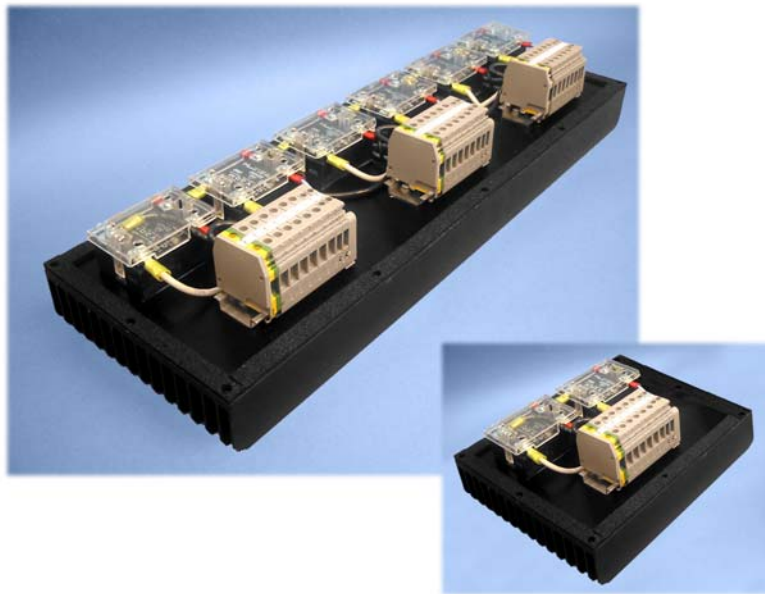




HEATER POWER CONTROLLER



1/04
Rev 03

**PROCON
MODEL HPC
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For More Information Visit
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| <p style="text-align: center;">PROCON MODEL HPC HEATER POWER CONTROLLER</p> |
|--|

The HPC family of Heater Power Controllers provides self contained power switching for electric heater applications. They may be controlled by many types of external temperature control systems. All that is necessary is a time proportioned On/Off signal. The power output will follow the signal and automatically be Zero Cross synchronized to minimize switching noise. The control lines are optically isolated from the power.

All Heater Power Controllers generate heat. This family of units eliminates the need to cool the enclosure due to this heat by passing it to the outside via the integral heat sink. The heat sink is mounted through the enclosure wall and thus dissipates the heat externally. A gasket is provided to insure a tight enclosure seal after mounting.

The HPC family is unique in that it minimizes installation time by grouping power controllers on to one heat sink. Each is an independent controller, with its own set of terminal blocks.

For ease of servicing, each of the SSRs may be replaced without removing the heat sink from the enclosure. Each SSR has a protective clear plastic cover over the wiring terminals.

The terminal blocks provide a separate wiring point for each wire, eliminating the need for multiple wires in a terminal block.

The single phase units use a one line break system, having one Solid State Relay per heater. The three phase units use a two line break system, having two Solid State Relays per heater. The unswitched line is passed through from L2 to H2 (single phase) or L3 to H3 (three phase) for ease of wiring. There are models available in all standard voltages.

From 1 to 6 SSRs may be mounted on the 3 basic heatsink sizes. In single phase units this allows up to 6 independent controllers. In the three phase units this allows up to 3 independent controllers.

The following table indicates the various standard models. Note that one model may be used across a series of line voltages. (E.G. HPC1-240/1/30 may be used on any single phase line voltage up to 240 VAC)

Single Phase Controllers

| MODEL NUMBER | LINE VOLTAGE | CONTROLS PER HEATSINK | HEATSINK SIZE | LOAD CURRENT | LOAD WATTAGE |
|---------------|--------------|-----------------------|---------------|--------------|--------------|
| HPC1-240/1/30 | 120 VAC | 1 | A | 1 x 30 A | 1 x 3.6 KW |
| | 208 VAC | 1 | A | 1 x 30 A | 1 x 6.2 KW |
| | 240 VAC | 1 | A | 1 x 30 A | 1 x 7.2 KW |
| HPC2-240/1/30 | 120 VAC | 2 | A | 2 x 30 A | 2 x 3.6 KW |
| | 208 VAC | 2 | A | 2 x 30 A | 2 x 6.2 KW |
| | 240 VAC | 2 | A | 2 x 30 A | 2 x 7.2 KW |
| HPC3-240/1/30 | 120 VAC | 3 | B | 3 x 30 A | 3 x 3.6 KW |
| | 208 VAC | 3 | B | 3 x 30 A | 3 x 6.2 KW |
| | 240 VAC | 3 | B | 3 x 30 A | 3 x 7.2 KW |
| HPC4-240/1/30 | 120 VAC | 4 | B | 4 x 30 A | 4 x 3.6 KW |
| | 208 VAC | 4 | B | 4 x 30 A | 4 x 6.2 KW |
| | 240 VAC | 4 | B | 4 x 30 A | 4 x 7.2 KW |
| HPC5-240/1/30 | 120 VAC | 5 | C | 5 x 30 A | 5 x 3.6 KW |
| | 208 VAC | 5 | C | 5 x 30 A | 5 x 6.2 KW |
| | 240 VAC | 5 | C | 5 x 30 A | 5 x 7.2 KW |
| HPC6-240/1/30 | 120 VAC | 6 | C | 6 x 30 A | 6 x 3.6 KW |
| | 208 VAC | 6 | C | 6 x 30 A | 6 x 6.2 KW |
| | 240 VAC | 6 | C | 6 x 30 A | 6 x 7.2 KW |
| HPC1-480/1/30 | 277 VAC | 1 | A | 1 x 30 A | 1 x 8.3 KW |
| | 480 VAC | 1 | A | 1 x 30 A | 1 x 14.4 KW |
| HPC2-480/1/30 | 277 VAC | 2 | A | 2 x 30 A | 2 x 8.3 KW |
| | 480 VAC | 2 | A | 2 x 30 A | 2 x 14.4 KW |
| HPC3-480/1/30 | 277 VAC | 3 | B | 3 x 30 A | 3 x 8.3 KW |
| | 480 VAC | 3 | B | 3 x 30 A | 3 x 14.4 KW |
| HPC4-480/1/30 | 277 VAC | 4 | B | 4 x 30 A | 4 x 8.3 KW |
| | 480 VAC | 4 | B | 4 x 30 A | 4 x 14.4 KW |
| HPC5-480/1/30 | 277 VAC | 5 | C | 5 x 30 A | 5 x 8.3 KW |
| | 480 VAC | 5 | C | 5 x 30 A | 5 x 14.4 KW |
| HPC6-480/1/30 | 277 VAC | 6 | C | 6 x 30 A | 6 x 8.3 KW |
| | 480 VAC | 6 | C | 6 x 30 A | 6 x 14.4 KW |

Three Phase Controllers

| MODEL NUMBER | LINE VOLTAGE | CONTROLS PER HEATSINK | HEATSINK SIZE | LOAD CURRENT | LOAD WATTAGE |
|---------------|--------------|-----------------------|---------------|--------------|--------------|
| HPC1-240/3/30 | 208 VAC | 1 | A | 1 x 30 A | 1 x 10.8 KW |
| | 240 VAC | 1 | A | 1 x 30 A | 1 x 12.5 KW |
| HPC2-240/3/30 | 208 VAC | 2 | B | 2 x 30 A | 2 x 10.8 KW |
| | 240 VAC | 2 | B | 2 x 30 A | 2 x 12.5 KW |
| HPC3-240/3/30 | 208 VAC | 3 | C | 3 x 30 A | 3 x 10.8 KW |
| | 240 VAC | 3 | C | 3 x 30 A | 3 x 12.5 KW |
| HPC1-480/3/30 | 480 VAC | 1 | A | 1 x 30 A | 1 x 24.9 KW |
| HPC2-480/3/30 | 480 VAC | 2 | B | 2 x 30 A | 2 x 24.9 KW |
| HPC3-480/3/30 | 480 VAC | 3 | C | 3 x 30 A | 3 x 24.9 KW |

There are optional radiused corners on the heatsink for applications where sharp corners could be a problem. (Specify with -R suffix.)



Warning

The most common failure mode for Solid State Relays is shorted. The OEM installing this unit must provide backup mechanical safety for the system that insures that such a failure does not cause equipment damage or endanger the user.

MANUAL REVISIONS

| <u>Revision #</u> | <u>Engineering #</u> | <u>Revisions Made</u> |
|-------------------|----------------------|-----------------------|
| Rev 03 | DT900HPC | Origination |

LIMITED WARRANTY

WARRANTY: JPC CONTROLS WARRANTS ITS NEW PRODUCTS TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP UNDER THE SERVICE FOR WHICH THEY ARE INTENDED. THIS WARRANTY IS EFFECTIVE FOR TWELVE MONTHS FROM THE DATE OF SHIPMENT.

EXCLUSIONS: THIS WARRANTY IS **IN LIEU OF** ANY OTHER WARRANTY EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF **MERCHANTABILITY** OR FITNESS FOR A PARTICULAR PURPOSE.

JPC CONTROLS IS NOT LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

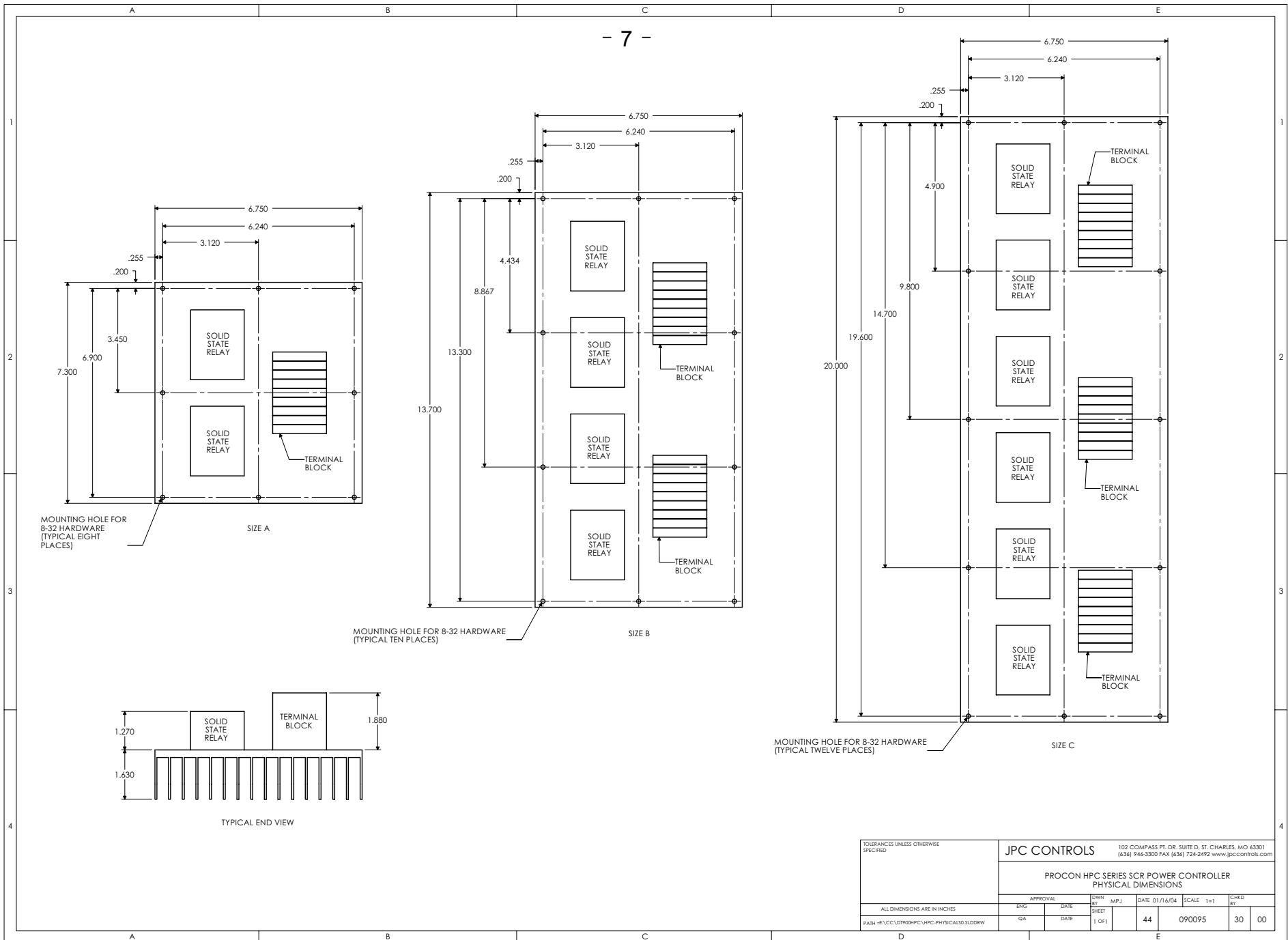
NO PERSON OTHER THAN AN OFFICER IS AUTHORIZED TO GIVE ANY OTHER WARRANTY OR ASSUME ANY LIABILITY.

REMEDIES: THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE: (1) THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS OR PRODUCTS, WITHOUT CHARGE. (2) AT THE OPTION OF **JPC CONTROLS**, THE REFUND OF THE PURCHASE PRICE.

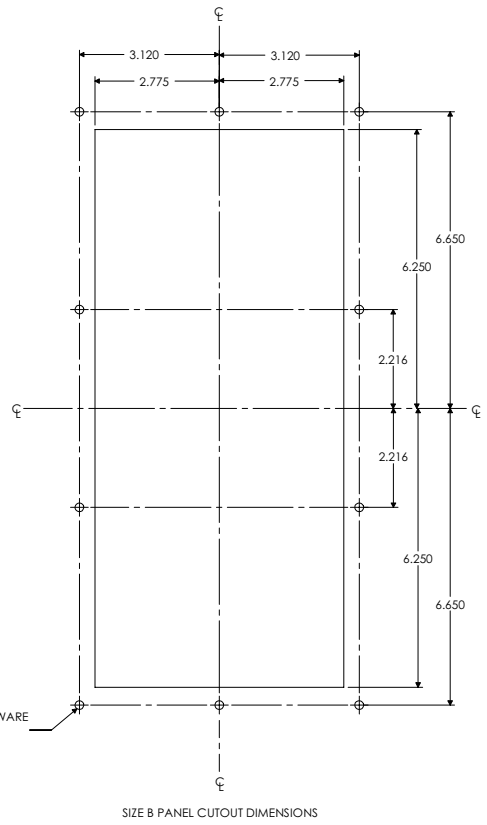
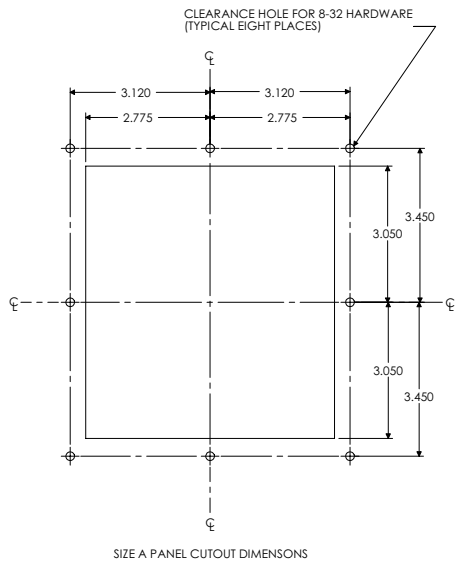
SPECIFICATIONS

Procon HPC HEATER POWER CONTROLLERS

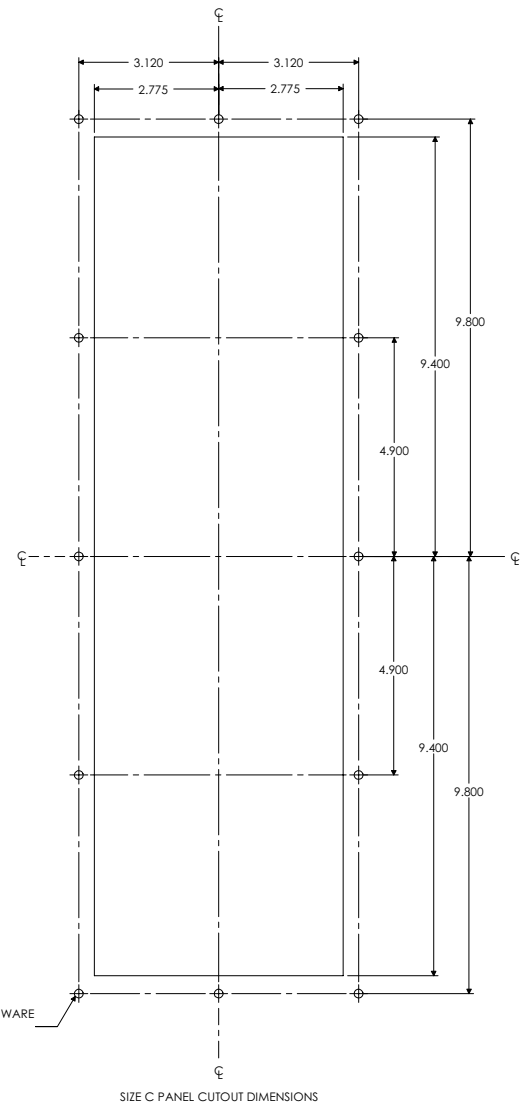
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|-------------------------|---|
| OPERATING RANGE | 0 to 50 Degrees C |
| STORAGE RANGE | -40 to 60 Degrees C |
| SIZE (HxWxD) | A -- 7.30 x 6.75 x 3.51 inches 185.42 x 171.45 x 89.15 mm |
| | B -- 13.70 x 6.75 x 3.51 inches 347.98 x 171.45 x 89.15 mm |
| | C -- 20.00 x 6.75 x 3.51 inches 508.00 x 171.45 x 89.15 mm |
| WEIGHT | A -- < 3 lbs. (1.36 kg) |
| | B -- ≤ 6 lbs. (2.72 kg) |
| | C -- ≤ 8 lbs. (3.63 kg) |
| CONNECTIONS | Power & Load: 30 Amp Pressure Connector, 22-10 AWG Control: 25 Amp Pressure Connector, 24-10 AWG |
| OUTPUT | SSR, Derated, Optically Isolated, Zero Cross for 30 AMP Load |



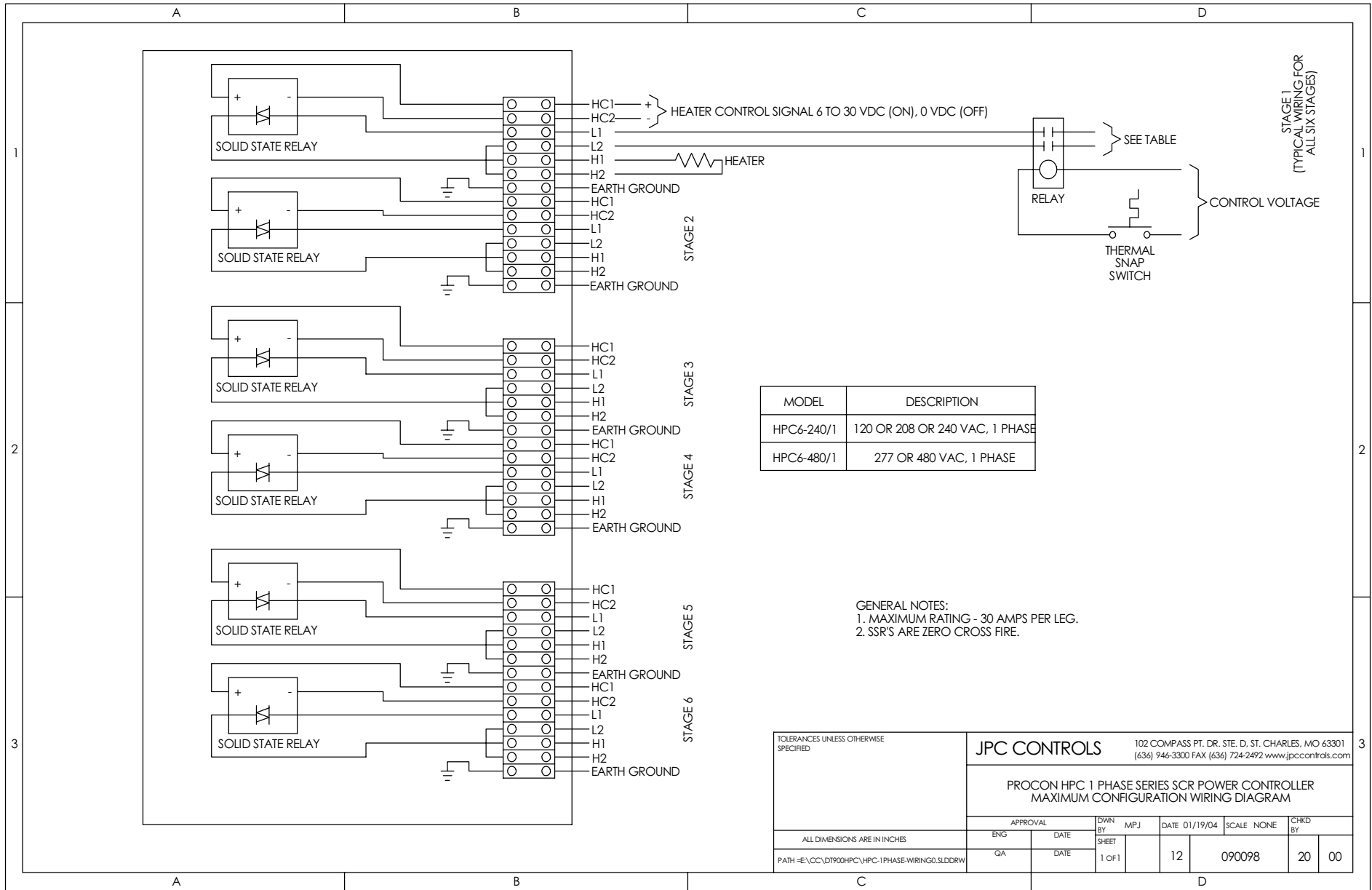
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| PROCON HPC SERIES SCR POWER CONTROLLER PHYSICAL DIMENSIONS | | | | | |
| APPROVAL | | OWN | MPJ | DATE 01/16/04 | SCALE 1=1 |
| ENG | DATE | SHEET | 1 OF 1 | 44 | 090095 |
| ALL DIMENSIONS ARE IN INCHES | | GA | DATE | 30 | 00 |
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(TYPICAL TWELVE PLACES)



| | | | | | |
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| PROCON HPC SERIES SCR POWER CONTROLLER PANEL CUTOUT DIMENSIONS | | | | | |
| APPROVAL | | ENGR | DATE | DWN BY | MPJ |
| ALL DIMENSIONS ARE IN INCHES | | GA | DATE | SHEET 1 OF 1 | DATE 01/16/04 |
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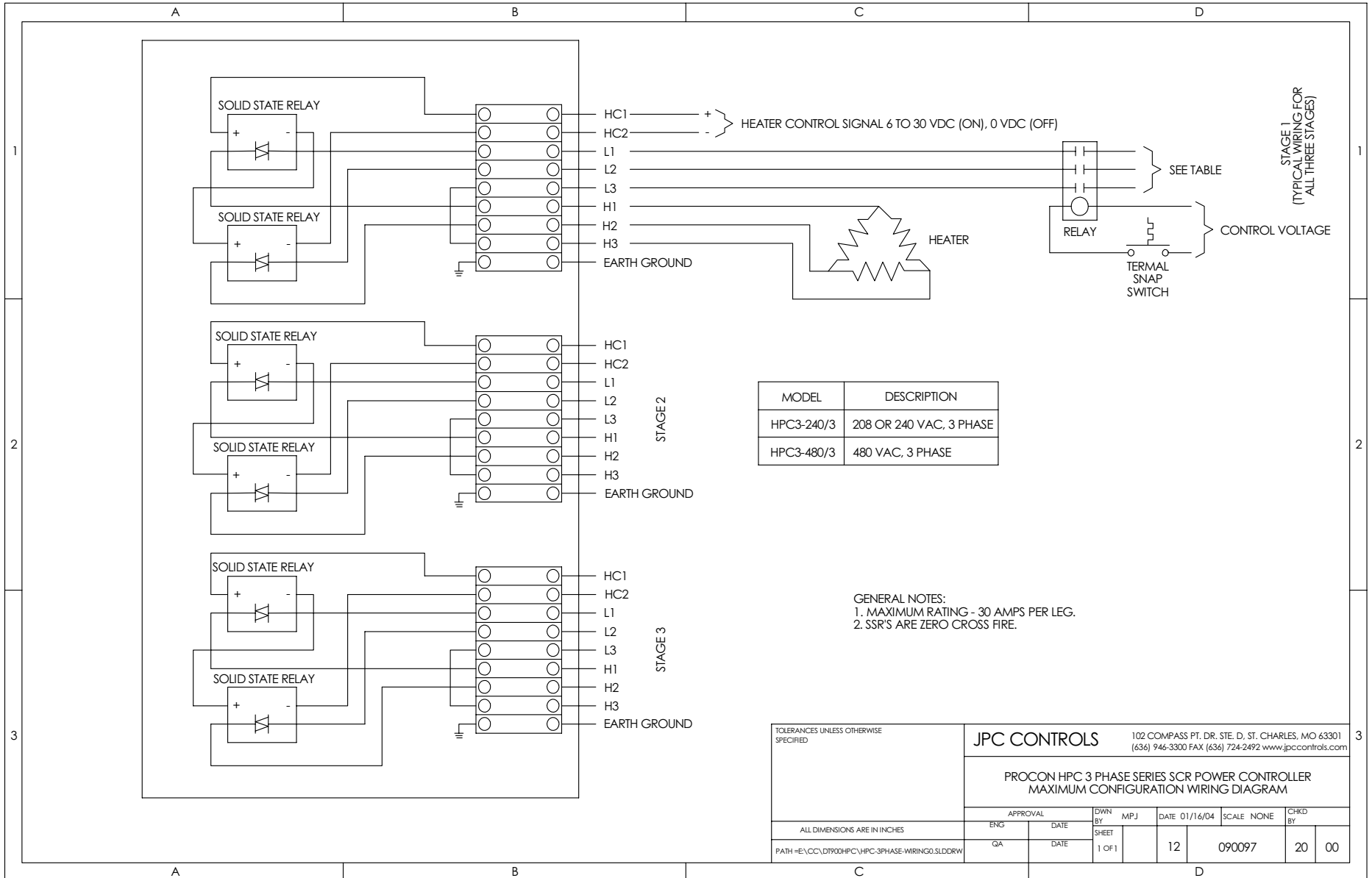


STAGE 1
(TYPICAL WIRING FOR ALL SIX STAGES)

| MODEL | DESCRIPTION |
|------------|--------------------------------|
| HPC6-240/1 | 120 OR 208 OR 240 VAC, 1 PHASE |
| HPC6-480/1 | 277 OR 480 VAC, 1 PHASE |

GENERAL NOTES:
 1. MAXIMUM RATING - 30 AMPS PER LEG.
 2. SSR'S ARE ZERO CROSS FIRE.

| | | | | | | | | | | | | | | | |
|---|--|--|------|----|--------|------|-----|--------|---|----|------------|--------|---------|-------|--|
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| | PROCON HPC 1 PHASE SERIES SCR POWER CONTROLLER MAXIMUM CONFIGURATION WIRING DIAGRAM | | | | | | | | | | | | | | |
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| PROCON HPC 3 PHASE SERIES SCR POWER CONTROLLER MAXIMUM CONFIGURATION WIRING DIAGRAM | | | | | |
| APPROVAL | | DWN BY | MPJ | DATE | 01/16/04 |
| ENG | DATE | SHEET | | SCALE | NONE |
| GA | DATE | 1 OF 1 | | 12 | 090097 |
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