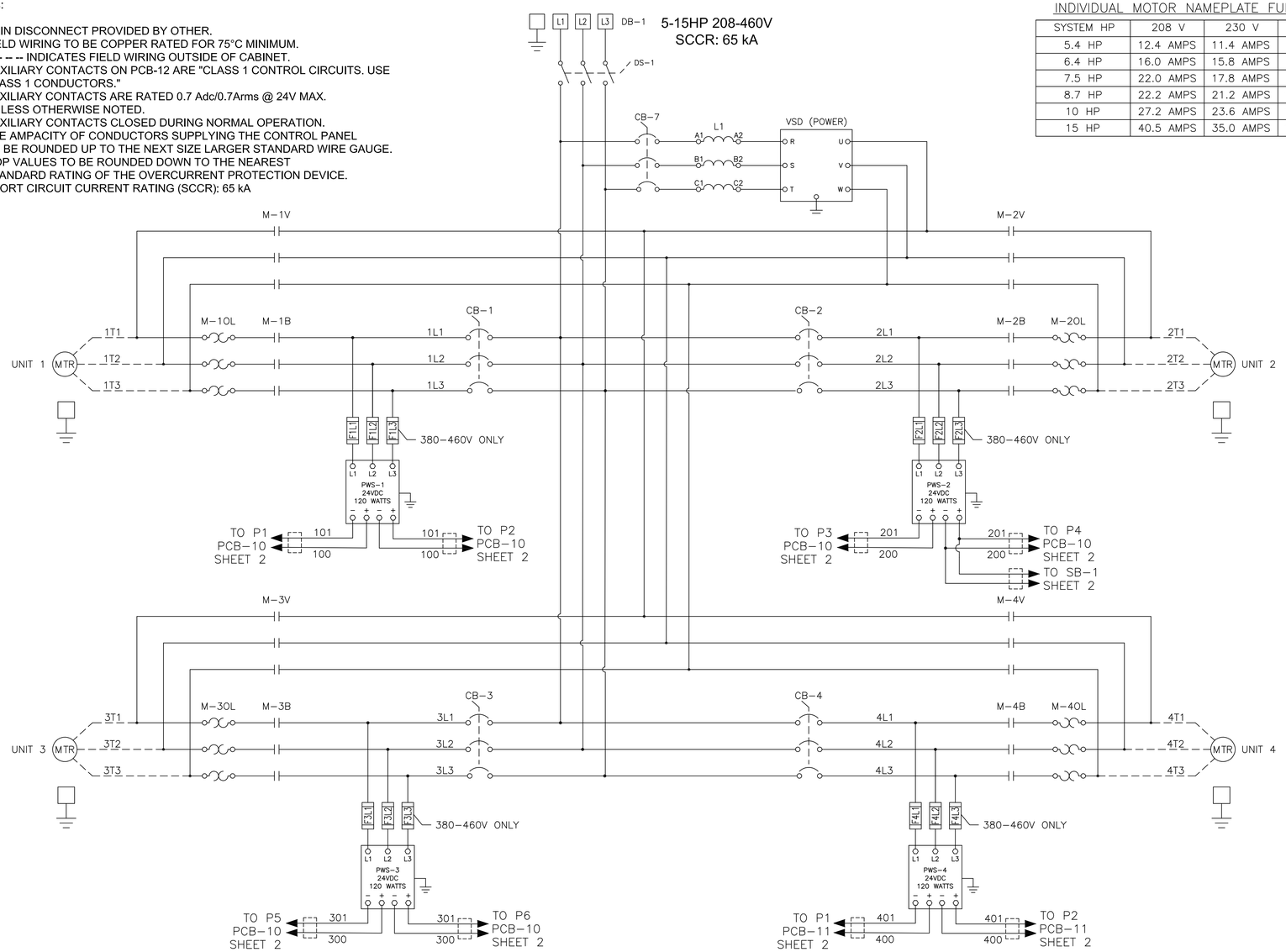
Notes:

1. MAIN DISCONNECT PROVIDED BY OTHER.
2. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.
3. -- -- -- -- INDICATES FIELD WIRING OUTSIDE OF CABINET.
4. AUXILIARY CONTACTS ON PCB-12 ARE "CLASS 1 CONTROL CIRCUITS. USE CLASS 1 CONDUCTORS."
5. AUXILIARY CONTACTS ARE RATED 0.7 Adc/0.7Arms @ 24V MAX. UNLESS OTHERWISE NOTED.
6. AUXILIARY CONTACTS CLOSED DURING NORMAL OPERATION.
7. THE AMPACITY OF CONDUCTORS SUPPLYING THE CONTROL PANEL TO BE ROUNDED UP TO THE NEXT SIZE LARGER STANDARD WIRE GAUGE.
8. MOP VALUES TO BE ROUNDED DOWN TO THE NEAREST STANDARD RATING OF THE OVERCURRENT PROTECTION DEVICE.
9. SHORT CIRCUIT CURRENT RATING (SCCR): 65 kA




## INDIVIDUAL MOTOR NAMEPLATE FULL LOAD AMPERES

| SYSTEM HP | 208 V | 230 V | 460 V | S.F. |
|---|---|---|---|---|
| 5.4 HP | 12.4 AMPS | 11.4 AMPS | 5.7 AMPS | 1.25 |
| 6.4 HP | 16.0 AMPS | 15.8 AMPS | 7.9 AMPS | 1.25 |
| 7.5 HP | 22.0 AMPS | 17.8 AMPS | 8.9 AMPS | 1.25 |
| 8.7 HP | 22.2 AMPS | 21.2 AMPS | 10.6 AMPS | 1.25 |
| 10 HP | 27.2 AMPS | 23.6 AMPS | 11.8 AMPS | 1.15 |
| 15 HP | 40.5 AMPS | 35.0 AMPS | 17.5 AMPS | 1.15 |

| 380V/50Hz | S.F. |
|---|---|
| 5.1 AMPS | 1.15 |
| 8.6 AMPS | 1.15 |
| 9.3 AMPS | 1.15 |
| 11.3 AMPS | 1.15 |
| 10.5 AMPS | 1.15 |
| 14.5 AMPS | 1.15 |

## INDIVIDUAL OPERATING FULL LOAD AMPERES

| SYSTEM HP | 208 V | 230 V | 380V/50Hz | 460 V |
|---|---|---|---|---|
| 5.4 HP | 13.7 AMPS | 12.6 AMPS | 5.6 AMPS | 6.3 AMPS |
| 6.4 HP | 17.4 AMPS | 17.2 AMPS | 9.4 AMPS | 8.6 AMPS |
| 7.5 HP | 24.2 AMPS | 19.6 AMPS | 10.2 AMPS | 9.8 AMPS |
| 8.7 HP | 25.1 AMPS | 24.0 AMPS | 12.8 AMPS | 12.0 AMPS |
| 10 HP | 27.2 AMPS | 23.6 AMPS | 14.0 AMPS | 11.8 AMPS |
| 15 HP | 40.5 AMPS | 35.0 AMPS | 14.5 AMPS | 17.5 AMPS |

## MAXIMUM OVERCURRENT PROTECTION (MOP)

| SYSTEM HP | 208 V | 230 V | 380 V | 460 V |
|---|---|---|---|---|
| 5.4 HP | 87.7 AMPS | 79.8 AMPS | 50.9 AMPS | 39.9 AMPS |
| 6.4 & 7.5 HP | 127.1 AMPS | 115.5 AMPS | 73.5 AMPS | 57.8 AMPS |
| 8.7 & 10 HP | 161.7 AMPS | 147.0 AMPS | 94.5 AMPS | 73.5 AMPS |
| 15 HP | 242.6 AMPS | 220.5 AMPS | 141.8 AMPS | 110.3 AMPS |

## MINIMUM CIRCUIT AMPACITY (MCA)

| SYSTEM HP | 208 V | 230 V | 380 V | 460 V |
|---|---|---|---|---|
| 5.4 HP | 74.5 AMPS | 67.8 AMPS | 43.7 AMPS | 34.4 AMPS |
| 6.4 & 7.5 HP | 106.4 AMPS | 96.7 AMPS | 62.0 AMPS | 48.8 AMPS |
| 8.7 & 10 HP | 134.4 AMPS | 122.2 AMPS | 79.0 AMPS | 61.6 AMPS |
| 15 HP | 199.9 AMPS | 181.7 AMPS | 117.3 AMPS | 91.3 AMPS |

## QUADRAPLEX SYSTEM FULL LOAD AMPERES

| SYSTEM HP | 208 V | 230 V | 380V/50Hz | 460 V |
|---|---|---|---|---|
| 5.4 HP | 57.6 AMPS | 52.9 AMPS | 24.4 AMPS | 26.8 AMPS |
| 6.4 HP | 72.4 AMPS | 71.3 AMPS | 39.6 AMPS | 36.0 AMPS |
| 7.5 HP | 99.6 AMPS | 80.9 AMPS | 42.8 AMPS | 40.8 AMPS |
| 8.7 HP | 103.2 AMPS | 98.5 AMPS | 53.2 AMPS | 49.6 AMPS |
| 10 HP | 111.6 AMPS | 96.9 AMPS | 58.0 AMPS | 48.8 AMPS |
| 15 HP | 164.8 AMPS | 142.5 AMPS | 60.0 AMPS | 71.6 AMPS |

## FUSE SELECTION CHART (MAX FUSE SIZES SHOWN)

| SYSTEM HP | FUSES | 208 V | 230 V | 380 V | 460 V |
|---|---|---|---|---|---|
| ALL | F1L1–F4L1<br>F1L2–F4L2 | 6.0 AMPS | 6.0 AMPS | 6.0 AMPS | 6.0 AMPS |
| | F1L3–F4L3 | --- | --- | 6.0 AMPS | 6.0 AMPS |
| | F1/F2/F3/F4<br>F5/F6 | 4.0 AMPS | 4.0 AMPS | 4.0 AMPS | 4.0 AMPS |
| | F7/F8/F9/F10<br>F11/F12/F13 | 1.0 AMP | 1.0 AMP | 1.0 AMP | 1.0 AMP |
| | F14 | 3.0 AMP | 3.0 AMP | 3.0 AMP | 3.0 AMP |

F1L1–F4L1/F1L2–F4L2/F1L3–F4L3 ARE LITTLEFUSE KLDR 600V TYPE
F1–F13 ARE SCHURTER UMT 250 TIME–LAG 250 VAC TYPE
F14 IS LITTELFUSE 2AG 250V TYPE

AUTO OPERATION:

DURING NORMAL OPERATION, THE SYSTEM PCB WILL SIGNAL THE LEAD VACUUM PUMP TO START WHEN THE VACUUM FALLS BELOW THE SET–POINT. IF ONE PUMP CAN CARRY THE LOAD, THEN THE VACUUM WILL RISE TO THE SET–POINT. THE PUMP PCB WILL THEN TURN OFF THE LEAD VACUUM PUMP WHEN ITS RUN TIMER EXPIRES. WHEN THE SYSTEM VACUUM FALLS AGAIN, THE SYSTEM PCB WILL SEQUENCE THE LEAD ROLE TO THE NEXT PUMP PCB AND IT WILL START. IF DURING OPERATION THE SYSTEM VACUUM FALLS BELOW 15"Hg, THE LAG PUMP WILL START AND A LAG ALARM WILL OCCUR.

PUMP PCB S1 POSITION:

POSITION (A) – AUTO (DEFAULT):
THE PUMP WILL OPERATE NORMALLY AS DESCRIBED ABOVE IN "AUTO OPERATION".
POSITION (X) – OFF:
THE PUMP IS DISABLED FROM RUNNING.
POSITION (O) – MANUAL:
THE PUMP WILL RUN CONTINUOUSLY.

PCB FAULT:

IF A PUMP PCB FAULT OR A TRANSDUCER FAULT OCCURS, THE PUMP PCB WILL AUTOMATICALLY SWITCH TO MANUAL MODE. COMPRESSORS WILL START WHEN BVS–1 (BACKUP VACUUM SWITCH) CLOSES AND STOP WHEN IT OPENS AND THE RUN TIMER EXPIRES.

## DEFAULT VACUUM SETPOINT ("HgV)

| ALTITUDE | | 15HP 02A |
|---|---|---|
| 0–1000' | 20 | 18 |
| 1001–2000' | 19 | 17 |
| 2001–3000' | 18 | 16 |
| 3001–4000' | 17 | 16 |
| >4000' | CONSULT FACTORY | |

## SYSTEM/PUMP/DRYER PCB JUMPER/SWT SETTINGS

| JPR/SWT | POSITION |
|---|---|
| JP1 | 1–2 (SYSTEM ONLY) |
| S1 | A (AUTO) |

## OVERLOAD SETTINGS

| SYSTEM HP | 208 V | 230 V | 380V/50Hz | 460 V |
|---|---|---|---|---|
| 5.4 HP | 15.1 AMPS | 13.9 AMPS | 6.2 AMPS | 6.9 AMPS |
| 6.4 HP | 19.1 AMPS | 18.9 AMPS | 10.3 AMPS | 9.5 AMPS |
| 7.5 HP | 26.6 AMPS | 21.6 AMPS | 11.2 AMPS | 10.8 AMPS |
| 8.7 HP | 27.6 AMPS | 26.4 AMPS | 14.1 AMPS | 13.2 AMPS |
| 10 HP | 29.9 AMPS | 26.0 AMPS | 15.4 AMPS | 13.0 AMPS |
| 15 HP | 44.6 AMPS | 38.5 AMPS | 16.0 AMPS | 19.3 AMPS |

## RELIEF VALVE SETTINGS ("HgV)

| ALTITUDE | 2–5.4HP | 6.4HP | 7.5–8.7HP | 10–15HP | 02 ASSURED PUMPS 2–5.4HP | 6.4HP | 7.5–8.7HP | 10HP | 15HP |
|---|---|---|---|---|---|---|---|---|---|
| 0–1000' | N/A | 25 | 24 | 23 | N/A | 25 | 24 | 23 | 20 |
| 1001–2000' | N/A | 24 | 23 | 22 | N/A | 24 | 23 | 22 | 19 |
| 2001–3000' | N/A | 23 | 22 | 21 | N/A | 23 | 22 | 21 | 18 |
| 3001–4000' | N/A | 22 | 21 | 20 | N/A | 22 | 21 | 20 | 18 |
| >4000' | CONSULT FACTORY | | | | | | | | |

## BACKUP VACUUM SWITCH ("HgV)

| | | 15HP 02A |
|---|---|---|
| BVS–1 | CUT–ON | 15 | 14 |

| | | | |
|---|---|---|---|
| Revised: | Date: | Drawn: TAR | Date: 10/16/23 |
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| | | | D |
| Description: DWG WIRING CONTROL<br>QX CLAW VSD 5-15HP GEN2<br>208-460/3/50-60, 65kA | | Part Number: 4107 8581 34 | |
| | | DN: HOP230423 | Rev: 00 |
| | | Sheet 1 of 4 | DO NOT SCALE THIS DOCUMENT |

Notes:

1. MAIN DISCONNECT PROVIDED BY OTHER.
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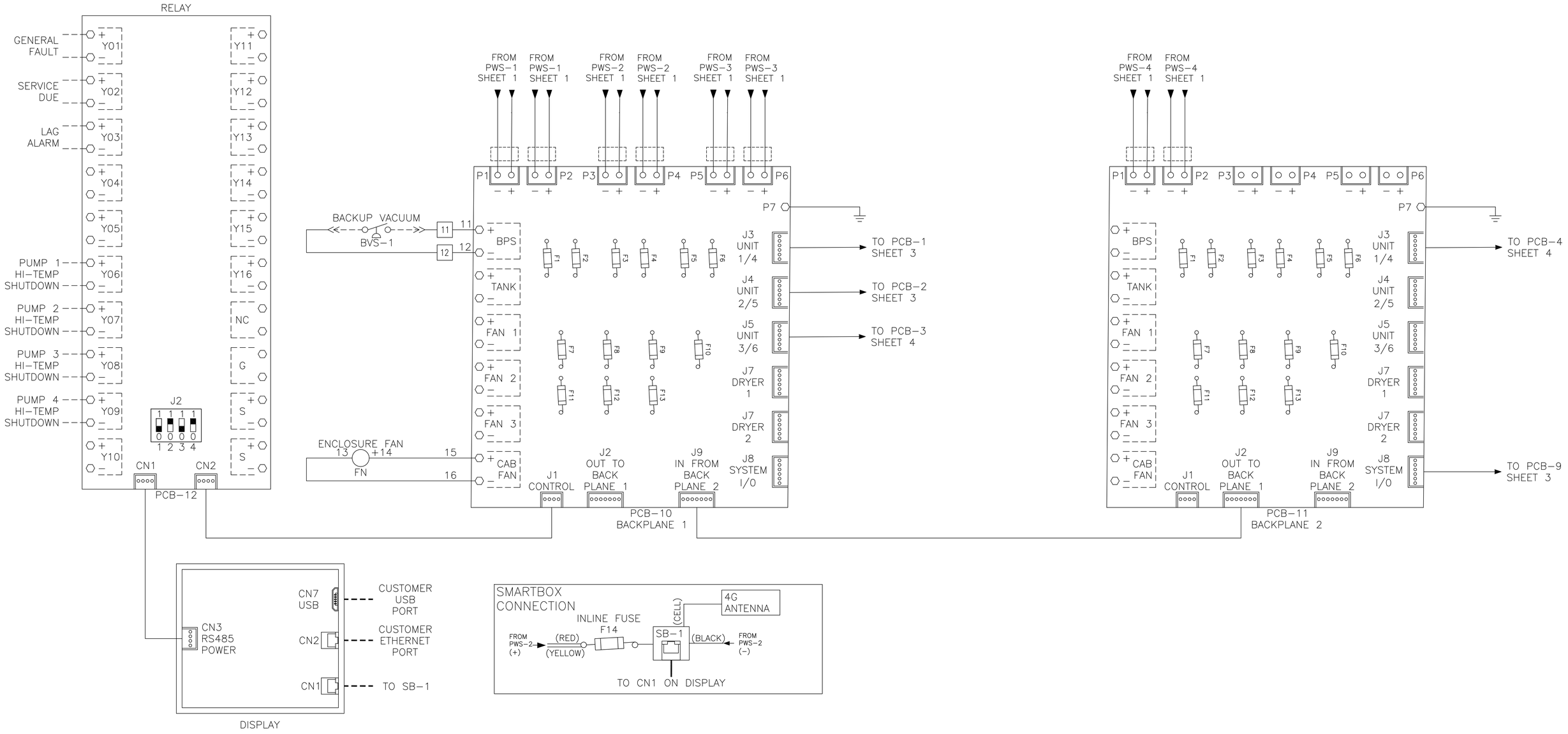
3. -- -- -- -- INDICATES FIELD WIRING OUTSIDE OF CABINET.

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| | | DN: HOP230423 | Rev: 00 |
| | | Sheet 2 of 4 | DO NOT SCALE THIS DOCUMENT |

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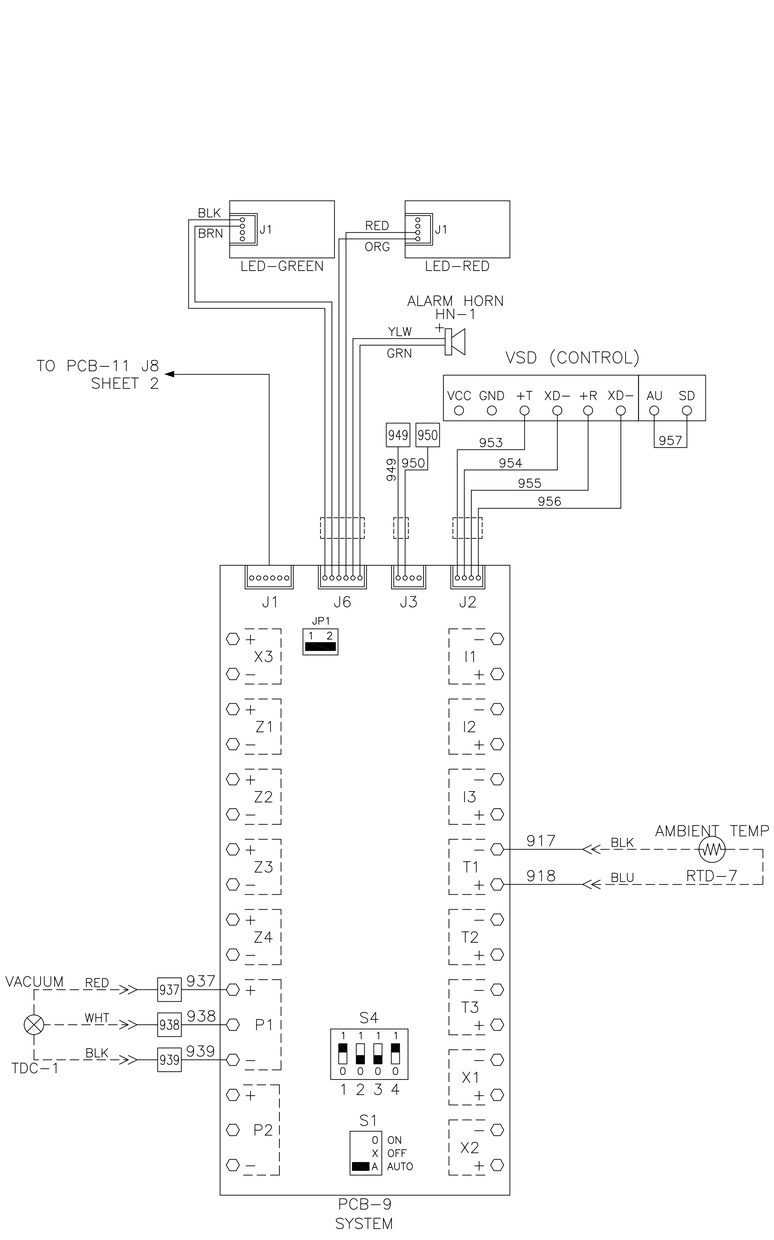


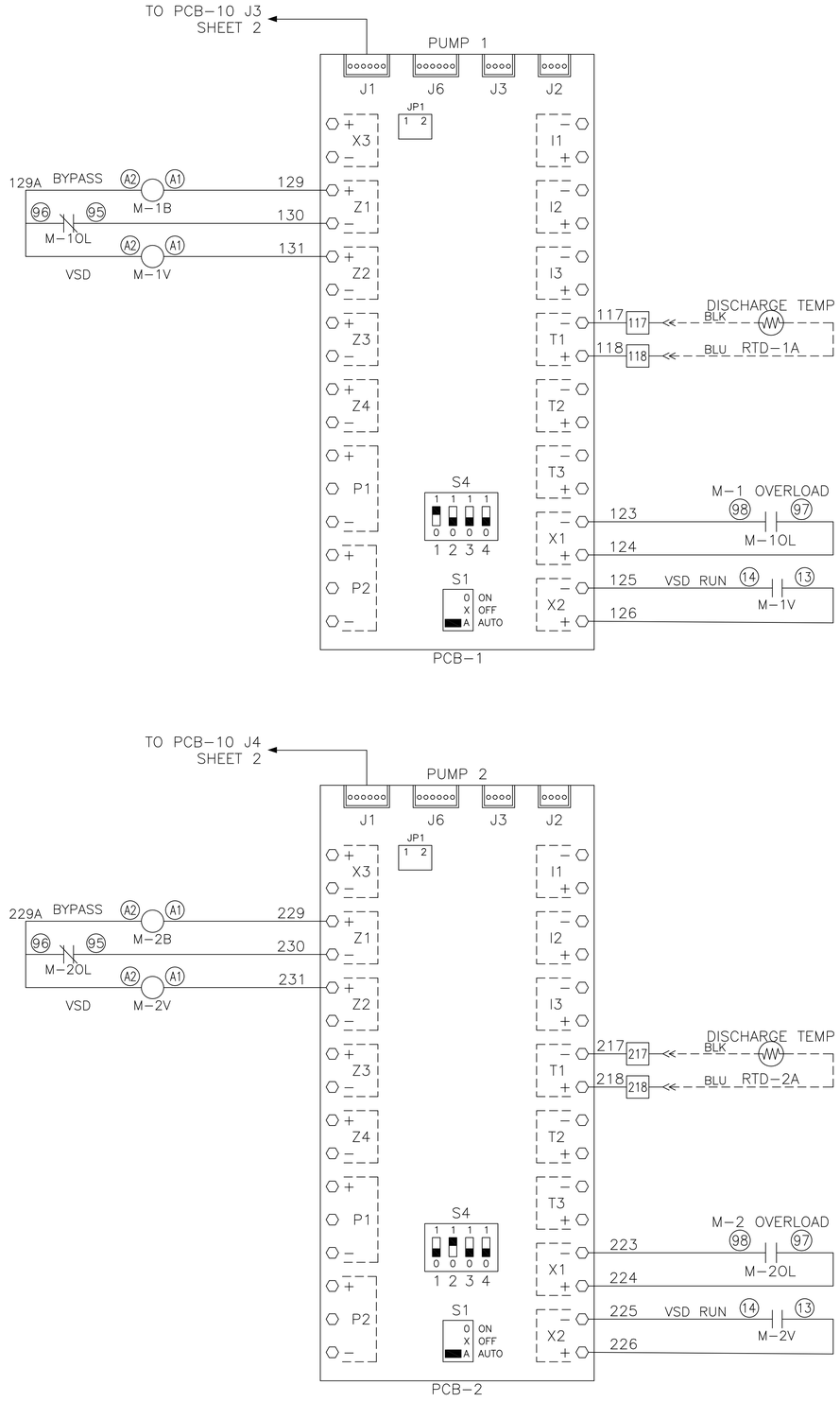


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| | | Sheet 3 of 4 | DO NOT SCALE THIS DOCUMENT |

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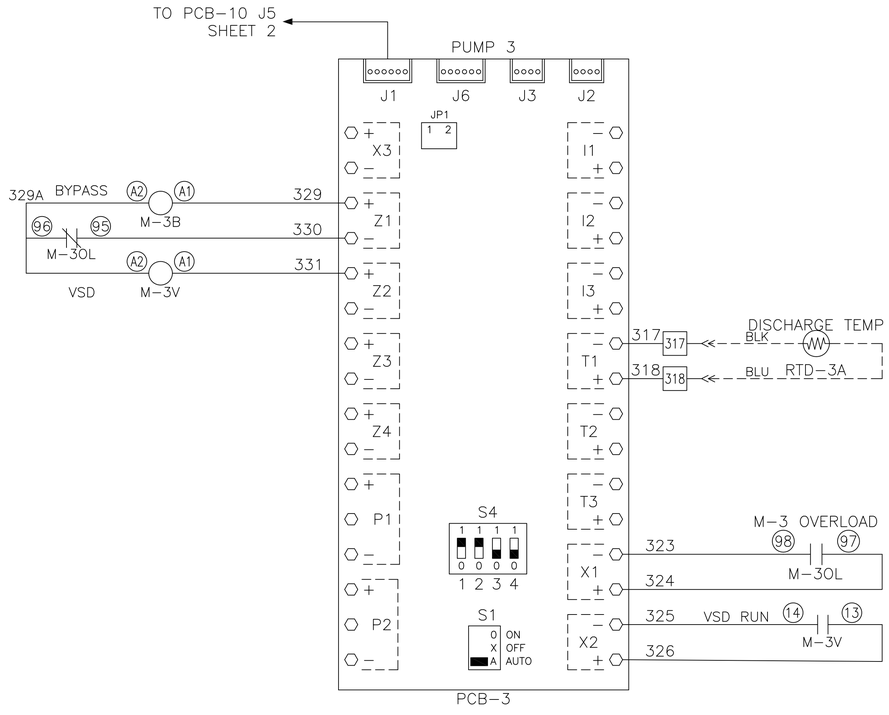


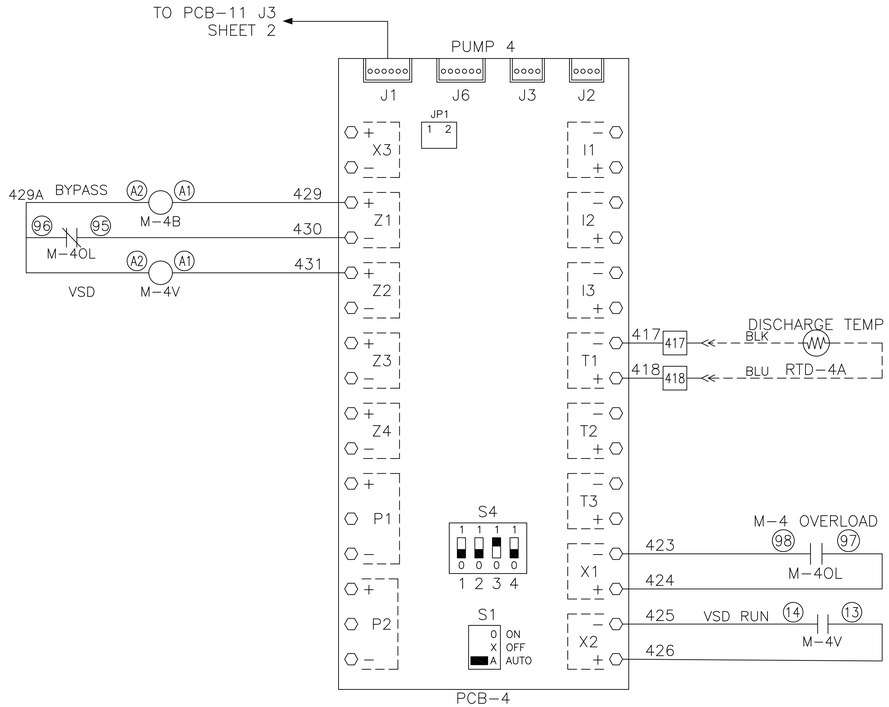


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