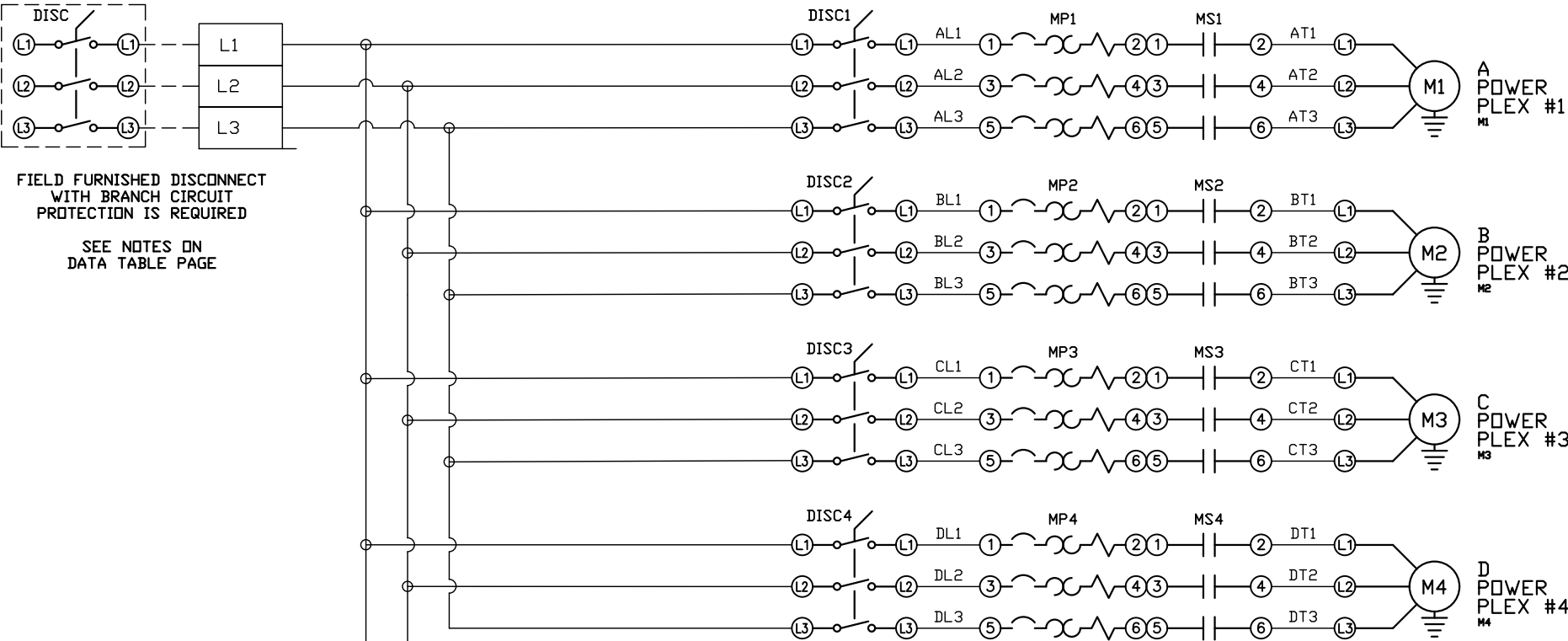
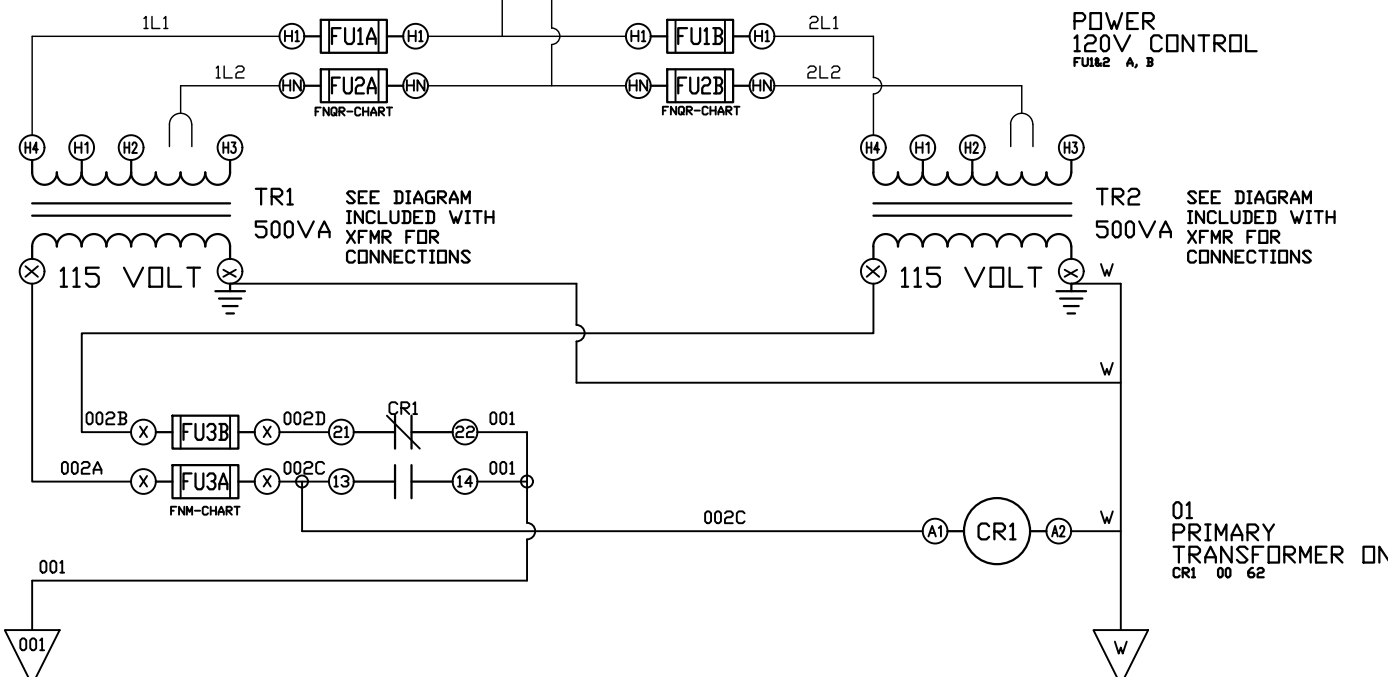




REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



OPTIONAL:

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLIX
HMI, NFPA

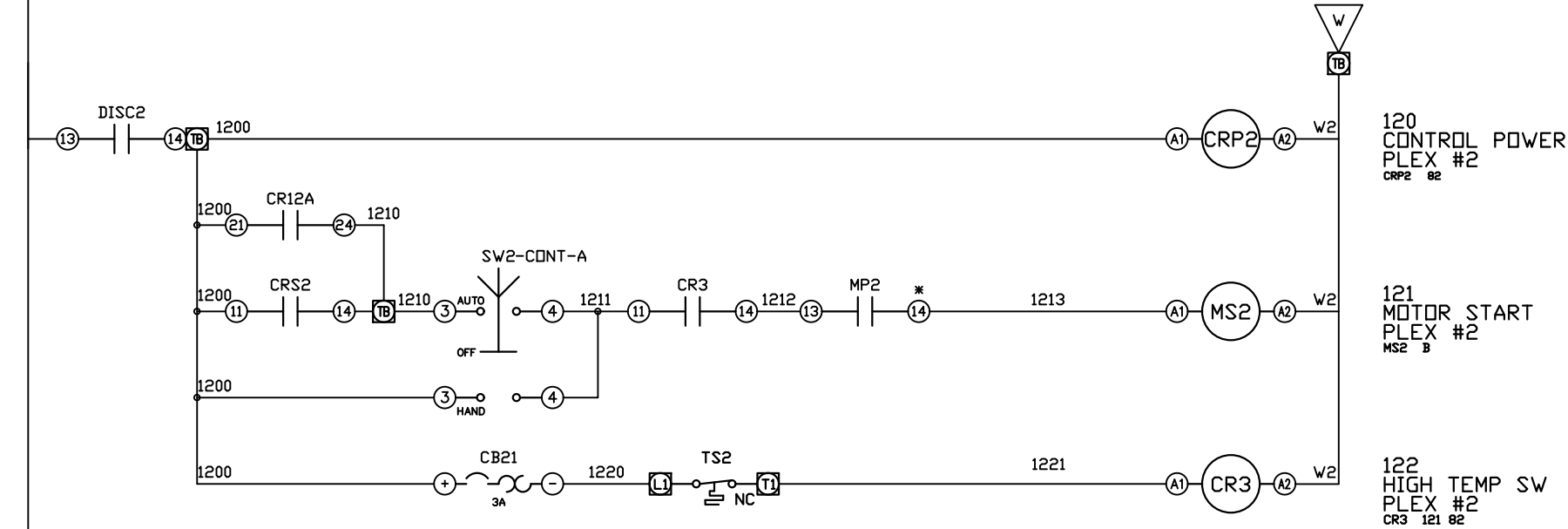
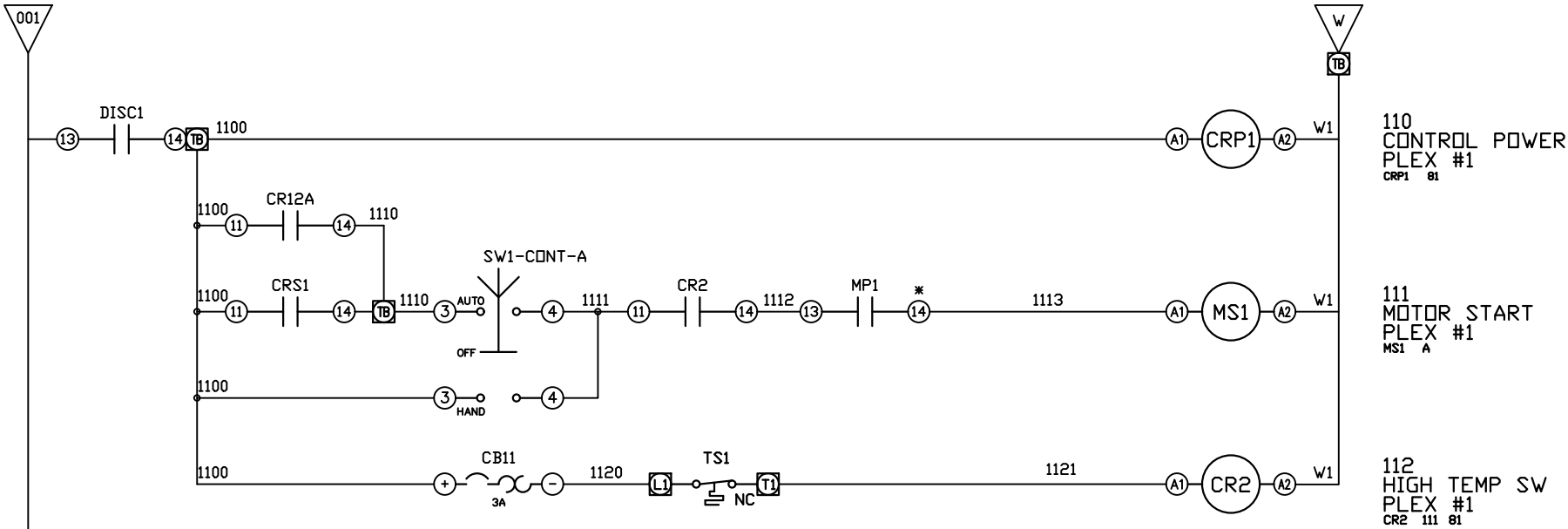
DWG. TYPE WIRING

DWG. NO. PXMI-V469

SHEET	SIZE
W-1	B

PXMI-V469

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



* FOR GV4 MOTOR PROTECTORS USE PINS #1 AND #4 ON AUX CONTACT IN '0F1' SLOT

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE
MED VACUUM QUADRUPLX
HMI, NFPA

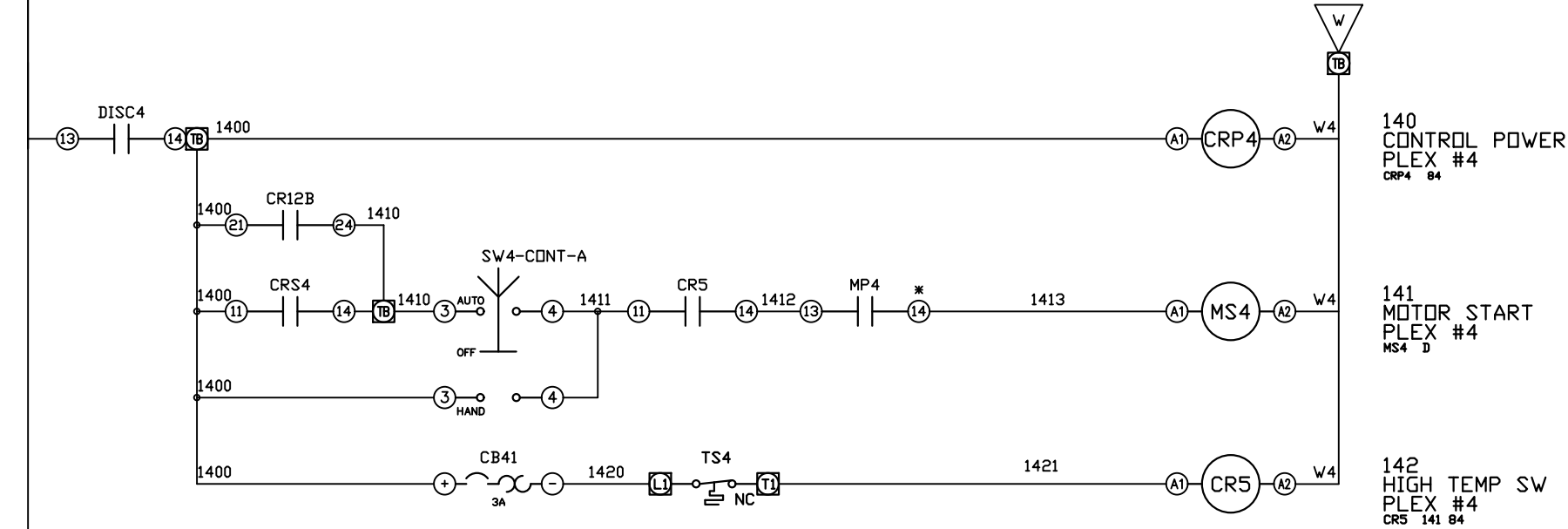
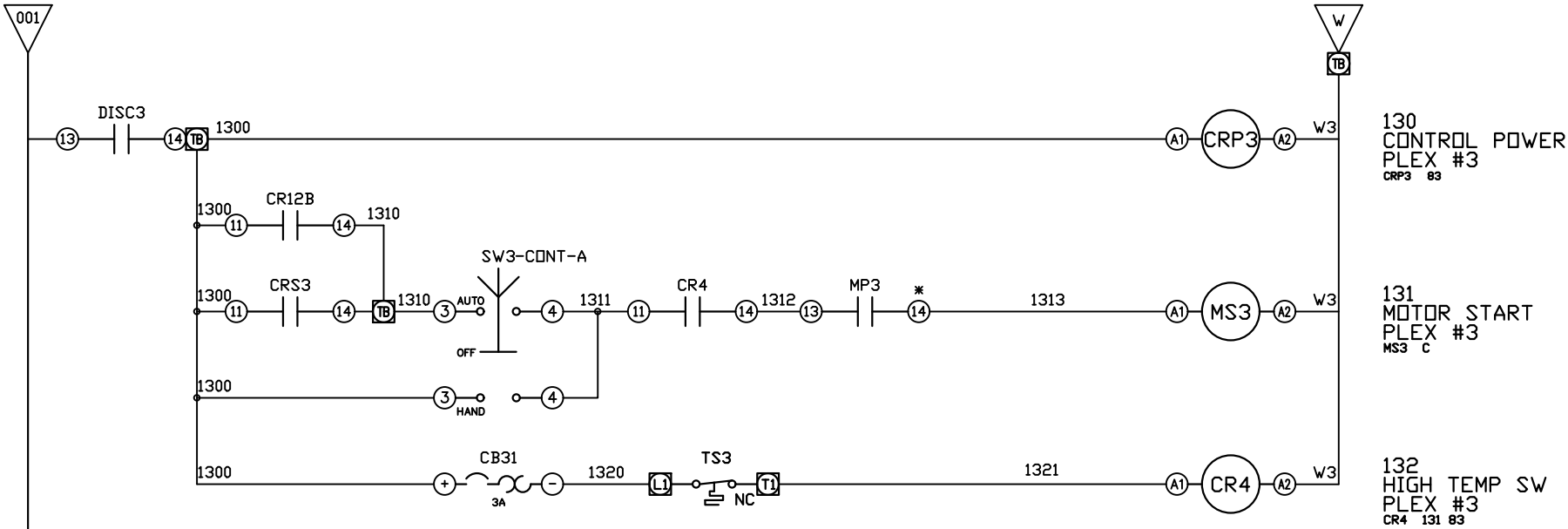
DWG. TYPE
WIRING

DWG. NO.
PXMI-V469

SHEET W-3	SIZE B
--------------	-----------

PXMI-V469

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



OPTIONAL:

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE
MED VACUUM QUADRUPLX
HMI, NFPA

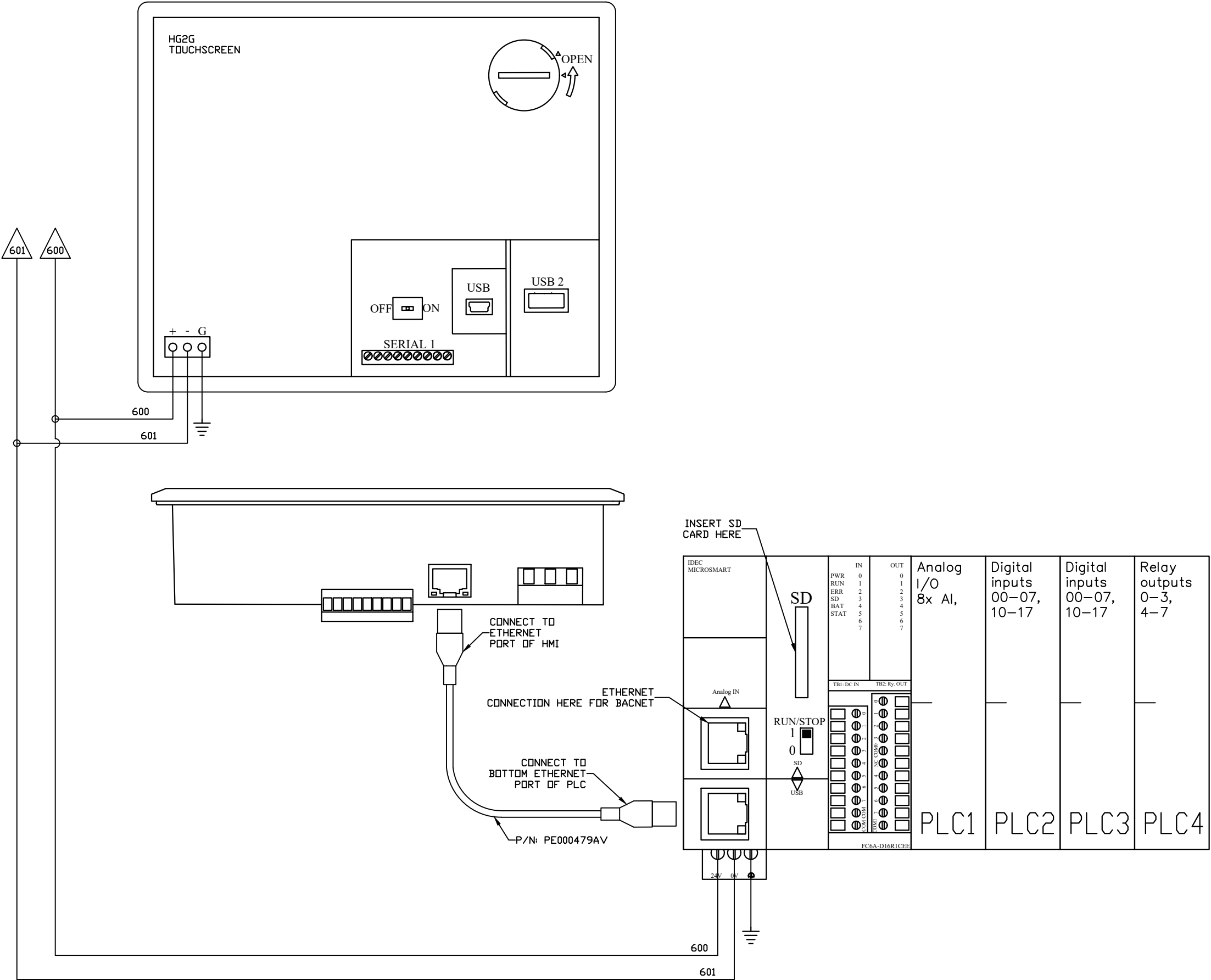
DWG. TYPE WIRING

DWG. NO.
PXMI-V469

SHEET	SIZE
W-4	B

* FOR GV4 MOTOR PROTECTORS USE PINS
#1 AND #4 ON AUX CONTACT IN 'DF1' SLOT

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLEx
HMI, NFPA

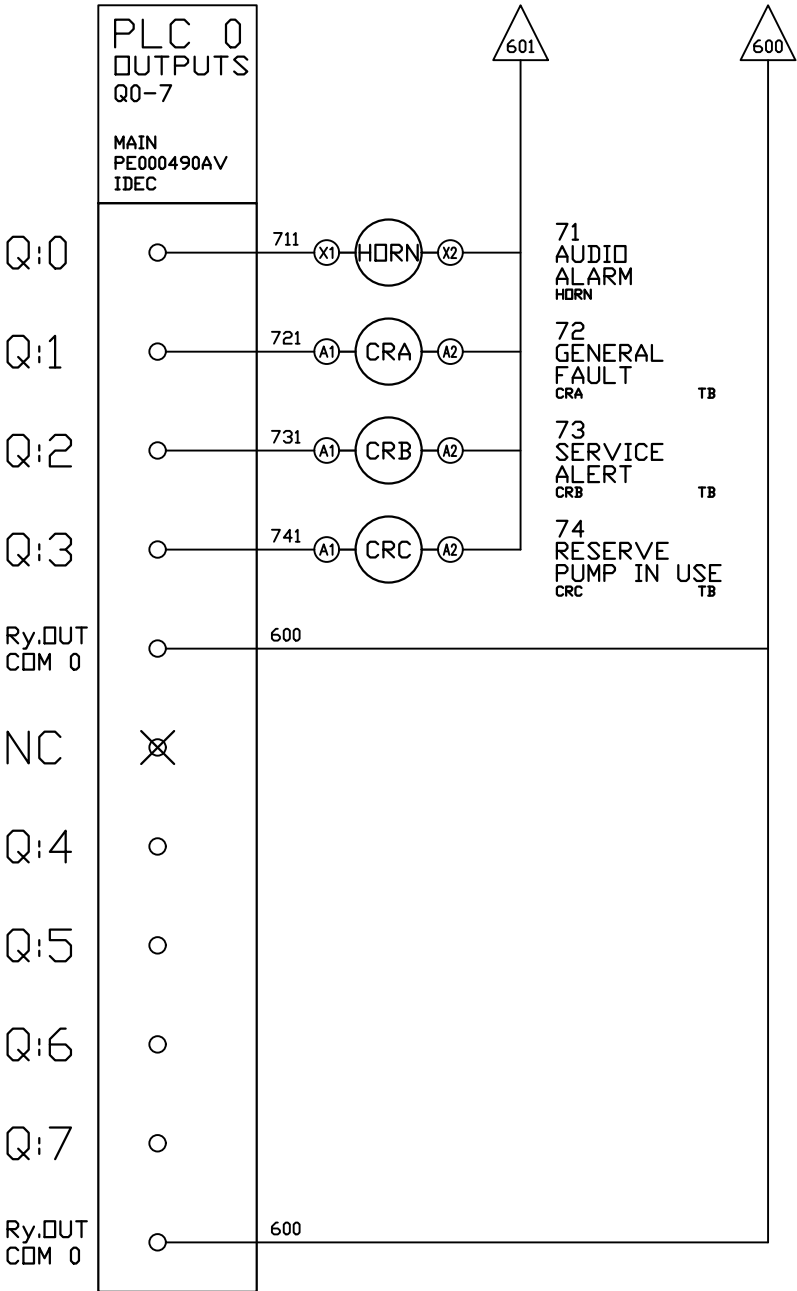
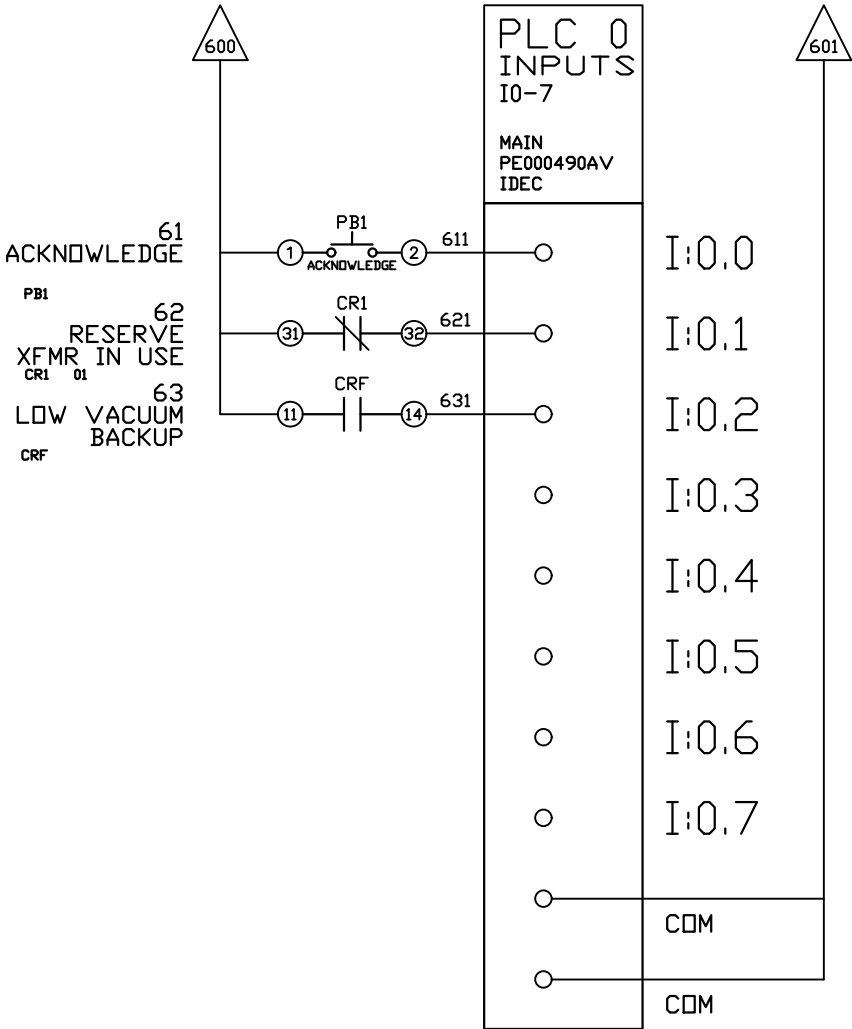
DWG. TYPE WIRING

DWG. NO. PXMI-V469

SHEET	SIZE
W-5	B

PXMI-V469

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



OPTIONAL:

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLEX
HMI, NFPA

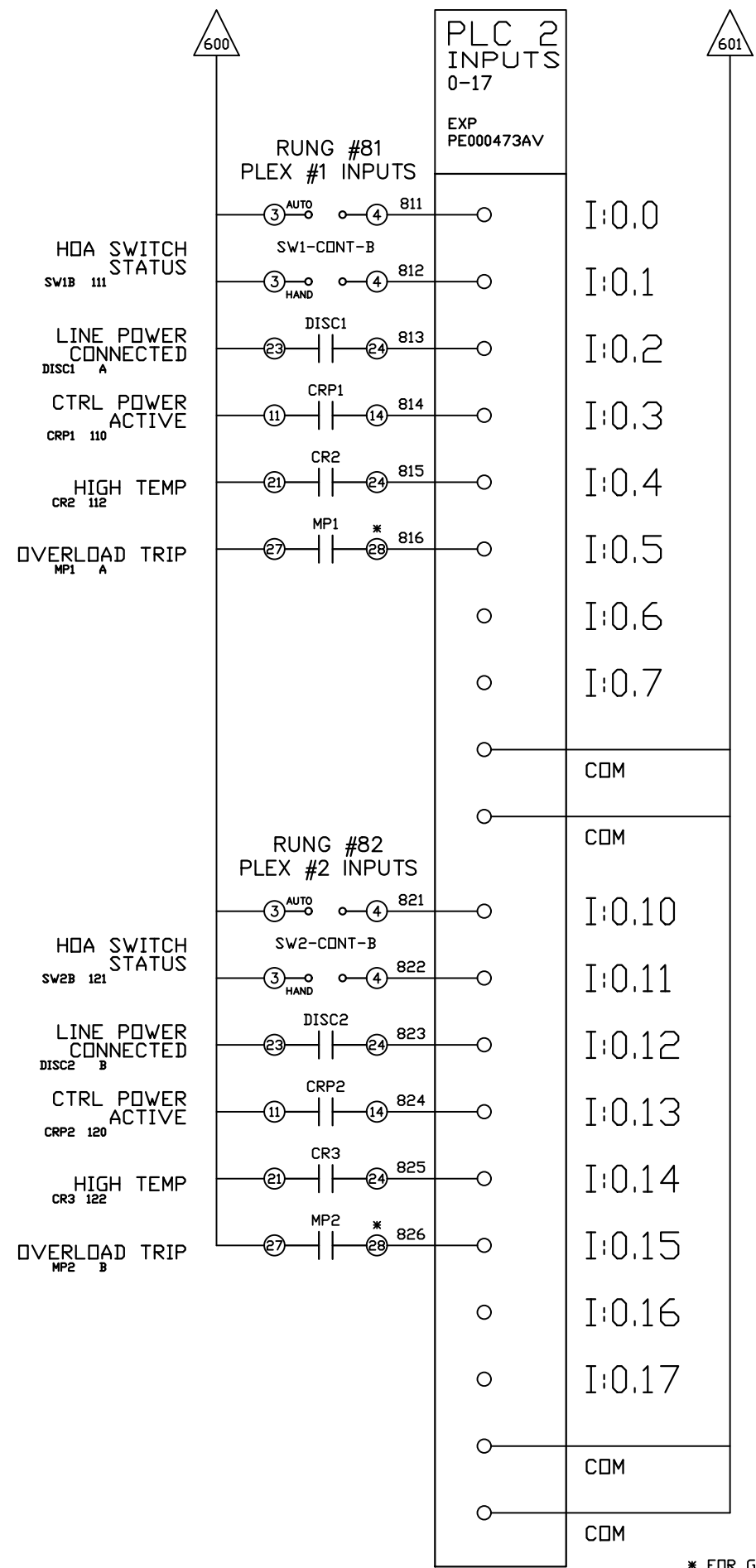
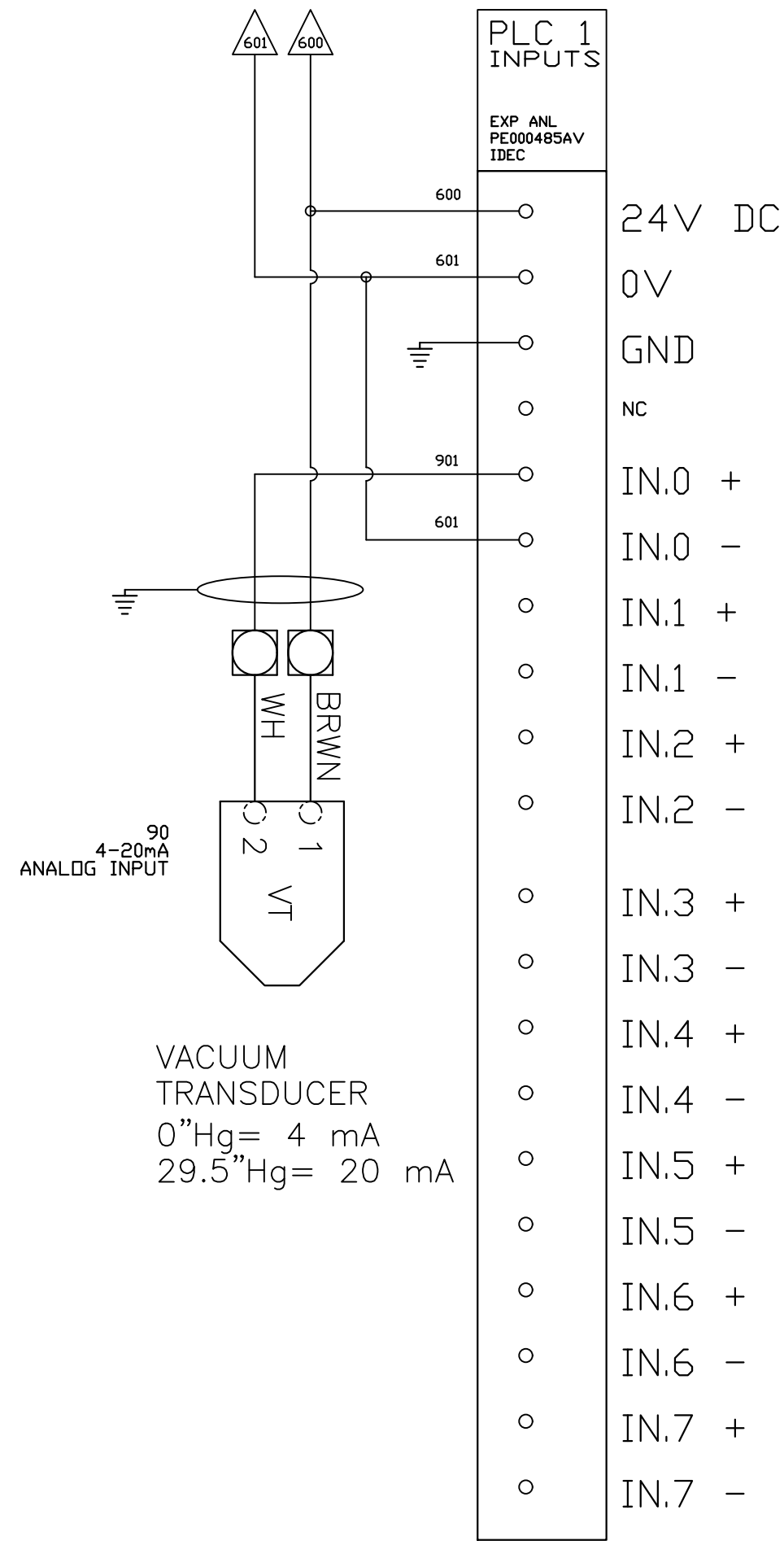
DWG. TYPE WIRING

DWG. NO.

PXMI-V469

SHEET	SIZE
W-6	B

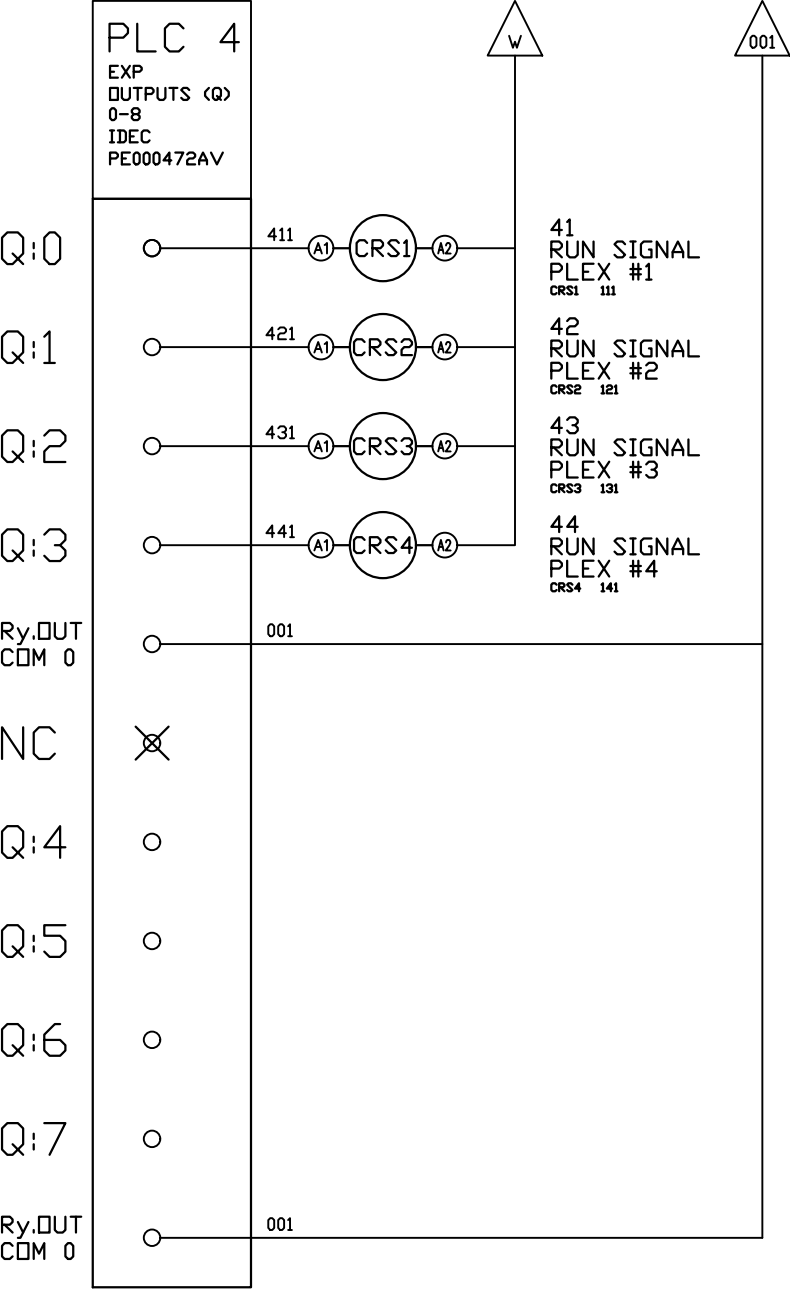
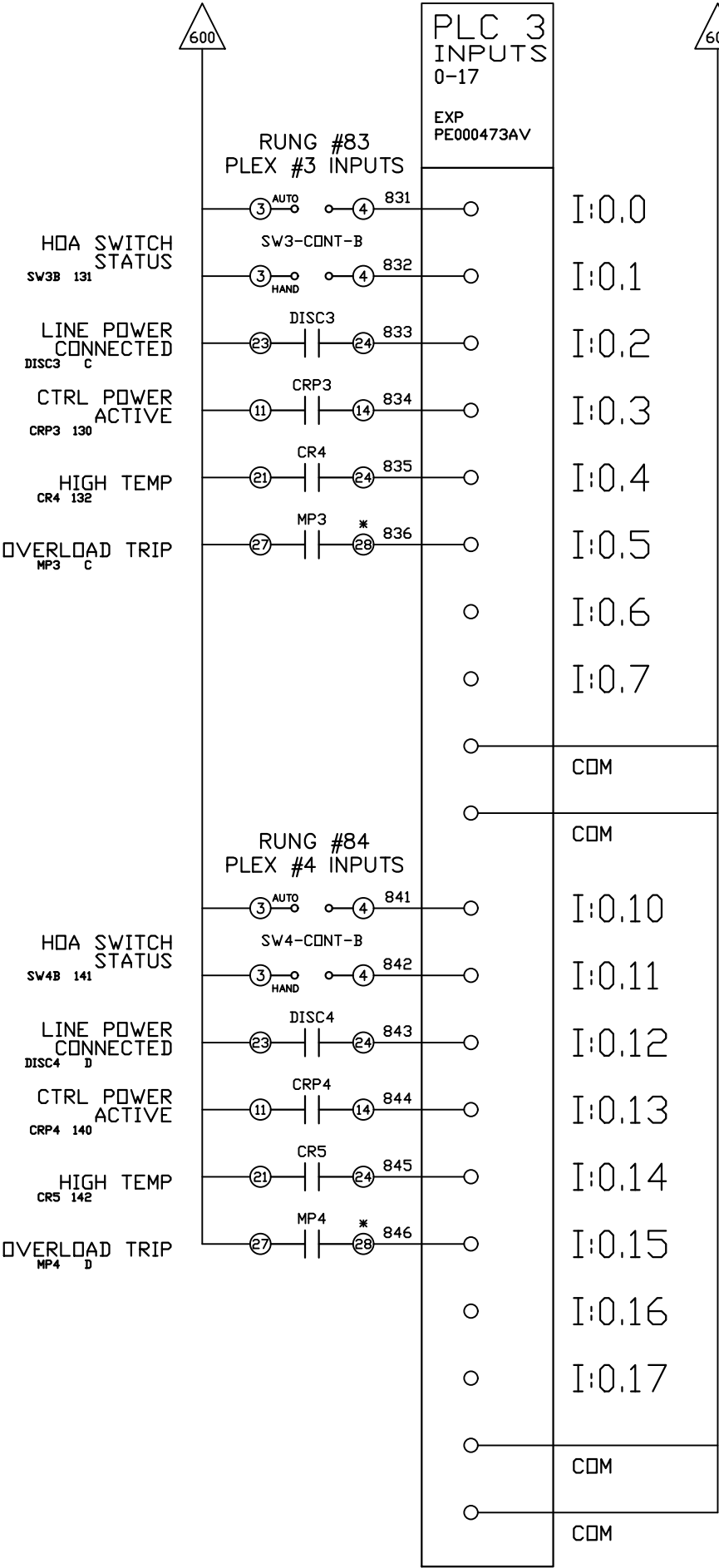
REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



* FOR GV4 MOTOR PROTECTORS USE PINS #1 AND #4 ON AUX CONTACT IN 'SD9' SLOT

OPTIONAL:		
		
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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12
PANEL TYPE		
MED VACUUM QUADRUPLIX HMI, NFPA		
DWG. TYPE WIRING		
DWG. NO. PXMI-V469		
SHEET		SIZE
W-7		B

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



* FOR GV4 MOTOR PROTECTORS USE PINS #1 AND #4 ON AUX CONTACT IN 'SD9' SLOT

OPTIONAL:

POWEREX™

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLIX HMI, NFPA

DWG. TYPE

WIRING

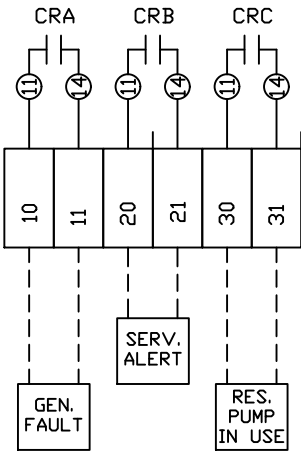
DWG. NO.

PXMI-V469

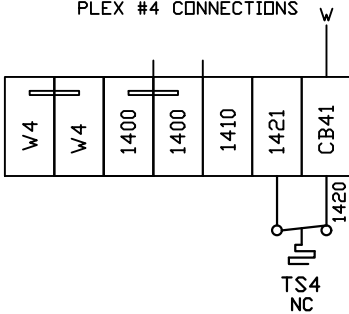
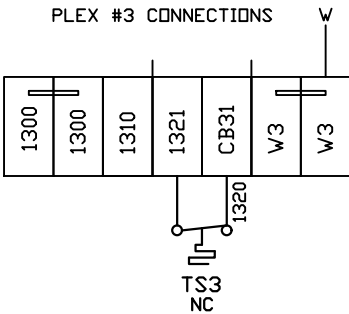
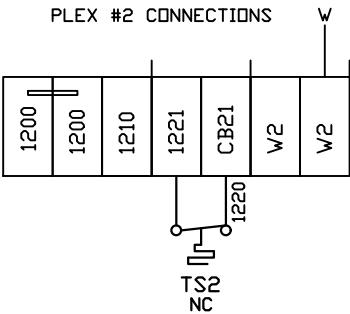
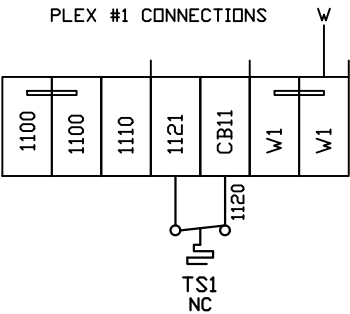
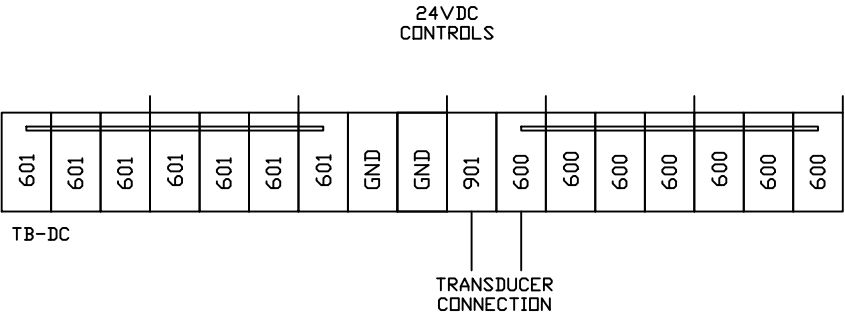
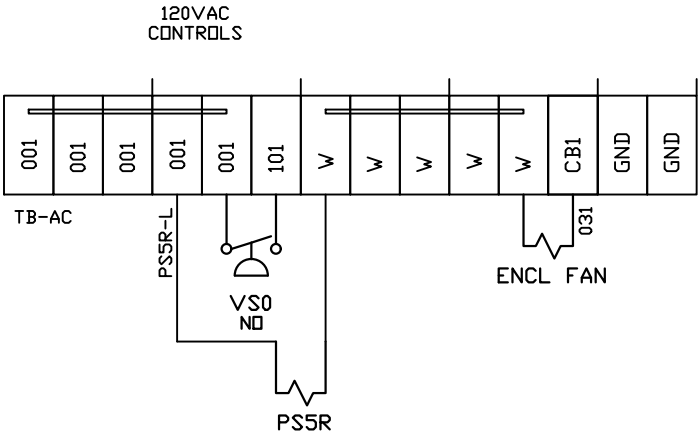
SHEET	SIZE
W-8	B

PXMI-V469

TERMINAL BLOCKS



DRY CONTACTS FOR CUSTOMER
REMOTE ALARM CONNECTION



FIELD WIRING NOTES:

- PANEL GROUND MUST BE CONNECTED TO EARTH GROUND
- TRANSFORMER IS SIZED FOR LOADS SHOWN ON DRAWING ONLY.
- FIELD WIRING INDICATED BY -----, WIRE TO BE COPPER RATED AT 75° C.
- ALL ALARM DRY CONTACTS ARE CLOSED FOR NORMAL OPERATION AND OPEN IN ALARM.
- DRY CONTACT RATING: 30V DC/2A (resistive load, inductive load L/R = 7 ms)
- USE CAT-5 CABLE W/RJ45 CONNECTOR FOR ETHERNET CONNECTION TO COMMUNICATION NETWORK OR BAS SYSTEM

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK

OPTIONAL:

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLIX
HMI, NFPA

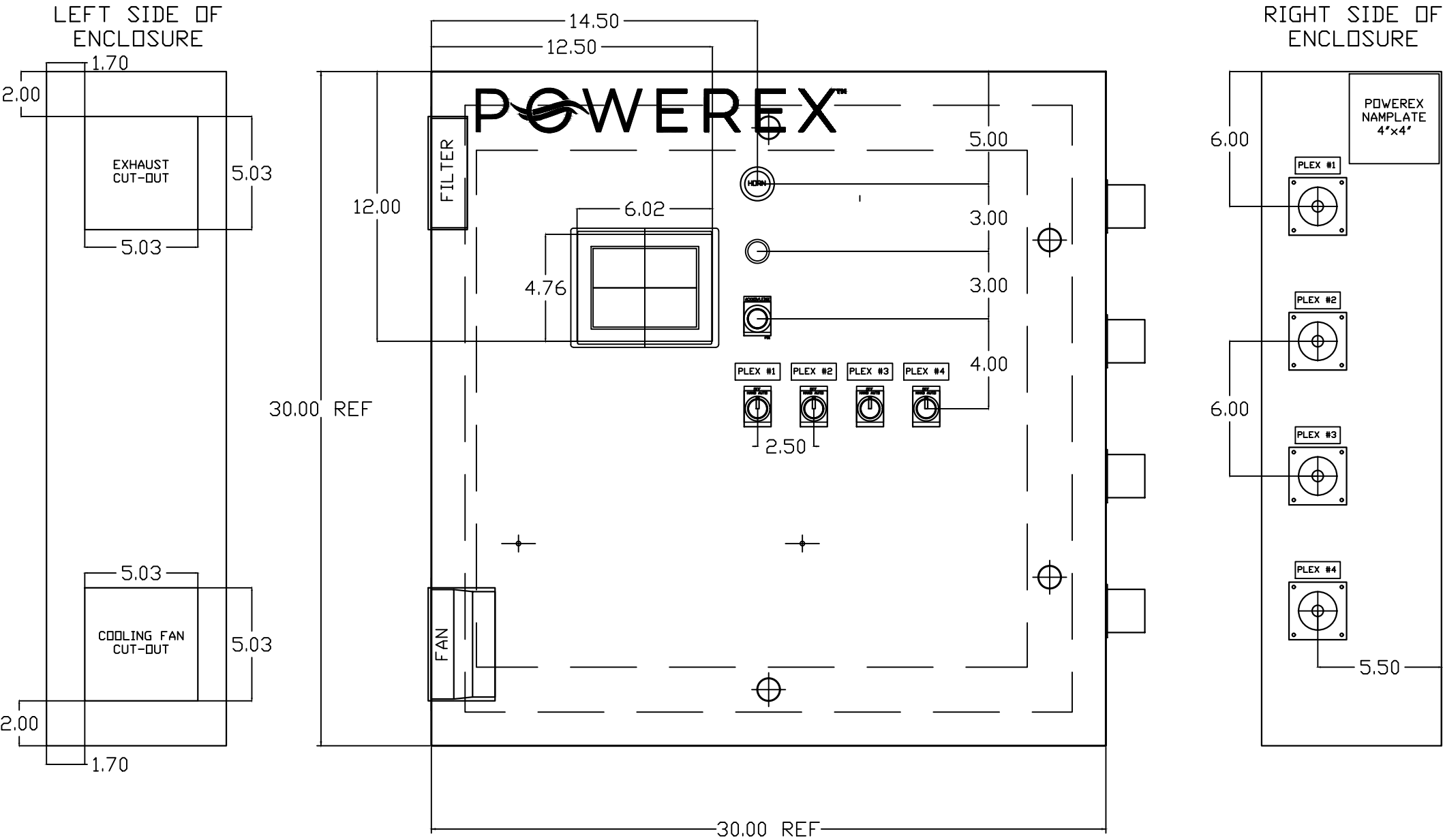
DWG. TYPE WIRING

DWG. NO.

PXMI-V469

SHEET W-9	SIZE B
------------------	---------------

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLIX
HMI, NFPA

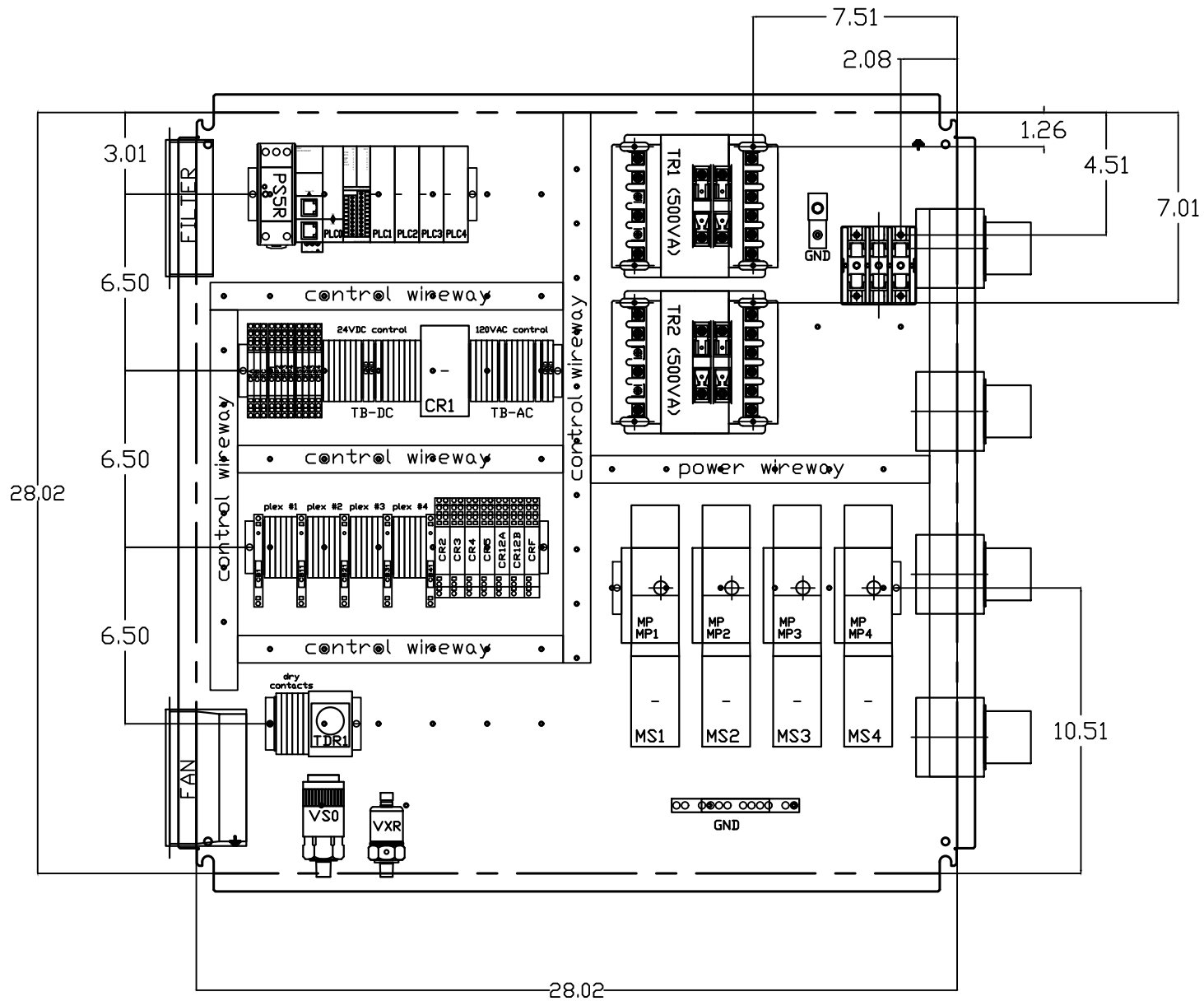
DWG. TYPE LAYOUT

DWG. NO. PXMI-V469

SHEET	SIZE
LA-1	B

PXMI-V469

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



OPTIONAL:

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLEX
HMI, NFPA

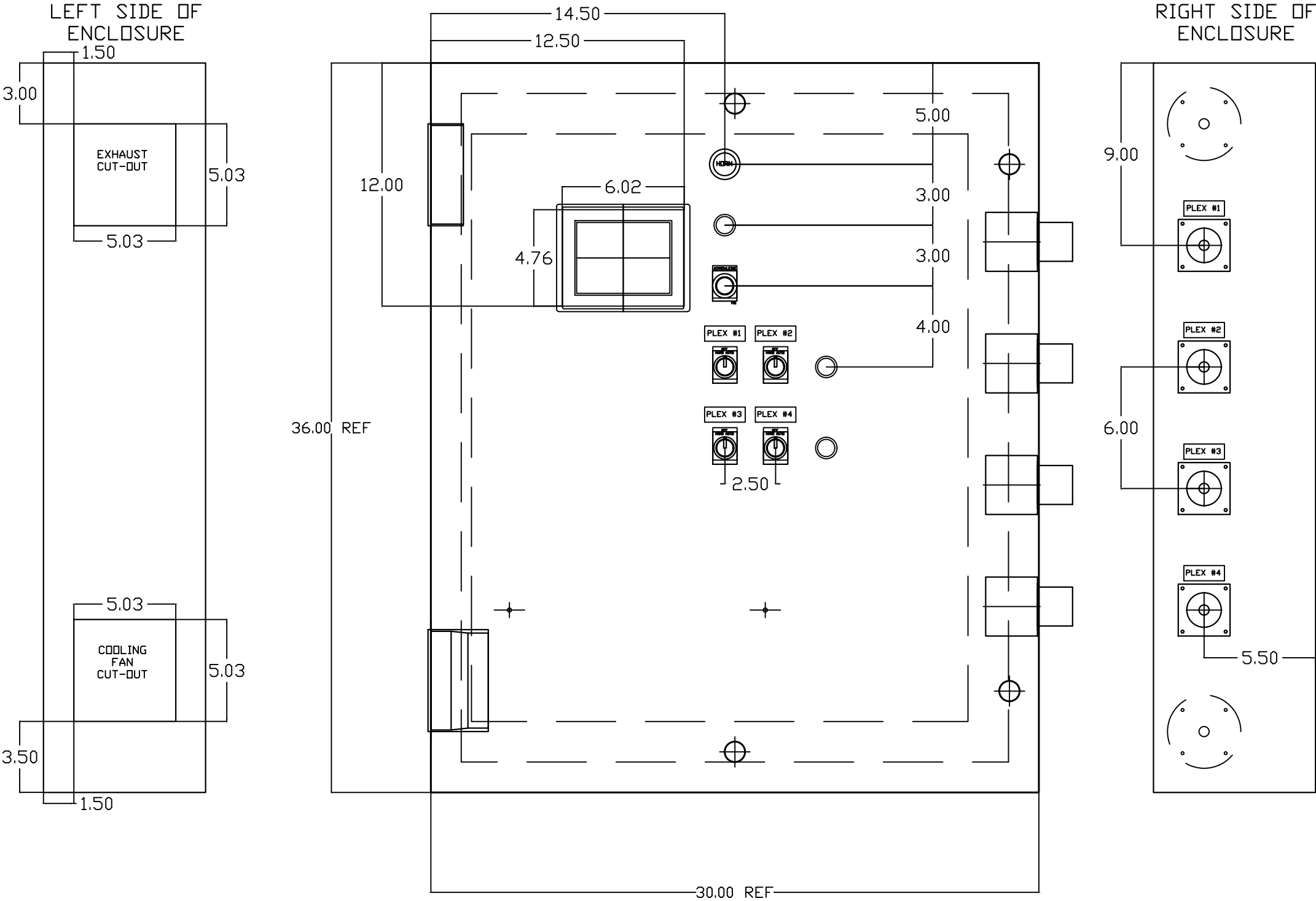
DWG. TYPE LAYOUT

DWG. NO. PXMI-V469

SHEET	SIZE
LA-2	B

PXMI-V469

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



OPTIONAL:

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE

MED VACUUM QUADRUPLIX
HMI, NFPA

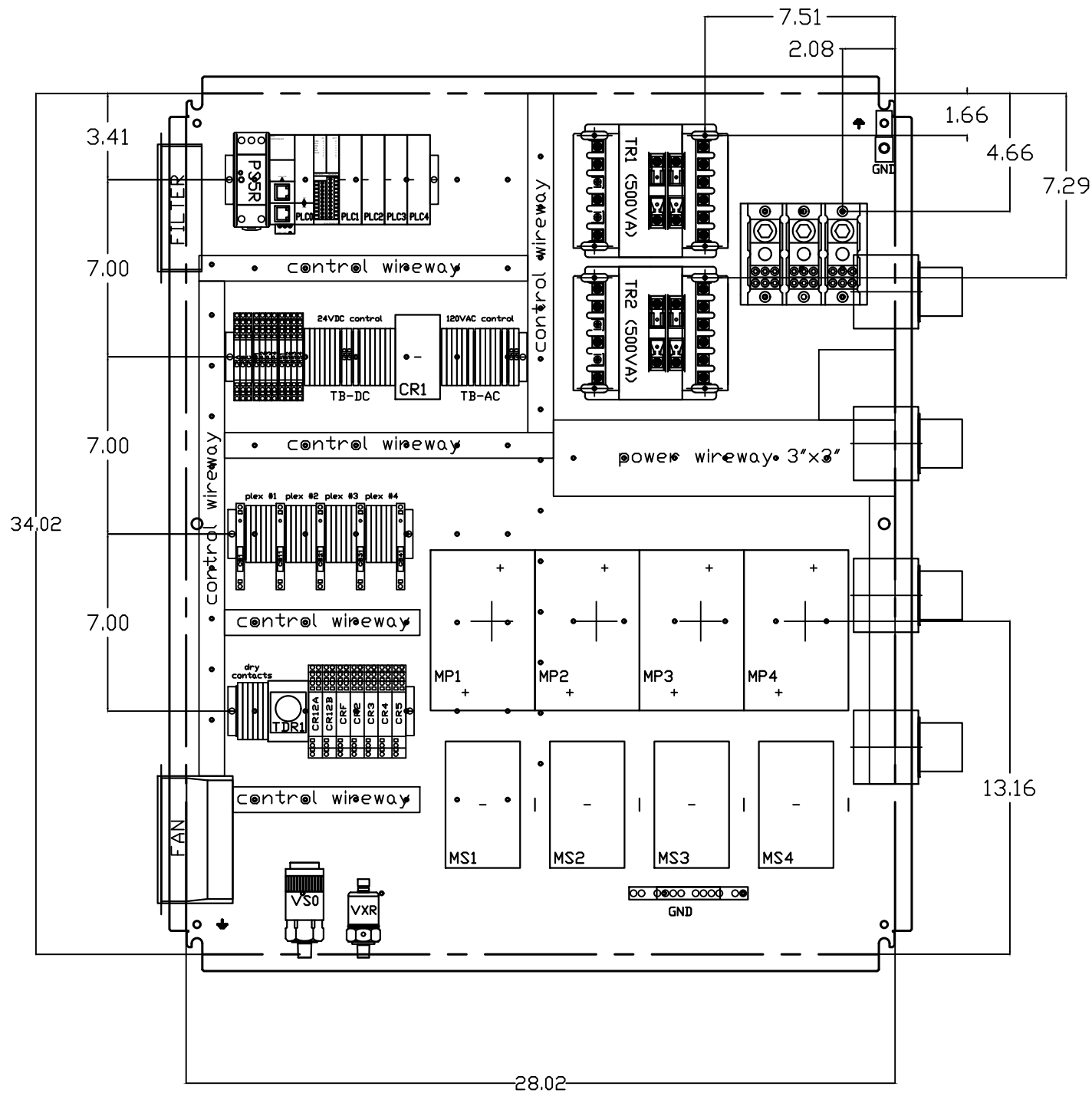
DWG. TYPE LAYOUT

DWG. NO. PXMI-V469

SHEET	SIZE
LB-1	B

PXMI-V469

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	02/20/12	22722	CHR	DMS
K-1	ADDED GROUND TERMINAL BLOCKS	04/15/25	PXEC0688	JNW	JRD
L-1	PLEX ISOLATION UPDATES	05/29/25	PXEC0639	WMM	SEK



OPTIONAL:



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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
CHR	DMS	DMS
12/15/11	02/20/12	02/20/12

PANEL TYPE
MED VACUUM QUADRUPLUX
HMI, NFPA

DWG. TYPE WIRING

DWG. NO.
PXMI-V469

SHEET	SIZE
LB-2	B

TABLE 1	P/N	MOTOR FULL LOAD AMPS	TOTAL FULL LOAD AMPS	NON-TIME DELAY FUSE	TIME DELAY FUSE	INVERSE-TIME CIRCUIT BREAKER
208V (3Ø)	02AB	3.4	15.6	25	20	25
	12AB	5	22	35	30	30
	22AB	6	26	40	35	40
	32AB	9	38	60	45	60
	42AB	15	62	100	80	90
	52AB	14.8	61.2	100	80	90
	72AB	26.2	106.8	175	150	150
	A2AB	33.4	135.6	225	175	200
	F2AB *	40.4	163.6	250	200	225
	G2AB *	62	250	400	300	350
	H2AB *	68	274	450	350	400
230V (3Ø)	03AB	3.4	15.6	25	20	25
	13AB	4.4	19.6	30	25	30
	23AB	5.4	23.6	35	30	35
	33AB	7.8	33.2	50	40	50
	43AB	13.2	54.8	90	70	80
	53AB	12.9	53.6	80	70	80
	73AB	20.9	85.6	150	110	125
	A3AB	26.2	106.8	175	150	150
	F3AB *	38.8	157.2	250	200	225
	G3AB *	52	210	350	250	300
	H3AB *	62	250	400	300	350
460V (3Ø)	04AB	2	10	15	15	15
	14AB	2.2	10.8	20	15	15
	24AB	2.7	12.8	20	15	20
	34AB	3.9	17.6	30	25	25
	44AB	6.6	28.4	45	35	40
	54AB	6.5	28	45	35	40
	74AB	10.5	44	70	60	70
	A4AB	13.1	54.4	90	70	80
	F4AB	19.4	79.6	125	100	110
	G4AB	26	106	175	150	150
	H4AB *	31	126	200	150	175
380V (3Ø)	08AB	N/A				
	18AB	2.5	12	20	15	20
	28AB	3.1	14.4	25	20	20
	38AB	4.6	20.4	30	25	30
	48AB	7.3	31.2	50	40	45
	58AB	7.7	32.8	50	40	45
	78AB	11.9	49.6	80	60	70
	A8AB	12.8	53.2	80	70	80
	F8AB	22.3	91.2	150	110	150
	G8AB *	28	114	175	150	175
	H8AB *	37	150	225	200	225

NOTES:

1. 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 FOR THIS ELECTRICAL ASSEMBLY. SHORT CIRCUIT PROTECTION IS RECOMMENDED, SEE TABLE 1. IF PROVIDING PANEL SHORT CIRCUIT PROTECTION USING CLASS J TIME DELAY FUSES, PANEL SCCR IS 65KA. OTHERWISE, PANEL SCCR IS 5ka.

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. △ -INDICATES A DRAWING WIRE CONNECTION TO ANOTHER PAGE.

7. SERVICE DISCONNECT USAGE - turn HOA switch to OFF position. Turn disconnect OF SAME UNIT to OFF position. Associated PLEX will be isolated for maintenance purposes. After completing maintenance, turn disconnect to ON position and return HOA switch to AUTO. This will return PLEX to normal operation.

CONTROL TRANSFORMERS - 500VA					
REPLACEMENT	208	230	460	575	
FUSE TYPE	VOLT	VOLT	380 VOLT	VOLT	
FU1,2A FU1,2B	FNQR	6A	5A	5A	4A
FU3A,B	FNM	7A	7A	7A	7A
SEE XFRMR FOR CONNECTIONS					

WIRE TYPE TABLE			
VOLTAGE	WIRE NUMBERS	GAUGE	COLOR
120VAC	001-599,1100+	16-18AWG	RED/BLK
0VAC	W	16-18AWG	WHT/BLK
24VDC	600-1099	16-18AWG	PURPLE
0VDC	601	16-18AWG	PURPLE
GND	-	VARIES	GREEN
CUSTOMER SUPPLY	01-99	16-18AWG	YELLOW

SEQUENCE OF OPERATIONS

During normal operation the PBMI controller will signal the Lead pump to run when vacuum drops to lead cut-in set-point and run for a 10-minute minimum period before stopping when the vacuum reaches the lead cut-out set-point. Lead alternation to the next pump, will occur every 30-minutes. 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. 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.

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.

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	09/01/11	22545	BFH	CHR
C-1	FORMAT UPDATE	03/01/13	PXEC0038	BFH	CHR

OPTIONAL:

208V/230V/380V/460V

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
BFH	CHR	CHR
09/01/11	09/20/11	09/20/11

PANEL TYPE

BUSCH LUBRICATED VANE
3PH 4-PLEX PANEL DATA

DWG. TYPE

MISC

DWG. NO.

DATA TABLE

SHEET	SIZE
D-1	B

4-PLEX PANEL DATA

TABLE 1	P/N	MOTOR FULL LOAD AMPS	TOTAL FULL LOAD AMPS	NON-TIME DELAY FUSE	TIME DELAY FUSE	INVERSE-TIME CIRCUIT BREAKER
208V (3Ø)	22CB	6.6	28.4	45	35	40
	32CB	9.4	39.6	60	50	60
	42CB	10.4	43.6	70	60	60
	52CB	12.4	51.6	80	70	80
	62CB	16.4	67.6	110	90	100
	72CB	21.4	87.6	150	110	125
	A2CB	27.2	110.8	175	150	175
	F2CB *	40.5	164.0	250	200	250
230V (3Ø)	23CB	5.6	24.4	40	30	35
	33CB	8.4	35.6	60	45	50
	43CB	9.2	38.8	60	50	60
	53CB	11.4	47.6	80	60	70
	63CB	15.2	62.8	100	80	90
	73CB	17.2	70.8	110	90	100
	A3CB	23.6	96.4	150	125	150
	F3CB *	35.0	142.0	225	175	200
460V (3Ø)	24CB	2.8	13.2	20	15	20
	34CB	4.2	18.8	30	25	25
	44CB	4.6	20.4	30	25	30
	54CB	5.7	24.8	40	30	35
	64CB	7.6	32.4	50	40	45
	74CB	8.6	36.4	60	45	50
	A4CB	11.3	47.2	70	60	70
	F4CB	17.5	72.0	110	90	100
380V (3Ø) 50HZ	28CB	2.6	12.4	20	15	20
	38CB	3.8	17.2	25	20	25
	48CB	5.0	22.0	35	30	30
	58CB	5.1	22.4	35	30	30
	68CB	8.6	36.4	60	45	50
	78CB	9.3	39.2	60	50	60
	A8CB	10.5	44.0	70	60	60
	F8CB	14.5	60.0	90	80	90

NOTES:

1. 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 FOR THIS ELECTRICAL ASSEMBLY. SHORT CIRCUIT PROTECTION IS RECOMMENDED, SEE TABLE 1. IF PROVIDING PANEL SHORT CIRCUIT PROTECTION USING CLASS J TIME DELAY FUSES, PANEL SCCR IS 65KA. OTHERWISE, PANEL SCCR IS 5ka.

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. △ -INDICATES A DRAWING WIRE CONNECTION TO ANOTHER PAGE.

7. SERVICE DISCONNECT USAGE - turn HOA switch to OFF position. Turn disconnect OF SAME UNIT to OFF position. Associated PLEX will be isolated for maintenance purposes. After completing maintenance, turn disconnect to ON position and return HOA switch to AUTO. This will return PLEX to normal operation.

CONTROL TRANSFORMERS - 500VA					WIRE TYPE TABLE				
REPLACEMENT		208	230	460	575				
FUSE TYPE		VOLT	VOLT	VOLT	VOLT	VOLTAGE	WIRE NUMBERS	GAUGE	COLOR
FU1,2A	FNQR	6A	5A	5A	4A	120VAC	001-599,1100+	16-18AWG	RED/BLK
FU1,2B						0VAC	W	16-18AWG	WHT/BLK
						24VDC	600-1099	16-18AWG	PURPLE
FU3A,B	FNM	7A	7A	7A	7A	0VDC	601	16-18AWG	PURPLE
						GND	-	VARIES	GREEN
						CUSTOMER SUPPLY	01-99	16-18AWG	YELLOW
SEE XFMR FOR CONNECTIONS									

SEQUENCE OF OPERATIONS

During normal operation the PBMI controller will signal the Lead pump to run when vacuum drops to lead cut-in set-point and run for a 10-minute minimum period before stopping when the vacuum reaches the lead cut-out set-point. Lead alternation to the next pump, will occur every 30-minutes. 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. 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.

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:

200V/230V/380V/460V

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
BFH	CHR	CHR
09/01/11	09/20/11	09/20/11

PANEL TYPE

BUSCH CLAW VACUUM
3PH 4-PLEX PANEL DATA

DWG. TYPE MISC

DWG. NO.

DATA TABLE

SHEET	SIZE
D-1	B
4-PLEX PANEL DATA	

NOTE: P/N MAY INCLUDE SUFFIX AV

NOTE: P/N MAY INCLUDE SUFFIX AV

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.

							REV	REVISION	DATE	ECN	NAME	CHKD
TABLE 1	P/N	MOTOR FULL LOAD AMPS	TOTAL FULL LOAD AMPS	NON-TIME DELAY FUSE	TIME DELAY FUSE	INVERSE-TIME CIRCUIT BREAKER	B-1	RELEASE TO PRODUCTION	09/01/11	22545	BFH	CHR
208V (3Ø)	12AJ	3.7	16.8	25	20	25	NOTES: 1. 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 FOR THIS ELECTRICAL ASSEMBLY. SHORT CIRCUIT PROTECTION IS RECOMMENDED, SEE TABLE 1. IF PROVIDING PANEL SHORT CIRCUIT PROTECTION USING CLASS J TIME DELAY FUSES, PANEL SCCR IS 65kA. OTHERWISE, PANEL SCCR IS 5kA. 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. △ -INDICATES A DRAWING WIRE CONNECTION TO ANOTHER PAGE. 7. SERVICE DISCONNECT USAGE - turn HOA switch to OFF position. Turn disconnect OF SAME UNIT to OFF position. Associated PLEX will be isolated for maintenance purposes. After completing maintenance, turn disconnect to ON position and return HOA switch to AUTO. This will return PLEX to normal operation.					
	22AJ	6.5	28	45	35	40						
	32AJ	8.6	36.4	60	45	50						
	52AJ	14.2	58.8	90	70	90						
	72AJ	20.9	85.6	150	110	125						
	62AJ	21	86	150	110	125						
	A2AJ *	30	122	200	150	175						
	C2AJ *	37.1	150.4	225	200	225						
230V (3Ø)	13AJ	3.6	16.4	25	20	25						
	23AJ	6.1	26.4	40	35	40						
	33AJ	8	34	50	40	50						
	53AJ	12.8	53.2	80	70	80						
	73AJ	18.9	77.6	125	100	110						
	63AJ	20	82	125	100	125						
	A3AJ *	29.4	119.6	200	150	175						
	C3AJ *	32.8	133.2	200	175	200						
460V (3Ø)	14AJ	1.8	9.2	15	15	15						
	24AJ	2.9	13.6	20	20	20						
	34AJ	5.1	22.4	35	30	35						
	54AJ	6.4	27.6	45	35	40						
	74AJ	9.5	40	60	50	60						
	64AJ	11.6	48.4	80	60	70						
	A4AJ	15.3	63.2	100	80	90						
	C4AJ	16.4	67.6	110	80	100						
380V (3Ø)	18AJ		2	10	10	10						
	28AJ	4	18	30	25	25						
	38AJ	4.7	20.8	35	25	30						
	58AJ	6.9	29.6	45	35	45						
	78AJ	13	54	80	70	80						
	68AJ	10.5	44	70	60	70						
	A8AJ	15.9	65.6	100	80	90						
	C8AJ											

OPTIONAL:

208V/230V/380V/460V

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
BFH	CHR	CHR
09/01/11	09/20/11	09/20/11

PANEL TYPE

BECKER DILLESS
3PH QUAD PANEL DATA

DWG. TYPE DATA

DWG. NO.

DATA TABLE

SHEET	SIZE
D-1	B
QUAD PANEL DATA	

SEQUENCE OF OPERATIONS

During normal operation the PBMI controller will signal the Lead pump to run when vacuum drops to lead cut-in set-point and run for a 10-minute minimum period before stopping when the vacuum reaches the lead cut-out set-point. Lead alternation to the next pump, will occur every 30-minutes. 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. 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.

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.

NOTE: P/N MAY INCLUDE SUFFIX AV

During normal operation the PBMI controller will signal the Lead pump to run when vacuum drops to lead cut-in set-point and run for a 10-minute minimum period before stopping when the vacuum reaches the lead cut-out set-point. Lead alternation to the next pump, will occur every 30-minutes. 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. 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.

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.

TABLE 1	P/N	MOTOR FULL LOAD AMPS	TOTAL FULL LOAD AMPS	NON-TIME DELAY FUSE	TIME DELAY FUSE	INVERSE-TIME CIRCUIT BREAKER
208V (3Ø)	22AJ	6	26	40	35	40
	32AJ	8	34	50	40	50
	52AJ	13	54	80	70	80
	72AJ	19	78	125	100	110
	A2AJ	25	102	175	125	150
	F2AJ *	37.5	152	250	200	225
230V (3Ø)	23AJ	5.2	22.8	35	30	35
	33AJ	7.4	31.6	50	40	45
	53AJ	12	50	80	60	70
	73AJ	18	74	110	90	110
	A3AJ	23	94	150	125	150
	F3AJ *	35	142	225	175	200
460V (3Ø)	24AJ	2.6	12.4	20	15	20
	34AJ	3.7	16.8	25	20	25
	54AJ	6	26	40	35	40
	74AJ	9	38	60	45	60
	A4AJ	11.5	48	80	60	70
	F4AJ	17	70	110	90	100

NOTES:

- RECOMMENDED TIGHTENING TORQUES FOR WIRE TERMINALS:
208-575 VOLT POWER 35 POUND INCHES
120 VOLT POWER AND CONTROL VOLTAGE 15 POUND INCHES
- PANEL GROUND MUST BE CONNECTED TO EARTH GROUND
- INSTALLER TO PROVIDE MAIN DISCONNECTING DEVICE FOR THIS ELECTRICAL ASSEMBLY. SHORT CIRCUIT PROTECTION IS RECOMMENDED, SEE TABLE 1. IF PROVIDING PANEL SHORT CIRCUIT PROTECTION USING CLASS J TIME DELAY FUSES, PANEL SCCR IS 65KA. OTHERWISE, PANEL SCCR IS 5KA.
- ALL WIRES MUST BE LABELED ON BOTH ENDS
- TRANSFORMER IS SIZED FOR LOADS SHOWN ON DRAWING ONLY. DO NOT CONNECT ANY OTHER DEVICES
- △ -INDICATES A DRAWING WIRE CONNECTION TO ANOTHER PAGE.
- SERVICE DISCONNECT USAGE - turn HOA switch to OFF position. Turn disconnect OF SAME UNIT to OFF position. Associated PLEX will be isolated for maintenance purposes. After completing maintenance, turn disconnect to ON position and return HOA switch to AUTO. This will return PLEX to normal operation.

NOTE: P/N MAY INCLUDE SUFFIX AV

CONTROL TRANSFORMERS - 500VA					
REPLACEMENT		208	230	460	575
FUSE TYPE		VOLT	VOLT	380 VOLT	VOLT
FU1,2A	FNQR	6A	5A	5A	4A
FU1,2B					
FU3A,B	FNM	7A	7A	7A	7A
SEE XFRMR FOR CONNECTIONS					

WIRE TYPE TABLE			
VOLTAGE	WIRE NUMBERS	GAUGE	COLOR
120VAC	001-599,1100+	16-18AWG	RED/BLK
0VAC	W	16-18AWG	WHT/BLK
24VDC	600-1099	16-18AWG	PURPLE
0VDC	601	16-18AWG	PURPLE
GND	-	VARIES	GREEN
CUSTOMER SUPPLY	01-99	16-18AWG	YELLOW

SEQUENCE OF OPERATIONS

During normal operation the PBMI controller will signal the Lead pump to run when vacuum drops to lead cut-in set-point and run for a 10-minute minimum period before stopping when the vacuum reaches the lead cut-out set-point. Lead alternation to the next pump, will occur every 30-minutes. 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. 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.

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.

REV	REVISION	DATE	ECN	NAME	CHKD
B-1	RELEASE TO PRODUCTION	09/01/11	22545	BFH	CHR
C-1	FORMAT UPDATE	03/04/13	PXEC0038	BFH	CHR

OPTIONAL:

208V/230V/460V

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DRAWN BY	CHECKED BY	ENGINEERING APPROVAL
BFH	CHR	CHR
09/01/11	09/20/11	09/20/11

PANEL TYPE

RIETSCHLE CLAW
3PH 4-PLEX PANEL DATA

DWG. TYPE MISC

DWG. NO.

DATA TABLE

SHEET	SIZE
D-1	B

4-PLEX PANEL DATA