

Notes:

1. THE AMPACITY OF CONDUCTORS SUPPLYING THE CONTROL PANEL TO BE ROUNDED UP TO THE NEXT SIZE LARGER STANDARD WIRE GAUGE.
2. MOP VALUES TO BE ROUNDED DOWN TO THE NEAREST STANDARD RATING OF THE OVERCURRENT PROTECTION DEVICE.
3. SHORT CIRCUIT CURRENT RATING (SCCR): 65 kA

AUTO OPERATION:

DURING NORMAL OPERATION THE MASTER 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 MASTER PCB WILL SEQUENCE THE LEAD ROLE TO THE OTHER PUMP PCB AND IT WILL START. IF DURING OPERATION THE SYSTEM 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:

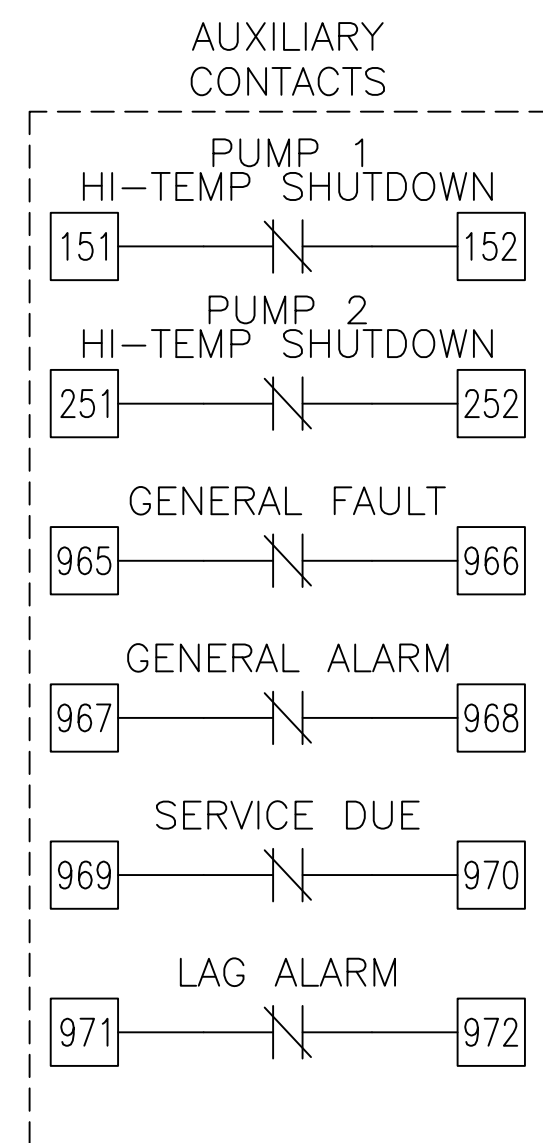
THE PUMP IS DISABLED FROM RUNNING.

POSITION (O) – MANUAL:

THE PUMP WILL RUN CONTINUOUSLY.

PCB FAULT:

IF A PUMP PCB 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 BVS-1 OPENS AND THE RUN TIMER EXPIRES.



NOTE:
AUXILIARY CONTACTS
151-152, 251-252, &
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.

MINIMUM CIRCUIT AMPACITY (MCA)

SYSTEM HP	208 V	230 V	380 V	460 V
4 & 5.4 HP	39.3 AMPS	35.8 AMPS	23.1 AMPS	18.1 AMPS
6.4 & 7.5 HP	56.2 AMPS	51.1 AMPS	32.8 AMPS	25.8 AMPS
8.7 & 10 HP	71.1 AMPS	64.6 AMPS	41.8 AMPS	32.5 AMPS
15 HP	105.7 AMPS	96.1 AMPS	62.0 AMPS	48.3 AMPS

INDIVIDUAL MOTOR NAMEPLATE FULL LOAD AMPERES

SYSTEM HP	208 V	230 V	460 V	S.F.
4 HP	10.0 AMPS	9.2 AMPS	4.6 AMPS	1.25
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.
5.0 AMPS	1.15
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

MAXIMUM OVERCURRENT PROTECTION (MOP)

SYSTEM HP	208 V	230 V	380 V	460 V
4 & 5.4 HP	54.3 AMPS	49.4 AMPS	31.5 AMPS	24.7 AMPS
6.4 & 7.5 HP	78.7 AMPS	71.5 AMPS	45.5 AMPS	35.8 AMPS
8.7 & 10 HP	100.1 AMPS	91.0 AMPS	58.5 AMPS	45.5 AMPS
15 HP	150.2 AMPS	136.5 AMPS	87.8 AMPS	68.3 AMPS

INDIVIDUAL OPERATING FULL LOAD AMPERES

SYSTEM HP	208 V	230 V	380V/50Hz	460 V
4 HP	9.3 AMPS	8.5 AMPS	4.6 AMPS	4.3 AMPS
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

DUPLEX SYSTEM FULL LOAD AMPERES

SYSTEM HP	208 V	230 V	380V/50Hz	460 V
4 HP	21.4 AMPS	19.7 AMPS	11.0 AMPS	10.0 AMPS
5.4 HP	28.8 AMPS	26.5 AMPS	12.2 AMPS	13.4 AMPS
6.4 HP	36.2 AMPS	35.7 AMPS	19.8 AMPS	18.0 AMPS
7.5 HP	49.8 AMPS	40.5 AMPS	21.4 AMPS	20.4 AMPS
8.7 HP	51.6 AMPS	49.3 AMPS	26.6 AMPS	24.8 AMPS
10 HP	55.8 AMPS	48.5 AMPS	29.0 AMPS	24.4 AMPS
15 HP	82.4 AMPS	71.3 AMPS	30.0 AMPS	35.8 AMPS

FUSE SELECTION CHART (MAX FUSE SIZES SHOWN)

SYSTEM HP	FUSES	208 V	230 V	380 V	460 V
4 HP	FL1/FL2/FL3	30 AMPS	25 AMPS	15 AMPS	15 AMPS
5.4 HP		40 AMPS	35 AMPS	17.5 AMPS	17.5 AMPS
6.4 HP		50 AMPS	45 AMPS	25 AMPS	25 AMPS
7.5 HP		---	60 AMPS	30 AMPS	30 AMPS
8.7 HP		---	---	35 AMPS	35 AMPS
10 HP		---	---	40 AMPS	35 AMPS
15 HP	---	---	40 AMPS	45 AMPS	
ALL	F1/F2/F4/F5	6.0 AMPS	6.0 AMPS	6.0 AMPS	6.0 AMPS
	F3/F6	---	---	6.0 AMPS	6.0 AMPS
	F21/F22	2.5 AMPS	2.5 AMPS	2.5 AMPS	2.5 AMPS
	F33	1.0 AMPS	1.0 AMPS	1.0 AMPS	1.0 AMPS
	F34	0.4 AMPS	0.4 AMPS	0.4 AMPS	0.4 AMPS
	F35	0.5 AMPS	0.5 AMPS	0.5 AMPS	0.5 AMPS

FL1/FL2/FL3 ARE LITTELFUSE JTD 600V TYPE
F1-F6 ARE LITTELFUSE KLDK 600V TYPE
F21/F22/F33/F34/F35 ARE LITTELFUSE 2AG 250V TYPE

DEFAULT VACUUM SETPOINT ("HgV)

ALTITUDE	15HP O2A	
0-1000'	20	18
1001-2000'	19	17
2001-3000'	18	16
3001-4000'	17	16
>4000'	CONSULT FACTORY	

RELIEF VALVE SETTINGS ("HgV)

ALTITUDE	O2 ASSURED PUMPS						
	5.4HP	6.4-8.7HP	10-15HP	5.4HP	6.4-8.7HP	10HP	15HP
0-1000'	N/A	24	23	N/A	24	23	20
1001-2000'	N/A	23	22	N/A	23	22	19
2001-3000'	N/A	22	21	N/A	22	21	18
3001-4000'	N/A	21	20	N/A	21	20	18
>4000'	CONSULT FACTORY						

BACKUP VACUUM SWITCH ("HgV)

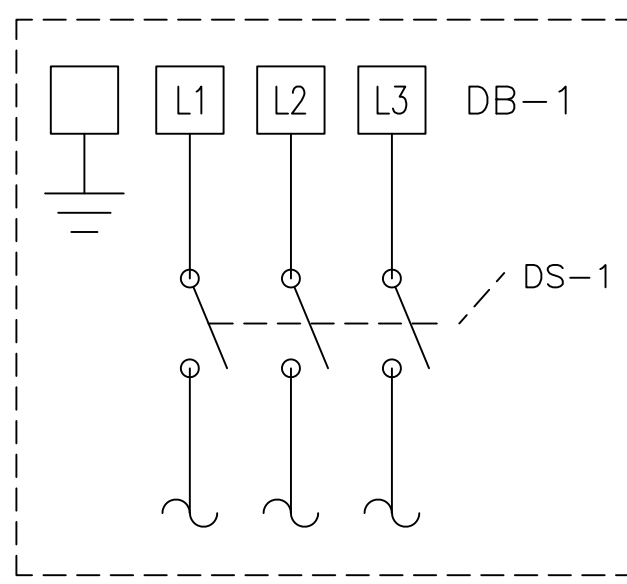
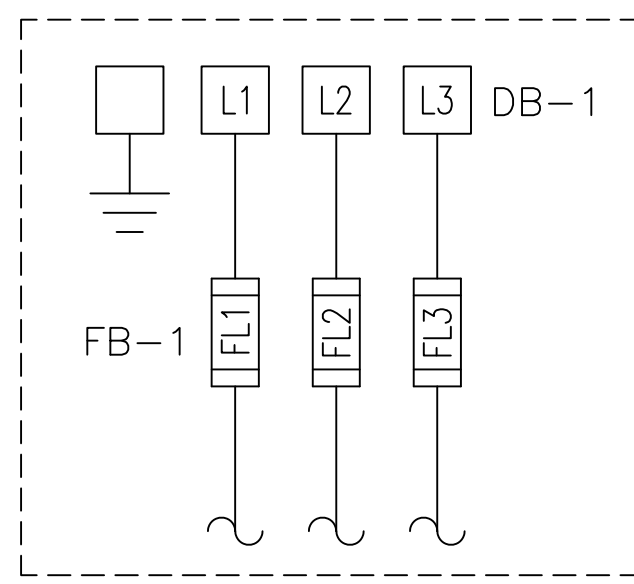
BVS-1	CUT-ON	15	14

Revised: BJM	Date: 3/30/20	Drawn: MDB	Date: 10/30/18
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Description: DWG WIRING CONTROL DX CLAW VSD 4-15HP 208-460/3/50-60, 65kA		Part Number: 4107 8568 48	
DN: HOP 200172		Rev: 01	
Sheet 1 of 3		DO NOT SCALE THIS DOCUMENT	

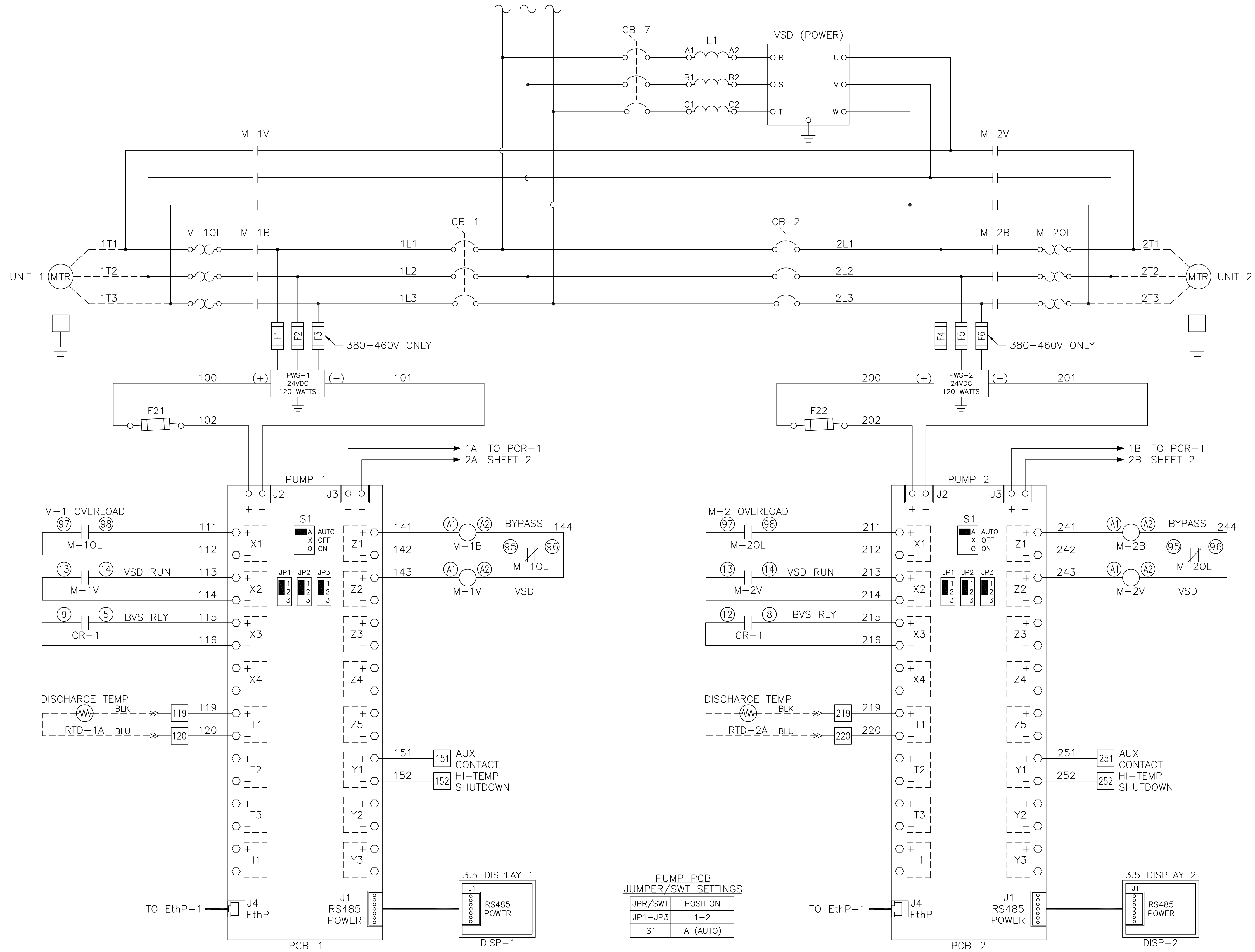
Notes:

1. MAIN DISCONNECT PROVIDED BY OTHER.
2. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.
3. - - - - - INDICATES FIELD WIRING OUTSIDE OF CABINET.

5.4 & 6.4HP 208-460V
 7.5HP 230-460V
 8.7 & 15HP 380-460V
 SCCR: 65 kA



7.5HP 208V
 8.7-15HP 208-230V
 SCCR: 65 kA



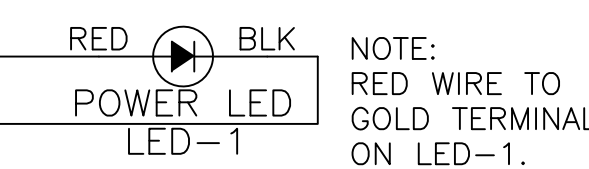
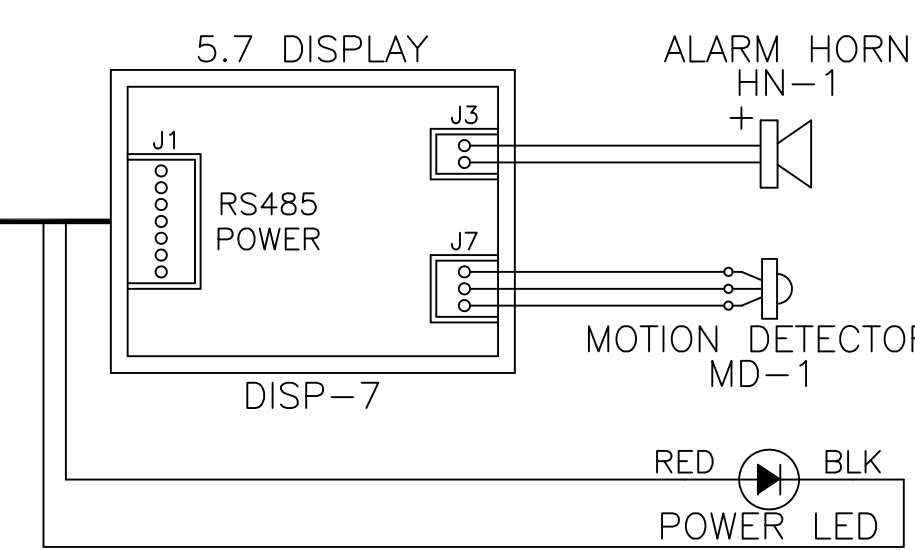
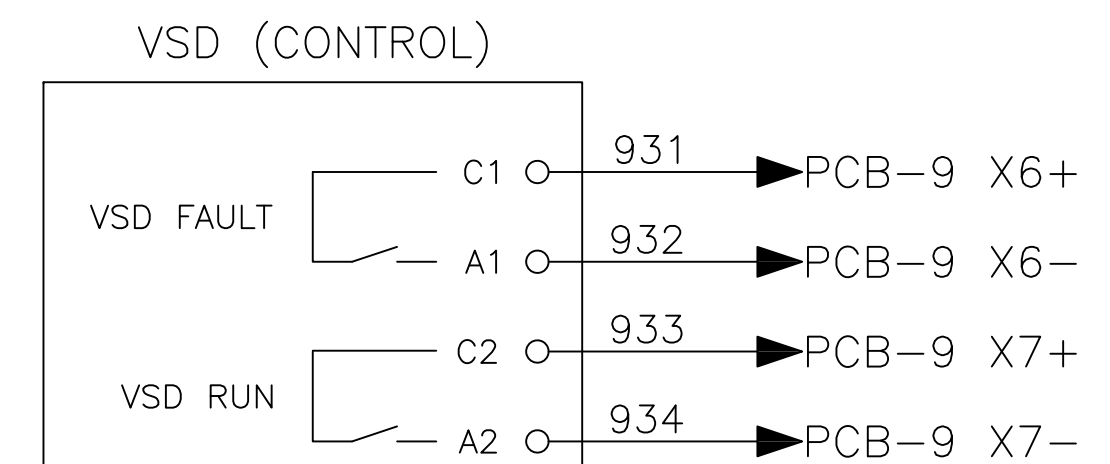
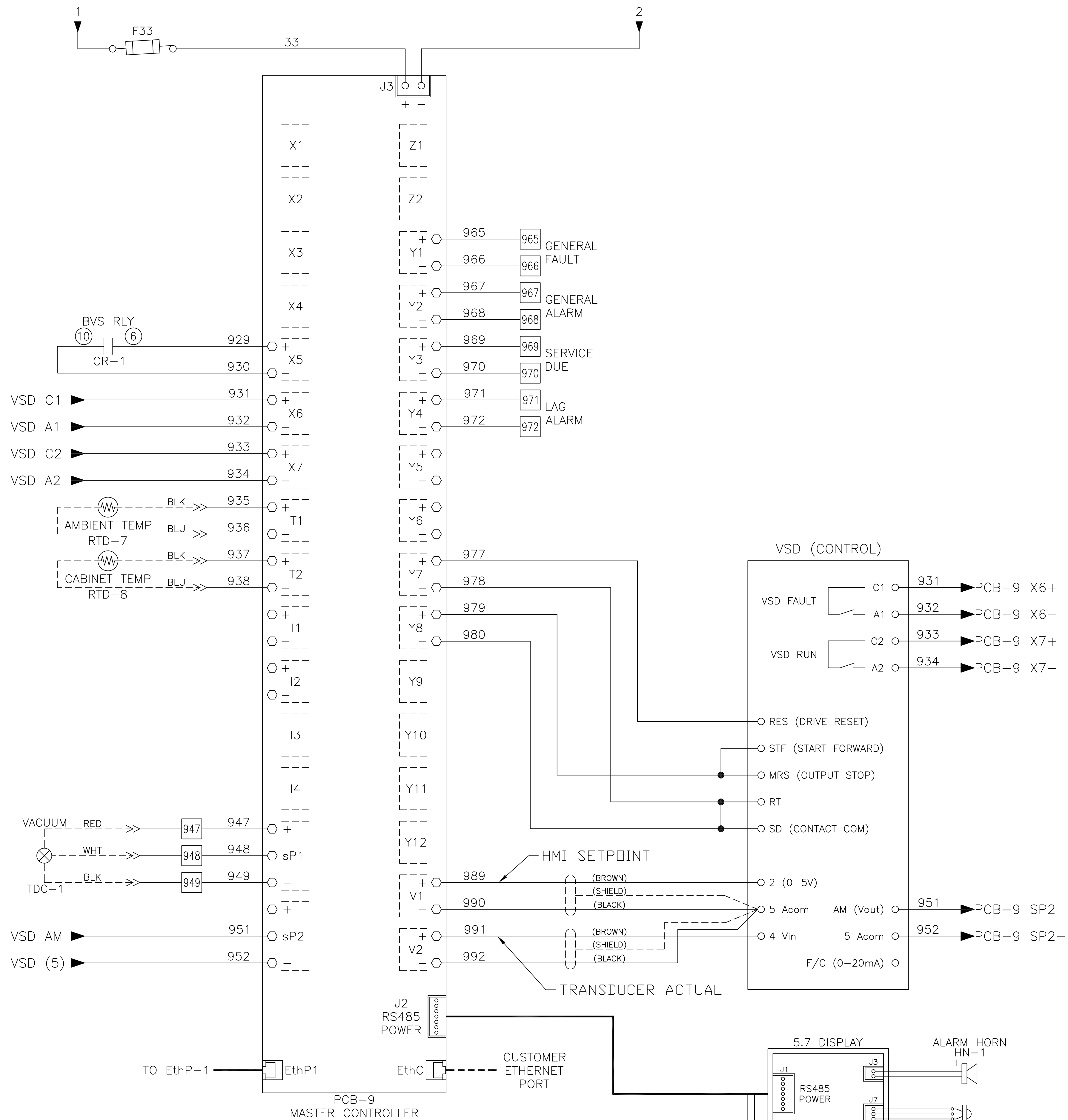
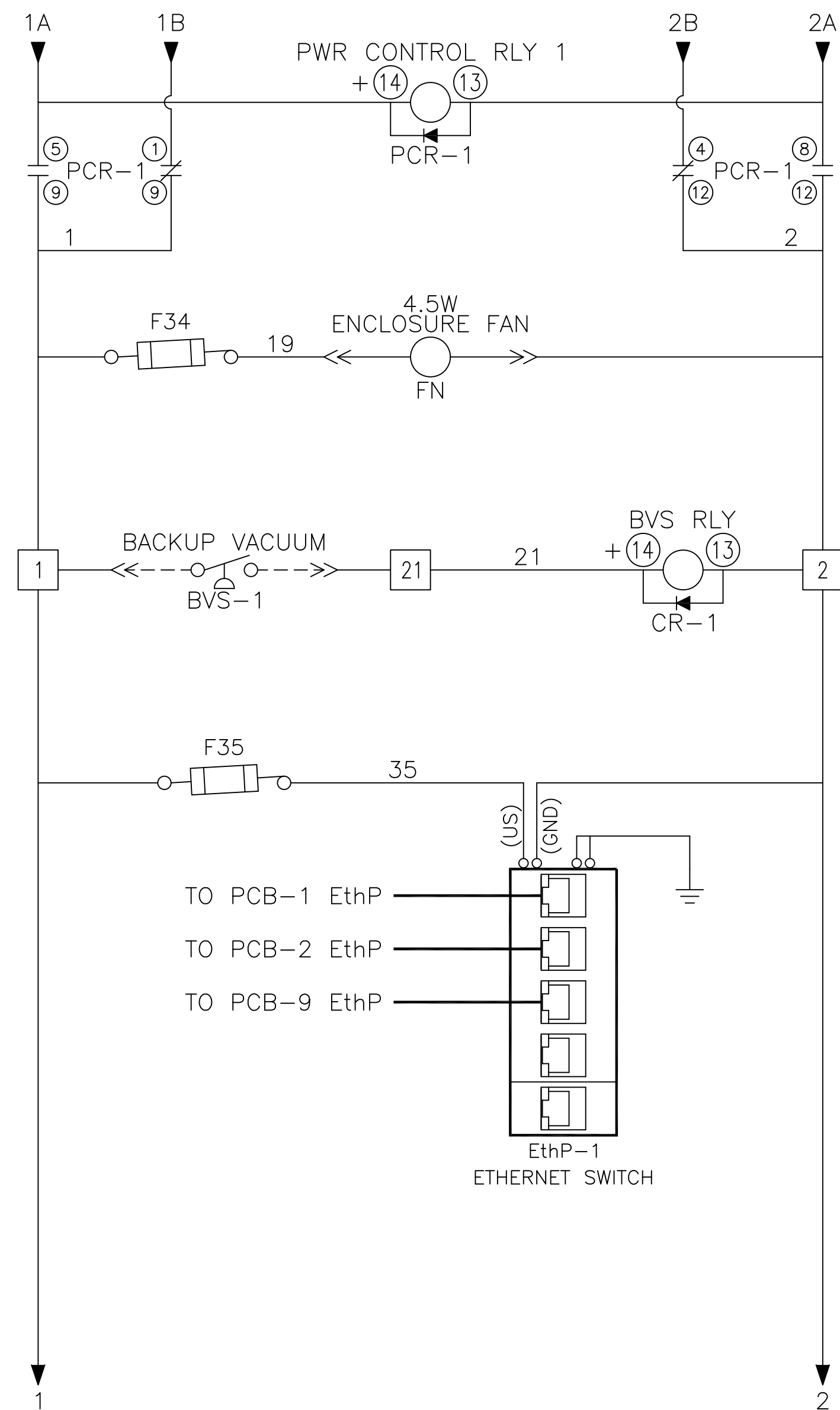
PUMP PCB JUMPER/SWT SETTINGS

JPR/SWT	POSITION
JP1-JP3	1-2
S1	A (AUTO)

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Notes:

- 1. FIELD WIRING TO BE COPPER RATED FOR 75°C MINIMUM.
- 2. - - - - - INDICATES FIELD WIRING OUTSIDE OF CABINET.



NOTE:
RED WIRE TO
COLD TERMINAL
ON LED-1.

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Description: DWG WIRING CONTROL DX CLAW VSD 4-15HP 208-460/3/50-60, 65kA			Part Number: 4107 8568 48
DN: HOP 200172		Rev: 01	
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