

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	B-1 RELEASE TO PRODUCTION		22545	CHR	ZMG
C-I	CHANGE TRANSDUCER & FAN LOCATION	02/01/13	PXEC_33	BFH	CHR
D-I	I SHOWN OPTIONAL PRESSURE SWITCH LOCATION		PXEC_30	DMS	GES
E-1	BACNET CARD UPDATE ADD ISOLATION RELAYS	07/20/15	PXEC0110	AJL	KMD
F	ADDED FAN WIRING	8/28/18	PXEC0169	AKH	KMD

OPTIONAL:

SINGLE CYLINDER
AND SCROLLPUMPS

DOUBLE-CYLINDER PUMPS

BACNET, WEBSRVR

TRIPLE-CYLINDER PUMPS



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DRAWN BY		
CHR	DMS	DMS
07/20/11	11/07/11	11/07/11

PANEL TYPE

DUPLEX MEDICAL COMP HMI, NFPA

DWG. TYPE WIRING

DWG. NO.

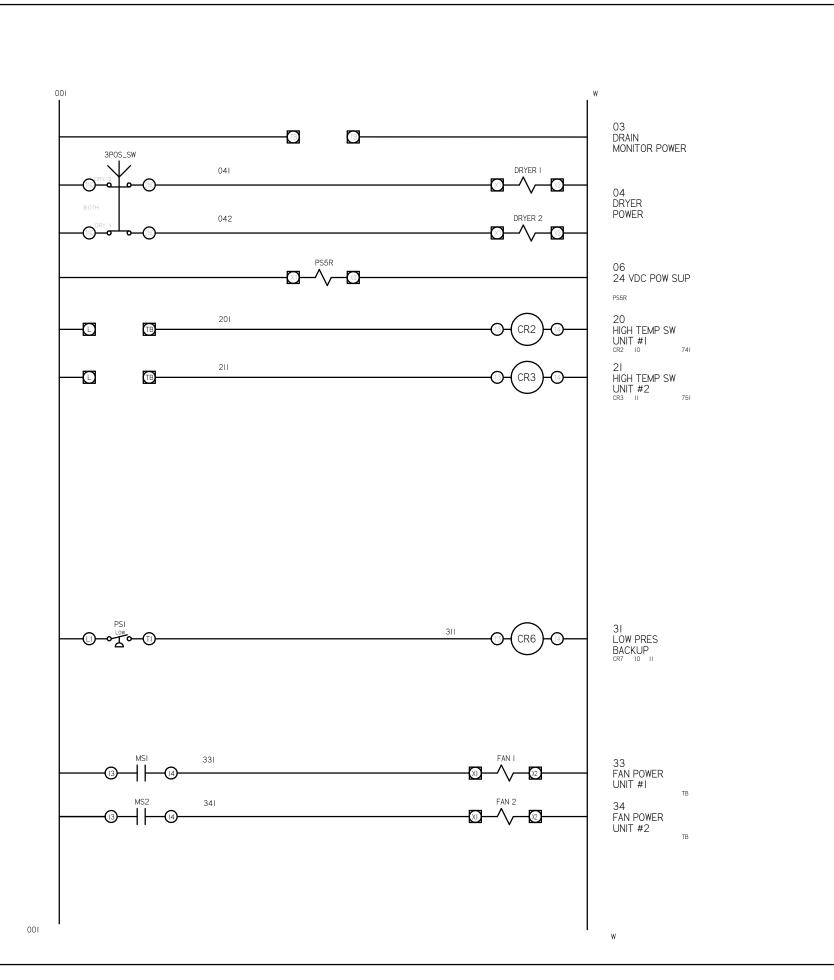
PXMI-A216 W

SHEET

_ 1

В

XMI-A216 B1



REV	REVISION	DATE	ECN	NAME	CHKD
B-1 RELEASE TO PRODUCTION		11/07/11	22545	CHR	ZMG
C-I	C-I CHANGE TRANSDUCER & FAN LOCATION		PXEC_33	BFH	CHR
D-I	SHOWN OPTIONAL PRESSURE SWITCH LOCATION	10/08/13	PXEC_30	DMS	GES
E-1	BACNET CARD UPDATE ADD ISOLATION RELAYS	07/20/15	PXEC0110	AJL	KMD
F	ADDED FAN WIRING	8/28/18	PXEC0169	AKH	KMD

	OPTIONAL:	SINGLE CYLINDER AND SCROLLPUMPS	×
		DOUBLE-CYLINDER PUMPS	
	BACNET, WEBSRVR,	TRIPLE-CYLINDER PUMPS	
ı			



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL		
CHR	DMS	DMS		
07/20/11	11/07/11	11/07/11		

PANEL TYPE

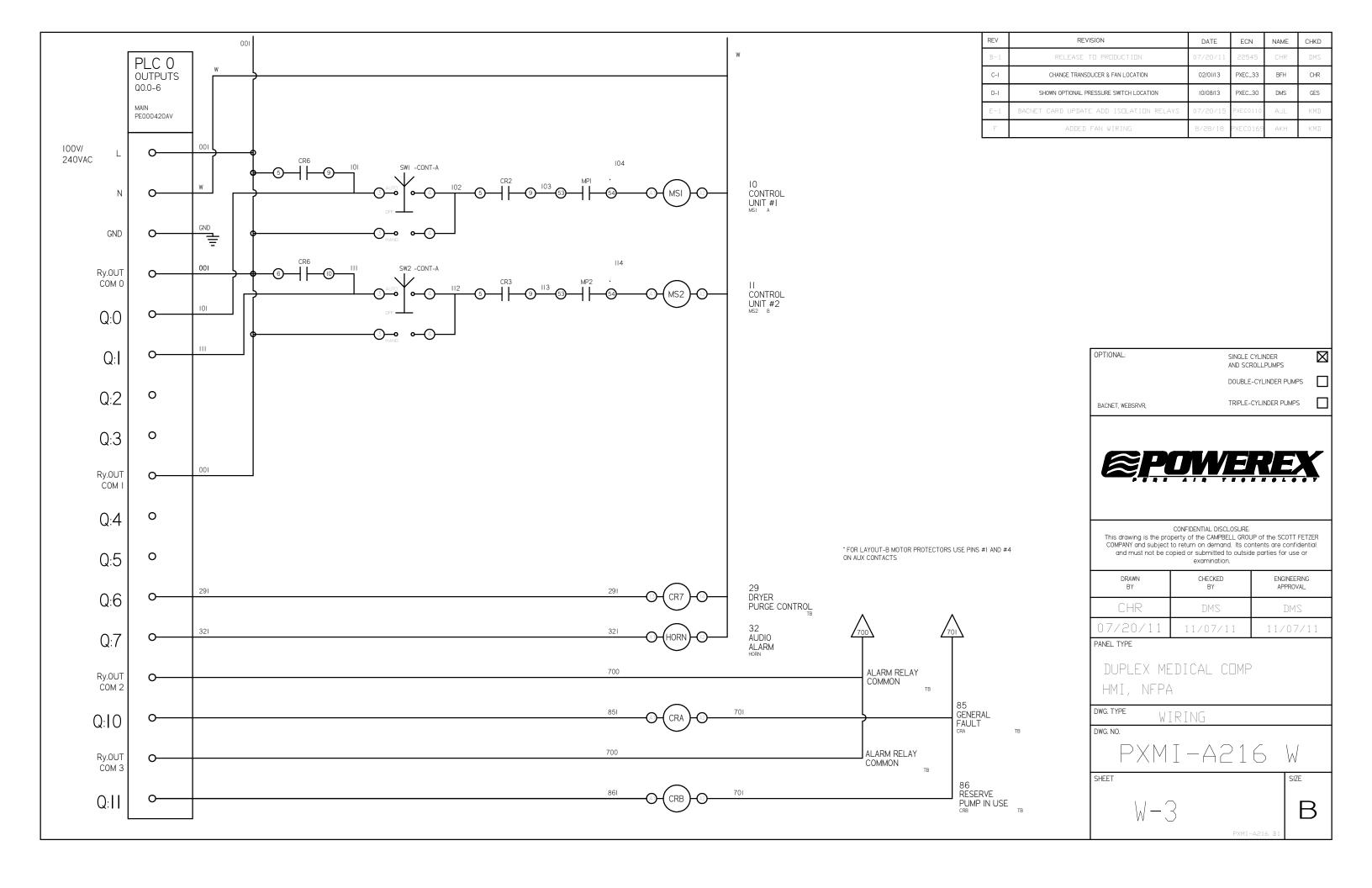
DUPLEX MEDICAL COMP HMI, NFPA

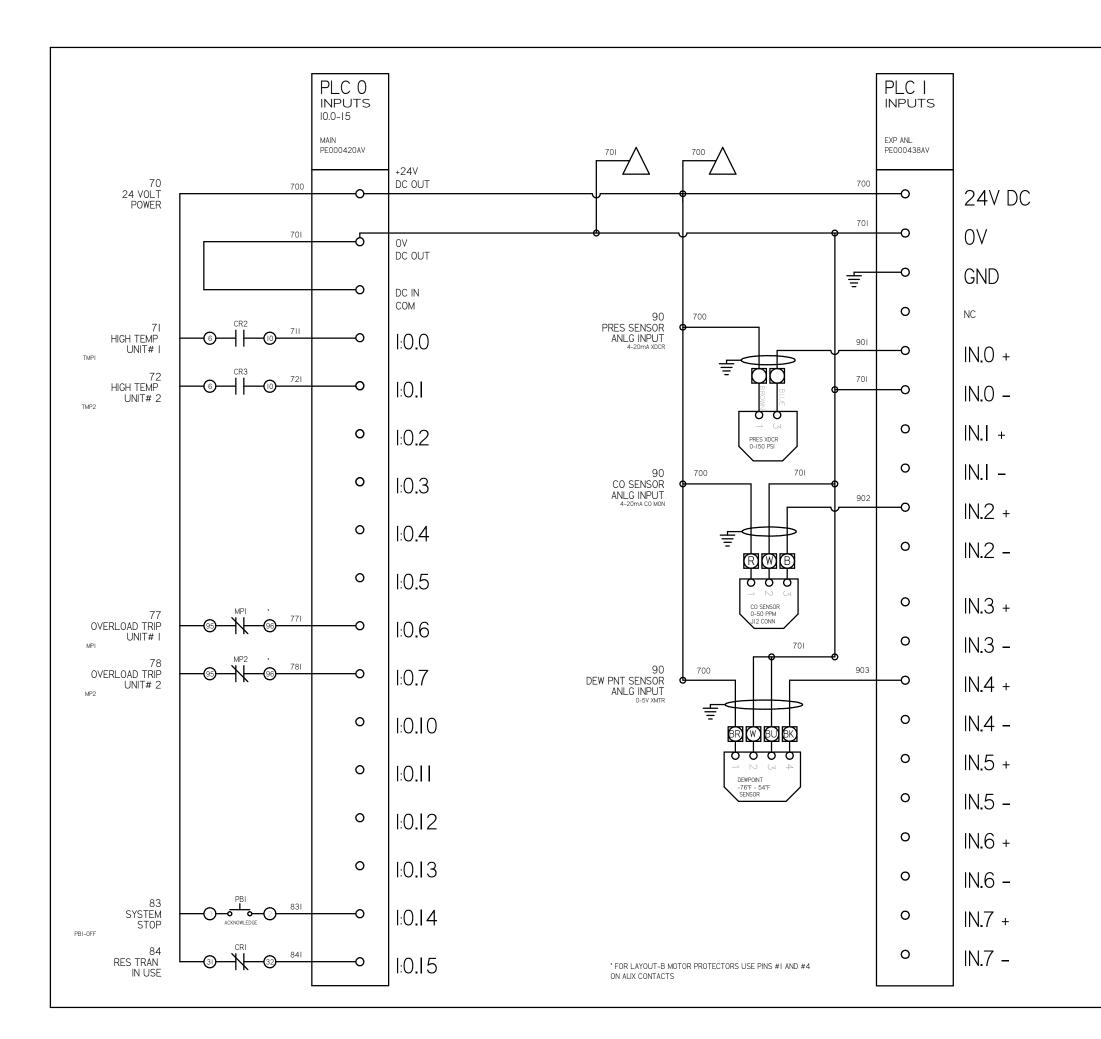
DWG. TYPE WIRING

DWG. NO.

PXMI-A216 W

В





	REV	REVISION	DATE	ECN	NAME	CHKD
	B-1 RELEASE TO PRODUCTION		11/07/11	22545	CHR	ZMG
	C-I	CHANGE TRANSDUCER & FAN LOCATION	02/01/13	PXEC_33	BFH	CHR
	D-I	SHOWN OPTIONAL PRESSURE SWITCH LOCATION	10/08/13	PXEC_30	DMS	GES
l	E-1	BACNET CARD UPDATE ADD ISOLATION RELAYS	07/20/15	PXEC0110	AJL	KMD
	F	ADDED FAN WIRING	8/28/18	PXEC0169	AKH	KMD

OPTIONAL:	SINGLE CYLINDER AND SCROLLPUMPS	\boxtimes
	DOUBLE-CYLINDER PUMPS	
BACNET, WEBSRVR,	TRIPLE-CYLINDER PUMPS	



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 DRAWN BY
 CHECKED BY
 ENGINEERING APPROVAL

 CHR
 DMS
 DMS

 0.7/20/11
 1.1/0.7/11
 1.1/0.7/11

PANEL TYPE

DUPLEX MEDICAL COMP HMI, NFPA

DWG. TYPE WIRING

DWG. NO.

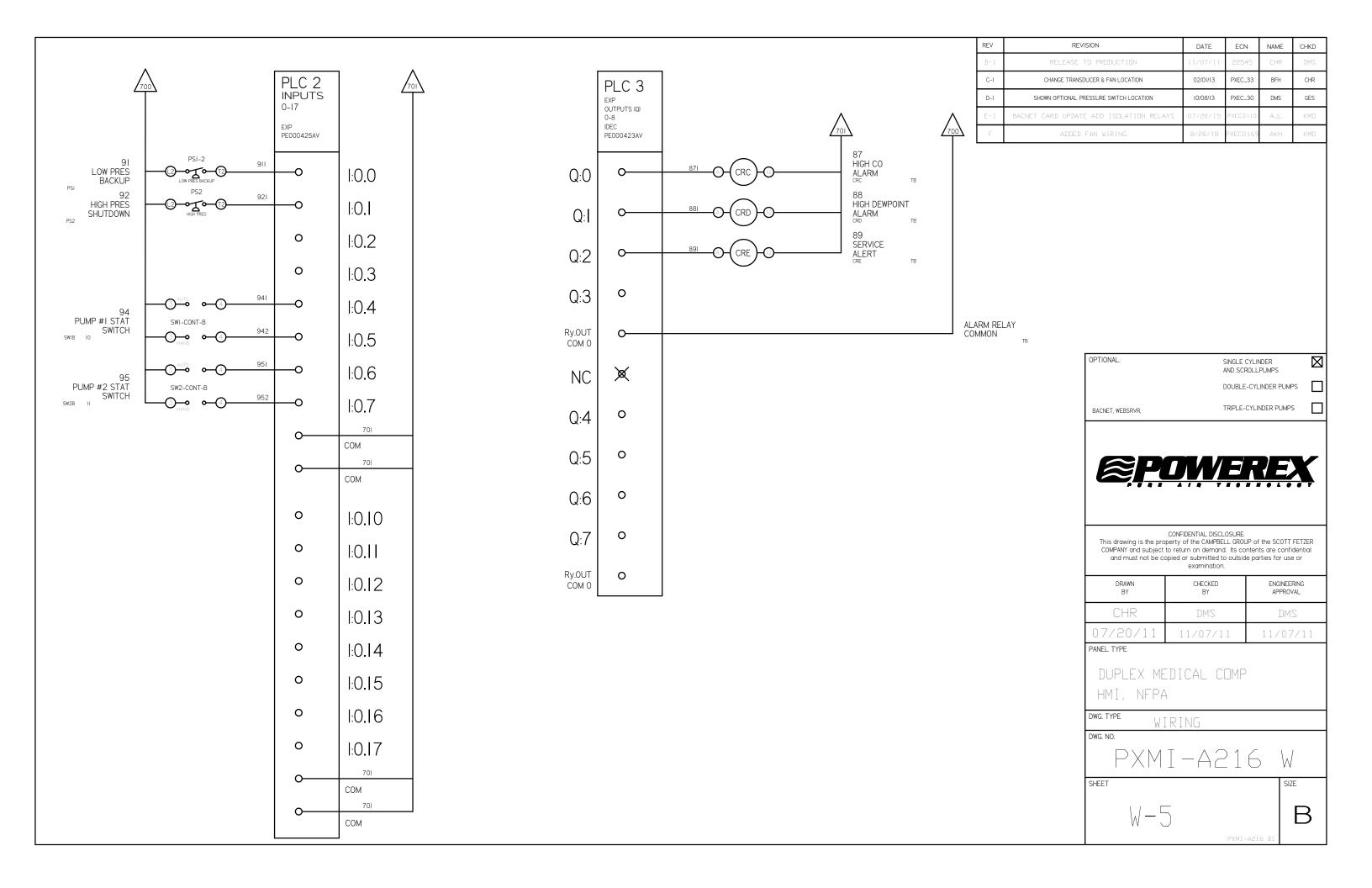
PXMI-A216 W

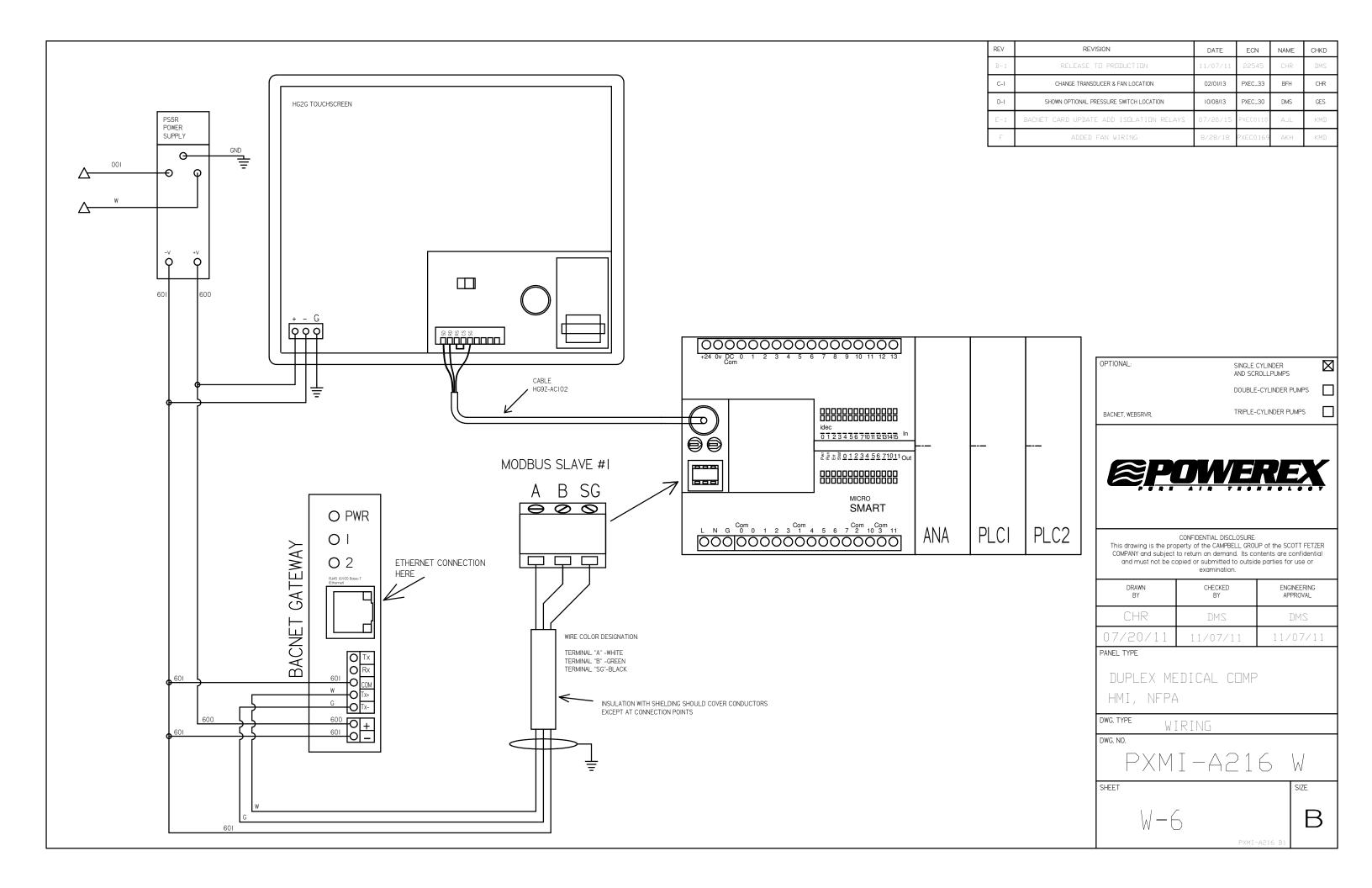
SHEET SIZE

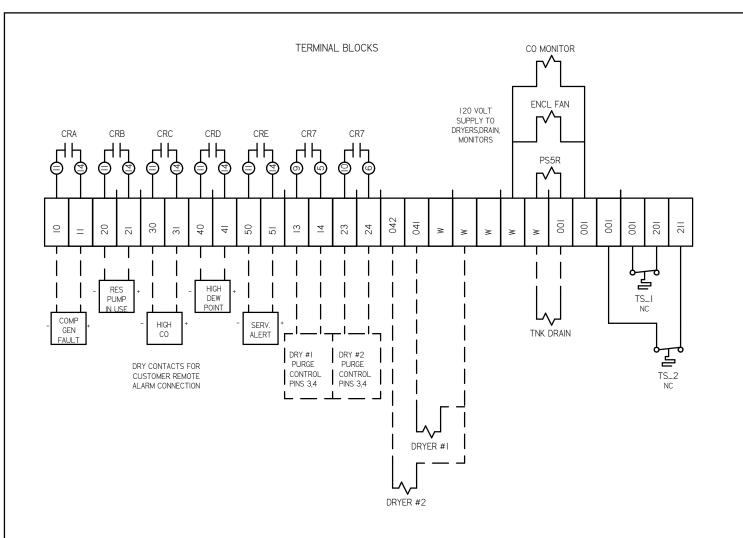
W-4

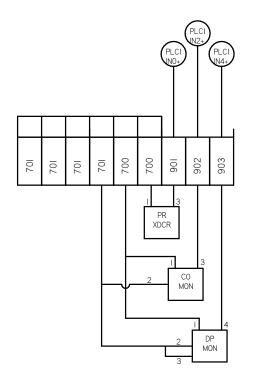
PYMI-A216 R

В









REV	REVISION	DATE	ECN	NAME	CHKD
B-1 RELEASE TO PRODUCTION		11/07/11	22545	CHR	ZMG
C-I	CHANGE TRANSDUCER & FAN LOCATION	02/01/13	PXEC_33	BFH	CHR
D-I	D-I SHOWN OPTIONAL PRESSURE SWITCH LOCATION		PXEC_30	DMS	GES
E-1	BACNET CARD UPDATE ADD ISOLATION RELAYS	07/20/15	PXEC0110	AJL	KMD
F	ADDED FAN WIRING	8/28/18	PXEC0169	AKH	KMD
		•	•		

OPTIONAL:

SINGLE CYLINDER AND SCROLLPUMPS

DOUBLE-CYLINDER PUMPS

BACNET, WEBSRVR,

TRIPLE-CYLINDER PUMPS



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL	
CHR	DMS	DMS	
07/20/11	11/07/11	11/07/11	

PANEL TYPE

DUPLEX MEDICAL COMP HMI, NFPA

DWG. TYPE WIRING

VG NO

PXMI-A216 W

SHEET

W-7

PXMI-A216 B

SIZE

В

FAN WIRING SEE RUNGS 33-34 FOR DETAILS

FIELD WIRING NOTES:

I. PANEL GROUND MUST BE CONNECTED TO EARTH GROUND.

2. TRANSFORMER IS SIZED FOR LOADS SHOWN ON DRAWING ONLY.

3. FIELD WIRING INDICATED BY -----. WIRE TO BE COPPER RATED AT 75° C.

4. ALL ALARM DRY CONTACTS ARE CLOSED FOR NORMAL OPERATION AND OPEN IN ALARM.

5. DRY CONTACT RATING: 30V DC/2A (resistive load, inductive load L/R = 7 ms)

6. USE CAT-5 CABLE W/RJ45 CONNECTOR FOR ETHERNET CONNECTION TO COMMUNICATION NETWORK OR BAS SYSTEM

TABLE 1	P/N	MOTOR FULL LOAD AMPS	TOTAL FULL LOAD AMPS	NON-TIME DELAY FUSE	TIME DELAY FUSE	INVERSE-TIME CIRCUIT BREAKER
2001/(201	72AJ	19.2	40.4	80	60	70
208V (3Ø)	A2AJ	26.5	55	110	80	100
2201/201	73AJ	17.3	36.6	80	60	70
230V (3Ø)	A3AJ	24	50	100	70	90
4601/201	74AJ	8.67	19.34	40	30	35
460V (3Ø)	A4AJ	12	26	50	35	45
380V (3Ø)	78AJ	10.7	23.4	45	35	40
50HZ	A8AJ	14.5	31	60	45	60

NOTES:

- I. RECOMMENDED TIGHTENING TORQUES FOR WIRE TERMINALS: 208-575 VOLT POWER 35 POUND INCHES 120 VOLT POWER AND CONTROL VOLTAGE 15 POUND INCHES
- 2. PANEL GROUND MUST BE CONNECTED TO EARTH GROUND
- INSTALLER TO PROVIDE MAIN DISCONNECTING DEVICE WITH SHORT CIRCUIT PROTECTION FOR THIS ELECTRICAL ASSEMBLY SEE TABLE I.
- 4. ALL WIRES MUST BE LABELED ON BOTH ENDS
- 5. TRANSFORMER IS SIZED FOR LOADS SHOWN ON DRAWING ONLY.
 DO NOT CONNECT ANY OTHER DEVICES

6. \triangle -INDICATES A DRAWING WIRE CONNECTION TO ANOTHER PAGE.

FIELD WIRING NOTES ON PAGE W-7.

ΞV	REVISION	DATE	ECN	NAME	CHKD
- 1	RELEASE TO PRODUCTION	07/24/14	PXEC0057	KMD	ZMG
F	ADDED FAN WIRING	8/28/18	PXEC0169	AKH	KMD

	WIRE TY	PE TABLE	
VOLTAGE	WIRE NUMBERS	GAUGE	COLOR
120 VAC	01-699	16-18 AWG	RED/BLK
OVAC	W	16-18 AWG	WHT/BLK
24VDC	700-799	16-18 AWG	PURPLE
0VDC	701	16-18 AWG	PURPLE
GND	-	VARIES	GREEN
CUSTOME R SUPPLY	01-99	16 AWG	YELLOW

	TABLE	2 - CON	ITROL CIRCUI	T PROTECTION	١
FUSE TYPE		208 VOLT	230 VOLT	460 VOLT	575 VOLT
FUI,2A FUI,2B	FNQR	6A	5A	5A	4A
FU3A,B	FNM	7A	7A	7A	7A

SEQUENCE OF OPERATIONS

During normal operation the PBMI controller will signal the Lead compressor to run when pressure drops below lead cut-in set-point and stop when the pressure reaches the lead cut-out set-point. Lead alternation to the next pump, will occur with each lead run signal or every 10-minutes (which ever happens first). If demand cannot be satisfied by the lead pump, the lag pump(s) will start and stop based upon the lag cut-in and cut-out set-points. When more than one pump is running, lead alternation will occur when the lowest cut-out set-point is satisfied, or after 10-minutes (which ever happens first). The HOA switch's place the pump in the following modes: Hand-turns pump on to run continuous. Off-disables pump from running. Auto-places pump in the "ready mode" and will start and stop based on sequence described above.

All plex configurations include a hardwired Back-up pressure switch circuit should a control failure occur. This circuit will call all pumps on and off based on the reserve pressure switch set-points.

Expandable systems include all control devices, operators, and programming for the maximum number of pumps (or plex) required. To expand the system: navigate to the "service screen" and enter the number of pumps.

Additional information and descriptions can be accessed through the HMI "service info" screen by pressing Sequence of Operations button.

OPTIONAL:

208V/230V/460V/380V/575V



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL	
KMD	DMS	DMS	
07/24/14	07/24/14	07/24/14	

PANEL TYPE

7.5/10 SCROLL DATA DUPLEX PANEL DATA

DWG. TYPE

MIS

DWG. NO.

DATA TABLE

SHEET

В

)-1

LL 7-10 DUPLEX

Table 1	P/N	MOTOR FULL LOAD AMPS	TOTAL FULL LOAD AMPS	NON-TIME DELAY FUSE	TIME DELAY FUSE	INVERSE-TIME CIRCUIT BREAKER
	02AJ	4.1	10.2	20	15	20
	12AJ	4.5	11	20	15	20
	22AJ	6	14	30	20	25
2001/(201	32AJ	8.5	19	40	30	35
208V (3Ø)	52AJ	14	30	60	45	60
	72AJ	20.5	43	90	60	80
	A2AJ *	27.4	56.8	125	80	100
	F2AJ *	41.1	84.2	175	125	150
	03AJ	3.6	9.2	20	15	20
	13AJ	4.4	10.8	20	15	20
	23AJ	5.8	13.6	30	20	25
230V (3Ø)	33AJ	7.7	17.4	35	25	30
2300 (39)	53AJ	12.7	27.4	60	40	50
	73AJ	18.5	39	80	60	70
	A3AJ	24.8	51.6	110	70	90
	F3AJ *	37.2	76.4	175	125	150
	04AJ	1.8	5.6	10	10	10
	14AJ	2.2	6.4	15	10	15
	24AJ	2.9	7.8	15	10	15
460V (3Ø)	34AJ	3.9	9.8	20	15	20
4000 (39)	54AJ	6.3	14.6	30	20	25
	74AJ	9.3	20.6	40	30	40
	A4AJ	12.4	26.8	60	40	50
	F4AJ	18.6	39.2	80	60	70
	UA80					
	18AJ					
	28AJ	3.4	8.8	20	15	15
380V (3Ø)	38AJ	4.6	11.2	25	15	20
50HZ	58AJ	7.7	17.4	35	25	30
	78AJ	11.1	24.2	50	35	45
	A8AJ	14.9	31.8	70	45	60
	F8AJ	22.1	46.2	100	70	80
	07AJ	1.1	4.2	10	10	10
	17AJ	1.76	5.5	10	10	10
	27AJ	2.3	6.6	15	10	15
575V (3Ø)	37AJ	3.1	8.2	15	15	15
	57AJ	5.1	12.2	25	20	25
	77AJ	6.9	15.8	30	25	30

NOTES:

- RECOMMENDED TIGHTENING TORQUES FOR WIRE TERMINALS: 208-575 VOLT POWER 35 POUND INCHES 120 VOLT POWER AND CONTROL VOLTAGE 15 POUND INCHES
- 2. PANEL GROUND MUST BE CONNECTED TO EARTH GROUND
- 3. INSTALLER TO PROVIDE MAIN DISCONNECTING DEVICE WITH SHORT CIRCUIT PROTECTION FOR THIS ELECTRICAL ASSEMBLY. SEE TABLE I.
- ALL WIRES MUST BE LABELED ON BOTH ENDS
- TRANSFORMER IS SIZED FOR LOADS SHOWN ON DRAWING ONLY. DO NOT CONNECT ANY OTHER DEVICES
- 6. \triangle -INDICATES A DRAWING WIRE CONNECTION TO ANOTHER PAGE.

FIELD WIRING NOTES ON PAGE W-7.

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	03/12/12	22545	BFH	CHR
C-I	FORMAT UPDATE	03/04/13	PXEC0038	BFH	CHR

	WIRE TYPE TABLE				
VOLTAGE	WIRE NUMBERS	GAUGE	COLOR		
I20 VAC	01-699	16-18 AWG	RED/BLK		
OVAC	W	16-18 AWG	WHT/BLK		
24VDC	700-799	16-18 AWG	PURPLE		
OVDC	701	16-18 AWG	PURPLE		
GND	-	VARIES	GREEN		
CUSTOME R SUPPLY	01-99	16 AWG	YELLOW		

TABLE 2 - CONTROL CIRCUIT PROTECTION					
FUSE TYPE		208 VOLT	230 VOLT	460 VOLT	575 VOLT
FUI,2A FUI,2B	FNQR	6A	5A	5A	4A
FU3A,B	FNM	7A	7A	7A	7A

16-18 AWG	RED/BLK		2087/2307/4607/3807/5757
16-18 AWG	WHT/BLK		
16-18 AWG	PURPLE		
16-18 AWG	PURPLE		
/ARIES	GREEN		
C AWC	VELL OW	i	

OPTIONAL:

2001/12201/14601/12001/16761/

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL	
BFH	CHR	CHR	
03/12/12	09/20/11	09/20/11	

COMPRESSOR DATA TABLE 3PH DUPLEX PANEL DATA

DWG. TYPE

В

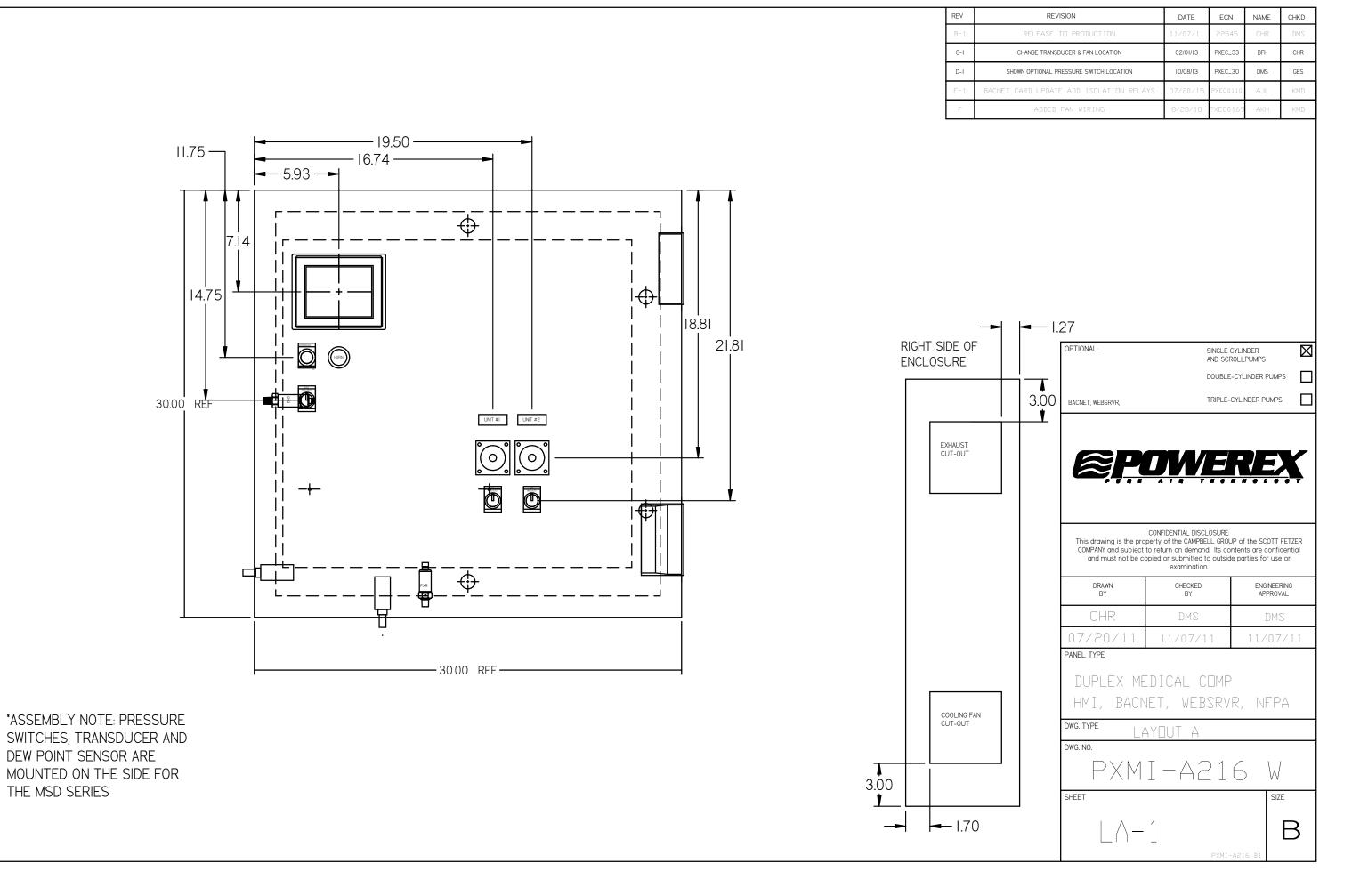
SEQUENCE OF OPERATIONS

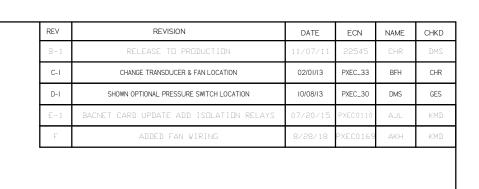
During normal operation the PBMI controller will signal the Lead compressor to run when pressure drops below lead cut-in set-point and stop when the pressure reaches the lead cut-out set-point. Lead alternation to the next pump, will occur with each lead run signal or every 10-minutes (which ever happens first). If demand cannot be satisfied by the lead pump, the lag pump(s) will start and stop based upon the lag cut-in and cut-out set-points. When more than one pump is running, lead alternation will occur when the lowest cut-out set-point is satisfied, or after 10-minutes (which ever happens first). The HOA switch's place the pump in the following modes: Hand-turns pump on to run continuous. Off-disables pump from running. Auto-places pump in the "ready mode" and will start and stop based on sequence described above.

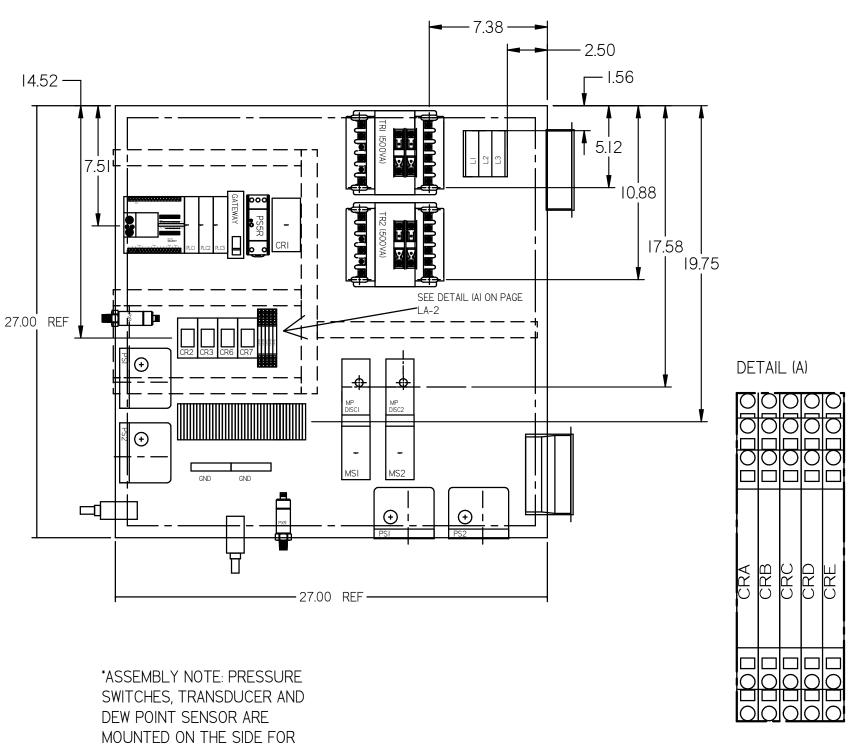
All plex configurations include a hardwired Back-up pressure switch circuit should a control failure occur. This DWG. NO. circuit will call all pumps on and off based on the reserve pressure switch set-points.

Expandable systems include all control devices, operators, and programming for the maximum number of pumps (or plex) required. To expand the system: navigate to the "service screen" and enter the number of pumps.

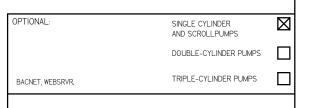
Additional information and descriptions can be accessed through the HMI "service info" screen by pressing **Sequence of Operations button.**







THE MSD SERIES





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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL	
CHR	DMS	DMS	
07/20/11	11/07/11	11/07/11	

PANEL TYPE

DUPLEX MEDICAL COMP HMI, NFPA

DWG. TYPE LAYDUT A

PXMI-A216 W

SHEET

LA-2

SIZE В

