

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	04/16/12	22722	BFH	CHR
C-I	CHANGE TRANSDUCER & FAN LOCATION	02/01/13	PXEC_33	BFH	CHR
D-1	BACNET CARD UPDATE ADD ISOLATION RELAYS	10/29/15	PXEC0110	AJL	KMD
E	ADDED FAN WIRING	9/4/18	PXEC0169	AKH	KMD

OPTIONAL:	SINGLE CYLINDER PUMPS DOUBLE-CYLINDER PUMPS	
	TRIPLE-CYLINDER PUMPS	
BACNET, WEBSRVR,	SCROLL PUMPS	$\boxtimes$



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL		
BFH	CHR	CHR		
04/16/12	05/11/12	05/11/12		

### PANEL TYPE

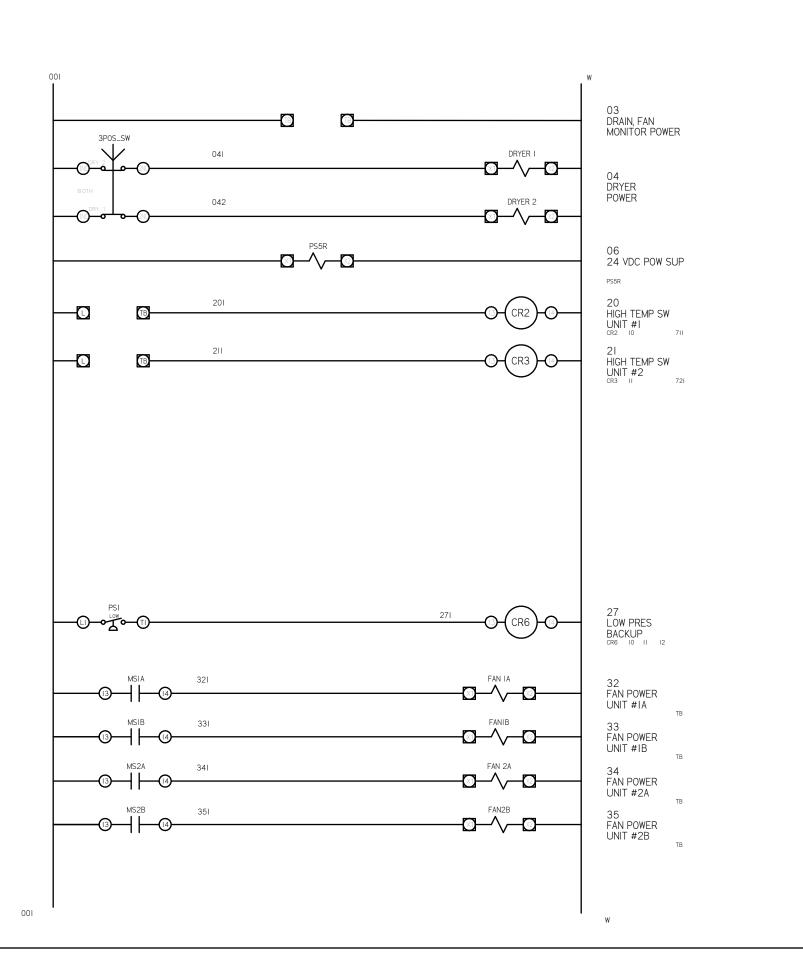
DUPLEX LAB 10HP SCROLL HMI, NFPA

DWG. TYPE

WIRING

PXMI-LS216A W

SHEET



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DUPLEX LAB 10HP SCROLL HMI, NFPA

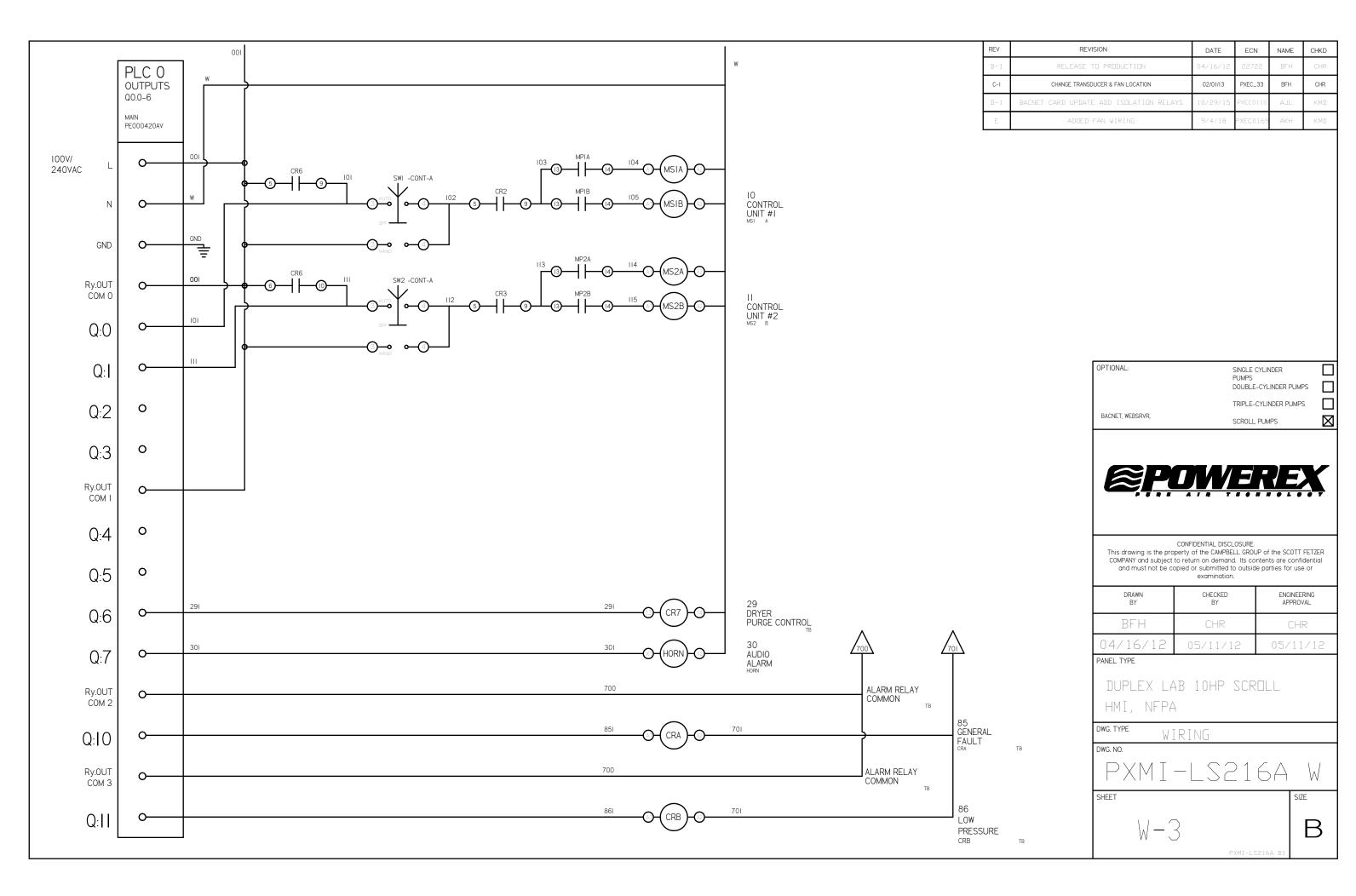
DWG. TYPE

WIRING

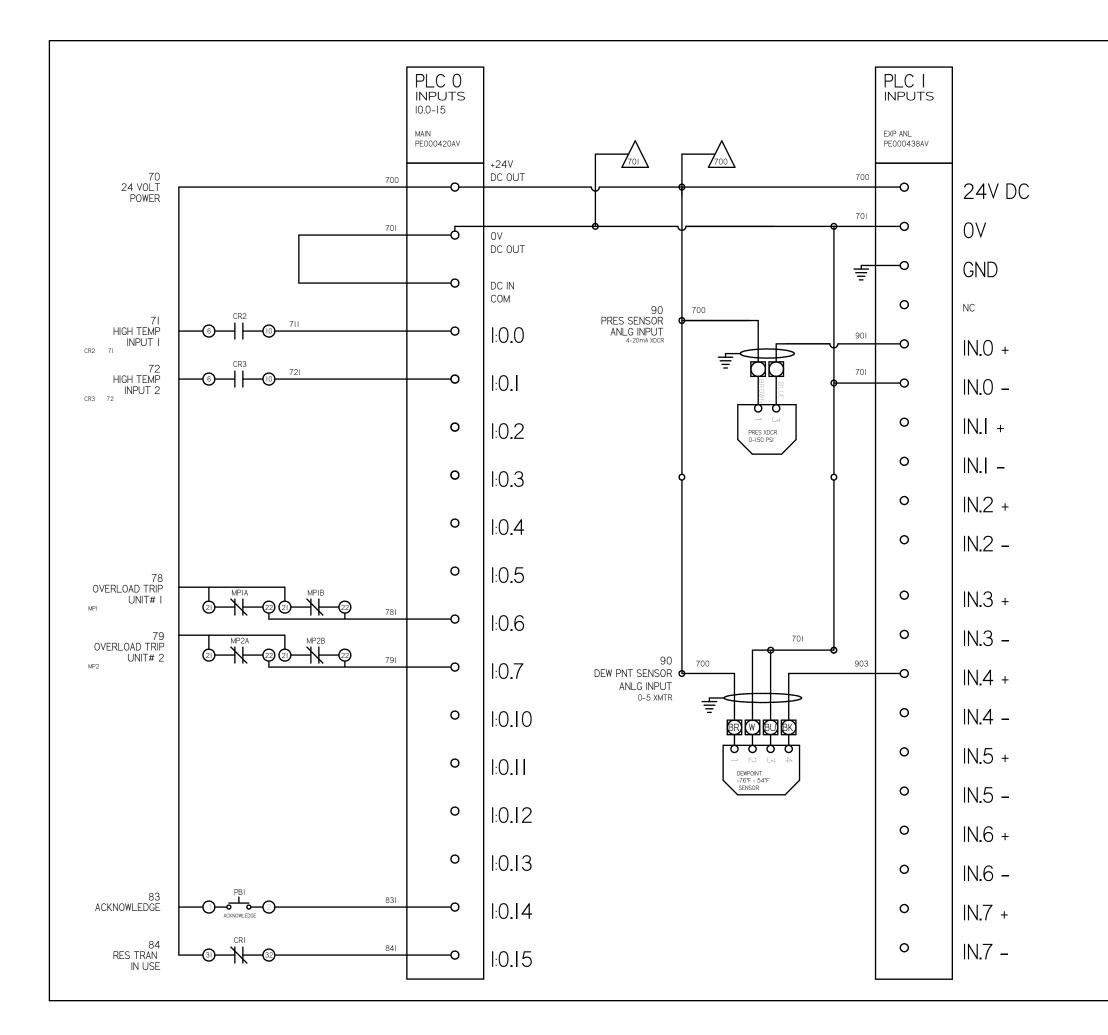
DWG. NO.

PXMI-LS216A W

SHEET



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BACNI	T, WEBSRVR,	SCROLL PUMPS	$\boxtimes$



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PANEL TYPE

DUPLEX LAB 10HP SCROLL HMI, NFPA

DWG. TYPE WIRING

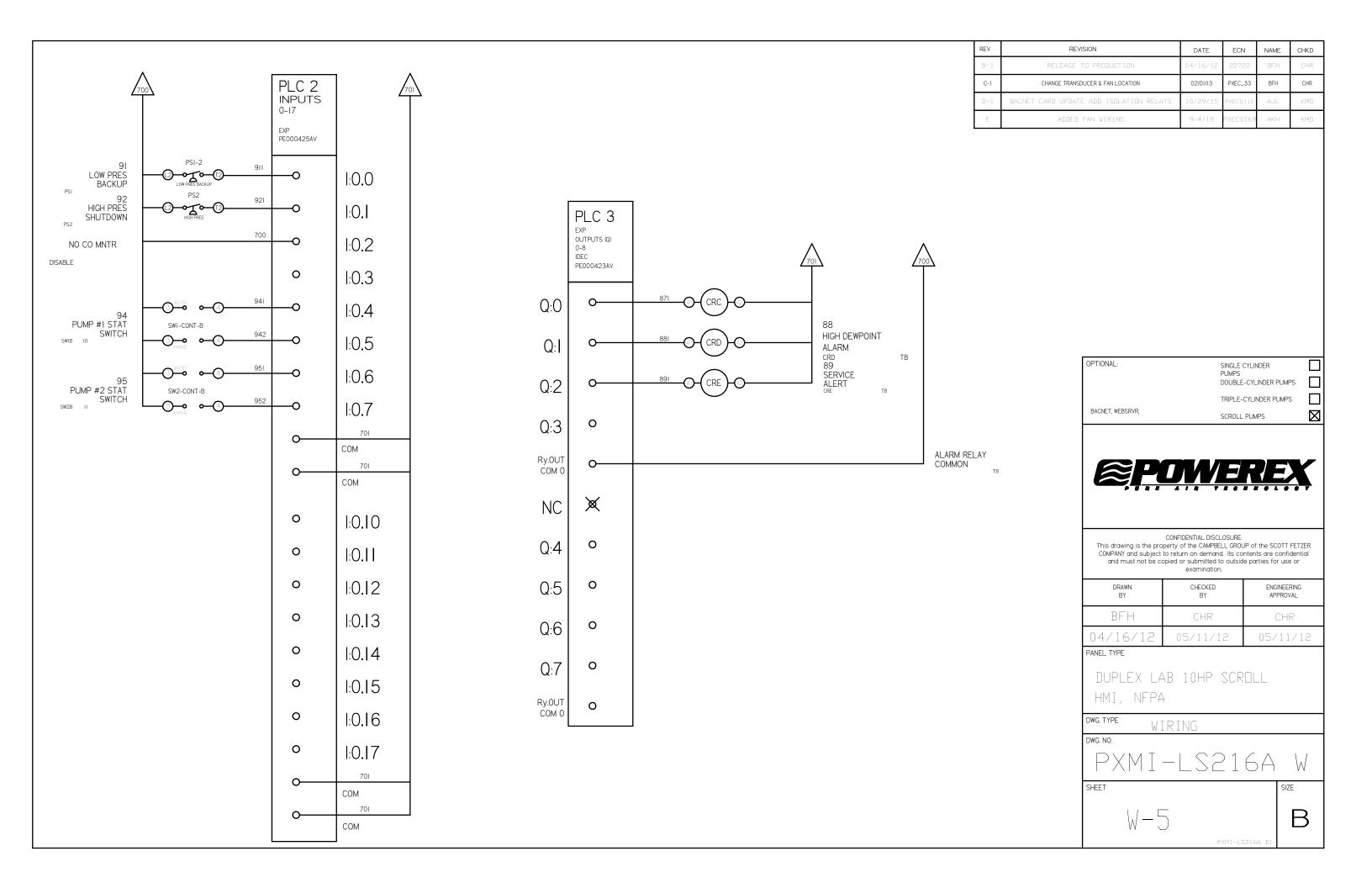
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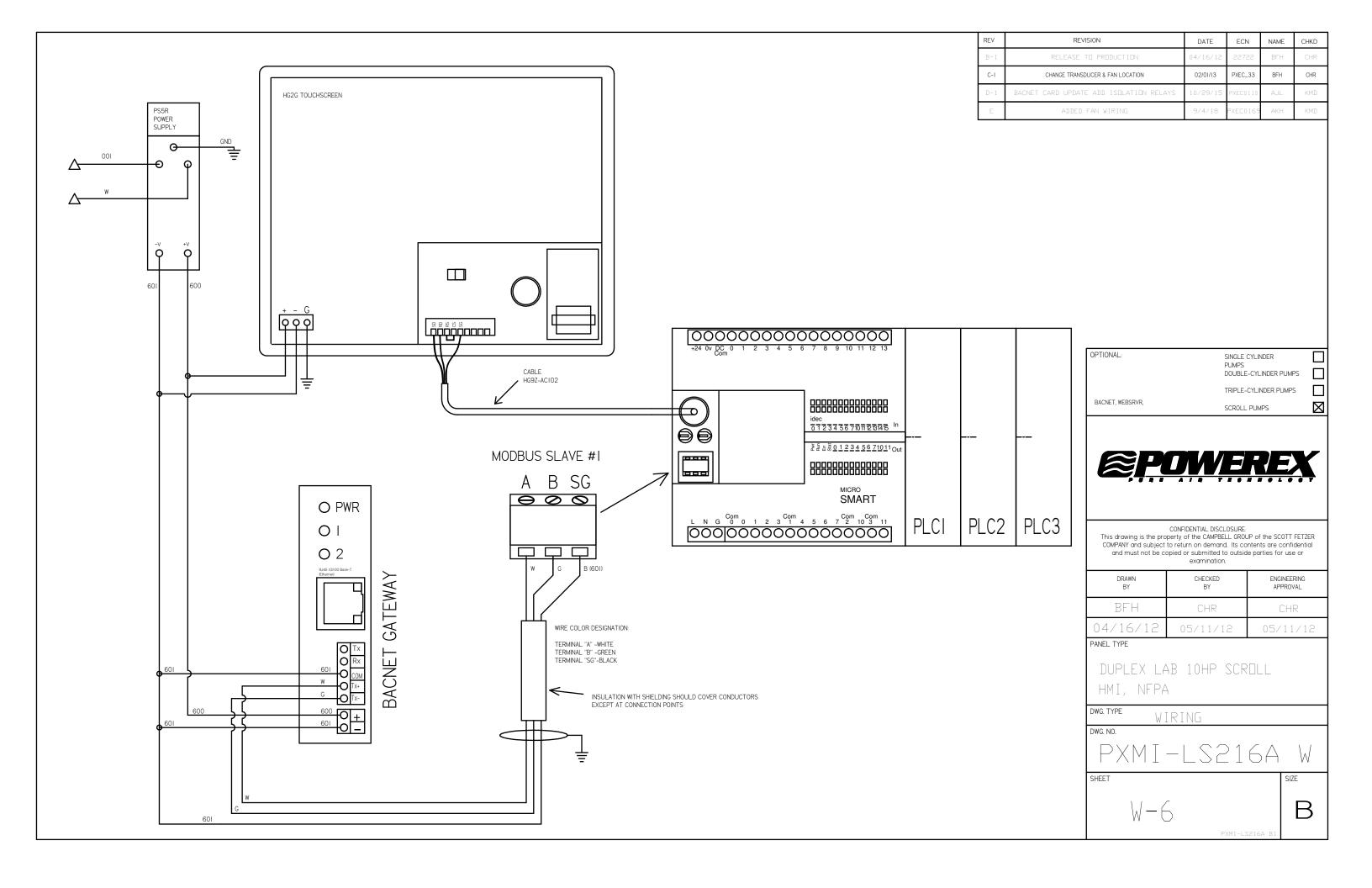
PXMI-LS216A W

SHEET

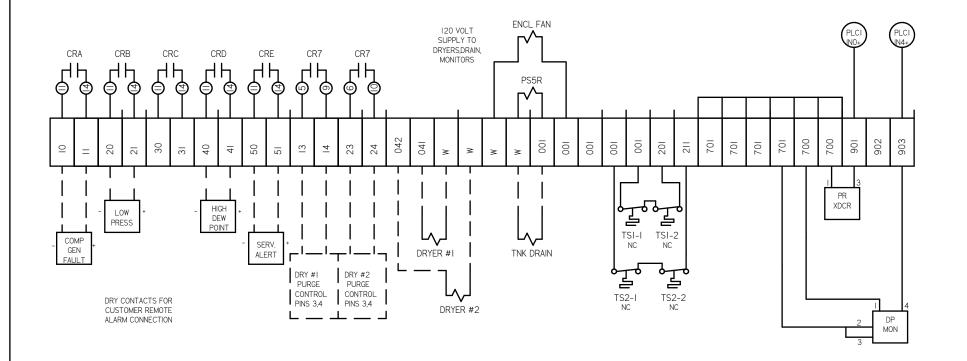
W-4

MI-18216A R1





#### TERMINAL BLOCKS





## 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

FAN WIRING SEE RUNGS 32-35 FOR DETAILS

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# ASSEMBLY NOTE:

USE SHIELDED CABLE BETWEEN TERMINAL BLOCKS AND PLC. CONNECT GROUND LOOPS TO GROUND BLOCK. CABLE IS NOT TO BE ROUTED IN PROXIMITY (2") OR ROUTED IN WIRE TRAY OF ANY 3-PHASE POWER CONDUCTORS.

> OPTIONAL: SINGLE CYLINDER П DOUBLE-CYLINDER PUMPS TRIPLE-CYLINDER PUMPS BACNET, WEBSRVR,  $\boxtimes$ SCROLL PUMPS



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PANEL TYPE

DUPLEX LAB 10HP SCROLL HMI. NFPA

DWG. TYPE WIRING

DWG. NO.

PXMI-LS216A W

SHEET

#### TARLE

115% OF MOTOR NAMEPLATE FLA VALUE

1/10								
PANEL DATA 30 – 60 Hz 500VA CONTROL CIRCUIT								
(A) LOAD SPECIFIC	ATIONS	STANGE STANGE	1 40 M 10 Kg	8, W. 1860	(B) BRAN PROVIDED	BY INSTA	JIT PROTECTI	ON -
PBMILS216A2AJ	5(X2)	208V/3Ø	14.2	59	90A	70A	90A	
PBMILS216A3AJ	5(X2)	230V/3Ø	12.8	54	80A	70A	80A	
PBMILS216A4AJ	5(X2)	460V/3Ø	6.4	28	45A	35A	40A	
				•				

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 FOR REQUIRMENTS.
- 4. 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.

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# **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.

WIRE TYPE TABLE				
VOLTAGE	WIRE NUMBERS	GAUGE	COLOR	
120 VAC	001-699	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	
CUSTOMER SUPPLY	01-99	16 AWG	YELLOW	

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

OPTIONAL:		
BACNET, WEBSRVR,		



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OWG. TYPE

DWG. NO.

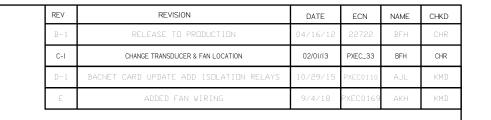
PXMI-LS216A W

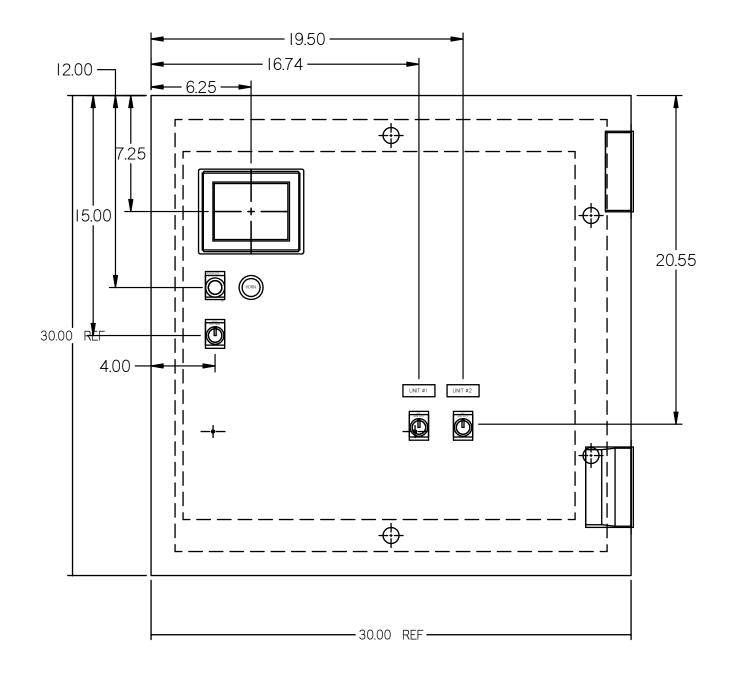
SHEET

D-1

В

PYMI-ISSIGN RI





RIGHT SIDE OF **ENCLOSURE** 

EXHAUST CUT-OUT

COOLING FAN

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	TRIPLE-CYLINDER PUMPS	
BACNET, WEBSRVR,	SCROLL PUMPS	$\boxtimes$
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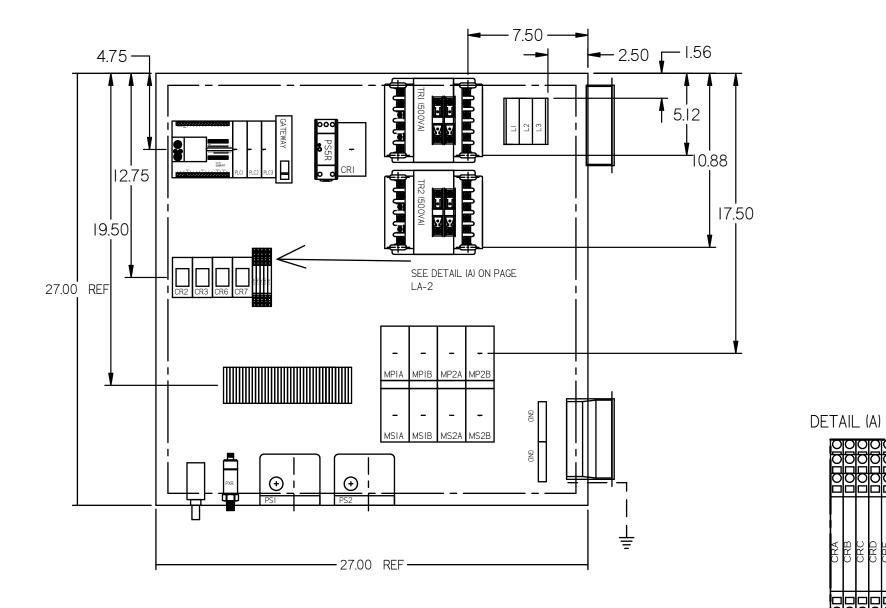
DWG. TYPE LAYDUT

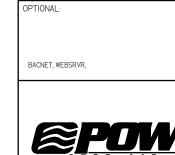
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SINGLE CYLINDER PUMPS DOUBLE-CYLINDER PUMPS

TRIPLE-CYLINDER PUMPS

SCROLL PUMPS

 $\boxtimes$ 

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PANEL TYPE

DUPLEX LAB 10HP SCROLL HMI, NFPA

DWG. TYPE

E LAYDUT

DWG. NO

PXMI-LS216A V

SHEET

SIZE

В

L-1

MI-LS216A B1