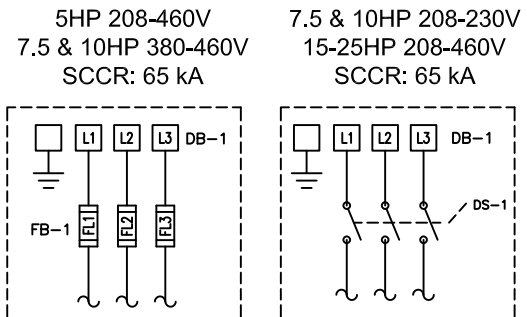


Notes:

1. MAIN DISCONNECT PROVIDED BY OTHERS.
2. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.
3. - - - - INDICATES FIELD WIRING OUTSIDE OF BOX.
4. AUXILIARY CONTACTS LIST AND OPERATION NOTES ON SHEET 3.
5. THE AMPACITY OF CONDUCTORS SUPPLYING THE CONTROL PANEL TO BE ROUNDED UP TO THE NEXT SIZE LARGER STANDARD WIRE GAUGE.
6. MOP VALUES TO BE ROUNDED DOWN TO THE NEAREST STANDARD RATING OF THE OVERCURRENT PROTECTION DEVICE.
7. SHORT CIRCUIT CURRENT RATING (SCCR): 65kA
8. POWER TO TERMINAL BLOCKS 3 & 4 OPENS ISOLATION VALVE 1
POWER TO TERMINAL BLOCKS 5 & 6 CLOSES ISOLATION VALVE 1
POWER TO TERMINAL BLOCKS 13 & 14 OPENS ISOLATION VALVE 2
POWER TO TERMINAL BLOCKS 15 & 16 CLOSES ISOLATION VALVE 2
POWER TO TERMINAL BLOCKS 23 & 24 OPENS ISOLATION VALVE 3
POWER TO TERMINAL BLOCKS 25 & 26 CLOSES ISOLATION VALVE 3



| MINIMUM CIRCUIT AMPACITY (MCA) | | | | |
|--------------------------------|------------|------------|------------|------------|
| SYSTEM HP | 208 V | 230 V | 380 V | 460 V |
| 5 HP | 56.9 AMPS | 51.8 AMPS | 33.4 AMPS | 26.2 AMPS |
| 7.5 HP | 81.3 AMPS | 73.9 AMPS | 47.4 AMPS | 37.3 AMPS |
| 10 HP | 102.7 AMPS | 93.4 AMPS | 60.4 AMPS | 47.0 AMPS |
| 15 HP | 152.8 AMPS | 138.9 AMPS | 89.6 AMPS | 69.8 AMPS |
| 20 HP | 195.7 AMPS | 177.9 AMPS | 112.4 AMPS | 89.3 AMPS |
| 25 HP | 245.7 AMPS | 223.4 AMPS | 144.9 AMPS | 112.0 AMPS |

| MAXIMUM OVERCURRENT PROTECTION (MOP) | | | | |
|--------------------------------------|------------|------------|------------|------------|
| SYSTEM HP | 208 V | 230 V | 380 V | 460 V |
| 5 HP | 71.0 AMPS | 64.6 AMPS | 41.2 AMPS | 32.3 AMPS |
| 7.5 HP | 102.9 AMPS | 93.5 AMPS | 59.5 AMPS | 46.8 AMPS |
| 10 HP | 130.9 AMPS | 119.0 AMPS | 76.5 AMPS | 59.5 AMPS |
| 15 HP | 196.4 AMPS | 178.5 AMPS | 114.8 AMPS | 89.3 AMPS |
| 20 HP | 252.5 AMPS | 229.5 AMPS | 144.5 AMPS | 114.8 AMPS |
| 25 HP | 317.9 AMPS | 289.0 AMPS | 187.0 AMPS | 144.5 AMPS |

| TRIPLEX SYSTEM FULL LOAD AMPERES | | | | |
|----------------------------------|------------|------------|------------|-----------|
| SYSTEM HP | 208 V | 230 V | 380V/50Hz | 460 V |
| 5 HP | 46.5 AMPS | 40.6 AMPS | 24.7 AMPS | 20.6 AMPS |
| 7.5 HP | 72.3 AMPS | 67.3 AMPS | 35.7 AMPS | 33.9 AMPS |
| 10 HP | 102.3 AMPS | 80.5 AMPS | 41.4 AMPS | 40.5 AMPS |
| 15 HP | 152.1 AMPS | 114.1 AMPS | 68.4 AMPS | 57.3 AMPS |
| 20 HP | 188.1 AMPS | 157.9 AMPS | 85.5 AMPS | 79.2 AMPS |
| 25 HP | 218.1 AMPS | 187.9 AMPS | 112.5 AMPS | 94.2 AMPS |

| INDIVIDUAL FULL LOAD AMPERES | | | | |
|------------------------------|-----------|-----------|-----------|-----------|
| SYSTEM HP | 208 V | 230 V | 380V/50Hz | 460 V |
| 5 HP | 14.8 AMPS | 12.9 AMPS | 7.7 AMPS | 6.5 AMPS |
| 7.5 HP | 23.4 AMPS | 21.8 AMPS | 11.4 AMPS | 10.9 AMPS |
| 10 HP | 33.4 AMPS | 26.2 AMPS | 13.3 AMPS | 13.1 AMPS |
| 15 HP | 50.0 AMPS | 37.4 AMPS | 22.3 AMPS | 18.7 AMPS |
| 20 HP | 62.0 AMPS | 52.0 AMPS | 28.0 AMPS | 26.0 AMPS |
| 25 HP | 72.0 AMPS | 62.0 AMPS | 37.0 AMPS | 31.0 AMPS |

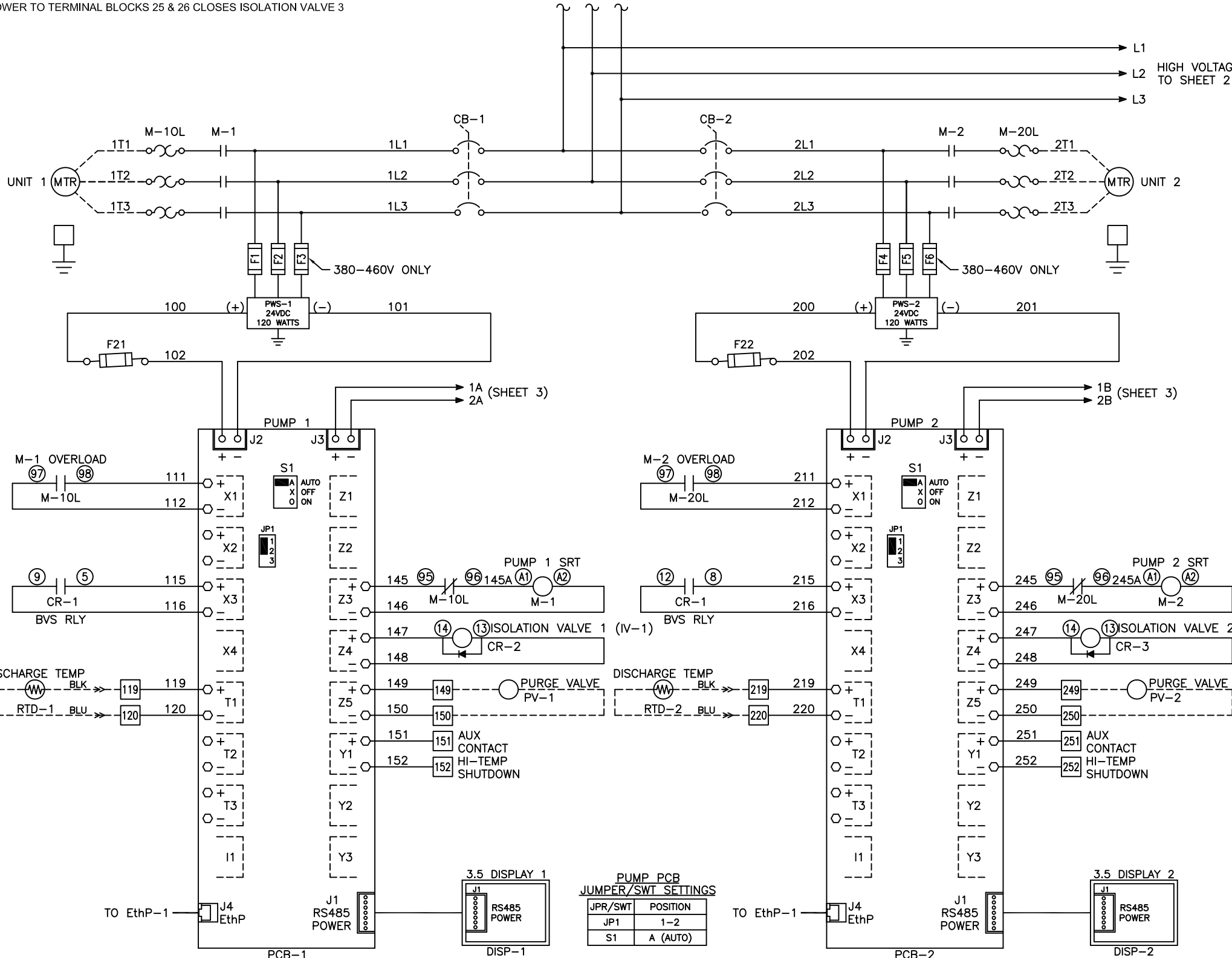
| FUSE SELECTION CHART (MAX FUSE SIZES SHOWN) | | | | | |
|---|-----------------------|----------|----------|----------|----------|
| SYSTEM HP | FUSES | 208 V | 230 V | 380 V | 460 V |
| 5 HP | FL1/FL2/FL3 | 60 AMPS | 50 AMPS | 30 AMPS | 25 AMPS |
| 7.5 HP | | --- | --- | 45 AMPS | 40 AMPS |
| 10 HP | | --- | --- | 50 AMPS | 50 AMPS |
| 15 HP | | --- | --- | --- | --- |
| 20 HP | | --- | --- | --- | --- |
| 25 HP | --- | --- | --- | --- | |
| ALL | F1/F2/F4/ F5/F7/F8 | 6.0 AMPS | 6.0 AMPS | 6.0 AMPS | 6.0 AMPS |
| | F3/F6/F9 | --- | --- | 6.0 AMPS | 6.0 AMPS |
| | F21/F22/F23 | 4.0 AMPS | 4.0 AMPS | 4.0 AMPS | 4.0 AMPS |
| | F33 | 1.0 AMPS | 1.0 AMPS | 1.0 AMPS | 1.0 AMPS |
| | F35 | 0.5 AMPS | 0.5 AMPS | 0.5 AMPS | 0.5 AMPS |

FL1/FL2/FL3 ARE LITTELFUSE JTD 600V TYPE
F1-F9 ARE LITTELFUSE KLDK 600V TYPE
F21/F22/F23/F33/F35 ARE LITTELFUSE 2AG 250V TYPE

DEFAULT VACUUM SETTINGS

| ALTITUDE | LEAD CUT-OFF ("Hg) | LAG CUT-ON ("Hg) | Maximum Limits ("Hg) | | Minimum Limits ("Hg) | |
|---------------|--------------------|------------------|----------------------|-----|----------------------|-----|
| 0'-3000' | 25" | 19" | 25" | 22" | 21" | 16" |
| 3001'-4000' | 24" | 19" | 25" | 22" | 21" | 16" |
| 4001'-5000' | 23" | 18" | 25" | 22" | 21" | 16" |
| 5001'-6000' | 22" | 18" | 24" | 21" | 20" | 16" |
| 6001'-7000' | 21" | 17" | 23" | 20" | 19" | 16" |
| 7001'-8000' | 20" | 17" | 22" | 20" | 19" | 16" |
| 8001'-9000' | 19" | 16" | 21" | 19" | 18" | 16" |
| 9001'-10,000' | 18" | 16" | 20" | 19" | 18" | 16" |
| >10,000' | CONSULT FACTORY | | | | | |

| BACKUP VACUUM SWITCH | | |
|----------------------|--------|-----|
| BVS-1 | CUT-ON | 15" |



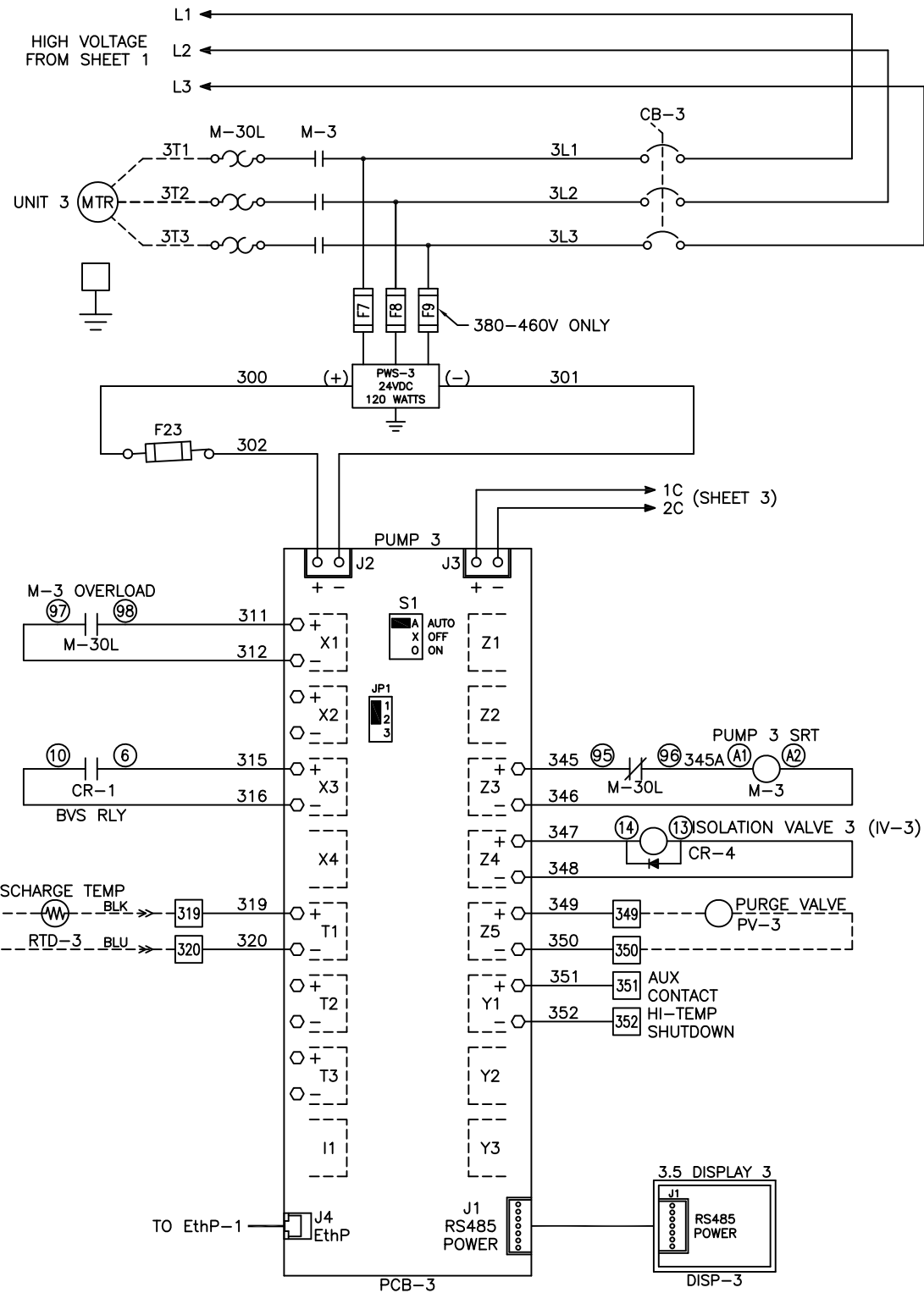
PUMP PCB JUMPER/SWT SETTINGS

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

| | | | | | |
|--|-------|---|-----|--------------|----------|
| Revised: | Date: | Drawn: | MDB | Date: | 10/30/18 |
| | | This drawing and the information contained therein remains the property of BeaconMedics and may not be used for other than the purpose for which it is loaned without the expressed written permission from BeaconMedics Engineering. | | | |
| Description: DWG WIRING CONTROL TX LAB LUBE 5-25HP 208-460/3/50-60, 65KA | | Part Number: 4107 8568 66 | | Scale: NTS | |
| DN: HOP 180863 | | Rev: 00 | | Sheet 1 of 3 | |

Notes:

1. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.



AUTO OPERATION:

THE PUMP PCB WILL SIGNAL THE LEAD PUMP TO START AND THE ISOLATION VALVE TO OPEN WHEN THE VACUUM FALLS BELOW THE SET POINT. THE PUMP WILL CONTINUE TO RUN UNTIL THE VACUUM LEVEL SET POINT IS REACHED AND THE PUMP PCB WILL SIGNAL THE ISOLATION VALVE TO CLOSE AND THE PURGE VALVE TO OPEN. THE PUMP WILL THEN PURGE UNTIL THE PURGE TIMER EXPIRES. AFTER THE PURGE TIMER EXPIRES, THE PUMP PCB WILL SIGNAL THE PURGE VALVE TO CLOSE AND THE PUMP TO TURN OFF. IF THE VACUUM LEVEL FALLS BELOW THE SET POINT DURING THE PURGE CYCLE THE PCB WILL SIGNAL THE PURGE VALVE TO CLOSE, THE ISOLATION VALVE TO OPEN AND THE PUMP WILL RUN UNTIL THE VACUUM LEVEL SET POINT IS REACHED AND THEN BEGIN THE PURGE PROCESS AGAIN.

THE LEAD PUMP WILL ALTERNATE WHEN THE PUMP ALTERNATION TIME COMPLETES, FACTORY SET AT 10 HOURS. IF THE LEAD PUMP FAILS THE NEXT AVAILABLE PUMP WILL BECOME LEAD.

PUMP PCB S1 POSITION:

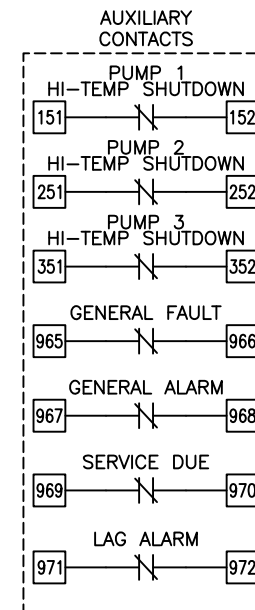
POSITION (A) – AUTO (DEFAULT):
THE PUMP WILL OPERATE NORMALLY AS DESCRIBED ABOVE IN "AUTO OPERATION".

POSITION (X) – OFF:
THE PUMP IS DISABLED FROM RUNNING.

POSITION (O) – MANUAL:
THE PUMP WILL RUN CONTINUOUSLY.

PCB FAULT:

IF A PUMP PCB ETHERNET FAULT OR A TRANSDUCER FAULT OCCURS, THE PUMP PCB WILL AUTOMATICALLY SWITCH TO EMERGENCY MANUAL MODE. VACUUM PUMPS WILL START WHEN BVS-1 (BACKUP VACUUM SWITCH) CLOSSES AND STOP WHEN THE RUN TIMER EXPIRES.



NOTE:
AUXILIARY CONTACTS 151-152, 251-252, 351-352, & 965-972 ARE "CLASS 1 CONTROL CIRCUITS. USE CLASS 1 CONDUCTORS."

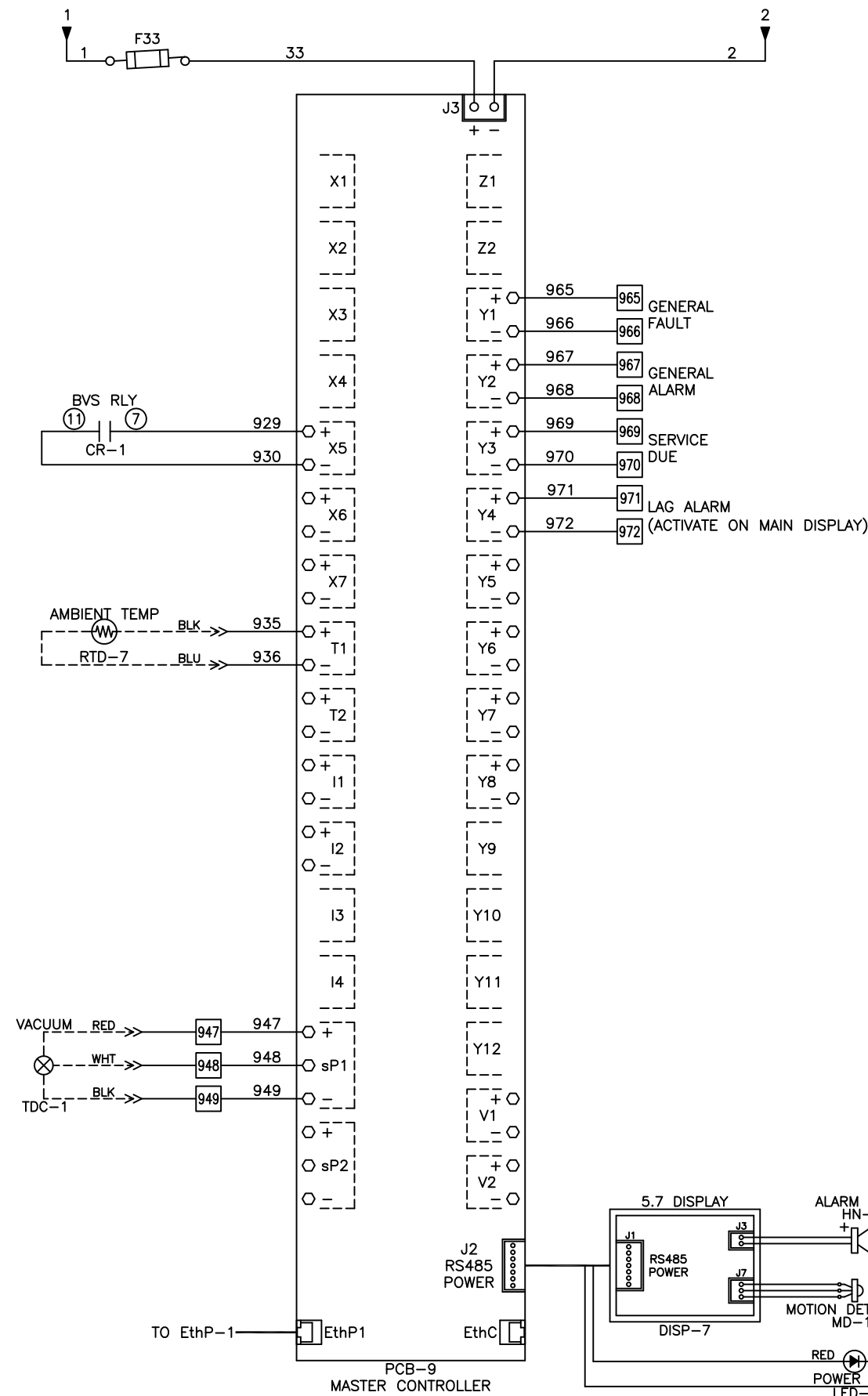
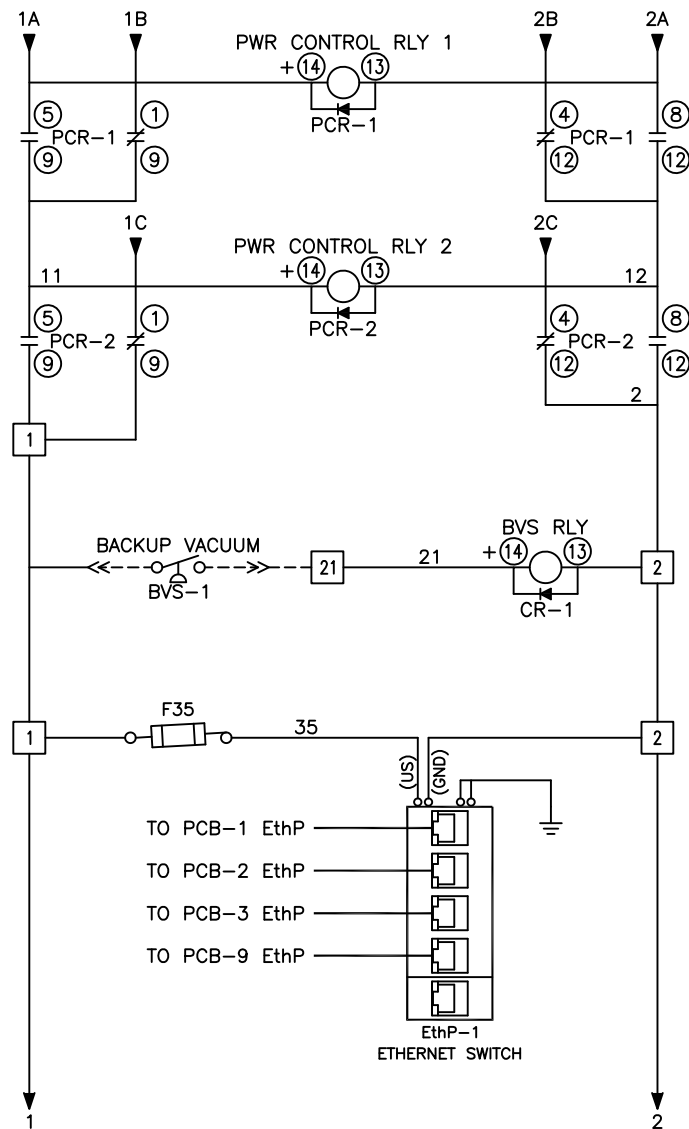
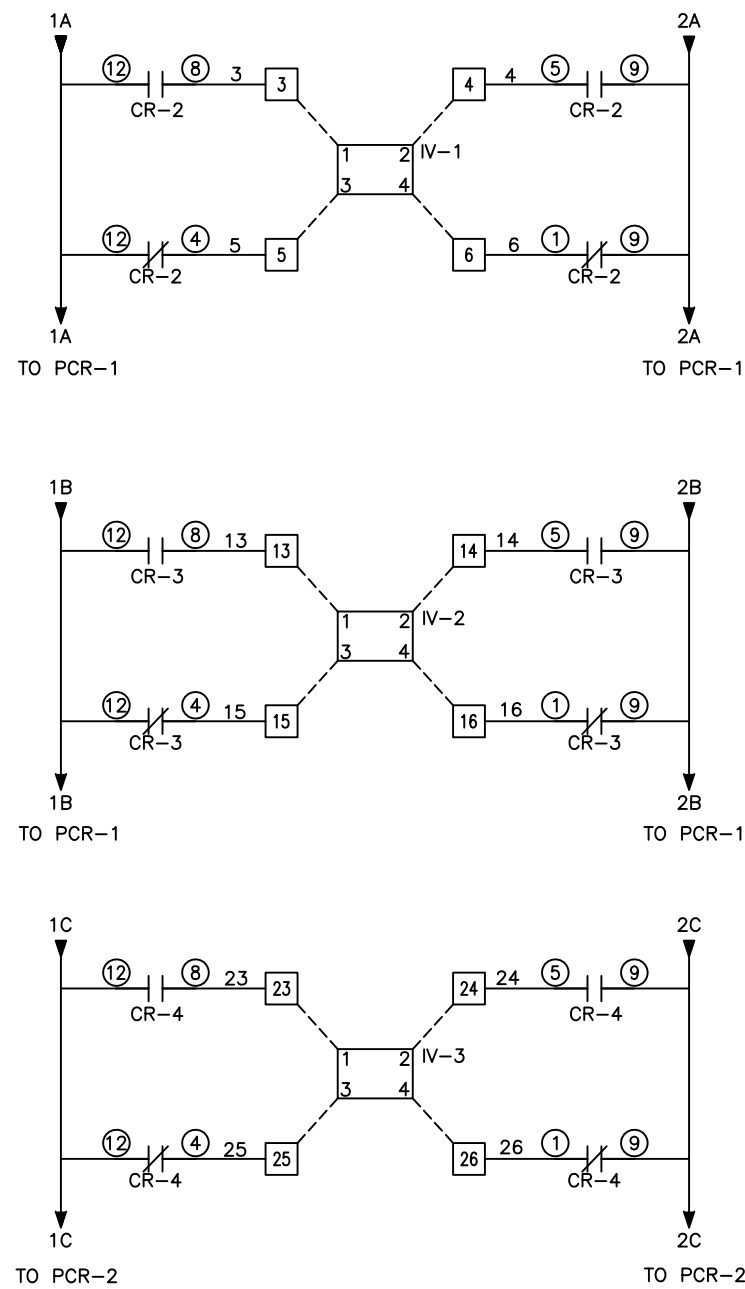
AUX CONTACTS ARE RATED 0.7A_{dc}/0.7A_{rms} @ 24V MAX. UNLESS OTHERWISE NOTED.

AUX CONTACTS CLOSED DURING NORMAL OPERATION.

| | | | | | |
|-----------------------|-------|---|-----|----------------------------|----------|
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| Description: | | Part Number: | | Scale: | |
| DWG WIRING CONTROL | | 4107 8568 66 | | NTS | |
| TX LAB LUBE 5-25HP | | HOP 180863 | | Rev: 00 | |
| 208-460/3/50-60, 65kA | | Sheet 2 of 3 | | DO NOT SCALE THIS DOCUMENT | |

Notes:

1. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.



| | | | | | |
|---|-------|--|-----|--|----------|
| Revised: | Date: | Drawn: | MDB | Date: | 10/30/18 |
| | | This drawing and the information contained thereon remain the property of BeaconMed, Inc. and may not be used for other than the purposes for which it is issued without the expressed written permission from BeaconMed, Inc. | | | |
| Description: DWG WIRING CONTROL TX LAB LUBE 5-25HP 208-460/3/50-60, 65KA | | Part Number: 4107 8568 66 | | Scale: MTS D | |
| DN: HOP 180863 | | Rev: 00 | | Sheet 3 of 3 DO NOT SCALE THIS DOCUMENT | |