



Engineering Submittal for Approval

Lakeside School Manual Transfer Switch



1000 Amp Rating, 277/480V, 3 phase

**Submitted Equipment
Released for Production By:**

Signature

Date

Print Name

CONTACTS



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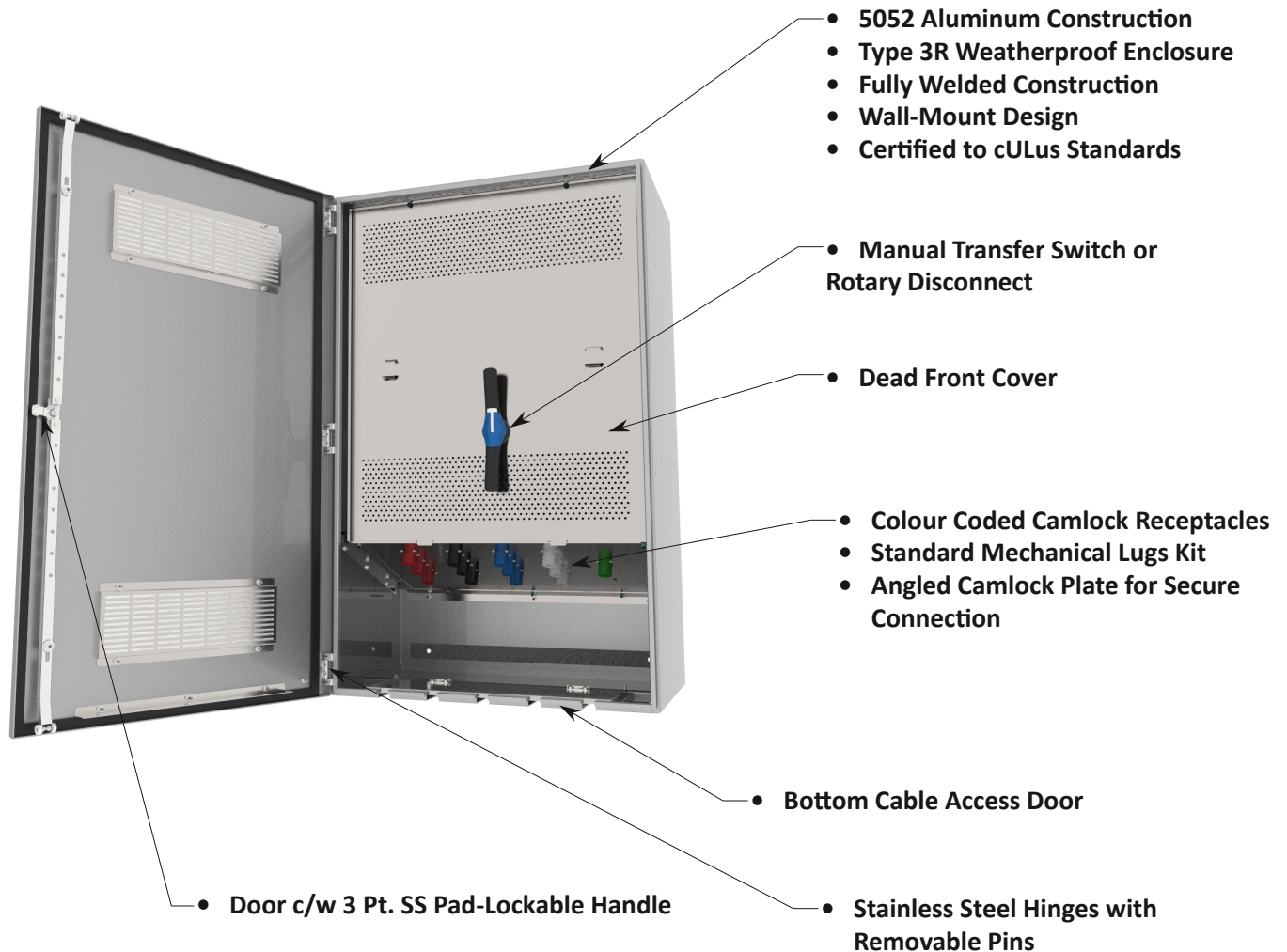


BILL OF MATERIALS

Quantity 1 – Fox Fob Dual Purpose Docking Station consisting of the following features and accessories:

- FFCC-P2-1000-FT-U3-G-ALU-LA-PL-GENAP1
- Consisting Of:
 - Aluminum Construction
 - Type 3R Enclosure
 - Approx. 78" Tall x 45" Wide x 38" Deep
 - Powder Coated Grey (Textured)
 - 3 Point Pad-Lockable Handle
 - Removable SS Hinges
 - Single Sided Door
 - Bottom Cable Access Door
 - Pad Mount
- Equipment within:
 - 1000A 3P Manual Transfer Switch 65kA @ 208Vac c/w Auxiliary Contacts
 - 1000A 3P Class L Fuses
- 400A Rated Single Pole Male Camlock Receptacles
 - 3x Black Receptacle
 - 3x Red Receptacle
 - 3x Blue Receptacle
 - 3x White Receptacle
 - 1x Green Receptacle
- Standard Mechanical Lugs Set
 - GENAP1 – Includes;
 - AF – Terminal Strip c/w 10 Terminal Blocks
 - 2WSDS – Two Wire Start Contacts c/w Source Destination switch
 - AD2 – 20A 5-20R Duplex GFI Receptacle (Separate Field CCT Required)
 - AD3 – 30A L5-30R Duplex Receptacle (Separate Field CCT Required)
 - AG – Phase Sequence Relay c/w Pilot Light Indication
 - AA – 400A Camlock Snap Covers
 - AC – Heater c/w Stat
 - PL –Indicator lights (Source Available and Source Connected)
 - cULus Listed Certified to UL1008

The FFCC-C2 Series Connection Cabinets offer quick connection to a mobile generator or load bank. These units are equipped with a manual transfer switch enabling switching to a mobile generator or load bank. Units can also be specified with a rotary disconnect. Units come complete with colour coded camlock receptacles allowing for easy connection and can also be assembled for service entrance applications. Assemblies are available with up to 2000A mains and are certified to cULus standards.

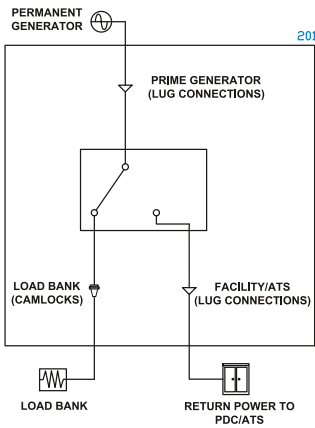


Connection Cabinets

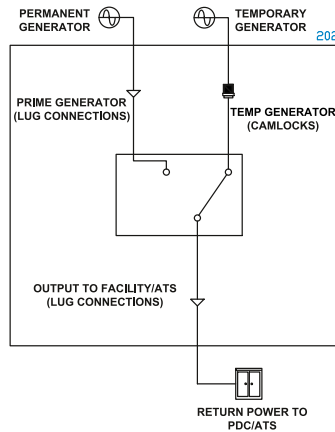
FFCC-C2 Series



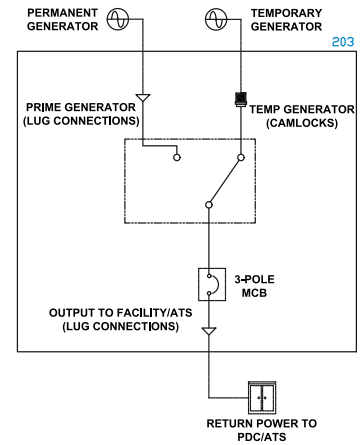
One-Line Diagram



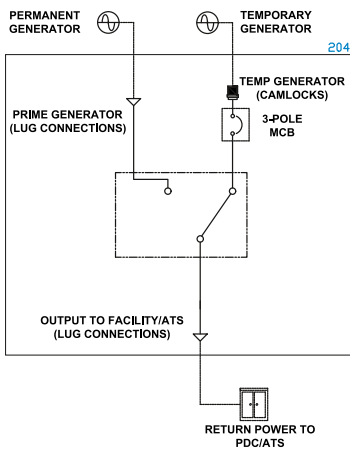
**ROTARY MANUAL TRANSFER SWITCH
CONFIG 1**



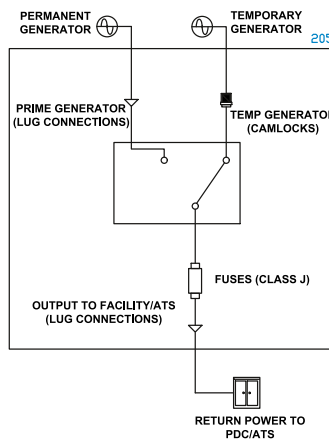
**ROTARY MANUAL TRANSFER SWITCH
CONFIG 2**



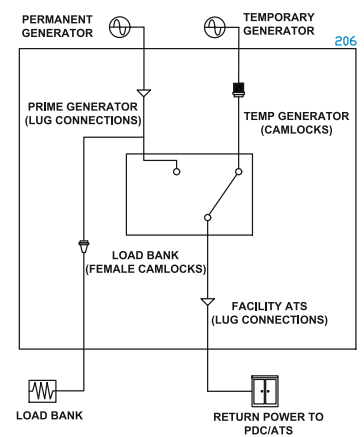
**ROTARY MANUAL TRANSFER SWITCH
WITH DISCONNECTING MEANS ON
OUTPUT**



**ROTARY MANUAL TRANSFER SWITCH
WITH DISCONNECTING MEANS ON
TEMPORARY GENERATOR INPUT**

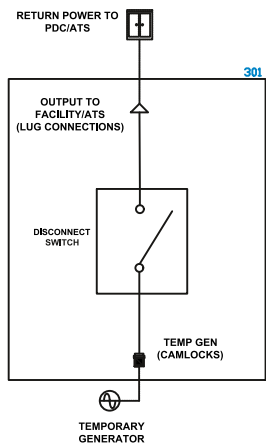


**FUSED ROTARY MANUAL
TRANSFER SWITCH**

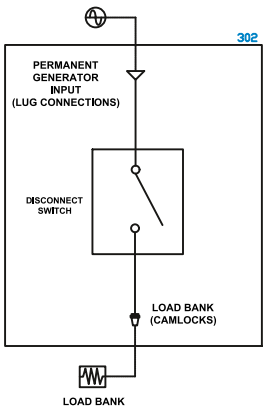


**ROTARY MANUAL TRANSFER SWITCH
DUAL PURPOSE - LOAD BANK TESTING
AND BACK-UP POWER SUPPLY**

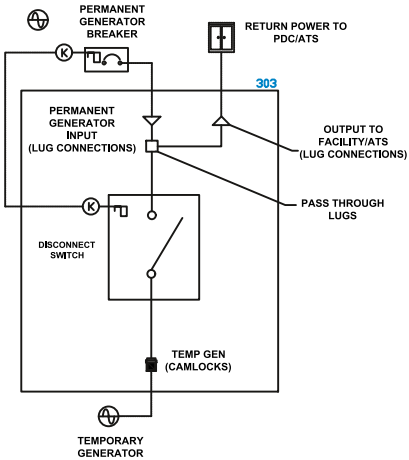
One-Line Diagram (Continue)



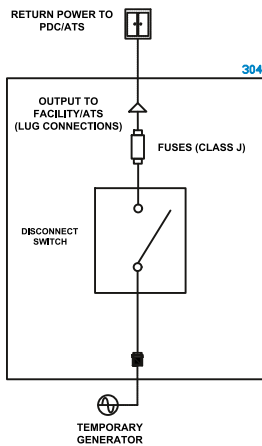
**ROTARY DISCONNECT SWITCH
TEMPORARY GENERATOR
CONFIGURATION**



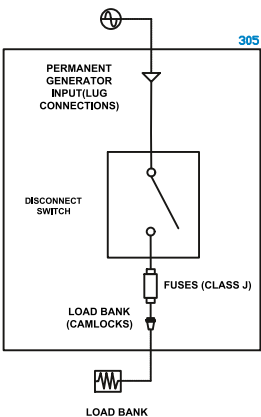
**ROTARY DISCONNECT SWITCH
LOAD BANK
CONFIGURATION**



**ROTARY DISCONNECT SWITCH
TEMP. GEN. DISCONNECT KIRK KEY INTERLOCKED
WITH UPSTREAM GENERATOR BREAKER**



**ROTARY FUSED DISCONNECT SWITCH
TEMPORARY GENERATOR
CONFIGURATION**



**ROTARY FUSED DISCONNECT SWITCH
LOAD BANK
CONFIGURATION**

Connection Cabinets

FFCC-C2 Series



Product Selector

FFCC - C2 - - - - - - - PART NO.

FFCC - C2 - - - - - - - EX.

AMPS

100
200
400
600
800
1200
1600
2000

TYPE

T = MANUAL TRANSFER SWITCH
D = ROTARY DISCONNECT
FT = FUSED MANUAL TRANSFER SWITCH
FD = FUSED ROTARY DISCONNECT

CONNECTION

G = PORTABLE GENERATOR (INLET)
L = LOAD BANK (OUTLET)
GL = PORTABLE GENERATOR (INLET) + LOAD BANK (OUTLET)

ENCLOSURE CONSTRUCTION

ALU = 5052 ALUMINUM
304 = 304 STAINLESS STEEL
316 = 316 STAINLESS STEEL

ACCESSORIES (ACC)

AXX = 400A CAMLOCK CABLE SET (XX = FT)
AA = CAMLOCK SNAP COVERS
AB = CUSTOM POWDER COAT COLOUR
AC = HEATER W/ STAT
AD = GFCI RECEPTACLE
AE = KEY INTERLOCK
AF = TERMINAL STRIP
AF2 = TWO WIRE START CONTACTS
AG = PHASE SEQUENCE MONITOR
AH = POWER METER
AI = MICRO-SWITCH
AJ = LEG STAND SET
BE = BOTTOM ENTRY
LDR = LOAD DUMP RECEPTACLE
SER = SERVICE ENTRANCE ACCESS
VI = VOLTAGE INDICATOR
2WSDS = TWO WIRE START CONTACTS C/W SOURCE DESTINATION SWITCH
BLANK = NONE

USA

VOLTAGE	A	B	C	N	G
U1 = 120/240V (1PH + N + G)	BLK	RED		WHT	GRN
U2 = 240V (3PH + G)	BLK	RED	BLU		GRN
U3 = 208Y/120V (3PH + N + G)	BLK	RED	BLU	WHT	GRN
U4 = 480Y/277V (3PH + N + G)	BRN	ORG	YEL	WHT	GRN
U5 = 480V (3PH + G)	BRN	ORG	YEL		GRN

CANADA

VOLTAGE	A	B	C	N	G
C1 = 120/240V (1PH + N + G)	RED	BLK		WHT	GRN
C2 = 240V (3PH + G)	RED	BLK	BLU		GRN
C3 = 208Y/120V (3PH + N + G)	RED	BLK	BLU	WHT	GRN
CU4 = 480Y/277V (3PH + N + G)	RED	BLK	BLU	WHT	GRN
CU5 = 480V (3PH + G)	RED	BLK	BLU		GRN
C4 = 600Y/347V (3PH + N + G)	RED	BLK	BLU	WHT	GRN
C5 = 600V (3PH + G)	RED	BLK	BLU		GRN

LUG CONFIGURATIONS (PER POLE)

AMPS	OPTION LA	OPTION LB	OPTION CL (CUSTOM LUGS)
100A	(1) #6 AWG - 250MCM, (1) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	
200A	(1) #6 AWG - 250MCM, (1) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	
400A	(2) #6 AWG - 250MCM, (2) #2 GND	(1) #4 AWG - 600MCM, (1) #1/0 GND	CONSULT FACTORY
600A	(2) #4 AWG - 600MCM, (2) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	
800A	(3) #4 AWG - 600MCM, (3) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	
1200A	(4) #4 AWG - 600MCM, (4) #1/0 GND	(3) 300 - 800 MCM, (3) #2/0 GND	
1600A	(5) #4 AWG - 600MCM, (5) #1/0 GND	(4) 300 - 800 MCM, (4) #2/0 GND	
2000A	(6) #4 AWG - 600MCM, (6) #1/0 GND	(5) 300 - 800 MCM, (5) #2/0 GND	

**FOR CUSTOM LUG SIZES, SPECIFY WHEN PLACING ORDER

Max Ratings

- 1200A
- 600VAC

Dimensions & Est. Weights

MTS / DISCONNECT (G/L)

- 36"H x 30"W x 16"D (100A - 200A) 100LB
- 42"H x 30"W x 16"D (200A - 400A) 210LB
- 60"H x 36"W x 24"D (600A - 1200A) 530LB

FUSED MTS (G/L)

- 36"H x 30"W x 16"D (100A) 100LB
- 42"H x 30"W x 16"D (260A) 210LB
- 60"H x 36"W x 24"D (400A - 800A) 530LB
- 72"H x 36"W x 30"D (1000A - 1200A) 710LB

FUSED DISCONNECT (G/L)

- 36"H x 30"W x 16"D (100A) 100LB
- 42"H x 30"W x 16"D (400A) 210LB
- 60"H x 36"W x 24"D (1000A - 1200A) 530LB

MTS / DISCONNECT (G&L) - DUAL PURPOSE

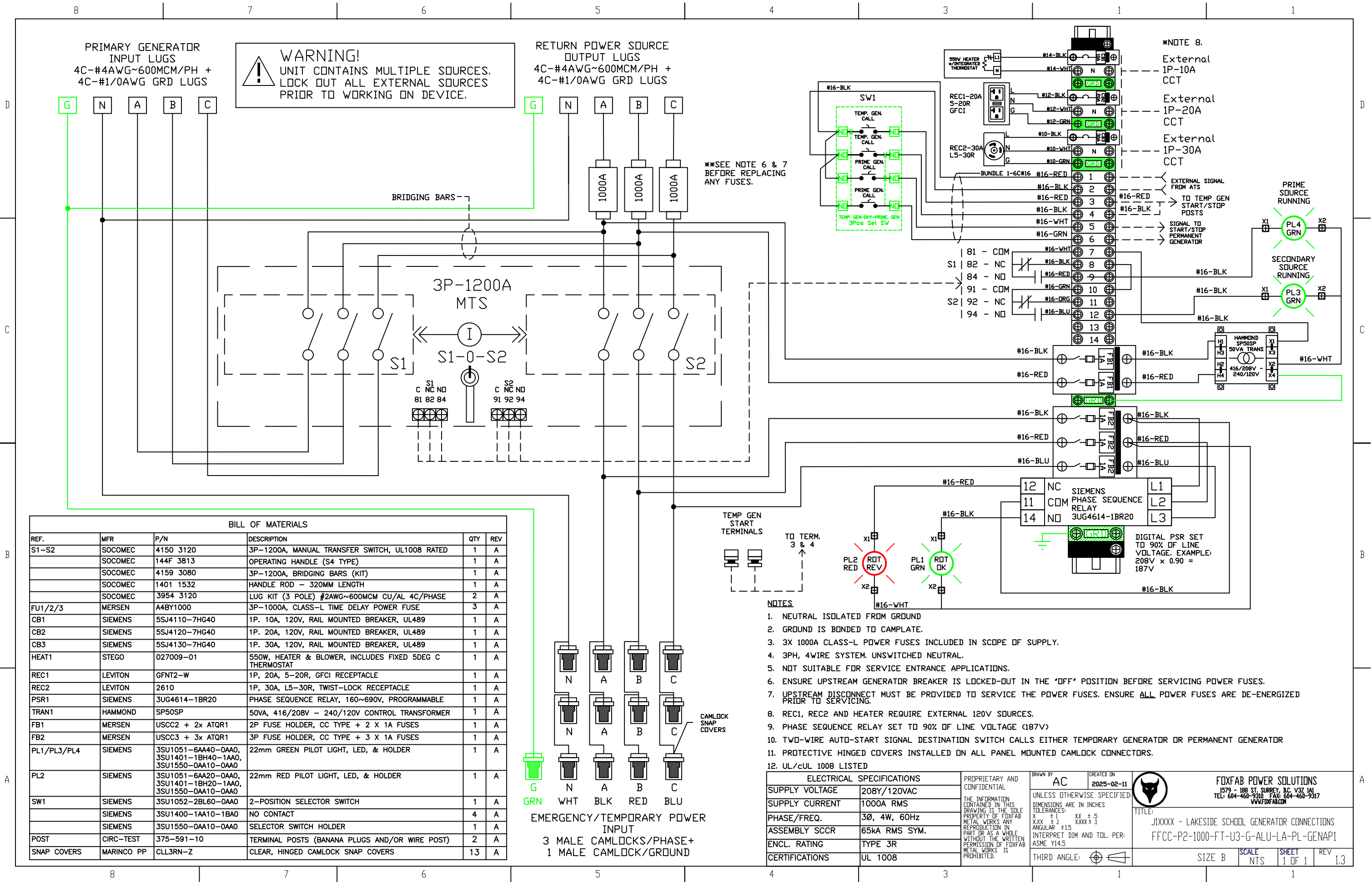
- 42"H x 30"W x 16"D (100A - 200A) TBD
- 60"H x 36"W x 24"D (200A - 600A) TBD
- 72"H x 36"W x 30"D (600A - 800A) 520LB
- 78"H x 45"W x 38"D (800A - 1200A) TBD

FUSED MTS / DISCONNECT (G&L) - DUAL PURPOSE

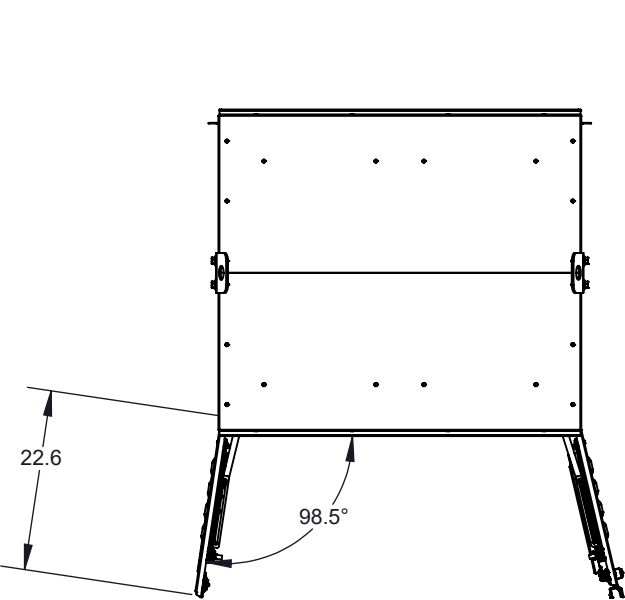
- 42"H x 30"W x 16"D (100A) 200LB
- 60"H x 36"W x 24"D (600A) 630LB
- 72"H x 36"W x 30"D (600A - 800A) TBD
- 78"H x 45"W x 38"D (1000A - 1200A) TBD

Bottom Entry - Consult factory for sizing

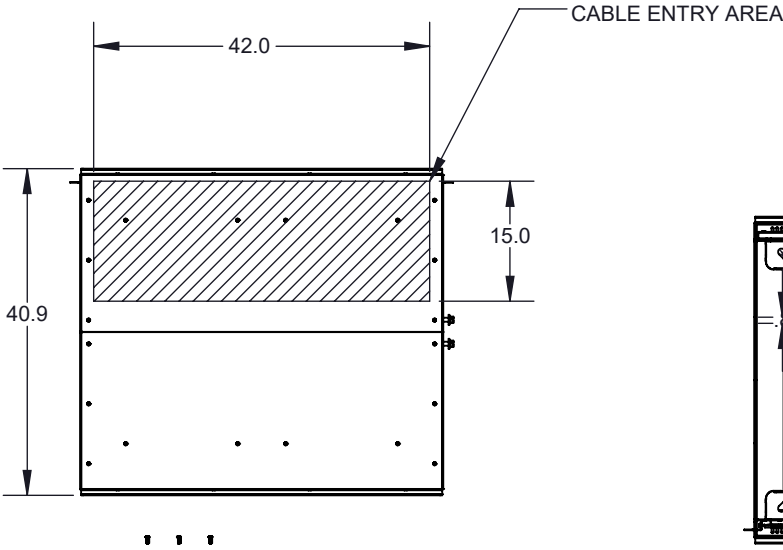
Rev 2.4



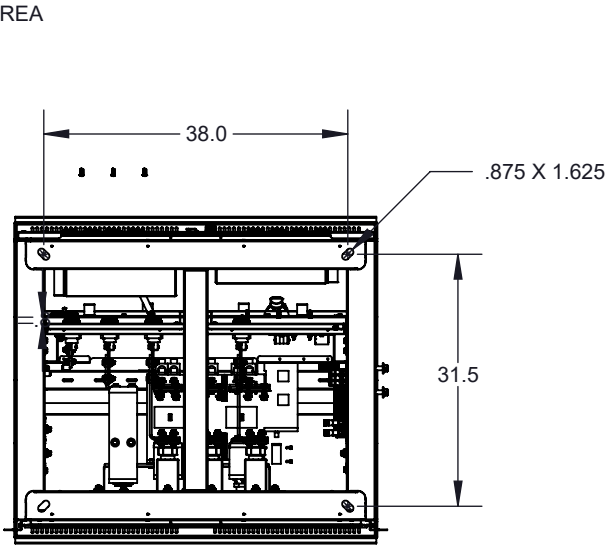
REVISION				
REV.	ZONE	DESCRIPTION	DATE	DRAWNBY



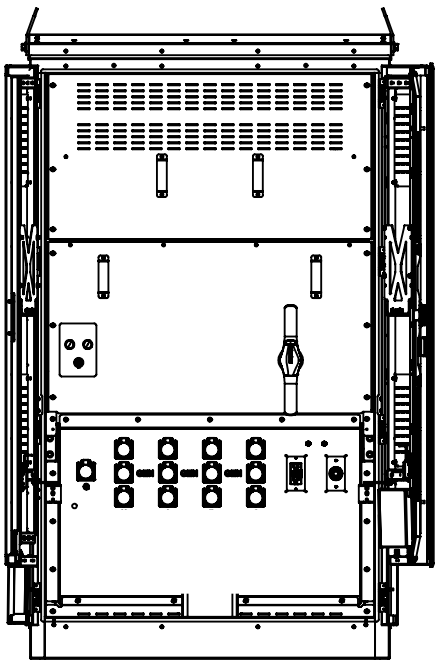
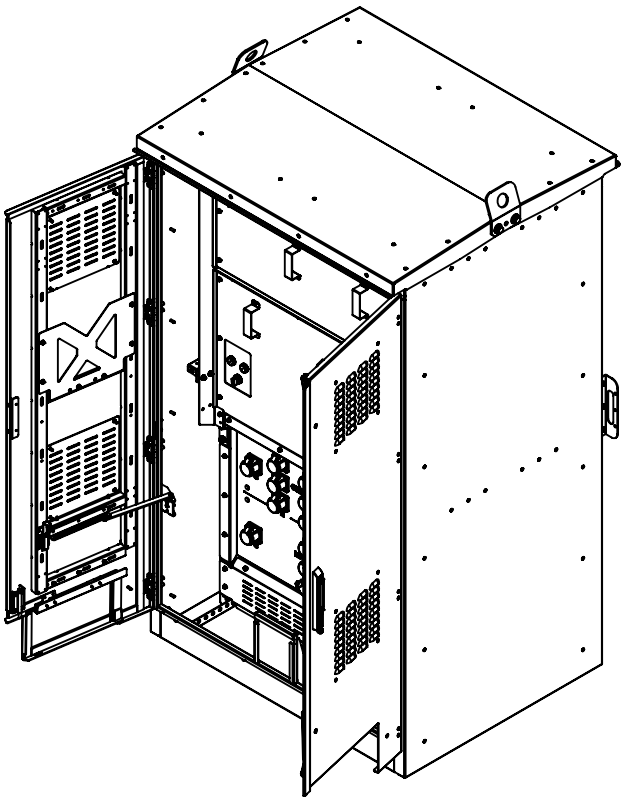
TOP VIEW OPEN



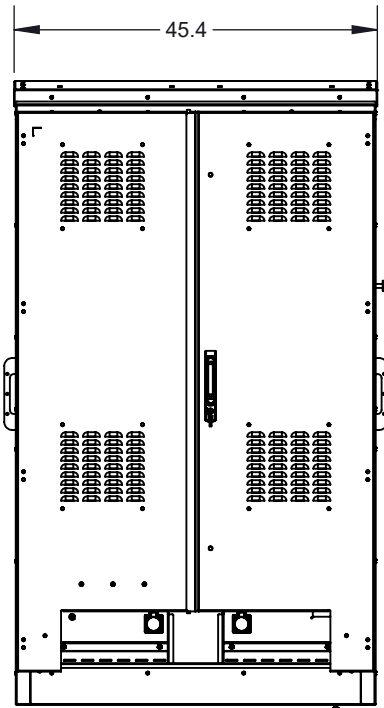
TOP VIEW CLOSED



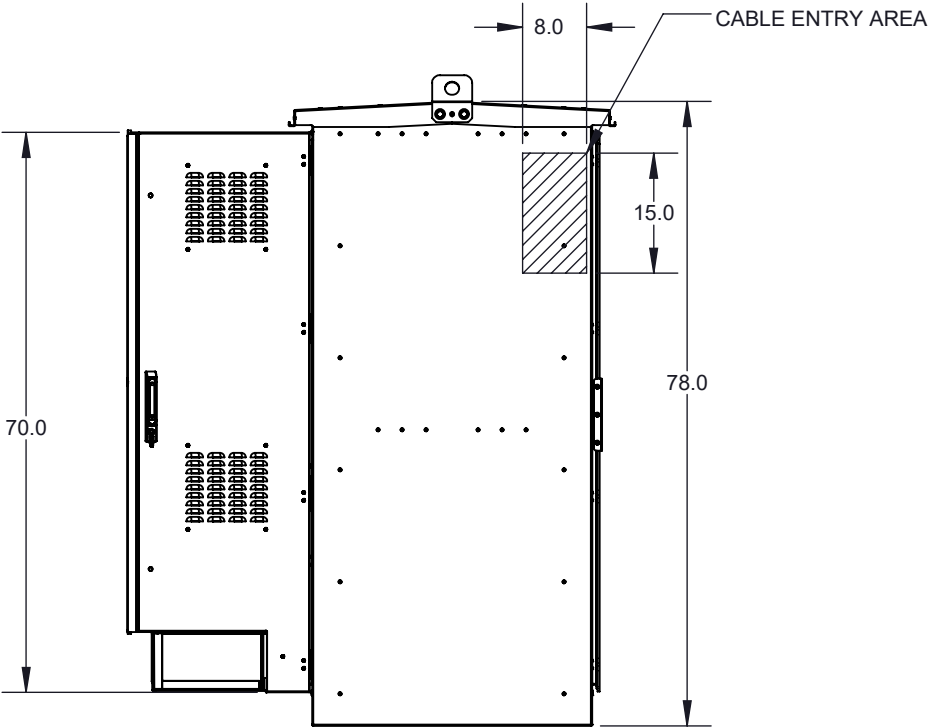
BOTTOM VIEW OPEN



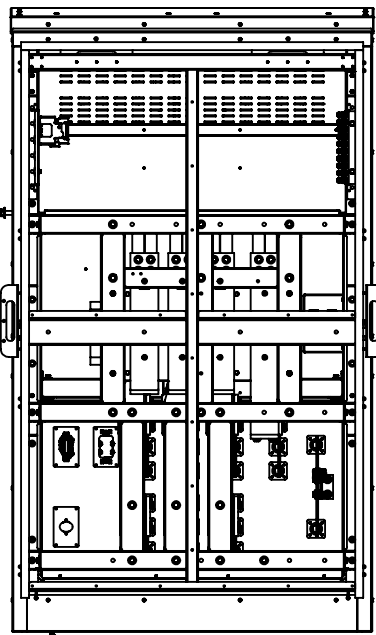
FRONT VIEW OPEN



FRONT VIEW CLOSED



SIDE VIEW OPEN



REAR VIEW CLOSED

MATERIAL	lbs	DRAWN BY		SAVED ON		 Foxfab Power Solutions 2579-188 ST. SURREY, BC V3Z 2A1 (604) 460 - 9310 WWW.FOXFAB.COM				
PER NOTES SEE DWGS		HS		5/31/2024						
FINISH		BD	TOP DIE	BOTTOM DIE						
PC PER NOTESSEE DWGS		-	-	-		TITLE: FFCC-P2-1000-FT-U3-G-ALU-LA-PL-GENAP1				
PROPRIETARY AND CONFIDENTIAL	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES:									
	X ±.2 X.X ±.5 X.XX ±.2 X.XXX ±.1 ANGULAR ±1.5 INTERPRET DIM AND TOL. PER: ASME Y14.5									
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FOXFAB POWER SOLUTIONS ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF FOXFAB POWER SOLUTIONS IS PROHIBITED.						THIRD ANGLE:		SIZE B	SCALE 1:24	REV A
						ITEM NO. S148	DWG. NO. 003-60094-LAY		SHEET 1 OF 1	



2579-188 ST.
SURREY, BC V3Z 2A1
(604) 460 - 9310
WWW.FOXFAB.COM

VOLTAGE (CAMLOCK CONNECTIONS)							
CODE	VOLTAGE	A	B	C	N	G	SELECT
U1	120/240V						☐
U2	240V						☐
U3	208Y/120V						☐
U4	480Y/277V						☐
U5	480V						☐
C1	120/240V						☐
C2	240V						☐
C3	208Y/120V						☐
CU4	480Y/277V						☐
CU5	480V						☐
C4	600Y/347V						☐
C5	600V						☐

ACCESSORIES	
MODEL / CODE	FILL
AXX = 400A CAMLOCK CABLE SET (XX = FT)	A
MODEL / CODE	SELECT
AA = CAMLOCK SNAP COVERS	☐
AB = CUSTOM POWDER COAT COLOUR	☐
AC = HEATER W/ STAT	☐
AD = GFCI RECEPTACLE	☐
AE = KEY INTERLOCK	☐
AF = TERMINAL STRIP	☐
AG = PHASE SEQUENCE MONITOR	☐
AH = POWER METER	☐
AI = MICRO-SWITCH	☐
AJ = LEG STAND SET	☐

LUG CONFIGURATION (PER POLE)				
AMPS	OPTION LA	OPTION LB	OPTION LC	FILL
60A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
100A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
200A	(1) #6 AWG - 250 MCM, (1) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
400A	(2) #6 AWG - 250 MCM, (2) #2 GND	(1) #4 AWG - 600 MCM, (1) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
600A	(2) #6 AWG - 250 MCM, (2) #2 GND	(2) #4 AWG - 600 MCM, (2) #1/0 GND	(1) 300 - 800 MCM, (1) #2/0 GND	☐
800A	(3) #4 AWG - 600 MCM, (3) #1/0 GND	(2) 300 - 800 MCM, (2) #2/0 GND	(2) 500 - 1000 MCM, (2) #2/0 GND	☐
1000A	(4) #4 AWG - 600 MCM, (4) #1/0 GND	(3) 300 - 800 MCM, (3) #2/0 GND	(3) 500 - 1000 MCM, (3) #2/0 GND	☐
1600A	(5) #4 AWG - 600 MCM, (5) #1/0 GND	(4) 300 - 800 MCM, (4) #2/0 GND	(4) 500 - 1000 MCM, (4) #2/0 GND	☐
2000A	(6) #4 AWG - 600 MCM, (6) #1/0 GND	(5) 300 - 800 MCM, (5) #2/0 GND	(5) 500 - 1000 MCM, (5) #2/0 GND	☐
2400A	(8) #4 AWG - 600 MCM, (8) #1/0 GND	(6) 300 - 800 MCM, (6) #2/0 GND	(6) 500 - 1000 MCM, (6) #2/0 GND	☐
2800A	(9) #4 AWG - 600 MCM, (9) #1/0 GND	(8) 300 - 800 MCM, (8) #2/0 GND	(7) 500 - 1000 MCM, (7) #2/0 GND	☐
3000A	(9) #4 AWG - 600 MCM, (9) #1/0 GND	(8) 300 - 800 MCM, (8) #2/0 GND	(7) 500 - 1000 MCM, (7) #2/0 GND	☐
3200A	(10) #4 AWG - 600 MCM, (10) #1/0 GND	(9) 300 - 800 MCM, (9) #2/0 GND	(8) 500 - 1000 MCM, (8) #2/0 GND	☐
3600A	(11) #4 AWG - 600 MCM, (11) #1/0 GND	(10) 300 - 800 MCM, (10) #2/0 GND	(9) 500 - 1000 MCM, (9) #2/0 GND	☐
4000A	(12) #4 AWG - 600 MCM, (12) #1/0 GND	(11) 300 - 800 MCM, (11) #2/0 GND	(9) 500 - 1000 MCM, (9) #2/0 GND	☐

VOLTAGE (LUG CONNECTIONS)		
CODE	VOLTAGE	SELECT
V1	120/240V (1PH + N + G)	☐
V2	240V (3PH + G)	☐
V3	208/120V (3PH + N + G)	☐
V4	480Y/277V (3PH + N + G)	☐
V5	480V (3PH + G)	☐
V6	600Y/347V (3PH + N + G)	☐
V7	600V (3PH + G)	☐

cULus LISTING	SELECT
UL 1008	☐
UL 1773	☐
UL 891	☐
SHORT CCT CURRENT RATING	FILL
SCCR	☐ kA
CAMLOCK TYPE	SELECT
MALE	☐
FEMALE	☐

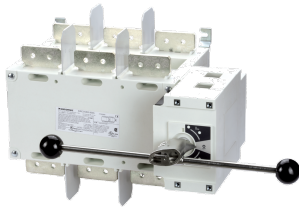
ENCLOSURE FEATURES	SELECT
ENCLOSURE TYPE	
TYPE 1	☐
TYPE 3R	☐
TYPE 4	☐
TYPE 4X	☐
ENCLOSURE CONSTRUCTION	
COLD ROLLED STEEL (CRS)	☐
5052 ALUMINUM	☐
304 STAINLESS STEEL	☐
316 STAINLESS STEEL	☐
POWDER COAT COLOUR	
STANDARD ASA 61 GREY	☐
OTHER COLOUR (SPECIFY IN NOTES)	☐

TABLE NOTE: *ONLY MAKE SELECTIONS ON VOLTAGE [LUG CONNECTION] TABLE FOR B2, CLC, M2F, OR M2N MODELS.

NOTES:

41503120

Manually operated transfer switch body SIRCOVER UL1008 3P 1200A



Strong points

- Stable positions
- Compact design
- On-load switching
- Reliability

General characteristics

Three stable positions, not affected by voltage drops or vibrations.
 Back to back switching design offering an extremely compact solution.
 Make and break under load conditions to provide safety of person and equipment.

Compliance with standards

UL 1008, Guide WPYV File E317092
 UL 98, Guide WHTY File E201138
 CSA 22.2#4, Class 4651-02, File 112964

Link to the reference



<https://www.socomec.us/en-us/reference/41503120>

SIRCOVER are heavy-duty manual transfer switches. They ensure switching transfer of sources or transfer of two low voltage circuits on load as well as their safe disconnection.

These extremely durable switches are tested and approved for use in the most demanding applications, such as resistive load or total system applications.

Certificates and Declaration

Conformity to standard #1	UL1008 & UL98
Conformity to standard #2	CSA-C22.2 No. 4 Class 4651-02
Proposition 65 California	WARNING This product can expose you to chemicals including Styrene, which is known to the State of California to cause cancer. For more information go to: www.P65Warnings.ca.gov

Standards

Conformity to standards	UL
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Certificates and Declaration - Safety

UL file number	E317092 and E201138
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Technical Characteristics

Number of poles	3
Rated current [A]	1200

Technical Characteristics - Connection terminals

Max. connection section / AWG	4X 600MCM
Min. connection section / AWG	4X #2

Technical Characteristics - Environmental

Operating temperature	-4 ... +122°F / -20 ... +50°C
Storage temperature	-40 ... +158°F / -40 ... +70°C

Technical Characteristics - Mechanical

Endurance (number of operating cycles)	3050
Operating torque [lbs.in/Nm]	442.5 / 50

Technical Characteristics - Short-circuit capacity

Auxiliary contacts / Electrical characteristics	AC300
Max fuse rating [A]	1600 for UL1008 and 1200 for UL98
Operation voltage 2 P - 3/4 P	-/600
Rated operational current / 240 VAC resistive load	1200
Rated operational current / 240 VAC "Total System"	700
Rated operational current / 480 VAC resistive load	1200
Rated operational current / 480 VAC "Total System"	600
Rated operational current / 600 VAC resistive load	1200
Rated operational current / 600 VAC "Total System"	-
Short circuit rating at 600 VAC with "Any Breaker" (kA) / Short circuit capacity	50
Short circuit rating at 600 VAC with "Any Breaker" (kA) / Short circuit rating	35
Short circuit rating at 600 VAC [kA]	100
Type of fuse	L

ETIM - Electrical characteristics

Max. rated operation voltage Ue AC [V]	600
Rated operating voltage [V]	240..600
Rated permanent current Iu [A]	1200
Number of poles	3

ETIM - Mechanical characteristics

Suitable for floor mounting	No
Suitable for front mounting 4-hole	No
Suitable for front mounting centre	No
Suitable for distribution board installation	No
Suitable for intermediate mounting	Yes
Colour control element	Black
Degree of protection (IP), front side	IP20

ETIM - Technical features

Version as main switch	Yes
Version as maintenance-/service switch	Yes
Version as safety switch	Yes
Version as emergency stop installation	No
Version as reversing switch	Yes
Number of switches	2
Motor drive optional	No
Motor drive integrated	No
Voltage release optional	No
Device construction	Built-in device fixed built-in technique
Type of control element	Door coupling rotary drive
Interlockable	Yes
Type of electrical connection of main circuit	Bolt connection

Logistics

GTIN/EAN	3596031869596
Customs number	8536508090
Price unit	PC
Weight of the packing unit	57
Length of the packing unit	0.01
Width of the packing unit	0.3
Depth of the packing unit	0.01

Product Details

Effective date	2007-03-19
Country of origin	FR
Discount Policy	1CH37
Discount Policy Label	SIRCOVER UL
Length of the product unit	0.25
Width of the product unit	0.478
Depth of the product unit	0.3465
Weight	57

Classification

UNSPSC	39122205
ETIM Class	EC000216
IGCC	5177

A4BY

Class L

UL/CSA LISTED POWER FUSES

COUNT ON THE HIGH INTERRUPTING RATING
OF OUR MOST WIDELY USED CLASS L FUSE



When it comes to protecting service entrance equipment, feeder circuits, and circuit breakers, A4BY fuses are the industry's favorite. The A4BY is a 100% rated device and may be applied at continuous currents up to its ampere rating. A 4-second minimum time-delay at 500% rating allows the A4BY to pass normal current surges and to coordinate with ground fault relays.

FEATURES/BENEFITS:

- Unique dimensions prevent replacement by other fuse classes
- Blade stamped catalog numbers for permanent identification
- Glass melamine body and plated terminals provide superior reliability in harsh environments

RATINGS:

- **Volts:** 600VAC, 300VDC
- **Amps:** 200 to 6,000A (AC), 200 to 2,500A (DC)
- **IR:** 200kA I.R. AC, 100kA I.R. DC

HIGHLIGHTS:

- Current-limiting
- 4-second time-delay
- DC ratings
- Uniform characteristics in all ampere ratings

APPLICATIONS:

- Mains, feeders
- Circuit breakers
- Load centers
- Panelboards
- Switchboards
- Metering centers

APPROVALS:

- UL listed to standard 248-10 (601-6000A) File E2137
- CSA certified to standard C22.2 No. 248.10 (601-6000A)
- Self-certified for DC per UL248 (601-6000A)



CATALOG NUMBERS (AMPS)

A4BY200	A4BY700	A4BY1350	A4BY2500
A4BY250	A4BY750	A4BY1400	A4BY3000
A4BY300	A4BY800	A4BY1500	A4BY3001
A4BY350	A4BY801	A4BY1600	A4BY3500
A4BY400	A4BY900	A4BY1601	A4BY4000
A4BY450	A4BY1000	A4BY1800	A4BY4001
A4BY500	A4BY1100	A4BY2000	A4BY4500
A4BY600	A4BY1200	A4BY2001	A4BY5000
A4BY601	A4BY1201	A4BY2200	A4BY6000
A4BY650			

Note: For optional blown fuse trigger indicator
add "-TI" to the end of part number.
Example: A4BY1600-TI. Consult factory for availability.

RECOMMENDED FUSE BLOCKS FOR AMP-TRAP® CLASS L FUSES

Fuse Ampere Rating	Catalog Number 600V or Less 3-Pole
100-800	P48F
801-1200	P412F

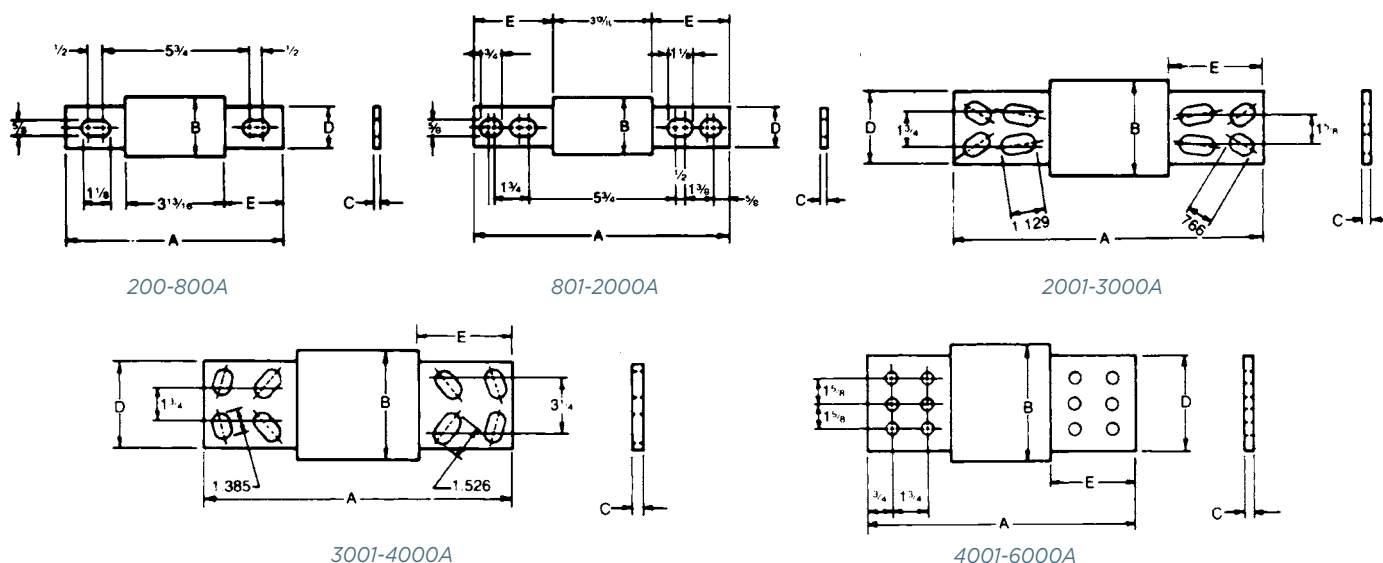
Catalog number P48F is UL recognized
Catalog number P412F is self-certified

A variety of pole configurations and termination provisions are
available. Refer to Section FB for details.

DIMENSIONS

Ampere Rating	A in	mm	B in	mm	C in	mm	D in	mm	E in	mm
200-600	8-5/8	219	2	51	5/16	8	1-5/8	41	2-13/32	61
601-800	8-5/8	219	2-1/2	63	3/8	9	2	51	2-13/32	61
801-1200	10-3/4	273	2-1/2	63	3/8	9	2	51	3-15/32	88
1201-1600	10-3/4	273	3	76	7/16	11	2-3/8	60	3-15/32	88
1601-2000	10-3/4	273	3-1/2	89	1/2	13	2-3/4	70	3-15/32	88
2001-2500	10-3/4	273	4-1/2	114	3/4	19	3-1/2	89	3-15/32	88
2501-3000	10-3/4	273	5	127	3/4	19	4	102	3-15/32	88
3001-4000	10-3/4	273	5-3/4	146	3/4	19	4-3/4	121	3-15/32	88
4001-5000	10-3/4	273	6-1/4	159	1	25	5-1/4	133	3-15/32	88
5001-6000	10-3/4	273	7-1/8	181	1	25	5-3/4	146	3-15/32	88

Safety Note: Class L fuses are dimensioned for one-way interchangeability.
A Class L fuse of any lower ampere rating can be substituted for a given Class L fuse.



550W to 650W PTC Fan Heaters



Applications

These semiconductor positive temperature coefficient fan heaters prevent the formation of condensation and ensure an even temperature in enclosures. The integrated thermostat is used to set the desired temperature while the high performance axial fan provides forced air circulation.

Features

- Compact fan heater
- Heating power adjusts to ambient temperature
- Integrated adjustable thermostat
- Built-in overheat protection
- DIN rail mountable



550W to 650W PTC Fan Heaters Specifications

Heating Element	PTC Resistor - Temperature limiting
Overheat Protection	Built-in temperature limiter
Axial Fan, Ball Bearing	Service life 50,000h at 77°F [25°C]
Connection	2-pole terminal 14 AWG [2.5 mm ²], max. solid wire or stranded wire with wire end ferrules, 0.8 N·m max.clamping torque
Housing	Plastic, UL 94V-0, light gray
Function Control Light	LED
Mounting	Clip for 35mm DIN rail, EN 60715
Mounting Position	Vertical (exhaust up)
Recommended Mounting Distance	Sides: 0.79in [20 mm] Bottom/above: 3.94in [100 mm]
Operating / Storage Temperature	-49 to 158°F [-45 to 70°C]
Protection Class	II (double insulated)
Protection Type	IP20
Approvals	CE, UL Recognized File No. E204590, RoHS 2 compliant

Note: To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at www.automationdirect.com

550W to 650W PTC Fan Heaters

Part Number	Price	Heating capacity ¹ (@ 60 Hz)	Operating Voltage (Min/Max)	Max. current (inrush)	Air flow, free blowing	Thermostat Range ²	Weight (approx.)
027009-00	\$182.00	550W	100-120V AC, 50/60 Hz	14.0 A	20 cfm [35 m ³ /h]	32 to 140°F	2.0 lb [907g]
027009-01	\$182.00					0 to 60°C	
027000-00	\$182.00					0 to 60°C	
027019-01	\$203.00	650W	100-120V AC, 50/60 Hz	15.0 A	26 cfm [45 m ³ /h]	0 to 60°C	2.4 lb [1089g]
027010-00	\$203.00					0 to 60°C	
027019-00	\$203.00					32 to 140°F	

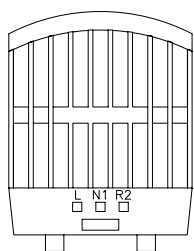
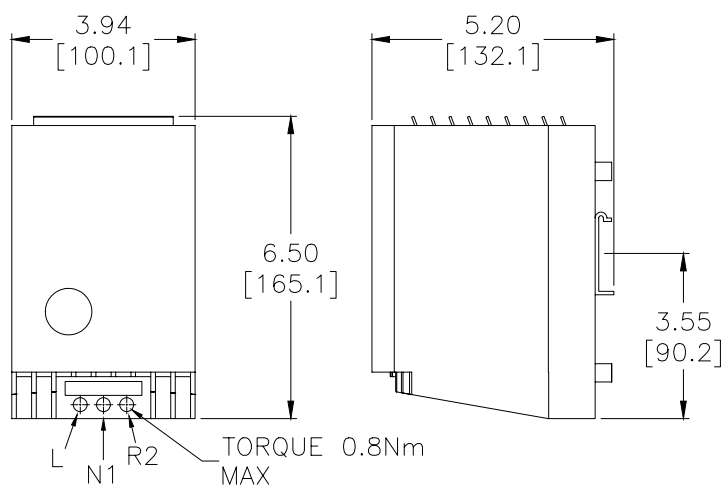
Notes: ¹ At 68°F [20°C] ambient temperature

² Switch difference 12.6 °F ±7°F [7K ±4K]

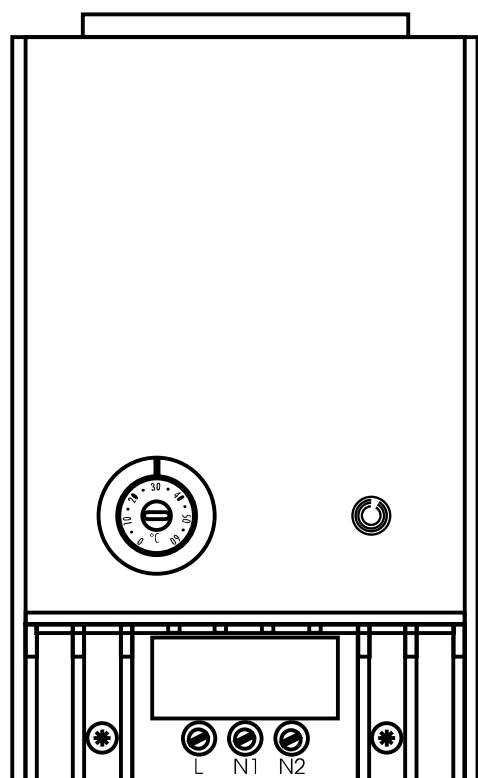
550W to 650W PTC Fan Heaters



Dimensions



Wiring Diagram



Notes: Only connect the L and N1 terminals – N2 is not used and Grounding is not required.
When wiring 230 volt units for North American installations "L" (line) and "N" (neutral) will be used as "L1" (line1) "L2" (line2) respectively with no neutral connection.



Color :  White

UPC Code : 078477712764

Country Of Origin : China

NEMA :  5-20R

Available Colors :



GFNT2-W

20 Amp SmartlockPro® GFCI Receptacle/Outlet

20 Amp, 125 Volt Receptacle/Outlet, 20 Amp Feed-Through, Self-test SmartlockPro Slim GFCI, monochromatic, Residential/Commercial applications, back and side wired, heavy duty, wallplate/faceplate and self grounding clip included - White

- SAFE - Delivers continuous ground fault protection
- SELF TESTING - Automatically self-tests to ensure it can respond to ground fault
- SIMPLE - Status indicator light provides simple, intuitive feedback

Technical Information

Product Features

Amperage : 20 A

At Rated Voltage : 1 HP

Brand : SmartlockPro

Color : White

Feature : Self-Test

Fed Spec WC-596 : Yes

Grade : Residential/Commercial Specification Grade

Grounding : Self-Grounding

NEMA : 5-20R

Pole : 2

Standards and Certifications : UL/CSA, NEMA WD6, NEMA WD1

Strap Material : Galvanized Steel

Tamper Resistant : No

Termination : Back & Side

Trip Level : Class A, 5mA plus or minus 1mA

Type : Standard Duplex

Voltage : 125 VAC

Wallplate : Included

Warranty : 2-Year Limited

Wire : 3

AC Horsepower Ratings

At Rated Voltage : 1 HP

Dielectric Voltage : Withstands 1250VAC per UL 943 and CSA-C22.2 No. 144.1-06

Short Circuit Current Rating : 10KA

Temperature Rise : Max 30C after 100 cycles OL at 150 percent rated current

Electrical Specifications

Dielectric Voltage : Withstands 1250VAC per UL 943 and CSA-C22.2 No. 144.1-06

Operating Temperature : -35C to +66C

Short Circuit Current Rating : 10KA

Temperature Rise : Max 30C after 100 cycles OL at 150 percent rated current

Environmental Specifications

Grounding Screw : Plated Steel

Line Contacts : Brass Triple-Wipe .031 Thick

Notes : w/ Wallplate

Product ID : Ratings are permanently marked on device

Terminal Accom. : 14-10 AWG

Terminal ID : Brass-Hot, Green-Ground, Silver-Neutral

Terminal Screws : Plated Steel

Yoke : Zinc-Plated Steel

Mechanical Specifications

Amperage : 20 A

Body Material : Polycarbonate

Brand : SmartlockPro

Color : White

Face Material : Thermoplastic

Feature : Self-Test

Fed Spec WC-596 : Yes

Grade : Residential/Commercial Specification Grade

Grounding : Self-Grounding

NEMA : 5-20R

Notes : w/ Wallplate

Pole : 2

Product ID : Ratings are permanently marked on device

Standards and Certifications : UL/CSA, NEMA WD6, NEMA WD1

Strap Material : Galvanized Steel

Tamper Resistant : No

Terminal Accom. : 14-10 AWG

Terminal ID : Brass-Hot, Green-Ground, Silver-Neutral

Termination : Back & Side

Torque Range : 14 – 18 in.-lbs

Trip Level : Class A, 5mA plus or minus 1mA

Type : Standard Duplex

Voltage : 125 VAC

Warranty : 2-Year Limited

Wire : 3

Body Material : Polycarbonate
Clamps : Brass
Face Material : Thermoplastic
Grounding Screw : Plated Steel
Line Contacts : Brass Triple-Wipe .031 Thick
Notes : w/ Wallplate
Operating Temperature : -35C to +66C
Terminal Screws : Plated Steel
Yoke : Zinc-Plated Steel

Standards and Certifications
ANSI : C-73
CSA C22.2 No. 42 : Yes
CSA-C22.2 No. 144.1-06 : File LR-57811
Fed Spec WC-596 : Yes
MIL-SPEC : A-A-55459-SB
NOM : Yes
UL 943 : File E48380
UL498 : Yes

Material Specifications

Body Material : Polycarbonate
Clamps : Brass
Face Material : Thermoplastic

Features and Benefits

- Provides continuous ground fault protection – detects and trips on actual ground fault even when self-test is being conducted
- On initial power up, tests the GFCI within 3 seconds
- Auto-monitoring exceeds the UL requirement
- Auto adapts and shifts to more frequent testing if potential problem is detected
- Status Indicator Light provides simple, intuitive feedback on power and protection status as well as indication of line/load reversal
- Patented Lockout Action prevents reset if GFCI is damaged and cannot respond to a ground fault
- Electronics are designed to minimize any false triggers
- Reduced depth makes it easier to install in any electrical box, even shallow ones
- Terminals allow for easy wiring options – back and side wire capable
- External back wire clamps provide visual indication of proper wire seating
- Withstands high torque and resists wire pullout
- Standard brass self-grounding clip
- Trip threshold meets or exceeds UL requirements for tripping time
- Improved immunity to high-frequency noise reduces nuisance tripping
- Advanced electronics design provides superior resistance to electrical surges and over-voltages
- Compatible with all Decora devices and wallplates; available in select Decora colors
- UL Fed Spec WC-596 rated

SPECIFICATION SUBMITTAL

JOB NAME: 	CATALOG NUMBERS: 	
JOB NUMBER:		



UPC Code : 078477809471

Country Of Origin : Please Contact Customer Service.

RoHS Compliant : Yes



2610

30 Amp, 125 Volt, Flush Mount Locking Receptacle, Industrial Grade

30 Amp, 125 Volt, NEMA L5-30R, 2P, 3W, Flush Mtg Locking Receptacle, Industrial Grade, Grounding, V-0-MAX - BLACK

Leviton's Industrial Grade Locking Devices are built to provide unparalleled quality and superior performance in the most severe industrial settings. Leviton combines the best materials available with superior production standards to produce a broad selection of Locking Devices of unmatched flexibility and dependability.

- Ideal for generators and camper trailers

Technical Information

Mechanical Specifications

Cord Range : 0.595 to 1.150

Product ID : Ratings and NEMA I.D. permanently marked on device

Screw Terminal Torque : 14-18 in-lbs

Terminal Accom. : 14-8 AWG

Terminal ID : Marked on Device

Termination : Back & Side

Electrical Specifications

Amperage : 30 A

Current Limiting : Full Rated Current

Dielectric Voltage : Withstands 2000V per UL498

Grounding : Grounding

Pole : 2

Temperature Rise : Max 30C after 250 cycles OL at 200 percent rated current

Voltage : 125 VAC

Wire : 3

Environmental Specifications

Environment : Corrosive

Flammability : Rated V-0 per UL 94

Operating Temperature : -40°C to 60°C

Material Specifications

Base Material : Valox

Body Material : Nylon

Color : Black

Cover Material : Valox 357

Face Material : Ulramid

Ground Contacts : Brass

Grounding Screw : Chromated Brass

Line Contacts : Brass

Strap Material : Nickel-Plated Brass

Terminal Clamps : Nickel-Plated Brass

Terminal Screws : Chromated Brass

Product Features

Base Material : Valox

Brand : V-0-Max

Color : Black

Device Type : Locking Receptacle

Face Material : Ulramid

NEMA : L5-30R

Warranty : Limited Lifetime Warranty

Standards and Certifications

ANSI : C-73

CSA : C22.2 No. 42

NEMA : WD-1 & WD-6

NOM : 057

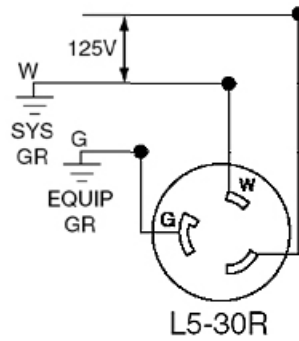
UL : 498

UL Fed Spec : W-C-596

Warranty

Warranty : Limited Lifetime Warranty

Wiring Diagram



SPECIFICATION SUBMITTAL

JOB NAME:	CATALOG NUMBERS:	
JOB NUMBER:		

Leviton Manufacturing Co., Inc.

201 North Service Road, Melville, NY 11747

Telephone: +1-800-323-8920 · FAX: +1-800-832-9538 · Tech Line (8:30AM-7:30PM E.S.T. Monday-Friday):
+1-800-824-3005

Leviton Manufacturing of Canada, Ltd.

165 Hymus Boulevard, Pointe Claire, Quebec H9R 1E9 · Telephone: +1-800-469-7890 ·
FAX: +1-800-824-3005 · www.leviton.com/canada

Leviton S. de R.L. de C.V.

Lago Tana 43, Mexico DF, Mexico CP 11290 · Tel.: (+52)55-5082-1040 · FAX: (+52)5386-
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Visit our Website at: www.leviton.com

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Leviton has a global presence.

If you would like to know where your local Leviton office is located please go to:
www.leviton.com/international/contacts/



BANANA PLUGS



MODEL	DESCRIPTION
370-301-10	Banana Plug 12 AWG, Gold/Black plastic, Pkg/10
370-302-10	Banana Plug 12 AWG, Gold/Red plastic, Pkg/10
370-321-10	Heavy duty Banana Plug 8 AWG, Gold/Black band, Pkg/10
370-322-10	Heavy duty Banana Plug 8 AWG, Gold/Red band, Pkg/10

STACKING BANANA PLUGS



MODEL	DESCRIPTION
377-421	Dual Banana Plug 14 AWG - Nickel/Black plastic
377-422	Dual Banana Plug 14 AWG - Nickel/Red plastic
377-441	Dual Banana Plug 14 AWG - Gold/Black plastic
377-442	Dual Banana Plug 14 AWG - Gold/Red plastic
377-501	Heavy duty Dual Banana Plug 8 AWG - Gold/Black plastic
377-502	Heavy duty Dual Banana Plug 8 AWG - Gold/Red plastic

BINDING POSTS



MODEL	DESCRIPTION
375-510	Binding Post 41mm L x 15mm dia - Nickel/Black & Red, Dual
375-515	Binding Post 41mm L x 15mm dia - Gold/Black & Red, Dual
375-531-10	Binding Post 34mm L x 13mm dia - Nickel/Black, Pkg/10
375-532-10	Binding Post 34mm L x 13mm dia - Nickel/Red, Pkg/10
375-541-10	Binding Post 35mm L x 16mm dia - Nickel/Black, Pkg/10
375-542-10	Binding Post 35mm L x 16mm dia - Nickel/Red, Pkg/10
375-591-10	Binding Post 45mm L x 11mm dia - Nickel/Black, Pkg/10
375-592-10	Binding Post 45mm L x 11mm dia - Nickel/Red, Pkg/10
375-594-10	Binding Post 45mm L x 11mm dia - Nickel/Yellow, Pkg/10
375-595-10	Binding Post 45mm L x 11mm dia - Nickel/Green, Pkg/10
375-596-10	Binding Post 45mm L x 11mm dia - Nickel/Blue, Pkg/10
375-599-10	Binding Post 45mm L x 11mm dia - Nickel/White, Pkg/10
375-631-10	Binding Post 34mm L x 13mm dia - Gold/Black, Pkg/10
375-632-10	Binding Post 34mm L x 13mm dia - Gold/Red, Pkg/10



Digital monitoring relay Asymmetry 0-20% Phase sequence can be activated Phase failure 3 x 160 to 690 V 50 to 60 Hz AC Undervoltage 160-690 V Hysteresis 1-20 V ON and OFF delay 0-20 s 2 change-over contacts screw terminal Successor product for 3UG3012-1A...

Product brand name	SIRIUS
Product designation	Network monitoring relay with digital setting
Design of the product	4 functions
Product type designation	3UG4

General technical data	
Product function	Phase monitoring relay
Display version LED	No
Design of the display	LCD
Degree of pollution	3
Type of voltage	
• for monitoring	AC
• of the control supply voltage	AC
Surge voltage resistance rated value	6 kV
Protection class IP	IP20
Shock resistance	
• acc. to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
Mechanical service life (switching cycles)	
• typical	10 000 000
Electrical endurance (switching cycles)	

• at AC-15 at 230 V typical	100 000
Thermal current of the switching element with contacts maximum	5 A
Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	K
Reference code acc. to DIN EN 81346-2	K
Reference code acc. to DIN EN 61346-2	K
Relative repeat accuracy	1 %

Product Function

Product function	
• undervoltage detection	Yes
• Overvoltage detection	No
• phase sequence recognition	Yes
• Phase failure detection	Yes
• Overvoltage detection 3 phase	No
• undervoltage detection 3 phases	Yes
• Voltage window recognition 3 phase	No
• Adjustable open/closed-circuit current principle	Yes
• Auto-reset	Yes

Control circuit/ Control

Control supply voltage at AC	
• at 50 Hz rated value	160 ... 690 V
• at 60 Hz rated value	160 ... 690 V
Operating range factor control supply voltage rated value at AC at 50 Hz	
• initial value	1
• Full-scale value	1
Operating range factor control supply voltage rated value at AC at 60 Hz	
• initial value	1
• Full-scale value	1

Measuring circuit

Adjustable response delay time	
• when starting	0.1 ... 20 s
• with lower or upper limit violation	0.1 ... 20 s
Accuracy of digital display	+/-1 digit

Precision

Relative metering precision	5 %
------------------------------------	-----

Auxiliary circuit

Number of CO contacts	
• delayed switching	2

Operating frequency with 3RT2 contactor maximum	5 000 1/h
Main circuit	
Number of poles for main current circuit	3
Outputs	
Ampacity of the output relay at AC-15	
• at 250 V at 50/60 Hz	3 A
• at 400 V at 50/60 Hz	3 A
Ampacity of the output relay at DC-13	
• at 24 V	1 A
• at 125 V	0.2 A
• at 250 V	0.1 A
Operating current at 17 V minimum	5 mA
Continuous current of the DIAZED fuse link of the output relay	4 A
Electromagnetic compatibility	
Conducted interference	
• due to burst acc. to IEC 61000-4-4	2 kV
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
• due to conductor-conductor surge acc. to IEC 61000-4-5	1 kV
Field-bound parasitic coupling acc. to IEC 61000-4-3	10 V/m
Electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Galvanic isolation	
Galvanic isolation	
• between entrance and outlet	Yes
• between the outputs	Yes
• between the voltage supply and other circuits	Yes
Connections/ Terminals	
Product function	
• removable terminal for auxiliary and control circuit	Yes
Type of electrical connection	screw-type terminals
Type of connectable conductor cross-sections	
• solid	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
• finely stranded with core end processing	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
• at AWG conductors solid	2x (20 ... 14)
• at AWG conductors stranded	2x (20 ... 14)
Connectable conductor cross-section	
• solid	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 2.5 mm ²

AWG number as coded connectable conductor cross section	
• solid	20 ... 14
• stranded	20 ... 14
Tightening torque	
• with screw-type terminals	0.8 ... 1.2 N·m

Installation/ mounting/ dimensions	
Mounting position	any
Mounting type	snap-on mounting
Height	92 mm
Width	22.5 mm
Depth	91 mm
Required spacing	
• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	0 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm

Ambient conditions	
Installation altitude at height above sea level	
• maximum	2 000 m
Certificates/ approvals	

General Product Approval			EMC	Declaration of Conformity	
					Miscellaneous
CCC	UL		RCM	EG-Konf.	

Test Certificates		Marine / Shipping		other	Railway
Special Test Certificate	Type Test Certificates/Test Report			Confirmation	Vibration and Shock
		LRS	DNVGL.COM/AF		

Further information

Information- and Downloadcenter (Catalogs, Brochures,...)

www.siemens.com/sirius/catalogs

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UG4614-1BR20>

Cax online generator

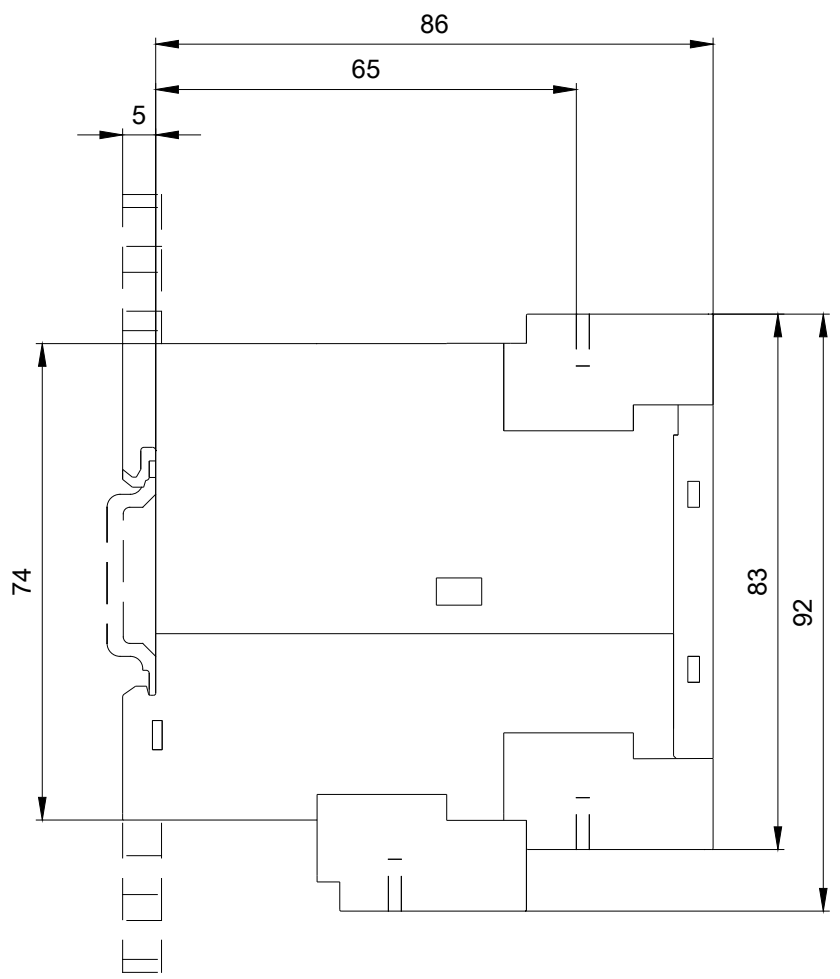
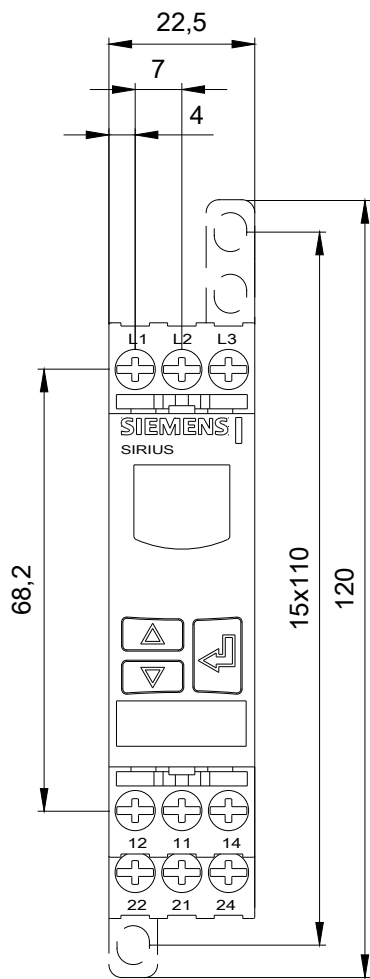
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4614-1BR20>

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4614-1BR20>

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4614-1BR20&lang=en



last modified:

07/30/2019