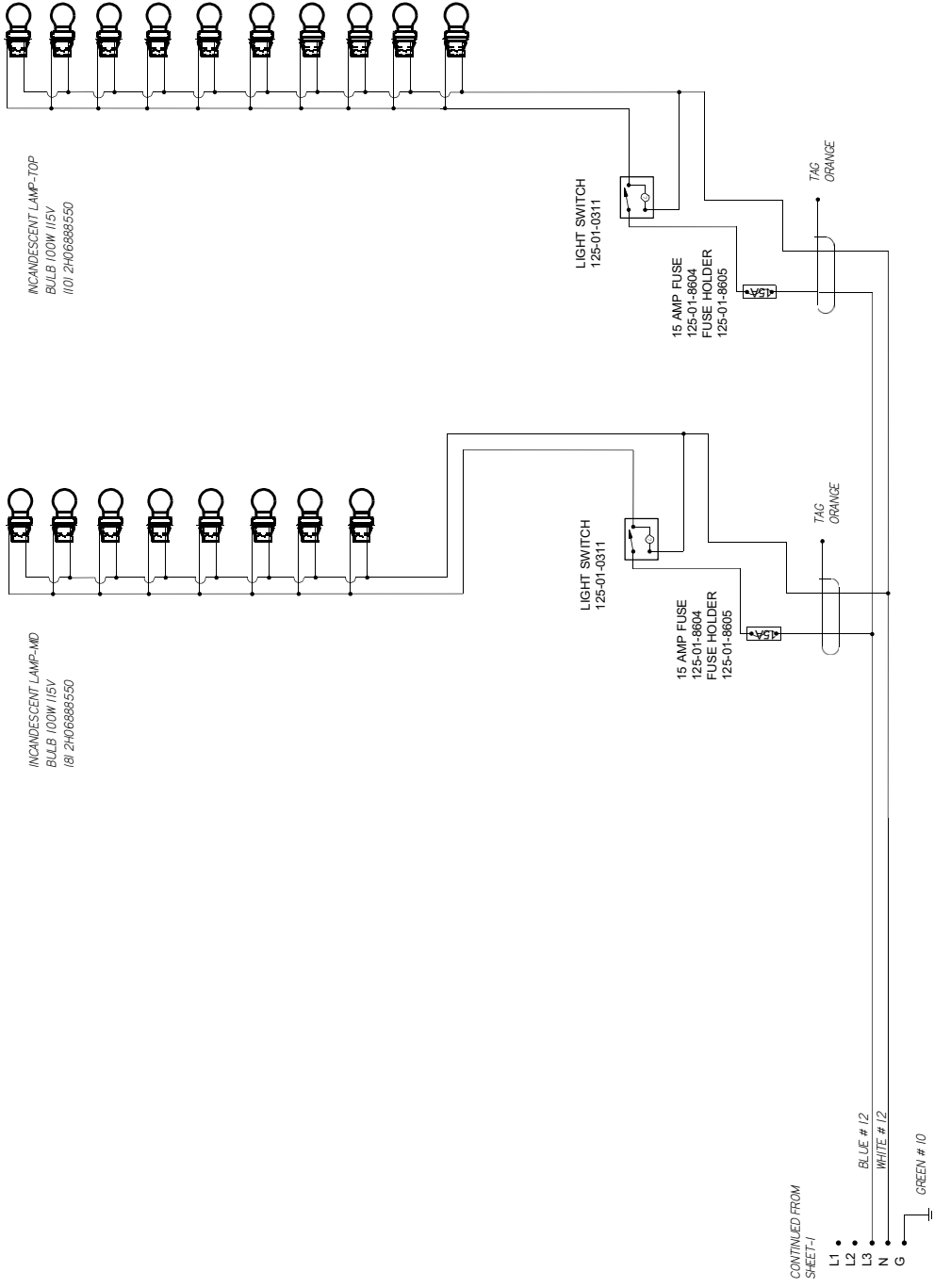


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REVIEWED BY - CRAIG BOOREY	DIAGRAM # 2 OF 3
APPROVED BY - CRAIG BOOREY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:	FRACTIONS
DECIMALS .XX ±0.3 .XXX ±0.10	ANGLES ± 2°

HUSMANN	
DIAGRAM-	TY2-4X4I-
H	
W6600188 B	

NOTES:
CASE MUST BE GROUNDED

REV	EN	DATE	REVISION DESCRIPTION	REV BY	CHK BY	APP BY
1	EW-CAP-000240	2016/03/10	RELEASED TO PRODUCTION	CB	CB	CB
2	EW-CAP-0016279	2022/12/31	REVISED C/LR #RANG	CB	CB	CB



HUSSMANN
DIAGRAM-
TY2-4X4I-
H
W6600188 | B

MATERIAL - N/A
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 REVIEWED BY - CRAIG BOOREY
 APPROVED BY - CRAIG BOOREY
 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 DECIMALS .XX ±0.03 .XXX
 ±0.10
 ANGL
 E
 PROJECTION
 ANGLS ± 2'

ECN-CAP-000240
 REF - NEW
 DIAG SHEET 3 OF 3

NOTES:
 CASE MUST BE GROUNDED

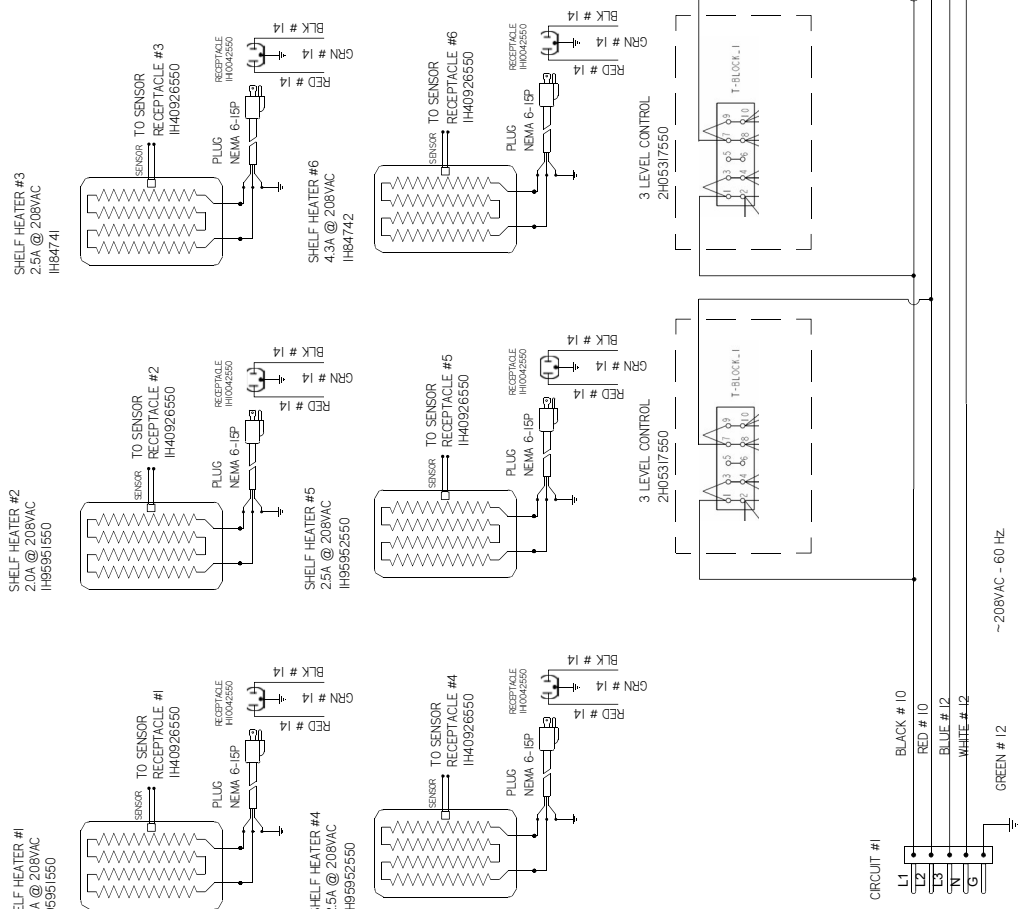
REV	ECN	DATE	REVISION DESCRIPTION	REV BY	CHK BY	APPR BY
A	95945	2014/02/02	RELEASED TO PRODUCTION	CB	CB	CB
B	EDX-CAP-000264	2016/09/26	REDUCED THE WIRE GAUGE	CB	CB	CB
C	EDX-CAP-0003876	2016/09/05	REVISED GROUND WIRE	CB	CB	CB
D	EDX-COD-00018279	2022/01/01	REVISED CULR WIRING	CB	CB	CB

REVISION HISTORY
RELEASED TO PRODUCTION
REDUCED THE WIRE GAUGE
REVISED GROUND WIRE
REVISED CULR WIRING

CIRCUIT #1

208V	240V
L1	13.7
L2	13.7
L3	10.6
L22	15.8
L23	15.8
L24	12.2

4563W @ 208VAC
6069W @ 240VAC



CONTINUED ON SHEET -3

Husmann
DIAGRAM= IY3-4X4E-H

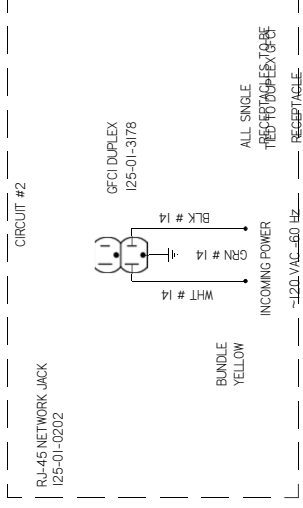
MATERIAL - NA
DATE DRAWN - 10-2-14
DRAWN BY - CRAIG BOOREY
REVIEWED BY - CRAIG BOOREY
APPROVED BY - CRAIG BOOREY
SHEET 1 OF 3
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
THIRD ANG
DECIMALS .XX +0.3 .XXX +0.10
ANGLES ± 2°

ECN# - 951945
REF -
W6600136

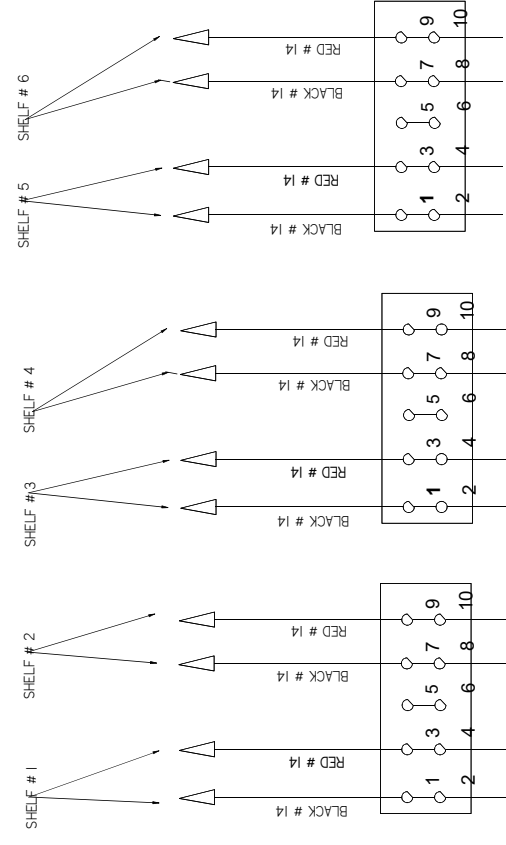
PROJECTION

NOTES
CASE MUST BE GROUNDED

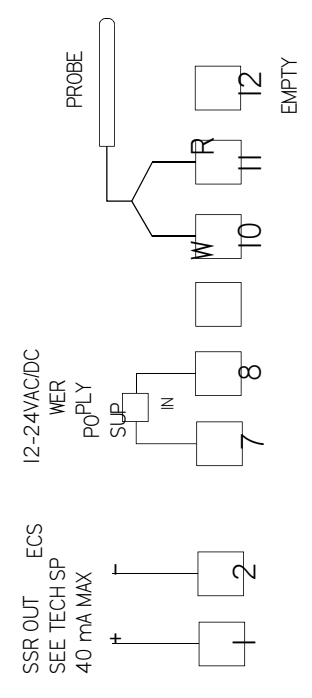
REV	EON	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
A	951945	20/04/002	RELEASED TO PRODUCTION	CB	CB	CB
B	ECN-CAP-0002614	20/06/026	REDUCED THE WIRE GAUGE	CB	CB	CB
C	ECN-CAP-0003876	20/09/045	REVISED GROUND WIRE	CB	CB	CB
D	ECN-COD-0015279	20/02/031	REVISED CLR WIRING	CB	CB	CB



HEATER RECEPTACLE WIRING
CONTROL PANEL



ACLE WIRING
SENSOR RECEPT
CONTROL PANEL



MATERIAL - IVA

DATE DRAWN - 10-2-14

DRAWN BY - CRAIG BOOREY

REVIEWED BY - CRAIG BOOREY

APPROVED BY - CRAIG BOOREY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES ARE
DECIMALS .XX +0.3 .XXX +0.0

THIRD ANGLE PROJECTION

HUSSmann
DIAGRAM-1Y3-4X4E-H

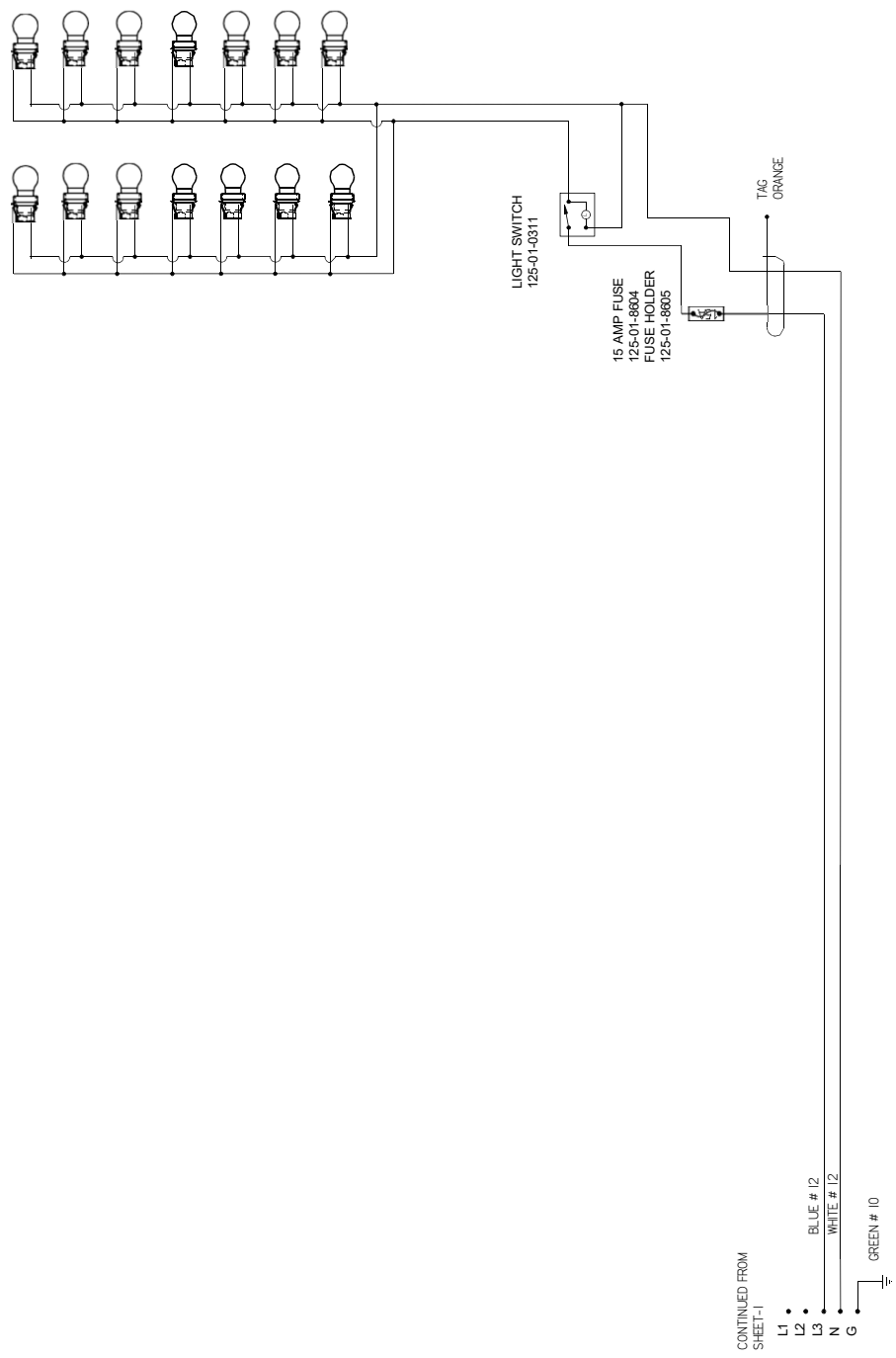
W6600136

D

CASE MUST BE GROUNDED
NOTES:

REVISION HISTORY			
REV	ECN	DATE	DESCRIPTION
A	95945	20/4/02	RELEASED TO PRODUCTION
B	ECN-CAP-000264	20/6/02	REDUCED THE WIRE GAUGE
C	ECN-CAP-0003876	20/6/05	REVISED GROUND WIRE
D	ECN-COD-0018279	20/20/01	REVISED CILR WIRING

INCANDESCENT LAMP
 BULB 100W 115V
 (14) 2H06888550



CONTINUED FROM
 SHEET-1
 L1
 L2
 L3
 N
 G
 BLUE # 12
 WHITE # 12
 GREEN # 10

MATERIAL - NA	
DATE DRAWN - 10-2-14	ECN# - 951945
DRAWN BY - CRAIG BOOREY	REF -
REVIEWED BY - CRAIG BOOREY	SHEET 3 OF 3
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	
TOLERANCES ARE:	
DECIMALS .XX +0.3 .XXX +0.10	THIRD ANGLE
ANGLES ± 2°	E

HUSSMANN
 DIAGRAM-1Y3-4X4E-
 H

W6600136 D

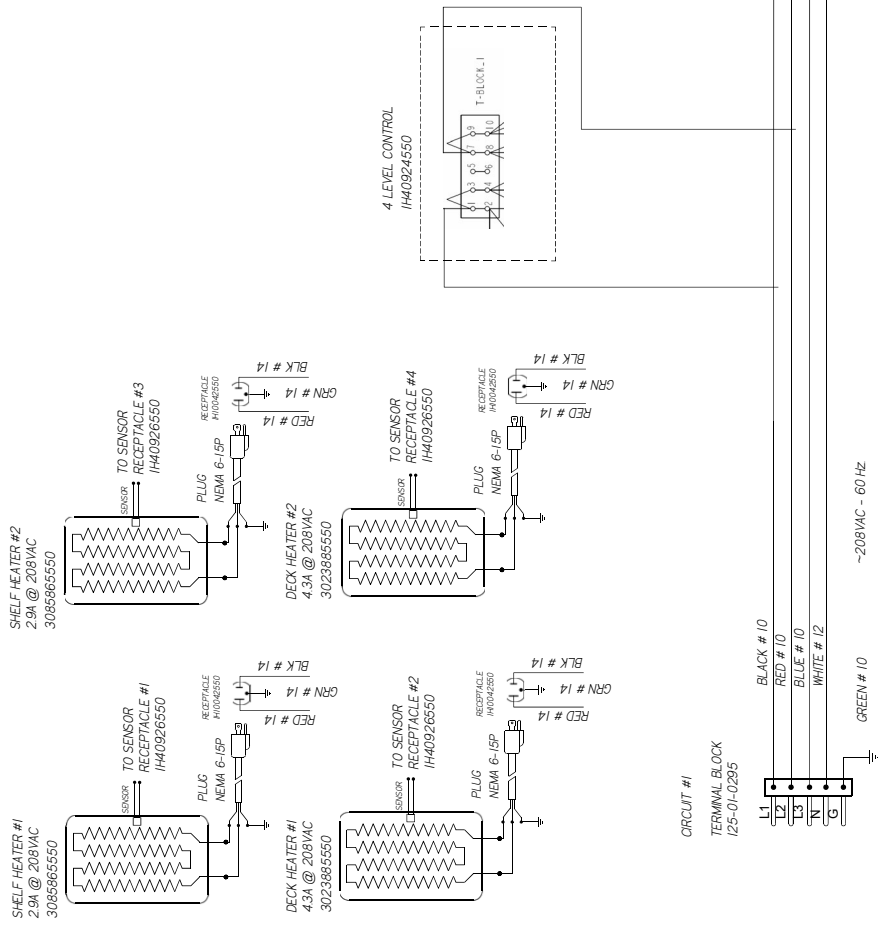
NOTES:
 CASE MUST BE GROUNDED

PROJECTION

REVISION HISTORY			
REV	EN	DATE	DESCRIPTION
A	EDY-CAP-0015595	2019/01/22	RELEASED TO PRODUCTION
B	EDY-COD-0005278	2022/03/01	REVISED CULR WIRING

CIRCUIT #1	101NG
	200V
	1444
	1444
	1444

5.28W @ 208VAC
3



HUSSMANN
DIAGRAM-1Y3-
4X4C-H
W6600507 | **B**

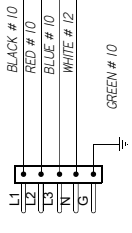
MATERIAL - NA
 DATE DRAWN - 11-22-19
 DRAWN BY - CRAIG BOOREY
 REVIEWED BY - CRAIG BOOREY
 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 DECIMALS .XX ±0.3 .XXX ±0.0
 ANGL ANGL
 E PROJECTION
 ANGLES ± 2°

ECN-CAP-0015595 REF -
 SHEET 1 OF 3
 DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 DECIMALS .XX ±0.3 .XXX ±0.0
 ANGL ANGL
 E PROJECTION
 ANGLES ± 2°

NOTES:
 CASE MUST BE GROUNDED
 WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

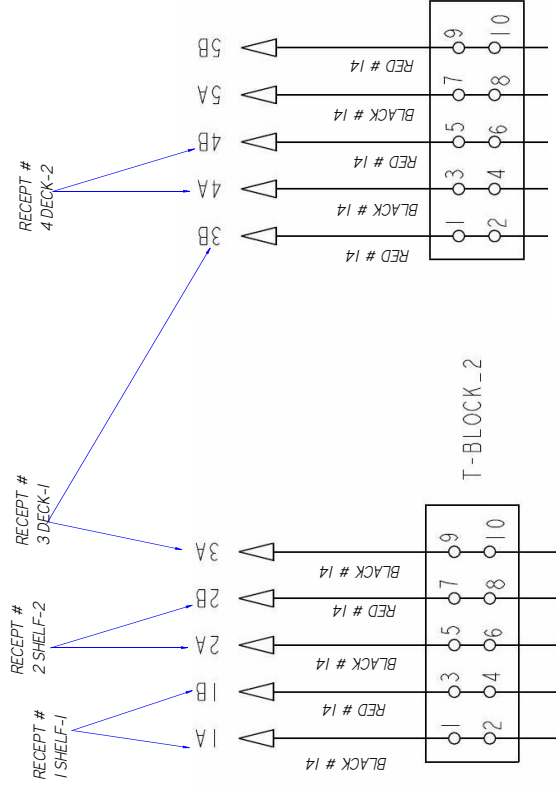
CONTINUED ON SHEET-3
 L1
 L2
 L3
 N

CIRCUIT #1
 TERMINAL BLOCK
 I25-01-0295

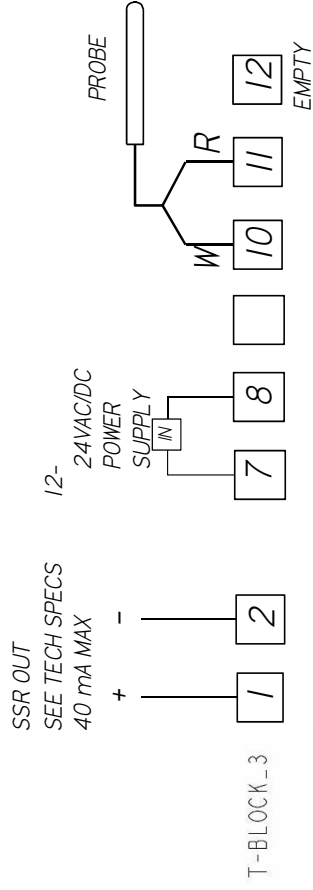


REVISION HISTORY			
REV	EN	DATE	DESCRIPTION
A	ECN-CAP-0015595	2019/01/22	RELEASED TO PRODUCTION
B	ECN-COB-0015279	2022/03/01	REVISED CTR WIRING

HEATER RECEPTACLE WIRING CONTROL PANEL



SENSOR RECEPTACLE WIRING CONTROL PANEL

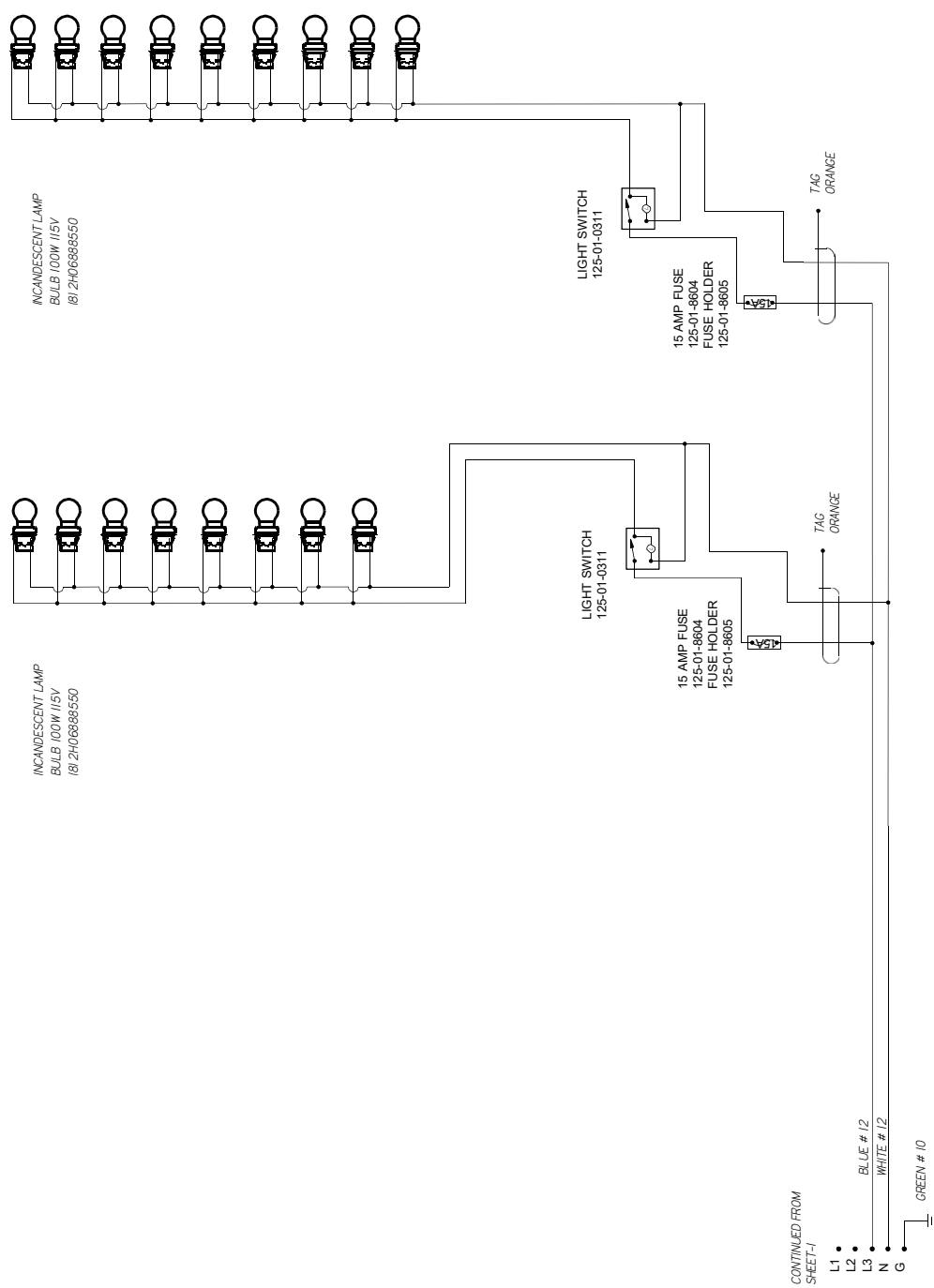


HUSSMANN
 MATERIAL - NA
 DATE DRAWN - 11-22-19
 DRAWN BY - CRAIG BOOREY
 REVIEWED BY - CRAIG BOOREY
 APPROVED BY - CRAIG BOOREY
 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 DECIMALS .XX ±0.03 .XXX
 ANGLES ± 2'
 PROJECTION

ECN-CAP-0015595
 REF -
 SHEET 2 OF 3
 DIAGRAM-1Y3-4X4C-H
 W6600507 | B

NOTES:
 CASE MUST BE GROUNDED
 WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

REVISION HISTORY			
REV	EN	DATE	DESCRIPTION
A	EDN-CAP-0015595	2019/01/22	RELEASED TO PRODUCTION
B	EDN-CAP-0015595	2022/03/01	REVISED CULR WRNG



INCANDESCENT LAMP
BULB 100W 115V
181 2406888550

INCANDESCENT LAMP
BULB 100W 115V
181 2406888550

LIGHT SWITCH
125-01-0311

LIGHT SWITCH
125-01-0311

15 AMP FUSE
125-01-8604
FUSE HOLDER
125-01-8605

15 AMP FUSE
125-01-8604
FUSE HOLDER
125-01-8605

CONTINUED FROM
SHEET-1
L1
L2
L3
N
G
BLUE # 12
WHITE # 12
GREEN # 10

TAG ORANGE

TAG ORANGE

HUSSMANN
DIAGRAM-1Y3-
4X4C-H

MATERIAL - NA
DATE DRAWN - 11-22-19
DRAWN BY - CRAIG BOOREY
REVIEWED BY - CRAIG BOOREY
APPROVED BY - CRAIG BOOREY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
DECIMALS .XX ±0.3 .XXX
±0.0

REF -
SHEET 3 OF 3
THIRD ANGL
E
PROJECTION

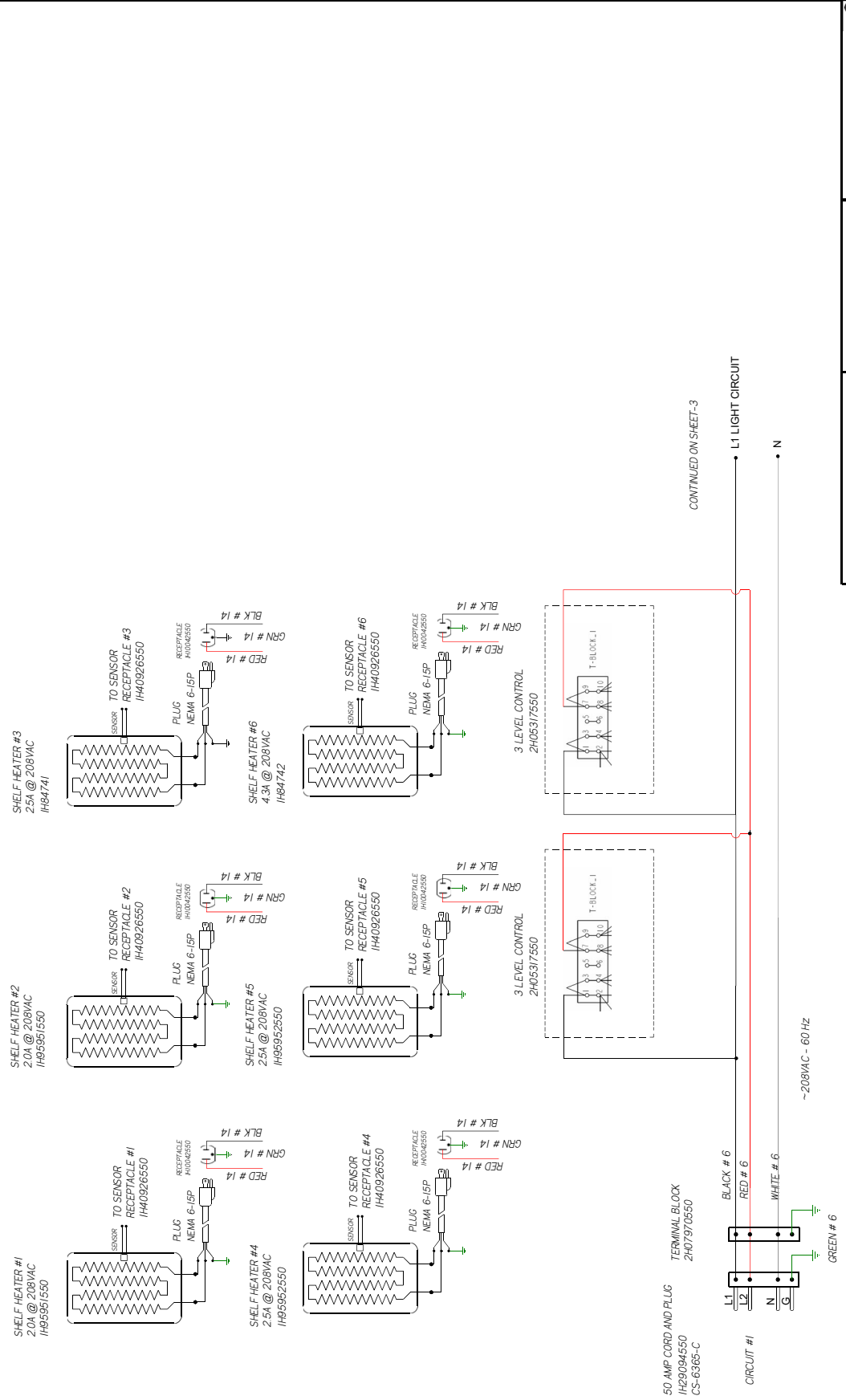
W6600507 | B

NOTES:
CASE MUST BE GROUNDED
WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

REV	ECN	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
C	ECN-000-0011329	6-19-20	CHGD TO 1 PHASE ADDED PLUG	CB	CB	CB
D	ECN-000-00116279	3-11-22	REVISED CTR WIRING	CB	CB	CB

CIRCUIT #1	WIRING

7259W @ 208VAC

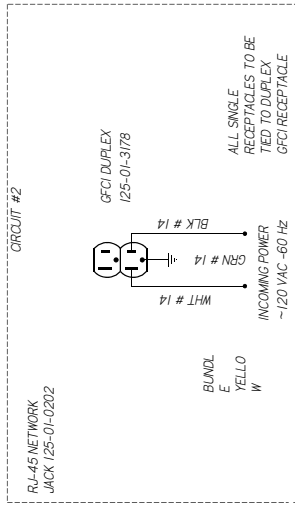


HUSSMANN
DIAGRAM-TY3EC-4X 4E-H
 W6600697 | D
 SHEET 1 OF 3

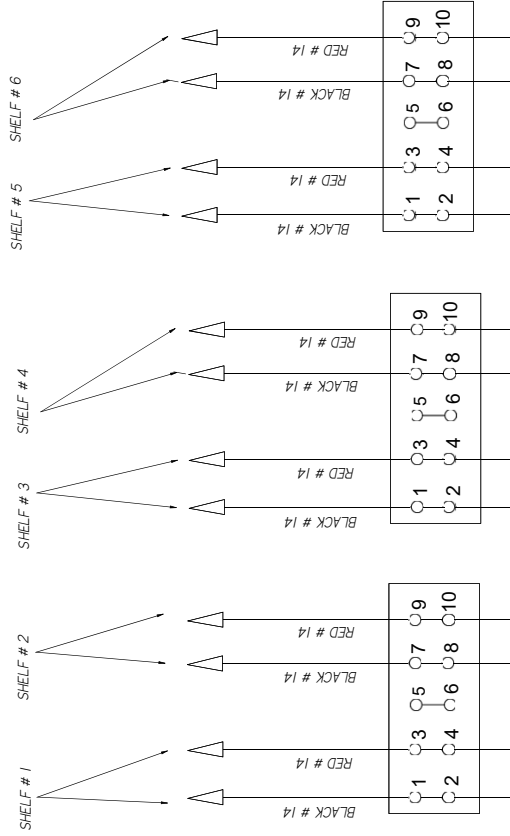
FACTORY 14GA WIRE
 -FACTORY 10GA WIRE
 -FIELD WIRE
 -DO NOT SCALE DRAWING

UL COLOR CODES / ABBREVIATIONS
 RED = RD
 BLACK = BK
 BLUE = BL
 YELLOW = YL
 GRAY = GR
 WHITE = WT
 GREEN = GN
 BROWN = BN
 ORANGE = OR
 VIOLET = VT

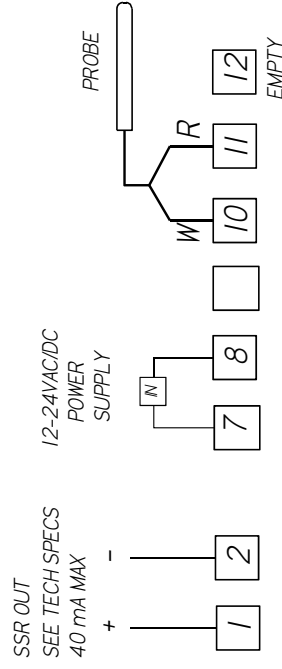
- NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING. ALL COLORS BLACK & WHITE
 2. CASE & ANY REMOVABLE PANEL WITH ELECTRICAL PARTS MUST BE GROUNDED.
 3. WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED



HEATER RECEPTACLE WIRING
CONTROL PANEL



SENSOR RECEPTACLE WIRING
CONTROL PANEL



- NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING: ALL COLORS BLACK & WHITE
 2. CASE & ANY REMOVABLE PANEL WITH ELECTRICAL PARTS MUST BE GROUNDED.
 3. WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

HUSSMANN
DIAGRAM-TY3EC-
4X 4E-H

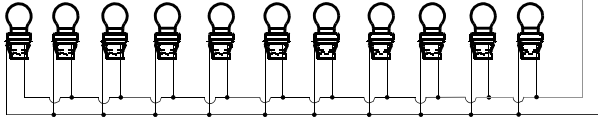
FACTORY 14GA WIRE
FACTORY LOGA WIRE
FIELD WIRE
DO NOT SCALE DRAWING
SHEET 2 OF 3

UL COLOR CODES / ABBREVIATIONS

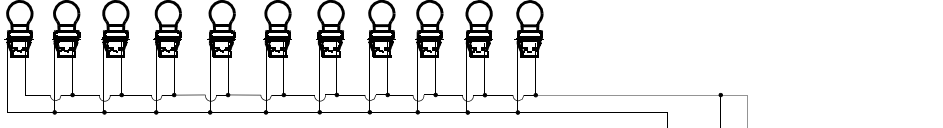
RED = RD	WHITE = WT
BLACK = BK	GREEN = GN
BLUE = BL	BROWN = BN
YELLOW = YL	ORANGE = OR
GRAY = GR	OR VIOLET = VT

W6600697

INCANDESCENT LAMP
BULB 100W 115V
1111 2106888550



INCANDESCENT LAMP
BULB 100W 115V
1111 2106888550



CONTINUED FROM
SHEET-1

L1
L2
N
G

BLK # 6
WHITE # 6
GREEN # 6

15 AMP FUSE
125-01-8604
FUSE HOLDER
125-01-8605

LIGHT SWITCH
125-01-0311

15 AMP FUSE
125-01-8604
FUSE HOLDER
125-01-8605

LIGHT SWITCH
125-01-0311

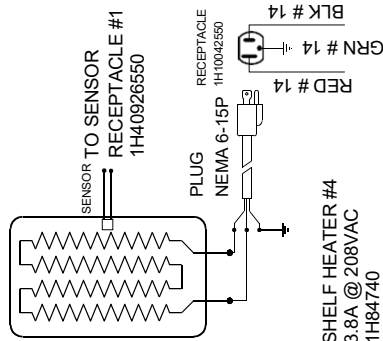
TAG
ORANGE

TAG
ORANGE

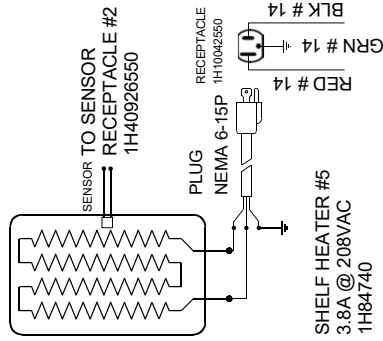
HUSSMANN DIAGRAM-TY3EC- 4X 4E-H		FACTORY 14GA WIRE FACTORY 10GA WIRE FIELD WIRE DO NOT SCALE DRAWING SHEET 3 OF 3
UL COLOR CODES / ABBREVIATIONS RED = RD WHITE = WT BLACK = BK GREEN = GN BLUE = BL BROWN = BN YELLOW = YL ORANGE = OR GRAY = GR OR VIOLET = VT CY		W6600697 187

- NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING: ALL COLORS BLACK & WHITE
 2. CASE & ANY REMOVABLE PANEL WITH ELECTRICAL PARTS MUST BE GROUNDED.
 3. WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

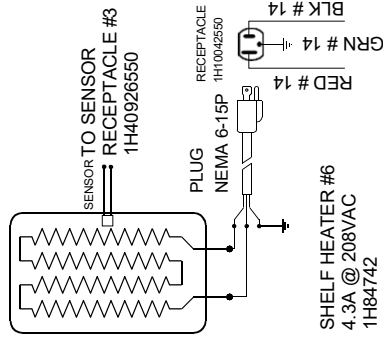
SHELF HEATER #1
2.9A @ 208VAC
1H84739



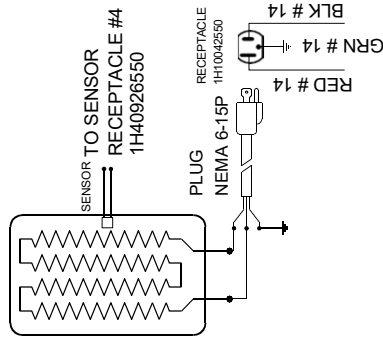
SHELF HEATER #2
2.9A @ 208VAC
1H84739



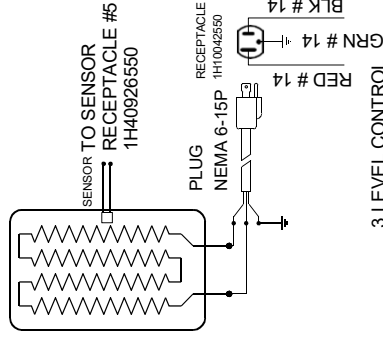
SHELF HEATER #3
2.5A @ 208VAC
1H84741



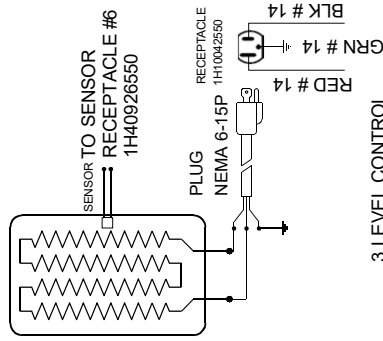
SHELF HEATER #4
3.8A @ 208VAC
1H84740



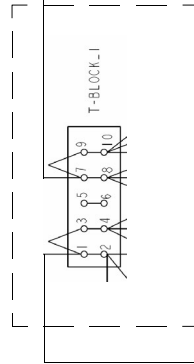
SHELF HEATER #5
3.8A @ 208VAC
1H84740



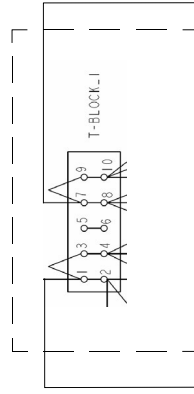
SHELF HEATER #6
4.3A @ 208VAC
1H84742



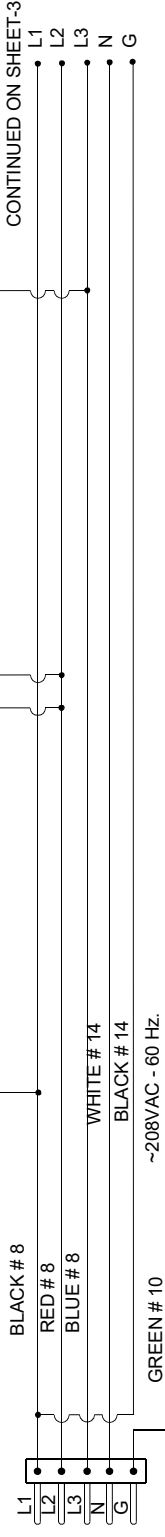
3 LEVEL CONTROL
1H40923550



3 LEVEL CONTROL
1H40923550



CIRCUIT #1



REVIEWS:		DRAWN BY: CRAIG BOOREY		PROJECT TITLE: TY-HOT		DRAWING #: W6600075	
#:	DESCRIPTION:	DATE:	BY:	DATE:	DATE:	DATE:	DATE:
B	CN#749653 ADDED HEATERS, FANS & LIGHTS	7/26/13	CB	3/26/13			
C	CN#749653 MATCH PLM REVISION	10/2/13	CY				
D	ECN-COD-0015279 REVISED CTRLR WIRING	3/11/22	CB				

CIRCUIT #1

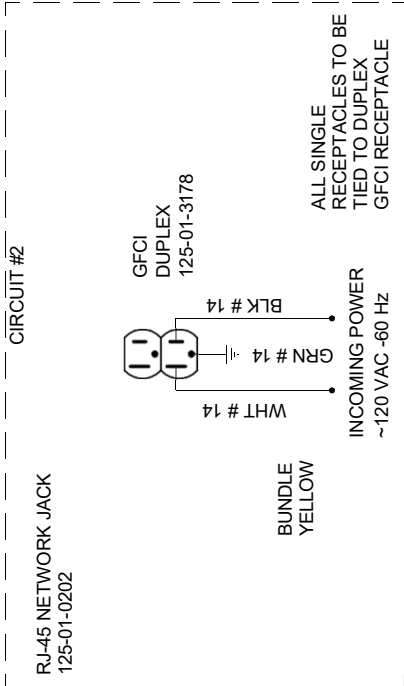
LOADING	208 V	240V
L1	20.9	24.1
L2	25.5	29.4
L3	18.0	20.8

7733W @ 208VAC
10295W @ 240VAC

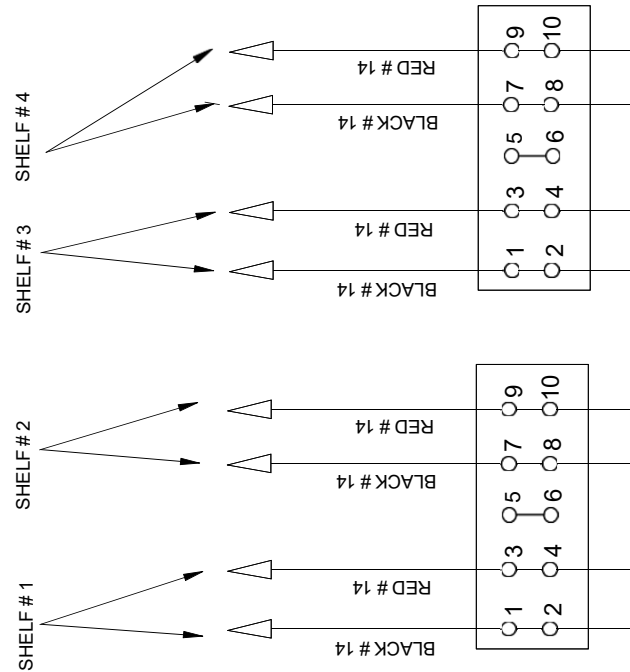
NOTE: CASE MUST BE GROUNDED

CIRCUIT # 1 CONTINUED

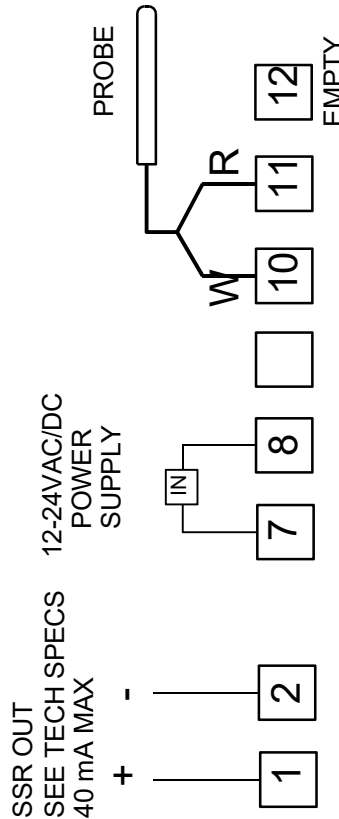
CIRCUIT #2



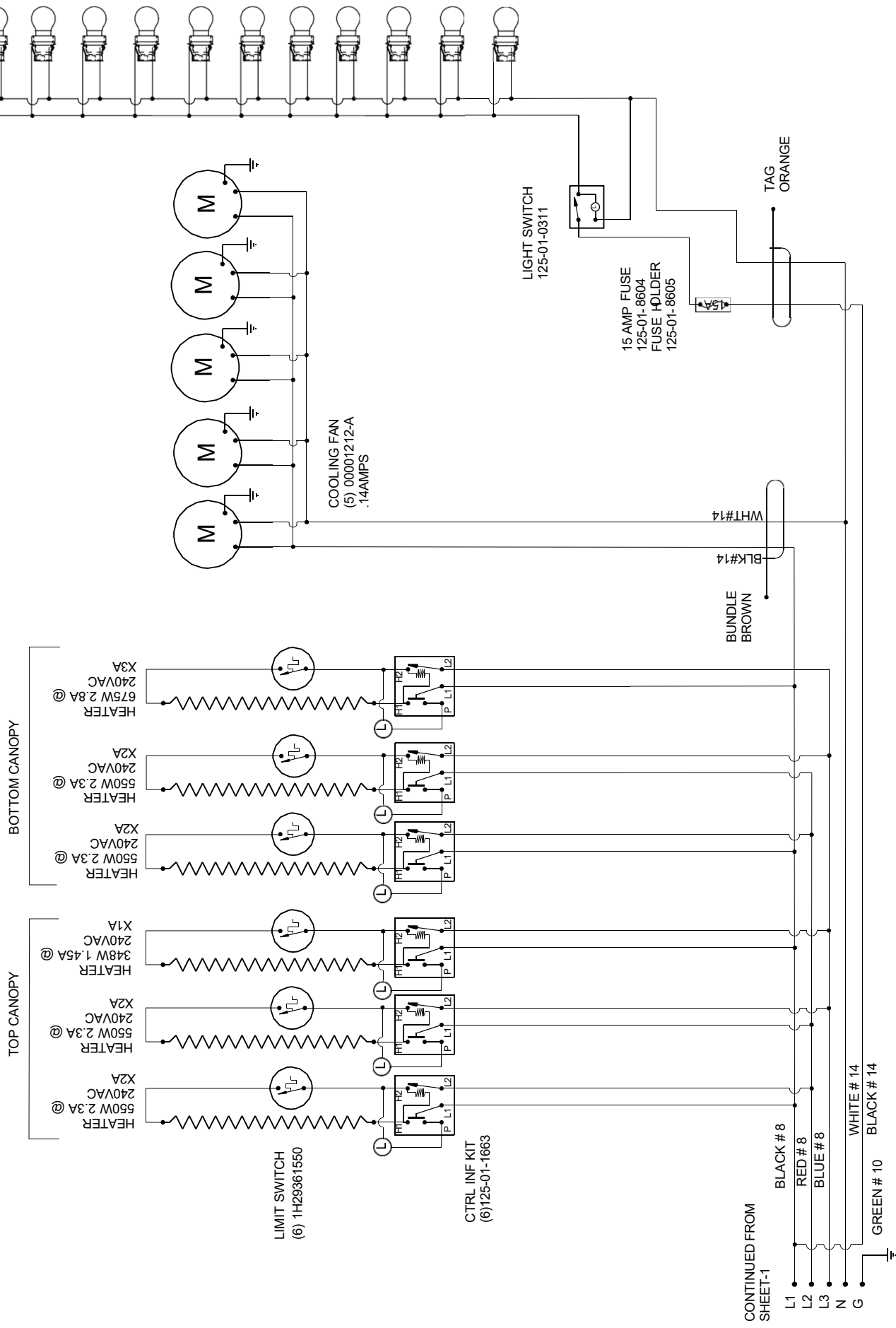
HEATER RECEPTACLE WIRING CONTROL PANEL



SENSOR RECEPTACLE WIRING CONTROL PANEL



NOTE: CASE MUST BE GROUNDED



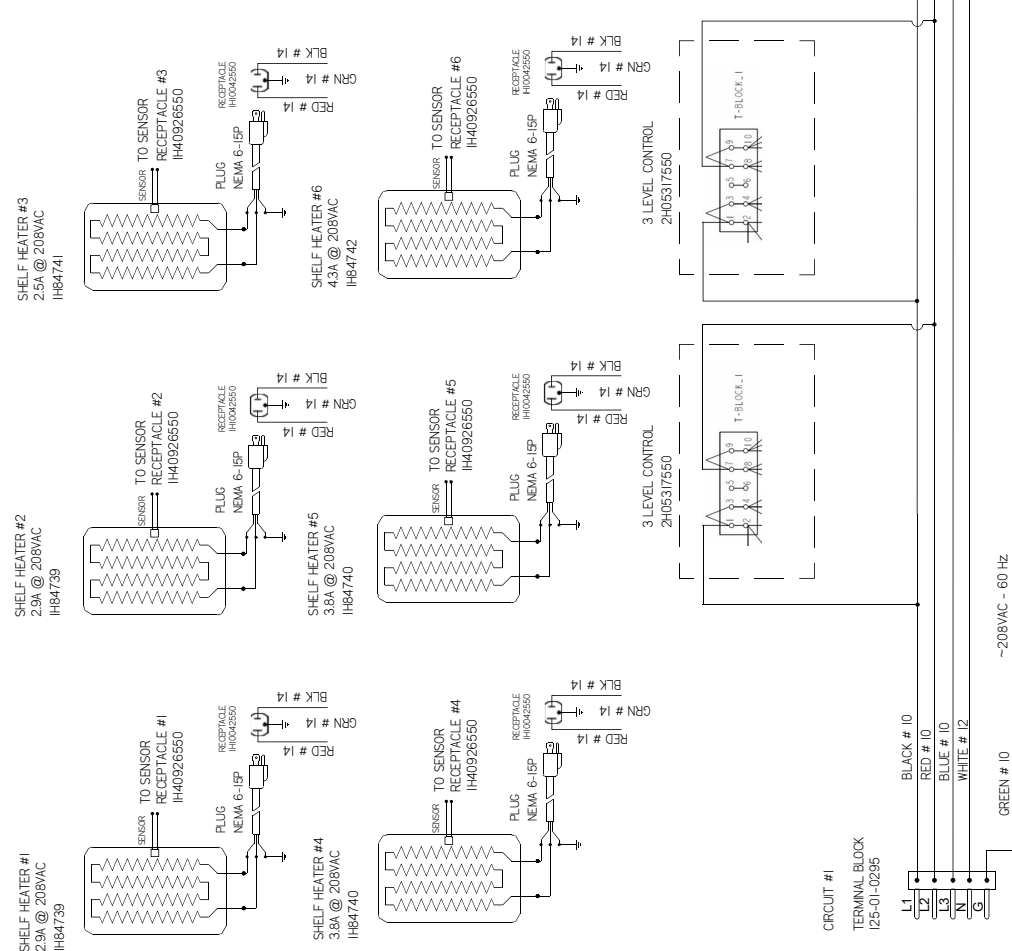
REVISIONS: # DESCRIPTION:		DRAWN BY: CRAIG BOOREY CHECKED BY:	DATE: 3/26/13 DATE: 3/26/13	PROJECT TITLE: TY-HOT DRAWING #: W6600075
B	CN#749653 ADDED HEATERS, FANS & LIGHTS	BY: CB	DATE: 7/26/13	DRAWING TITLE: DIAGRAM - TY3-4X5E-H
C	CN#749653 MATCH PLM REVISION	BY: CB	DATE: 10/2/13	
D	ECN-COD-0015279 REVISED CTRL WIRING	BY: CB	DATE: 3/11/22	
HUSMANN Hussmann Corporation, Int'l 13770 Ramona Avenue Chino, CA. 91710 (909)-590-4910 Lic.#: 644406		PRODUCTION ORDER #: 523986 FILE LOCATION:		

C	953643	20141025	CHANGED WIRE THICKNESS	03
D	EDN-CAP-0013876	20180926	REVISED GROUND WIRE	03
E	EDN-COD-0018279	20220301	REVISED CTRL WIRING	03

208V	240V
L1	17.5
L2	17.5
L3	130

5764W @ 208VAC
7809W @ 240VAC

CIRCUIT #1
LOADING



CONTINUED ON SHEET-3

~208VAC - 60 Hz

CIRCUIT #1
TERMINAL BLOCK
I25-01-0295

Hussmann
DIAGRAM-
TY3-4X5E-
H

DATE DRAWN - 10/16/13
DRAWN BY - CRAIG BOOREY
REVIEWED BY - CRAIG BOOREY
APPROVED BY - CRAIG BOOREY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
THIRD ANGLE PROJECTION

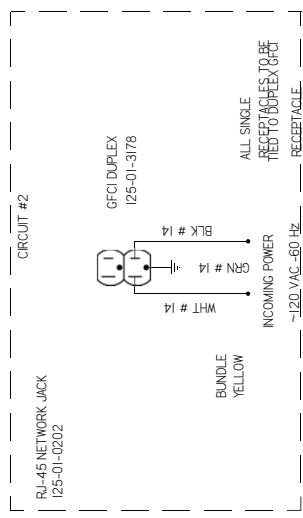
ECN# - 765011
REF - NEW DIAGRAM
SHEET 1 OF 3

DECIMALS .XX +0.3 .XXX +0.10
ANGLES ± 2°

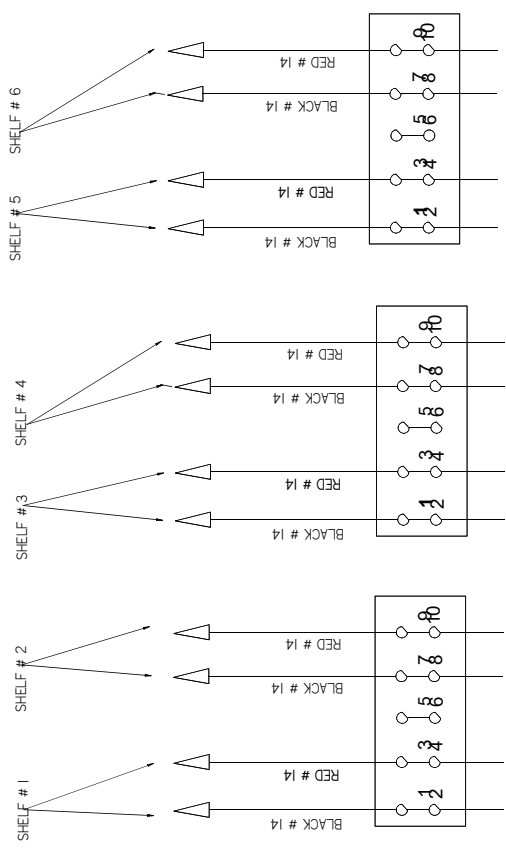
W6600103 E

NOTES
CASE MUST BE GROUNDED

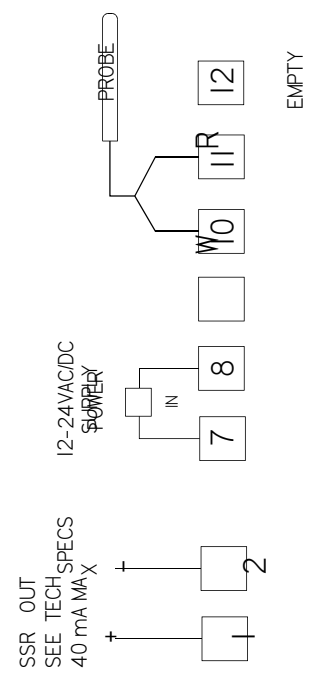
C	9/26/24	20/4/10/25	CHANGED WIRE THICKNESS	03
D	EDM-CAP-001/876	20/8/09/05	REVISED GROUND WIRE	03
E	EDM-COD-001/279	20/22/03/11	REVISED CLR WIRING	03



HEATER RECEPTACLE WIRING
CONTROL PANEL



RECEPTACLE WIRING
SENSOR CONTROL



MATERIAL - N/A

DATE DRAWN - 10/16/13

DRAWN BY - CRAIG BOOREY

REVIEWED BY - CRAIG BOOREY

APPROVED BY - CRAIG BOOREY

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.

TOLERANCES ARE:
DECIMALS .XX ±0.0, .XXX ±0.0

THIRD ANGLE PROJECTION

HUSSMANN

DIAGRAM-

TY3-4X5E-H

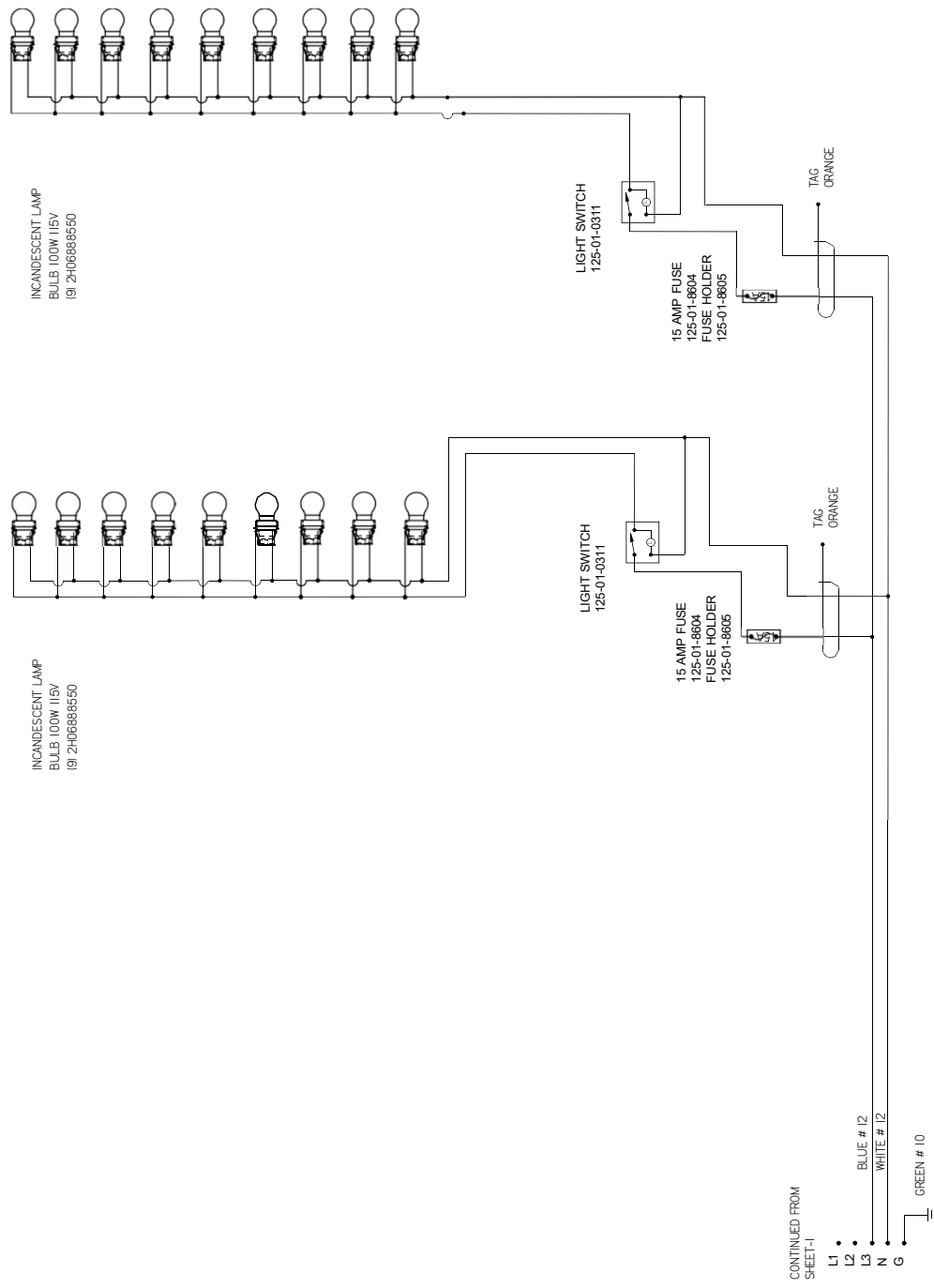
W6600103

E

CASE MUST BE GROUNDED

NOTES

C	963643	20141125	CHANGED WIRE THICKNESS	03
D	EDN-CAP-0013876	20180506	REVISED GROUND WIRE	03
E	EDN-COD-0018279	20220301	REVISED CTRLR WRNG	03



CONTINUED FROM
SHEET-I
L1 •
L2 •
L3 •
N
G
BLUE # 12
WHITE # 12
GREEN # 10

HUSSMANN
DIAGRAM-
TY3-4X5E-
H

MATERIAL - NA
DATE DRAWN - 10/16/13
DRAWN BY - CRAIG BOOREY
REVIEWED BY - CRAIG BOOREY
APPROVED BY - CRAIG BOOREY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
THIRD ANGLE
DECIMALS .XX +0.3 .XXX +0.10
ANGLES ± 2°

ECN# - 765011
REF - NEW DIAGRAM
SHEET 3 OF 3

W6600103 E

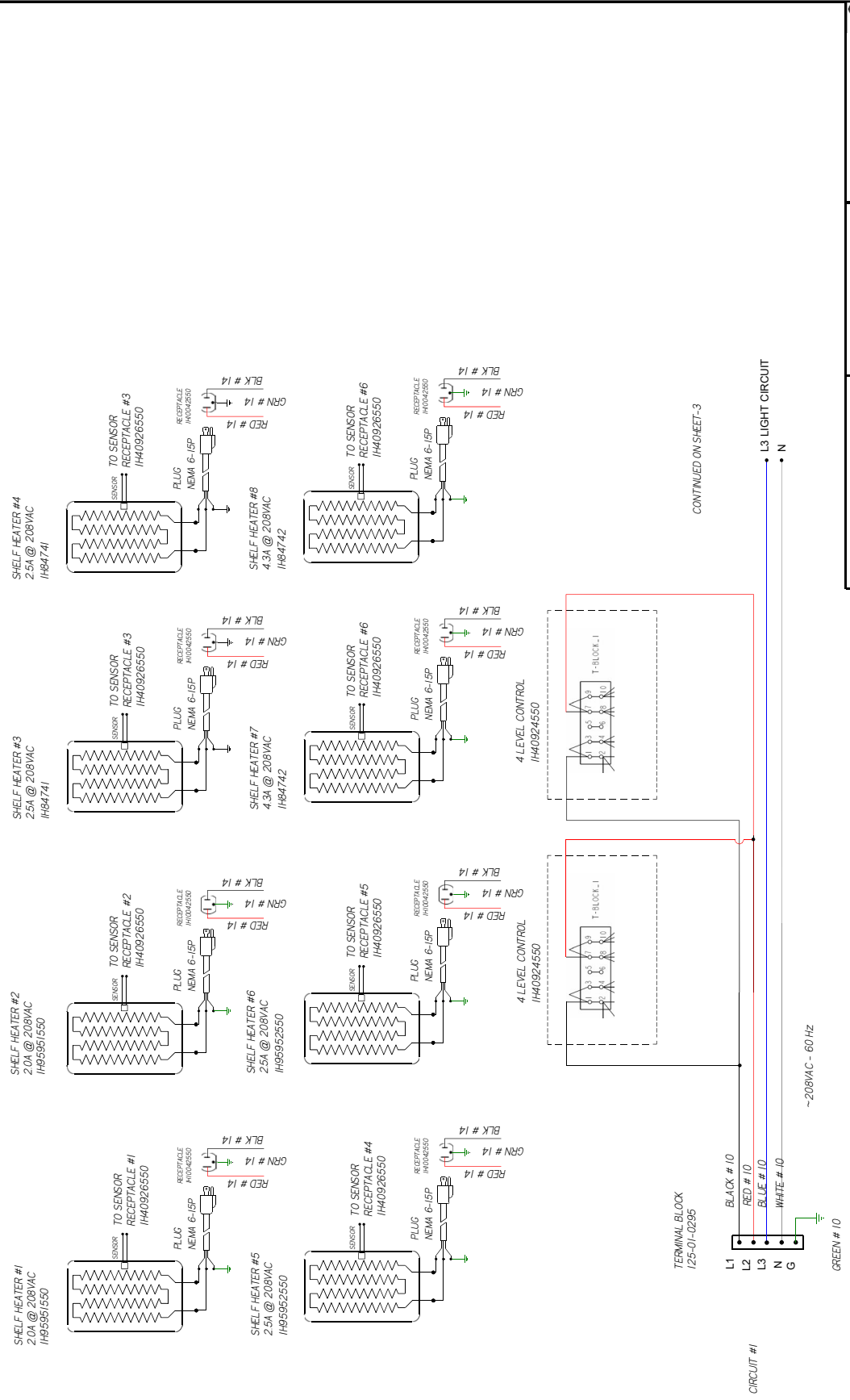
NOTES:
CASE MUST BE GROUNDED

PROJECTION

REV	ECN	DATE	REVISION DESCRIPTION	REV BY	CHKD BY	APPR BY
B	ECN-COD-0013662	5-18-21	CHANGED WIRE GAUGE	CB	CB	CB
C	ECN-COD-0016279	3-11-22	REVISED CTR. WIRING	CB	CB	CB

CIRCUIT #1	LOADING
	200V
	220V
	240V
	250V

2 1/2" @ 208VAC
3

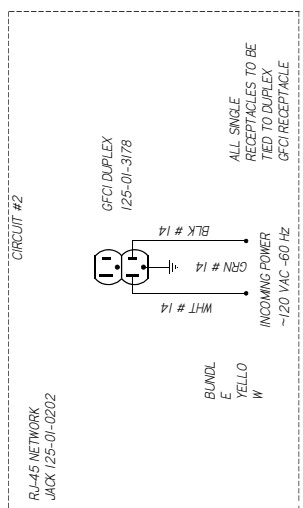


HUSSMANN
DIAGRAM-TY3-4X6I-H
W6600763
SHEET 1 OF 3

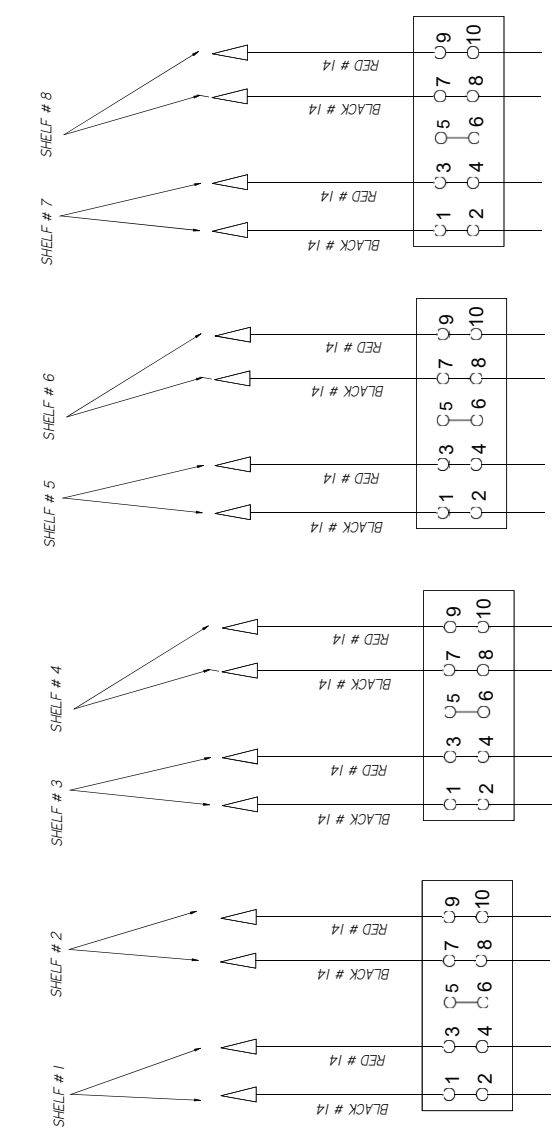
FACTORY 14GA WIRE
-FACTORY 10GA WIRE
-FIELD WIRE
-DO NOT SCALE DRAWING

UL COLOR CODES / ABBREVIATIONS
 RED = RD
 BLACK = BK
 BLUE = BL
 YELLOW = YL
 GRAY = GR
 WHITE = WT
 GREEN = GN
 BROWN = BN
 ORANGE = OR
 VIOLET = VT

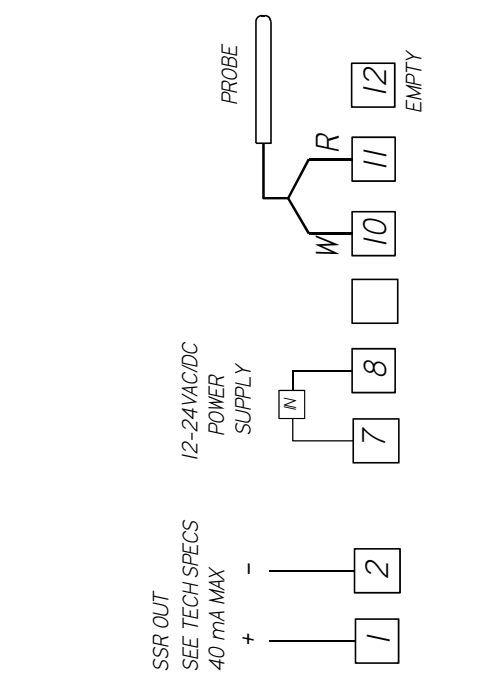
- NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING. ALL COLORS BLACK & WHITE
 2. CASE & ANY REMOVABLE PANEL WITH ELECTRICAL PARTS MUST BE GROUNDED.
 3. WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED



HEATER RECEPTACLE WIRING
CONTROL PANEL



SENSOR RECEPTACLE WIRING
CONTROL PANEL



- NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING: ALL COLORS BLACK & WHITE
 2. CASE & ANY REMOVABLE PANEL WITH ELECTRICAL PARTS MUST BE GROUNDED.
 3. WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

HUSSMANN
DIAGRAM-TY3-
4X6I-H

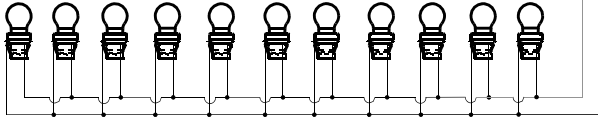
FACTORY 14GA WIRE
FACTORY LOGA WIRE
FIELD WIRE
DO NOT SCALE DRAWING
SHEET 2 OF 3

UL COLOR CODES / ABBREVIATIONS

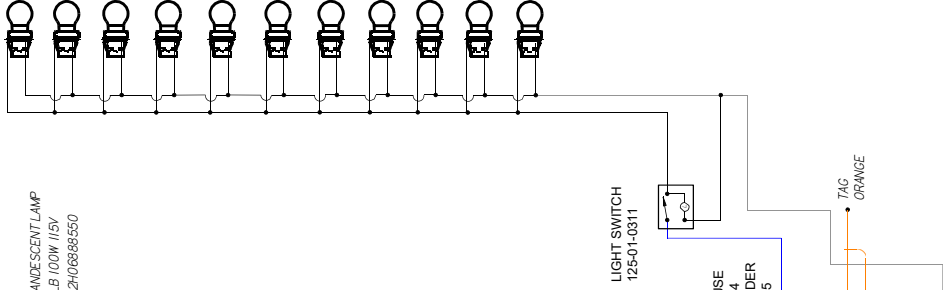
RED = RD	WHITE = WT
BLACK = BK	GREEN = GN
BLUE = BL	BROWN = BN
YELLOW = YL	ORANGE =
YL GRAY =	OR VIOLET =
	VT

W6600763 | C

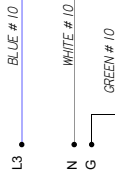
INCANDESCENT LAMP
BULB 100W 115V
1111 2106888550



INCANDESCENT LAMP
BULB 100W 115V
1111 2106888550



CONTINUED FROM
SHEET-1



- NOTES:
1. PRINTED DOCUMENT REQUIRED SETTING: ALL COLORS BLACK & WHITE
 2. CASE & ANY REMOVABLE PANEL WITH ELECTRICAL PARTS MUST BE GROUNDED.
 3. WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

UL COLOR CODES / ABBREVIATIONS	
RED = RD	WHITE = WT
BLACK = BK	GREEN = GN
BLUE = BL	BROWN = BN
YELLOW = YL	ORANGE = OR
GRAY = GR	OR VIOLET = VT
	GY

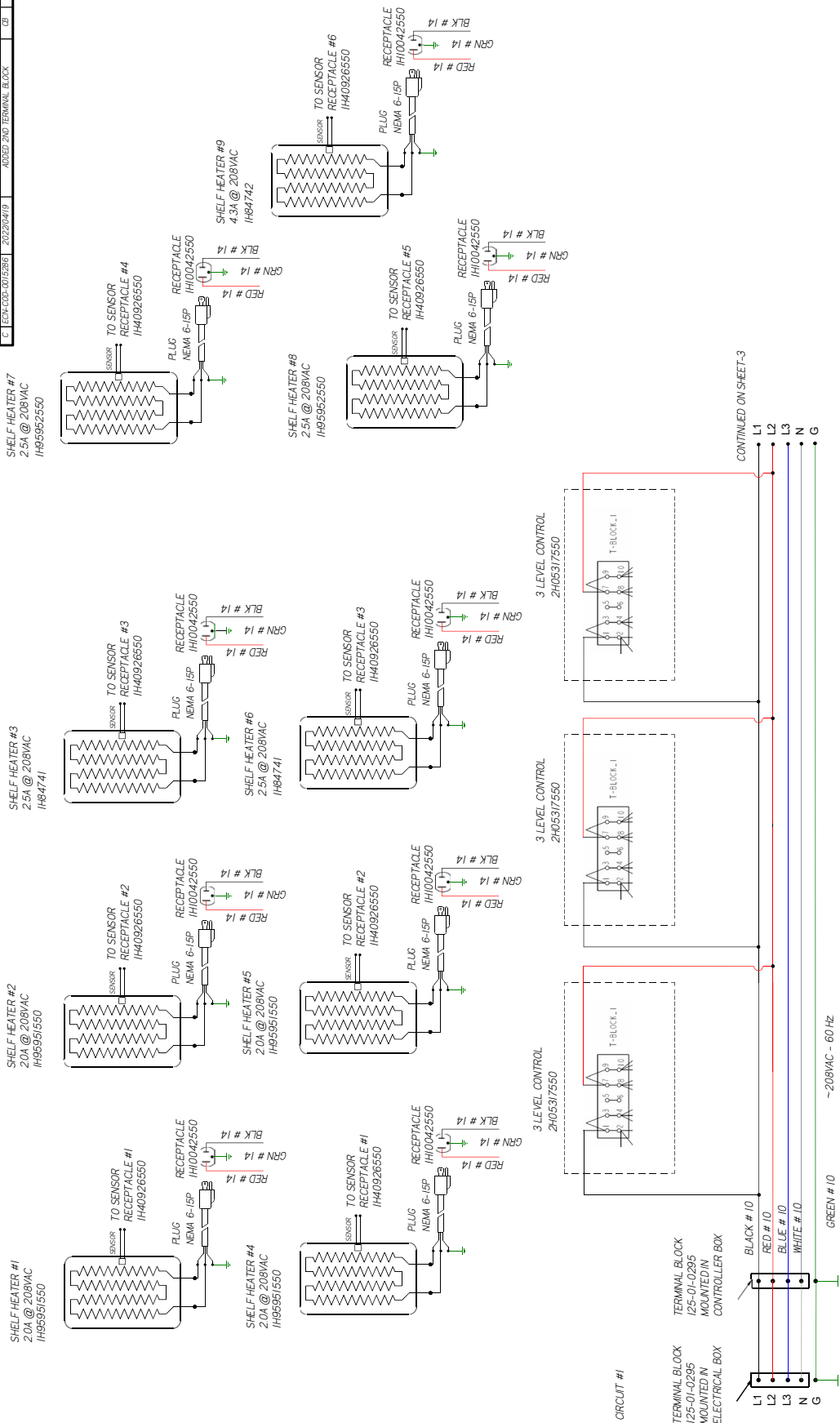
FACTORY 14GA WIRE	---
FACTORY 10GA WIRE	----
FIELD WIRE	----
DO NOT SCALE DRAWING	
SHEET 3 OF 3	

CIRCUIT #1

WIRING	Z40
200V	Z40
L1	Z10
L2	Z10
L3	Z10
N	Z10
G	Z10

6-1/8 MATTS @ 240V
6-3/8 MATTS @ 200V

REV	EN	DATE	REVISION DESCRIPTION	REV BY	CHK BY	APP BY
A	ECN-CAP-0005708	2017/01/03	RELEASED TO PRODUCTION	CB	CB	CB
B	ECN-COR-0005282	2022/03/28	RELEASED CLR WRNG	CB	CB	CB
C	ECN-COR-0005286	2022/04/19	ADDED 2ND TERMINAL BLOCK	CB	CB	CB

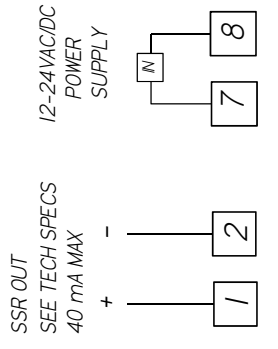
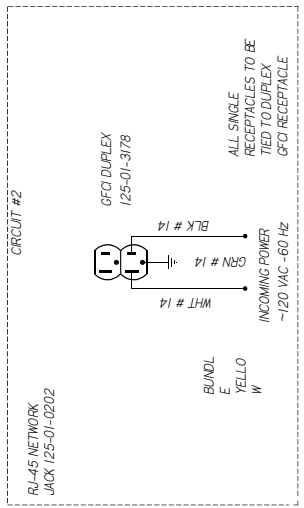


HUSSMANN
DIAGRAM-IY4-4X4E-H
 MATERIAL - IVA
 DATE DRAWN - 1-3-17
 DRAWN BY - CRAIG BOOREY
 APPROVED BY - CRAIG BOOREY
 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 DECIMALS .XX ±0.3 .XXX ±0.0
 ANGLES ± 2°
 REF -
 SHEET 1 OF 3
 ECN-CAP-0005708
 W6600234 | C
 PROJECTION

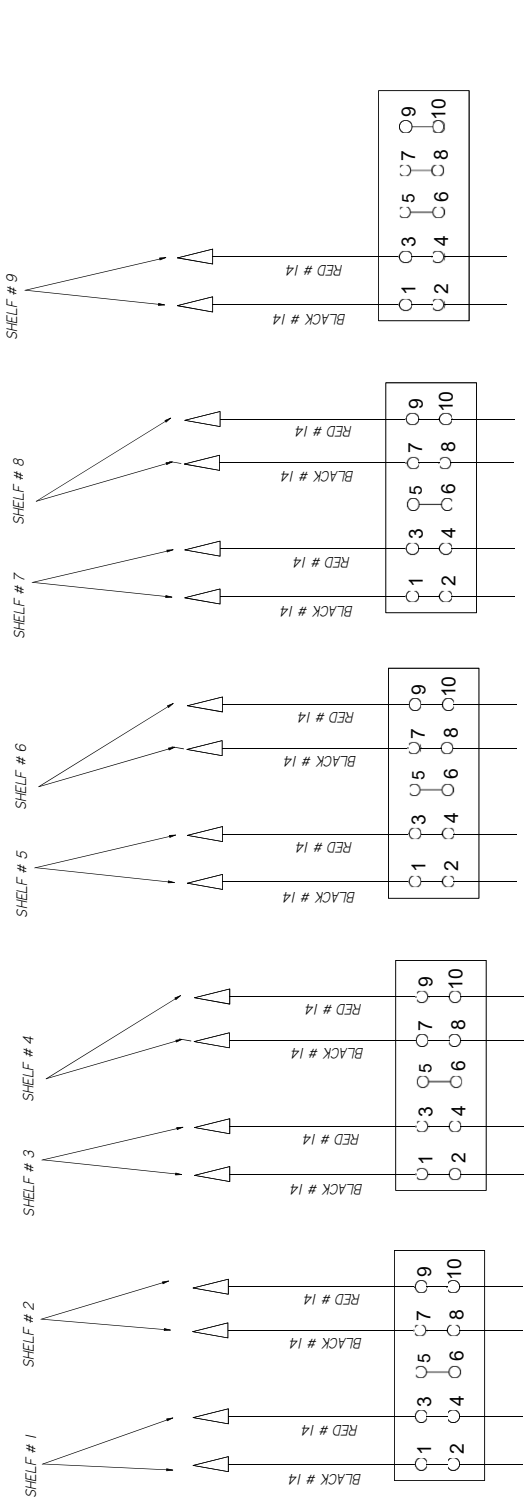
NOTES:
 CASE MUST BE GROUNDED
 WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

REVISION HISTORY			
REV	EN	DATE	DESCRIPTION
A	ECN-CAP-0005708	2017/01/03	RELEASED TO PRODUCTION
B	ECN-COR-0005282	2022/03/28	RELEASED CTR WIRING
C	ECN-COR-0005286	2022/04/19	ADDED 2ND TERMINAL BLOCK

SENSOR RECEPTACLE WIRING CONTROL PANEL



HEATER RECEPTACLE WIRING CONTROL PANEL

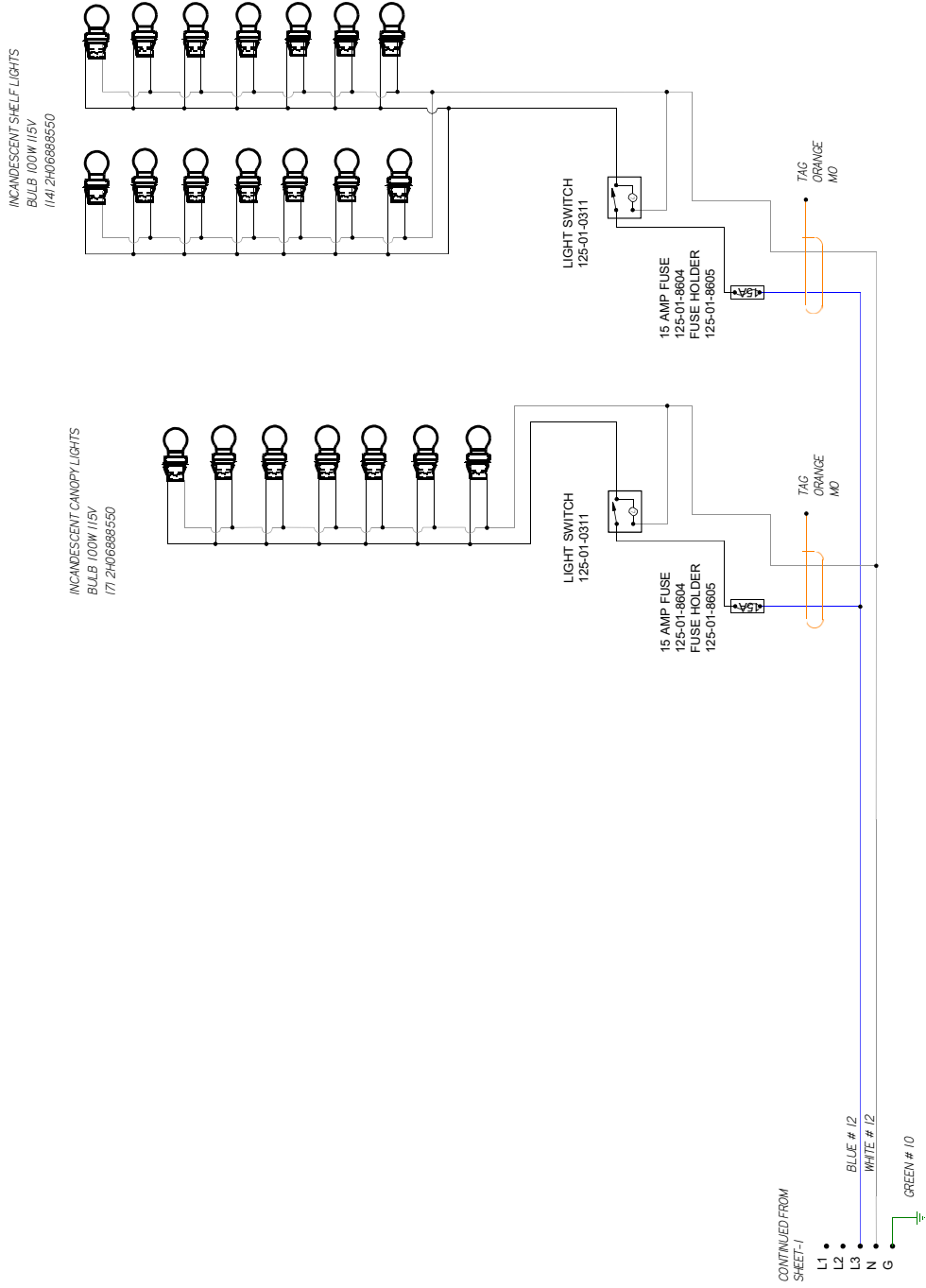


HUSSMANN
DIAGRAM-IY4-4X4E-H
W6600234 | C

MATERIAL - N/A
DATE DRAWN - 1-3-17
DRAWN BY - CRAIG BOOREY
REVIEWED BY - CRAIG BOOREY
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
DECIMALS .XX ±0.0, .XXX ±0.0
ANGLES ± 2°
PROJECTION

NOTES:
CASE MUST BE GROUNDED
WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

REVISION HISTORY				
REV	EN	DATE	REVISION DESCRIPTION	REV BY / CHD BY / APPR BY
A	ECON-CAP-0005708	2017/01/03	RELEASED TO PRODUCTION	CB / CB / CB
B	ECON-COD-0005282	2022/03/28	RELEASED CULR WIRING	CB / CB / CB
C	ECON-COD-0005286	2022/04/19	ADDED END TERMINAL BLOCK	CB / CB / CB



HUSSMANN
DIAGRAM-IY4-
4X4E- H
W6600234 | C

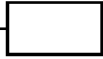
MATERIAL - NA
 DATE DRAWN - 1-3-17
 DRAWN BY - CRAIG BOOREY
 REVIEWED BY - CRAIG BOOREY
 UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 TOLERANCES ARE:
 DECIMALS .XX ±0.3 .XXX
 ANGLES ± 2°
 REF -
 SHEET 3 OF 3
 PROJECTION
 ANGL
 E

NOTES:
 CASE MUST BE GROUNDED
 WHEN PASSING WIRES THROUGH METAL HOLES A GROMMET MUST BE USED

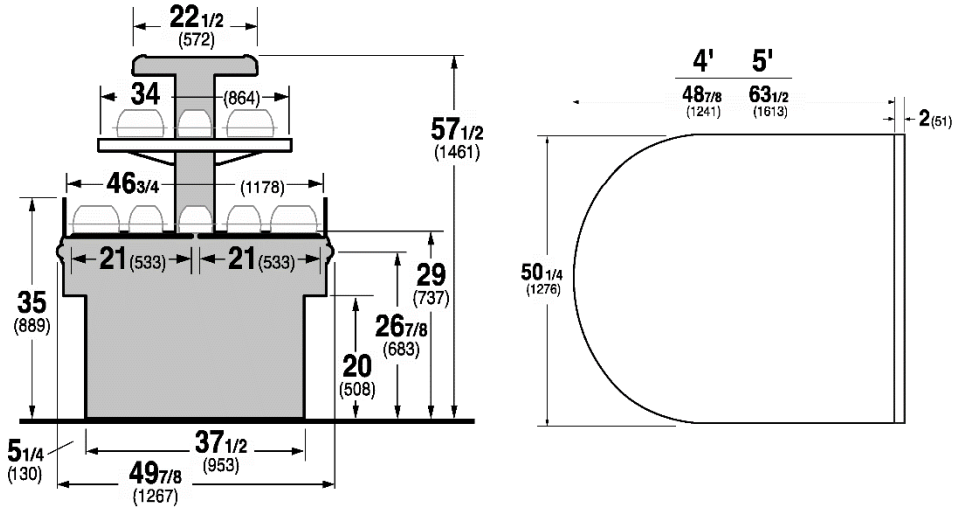
Specification Sheet



SELF SERVICE MULTI-DECK HOT CASE
HUSSMANN - TY3-4X



TY3-4-H Self-Service Hot End



ELECTRICAL DATA:

208 VOLT MODELS	VOLTS	PH	HZ	TOTAL HOT LEVELS ***	WATTS *	AMPS L1	AMPS L2	AMPS L3	WIRES **
TY3-4X4C-H	208	3	60	2	5128	14.4	14.4	13.9	5
TY3-4X4E-H	208	3	60	2	4563	13.7	13.7	10.6	5
TY3-4X5E-H	208	3	60	2	5764	17.5	17.5	13.0	5

240 VOLT MODELS	VOLTS	PH	HZ	TOTAL HOT LEVELS ***	WATTS *	AMPS L1	AMPS L2	AMPS L3	WIRES **
TY3-4X4E-H	240	3	60	2	6069	15.8	15.8	12.2	5
TY3-4X5E-H	240	3	60	2	7809	20.2	20.2	15.0	5

* INCLUDES INCANDESCENT LAMPS
 ** INCLUDES GROUND WIRE
 *** TOTAL HEATED LEVELS = # ROWS OF SHELVES + BOTTOM WARMING SURFACE

LEGEND			
N/A -	NOT AVAILABLE		
TBD -	TO BE DETERMINED		
SBO -	SUPPLIED BY OTHERS		
EXTERNAL END PANEL WIDTH KEY			
# OF END PNLS	END PNL WIDTH	TOTAL ADDED LENGTH	
1	2.125	2.125	
2	1.125	2.25	

OPTIONS/NOTES:
 1) NOTE: CASE WIDTH INCLUDES END PANELS WITH OPTIONAL INTERIOR END PANELS
 2) NOTE: CASES MUST BE GROUNDED
 3) NOTE: LED LIGHTS ARE NOT AVAILABLE ON HOT CASES AT THIS TIME. SELF-SERVICE HOT CASE

Cleaning and Maintenance

FOOD TEMPERATURES CAN BE ACCURATELY DETERMINED ONLY THROUGH THE USE OF FOOD THERMOMETERS!

Important Operation Tips:

- Preheat case 30 minutes before loading product using higher settings.
- **Using thermometer**, check product before loading in case (150°F-160°F).
- At start, set lamps to “3”. After loading, recheck temperature every 1/2 hour to see that unit is operating properly. Adjust the thermostat (a higher number for hotter and a lower number for cooler) to maintain product temperature of 140°F (60°C) minimum. The setting will depend on the type of product being displayed. Be sure to test product temperature with a thermometer frequently for good product maintenance.
- Food should maintain contact directly with the “griddle” at all times.

Controls

There are three sets of controls for the hot case, they are located behind the access panel on the side of the case. The switch(s) is for the overhead lights/heat system. The digital controls manipulate the top and lower shelf griddle system. See page 10.

Overhead Heating System

100W bulbs are used not only to provide light, but they are also a primary source of heat. In order to maintain proper food temperatures, “ALL” bulbs must all be operational and must immediately be replaced in case of a bulb failure

General Cleaning Rules

1. Turn temperature control knobs to OFF position.
2. ALLOW SURFACES TO COOL BEFORE HANDLING.
3. Wipe entire unit with clean cloth and mild detergent. The EXTERIOR surfaces of these hot tables must be cleaned with a mild detergent and warm water to protect and maintain their attractive finish. Never use abrasive cleaners or scouring pads.
2. Clean frequently and regularly.
3. Rinse thoroughly after cleaning.
4. Remove surface spills immediately with a damp cloth.

TO REMOVE “BAKED-ON” SPLATTER, GREASE OR LIGHT DISCOLORATION TO STAINLESS STEEL.

<u>CLEANSING AGENT</u>	<u>APPLICATION</u>
Grade F Italian Pumice.....	Scour or rub with damp cloth
Liquid NuSteel.....	Scour with small amount on dry cloth

Paste NuSteel
Household Cleansers.....Rub with damp cloth

TO REMOVE HEAT TINT OR HEAVY DISCOLORATION

<u>CLEANSING AGENT</u>	<u>APPLICATION</u>
Allen Stainless Steel Polish.....	Small amount on damp cloth
Birdsall “Staybright”	Rub with damp cloth
Wyandotte Bab-O Nusteel.....	Rub with stainless steel wool

Glass Care

Cleaning

Clean with plenty of nonabrasive soap (or detergent) and lukewarm water, using the bare hand to feel and dislodge any caked-on dirt. A soft, grit-free cloth, sponge, or chamois may be used, but only as a means of carrying the water to the plastic. Dry with a clean damp chamois or clean soft cloth such as cotton flannel. Hard, rough cloths or paper towels will scratch the acrylic and should not be used.

Stainless Steel Cleaning and Care

There are three basic things, which can break down your stainless steel’s passivity layer and allow corrosion.

1. Mechanical Abrasion

Mechanical Abrasion means those things that will scratch the steel’s surface. Steel Pads, wire Brushes, and Scrapers are prime examples.

2. Water

Water comes out of our tap in varying degrees of hardness. Depending on what part of the country you live in, you may have hard or soft water. Hard water may leave spots. Also, when heated, hard water leaves deposits behind that if left to sit, will break down the passive layer and rust your stainless steel. Other deposits from food preparation and service must be properly removed.

3. Chlorides

Chlorides are found nearly everywhere. They are in water, food and table salt. One of the worst perpetrators of chlorides can come from household and industrial cleaners. Cleaners and sanitizers should not be used. They can attack painted and bare metal surfaces.

Cleaning and Maintenance

Don't Despair! Here are a few steps that can help prevent stainless steel rust.

1. Use the Proper Tools

When cleaning your stainless steel products, take care to use non-abrasive tools. Soft Cloths and plastic scouring pads will NOT harm the steel's passive layer. Stainless steel pads can also be used but the scrubbing motion must be in the same direction of the manufacturer's polishing marks.

2. Clean With the Polish Lines

Some stainless steels come with visible polishing lines or "grain". When visible lines are present, you should ALWAYS scrub in a motion that is parallel to them. When the grain cannot be seen, play it safe and use a soft cloth or plastic scouring pad.

3. Use Alkaline

Non-chloride Containing Cleaners

While many traditional cleaners are loaded with chlorides, the industry is providing an ever increasing choice of non-chloride cleaners. If they tell you that your present cleaner contains chlorides, ask for an alternative. Also, avoid cleaners containing quaternary salts as they also can attack stainless steel & cause pitting and rusting. Avoid cleaners and sanitizers that contain chlorides." Remove "If you are not sure of your cleaner's chloride content contact your cleaner supplier.

4. Treat your Water

Though this is not always practical, softening hard water can do much to reduce deposits. There are certain filters that can be installed to remove distasteful and corrosive elements. Salts in a properly maintained water softener are your friends. If you are not sure of the proper water treatment, call a treatment specialist.

5. Keep your Food Equipment Clean

Use alkaline or non-chlorinated cleaners at recommended strength. Clean frequently to avoid build-up of hard, stubborn stains. If you boil water in your stainless steel equipment, remember the single most likely cause of damage is chlorides in the water. Heating cleaners that contain chlorides has a similar effect.

6. RINSE, RINSE, RINSE

Chlorinated cleaners and sanitizers are to be avoided. The sooner you wipe off standing water, especially when it contains cleaning agents, the better. After wiping the equipment down, allow it to air dry for the oxygen helps maintain the stainless steel's passivity film.

7. Never Use Hydrochloric Acid (Muriatic Acid) on Stainless Steel

8. Regularly Restore/Passivate Stainless Steel

Cleaning and Maintenance



DANGER

ALWAYS DISCONNECT ELECTRICAL POWER AT THE MAIN DISCONNECT WHEN SERVICING OR REPLACING ANY ELECTRICAL COMPONENT. This includes (but not limited to) Fans, Heaters, Thermostats, and Lights.



WARNING

ELECTRIC SHOCK HAZARD:

- Turn the power switch OFF, unplug the power cord, and allow the unit to cool before performing any maintenance or cleaning.
- DO NOT submerge or saturate with water. Unit is not waterproof. Do not operate if unit has been submerged or saturated with water.

Replacing Overhead Heat Lamps

Extra overhead lamps are designed to last through many hours of use. Should there be a need to replace one of the heated lamps, bulbs are located behind the side access panel. Use 100 watt bulbs only, 20,000 hours average service life is recommended for long life. Keep extra 100 watt bulbs on hand to replace a failed one immediately.



CAUTION

The Heat lamps used in these cases get **EXTREMELY HOT! NEVER touch a lamp until the case has had ample time to cool down!** It is also highly recommended to handle lamps with gloves or use a cloth rag - not just for the heat factor, but also the oils in your fingers will drastically shorten the life of the lamp.

1. Turn light switch to OFF before replacing any lighting components.
2. Using a protective glove, disconnect light bulb by unscrewing it counter clockwise and gently remove it from lamp holder
3. Insert new light bulb by inserting it into the lamp holder and turning it clockwise until snug. Do Not Overtighten!
4. Plug fixture back in and turn on light switch

General

The Hatco Glo-Ray Heated Shelf Units are designed for maximum durability and performance with minimum maintenance.

Cleaning

To preserve the finish of the Glo-Ray Heated Shelf, it is recommended that the surfaces stains may be removed with a non-abrasive cleaner. Hard to reach areas should be cleaned with a small brush and mild soap.

NOTICE

Use non-abrasive cleaners only. Abrasive cleaners could scratch the finish of the unit, marring its appearance and making it susceptible to soil accumulation.

CAUTION

CLEANING PRECAUTIONS

When cleaning:

- Do not use high pressure water hoses
- Do not introduce water faster than waste outlet can drain
- NEVER INTRODUCE WATER ON SELF CONTAINED UNIT WITH AN EVAPORATOR FAN
- NEVER USE A CLEANING OR SANITIZING SOLUTION THAT HAS AN OIL BASE (these will dissolve the butyl sealants) or an AMMONIA BASE (this will corrode the copper components of the case)
- TO PRESERVE THE ATTRACTIVE FINISH:
- DO USE WATER AND A MILD DETERGENT FOR THE EXTERIOR ONLY
- DO NOT USE A CHLORINATED CLEANER ON ANY SURFACE
- DO NOT USE ABRASIVES OR STEEL WOOL SCOURING PADS (these will mar the finish)



This warning does not mean that Hussmann products will cause cancer or reproductive harm, or is in violation of any product-safety standards or requirements. As clarified by the California State government, Proposition 65 can be considered more of a ‘right to know’ law than a pure product safety law. When used as designed, Hussmann believes that our products are not harmful. We provide the Proposition 65 warning to stay in compliance with California State law. It is your responsibility to provide accurate Proposition 65 warning labels to your customers when necessary. For more information on Proposition 65, please visit the California State government website.

Service Record

Last service date: By:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

HUSSMANN®/Chino

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(909) 628-8942 FAX
(909) 590-4910
(800) 395-9229

www.hussmann.com

The *MODEL NAME* and *SERIAL NUMBER* is required in order to provide you with the correct parts and information for your particular unit.

They can be found on a small metal plate on the unit. Please note them below for future reference.

MODEL:

SERIAL NUMBER: