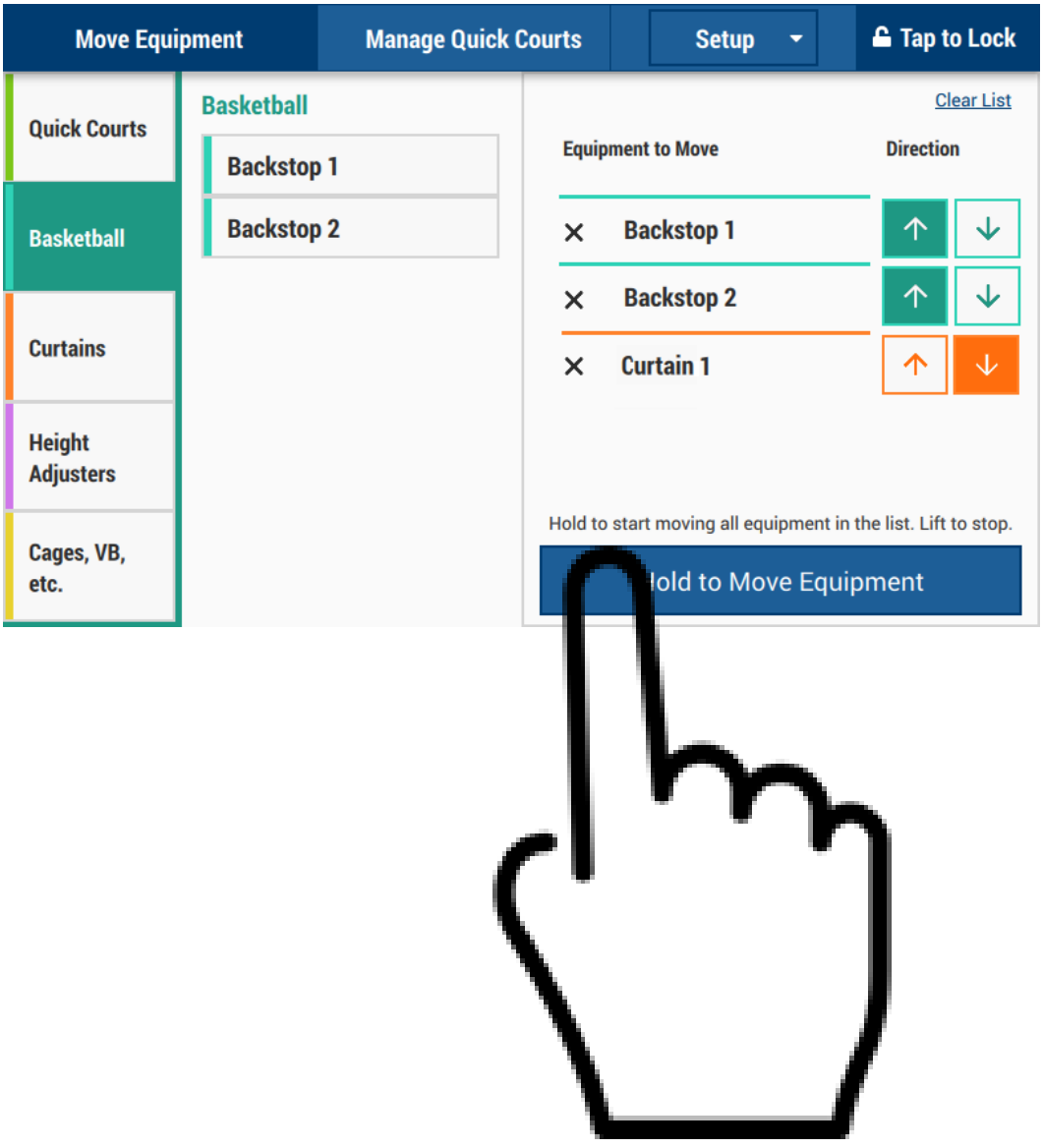
Powr-Touch 4

Item No.'s:
12700000



Installation Guide

SAVE THESE INSTRUCTIONS FOR FUTURE USE

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INSTRUCTIONS: Dealer and/or Installation Supervisor,
Please give this book to the Owner/Customer

GUARANTEE

All materials and workmanship of basic materials are guaranteed to be free and clear of defects. Defective material will be repaired or replaced, at our option, subsequent to complete information being received by us concerning the nature of the defect for a period of one year from the date established by the certificate of occupancy or certificate of substantial completion, whichever shall occur first or otherwise documented and signed by an officer of Porter Athletic, Inc.

NAME OF PROJECT:	

NAME OF DEALER:	NAME OF INSTALLATION COMPANY:
PHONE #:	PHONE #:

Porter Order Number _____

Date of Scheduled Shipment _____

Date of Substantial Completion _____

The gymnasium equipment for this project has been custom fabricated according to the Owner's/Architect's specification. Care has been taken to fabricate this equipment to provide years of safe, satisfactory use and trouble free service.

The key to satisfactory service is proper installation, operation and care. Should any malfunctions occur, please notify your supervisor and call your local Porter Dealer or Representative.

LIABILITY

Liability is not only an issue with the installation and maintenance of this product, but it also extends to the proper operation by the end user. The operational instructions must be read and understood before operating this equipment!

This manual for the Powr-Touch 4 is meant to serve as a general guideline only for the safe installation of this product. Variables must be taken into consideration which are outside of Porter's control. It is Porter's explicit requirement that this product be installed in a safe and secure manner. Any deviation from Porter installation instructions without written authorization will void all warranties. Contact the factory immediately should such a condition exist, necessitating a design revision. All electrical work shall be performed by a licensed electrician in accordance with state and local codes and ordinances.

CAUTION

Improper installation or use of Powr-Touch can result in electrical failure, unit failure, personal injury, or death.

Do not attempt to enter information or adjust the equipment without being in the same room and in full view of the equipment.

Before operating this equipment, clear the floor area around and beneath the equipment and ensure all height adjusters are raised to maximum height.

Equipment must be operated by trained personnel only.

Proper maintenance will promote longevity and reduce possibility of accidents.

Please refer to related product documentation for further information.

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POWR-TOUCH 4
OVERVIEW OF MANUAL

⚠ WARNING

READ ALL INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING TO OPERATE THIS EQUIPMENT.

FAILURE TO COMPLY WITH THE FOLLOWING INSTRUCTIONS AND WARNINGS MAY RESULT IN SERIOUS INJURIES AND/OR PROPERTY DAMAGE.

This manual has been prepared to assist you with the installation of the Porter Powr-Touch 4

We recommend that you read this manual in its entirety to become familiar with Powr-Touch 4 system before attempting installation. If you need additional copies of this manual, please contact Porter Athletic, Inc. or your local Porter Dealer.

Even the safest equipment can be damaged when used by the untrained. We suggest that qualified personnel supervise all utilized equipment.

For ease of administering this maintenance program, we suggest that your equipment be numbered, and a file maintained on its location, name of manufacturer, original item number, date of purchase, and maintenance performed. This will be useful when ordering replacement parts and keeping track of maintenance. Defective equipment must be marked *"DO NOT USE"*, and the circuit breaker must be turned off and also tagged *"DO NOT USE"*, until replacement or repairs are completed.

Inspections should be performed periodically, depending upon the nature of the equipment and its use. When the equipment is exposed to heavy use, special inspections should be made in addition to the normal maintenance program. At the minimum, a yearly inspection of the system is recommended.

Any structural and/or electrical deviation from the Porter installation manuals and drawings, without written authorization, will void all warranties.

INVENTORY AND INSPECTION

Inventory parts listed on the packing list to ensure parts required are accounted for. Inspect all components for possible shipping damage. Report any shortages to Porter's Customer Service Department immediately. On visible freight damage, sign as damaged, and file a freight damage claim with the carrier immediately. Failure to report shortages or hidden freight damage directly to Porter's Customer Service Department within three working days will place the financial burden for the missing or replacement parts with the installer or general contractor.

PREPARATION OF INSTALLATION AREA

Ensure an adequate path is available to install equipment and sufficient space is available in the vicinity of the project. The floor should be protected with a suitable material to prevent damage to the floor or equipment, if necessary. Upon completion of installation, immediate area should be left in broom-clean condition.

TOOLS / EQUIPMENT REQUIRED

To Be Provided by the Installer:

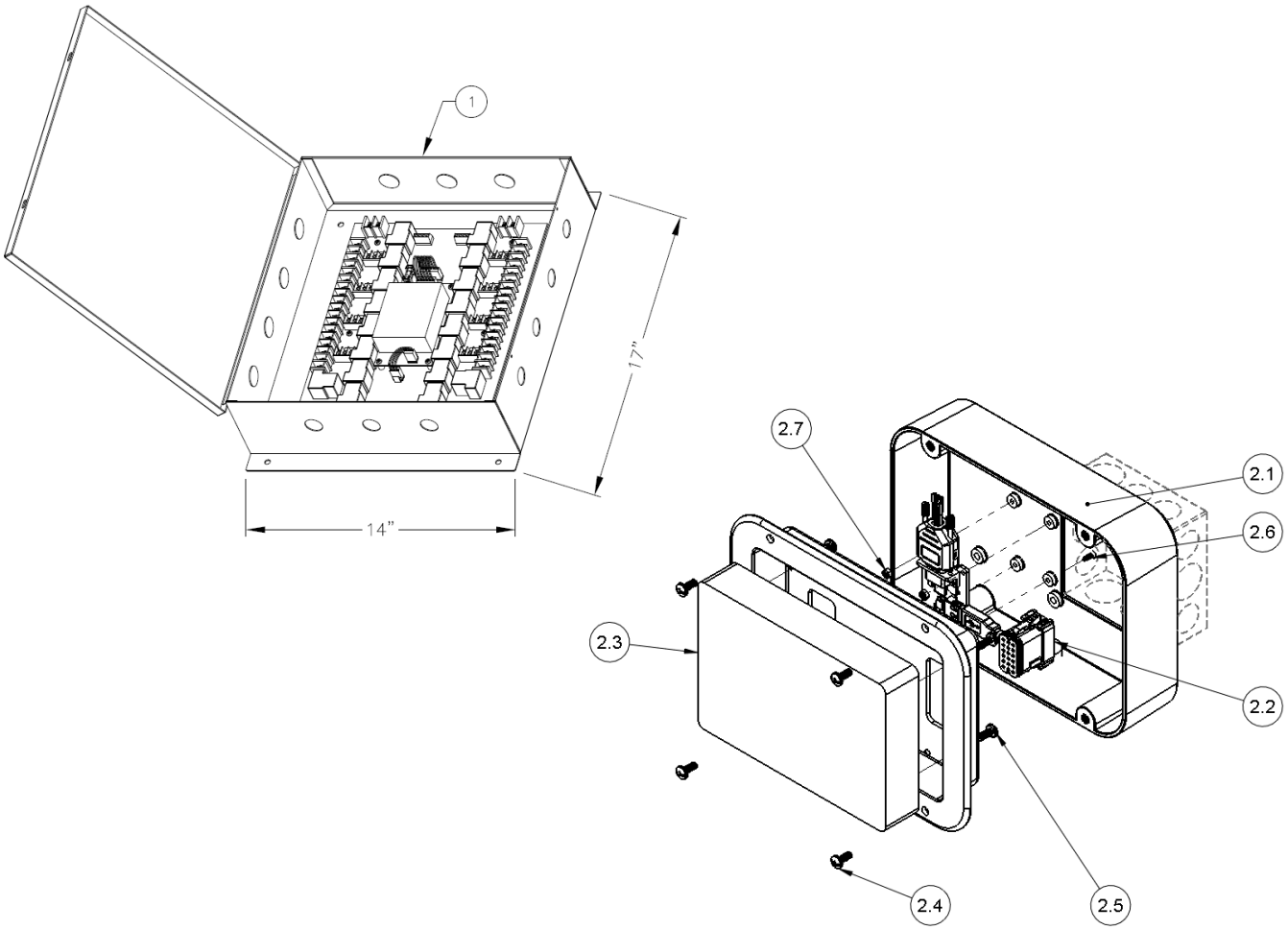
- Scaffold or Lift (if necessary)
- Hand tools, electric drill, drop cord, vise grip pliers, etc.
- Wire cutter/stripper
- Measuring tape, Laser Measuring Device
- Level, Plumb Bob, Laser Plumb

PARTS LIST

Number	Part Number	Description	Quantity
1	12555200	POWR-TOUCH 2.5 ELECTRONIC RELAY PANEL	*
2	12700000	POWR-TOUCH 4 DISPLAY ASSEMBLY	**
2.1	- -> MISC00331	PT4 WALL-MOUNT ENCLOSURE	1
2.2	- -> ELEC00324	PT4 WIRING HARNESS	1
2.3	- -> ELEC00325	PT4 DISPLAY	1
2.4	- -> HDWE06292	BUTTON HEAD SCREW; #8-32 X 1/2"; SOCKET DRIVE; 18-8 BLK OXIDE	4
2.5	- -> HDWE06286	PAN HEAD SCREW; M5X0.8MM X 12MM; 18-8 SS	4
2.6	- -> HDWE06XXX	SCREW	4
2.7	- -> HDWE03XXX	NUT	4

* One (1) 12555-200 relay panel required per eight (8) pieces of equipment or two (2) auxiliary devices. A maximum of 16 relay panels may be used on a single system.

** Minimum of one (1) and maximum of seven (7) displays per system. No more than (2) displays may be connected to each relay panel.

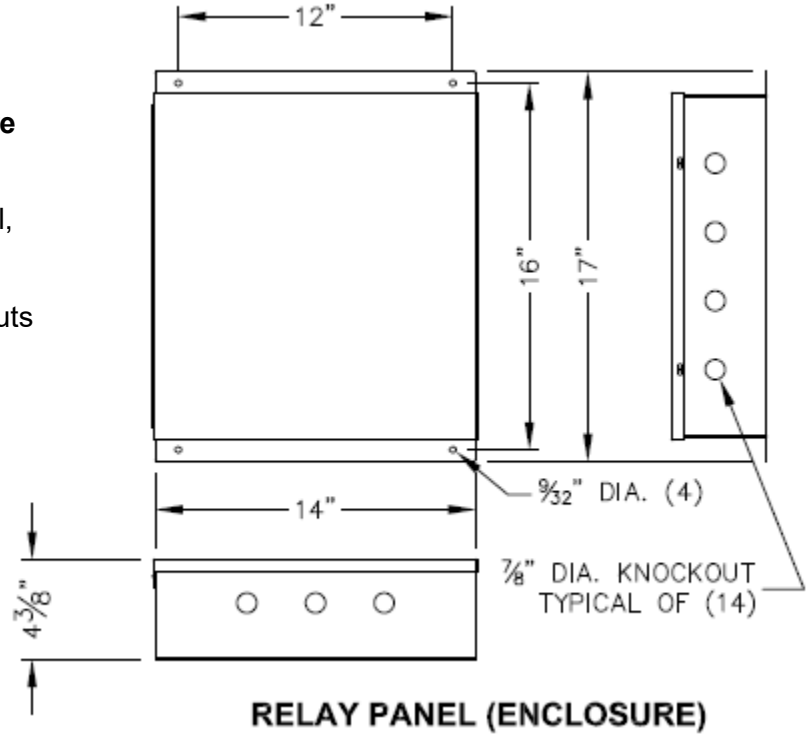


INSTALLATION OF PANELS

1. Unpack and check all parts and verify quantities with packing list. Verify the location of electrical breakers, equipment wiring, and location(s) for installation of Powr-Touch 4 panel(s).
2. Turn off power to Powr-Touch 4 at circuit breaker.
3. Mount Powr-Touch 4 relay panel(s) to building per contract documents and local code provisions. Use appropriate mounting hardware for the application. Mounting hardware shall be supplied by others. Refer to detail below for mounting hole locations.

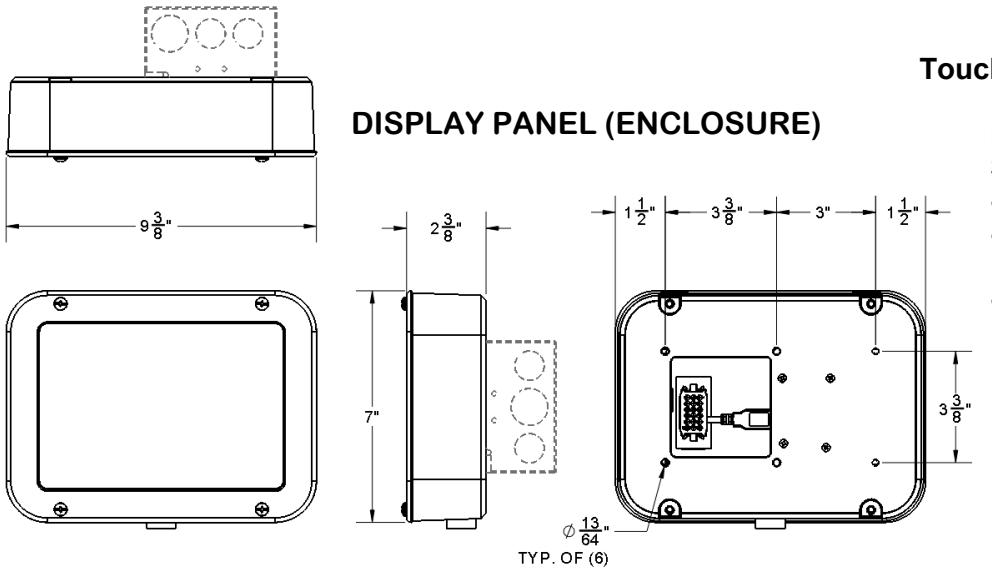
12555-200 Relay Panel Enclosure Specifications

- NEMA 1 enclosure, 16ga. steel, powder coated gray
- Size: 4 3/8” D x 14” W x 17” H
- Fourteen (14) 7/8” dia. knockouts
- Hinged cover
- Four (4) 9/32” dia. externally accessible mounting holes



RELAY PANEL (ENCLOSURE)

4. Mount Powr-Touch 4 display enclosure(s) to building per contract documents and local code provisions. Use appropriate mounting hardware for the application. Mounting hardware shall be supplied by others. Refer to detail below for mounting hole locations. Mount display enclosures within 150ft of relay panels if possible. Two separate 16 AWG shielded twisted pair cables (by electrician) are required for wiring to displays. A boost converter may be required at the master relay panel if maximum recommended wire length is exceeded or wire size is inadequate. Display draws about 1A.



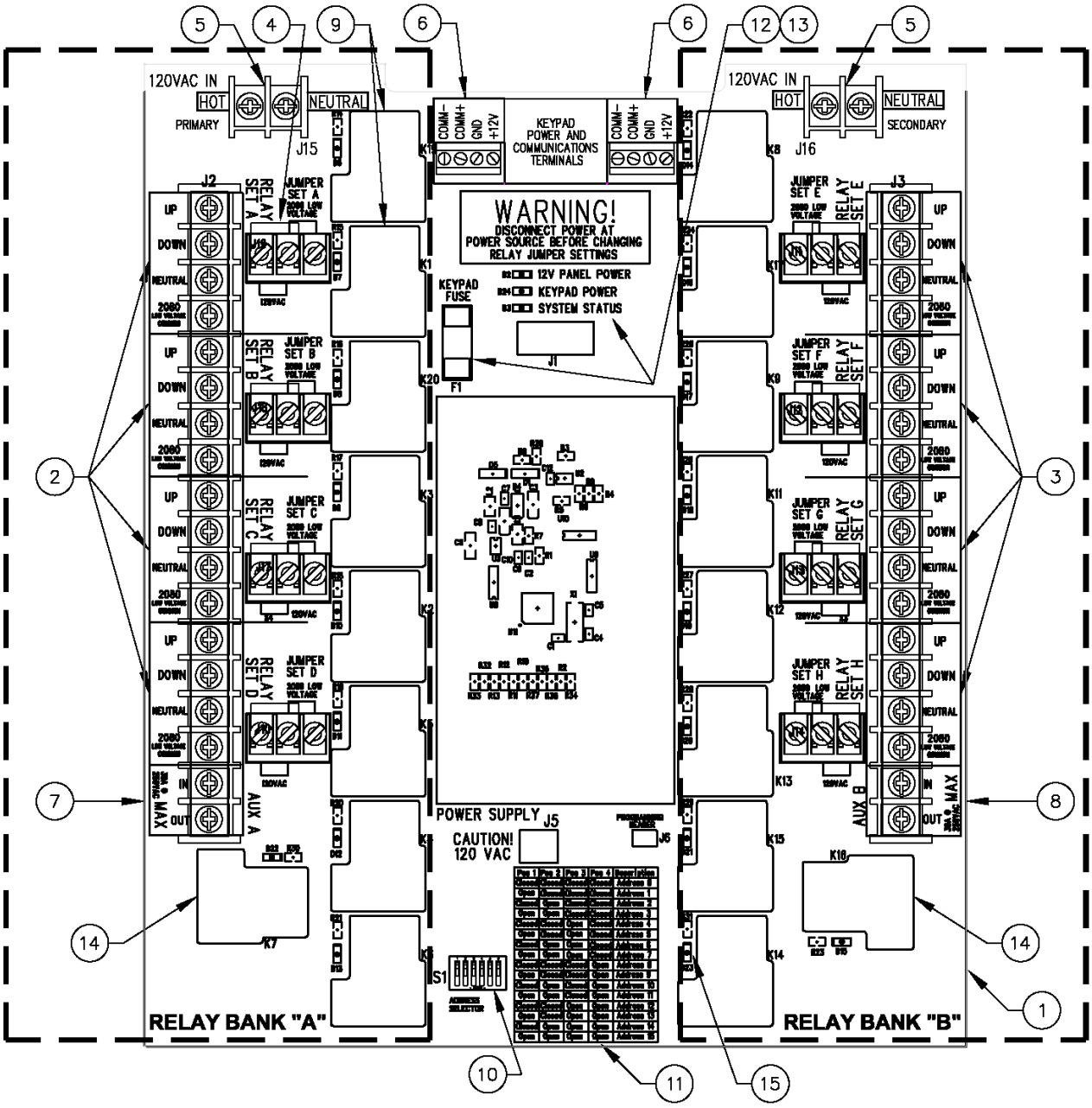
DISPLAY PANEL (ENCLOSURE)

Touchscreen Display Panel

Enclosure Specifications

- Black molded ABS
- Size: 2-3/8” D x 7” W x 9-3/8” H
- Six (6) 13/64” dia. mounting holes on back of enclosure

RELAY PANEL OVERVIEW



RELAY CIRCUIT BOARD (COMPONENT OF 12550-200 RELAY PANEL)

1. Relay Circuit Board
2. Relay Set Terminals (A thru D)
3. Relay Set Terminals (E thru H)
4. Relay Set Jumper
5. Line In Power 30A 120V AC (Typical of 2)
6. Keypad/Touchscreen or Networking Terminals
7. Auxiliary Terminal “A”
8. Auxiliary Terminal “B”
9. Relay Set (Typ. of 8 Sets)
10. Dip Switch Module
11. Dip Switch Address Legend
12. System Status LED’s
13. Keypad/Touchscreen Power Fuse
14. Auxiliary Relay (Typical of 2)
15. Relay LED (Typical of 18)

RELAY PANEL OVERVIEW

The Powr-Touch® 4 system utilizes a relay circuit board to operate up to eight Porter® devices and two auxiliary devices. In an expanded system, a maximum of sixteen relay panels and seven touchscreen displays can be networked to control up to 128 Porter® devices and 32 units of auxiliary equipment.

The 12555-200 relay panel consists of two banks of relays (four relay sets per bank, up and down), two auxiliary relays (on or off), a six position dip switch, three indicator LED's at the top center of the panel, two 120VAC power input terminals, and two low voltage screw terminals for connection of the touchscreen display(s) or networking additional relay panel(s). Each bank of relays ("A" and "B", see illustration on page 9) is independently powered via a 120VAC terminal strip located at the top left and right hand section of the circuit board (5). The 120VAC terminals are identified as "primary" and "secondary". The primary 120VAC terminal provides power to bank "A" and to the relay board electronic logic, while the secondary 120VAC terminal only provides power to bank "B".

The 12555-200 relay panel will function properly with only the primary 120VAC terminal connected to the power source, but only bank "A" will receive 120VAC power. In certain circumstances, a single power line feed to the relay panel's primary 120VAC terminal is acceptable, but the panel's design potential will be limited. For example, bank "A" will receive and provide power to the devices connected to any of its four relay sets, but bank "B" will be limited to only controlling low voltage devices connected to any of its four relay sets. Thus, a single 120VAC powered 12555-200 relay panel has limited multiple operation capabilities.

Each relay set (9) consists of two relays, one for the "up" and one for the "down" direction of travel. An indicator LED (15) is also positioned next to each relay for confirmation of actuation. When a relay is tripped, the indicator LED will illuminate, giving a visual reference of relay activity.

The dip switch (10) is used to assign a unique address to each 12555-200 relay panel in a system. Each 12555-200 relay panel in a system must have a unique address. In addition, each system must have one 12555-200 relay panel with an address setting of "0". The address "0" panel is the master panel which controls the lock status of the system. It is important to note that the unlock passcode is stored in the relay panel with address "0" (master panel) and not in any of the touchscreens, thus allowing multiple touchscreen logic. Dip switch location five is reserved for future use. Dip switch location six is used to erase the relay board memory assignments and reset the passcode to the factory default (**1 1 1 1**).

The three indicator LED's (12) near the top of the panel indicate 12 volt panel power, touchscreen power, and system status. The 12 volt panel power LED is illuminated when the system is receiving 120 VAC in and the 12 volt power supply is functioning properly. The "Keypad Power" LED is also illuminated when the panel is receiving power. This indicates that 12 volts is being supplied to the +12V screw terminal on the four position screw terminals. The third LED is labeled "System Status". This LED illuminates when the system is unlocked by a touchscreen. Refer to the relay circuit board illustration on page 9 for the location of referenced circuit board components.

RELAY PANEL WIRING AND VOLTAGE OUTPUT JUMPER SETTINGS

A small three-screw terminal strip (4) is located adjacent to each of the eight relay sets (A thru H). The terminal strip (4), with use of a metal jumper, controls the matching relay set. The three-screw terminal strip is tagged with the same matching letter suffix (A thru H) as the relay set it controls. The metal jumper that is installed in each terminal strip bridges two of the terminal screws in order for the relay set to function properly. The position of the terminal jumper is dependent on the required operation mode (See Details A & B below). Each three-position terminal's silk screen markings identify the jumper function based on jumper position. **IMPORTANT: The control voltage (120 volt or low voltage) required for each device, and the relay set controlling each device must be determined before applying power to the relay panel.**

Warning: Disconnect power at power source before changing relay jumper settings. Refer to the information below for a description of the jumper functions.

Note: All 12555-200 relay panels are shipped from the factory with the **jumper** installed in the **"120VAC"** position.

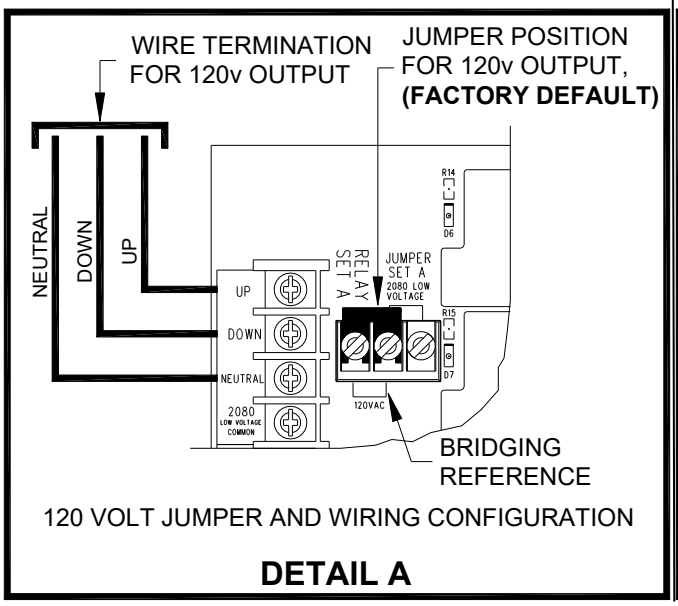
The two-position jumper installed in the "120VAC" position. See Detail "A"

At the main output terminals for the matching relay set, 120 volt power is provided at either the "up" or "down" screw terminal and the relay set's "neutral" screw terminal is utilized. The "2080 low voltage common" screw terminal for the relay set is **not** utilized.

The two-position jumper installed in the "2080 low voltage" position. This position is a dry circuit. See Detail "B"

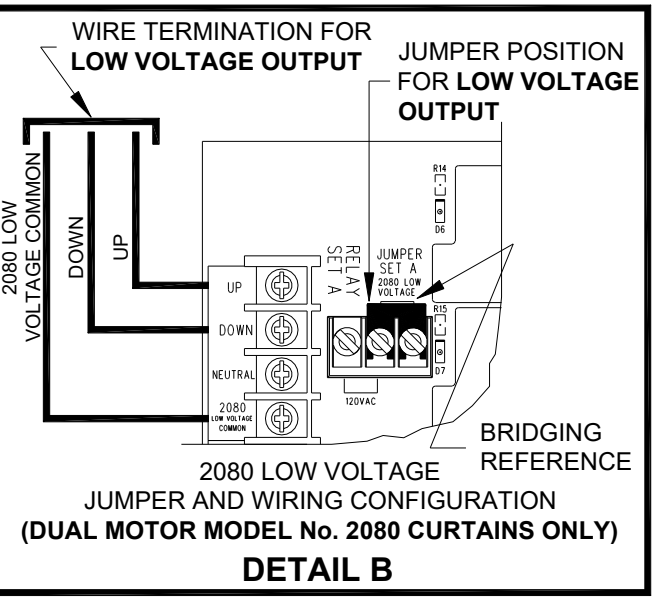
NOTE: CONFIGURATION REQUIRED FOR ALL DUAL MOTOR 2080 CURTAINS OR ANY OTHER EQUIPMENT USING LOW-VOLTAGE CONTROL WIRE

At the main output terminals for the matching relay set, no power is provided at either the "up" or "down" screw terminal and the "2080 low voltage common" screw terminal is utilized. The "neutral" screw terminal for the relay set is **not** utilized.



120 VOLT JUMPER AND WIRING CONFIGURATION

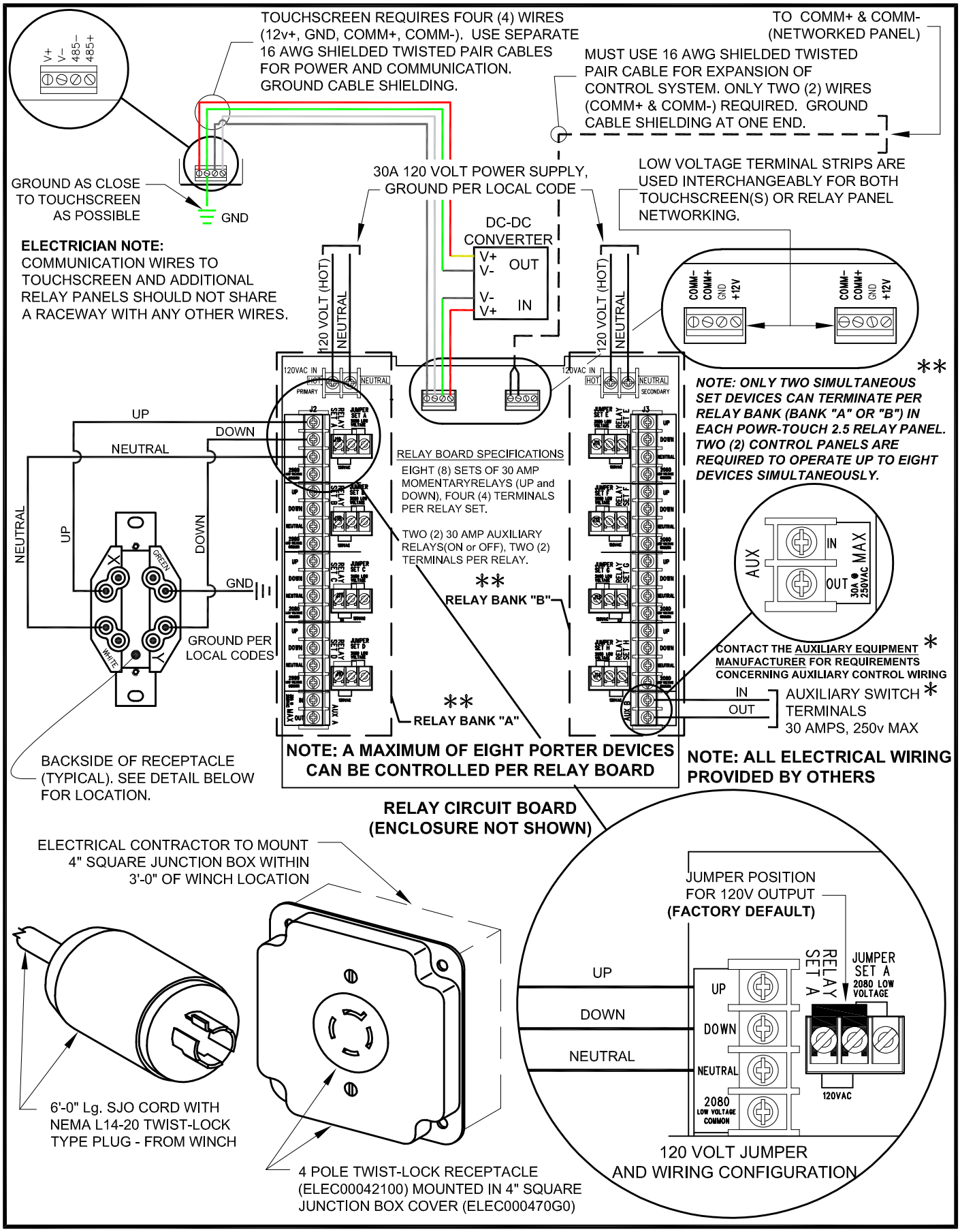
DETAIL A



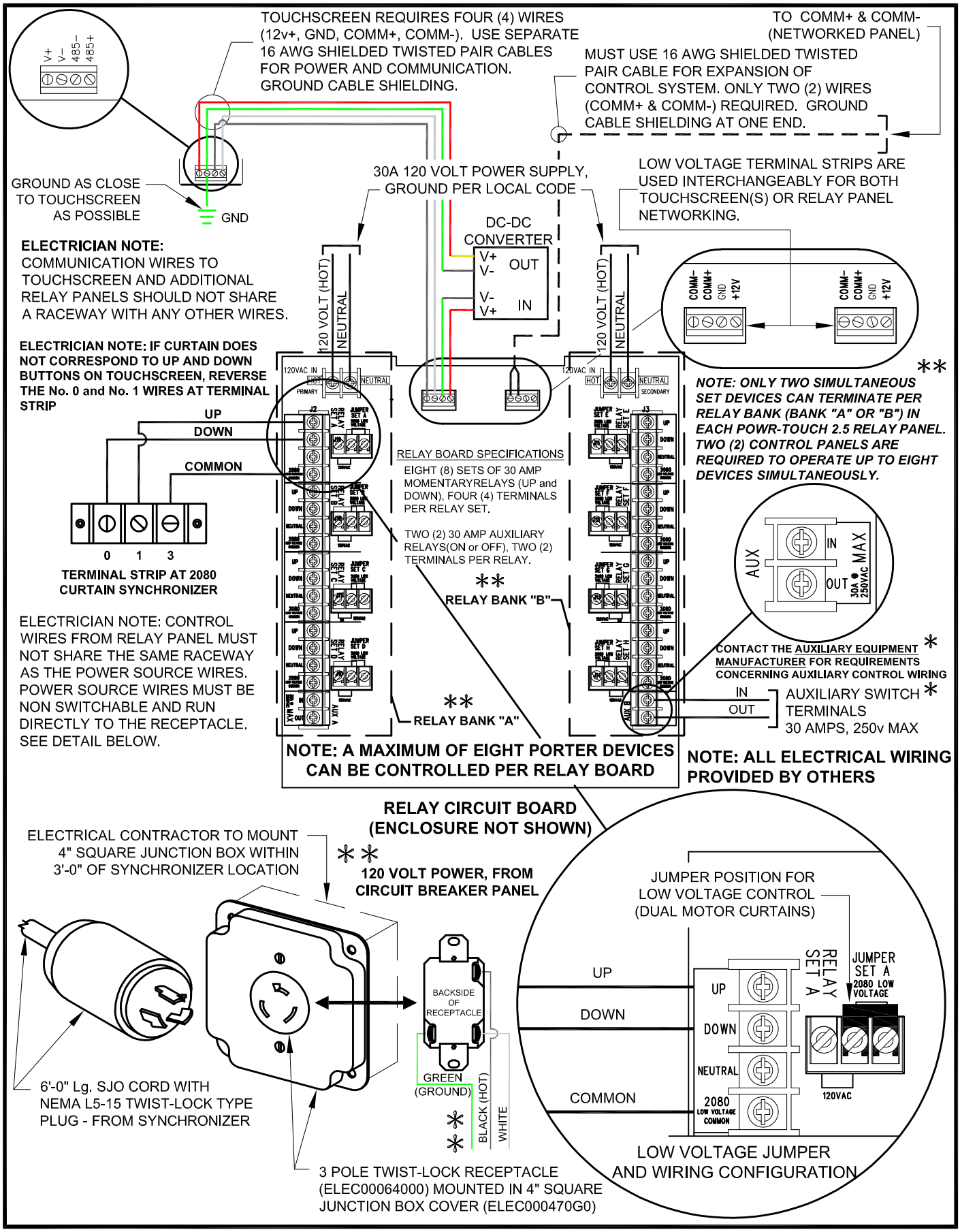
2080 LOW VOLTAGE JUMPER AND WIRING CONFIGURATION **(DUAL MOTOR MODEL No. 2080 CURTAINS ONLY)**

DETAIL B

RELAY PANEL WIRING DIAGRAM FOR 120V OUTPUT



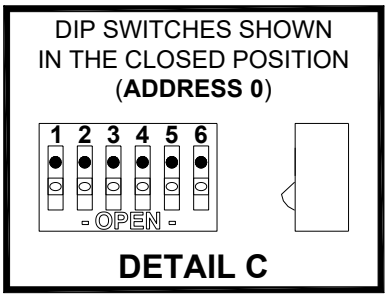
RELAY PANEL WIRING DIAGRAM FOR LOW VOLTAGE CONTROL



PROGRAMMING THE RELAY PANEL

Up to 128 unique relay sets can exist on a system of sixteen relay panels. When the 12555-200 relay panel dip switch (10) address is "0", relay sets A through H are relay sets 1 through 8. When the dip switch address is "1", relay sets A through H become 9 through 16 and so on ending at address 15 where sets A through H become sets 121 through 128. The two auxiliary relays located on each circuit board have a permanent index number assignment. The auxiliary index number assignment is based on the No. 12555-200 relay panel dip switch address. Auxiliary relays A and B are index numbers 1 and 2 on dip switch address "0", index numbers 3 and 4 on dip switch address "1", and index numbers 31 and 32 on dip switch address "15". Refer to the dip switch address matrix chart below for a complete list of index number assignments.

Electrician Note: Multiple relay panel systems require changing the default dip switch address setting (other than the Master Panel address “0”). Refer to the matrix chart below for dip switch positions.

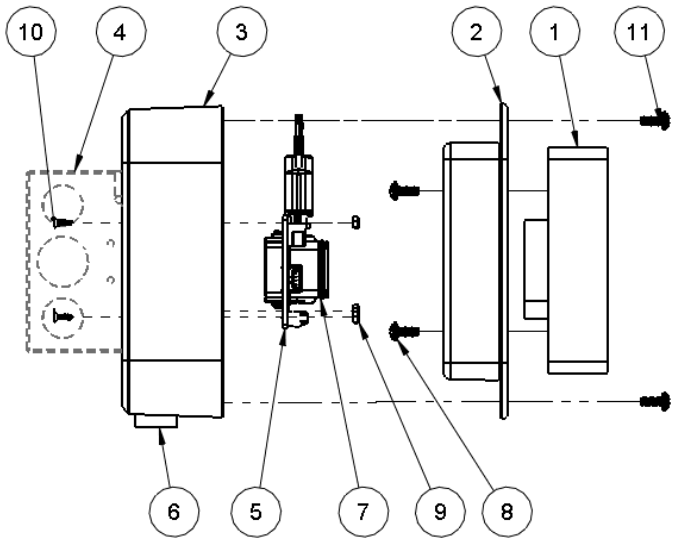


Relay Panel Dip Switch Address Matrix

Relay Panel Address No.	Relay Set No.	Aux. Set No.	Switch 1	Switch 2	Switch 3	Switch 4	Switch 5	Switch 6
Address 0 Ý	001 thru 008	1 & 2	Closed	Closed	Closed	Closed	N/A	Closed
Address 1	009 thru 016	3 & 4	Open	Closed	Closed	Closed	N/A	Closed
Address 2	017 thru 024	5 & 6	Closed	Open	Closed	Closed	N/A	Closed
Address 3	025 thru 032	7 & 8	Open	Open	Closed	Closed	N/A	Closed
Address 4	033 thru 040	9 & 10	Closed	Closed	Open	Closed	N/A	Closed
Address 5	041 thru 048	11 & 12	Open	Closed	Open	Closed	N/A	Closed
Address 6	049 thru 056	13 & 14	Closed	Open	Open	Closed	N/A	Closed
Address 7	057 thru 064	15 & 16	Open	Open	Open	Closed	N/A	Closed
Address 8	065 thru 072	17 & 18	Closed	Closed	Closed	Open	N/A	Closed
Address 9	073 thru 080	19 & 20	Open	Closed	Closed	Open	N/A	Closed
Address 10	081 thru 088	21 & 22	Closed	Open	Closed	Open	N/A	Closed
Address 11	089 thru 096	23 & 24	Open	Open	Closed	Open	N/A	Closed
Address 12	097 thru 104	25 & 26	Closed	Closed	Open	Open	N/A	Closed
Address 13	105 thru 112	27 & 28	Open	Closed	Open	Open	N/A	Closed
Address 14	113 thru 120	29 & 30	Closed	Open	Open	Open	N/A	Closed
Address 15	121 thru 128	31 & 32	Open	Open	Open	Open	N/A	Closed

TOUCHSCREEN ASSEMBLY OVERVIEW

The Powr-Touch® 4 touchscreen display consists of a touch-sensitive 7 inch backlit WVGA LCD display with 800x480 resolution, a printed circuit board assembly, a USB cable, and a black molded enclosure suitable for mounting to a standard 4” square electrical box.



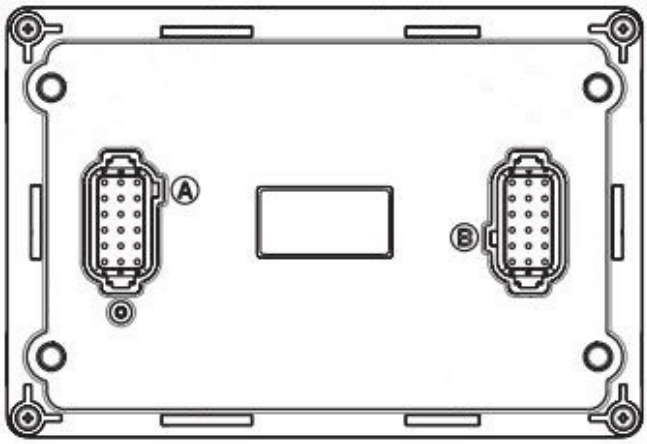
TOUCHSCREEN DISPLAY ASSEMBLY (12700000)

1. 7” Touchscreen Display
2. Display Mounting Bezel
3. 9-3/8”x7”x2-1/2” Enclosure
4. Standard 4”x4”x 2-1/2” junction box (by others)
5. Printed Circuit Board
6. USB
7. DEUTSCH DT16-18SA-K004 Connector
8. M5x12 Screw
9. Nut
10. Screw
11. #8-32 x 1/2” Button Head Screw

Mount molded plastic enclosure to wall-mounted electrical box (4) with openings aligned. Use two screws from electrical box to secure enclosure. If electrical box is recessed in the wall, additional anchorage of the enclosure into the wall may be preferred, utilizing the additional holes through the back of the molded enclosure.

Ensure USB (6) is accessible from the bottom of the enclosure. Tighten panel nut to secure USB in a horizontal orientation. Attach two power and two communications wires from relay panel to circuit board (5) through opening in the back of the enclosure.

Touchscreen (1) should come mounted in black plastic bezel (2) with four M5x12 screws (8). Ensure that when looking at the back of the display the “A” side is on the left (see image below). Plug connector (7) into “A” receptacle on back of touchscreen. “B” receptacle is not used. Secure bezel to the plastic mounting box (3) with four button head screws (11).



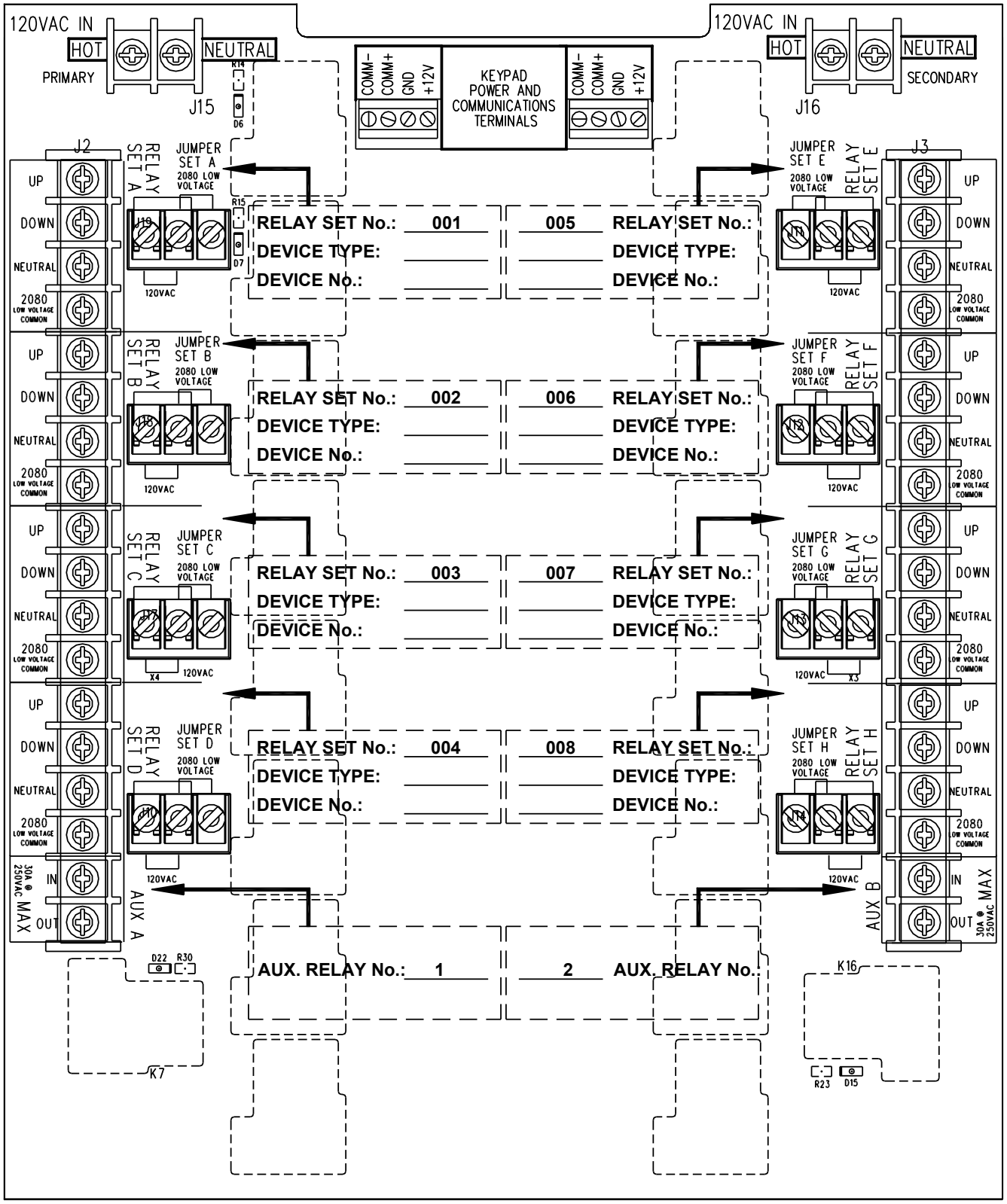
Turn power to relay panels on and check that display powers up within ninety seconds.

RESETTING THE TOUCHSCREEN PASSCODE

In the event the touchscreen passcode is lost, it can be reset to the factory default (**1 1 1 1**) with a software update. Please contact Porter at (888) 277-7778 to receive a digital file transfer of the passcode reset software. Power cycle the relay panels after installing the software update.

Note: This method may also erase the relay board memory address assignments. Before reset, export settings via USB and re-import after passcode reset.

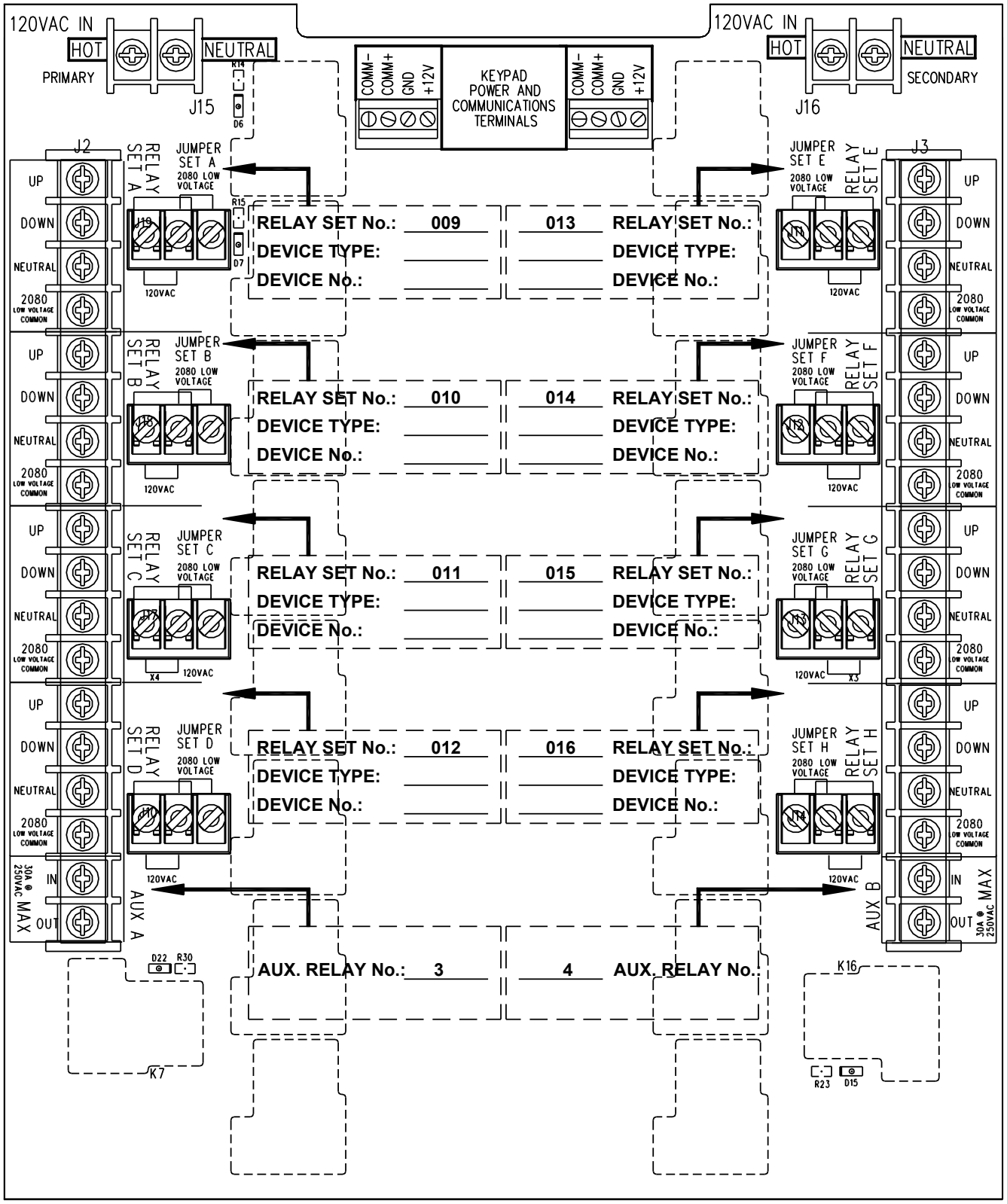
RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



- TERMINAL ASSIGNMENTS -

RELAY PANEL ADDRESS = 0

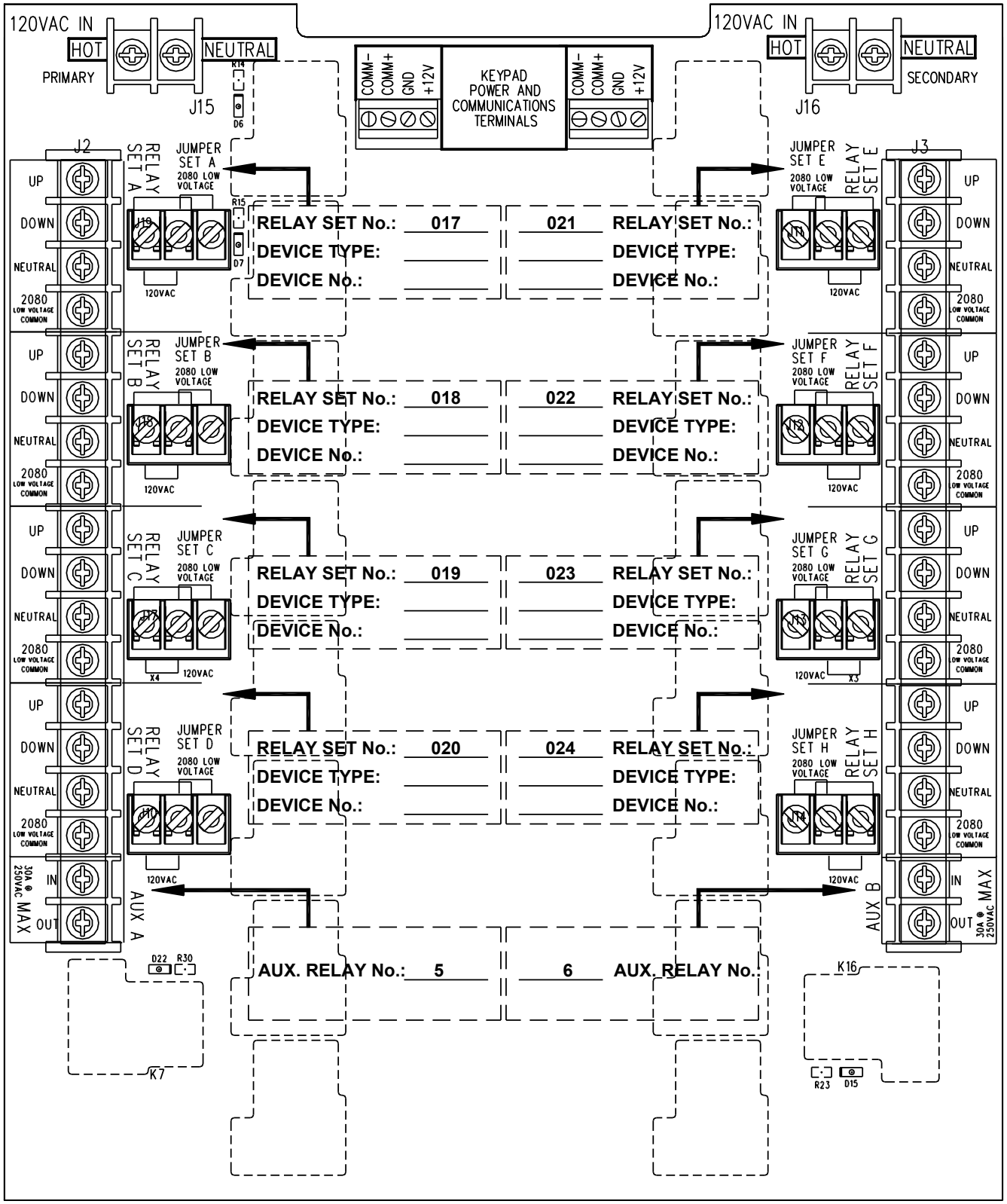
RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



- TERMINAL ASSIGNMENTS -

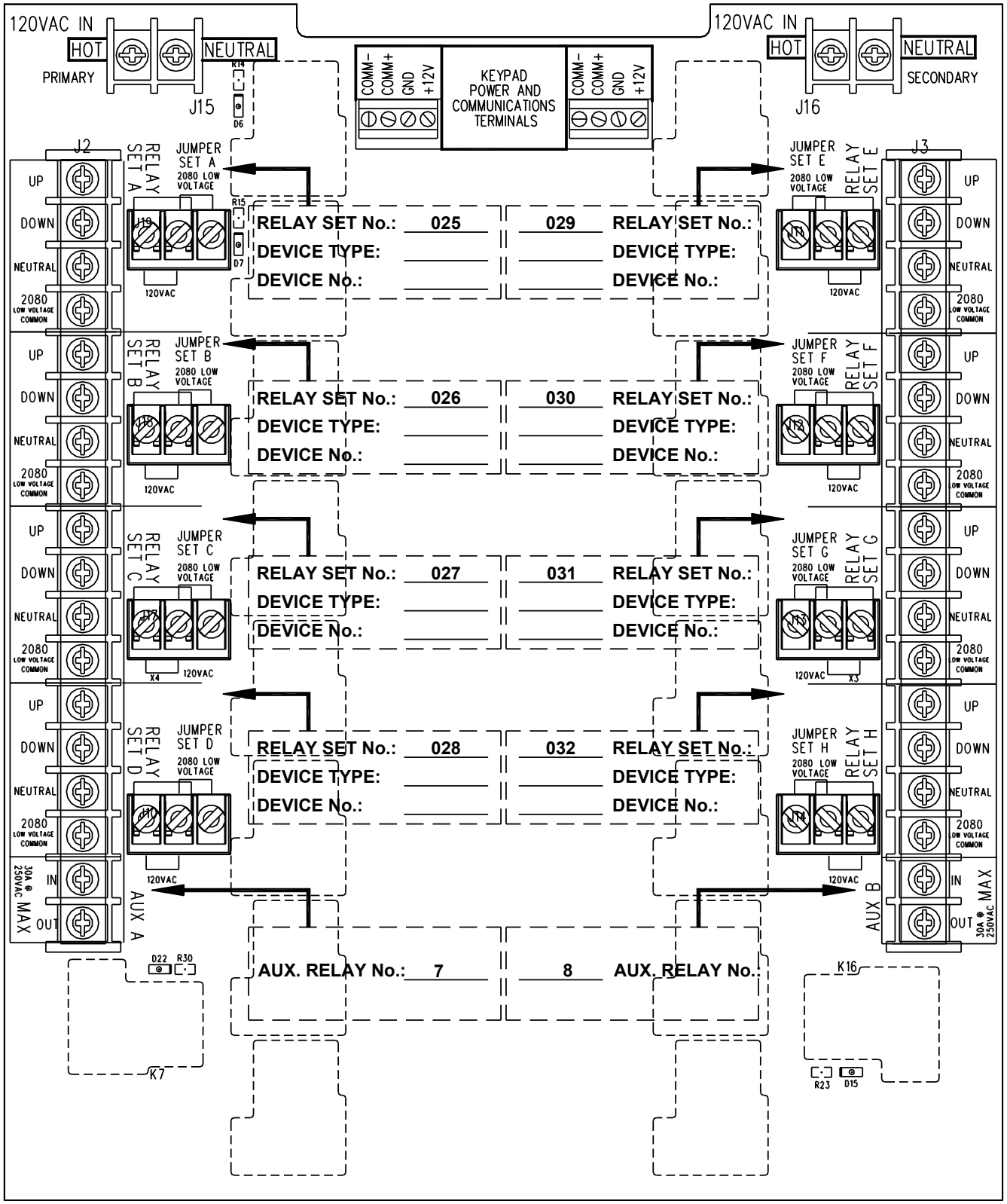
RELAY PANEL ADDRESS = 1

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



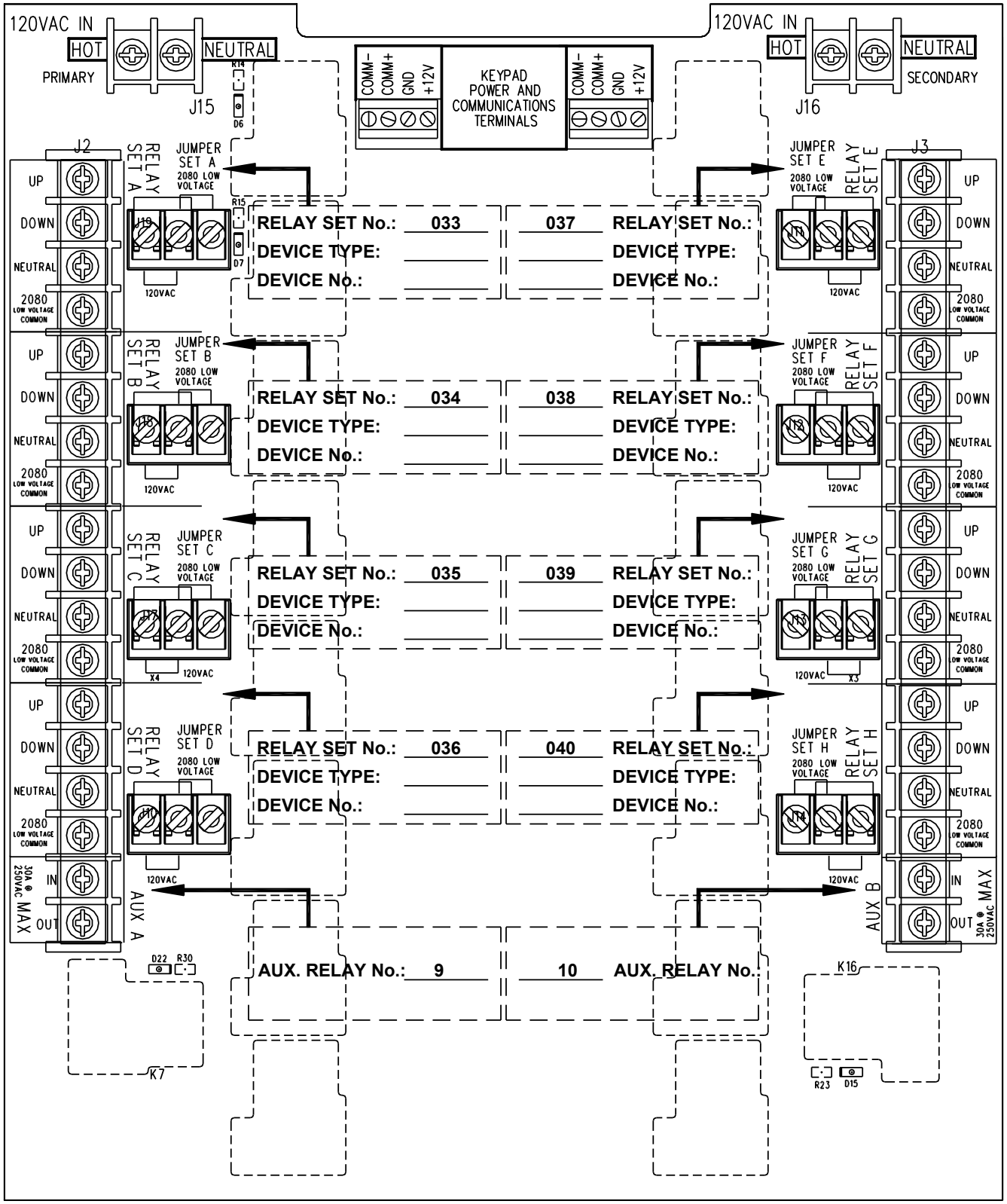
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 2

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



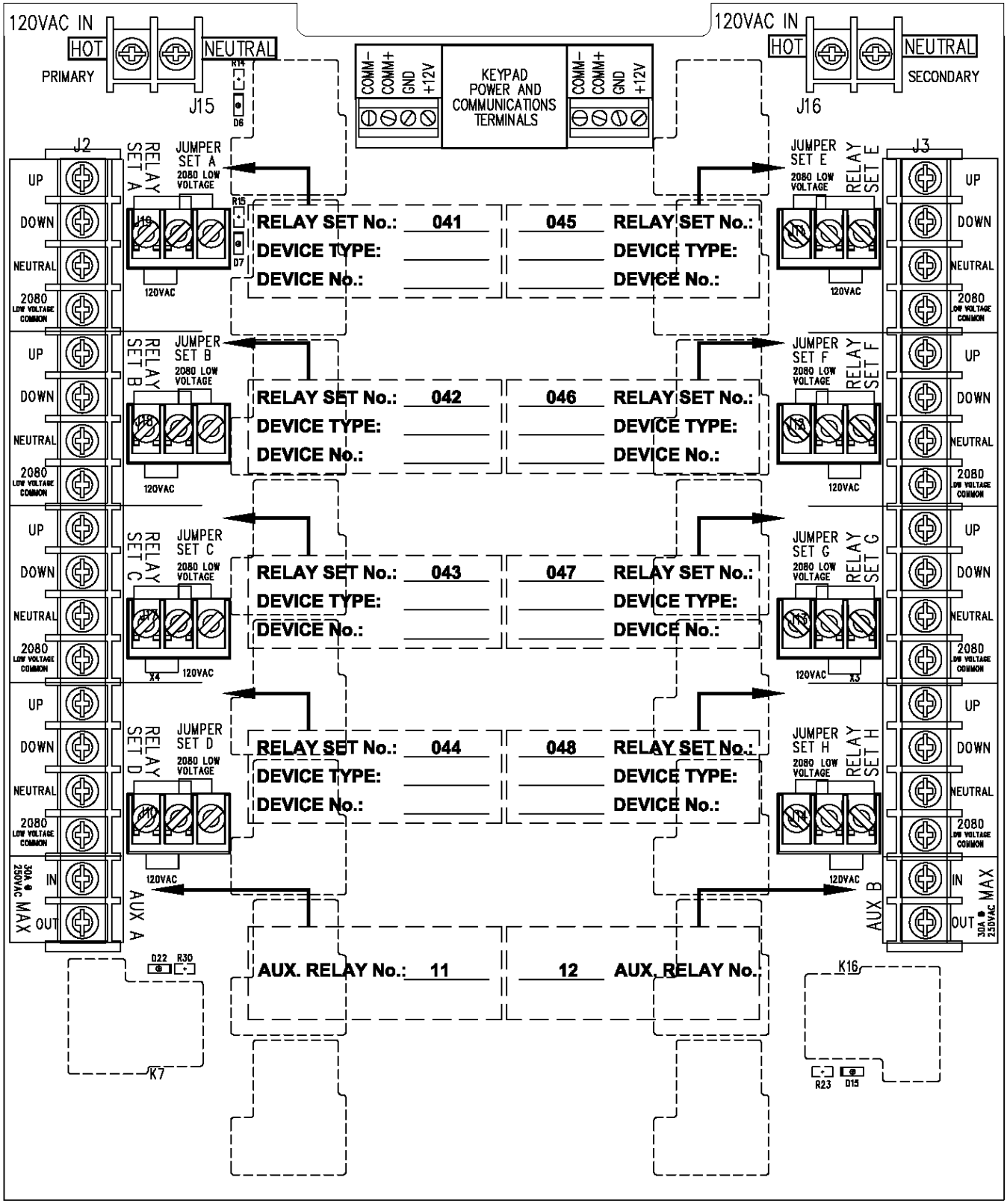
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 3

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



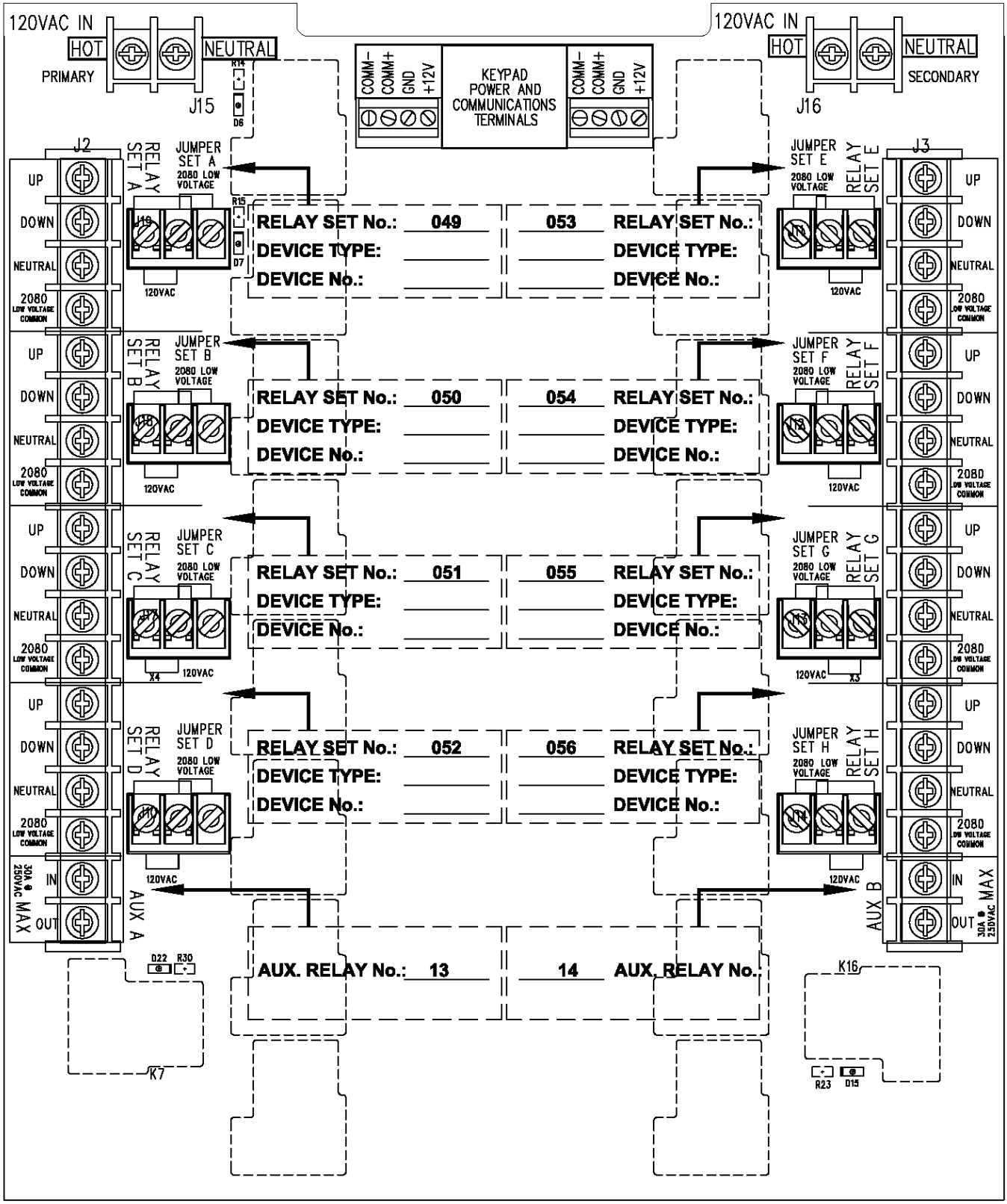
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 4

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



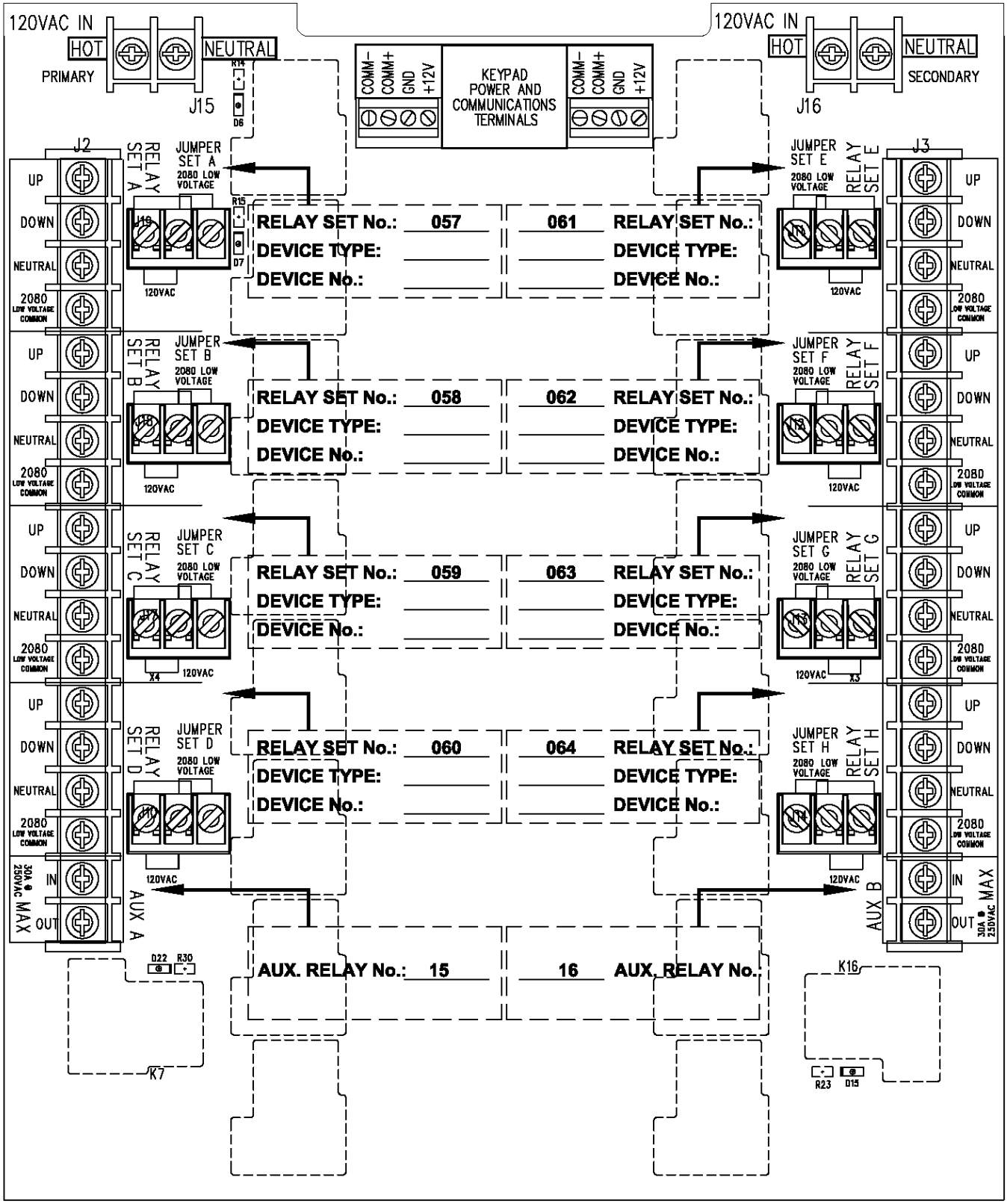
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 5

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



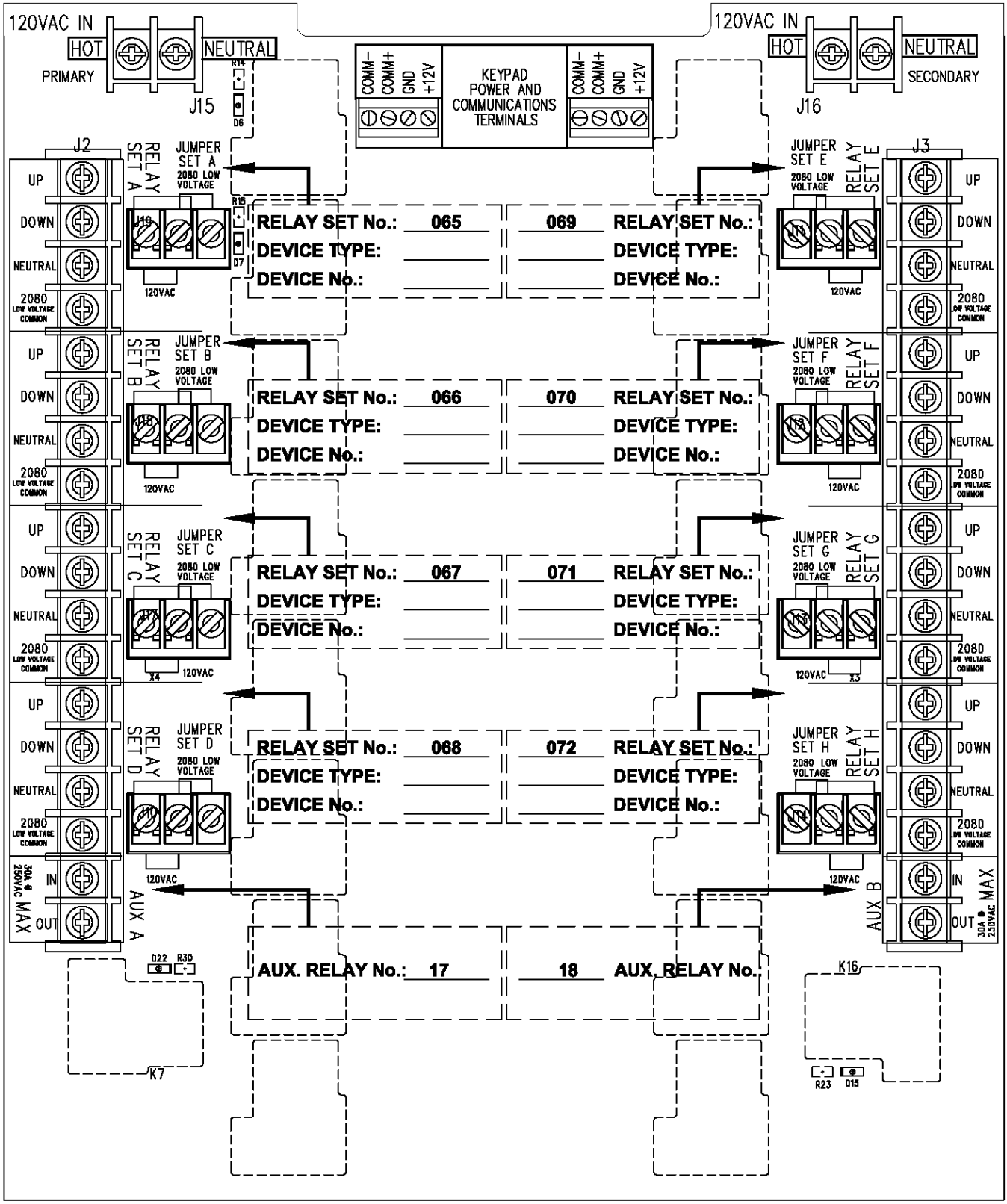
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 6

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



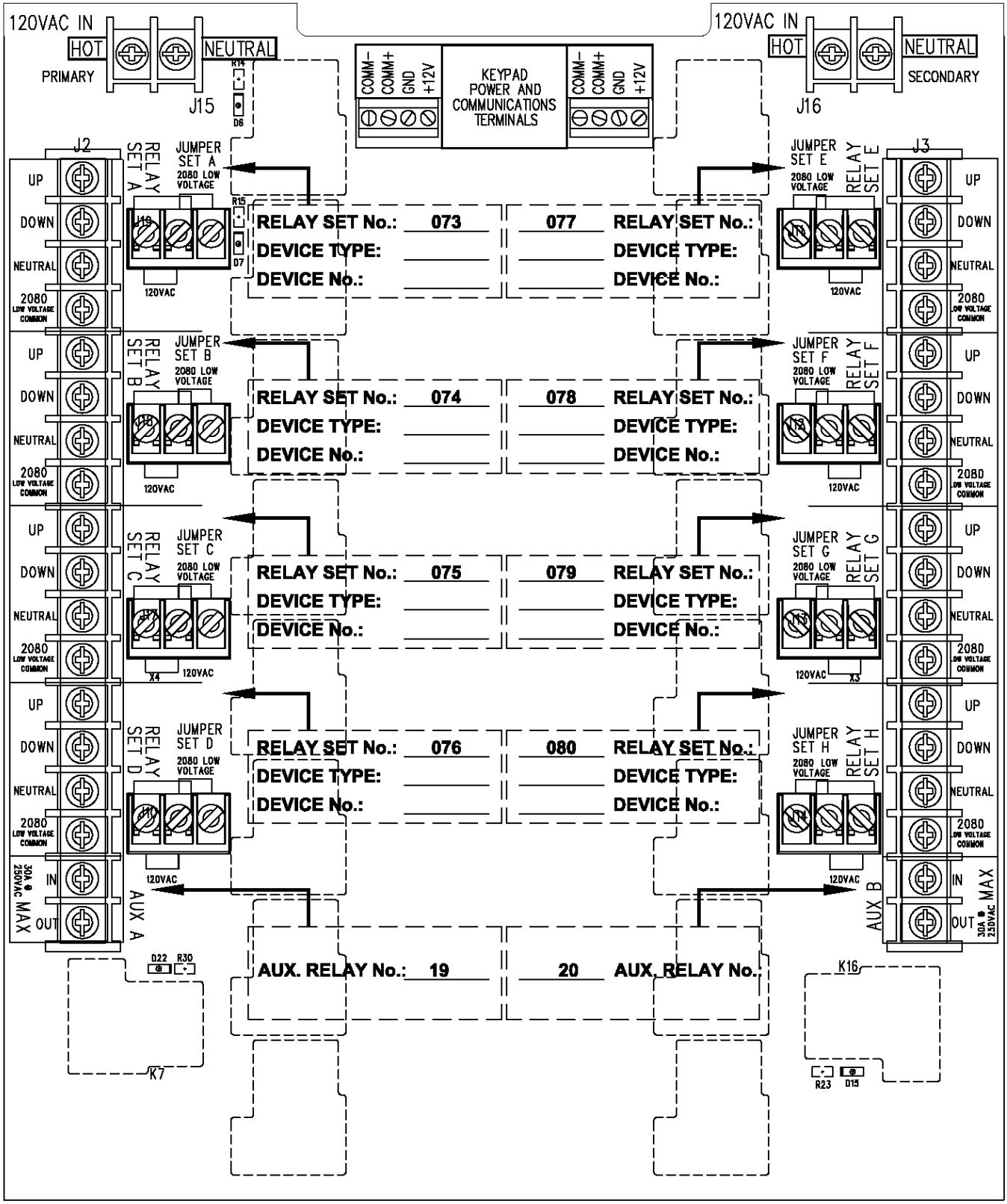
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 7

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



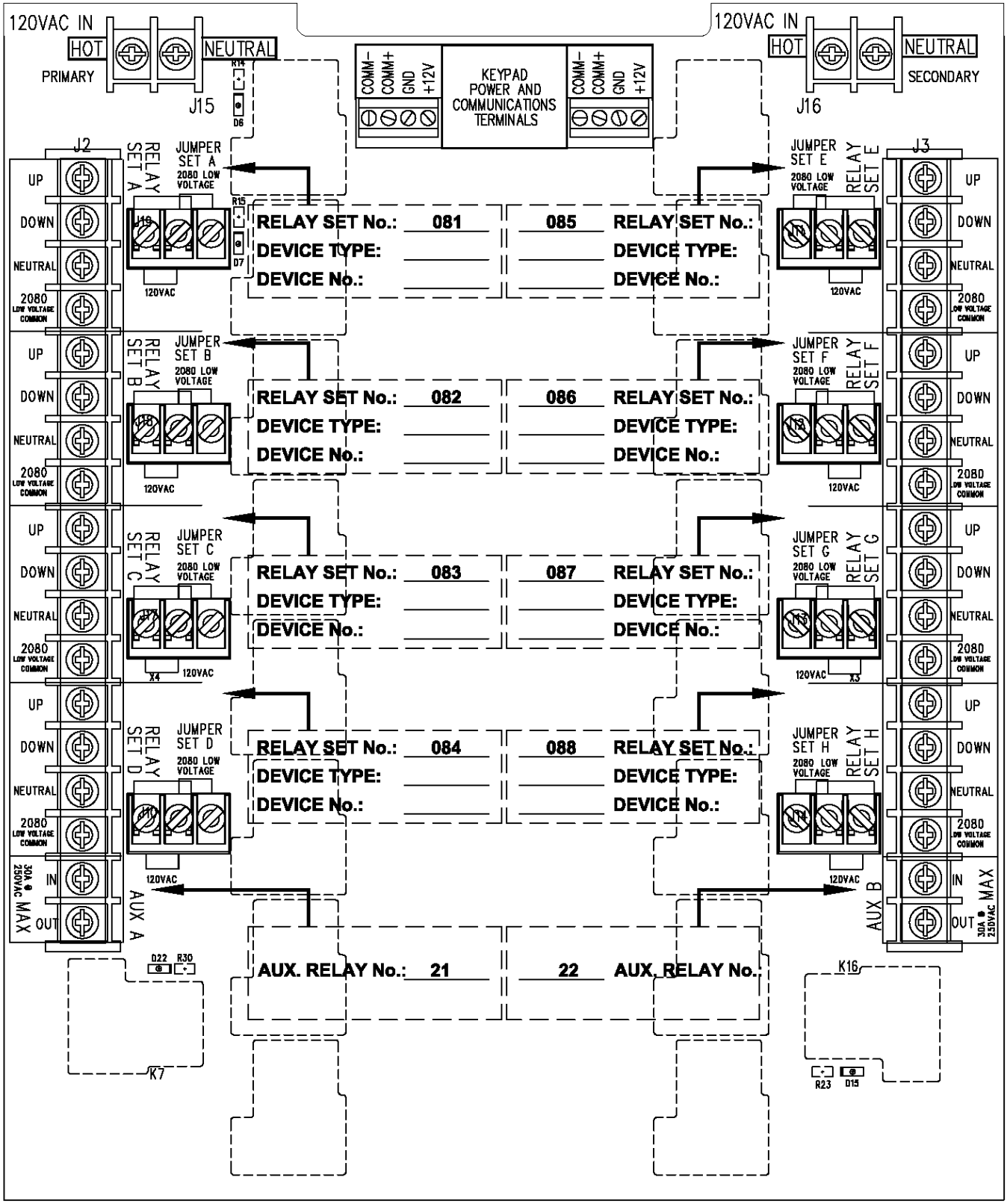
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 8

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



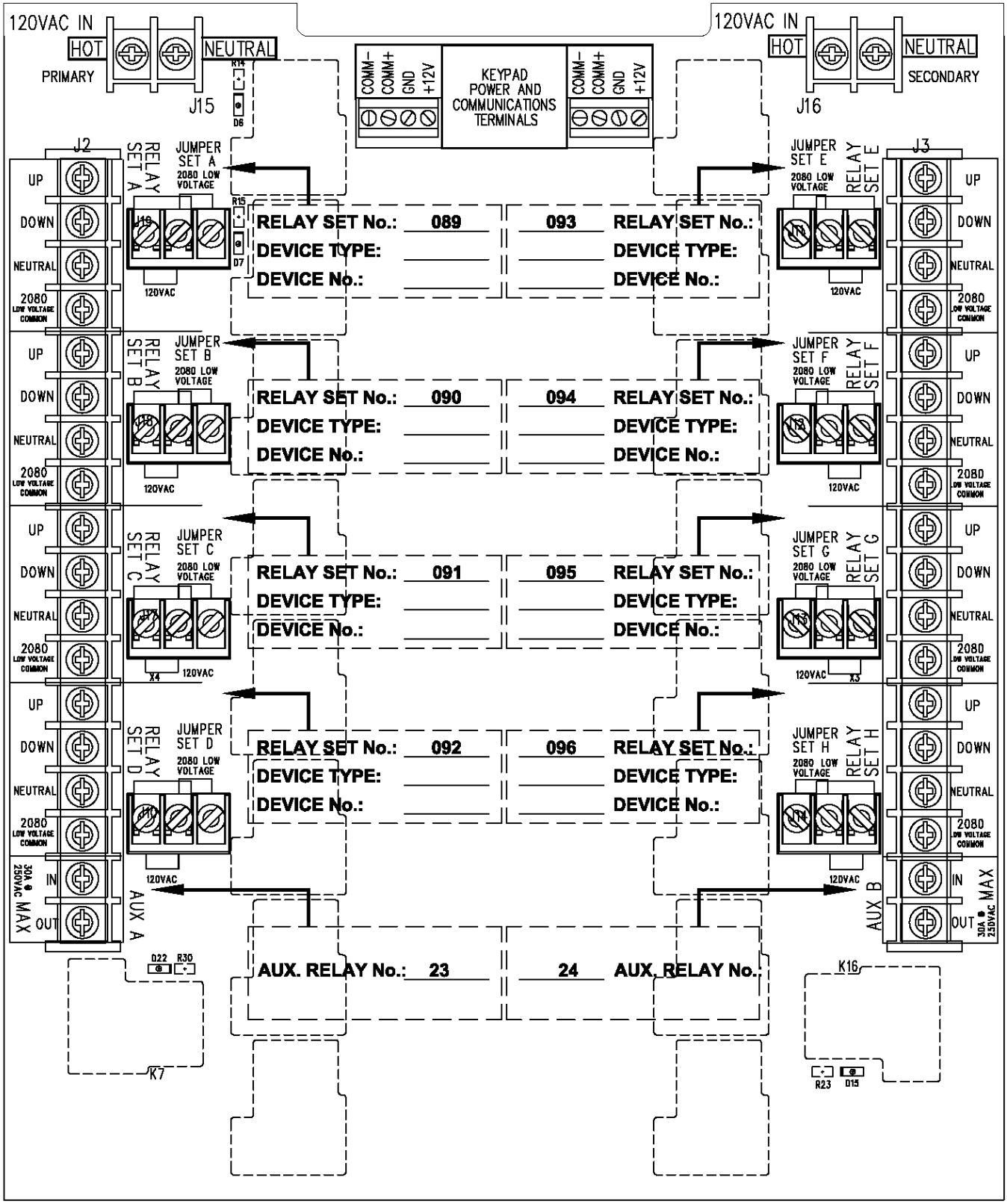
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 9

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



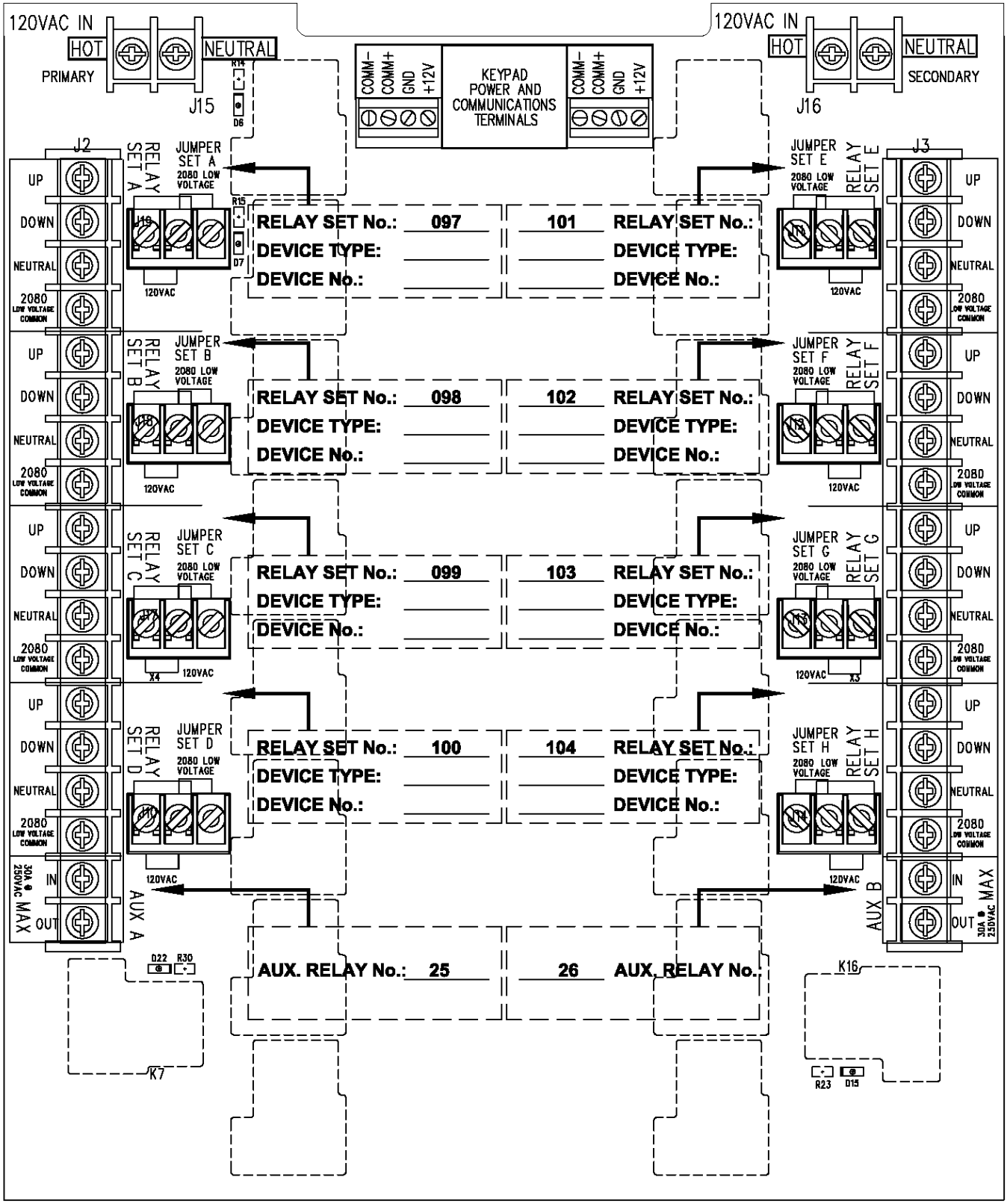
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 10

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



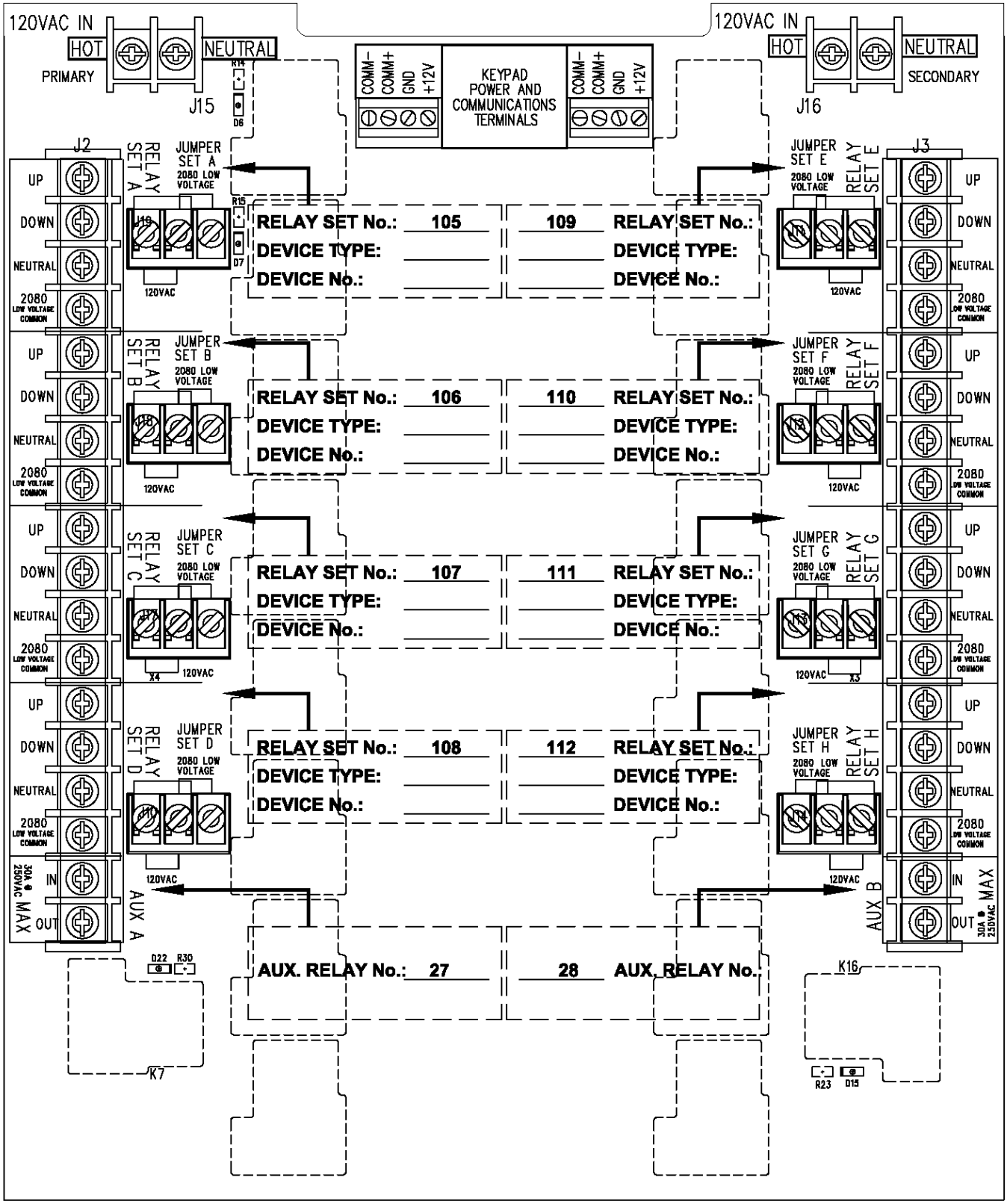
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 11

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



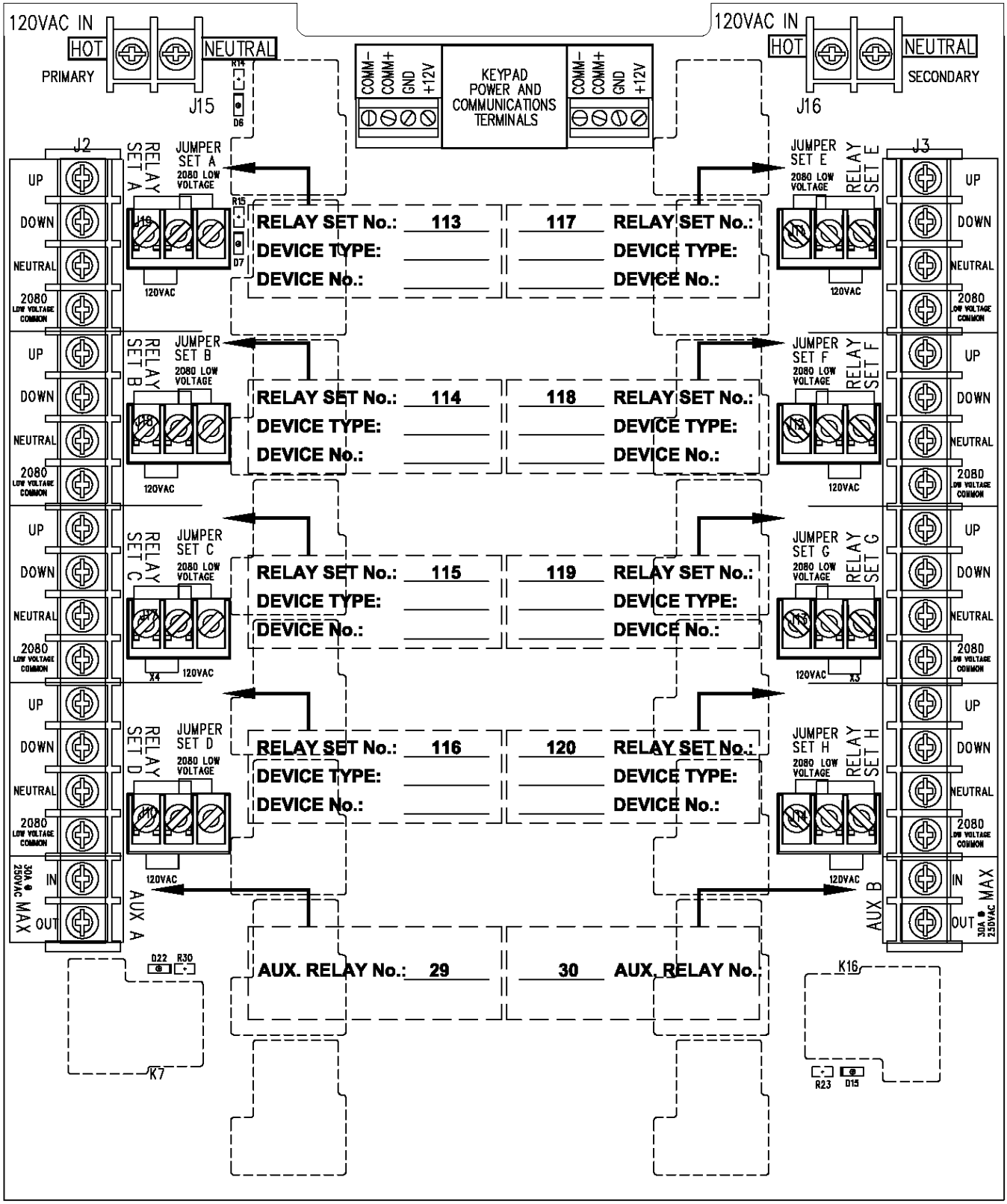
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 12

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



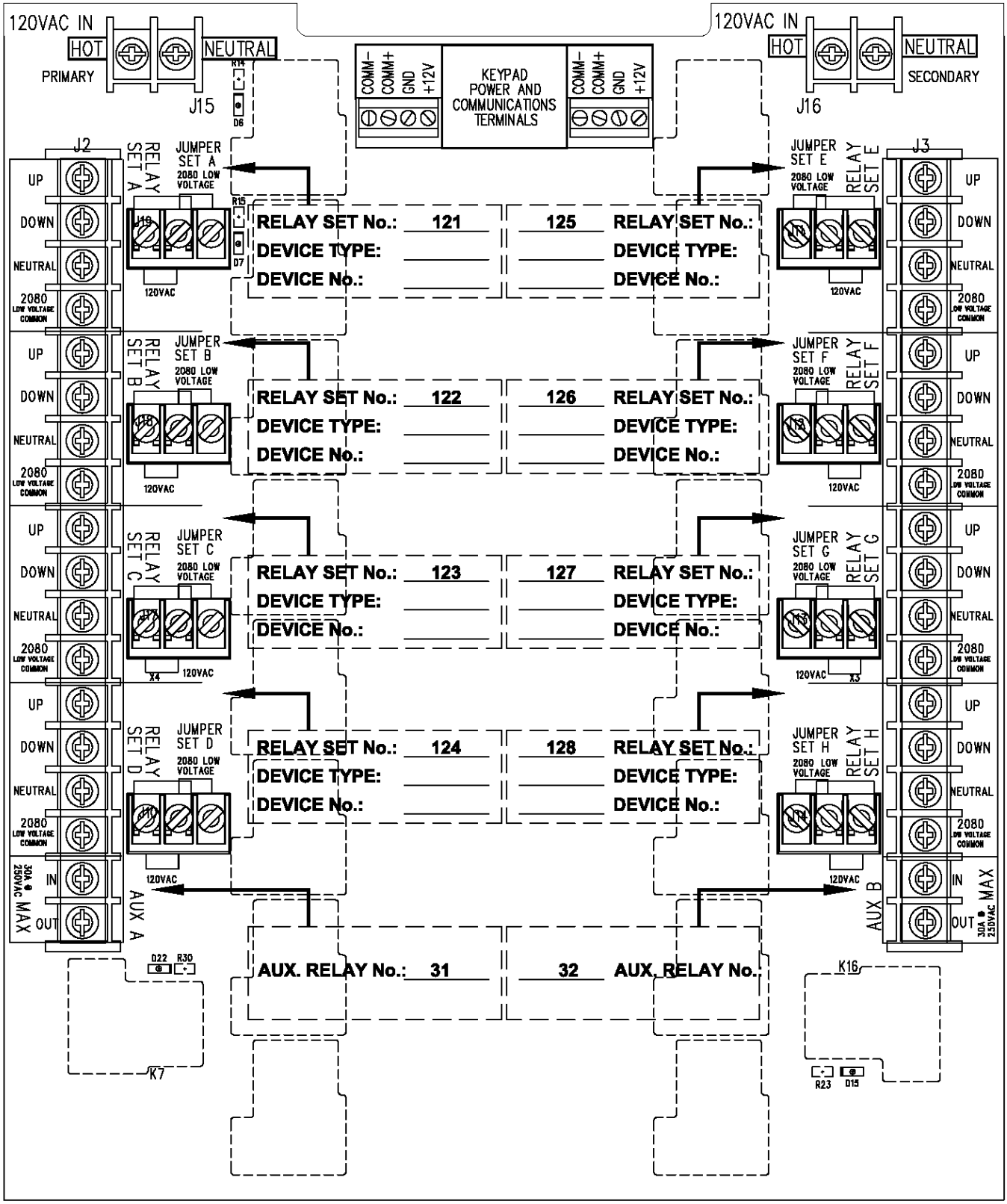
- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 13

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 14

RELAY SET TERMINAL ASSIGNMENT WORKSHEETS



- TERMINAL ASSIGNMENTS -
RELAY PANEL ADDRESS = 15

TROUBLESHOOTING GUIDE

SYMPTOM	POSSIBLE SOLUTION
Selection moves equipment in the wrong direction.	Check that correct direction arrow is selected. If so, check that up-down relays are wired correctly.
Equipment will not run.	Check that all circuit breakers are on.
Equipment will not run.	Check that equipment is correctly wired to the relay set terminals.
Equipment will not run.	Check that all equipment is plugged in and limits are set appropriately.
Display does not power on.	Check that power to the display is on and recommended wire lengths are not exceeded.
Display flashes but does not stay on.	Ensure there is 12V(or 24V if using a booster) power at the display and the recommended wire size for the run was used.
Selection moves the wrong equipment	Ensure relay sets are assigned correctly. Reassign relay sets as required.
Selecting one piece of equipment moves two (or more) pieces of equipment.	Check that relay panels are uniquely and sequentially addressed, starting at “0”.
Equipment does not stop at limits	Check that limits are set correctly and cable is wrapping correctly and tightly on the winch drum.
Equipment stops moving	Is more than one display attempting to operate equipment? Only operate equipment from one display at a time.
Equipment stops moving	Check that equipment has not engaged a limit switch.
Display Passcode doesn’t unlock system	If the display was recently updated or settings were replaced, the system may require a power cycle. Turn the power off to the system from the primary circuit breakers, wait a few seconds, and re-energize. Try passcode again.
Display Passcode doesn’t unlock system	The default passcode is 1111. If it was changed and forgotten, contact Porter for a passcode reset file. If it wasn’t changed or you are sure you are using the correct passcode, power cycle the device to flush the memory.
Display Passcode doesn’t unlock system	Check that the communication wires (485+/485-) are correctly wired to the display unit. Refer to page 12 of the Installation manual for more information. The wires are not in the same order between the relay panel terminal block and the touchscreen terminal block.
Any Display Passcode will unlock the system	Ensure there has been at least 90 seconds since any contact with the system. If more than 90 seconds has passed and any passcode still unlocks the system, try power cycling the system. Contact your Porter representative to ensure your system has the latest software update.
Administrator Passcode doesn’t work	Use USB backup to restore original Admin passcode.
The same piece of equipment can be added to the display multiple times.	If the display was recently updated or settings were replaced, the display may require a power cycle. Turn the power off at the breaker, wait a few seconds, and re-energize.
I want to reset my system to factory defaults	Reset files are available from Porter upon request.

THIS WARNING IS GIVEN IN COMPLIANCE WITH CALIFORNIA'S PROPOSITION 65:
WARNING
This product contains chemicals known to the State of California to cause cancer, birth defects

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INSTALLER NOTES

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SAVE THESE INSTRUCTIONS FOR FUTURE USE