CIRCUIT BREAKER PANEL
PRODUCT MANUAL FOR

P/N 111-2917 P/N 111-3765
P/N 111-3762 P/N 111-3766
P/N 111-3763 P/N 111-3768
P/N 111-3764 P/N 111-3769

UNIPOWER, LLC
65 Industrial Park Rd
Dunlap, TN 37327
Phone: +1-954-346-2442
Toll Free: 1-800-440-3504
Web site – www.unipowerco.com

PM 990-3762-00, Rev. 10

RECEIVING INSTRUCTIONS
&
GENERAL EQUIPMENT INFORMATION

Please Note: For your protection, the following information and the product manual should be read and thoroughly understood before unpacking, installing, or using the equipment.

UNIPOWER, LLC presents all equipment to the delivering carrier securely packed and in perfect condition. Upon acceptance of the package from us, the delivering carrier assumed responsibility for its safe arrival to you. Once you receive the equipment, it is your responsibility to document any damage the carrier may have inflicted, and to file your claim promptly and accurately.

1. PACKAGE INSPECTION

1.1 Examine the shipping crate or carton for any visible damage: punctures, dents, and any other signs of possible internal damage.

1.2 Describe any damage or shortage on the receiving documents, and have the carrier sign their full name.

1.3 If your receiving freight bill notes that a Tip-N-Tell is attached to your freight, locate it. If the Tip-N-Tell arrow has turned even partially blue, this means the freight has been tipped in transport. Make sure the carrier notes this on your receipt before you sign for the freight.

2. EQUIPMENT INSPECTION

2.1 Within fifteen days, open the crate and inspect the contents for damages. While unpacking, be careful not to discard any equipment, parts, or manuals. If any damage is detected, call the delivering carrier to determine appropriate action. They may require an inspection.

***SAVE ALL SHIPPING MATERIAL FOR THE INSPECTOR TO SEE!**

2.2 After the inspection has been made, call UNIPOWER, LLC. We will determine if the equipment should be returned to our plant for repair, or if some other method would be more expeditious. If it is determined that the equipment should be returned to UNIPOWER, LLC, ask the delivering carrier to send the packages back to UNIPOWER, LLC at the delivering carrier's expense.

2.3 If repair is necessary, we will invoice you for the repair so that you may submit the bill to the delivering carrier with your claim form.

2.4 It is your responsibility to file a claim with the delivering carrier. Failure to properly file a claim for shipping damages may void warranty service for any physical damages later reported for repair.

3. HANDLING

Equipment can be universally heavy or top-heavy. Use adequate humanpower or equipment for handling. Until the equipment is securely mounted, be careful to prevent the equipment from being accidentally tipped over.

4. NAMEPLATE

Each piece of UNIPOWER, LLC equipment is identified by a part number on the nameplate. Please refer to this number in all correspondence with UNIPOWER, LLC.

5. INITIAL SETTINGS

All equipment is shipped from our production area *fully checked and adjusted*. Do not make any adjustments until you have referred to the technical reference or product manual.

6. SPARE PARTS

To minimize downtime during installation or operation, we suggest you purchase spare fuses, circuit boards and other recommended components as listed on the Recommended Spare Parts List in the back of the product manual. If nothing else, we strongly recommend stocking spare fuses for all systems.

PRODUCT SUPPORT

Product support can be obtained using the following addresses and telephone numbers.

Manufacturing facility:
UNIPOWER, LLC
65 Industrial Park Rd
Dunlap, TN 37327
United States

Phone: +1-954-346-2442
Toll Free: 1-800-440-3504
Web site – www.unipowerco.com

When contacting UNIPOWER, please be prepared to provide:

1. The product model number, spec number, S build number, and serial number - see the equipment nameplate on the front panel
2. Your company's name and address
3. Your name and title
4. The reason for the contact
5. If there is a problem with product operation:
   - Is the problem intermittent or continuous?
   - What revision is the firmware?
   - What actions were being performed prior to the appearance of the problem?
   - What actions have been taken since the problem occurred?

REVISION HISTORY

REV	DESCRIPTION	CK'D & APPR'D BY / DATE
9	See PCO# 45463	CJM / 9/19/19
10	See ECN 46140	JPR 1/3/24

PROPRIETARY AND CONFIDENTIAL

DISCLAIMER

Data, descriptions, and specifications presented herein are subject to revision by UNIPOWER, LLC without notice. While such information is believed to be accurate as indicated herein, UNIPOWER, LLC makes no warranty and hereby disclaims all warranties, express or implied, with regard to the accuracy or completeness of such information. Further, because the product(s) featured herein may be used under conditions beyond its control, UNIPOWER, LLC hereby disclaims and excludes all warranties, express, implied, or statutory, including any warranty of merchantability, any warranty of fitness for a particular purpose, and any implied warranties otherwise arising from course of dealing or usage of trade. The user is solely responsible for determining the suitability of the product(s) featured herein for user's intended purpose and in user's specific application.

Throughout the remainder of this manual, "UNIPOWER" will mean "UNIPOWER, LLC."

PERSONNEL REQUIREMENTS

Installation, setup, operation, and servicing of this equipment should be performed by qualified persons thoroughly familiar with this Product Manual and Applicable Local and National Codes. A copy of this manual is included with the equipment shipment.

TABLE OF CONTENTS

*Associated drawings at end of manual.

1. INSTALLATION

1.1 MOUNTING

Install panel in a rack or box enclosure using 12 – 24 hardware. Panel can be mounted in a 19" or 23" rack or enclosure.

1.2 WIRING

Connect a properly sized cable to the bus bar using the holes provided.

For panels equipped with the current shunts, do the following:

1) Confirm that the rating of the shunt matches the requirements for the monitoring circuits (i.e., 600 Amps at 50 mV).

2) Connect 14 AWG wires to the terminal block (TB2) located on the rear of the panel, and to the meter panel. Ensure that proper polarity is observed.

2. OPERATION

2.1 INSPECTION

The circuit breaker panel should be inspected periodically for:

- Loose or overheated connections
- Burned or overheated parts
- Accumulation of dirt

***WARNING: Excess load breaker capacity may result in improper operation and hazard to equipment and personnel.**

ENGINEERING NOTES:

51. SELECT CIRCUIT BREAKER PANEL PER TABLE A.

TABLE A

ITEM	MODEL	AMP	E/W SWITCH	RATING
1	111-2917-00	250	NO (NOTE 53)	MD
2	111-2917-10	250	YES (NOTE 53)	STD
2	111-2917-11	250	YES (NOTE 53)	STD

52. AMMETER SHUNTS, IF EQUIPPED, ARE NORMALLY RATED AT 600 AMPS. OTHER VALUES MAY BE SPECIFIED.

53. PANELS ARE EQUIPPED WITH ALARM SWITCHES FOR CONNECTION TO EXTERNAL ALARM SYSTEMS. ON 111-2917-10, THE SWITCH CLOSES ONLY WHEN THE BREAKER TRIPS. ON 111-2917-11, THE SWITCH CLOSES BOTH WHEN A BREAKER TRIPS, AND ALSO WHEN THE BREAKER HANDLE IS IN THE "OFF" POSITION.

54. SELECT THE PAINT COLOR FROM TABLE B:
IE. 111-2917-, COLOR A = ANSI 61 GRAY FINISH
IE. 111-2917-, COLOR B = BEIGE FINISH

TABLE B

COLOR	DESIGNATOR
ANSI 61 GRAY	A
BEIGE	B

55. THE INPUT COPPER BUS BAR IS DESIGNED FOR DIRECT CONNECTION TO THE UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES. INPUT LUGS ARE NOT PROVIDED, BUT MAY BE ORDERED SEPARATELY PER ED 991-0002-00.

MANUFACTURING NOTES:

101. INSULATE BUS WITH 3/4" FIBERGLASS SLEEVING (032-0001-00).

102. REPLACE BOLT SUPPLIED WITH SHUNT WITH 3/8-16 X 3/4" BRONZE BOLT (210-8128-00).

SHEET INDEX NOTE:

THE ISSUE OF SHEET 1 REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SH NO	1	2	3	
ISSUE	6	5	2	

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
6	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
HOLES	+0.004 -0.002	DRAWN SAN	10/27/89
FRACTIONS	±1/32	CHECKED	
DECIMALS (XX)	±0.020	APPROVED	
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP: PER SPEC ENG032

MATERIAL:

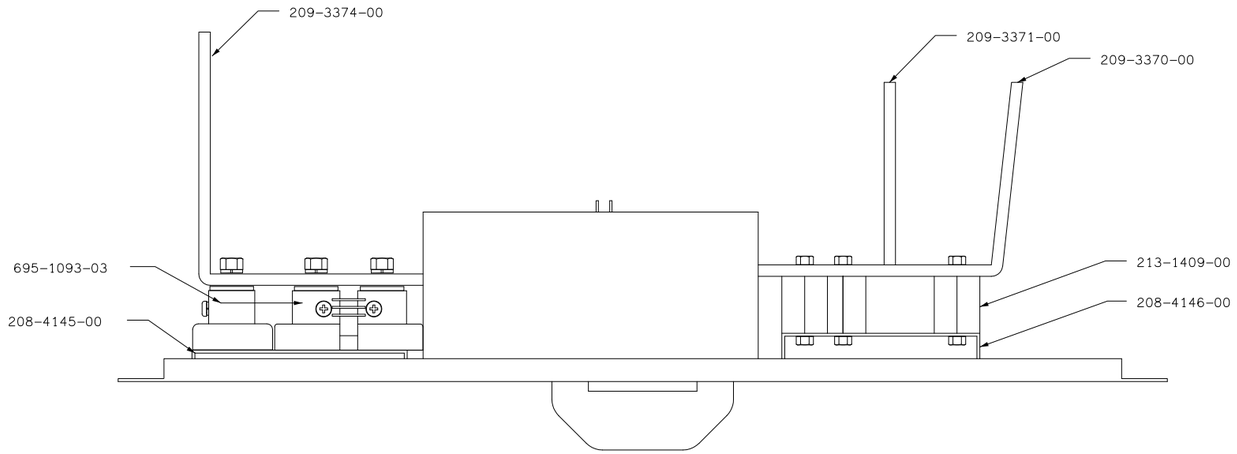
FINISH:

UNIPOWER
POWERING TECHNOLOGY

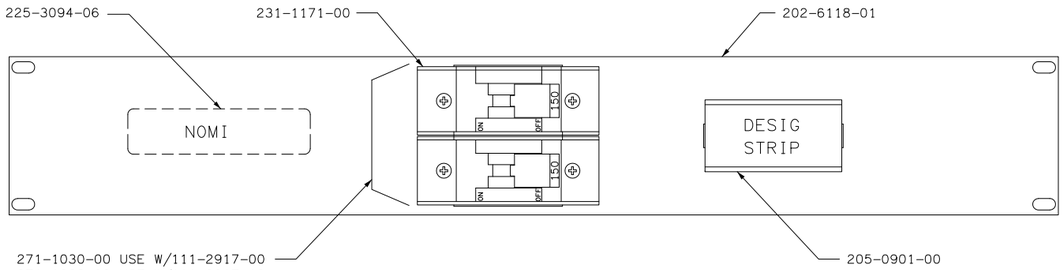
CIRCUIT BREAKER PANEL 2-250 AMP, WITH SHUNT

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-2917	6

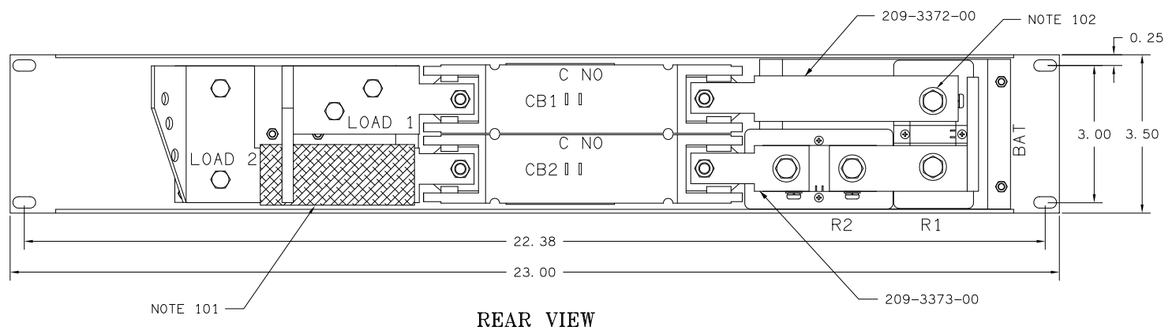
SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111-2917_SHT_1_ISS_6



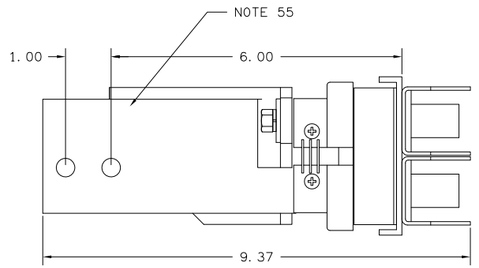
TOP VIEW



FRONT VIEW



REAR VIEW



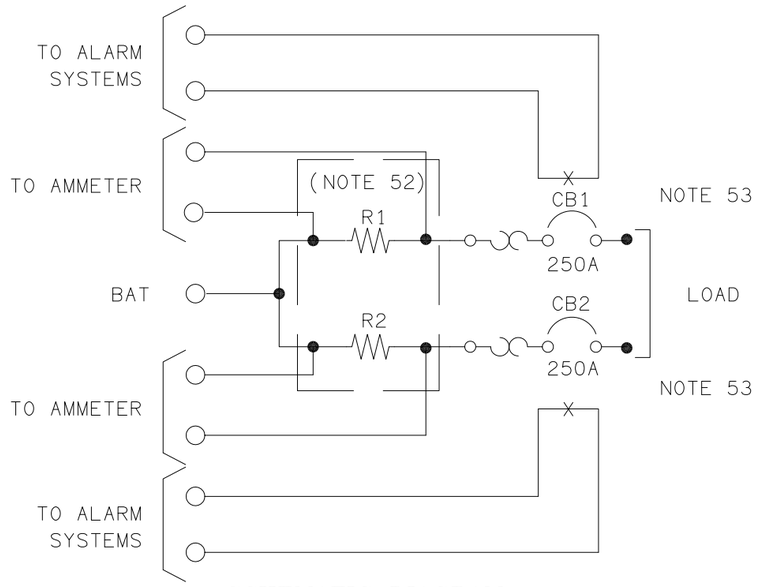
SIDE VIEW

111-2917-10 SHOWN
WITH SHUNTS

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-2917	5
SCALE: N/A	SHEET: 2 OF 3	FILE NAME: PN111-2917_SHT_2_ISS_5

STOCK LIST

LINE #	DESCRIPTION	PART NUMBERS	QUANTITY -10	QUANTITY -11
1	CIRCUIT BREAKER PANEL E/W 2-GJI W/ SHUNTS	202-6118-01	1	1
	COVER: PROTECTIVE COVER FOR GJI BREAKER	202-6141-01	2	2
	MULTI ROW DESIGNATION STRIP	205-0901-007	1	1
	BRACKET: GJI INPUT BRACKET FOR SHUNT	208-4145-00	1	1
5	BRACKET: GJI OUTPUT BRACKET	208-4146-00	1	1
	BUS BAR: GJI ANGLED OUTPUT BUS, LONG	209-3370-00	1	1
	BUS BAR: GJI ANGLED OUTPUT BUS, SHORT	209-3371-00	1	1
	BUS BAR: SHUNT TO GJI BREAKER, LONG	209-3372-00	1	1
	BUS BAR: SHUNT TO GJI BREAKER, SHORT	209-3373-00	1	1
10	BUS BAR: GJI INPUT BUS	209-3374-00	1	1
	SCREW: SS, HEX HEAD. 1/4-20 X 1"	210-1282-00	4	4
	SCREW: STL, SEMS, P/HD PHIL, 8-32 X 5/8"	210-1580-01	4	4
	SCREW: STL, HEX HEAD, 1/4-20 X 3/8"	210-7003-00	4	4
	SCREW: STL, SEMS, HEX HEAD, 1/4-20 X 5/8"	210-7004-40	4	4
15	BOLT, HEX, SIL, BRONZE: 3/8-16 X 3/4"	210-8128-00	4	4
	NUT, HEX STL: 8-32, ZINC, KEPS	211-0485-00	12	12
	NUT, HEX SS: 1/4-20	211-0531-00	4	4
	LOCKWASHER, SHKPF: 1/4 INTERNAL	212-0500-00	4	4
	LOCKWASHER: DISH, STL, SHKPF, #8	212-0503-00	2	2
20	WASHER, FLAT BRASS, 3/8"	212-2035-00	4	4
	WASHER, FLAT SS: 1/4"	212-2516-00	8	8
	WASHER, BELLEVILLE, SS: 1/4 X .500"	212-5754-00	8	8
	SPACER: HEATSINK, HEX FIBERGLASS, 1" GLASTIC	213-1409-00	4	4
	CB1P: 250A, 125VDC, ALARM SWITCH, GJI	271-1033-00	2	
25	CB1P: 250A, AUX SWITCH, GJI-H2-U-250-125-2	271-1032-00		2
	RES, SHUNT: METER, 600A 50MV	695-1093-03	2	2



SCHEMATIC DIAGRAM

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-2917	2

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-2917_SHT_3_ISS_2

ENGINEERING NOTES:

51. AMMETER SHUNTS ARE NORMALLY 600 AMPS, 50MV. HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED.

52. THE INPUT COPPER BUS BAR IS DESIGNED FOR DIRECT CONNECTION TO UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES. INPUT LUGS ARE NOT PROVIDED, BUT MAY BE ORDERED SEPERATELY PER DRAWING ED991-0002-00.

53. UNIPOWER'S STANDARD PAINT IS ANSI 61 GRAY.

54. PANELS NOT EQUIPPPED WITH A SHUNT, DO NOT INCLUDE R1. SEE TABLE A.

55. AN ALARM SIGNAL MAY BE EXTENDED TO AN EXTERNAL ALARM SYSTEM. DURING AN ALARM, A CLOSURE TO BATTERY IS PROVIDED ON THE APPROPRIATE ALARM TERMINAL:
    1) NEGATIVE GRD SYSTEMS, FA+OUT.
    2) POSITIVE GRD SYSTEMS, FA-OUT.

56. AN ALARM IS ACTIVATED ONLY BY ELECTRICAL TRIPPING OF A BREAKER IN PANELS EQUIPPED WITH AN ALARM SWITCH, (REFER TO TABLE A).

57. AN ALARM IS ACTIVATED BY EITHER ELECTRICAL OR MECHANICAL TRIPPING OF A BREAKER IN PANELS EQUIPPED WITH AN AUXILARY SWITCH, (REFER TO TABLE A).

MANUFACTURING NOTES:

101. ANTI-OXIDATION COATING WILL BE APPLIED BETWEEN ALL LAYERS OF LAMINATED COPPER BUS STRUCTURE. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT SURFACES PER THE MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND LARGE MOUNTING WASHER.

103. REPLACE BOLTS SUPPLIED WITH SHUNT WITH P/N 210-8128-00, AS SHOWN. USE WASHERS SUPPLIED WITH SHUNT.

TABLE A

VOLTAGE	PANEL	SHUNT RTG. & P/N	CIRCUIT BRKR & P/N	ALARM TYPE	RATING	NOTES
+24V OR -48V	111-3762-00	N/A	600A, 160VDC (1) 271-1044-00	ALARM SWITCH	STD	54,55,56
	111-3762-10	600A 695-1093-03			STD	51,55,56
	111-3762-20	N/A			STD	54,55,56
	111-3762-01	N/A	600A, 160VDC (1) 271-1043-00	AUXILARY SWITCH	STD	54,55,57
	111-3762-11	600A 695-1093-03			STD	51,55,57
	111-3762-21	N/A			STD	54,55,57

SHEET INDEX NOTE:

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SHEET INDEX

SHEET NUMBER	ISSUE NUMBER							
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2	1	2	3	4	4	5	5	
3	1	1	2	3	4	5	5	

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
7	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
HOLES	+0.004 -0.002	DRAWN MWY	10/30/89
FRACTIONS	±1/32	CHECKED	
DECIMALS (XX)	±0.020	APPROVED MCM	2/5/04
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP: PER SPEC ENG032

MATERIAL:

FINISH:

UNIPOWER
POWERING TECHNOLOGY

600A, GJ1P, HEINEMANN CIRCUIT BREAKER PANEL WITH FUSE ALARM

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3762	7

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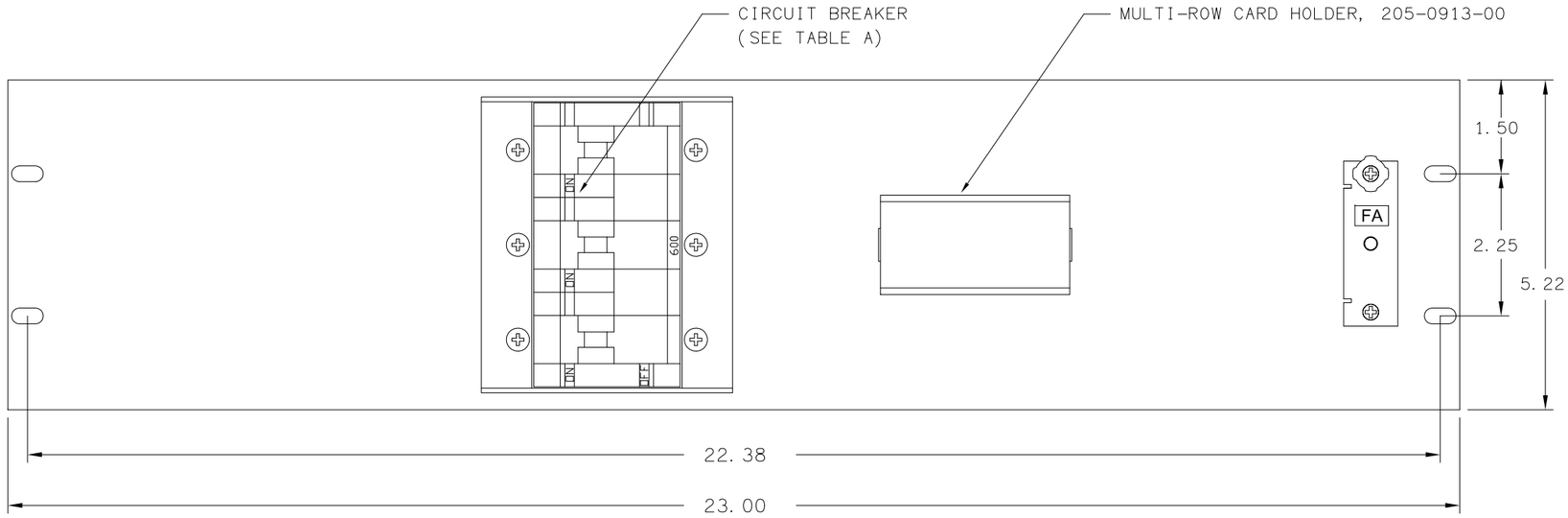
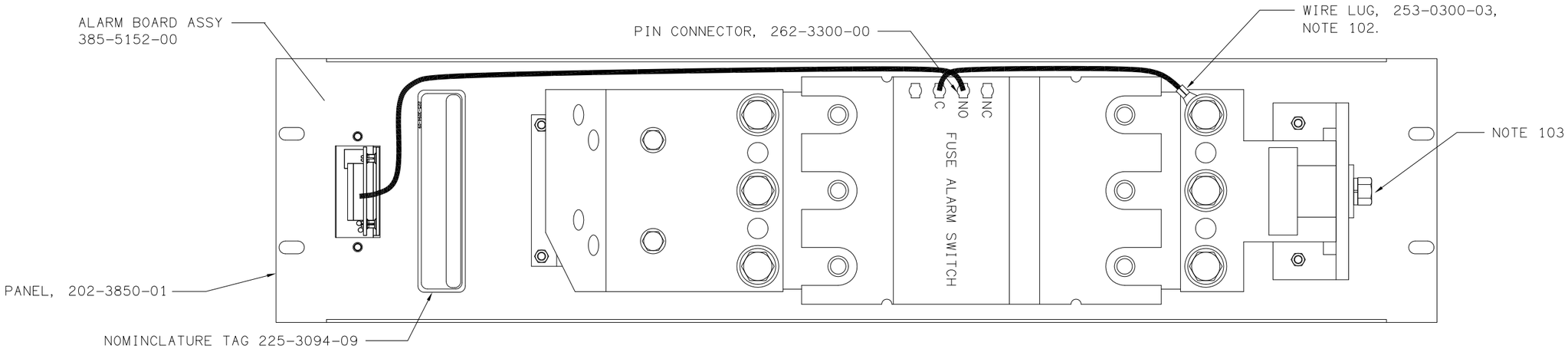


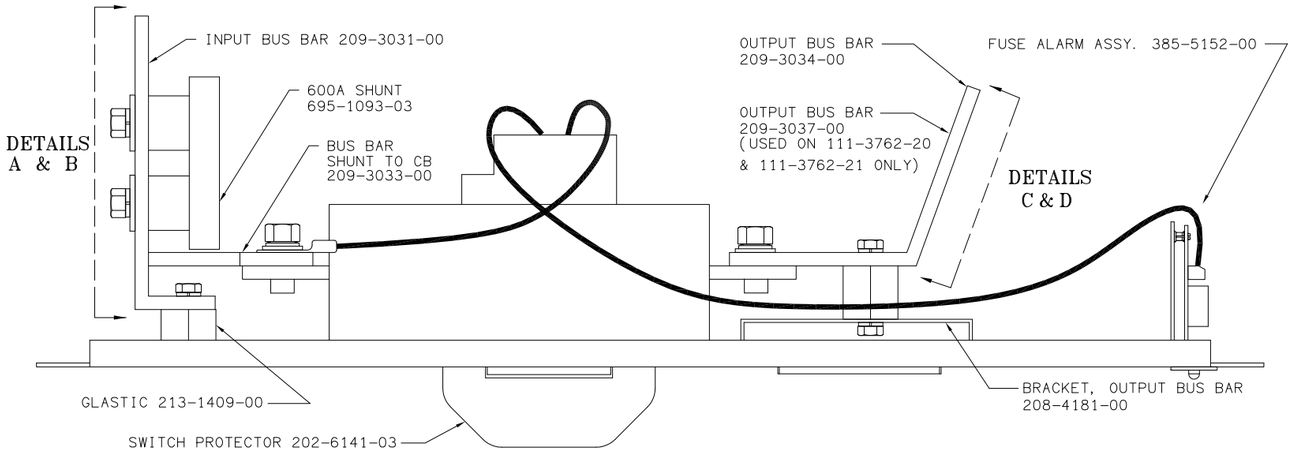
FRONT VIEW



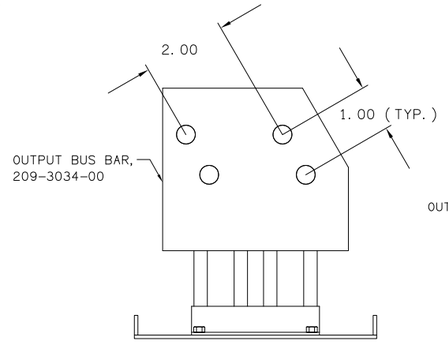
REAR VIEW
WITH SHUNT (111-3762-10)

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3762	5

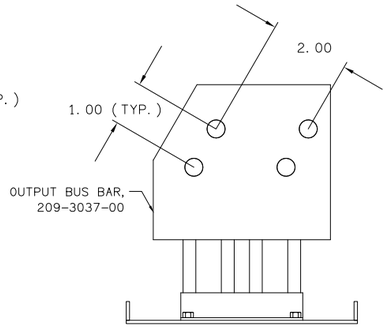
SCALE:	SHEET:	FILE NAME:
N/A	2 OF 3	PN111-3762_SHT_2_ISS_5



TOP VIEW
WITH SHUNT (111-3762-10)

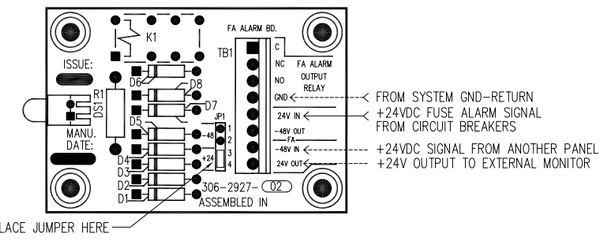


DETAIL C

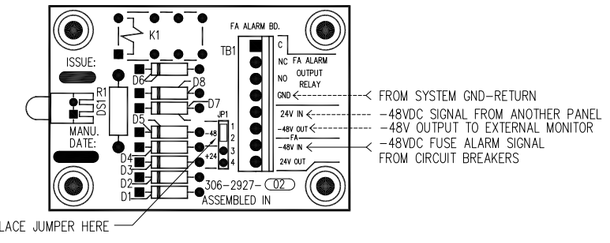


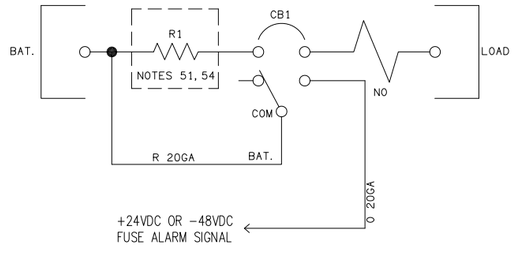
DETAIL D

WIRING DETAIL FOR +24V

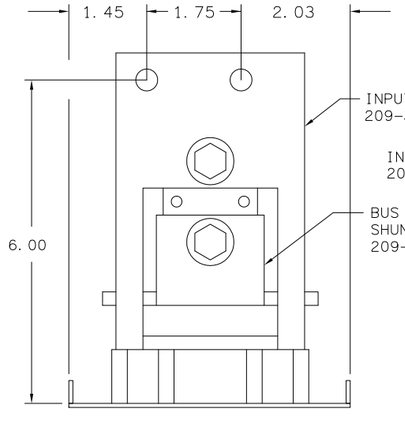


WIRING DETAIL FOR -48V

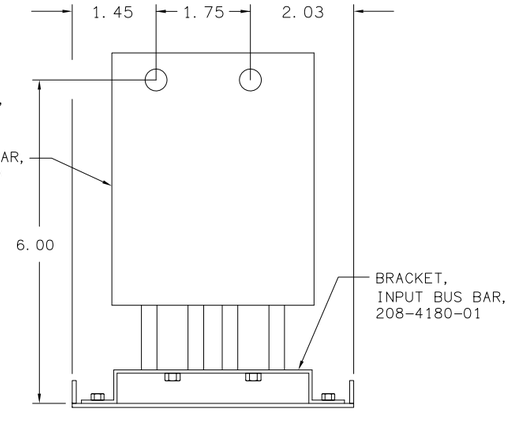




SCHEMATIC DIAGRAM



DETAIL A
WITH SHUNT (111-3762-10,-11)



DETAIL B
WITHOUT SHUNT (111-3762-00,-01, -20, -21)

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3762	5

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-3762_SHT_3_ISS_5

ENGINEERING NOTES:

51. AMMETER SHUNTS ARE NORMALLY 600 AMPS, 50MV. HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED.

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53. UNIPOWER'S STANDARD PAINT IS ANSI 61 GRAY.

54. PANELS NOT EQUIPPPED WITH A SHUNT, DO NOT INCLUDE R1. SEE TABLE A.

55. AN ALARM SIGNAL MAY BE EXTENDED TO AN EXTERNAL ALARM SYSTEM. DURING AN ALARM, A CLOSURE TO BATTERY IS PROVIDED ON THE APPROPRIATE ALARM TERMINAL:
    1) NEGATIVE GRD SYSTEMS, FA+OUT.
    2) POSITIVE GRD SYSTEMS, FA-OUT.

56. AN ALARM IS ACTIVATED ONLY BY ELECTRICAL TRIPPING OF A BREAKER IN PANELS EQUIPPED WITH AN ALARM SWITCH, (REFER TO TABLE A).

57. AN ALARM IS ACTIVATED BY EITHER ELECTRICAL OR MECHANICAL TRIPPING OF A BREAKER IN PANELS EQUIPPED WITH AN AUXILARY SWITCH, (REFER TO TABLE A).

MANUFACTURING NOTES:

101. ANTI-OXIDATION COATING WILL BE APPLIED BETWEEN ALL LAYERS OF LAMINATED COPPER BUS STRUCTURE. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT SURFACES PER THE MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND LARGE MOUNTING WASHER.

103. REPLACE BOLTS SUPPLIED WITH SHUNT WITH P/N 210-8128-00, AS SHOWN. USE WASHERS SUPPLIED WITH SHUNT.

TABLE A

VOLTAGE	PANEL	SHUNT RTG. & P/N	CIRCUIT BRKR & P/N	ALARM TYPE	RATING	NOTES
+24 -48	111-3763-00	N/A	400A, 160VDC (1) 271-1040-01	ALARM SWITCH	STD	54,55,56
	111-3763-10	400A 695-1091-03			STD	51,55,56
	111-3763-01	N/A	400A, 160VDC (1) 271-1040-00	AUXILARY SWITCH	STD	54,55,57
	111-3763-11	400A 695-1091-03			STD	51,55,57

SHEET INDEX NOTE:

THE ISSUE OF SHEET #1 REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SHEET NUMBER	ISSUE NUMBER							
	1	2	3	4	5	6	7	8
1	1	2	3	4	5	6		
2	1	2	3	4	5	5		
3	1	1	2	3	4	4		

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
6	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
		DRAWN MWY	10/30/89
HOLES	+0.004 -0.002	CHECKED SS	12/14/89
FRACTIONS	±1/32	APPROVED MCM	2/19/04
DECIMALS (XX)	±0.020		
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP:
PER SPEC ENG032

MATERIAL:

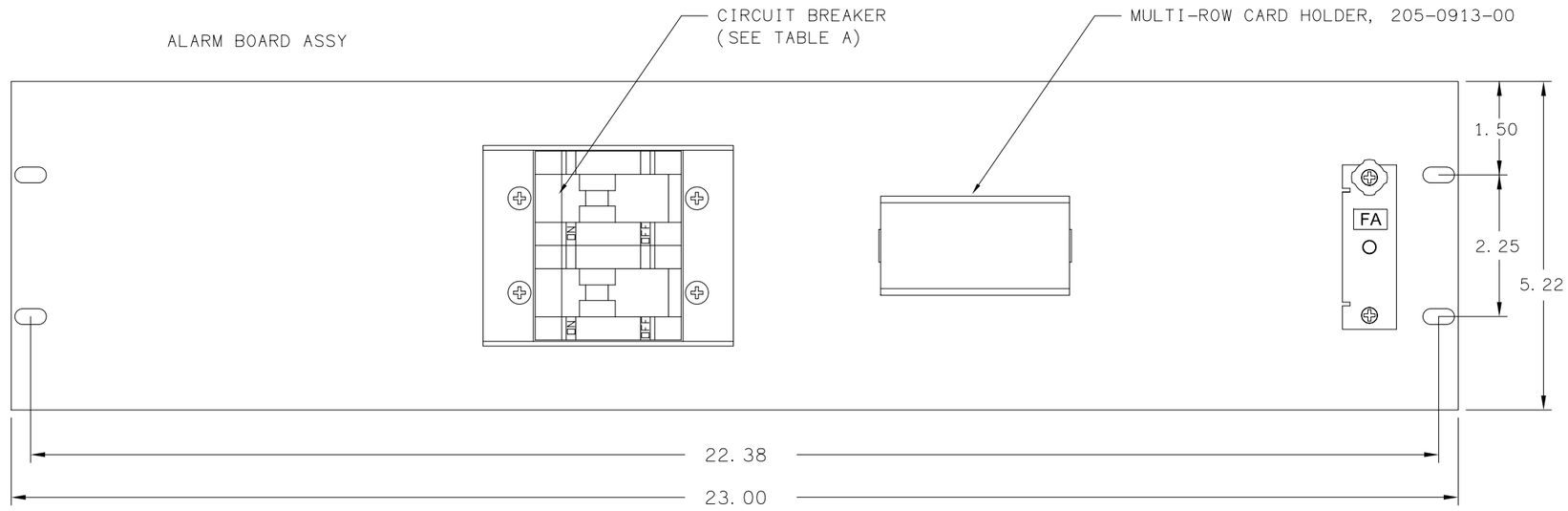
FINISH:

UNIPOWER
POWERING TECHNOLOGY

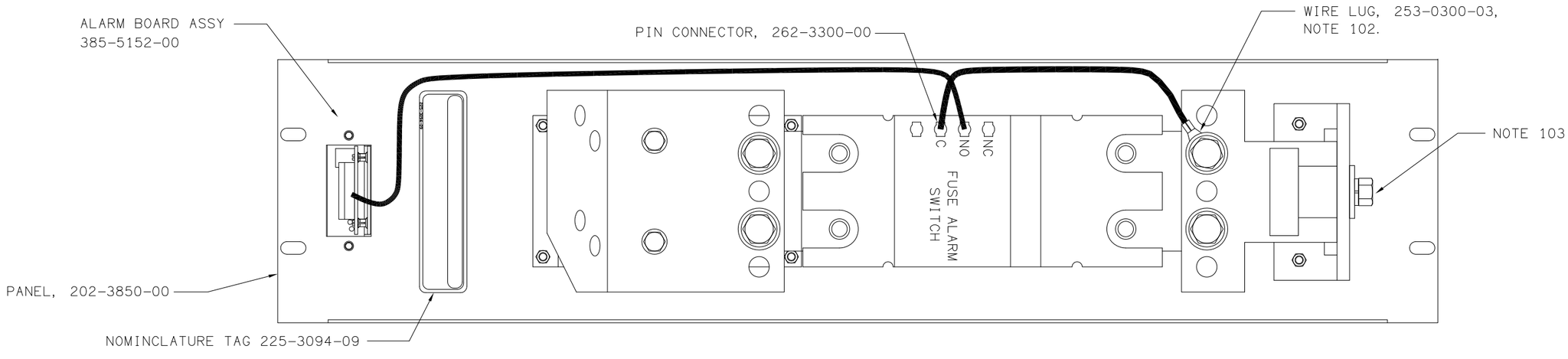
400A, GJ1P, HEINEMANN CIRCUIT BREAKER PANEL WITH FUSE ALARM

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3763	6

SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111-3763_SHT_1_ISS_6



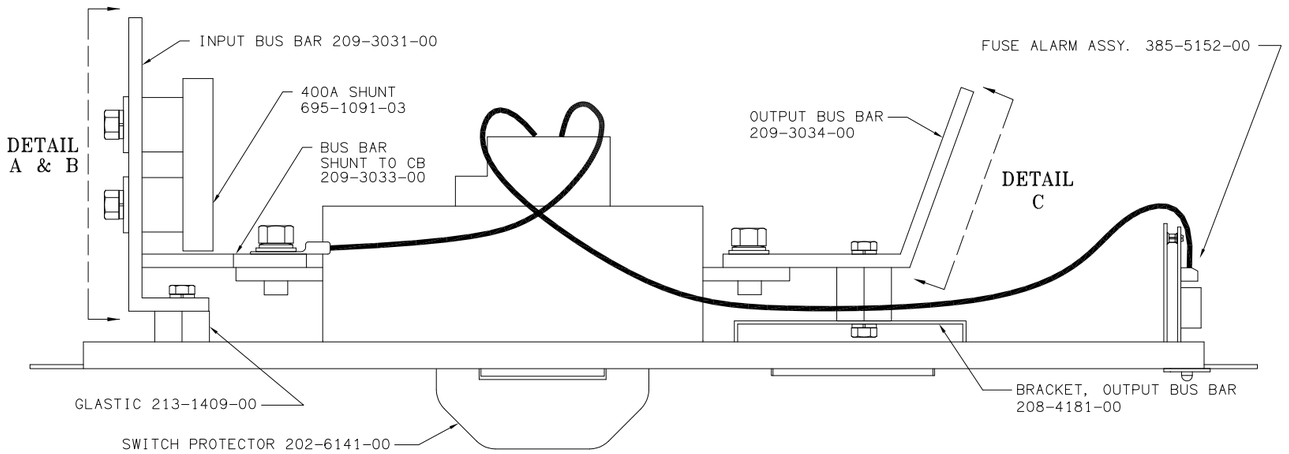
FRONT VIEW



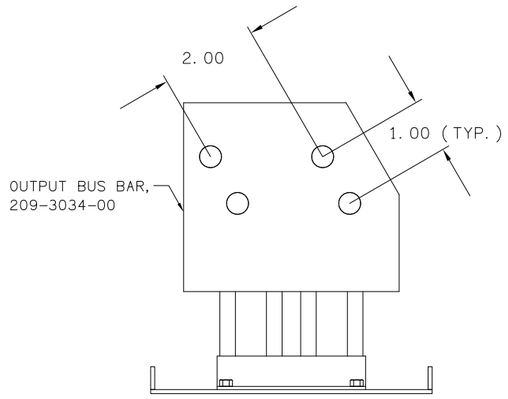
REAR VIEW
WITH SHUNT (111-3763-10)

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3763	5

SCALE:	SHEET:	FILE NAME:
N/A	2 OF 3	PN111-3763_SHT_2_ISS_5

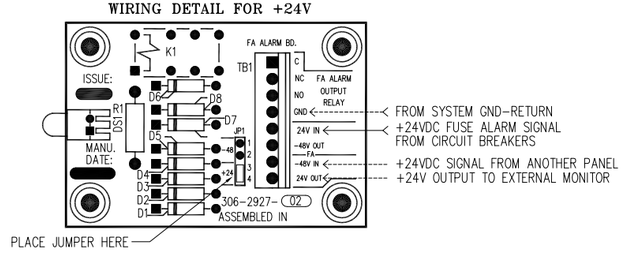


TOP VIEW
WITH SHUNT (111-3763-10)

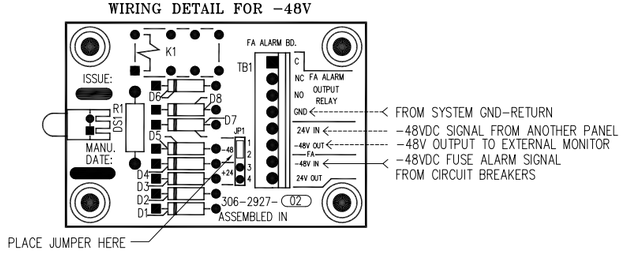


DETAIL C

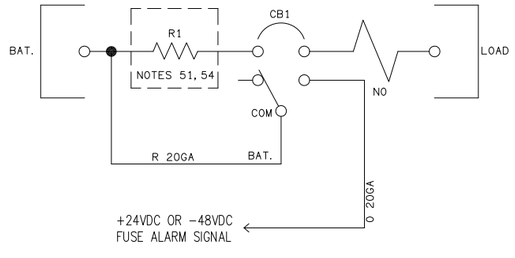
WIRING DETAIL FOR +24V

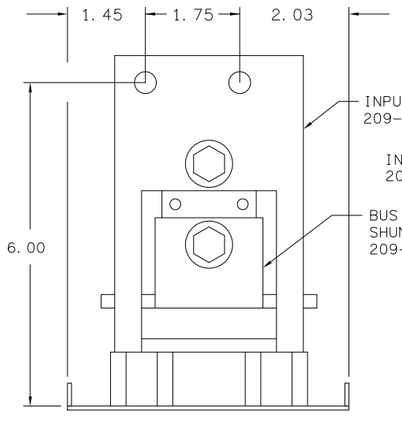


WIRING DETAIL FOR -48V

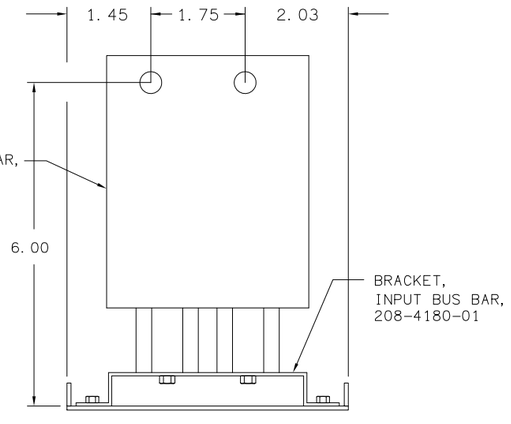


SCHEMATIC DIAGRAM





DETAIL A
WITH SHUNT (111-3763-10,-11)



DETAIL B
WITH SHUNT (111-3763-00,-01)

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3763	4
SCALE: N/A	SHEET: 3 OF 3	FILE NAME: PN111-3763_SHT_3_ISS_4

ENGINEERING NOTES:

51. NORMAL SHUNT RATINGS ARE DETERMINED BY TABLE "A". HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED.

52. THE INPUT COPPER BAR IS DESIGNED FOR DIRECT CONNECTION TO UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES. INPUT LUGS ARE NOT PROVIDED, BUT MAY BE ORDERED SEPARTELY.

53. UNIPOWER'S STANDARD PAINT IS ANSI 61 GRAY.

54. PANELS NOT EQUIPPED WITH A SHUNT, (TABLE A), DO NOT INCLUDE R1 OR R2.

MANUFACTURING NOTES:

101. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT CONDUCTIVE SURFACES PER THE MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND LARGE MOUNTING WASHER.

103. REPLACE BOLTS SUPPLIED WITH SHUNT WITH 3/8" x 16 x 3/4" BOLTS, (210-8128-00). USE WASHERS SUPPLIED WITH SHUNT.

104. ALL WIRES ARE 20 GA UNLESS OTHERWISE NOTED.

TABLE A

REF. RTG.	PANEL	E/W SHUNT	SHUNT RTG. & P/N	RATING	CIRCUIT BRKR & P/N
100A	111-3764-00	NO	N/A	STD	100A, 125VDC (2) 271-1011-00
	111-3764-10	YES	200A 695-1080-03	STD	
125A	111-3764-05	NO	N/A	SPL	125A, 125VDC (2) 271-1016-00
	111-3764-15	YES	200A 695-1080-03	SPL	
150A	111-3764-01	NO	N/A	STD	150A, 125VDC (2) 271-1018-00
	111-3764-11	YES	200A 695-1080-03	STD	
	111-3764-21	YES	600A 695-1093-03	STD	
175A	111-3764-02	NO	N/A	STD	175A, 125VDC (2) 271-1025-00
	111-3764-12	YES	200A 695-1080-03	STD	
200A	111-3764-06	NO	N/A	STD	200A, 125VDC (2) 271-1023-10
	111-3764-16	YES	600A 695-1093-03	STD	
225A	111-3764-03	NO	N/A	STD	225A, 125VDC (2) 271-1026-01
	111-3764-13	YES	600A 695-1093-03	STD	
250A	111-3764-04	NO	N/A	STD	250A, 125VDC (2) 271-1033-00
	111-3764-14	YES	600A 695-1093-03	STD	

SHEET INDEX NOTE:

THE ISSUE OF SHEET 1 REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SHEET NUMBER	ISSUE NUMBER								
	8	9	10	11	12	13	14	15	16
1	8	9	10	11					
2	5	5	6	6					
3	2	2	3	3					

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
11	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
HOLES	+0.004 -0.002	DRAWN MWY	10/30/89
FRACTIONS	±1/32	CHECKED	
DECIMALS (XX)	±0.020	APPROVED MCM	4/1/04
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP:
PER SPEC ENG032

MATERIAL:

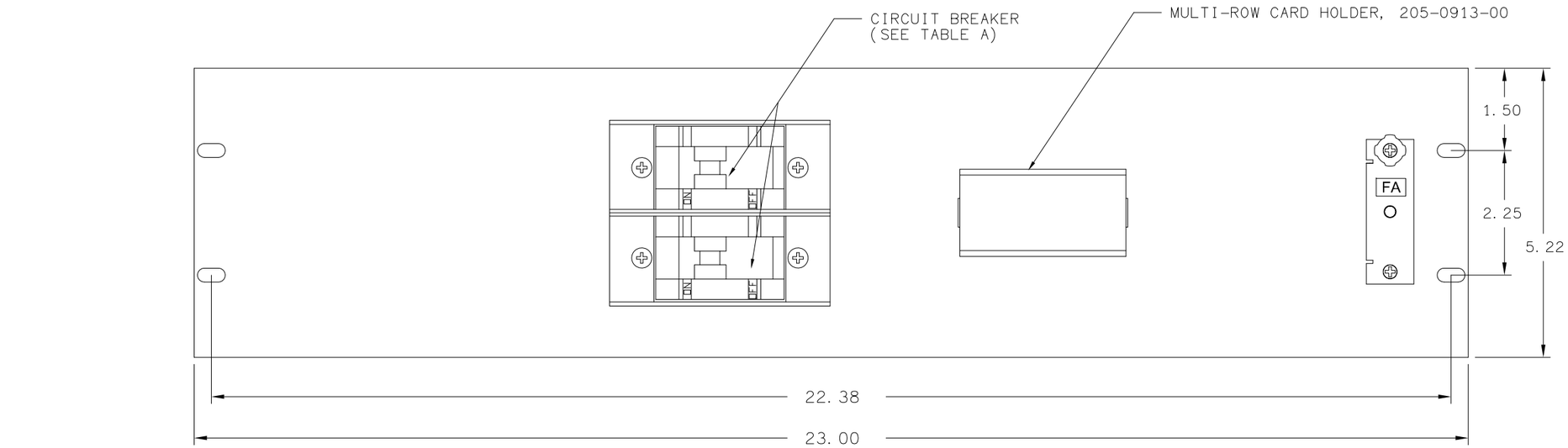
FINISH:

UNIPOWER
POWERING TECHNOLOGY

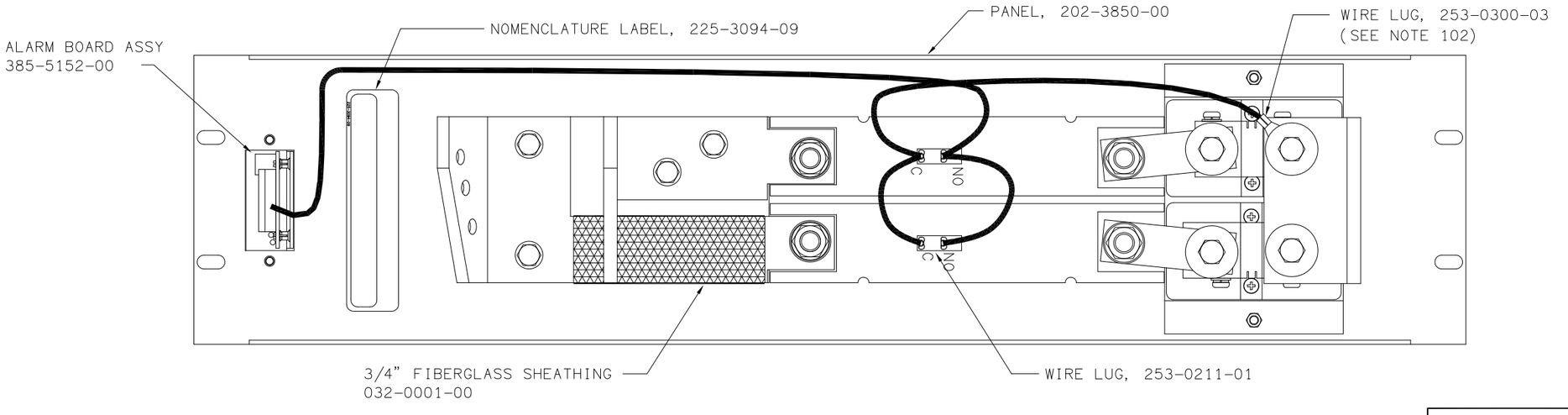
2X(100-255A), GJ1, HEINEMANN, CIRCUIT BREAKER PANEL WITH ALARM SWITCH & FUSE ALARM

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3764	11

SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111-3764_SHT_1_ISS_11



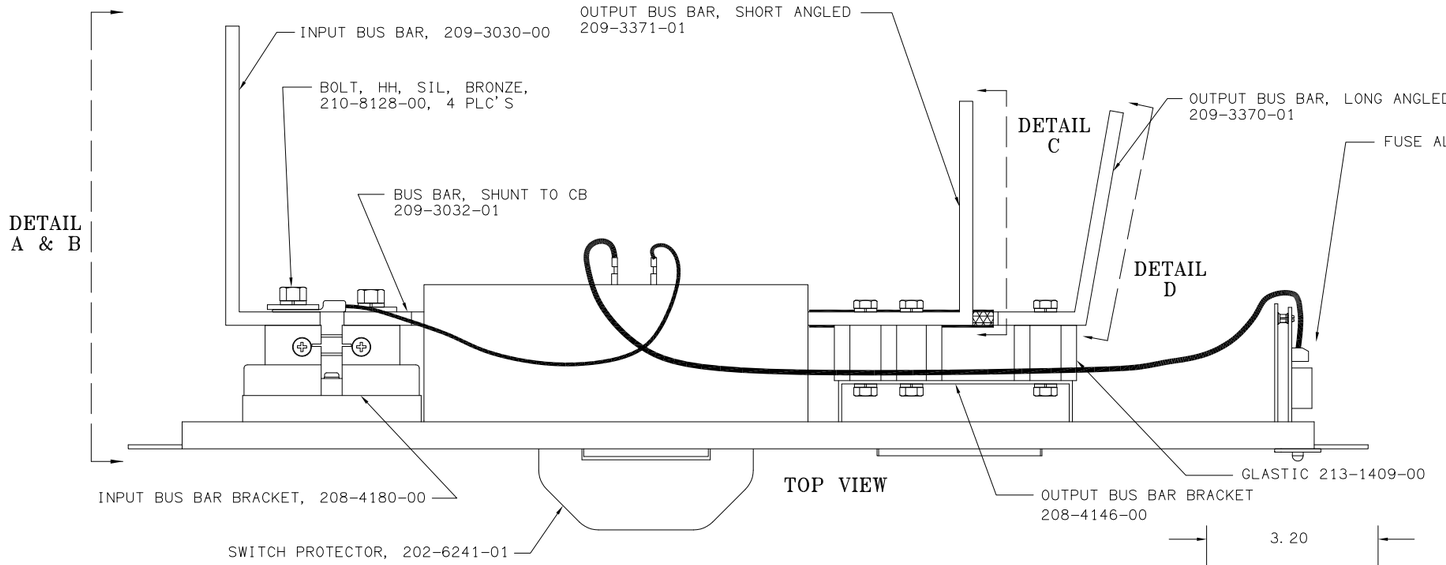
FRONT VIEW

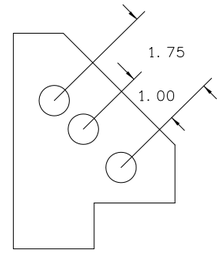


REAR VIEW

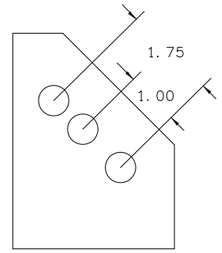
SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3764	6

SCALE:	SHEET:	FILE NAME:
N/A	2 OF 3	PN111-3764_SHT_2_ISS_6



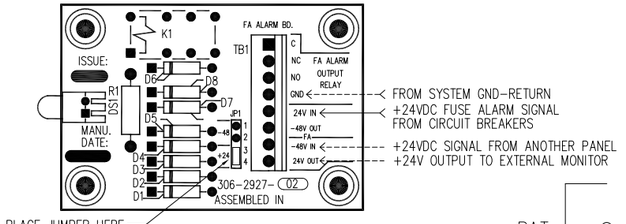


DETAIL C
OUTPUT BUS BAR
(209-3371-01)

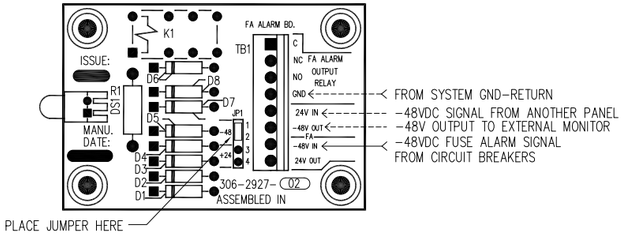


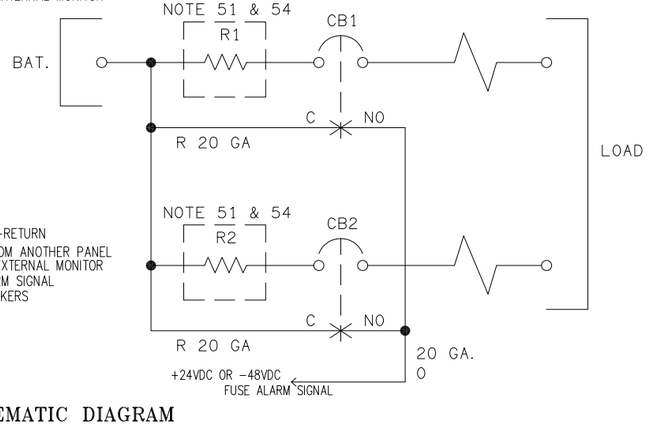
DETAIL D
OUTPUT BUS BAR
(209-3370-01)

WIRING DETAIL FOR +24V

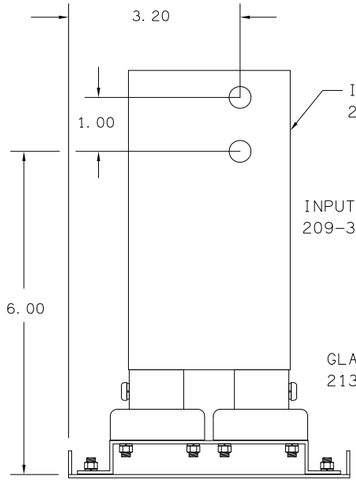


WIRING DETAIL FOR -48V

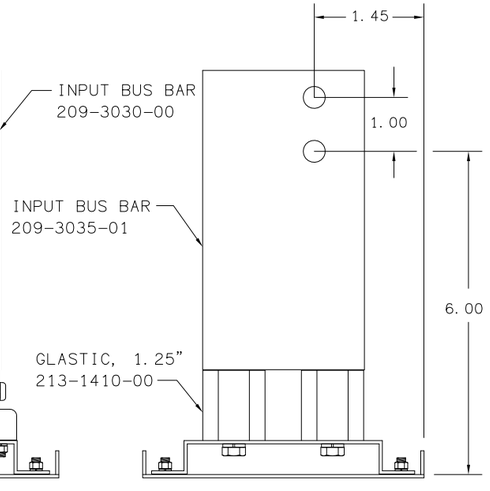




SCHEMATIC DIAGRAM



DETAIL A
WITH SHUNT
(111-3764-14)



DETAIL B
WITHOUT SHUNT
(111-3764-04)

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3764	3

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-3764_SHT_3_ISS_3

ENGINEERING NOTES:

51. AMMETER SHUNTS ARE NORMALLY 600 AMPS, 50MV. HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED. PANELS NOT SPECIFIED WITH A SHUNT (TABLE "A") DO NOT INCLUDE R1.

52. THIS PANEL WILL ACCOMMODATE A MAXIMUM OF 24 5-100 AMP CIRCUIT BREAKERS OR 4, 125 AMP CIRCUIT BREAKERS. TOTAL PANEL AMPERAGE MUST NOT EXCEED 500 AMPS. ORDER CIRCUIT BREAKERS PER ED991-0009-00.

53. UNIPOWER'S STANDARD PAINT IS ANSI 61 GRAY.

54. THE INPUT COPPER BUS BAR IS DESIGNED FOR DIRECT CONNECTION TO UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES.

55. TO COVER OPEN CIRCUIT BREAKER POSITIONS, ORDER BLANK COVERS, 213.3923.00, PER CIRCUIT BREAKER POSITION.

56. BUBBLE REFERENCE DESIGNATORS REFER TO CALLOUT TABLE LINE NUMBER.

57. PROVIDE ADEQUATE SPACE ABOVE THE CIRCUIT BREAKER PANEL FOR TURNING DISTRIBUTION CABLES. USE OF A ONE SPACE BLANK PANEL IS HIGHLY RECOMMENDED. ORDER BLANK 202-3245-00.

MANUFACTURING NOTES:

101. ANTI-OXIDATION COATING WILL BE APPLIED BETWEEN ALL LAYERS OF LAMINATED COPPER BUS STRUCTURE. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT SURFACES PER MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND 1/4" FLAT WASHER.

103. THE REMAINING EXCESS OF ALARM WIRE MUST BE WOUND UP AND TIED TO THE BUS BAR WITH A TIE WRAP. THIS WIRE WILL BE USED FOR ADDITIONAL CIRCUIT BREAKERS.

104. WHEN CONNECTING ADDITIONAL CIRCUIT BREAKERS, THE ALARM CONNECTION FROM THE BREAKER (NO) TO THE FA SIGNAL "IN" IS COMPLETED BY DAISY CHAINING EACH CIRCUIT BREAKER WITH PUSH-ON.

105. THE ALARM WIRE LENGTH IS 52" LONG TO ALLOW FOR 24 CIRCUIT BREAKERS. (WHEN CIRCUIT BREAKERS ARE ADDED, A 2" LENGTH MUST BE CUT FROM THE REMAINING WIRE FOR EACH BREAKER. THIS 2" LENGTH MUST THEN BE JOINED WITH THE REMAINING ALARM WIRE BY A CRIMP TYPE PUSH-ON.) IF CRIMPING TOOLS ARE NOT AVAILABLE, THE PUSH-ON MAY BE SOLDERED.

106. LUGS AND PUSH-ONS ARE USED FOR CONNECTING EACH ALARM CONTACT (C) OF THE CIRCUIT BREAKER TO THE BUS BAR. EACH CONNECTION FROM THE ALARM CONTACT TO THE BUS BAR IS COMPLETED SEPARATELY.

107. WHEN A SHUNT IS REQUIRED, REPLACE ITS' BOLTS AS SHOWN IN DETAIL B. USE BRASS WASHERS SUPPLIED WITH THE SHUNT.

TABLE A

PANEL	E/W SHUNT
111-3765-00	NO
111-3765-10	YES

SHEET INDEX NOTE:

THE ISSUE OF SHEET # REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SH NO	1	2	3				
ISSUE	9	7	7				

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
9	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: ±		APPROVALS	DATE
HOLES	+0.004 -0.002	DRAWN MWY	10/30/89
FRACTIONS	±1/32	CHECKED SS	2/2/90
DECIMALS (XX)	±0.020	APPROVED MCM	2/5/04
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP:
PER SPEC ENG032

MATERIAL:

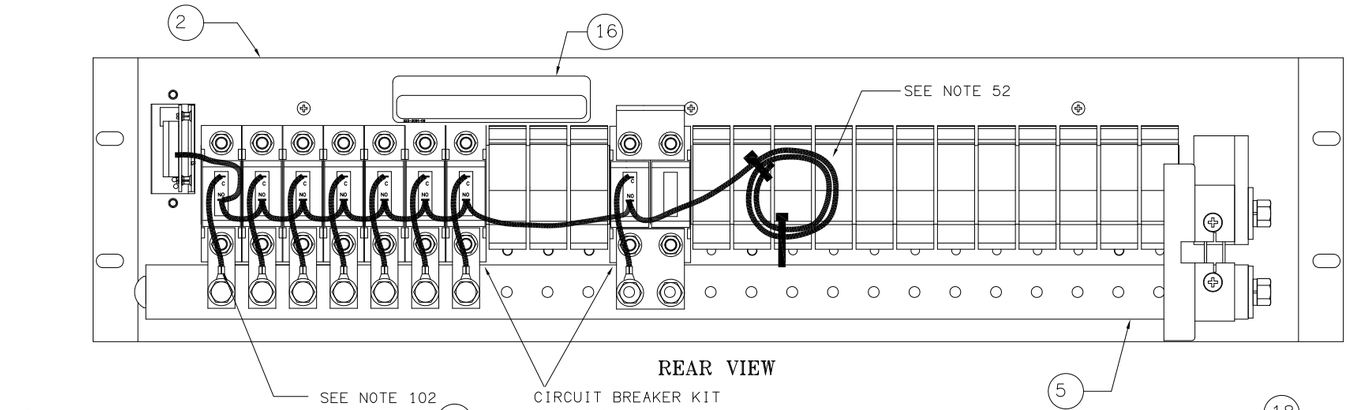
FINISH:

UNIPOWER
POWERING TECHNOLOGY

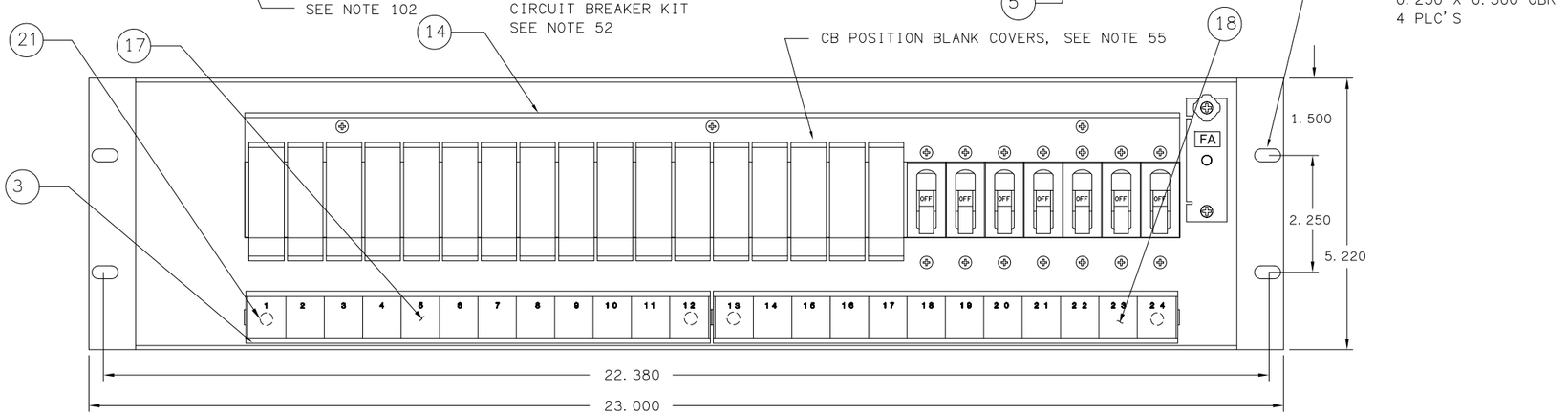
24V/NEG GND & -48V/POS GND AM1 5-125 AMP, CKT BKR PNL W/ALM SWITCH & FUSE ALARM

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3765	9

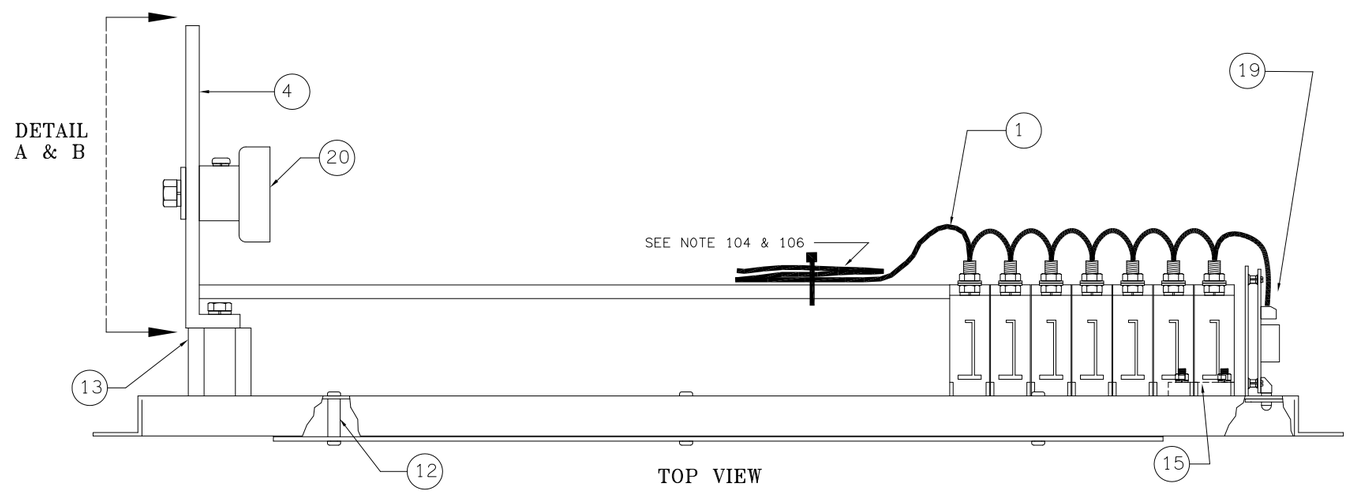
SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111-3765_SHT_1_ISS_9



REAR VIEW

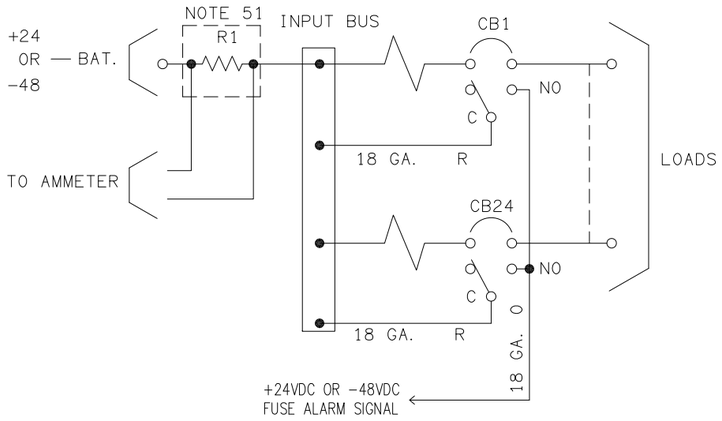


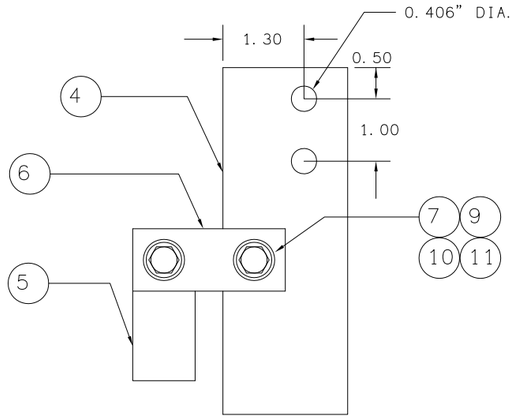
FRONT VIEW



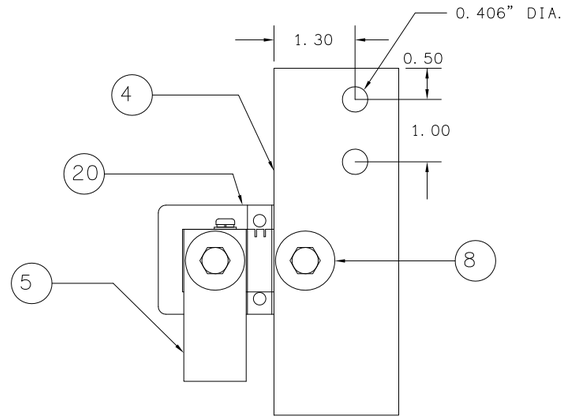
TOP VIEW

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3765	7
SCALE: N/A	SHEET: 2 OF 3	FILE NAME: PN111-3765_SHT_2_ISS_7



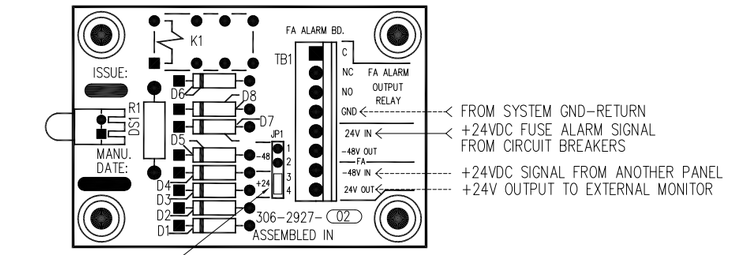


DETAIL
A
WITHOUT SHUNT
111-3765-00

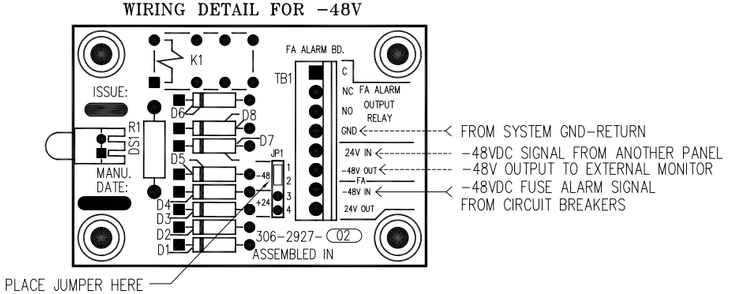


DETAIL
B
WITH SHUNT
111-3765-10

WIRING DETAIL FOR +24V



WIRING DETAIL FOR -48V



+24V/-48V SCHEMATIC DIAGRAM

CALLOUT TABLE

LINE #	DESCRIPTION	PART NUMBERS	QUANTITY -00	QUANTITY -10
1	CUT WIRE: 18 GAUGE ORANGE	051-1833-52	1	1
	PANEL: CIRCUIT BREAKER AM1 POS GRD	202-3851-00	1	1
	CARD HOLDER: 1" X 9" AM1 CKT BKR PNL	208-2990-007	2	2
	BUS BAR: CKT BKR PNL AM1, INPUT, POS GRD	209-3040-00	1	1
5	BUS BAR: CKT BKR PNL AM1, SHUNT TO CB	209-3041-00	1	1
	COMB DIST PNL: BUS, SHUNT BYPASS, 200/400A	209-4245-01	2	
	SCREW: SS, HEX HD, 3/8-16 X 1 1/4"	210-1293-00	2	
	BOLT, HEX, SIL, BRONZE: 3/8-16 X 3/4"	210-8128-00		2
	NUT, HEX SS: 3/8-16	211-0533-00	2	
10	WASHER, FLAT SS: 5/16" X 3/4" X .125"	212-2518-00	4	
	WASHER, BELLEVILLE, SS: 1/2" X .900"	212-5758-00	2	
	STANDOFF: SWIVEL, F/F, 6-32 X 3/4 X 1/4 OD	213-1317-00	3	3
	SPACER: HEATSINK, HEX FIBERGLASS, 1.25" GLASTIC	213-1410-00	1	1
	SHIELD: AM1 CKT BKR PANEL, COVER	213-3200-00	1	1
15	INSULATOR: CKT BKR AM1, BUS SUPPORT	213-3635-00	1	1
	LABEL: NOMENCLATURE: GENERAL MISC, 0.9"	225-3094-09	1	1
	LABEL: 1" X 9" 1-12, FOR AM1 CKT BKR PNL	225-3107-01	1	1
	LABEL: 1" X 9" 13-24, FOR AM1 CKT BKR PNL	225-3108-01	1	1
	ASSY: ALARM BOARD, BKT, LABEL, FOR FA	385-5152-00	1	1
20	RES, SHUNT: METER, 600A 50MV	695-1093-03		1
	SCREW: ROLL/THD, 10 - 24 X 3/8	210-6200-00	4	4
25				

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3765	7

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-3765_SHT_3_ISS_7

ENGINEERING NOTES:

51. AMMETER SHUNTS ARE NORMALLY 600 AMPS, 50MV. HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED. PANELS NOT SPECIFIED WITH A SHUNT (TABLE "A") DO NOT INCLUDE R1.

52. THIS PANEL WILL ACCOMMODATE A MAXIMUM OF 24 5–100 AMP CIRCUIT BREAKERS. TOTAL PANEL AMPERAGE MUST NOT EXCEED 500 AMPS. ORDER CIRCUIT BREAKERS PER ED991–0009–00.

53. UNIPOWER'S STANDARD PAINT IS ANSI 61 GRAY.

54. THE INPUT COPPER BUS BAR IS DESIGNED FOR DIRECT CONNECTION TO UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES.

55. TO COVER OPEN CIRCUIT BREAKER POSITIONS, ORDER BLANK COVERS, 213.3923.00, PER CIRCUIT BREAKER POSITION.

56. BUBBLE REFERENCE DESIGNATORS REFER TO CALLOUT TABLE LINE NUMBER.

57. PROVIDE ADEQUATE SPACE ABOVE THE CIRCUIT BREAKER PANEL FOR TURNING DISTRIBUTION CABLES. USE OF A ONE SPACE BLANK PANEL IS HIGHLY RECOMMENDED. ORDER BLANK 202–3245–00.

MANUFACTURING NOTES:

101. ANTI–OXIDATION COATING WILL BE APPLIED BETWEEN ALL LAYERS OF LAMINATED COPPER BUS STRUCTURE. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT SURFACES PER MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND 1/4" FLAT WASHER.

103. THE REMAINING EXCESS OF ALARM WIRE MUST BE WOUND UP AND TIED TO THE BUS BAR WITH A TIE WRAP. THIS WIRE WILL BE USED FOR ADDITIONAL CIRCUIT BREAKERS.

104. WHEN CONNECTING ADDITIONAL CIRCUIT BREAKERS, THE ALARM CONNECTION FROM THE BREAKER (NO) TO THE FA SIGNAL "IN" IS COMPLETED BY DAISY CHAINING EACH CIRCUIT BREAKER WITH PUSH–ON.

105. THE ALARM WIRE LENGTH IS 52" LONG TO ALLOW FOR 24 CIRCUIT BREAKERS. (WHEN CIRCUIT BREAKERS ARE ADDED, A 2" LENGTH MUST BE CUT FROM THE REMAINING WIRE FOR EACH BREAKER. THIS 2" LENGTH MUST THEN BE JOINED WITH THE REMAINING ALARM WIRE BY A CRIMP TYPE PUSH–ON.) IF CRIMPING TOOLS ARE NOT AVAILABLE, THE PUSH–ON MAY BE SOLDERED.

106. LUGS AND PUSH–ONS ARE USED FOR CONNECTING EACH ALARM CONTACT (C) OF THE CIRCUIT BREAKER TO THE BUS BAR. EACH CONNECTION FROM THE ALARM CONTACT TO THE BUS BAR IS COMPLETED SEPARATELY.

107. WHEN A SHUNT IS REQUIRED, REPLACE ITS' BOLTS AS SHOWN IN DETAIL B. USE BRASS WASHERS SUPPLIED WITH THE SHUNT.

TABLE A

PANEL	E/W SHUNT
111–3766–00	NO
111–3766–10	YES

SHEET INDEX NOTE:

THE ISSUE OF SHEET # REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SH NO	1	2	3				
ISSUE	9	7	7				

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
9	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
HOLES	+0.004 −0.002	DRAWN MWY	10/30/89
FRACTIONS	±1/32	CHECKED SS	2/2/99
DECIMALS (XX)	±0.020	APPROVED MCM	2/19/04
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP:
PER SPEC ENG032

MATERIAL:

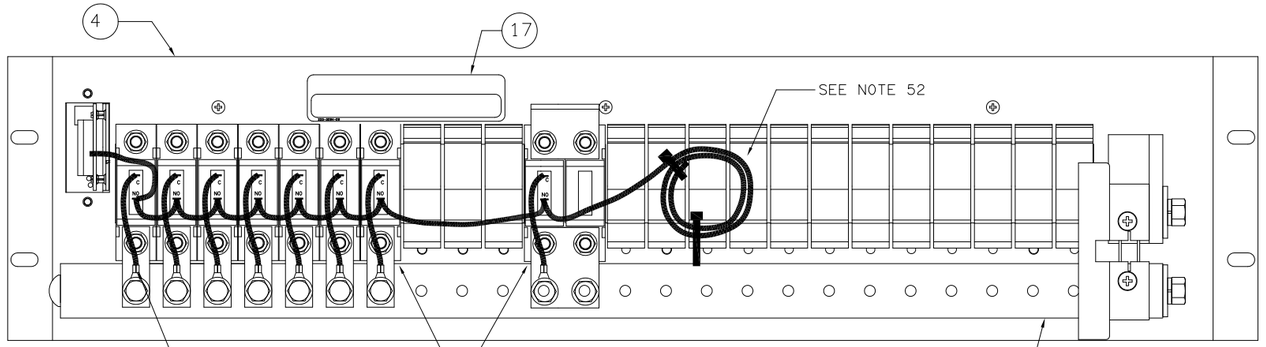
FINISH:

UNIPOWER
POWERING TECHNOLOGY

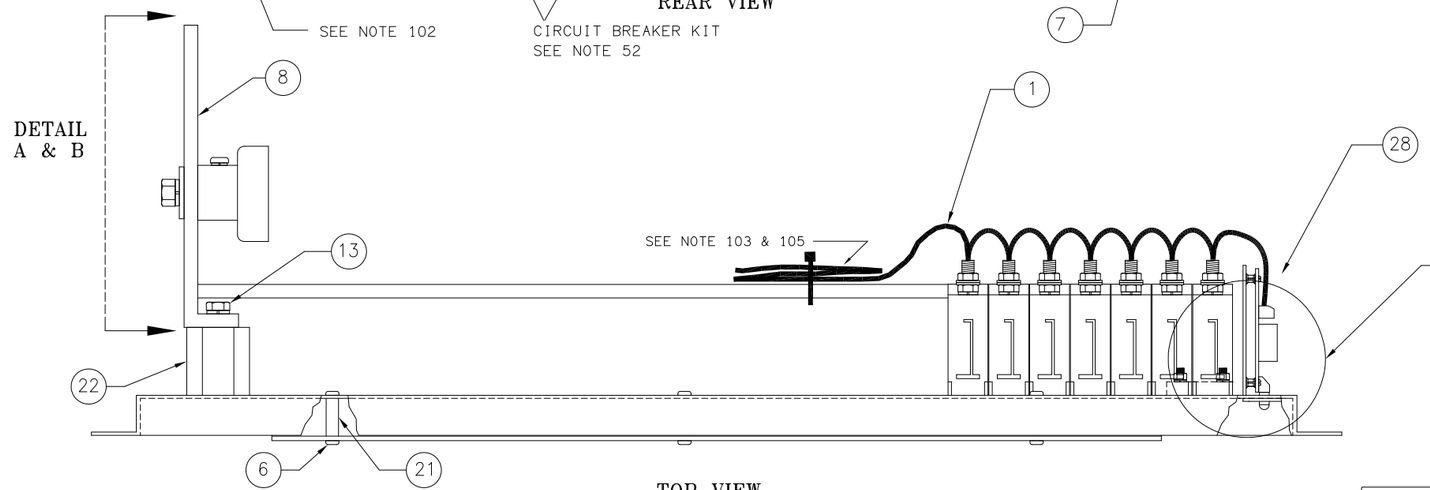
NEG GRD, POS 24V/48V PLANT AM1 5–100 AMP, CKT BKR PNL W/ALM SWITCH & FUSE ALARM

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111–3766	9

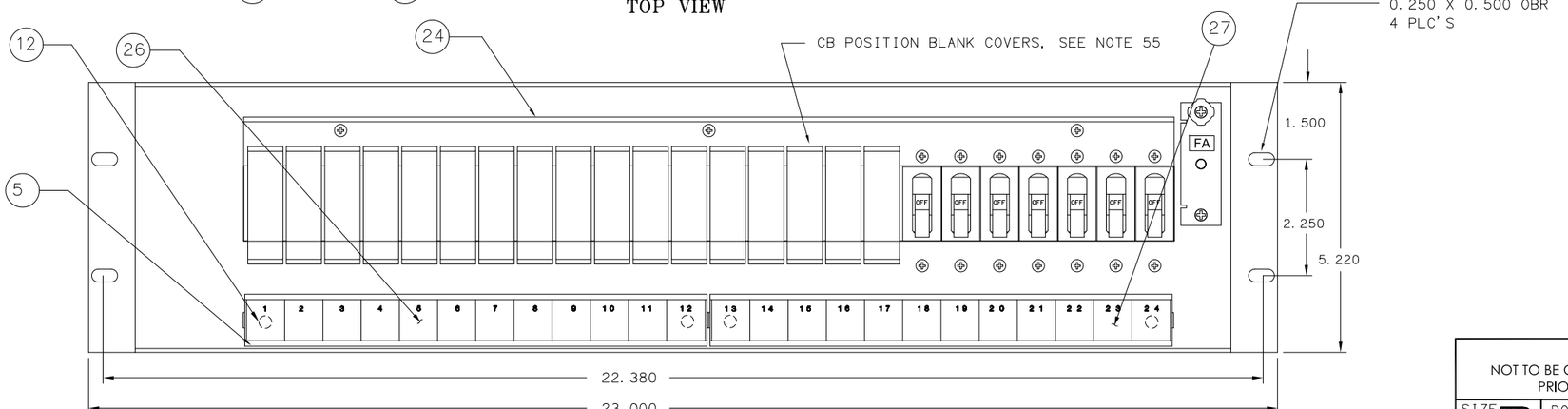
SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111–3766_SHT_1_ISS_9



REAR VIEW



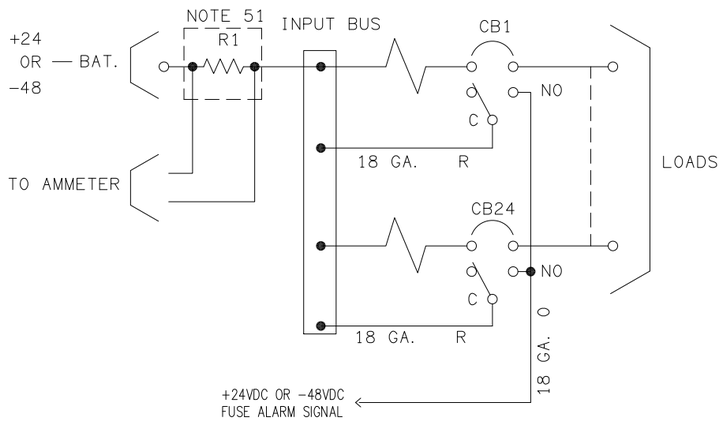
TOP VIEW



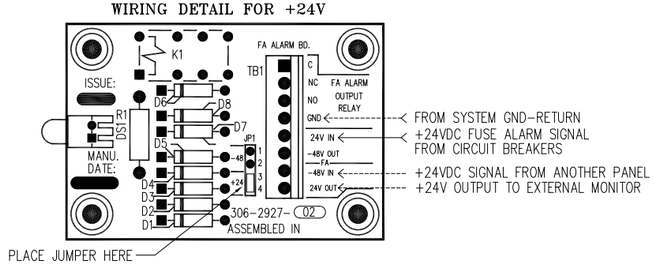
FRONT VIEW

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3766	7

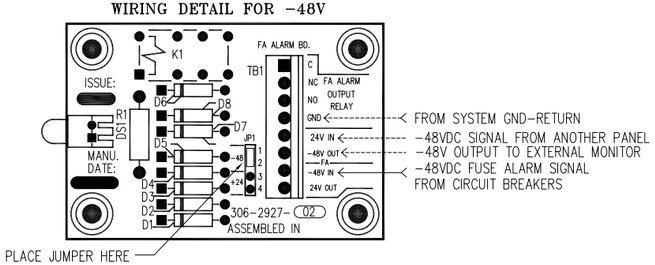
SCALE:	SHEET:	FILE NAME:
N/A	2 OF 3	PN111-3766_SHT_2_ISS_7



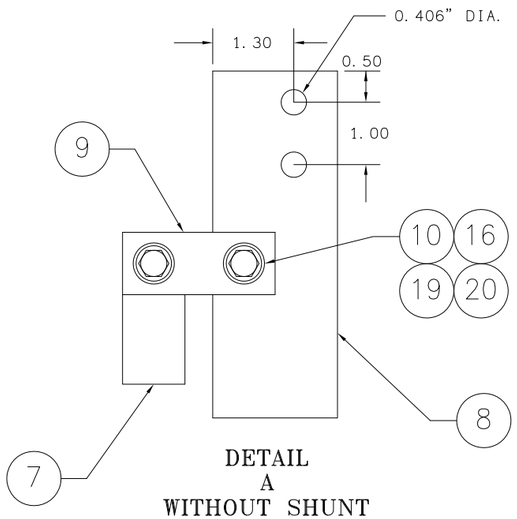
WIRING DETAIL FOR +24V



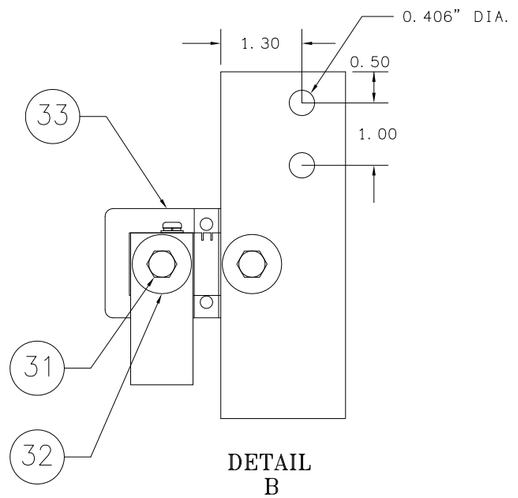
WIRING DETAIL FOR -48V



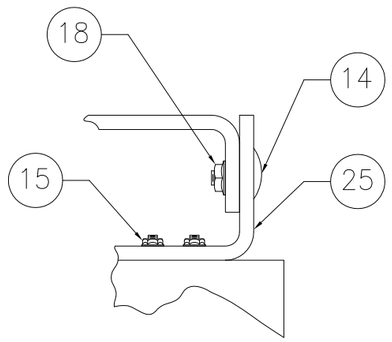
+24V/-48V SCHEMATIC DIAGRAM



DETAIL
A
WITHOUT SHUNT
111-3766-00



DETAIL
B
WITH SHUNT
111-3766-10



DETAIL
D

CALLOUT TABLE

			QUANTITY (each unless otherwise specified)	
LINE#	DESCRIPTION	PART NUMBERS	-00	-10
1	WIRE BUNDLE	350-3766-00	1	1
4	PANEL: CIRCUIT BREAKER AM1 NEG GRD	202-7489-00	1	1
5	CARD HOLDER: 1" X 9" AM1 CKT BKR PNL	208-2990-00C	2	2
6	SCREW: STL, MS, SEMS, 6 - 32 X1/4"	210-1412-00	6	6
7	BUS BAR: CKT BRKR PNL, AM1, SHUNT	209-3041-00	1	1
8	BUS BAR: CKT BRKR PNL, AM1, INPUT	209-5001-00	1	1
9	COMB DIST PNL: BUS, SHUNT BYPASS	209-4245-01	2	-
10	SCREW: SS HEX HD, 3/8 - 16 X 1 1/4	210-1293-00	2	-
11	SCREW: STL, MS, SEMS, 6 - 32 X 3/8	210-1430-00	2	2
12	SCREW: ROLL/THD, 10 - 24 X 3/8	210-6200-00	4	4
13	SCREW: STL, SEMS, HX HD, 1/4 - 20	210-7004-40	1	1
14	BOLT: STL, CARRIAGE, 1/4 - 20	210-8304-00	1	1
15	NUT, HEX STL: 6 - 32, ZINC, 5/16"	211-0476-00	2	2
16	NUT, HEX SS: 3/8 - 16	211-0533-00	2	-
17	LABEL, NOMENCLATURE: GENERAL MI	225-3094-09	1	1
18	NUT, HEX: KEPS, 1/4 - 20 ZINC ST	211-0501-00	1	1
19	WASHER, FLAT SS: 3/8 US STD	212-2518-00	4	-
20	WASHER, BELLEVILLE, SS: 3/8	212-5758-00	2	-
21	STANDOFF: SWIVEL, F/F, 6-32-3/4-1/4	213-1317-00	3	3
22	SPACER, FBR GLS: 1 1/4 H, 5/16-18	213-1410-00	1	1
24	SHIELD: AM1 CKT BKR PANEL, COVER	213-3200-00	1	1
25	INSULATOR: CKT BKR AM1, BUS	213-3635-00	1	1
26	LABEL: 1 X 9, 1 - 12 FOR AM1 CKT	225-3107-01	1	1
27	LABEL: 1 X 9, 13-24 FOR AM1 CKT	225-3108-01	1	1
28	ASSY: ALM BOARD, BKT, LABEL	385-5152-00A	1	1
29	LOCKWASHER: DISH, STL, SHKPF	212-0501-05	1	1
* 30	SLEEVING, ACRYLGLS "C" NTL 5/8	032-0002-01	4.5 Inches	4.5 Inches
31	BOLT, HEX SIL, BRONZE: 3/8 - 16 X 3/4	210-8128-00	-	2
32	WASHER: FLAT BRASS, 3/8	212-2035-00	-	2
33	RES, SHUNT: METER, 600A 50MV	695-1039-03	-	1
* 99	MANUAL	990-3762-00	1	1

* NOT SHOWN

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3766	7

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-3766_SHT_3_ISS_7

ENGINEERING NOTES:

51. AMMETER SHUNTS ARE NORMALLY 600 AMPS, 50MV. HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED. PANELS NOT SPECIFIED WITH A SHUNT (TABLE "A") DO NOT INCLUDE R1.

52. THIS PANEL WILL ACCOMMODATE A MAXIMUM OF 18 5-100 AMP CIRCUIT BREAKERS. TOTAL PANEL AMPERAGE MUST NOT EXCEED 500 AMPS. ORDER CIRCUIT BREAKERS PER ED991-0009-00.

53. UNIPOWER'S STANDARD PAINT COLOR IS ANSI 61 GRAY.

54. THE INPUT COPPER BUS BAR IS DESIGNED FOR DIRECT CONNECTION TO UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES.

55. ~~TO COVER OPEN CIRCUIT BREAKER POSITIONS, ORDER BLANK COVERS, P/N 213-3923-00, PER CIRCUIT BREAKER POSITION.~~

56. BUBBLE REFERENCE DESIGNATORS REFER TO CALLOUT TABLE LINE NUMBER.

57. PROVIDE ADEQUATE SPACE ABOVE THE CIRCUIT BREAKER PANEL FOR TURNING DISTRIBUTION CABLES. USE OF A ONE SPACE BLANK PANEL IS HIGHLY RECOMMENDED. ORDER BLANK PANEL P/N 202-3245-00.

MANUFACTURING NOTES:

101. ANTI-OXIDATION COATING WILL BE APPLIED BETWEEN ALL LAYERS OF LAMINATED COPPER BUS STRUCTURE. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT SURFACES PER MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND 1/4" FLAT WASHER.

103. THE REMAINING EXCESS OF ALARM WIRE MUST BE WOUND UP AND TIED TO THE BUS BAR WITH A TIE WRAP. THIS WIRE WILL BE USED FOR ADDITIONAL CIRCUIT BREAKERS.

104. WHEN CONNECTING ADDITIONAL CIRCUIT BREAKERS, THE ALARM CONNECTION FROM THE BREAKER (NO) TO THE FA SIGNAL "IN" IS COMPLETED BY DAISY CHAINING EACH CIRCUIT BREAKER WITH PUSH-ON.

105. THE ALARM WIRE LENGTH IS 40" LONG TO ALLOW FOR 18 CIRCUIT BREAKERS. (WHEN CIRCUIT BREAKERS ARE ADDED, A 2" LENGTH MUST BE CUT FROM THE REMAINING WIRE FOR EACH BREAKER. THIS 2" LENGTH MUST THEN BE JOINED WITH THE REMAINING ALARM WIRE BY A CRIMP TYPE PUSH-ON.) IF CRIMPING TOOLS ARE NOT AVAILABLE, THE PUSH-ON MAY BE SOLDERED.

106. LUGS AND PUSH-ONS ARE USED FOR CONNECTING EACH ALARM CONTACT (C) OF THE CIRCUIT BREAKER TO THE BUS BAR. EACH CONNECTION FROM THE ALARM CONTACT TO THE BUS BAR IS COMPLETED SEPARATELY.

107. WHEN A SHUNT IS REQUIRED, REPLACE ITS' BOLTS AS SHOWN IN DETAIL B. USE BRASS WASHERS SUPPLIED WITH THE SHUNT.

TABLE A

PANEL	E/W SHUNT
111-3768-00	NO
111-3768-01	NO
111-3768-10	YES
111-3768-11	YES
111-3768-20	NO
111-3768-21	YES

SHEET INDEX NOTE:

THE ISSUE OF SHEET 1 REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SH NO	1	2	3				
ISSUE	7	6	6				

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
7	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
HOLES	+0.004 -0.002	DRAWN MRB	2/27/95
FRACTIONS	±1/32	CHECKED JW	3/10/95
DECIMALS (XX)	±0.020	APPROVED NMS	3/10/95
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP: PER SPEC ENG032

MATERIAL:

FINISH:

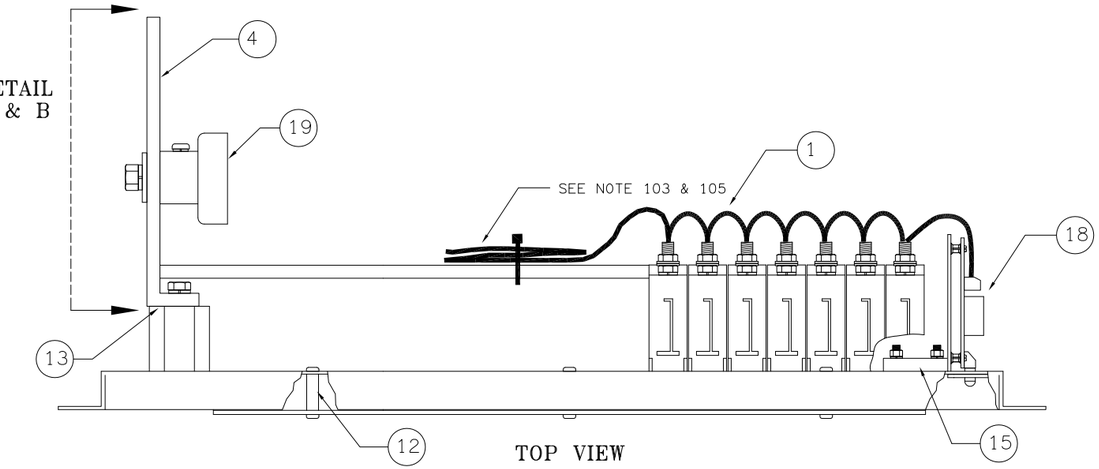
UNIPOWER
POWERING TECHNOLOGY

19" POS GRN, NEG 24V/48V PLANT AM1 50-100 AMP, CKT BKR PNL W/ALARM SWITCH & FUSE ALARM

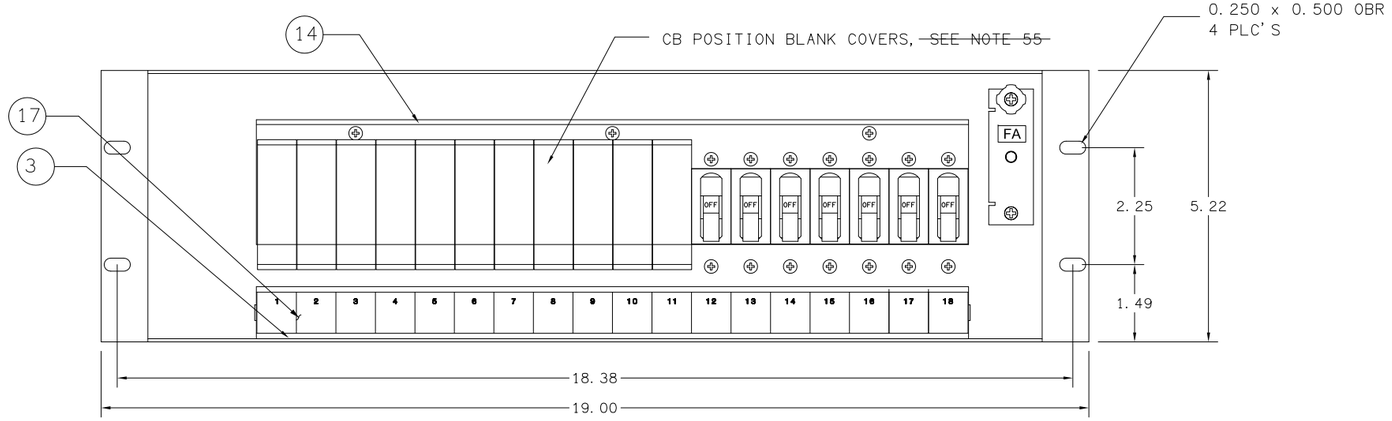
SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3768	7

SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111-3768_SHT_1_ISS_7

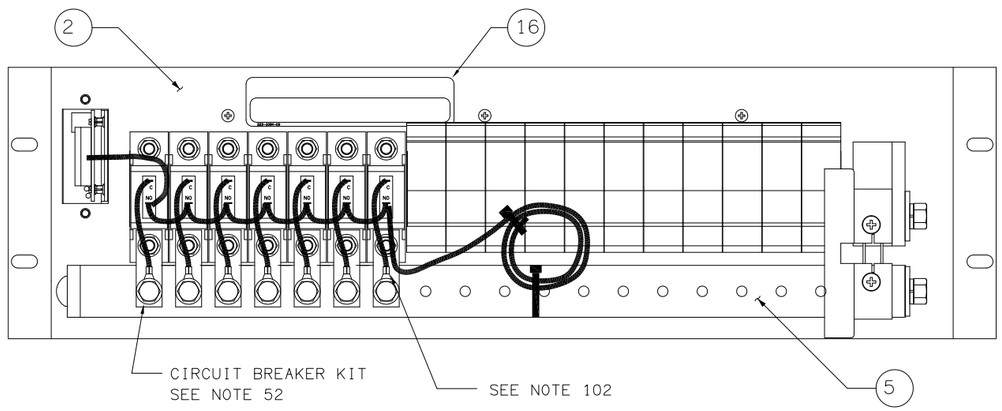
DETAIL
A & B



TOP VIEW



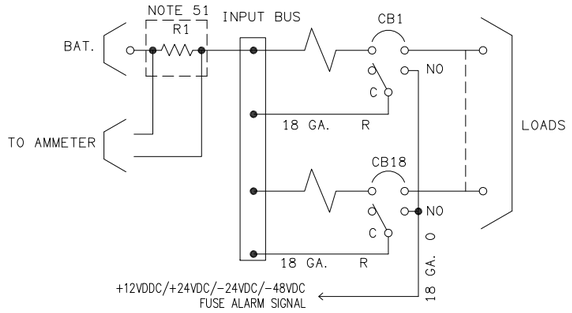
FRONT VIEW



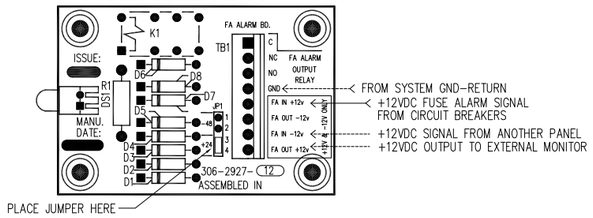
REAR VIEW

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3768	6

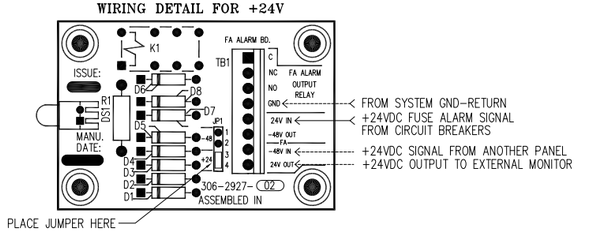
SCALE:	SHEET:	FILE NAME:
N/A	2 OF 3	PN111-3768_SHT_2_ISS_6



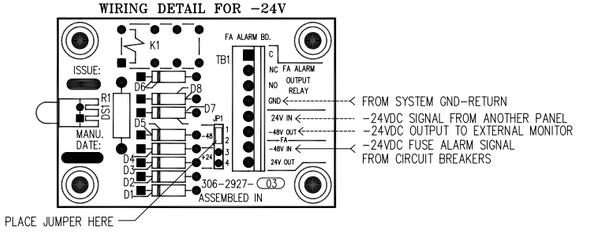
WIRING DETAIL FOR +12V



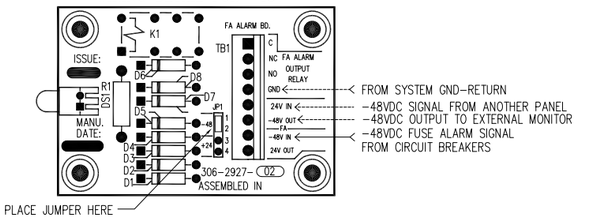
WIRING DETAIL FOR +24V



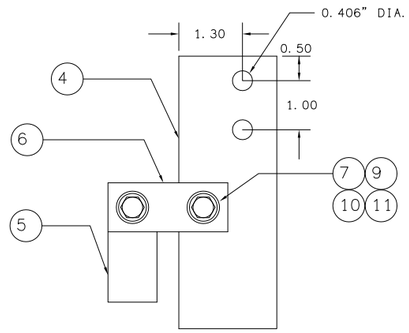
WIRING DETAIL FOR -24V



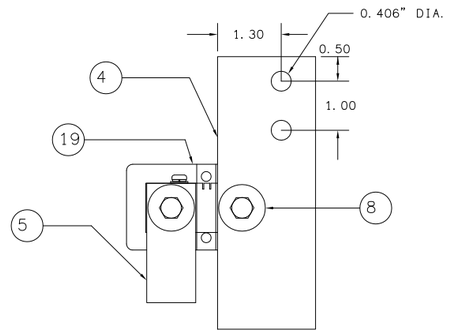
WIRING DETAIL FOR -48V



+12V/+24V/-24V/-48V SCHEMATIC DIAGRAM



DETAIL
A
WITHOUT SHUNT
111-3768-00
111-3768-01
111-3768-20



DETAIL
B
WITH SHUNT
111-3768-10
111-3768-11
111-3768-21

CALLOUT TABLE

LINE #	DESCRIPTION	PART NUMBERS	QUANTITY -00, -01, -20	QUANTITY -10, -11, -21
1	CUT WIRE: 18 GAUGE ORANGE	051-1833-52	1	1
	PANEL: CIRCUIT BREAKER AM1 POS GRD, 19"	202-3852-00	1	1
	CARD HOLDER: 1" X 13.76" AM1 CKT BKR PNL	213.3725.1367	1	1
	BUS BAR: CKT BKR PNL AM1, INPUT, POS GRD	209-3040-00	1	1
5	BUS BAR: CKT BKR PNL AM1, SHUNT TO CB	209-3043-00	1	1
	COMB DIST PNL: BUS, SHUNT BYPASS, 200/400A	209-4245-01	2	
	SCREW: SS, HEX HD, 3/8-16 X 1 1/4"	210-1293-00	2	
	BOLT, HEX, SIL, BRONZE: 3/8-16 X 3/4"	210-8128-00		2
	NUT, HEX SS: 3/8-16	211-0533-00	2	
10	WASHER, FLAT SS: 5/16" X 3/4" X .125"	212-2518-00	4	
	WASHER, BELLEVILLE, SS: 1/2" X .900"	212-5758-00	2	
	STANDOFF: SWIVEL, F/F, 6-32 X 3/4 X 1/4 OD	213-1317-00	3	3
	SPACER: HEATSINK, HEX FIBERGLASS, 1.25"GLASTIC	213-1410-00	1	1
	SHIELD: AM1 CKT BKR PANEL, COVER 19"	213-3201-00	1	1
15	INSULATOR: CKT BKR AM1, BUS SUPPORT	213-3635-00	1	1
	LABEL: NOMENCLATURE: GENERAL MISC, 0.9"	225-3094-09	1	1
	LABEL: 1" X 13.75" 1-18, FOR AM1 CKT BKR PNL	225-3107-03	1	1
	ASSY: ALARM BOARD, BKT, LABEL, FOR FA	See Table 2	1	1
19	RES, SHUNT: METER, 600A 50MV	695-1093-03		1

TABLE 2

Panel Part#	Alarm Board Kit#
111.3768.00A	385.5152.00A
111.3768.01A	385.5152.11A
111.3768.10A	385.5152.00A
111.3768.11A	385.5152.11A
111.3768.20A	385.5152.10A
111.3768.21A	385.5152.10A

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3768	6

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-3768_SHT_3_ISS_6

ENGINEERING NOTES:

51. AMMETER SHUNTS ARE NORMALLY 600 AMPS, 50MV. HOWEVER, OTHER CURRENT RATINGS MAY BE SPECIFIED. PANELS NOT SPECIFIED WITH A SHUNT (TABLE "A") DO NOT INCLUDE R1.

52. THIS PANEL WILL ACCOMMODATE A MAXIMUM OF 18 5-100 AMP CIRCUIT BREAKERS. TOTAL PANEL AMPERAGE MUST NOT EXCEED 500 AMPS. ORDER CIRCUIT BREAKERS PER ED991-0009-00.

53. UNIPOWER'S STANDARD PAINT COLOR IS ANSI 61 GRAY.

54. THE INPUT COPPER BUS BAR IS DESIGNED FOR DIRECT CONNECTION TO UNIPOWER VERTICAL BUS BAR SYSTEMS. FOR OTHER SYSTEMS, HOLES ARE PROVIDED FOR BOLTING LUGGED CABLES.

55. TO COVER OPEN CIRCUIT BREAKER POSITIONS, ORDER BLANK COVERS, P/N 213-3923-00, PER CIRCUIT BREAKER POSITION.

56. BUBBLE REFERENCE DESIGNATORS REFER TO CALLOUT TABLE LINE NUMBER.

57. PROVIDE ADEQUATE SPACE ABOVE THE CIRCUIT BREAKER PANEL FOR TURNING DISTRIBUTION CABLES. USE OF A ONE SPACE BLANK PANEL IS HIGHLY RECOMMENDED. ORDER BLANK PANEL P/N 202-3245-00.

MANUFACTURING NOTES:

101. ANTI-OXIDATION COATING WILL BE APPLIED BETWEEN ALL LAYERS OF LAMINATED COPPER BUS STRUCTURE. A COMPOUND SUCH AS CRAMOLIN 81Rh WILL BE APPLIED TO ALL JOINTED FLAT SURFACES PER MANUFACTURER'S INSTRUCTIONS.

102. MOUNT WIRE LUG BETWEEN BUS BAR AND 1/4" FLAT WASHER.

103. THE REMAINING EXCESS OF ALARM WIRE MUST BE WOUND UP AND TIED TO THE BUS BAR WITH A TIE WRAP. THIS WIRE WILL BE USED FOR ADDITIONAL CIRCUIT BREAKERS.

104. WHEN CONNECTING ADDITIONAL CIRCUIT BREAKERS, THE ALARM CONNECTION FROM THE BREAKER (NO) TO THE FA SIGNAL "IN" IS COMPLETED BY DAISY CHAINING EACH CIRCUIT BREAKER WITH PUSH-ON.

105. THE ALARM WIRE LENGTH IS 40" LONG TO ALLOW FOR 18 CIRCUIT BREAKERS. (WHEN CIRCUIT BREAKERS ARE ADDED, A 2" LENGTH MUST BE CUT FROM THE REMAINING WIRE FOR EACH BREAKER. THIS 2" LENGTH MUST THEN BE JOINED WITH THE REMAINING ALARM WIRE BY A CRIMP TYPE PUSH-ON.) IF CRIMPING TOOLS ARE NOT AVAILABLE, THE PUSH-ON MAY BE SOLDERED.

106. LUGS AND PUSH-ONS ARE USED FOR CONNECTING EACH ALARM CONTACT (C) OF THE CIRCUIT BREAKER TO THE BUS BAR. EACH CONNECTION FROM THE ALARM CONTACT TO THE BUS BAR IS COMPLETED SEPARATELY.

107. WHEN A SHUNT IS REQUIRED, REPLACE ITS' BOLTS AS SHOWN IN DETAIL B. USE BRASS WASHERS SUPPLIED WITH THE SHUNT.

TABLE A

PANEL	E/W SHUNT
111-3769-00	NO
111-3769-10	YES

SHEET INDEX NOTE:

THE ISSUE OF SHEET 1 REFLECTS THE LATEST ISSUE OF THE DRAWING SET. WHEN THE DRAWING SET IS REVISED, ONLY THE ISSUE NUMBERS OF MODIFIED SHEETS ARE CHANGED. THE ISSUE NUMBERS OF UNMODIFIED SHEETS ARE NOT CHANGED.

SHEET INDEX

SH NO	1	2	3				
ISSUE	4	3	3				

ISSUES

ISSUE #	DESCRIPTION	ISS. BY ISS. DATE
4	SEE PCO# 44479	WD 7/11/17

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ± TOLERANCES ON:		APPROVALS	DATE
HOLES	+0.004 -0.002	DRAWN MRB	3/3/95
FRACTIONS	±1/32	CHECKED JW	3/10/95
DECIMALS (XX)	±0.020	APPROVED NMS	3/10/95
DECIMALS (XXX)	±0.010	APPROVED	
ANGLES	±1/2°		

SQUARE CORNERS AND ANGLES ARE 90° UNLESS OTHERWISE SPECIFIED.

WORKMANSHIP: PER SPEC ENG032

MATERIAL:

FINISH:

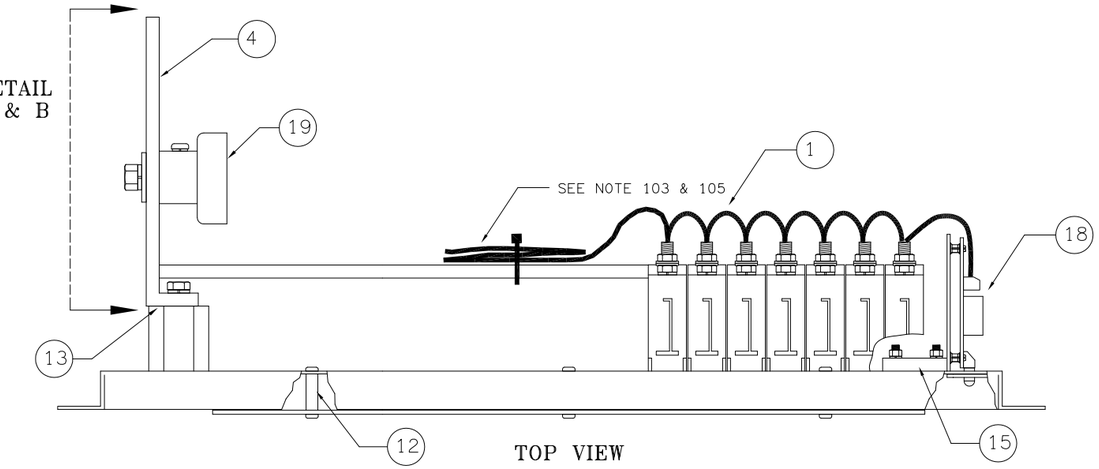
UNIPOWER
POWERING TECHNOLOGY

19" NEG GRD, POS 24V/48V PLANT AM1 5-100 AMP, CKT BKR PNL W/ALARM SWITCH & FUSE ALARM

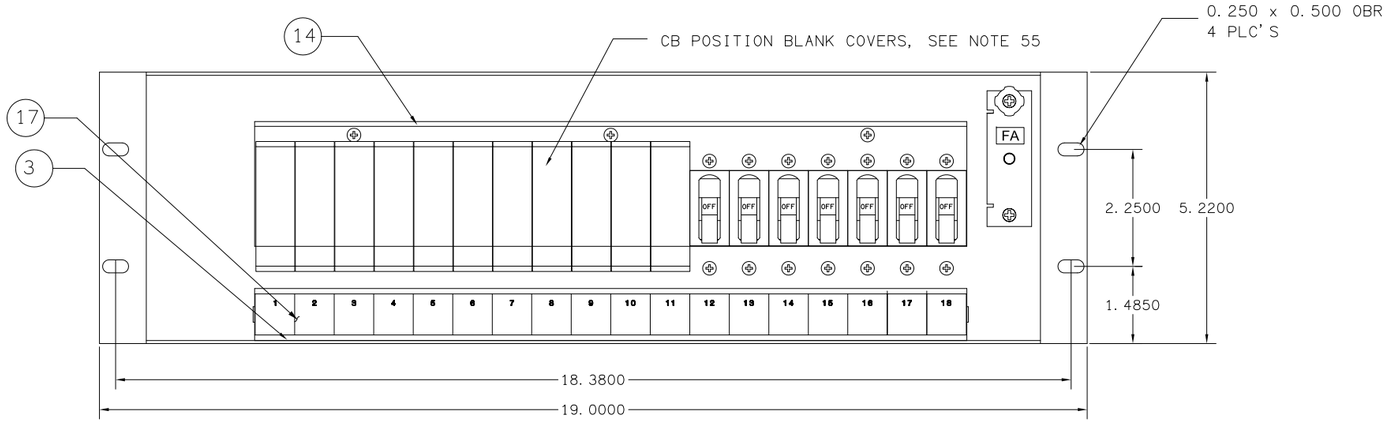
SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3769	4

SCALE:	SHEET:	FILE NAME:
N/A	1 OF 3	PN111-3769_SHT_1_ISS_4

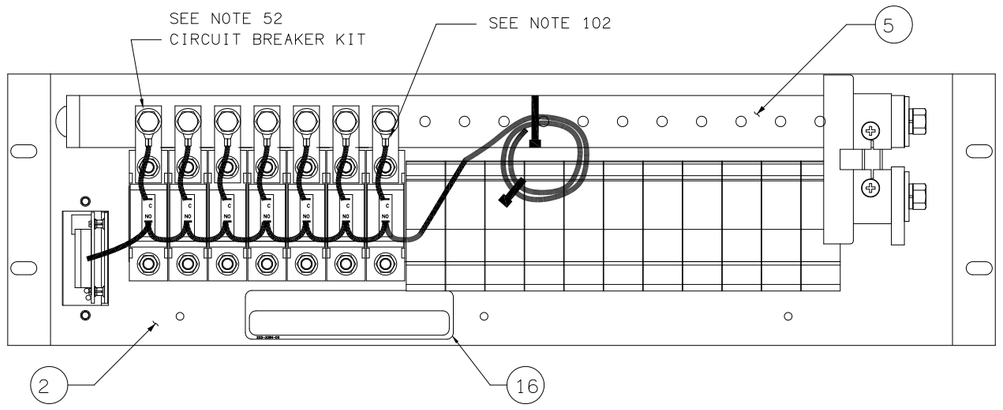
DETAIL
A & B



TOP VIEW



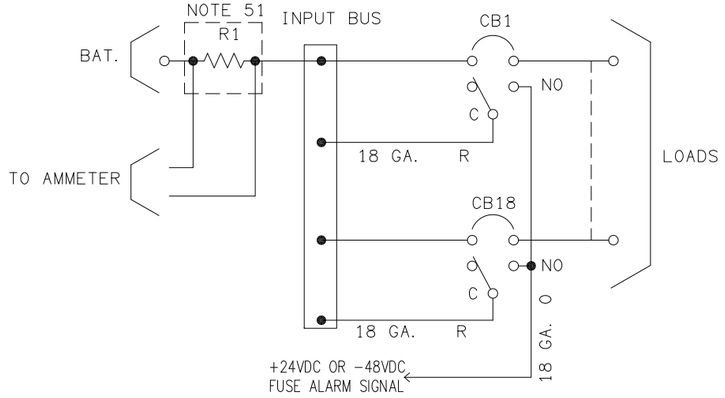
FRONT VIEW



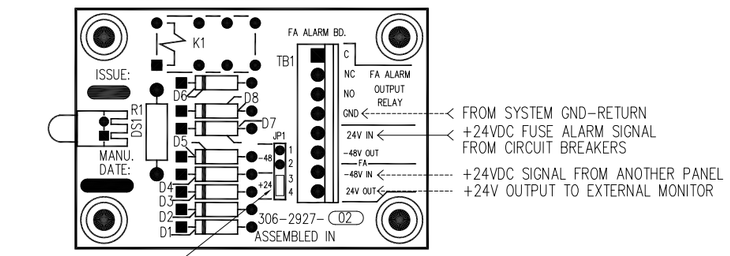
REAR VIEW

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3769	3

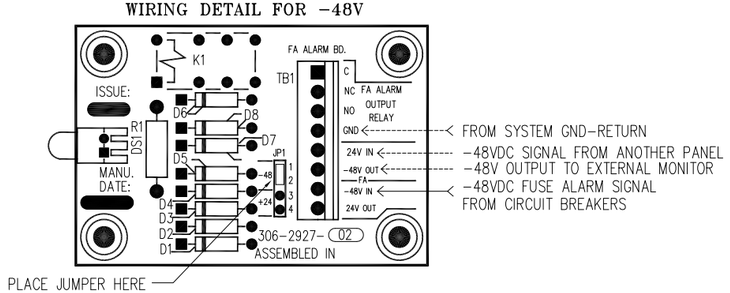
SCALE:	SHEET:	FILE NAME:
N/A	2 OF 3	PN111-3769_SHT_2_ISS_3



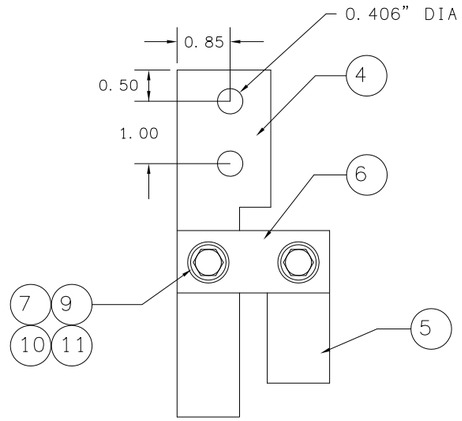
WIRING DETAIL FOR +24V



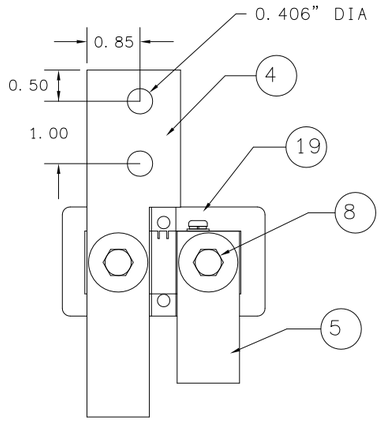
WIRING DETAIL FOR -48V



+24V/+48V SCHEMATIC DIAGRAM



DETAIL
A
WITHOUT SHUNT
111-3769-00



DETAIL
B
WITH SHUNT
111-3769-10

CALLOUT TABLE

LINE #	DESCRIPTION	PART NUMBERS	QUANTITY -00	QUANTITY -10
1	CUT WIRE: 18 GAUGE ORANGE	051-1833-52	1	1
	PANEL: CIRCUIT BREAKER AM1 NEG GRD, 19"	202-3852-01	1	1
	CARD HOLDER: 1" X 13.76" AM1 CKT BKR PNL	208-2991-00	1	1
	BUS BAR: CKT BKR PNL AM1, INPUT, NEG GRD	209-3042-00	1	1
5	BUS BAR: CKT BKR PNL AM1, SHUNT TO CB	209-3043-00	1	1
	COMB DIST PNL: BUS, SHUNT BYPASS, 200/400A	209-4245-01	2	
	SCREW: SS, HEX HD, 3/8-16 X 1 1/4"	210-1293-00	2	
	BOLT, HEX, SIL, BRONZE: 3/8-16 X 3/4"	210-8128-00		2
	NUT, HEX SS: 3/8-16	211-0533-00	2	
10	WASHER, FLAT SS: 5/16" X 3/4" X .125"	212-2518-00	4	
	WASHER, BELLEVILLE, SS: 1/2" X .900"	212-5758-00	4	
	STANDOFF: SWIVEL, F/F, 6-32 X 3/4 X 1/4 OD	213-1317-00	3	3
	SPACER: HEATSINK, HEX FIBERGLASS, 1.25"GLASTIC	213-1410-00	1	1
	SHIELD: AM1 CKT BKR PANEL, COVER 19"	213-3201-00	1	1
15	INSULATOR: CKT BKR AM1, BUS SUPPORT	213-3635-00	1	1
	LABEL: NOMENCLATURE: GENERAL MISC, 0.9"	225-3094-09	1	1
	LABEL: 1" X 13.75" 1-18, FOR AM1 CKT BKR PNL	225-3107-03	1	1
	ASSY: ALARM BOARD, BKT, LABEL, FOR FA	385-5152-00	1	1
	RES, SHUNT: METER, 600A 50MV	695-1093-03		1
20				

SIZE	DOC TYPE / NUMBER	ISSUE
B	PN 111-3769	3

SCALE:	SHEET:	FILE NAME:
N/A	3 OF 3	PN111-3769_SHT_3_ISS_3