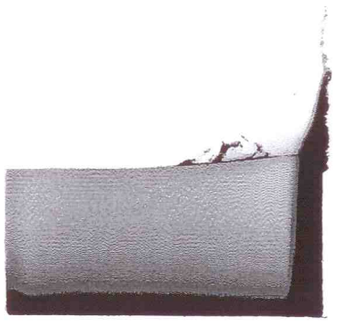
YUASA™
GENERAL BATTERY

General
SERIES

OPERATIONS MANUAL

2000 plus & 7000 plus
Model "J" IND-803
I.B. 1446J Rev: C

ISO 9000™



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IMPORTANT SAFETY INSTRUCTIONS

1. This manual contains important safety and operating instructions. Before using the battery charger, read all instructions, cautions, and warnings on the battery charger, the battery, and the product using the battery.

2. This charger has been designed to only charge flooded, lead-acid batteries.

3. Read and understand all setup and operating instructions before using the battery charger to prevent damage to the battery and to the charger.

4. **Do not** touch uninsulated parts of the output connector or the battery terminals to prevent electrical shock.

5. During charge, batteries produce hydrogen gas which can explode if ignited. Never smoke, use an open flame, or create sparks in the vicinity of the battery. Ventilate well when the battery is in an enclosed space.

6. **Do not** connect or disconnect the battery plug while the charger is on. Doing so will cause arcing and burning of the connector resulting in charger damage or battery explosion.

7. Lead-acid batteries contain sulfuric acid which causes burns. **Do not** get in eyes, on skin, or on clothing. In cases of contact with eyes, flush immediately with clean water for 15 minutes. Seek medical attention immediately.

8. Only factory qualified personnel can service this equipment. For service, contact the nearest Yuasa General Battery authorized representative.

9. De-energize all AC and DC power connections before servicing the charger.

10. The charger is **not** for outdoor use.

11. Do not expose the charger to moisture. Operating conditions should be 0° to 104° F; 0 to 70% relative humidity.

12. Do not operate the charger if it has been dropped, received a sharp blow, or otherwise damaged in any way. Call the nearest Yuasa General Battery authorized service representative.

13. For continued protection and to reduce the risk of fire, install chargers on a floor of non-combustible material such as stone, brick, or grounded metal. **Remove shipping pallet after installation**.

Instructions De Sécurité Importantes

1. Ce manuel contient des informations importantes sur la sécurité et le fonctionnement. Avant d'utiliser le chargeur de batterie, lire toutes les instuctions, les précautions et les avertissements sur le chargeur de batterie, la batterie et le produit utilisant la batterie.

2. Ce chargeur est réglé en usine pour charger des batteries plomb-acide, noyées.

3. Lire et comprendre toutes les instructions de configuration et de fonctionnement avant d'utiliser le chargeur de batterie pour éviter de détériorer la batterie et le chargeur.

4. Ne pas toucher les parties non isolées du connecteur de sortie ou les cosses de la batterie pour éviter une électrocution.

5. Pendant la charge, les batteries produisent de l'hydrogène qui peut exploser s'il est enflammé. Ne jamais fumer, utiliser une flamme vive, ou créer des étincelles à proximité de la batterie. Bien aérer si la batterie est dans un lieu clos.

6. Ne pas connecter ou déconnecter la batterie pendant que la sortie du chargeur est sous tension. Celà pourrait déçlencher un arc et brûler le connecteur entrainant des détériorations du chargeur.

7. Les batteries plomb-acide contiennent de l'acide sulfurique qui cause des brûlures. Éviter le contact avec les yeux, la peau ou les vêtements. En cas de contact avec les yeux, rincer immédiatement à l'eau claire pendant 15 minutes. Consulter immédiatement un médecin.

8. Seul le personnel d'usine qualifié peut entretenir cet équipement. Pour l'entretien, contacter le représentant Yuasa General Battery autorisé le plus proche.

9. Supprimer la tension des connexions électriques alternatives et continues avant d'entretenir le chargeur.

10. Le chargeur ne doit pas être utilisé en plein-air.

11. Ne pas exposer le chargeur à l'humidite.

12. Ne pas utiliser le chargeur s'il est tombé, s'il a reçu un coup violent, ou s'il a été détérioré de toute autre manière; appeler ou expédier l'appareil au centre d'entretien autorisé Yuasa General Battery le plus proche.

13. Pour une protection continue it pour réduir le risque d'incendie, installer les chargeurs sur le sol ou sur un matériau non-combustible comme la pierre, la brique, ou du metal mis à la terre.

CAUTION: DO NOT DESTROY THIS BOOK.

This charger has been designed for simple and trouble free installation and operation. This manual has all the instructions for installation, operation, maintenance, service and parts ordering. Read carefully all the instructions. Any deviation can cause serious and permanent damage. Failure to follow the instructions voids the warranty.

DESCRIPTION OF OPERATION

General:
This battery charger is designed to charge flooded lead-acid storage batteries only of the cell and ampere-hour rating as marked on the nameplate.

Beginning the Charging:
When a battery is connected to the charger, the control board senses voltage, which energizes the charger. There is a time delay of 5 seconds built into the charger. During this delay the display reads "Strt". See Operating Instruction section in this manual for delayed start options.

Charging:
Charging current is determined by the battery voltage and interaction of the ferroresonant charger. Charging current tapers automatically as battery voltage rises during the charge.

Power Diodes:
The power diodes rectify the output of the ferroresonant transformer.

Recharge Specification:
The SGN/TGN series of chargers will return a minimum of 106% of the removed ampere-hours (80% depth of discharge) in 8 hours for batteries that are discharged to the rating of the charger, at nominal AC input voltage and 77° F.

The SGW/TGW series of chargers will return a minimum of 112% of the removed ampere-hours (100% depth of discharge) in 8 hours for batteries that are discharged to the rating of the charger, at nominal AC input voltage and 77° F.

AC Power Fail:
The charger will not detect an AC power fault or AC fuse open. If the AC power fails with a battery connected to the charger during a charge cycle, the charger will recognize it and start the charger where it was interrupted, once the power is restored.

INSTALLATION

Location:
For maximum trouble-free service, choose a location which is free of excess moisture, dust, and corrosive fumes. Also, avoid locations where temperatures are high or where liquids will drip on the charger. Allow six (6) inches of clearance at rear and sides of the charger for air circulation. Do not obstruct the ventilating openings or the space under the charger. Battery charging area must be well ventilated to minimize fumes.

The shipping pallet must be removed for proper and safe operation.

To prevent failure of the charger, be sure it is connected to the correct line voltage.

On single phase units, connect all the chargers as follows:

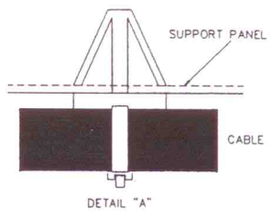
L1 to Phase A
L2 (no connection)
L3 to Phase C

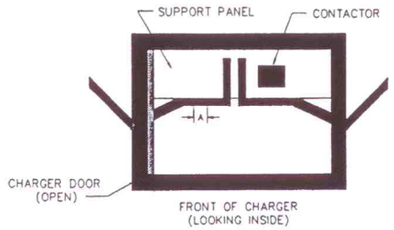
On three phase units, connect all the chargers as follows:

L1 to Phase A
L2 to Phase B
L3 to Phase C

Electrical Connections:

Connecting Input Power: Connect the input power to the appropriate terminals, ***including ground***. Follow your local electrical or National Electric Code in making these connections. For installing incoming power from either side special tie wraps have been provided for securing the power cable along the lower edge of the horizontal support panel. The figures that follow show both the left and right side installation options for routing the incoming power cable.





Wrap the tie wrap around the cable, then press the arrow head of the tie wrap through the desired hole on the bottom edge of the support panel. See Detail "A".

AC Disconnect: The user must provide a suitable external AC disconnect switch from the AC power supply to the charger to allow for safe servicing.

Connecting the Charger: **WARNING: Make sure the disconnect is in the OFF position and the battery is disconnected before connecting the input power to the terminals of the charger**.

Plug Polarity: Provide and connect the desired plug or receptacle to the charging cable if not previously factory connected. The charging cable is connected to the DC output of the charger with the positive lead marked RED. The output polarity of the charger must be strictly observed when connecting to the battery. The positive lead of the charger must be connected to the positive terminal of the battery and the negative lead must be connected to the negative terminal of the battery. Improper connection will blow the DC fuse.

Grounding the Charger: Connect a grounding conductor to the lug provided on the horizontal support panel. This lug is marked as shown:

DANGER: FAILURE TO GROUND THE CHARGER COULD LEAD TO FATAL ELECTRIC SHOCK. Follow National Electric Code for ground wire sizing.

STACKING MULTIPLE CHARGERS

These chargers can be stacked up to a maximum of 3 units high. Chargers are not designed to be stacked side by side.

Stacking Chargers

1. Position the first charger so that a minimum of 6 inches of space is between the charger and any wall, and 12 inches between the charger and any other equipment.

2. Place the second charger on top of the first. Align the bolt holes on each charger.

3. Fasten both charger cabinets together securely using 5/16" bolts and nuts.

4. Repeat steps 2 and 3 for the third charger.

5. Stacked chargers must be fastened to the wall using devices suitable for the wall construction and the bolt holes at the top of the highest charger.

6. NOTE: Ambient temperature at all levels can not exceed 104°F / 40°C.

TECHNICAL INFORMATION

The nameplate should be used to check this application before installation.

Part Number:
This number specifies in general the characteristics of this particular charger and for this reason is required in any discussion or correspondence regarding this unit.

Serial Number:
This number indicates complete information about the specific charger. It must be supplied with the part number on any correspondence or discussion regarding this charger.

Type Battery:
The chemical content construction of the battery this unit is designed to charge is given in this part of the nameplate. (L-A = Flooded Lead-Acid)

Ampere-Hours:
The information supplied here is the ampere-hour battery capacity which this unit has been factory adjusted to recharge. Charging batteries of other ampere-hour capacities than specified here might cause the charger to deviate from the specifications.

Cells:
This portion of the nameplate gives the number of cells this unit will charge. **This number must match exactly with any battery connected to the charger output.**

Input AC Volts:
The nameplate shows the input power required by this charger. Charger operation is dependent on being connected to the proper voltage. The charger will then handle expected variations from this voltage. Failure to select the correct voltage will result in damage to the charger and/or the battery.
IMPORTANT: The charger should be operated only on line voltage within 10% of the value stamped "AC Volts" on the nameplate.
The charger is designed to operate from nominal line voltages as marked on the nameplate. See the Voltage Conversion section of this manual.

Input AC Amps:
The external fusing and/or the line disconnect circuit breaker should be sized according to the National Electrical Code. Care should be taken that the correct value is selected. Refer to the table in the back of this manual for internal fuse sizing.

Hz:
This gives the frequency in cycles per second of the AC input voltage. Under no conditions operate charger at a different frequency or from a generator with unstable frequency!

Phase:
A (3) indicates a 3 phase charger and a (1) indicates a single phase charger.

DC Volts:
This gives the nominal DC output voltage of the system.

Rated DC Amps:
This is the nominal DC value of current that this unit will deliver to a battery that is 100% discharged.

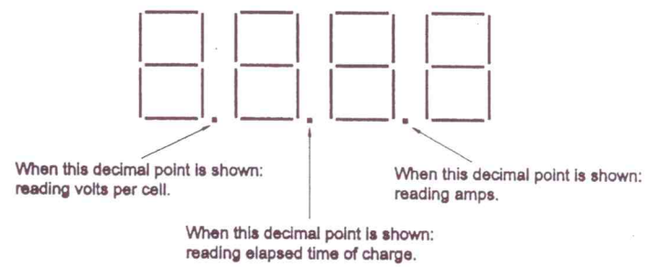
Output DC Current:
Indicating the output DC current on the front panel is a digital display of amps.

OPERATING INSTRUCTIONS

1. Plug the battery connector into the charger connector. After a 5 second delay, the charger will start automatically. The ON light will flash slowly, the display will read "Strt" during the delay, and the light will glow steadily while the charger is charging the battery.
2. The charger can be set to delay the start of a charge by setting switches of DIP switch S1 to S6 on the control board. See the PCB diagram following this section for location of switches. The charger will delay for the summation of time for each switch closed according to the following table:

Switch	Delay Time
1	3 minutes
2	15 minutes
3	30 minutes
4	1 hour
5	2 hours
6	4 hours

3. During normal operation the 4 digit digital display reads in sequence; volts, amps, amphours and time. The decimal point defines which parameter is on the display. If the decimal point is immediately to the right of the first digit, the display is reading volts e.g., 2.36. If the decimal point is in the center of the 4 digit display, elapsed time of charge is shown. When the decimal point is between the third and fourth digits, amps out of the charger, into the battery is on the display. With no decimal point displayed, amp hours returned to battery is being shown. See below:



4. When the battery reaches gassing voltage, the 80% CHARGE light will glow. The 80% point is factory set for the nameplate rating of this charger. Contact your service representative for set point readjustment.
5. The charger can either operate in a time termination mode or a dv/dt mode for charge complete. The charger has been factory set for dv/dt. Contact your service representative for set up instructions if you wish to change this mode.

Mode	Description
Time Termination	3 hrs. after 80% point
dv/dt	Will terminate when voltage remains constant up to a maximum of 5 hours.

6. In this charger, the battery will equalize automatically when the pre-programmed charge cycle count of 5 is reached. To change this setting refer to the table below.The EQUALIZE light will glow while the charger is adding the 3 hour equalize charge. The 3 hour charge applies only when the charger is in time termination. The EQUALIZE light will flash slowly during a normal charge if an equalize charge will be added at the end of the normal charge. NOTE: The light will not flash during the delay start periods of an automatic equalize.

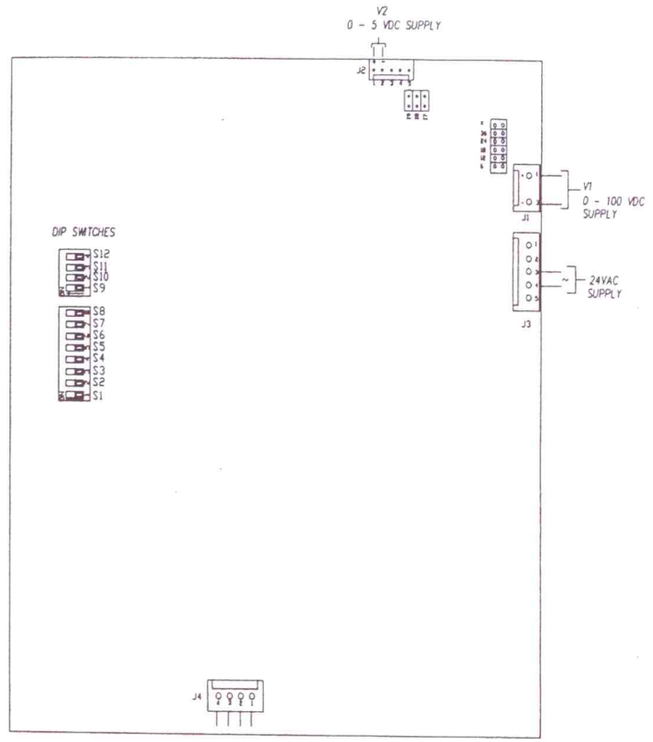
The equalize count is set by 2 switches of the large dip switch. The switches will select the following counts: See the PCB diagram following this section for switch locations.

Switch 8	Switch 7	Count
open	open	5
open	closed	7
closed	open	3
closed	closed	disable

7. This charger has a built in refresh cycle. Twelve hours after a battery has been fully charged, while still connected to the charger, a 20 minute refresh charge is applied; topping off the battery. This cycle is repeated every twelve hours while the battery is still connected. Both the red "on" front panel indicator and the yellow "refresh" panel indicators are on during the refresh cycle.

8. All of the lights will be off when a battery is not connected to the charger. The display will read "Conn / bAtt".

9. CAUTION: To prevent arcing and burning at the connector, if the battery is removed before the charge is complete, press the STOP button first. When the ON light starts flashing and/or the display reads "StOP", disconnect the battery.



PUSH BUTTON FUNCTIONS

Equalize:
This pushbutton is used to add an equalize charge to a battery. This can be done while the charger is in the delay mode after battery connection or while charging (before an equalize charge).

If an equalize charge is pending, pressing the EQUALIZE button will erase it.
Pressing the EQUALIZE push button after the charge has been completed and the battery is still attached will cause the charger to start and run for 3 hours.

Pressing the EQUALIZE push button while the charger is in an equalize charge will have no effect.

Pressing and holding the EQUALIZE push button for 5 ± 1 seconds will cause the charger to start a normal charge cycle under any circumstance.

If the charger was stopped by pushing the stop push button, pressing the EQUALIZE momentarily will cause the charger to resume the charge cycle.

Stop:
Pressing the STOP push button will turn off the charger any time that it is on.

Pressing the STOP push button will prevent the charger from starting if it is pressed while the charger is in the delay startup window.

FAULT PROTECTION

The charger will shut off if any one of the following conditions occur:

1. The battery does not reach the 80% point within 9 hours after the charge started.
2. No current is detected by the charger. This would occur if the DC fuse opens or the battery is disconnected.
3. An override timer will shut the charger off if the overall charge time exceeds 14 hours.

Error Codes
The FAULT light will be on if the charger detects a fault. The LED's will flash and the display will show the following to indicate the fault that occurred:

Display Readout	LED	Fault Description
OPEn	All LEDs (except ON) that were on or flashing when no (or low) current was detected.	No (low) current.
Hi b	No other LEDs on or flashing.	High battery voltage at start..
t-1F	80% CHARGE	Pre 80% time out.
t-3F	-	Post-80% time-out
t-2F	CHARGE COMPLETE	Overall time-out.
-dLt	-	Decreasing battery voltage.
Lo b	No other LEDs on or flashing.	Low battery voltage at start.

The DC fuse open/battery disconnect fault is cleared by connecting a battery to the charger.

The rest of the faults are cleared by disconnecting the battery. The charger will not detect a battery if the DC fuse is open.

VOLTAGE CONVERSION

The charger is designed to operate from nominal line voltages as marked on the nameplate. The line voltage to which the charger is to be converted must be one of the voltages shown on the charger nameplate.

For 7000 plus chargers **(SGW/TGW),** voltage conversion can be done by moving the connector located on the horizontal support panel to the appropriate connection as marked.

DANGER: Power must be disconnected before moving the plug.

The AC fuses must then be changed to the correct value for that line voltage!

AC fuse values can be found either on the decal inside the charger, or in the table contained in this manual.

CAUTION: Connector is keyed and pins are fragile.

For 2000 plus chargers **(SGN/TGN),** voltage conversion can be done by connecting provided jumpers as shown on the decal inside the door of the charger, or in the following charts.

The AC fuses must then be changed to the correct value for that line voltage!

AC fuse values can be found either on the decal inside the charger, or in the table contained in this manual.

DANGER: POWER MUST BE DISCONNECTED BEFORE CHANGING JUMPER CONNECTION

80% JUMPER CONNECTION CHART SINGLE PHASE J MODEL 60 HZ			
WIRE COLOR	480	550	600
WHITE/RED (P)	L1 TO 440*	L1 TO 575*	L1 TO 575*
BLUE (Q)	#1 TO #40	#1 TO #40	#1 TO #40
ORANGE (R)	#3 TO #47	#3 TO #48	#3 TO #49
RED (S)	#3 TO #47	#3 TO #48	#3 TO #49
VIOLET (T)	← NOT USED →		
* CONTROL TRANSFORMER			180-1639J
VERIFY AC FUSE VALUE			

80% JUMPER CONNECTION CHART, THREE PHASE UNITS 480 - 550 - 600 VOLTS, (J MODEL)			
WIRE COLOR	480	550	600
WHITE/RED (D)	L1 TO 440*	L1 TO 575*	L1 TO 575*
BLUE (E)	2 TO 31	2 TO 31	2 TO 31
RED (F)	34 TO 45	35 TO 44	36 TO 45
ORANGE (G)	34 TO 45	35 TO 44	36 TO 45
YELLOW (H)	-	-	-
VIOLET (I)	-	-	-
BROWN (J)	1 TO 40	1 TO 40	1 TO 40
GRAY (K)	3 TO 47	3 TO 48	3 TO 49
WHITE (L)	3 TO 47	3 TO 48	3 TO 49
--	LV TO 22*	LV TO 24*	LV TO 22*
* CONTROL TRANSFORMER			180-1640J
VERIFY AC FUSE VALUE			

TROUBLE SHOOTING

WARNING: Disconnect AC power and battery before replacing fuse(s) or making component checks.

AC Fuse Failures:
Check fuse and replace with the correct size.

DC Fuse Failures:
Check the fuse connections to be sure they are clean and tight.
The connecting cables must be in direct contact with the fuse with no washers between.
Thoroughly examine the charging cable and plugs from the battery terminals to the charger terminals.
Check the polarity of the battery against the wiring diagram. Correct if in error.
Check the main power diodes.

Low Charge Rate
Failed power rectifier will reduce the charge rate.
A defective capacitor will give very low output. Discharge capacitors before checking.
Low line voltage will reduce the charger output at the start rate. Check line voltage and reconnect transformer following the wiring diagram.

High Charging Rate:
High AC line voltage will cause higher charging rates at the start rate. Check line voltage and reconnect transformer following the wiring diagram.

Checking Components with an Ohmmeter:
WARNING: Be sure the AC power is off and the battery is disconnected. Components being checked should be disconnected from the circuit.

Capacitors: To check capacitors, disconnect from the transformer and discharge the capacitor with an insulated screwdriver, then apply the ohmmeter across capacitor terminals. Upon instant contact, the ohmmeter should indicate low resistance and as the capacitor becomes charged, the ohmmeter should indicate high resistance.

Diodes: To check the diode, disconnect the pigtail, then connect the ohmmeter across rectifier terminals and measure resistance using the lowest scale. Reverse the ohmmeter leads and measure resistance again. One reading should indicate low resistance and the other reading should indicate high resistance. If the same resistance is obtained in both measurements, the rectifier is probably defective and should be replaced.

Transformers: Transformers can be checked for continuity. Refer to the schematic diagram contained in this manual.

MAINTENANCE

The charger requires a minimum of maintenance. Connections and terminals should be kept clean and tight. The unit should be periodically cleaned with an air hose to prevent any excessive dirt build up on components. Care should be taken not to bump or move any adjustments during cleaning. Make sure that both the AC lines and the battery are disconnected before cleaning. The frequency of this type of maintenance depends on the environment in which this unit is installed.

SERVICE

For service, contact your sales representative or call 1-800-634-6522.

SGW

PC Board	X1060-82-1	Wire Group	X1106-15-10
Side/Back Panel	X057-331-3-RC	Door	X054-331-2-AG
Top Cover	X057-331-4-RC	Control Fuse	X014-34-3
Switch (yellow)	X002-50-1	Switch (red)	X002-50-2
Control Xfmr	~~X127-62-1~~	Base	013-331-1E
DC Fuse Block	X015-58-1		
Positronics Plug & Sockets			
Socket, 480 Volts	X1106-17-480	Socket, 550 Volts	X1106-17-550
Socket, 600 Volts	X1106-17-600	Plug	X1106-17-3

TGW

PC Board	X1060-82-1	Wire Group	X1106-15-20
Cabinet Base	013-330-3-RC	Cabinet Side Panel	X057-330-2-RC
Cabinet Top Panel	X057-330-4-RC	Cabinet Back Panel	X057-330-5-RC
Cabinet Door	X054-330-1-AG	Control Fuse	X014-34-3
Switch (yellow)	X002-50-1	Switch (red)	X002-50-2
Control Transformer	~~X127-62-1~~	DC Fuse Block	X015-58-1
Positronics Plug & Sockets			
Socket, 480 Volts	X1106-18-480	Socket, 550 Volts	X1106-18-550
Socket, 600 Volts	X1106-18-600	Plug	X1106-18-3

SGN

Door	X054-331-2-AG	Side/Back Panel	X057-331-3-RC
Top	X057-331-4-RC	Base	013-331-1E
Wire Group	X1106-15-10	Wire Group	X1106-15-40
Pushbutton (yellow)	X002-50-1	Pushbutton (red)	X002-50-2
Control Transformer	~~X127-62-1~~	PC Board	X1060-82-1
Control Fuse	X014-34-3	DC Fuse Block	X015-58-1

TGN

Door	X054-330-1-AG	Side Panel	X057-330-2-RC
Top Panel	X057-330-4-RC	Back Panel	X057-330-5-RC
Base	013-330-3E	Control Transformer	~~X127-82-1~~
Wire Group	X1106-15-20	Wire Group	X1106-15-30
Pushbutton (yellow)	X002-50-1	Pushbutton (red)	X002-50-2
PC Board	X1060-82-1	Control Fuse	X014-34-3
DC Fuse Block	X015-58-1		

Single Phase; 80%;SGN Model J

Model #	Transformer	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
12-450J	X127-83-215H	10	029-136-2D	-	-
12-775J	X127-83-123HJ	15	029-136-4D	-	-

Single Phase; 80%;SGN Model J

Model #	AC Fuse Values								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
12-450J	10	5.7	X014-31-6	10	4.9	X014-31-6	10	4.6	X014-31-6
12-775J	15	9.38	X014-31-8	15	8.6	X014-31-8	15	7.9	X014-31-8

Single Phase; 80%;SGN Model J

Model #	DC Fuse	Fuse P/N	Cable	Diode	Sensor	Contactor
12-450J	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
12-775J	200	X014-11-9	1/0	R507-12-1	X117-9-4	X129-62-52

Single Phase; 100%;SGW Model "J"

Model #	Transformer	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
6-225J	X127-83-201HJ	4	029-136-8D	-	-
6-380J	X127-83-203HJ	3	029-136-7D	3	029-136-7D
6-450J	X127-83-204HJ	3	029-136-7D	3	029-136-7D
6-550J	X127-83-205HJ	5	029-136-1D	4	029-136-8D
6-600J	X127-83-206HJ	5	029-136-1D	4	029-136-8D
6-680J	X127-83-246HJ	10	029-136-2D	-	-
6-775J	X127-83-247HJ	10	029-136-2D	3	029-136-7D
12-225J	X127-83-213HJ	3	029-136-7D	2.5	029-136-6D
12-380J	X127-83-215HJ	10	029-136-2D	-	-
12-450J	X127-85-216HJ	10	029-136-2D	-	-
12-550J	X127-85-217HJ	15	029-136-4D	-	-

Single Phase; 100%;SGW Model "J"

Model #	Transformer	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
12-600J	X127-83-123HJ	15	029-136-4D	-	-
12-680J	X127-83-171HJ	18	029-136-5D	-	-
12-775J	X127-83-171HJ	18	029-136-5D	-	-
12-865J	X127-84-241HJ	12	029-136-3D	10	029-136-2D
18-380J	X127-83-134HJ	15	029-136-4D	-	-
18-450J	X127-83-135HJ	15	029-136-4D	-	-
18-550J	X127-83-137HJ	18	029-136-5D	-	-
18-600J	X127-84-138HJ	18	029-136-5D	3	029-136-7D
18-680J	X127-84-724HJ	15	029-136-4D	10	029-136-2D
18-775J	X127-84-724HJ	15	029-136-4D	10	029-136-2D
18-865J	X127-85-210HJ	15	029-136-4D	15	029-136-4D
24-380J	X127-83-144HJ	18	029-136-5D	-	-
24-450J	X127-84-145HJ	10	029-136-2D	10	029-136-2D
24-550J	X127-84-147HJ	12	029-136-3D	12	029-136-3D
24-600J	X127-84-161HJ	15	029-136-4D	15	029-136-4D

Single Phase; 100%; SGW Model J

Model #	AC Fuse Value								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
6-225J	3	1.6	X014-31-22	3	1.4	X014-31-22	3	1.3	X014-31-22
6-380J	6	2.8	X014-31-2	6	2.5	X014-31-2	6	2.3	X014-31-2
6-450J	6	3.3	X014-31-2	6	2.9	X014-31-2	6	2.6	X014-31-2
6-550J	6	4.0	X014-31-2	6	3.5	X014-31-2	6	3.2	X014-31-2
6-600J	6	4.4	X014-31-2	6	3.8	X014-31-2	6	3.5	X014-31-2

Single Phase; 100%; SGW Model J

Model #	AC Fuse Value								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
6-680J	10	4.9	X014-31-6	6	4.3	X014-31-2	6	3.9	X014-31-2
6-775J	10	5.6	X014-31-6	8	4.9	X014-31-4	8	4.5	X014-31-4
12-225J	6	3.3	X014-31-2	6	2.9	X014-31-2	6	2.6	X014-31-2
12-380J	10	5.5	X014-31-6	8	4.8	X014-31-4	8	4.4	X014-31-4
12-450J	12	6.5	X014-31-7	10	5.7	X014-31-6	10	5.2	X014-31-6
12-550J	15	8.0	X014-31-8	12	7.0	X014-31-7	12	6.4	X014-31-7
12-600J	15	8.7	X014-31-8	12	7.6	X014-31-7	12	6.7	X014-31-7
12-680J	15	9.9	X014-31-8	12	8.6	X014-31-7	12	7.9	X014-31-7
12-775J	15	11.3	X014-31-8	12	9.9	X014-31-7	12	9.0	X014-31-7
12-865J	20	12.6	X014-31-10	15	11.0	X014-31-8	15	10.1	X014-31-8
18-380J	15	8.3	X014-31-8	12	7.3	X014-31-7	12	6.6	X014-31-7
18-450J	15	9.8	X014-31-8	12	8.6	X014-31-7	12	7.8	X014-31-7
18-550J	20	12.0	X014-31-10	15	10.5	X014-31-8	15	9.6	X014-31-8
18-600J	20	13.1	X014-31-10	15	11.4	X014-31-8	15	10.5	X014-31-8
18-680J	25	14.8	X014-31-11	20	12.9	X014-31-10	20	11.8	X014-31-10

Single Phase; 100%; SGW Model J

Model #	AC Fuse Value								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
18-775J	25	16.9	X014-31-11	20	14.0	X014-31-10	20	13.5	X014-31-10
18-865J	30	18.9	X014-31-12	25	16.5	X014-31-11	25	15.1	X014-31-11
24-380J	20	11.0	X014-31-10	15	9.6	X014-31-8	15	8.8	X014-31-8
24-450J	20	13.1	X014-31-10	15	11.4	X014-31-8	15	10.5	X014-31-8
24-550J	25	16.0	X014-31-11	20	14.0	X014-31-10	20	13.8	X014-31-10
24-600J	30	17.4	X014-31-12	25	15.2	X014-31-11	25	13.9	X014-31-11

Single Phase; 100%;SGW Model J

Model #	DC Rating	DC Fuse	DC Fuse P/N	Diode	Sensor	Cable	Contactor
6-225J	45	80	X014-11-4	R507-12-68	X117-9-3	2	X129-62-52
6-380J	76	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
6-450J	90	150	X014-11-3	R507-12-1	X117-9-4	2	X129-62-52
6-550J	110	150	X014-11-3	R507-12-1	X117-9-4	2	X129-62-52
6-600J	120	200	X014-11-9	R507-12-1	X117-9-4	2	X129-62-52
6-680J	136	200	X014-11-9	R507-12-1	X117-9-4	1/0	X129-62-52

Single Phase; 100%;SGW Model J

Model #	DC Rating	DC Fuse	DC Fuse P/N	Diode	Sensor	Cable	Contactor
6-775J	155	250	X014-11-16	R507-12-2	X117-9-4	1/0	X129-62-52
12-225J	45	80	X014-11-4	R507-12-68	X117-9-3	2	X129-62-52
12-380J	76	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
12-450J	90	150	X014-11-3	R507-12-1	X117-9-4	2	X129-62-52
12-550J	110	200	X014-11-9	R507-12-1	X117-9-4	2	X129-62-52
12-600J	120	200	X014-11-9	R507-12-1	X117-9-4	2	X129-62-52
12-680J	136	250	X014-11-16	R507-12-2	X117-9-4	1/0	X129-62-52
12-775J	155	250	X014-11-16	R507-12-2	X117-9-4	1/0	X129-62-52
12-865J	173	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
18-380J	76	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
18-450J	90	150	X014-11-3	R507-12-1	X117-9-4	2	X129-62-52
18-550J	.110	200	X014-11-9	R507-12-1	X117-9-4	2	X129-62-52
18-600J	120	200	X014-11-9	R507-12-1	X117-9-4	2	X129-62-52
18-680J	136	250	X014-11-16	R507-12-2	X117-9-4	1/0	X129-62-52
18-775J	155	250	X014-11-16	R507-12-2	X117-9-4	1/0	X129-62-52

Single Phase; 100%;SGW Model J

Model #	DC Rating	DC Fuse	DC Fuse P/N	Diode	Sensor	Cable	Contactor
18-865J	173	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
24-380J	76	150	X014-11-3	R507-12-68A	X117-9-3	2	X129-62-52
24-450J	90	150	X014-11-3	R507-12-1A	X117-9-4	2	X129-62-52
24-550J	110	200	X014-11-9	R507-12-1A	X117-9-4	2	X129-62-52
24-600J	120	200	X014-11-9	R507-12-1A	X117-9-4	2	X129-62-52

Three Phase; 80%;TGN Model J

Model #	Transformers	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
6-380J	X127-83-28AJ/BJ	3	029-136-7D	-	-
6-450J	X127-83-201AJ/BJ	4	029-136-8D	-	-
6-550J	X127-83-201AJ/BJ	4	029-136-8D	-	-
6-600J	X127-83-202AJ/BJ	4	029-136-8D	-	-
6-680J	X127-83-202AJ/BJ	4	029-136-8D	-	-
6-775J	X127-83-203AJ/BJ	3	029-136-7D	3	029-136-7D
6-865J	X127-83-203AJ/BJ	3	029-136-7D	3	029-136-7D
6-960J	X127-83-204AJ/BJ	3	029-136-7D	3	029-136-7D
6-1050J	X127-83-205AJ/BJ	5	029-136-1D	4	029-136-8D
6-1200J	X127-83-205AJ/BJ	5	029-136-1D	4	029-136-8D
12-380J	X127-83-295AJ/BJ	3	029-136-7D	2.5	029-136-6D
12-450J	X127-83-213AJ/BJ	3	029-136-7D	2.5	029-136-6D
12-550J	X127-83-213AJ/BJ	3	029-136-7D	2.5	029-136-6D
12-600J	X127-83-213AJ/BJ	3	029-136-7D	2.5	029-136-6D
12-680J	X127-83-214AJ/BJ	5	029-136-1D	2.5	029-136-6D

Three Phase; 80%;TGN Model J

Model #	Transformers	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
12-775J	X127-83-214AJ/BJ	5	029-136-1D	2.5	029-136-6D
12-865J	X127-83-215AJ/BJ	10	029-136-2D	-	-
12-960J	X127-83-215AJ/BJ	10	029-136-2D	-	-
12-1050J	X127-85-216AJ/BJ	10	029-136-2D	-	-
12-1200J	X127-85-217AJ/BJ	15	029-136-4D	-	-
12-1500J	X127-83-123AJ/BJ	15	029-136-4D	-	-
18-380J	X127-83-297AJ/BJ	10	029-136-2D	-	-
18-450J	X127-83-130AJ/BJ	10	029-136-2D	-	-
18-550J	X127-84-130AJ/BJ	10	029-136-2D	-	-
18-600J	X127-84-130AJ/BJ	10	029-136-2D	-	-
18-680J	X127-83-132AJ/BJ	10	029-136-2D	-	-
18-775J	X127-83-132AJ/BJ	10	029-136-2D	-	-
18-865J	X127-83-132AJ/BJ	10	029-136-2D	-	-
18-960J	X127-83-135AJ/BJ	15	029-136-4D	-	-
18-1050J	X127-83-135AJ/BJ	15	029-136-4D	-	-
18-1200J	X127-83-137AJ/BJ	18	029-136-5D	-	-
18-1400J	X127-83-137AJ/BJ	18	029-136-5D	-	-
18-1500J	X127-84-138AJ/BJ	18	029-136-5D	3	029-136-7D
24-450J	X127-83-140AJ/BJ	10	029-136-2D	-	-
24-550J	X127-83-140AJ/BJ	10	029-136-2D	-	-
24-600J	X127-83-140AJ/BJ	10	029-136-2D	-	-
24-680J	X127-83-142AJ/BJ	15	029-136-4D	-	-
24-775J	X127-83-142AJ/BJ	15	029-136-4D	-	-
24-865J	X127-83-144AJ/BJ	18	029-136-5D	-	-
24-960J	X127-83-144AJ/BJ	18	029-136-5D	-	-
24-1050J	X127-84-145AJ/BJ	10	029-136-2D	10	029-136-2D
36-380J	X127-83-340AJ/BJ	15	029-136-4D	-	-
36-450J	X127-84-342AJ/BJ	15	029-136-D	-	-
36-550J	X127-84-342AJ/BJ	15	029-136-3D	-	-
36-600J	X127-84-151AJ/BJ	18	029-1365D	3	029-136-52
36-680J	X127-84-151AJ/BJ	18	029-136-5D	3	029-136-7D
36-775J	X127-84-193AJ/BJ	15	029-136-4D	12	029-136-4O

Three Phase; 80%; TGN Model J

Model #	AC Fuse Values								
	480			550			600		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
6-380J	3	1.4	X014-31-22	3	1.2	X014-31-22	3	1.1	X014-31-22
6-450J	3	1.7	X014-31-22	3	1.4	X014-31-22	3	1.3	X014-31-22
6-550J	3	2.0	X014-31-22	3	1.8	X014-31-22	3	1.6	X014-31-22
6-600J	4	2.2	X014-31-23	4	1.9	X014-31-23	4	1.8	X014-31-23
6-680J	4	2.5	X014-31-23	4	2.2	X014-31-23	4	2.0	X014-31-23
6-775J	6	2.8	X014-31-2	4	2.5	X014-31-23	4	2.3	X014-31-23
6-865J	6	3.2	X014-31-2	4	2.8	X014-31-23	4	2.5	X014-31-23
6-960J	6	3.5	X014-31-2	6	3.1	X014-31-2	6	2.8	X014-31-2
6-1050J	8	3.9	X014-31-4	6	3.4	X014-31-2	6	3.1	X014-31-2
6-1200J	8	4.4	X014-31-4	6	3.8	X014-31-2	6	3.5	X014-31-2
12-380J	6	2.8	X014-31-2	4	2.4	X014-31-23	4	2.2	X014-31-23
12-450J	8	3.3	X014-31-4	6	2.9	X014-31-2	6	2.6	X014-31-2
12-550J	8	4.0	X014-31-4	6	3.5	X014-31-2	6	3.2	X014-31-2
12-600J	8	4.4	X014-31-4	6	3.8	X014-31-2	6	3.5	X014-31-2

Three Phase; 80%; TGN Model J

Model #	AC Fuse Values								
	480			550			600		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
12-680J	10	5.0	X014-31-6	8	4.4	X014-31-4	8	4.0	X014-31-4
12-775J	10	5.7	X014-31-6	8	5.0	X014-31-4	8	4.6	X014-31-4
12-865J	12	6.4	X014-31-7	10	5.5	X014-31-6	10	5.1	X014-31-6
12-960J	12	7.0	X014-31-7	10	6.2	X014-31-6	10	5.6	X014-31-6
12-1050J	12	7.7	X014-31-7	10	6.7	X014-31-6	10	6.2	X014-31-6
12-1200J	15	8.8	X014-31-8	12	7.7	X014-31-7	12	7.0	X014-31-7
12-1500J	15	11.0	X014-31-8	15	9.6	X014-31-8	15	8.8	X014-31-8
18-380J	8	4.2	X014-31-4	8	3.7	X014-31-4	8	3.3	X014-31-4
18-450J	10	5.0	X014-31-6	8	4.3	X014-31-4	8	4.0	X014-31-4
18-550J	10	6.1	X014-31-6	8	5.3	X014-31-4	8	4.8	X014-31-4
18-600J	10	6.6	X014-31-6	8	5.8	X014-31-4	8	5.3	X014-31-4
18-680J	15	7.5	X014-31-8	12	6.5	X014-31-7	12	6.0	X014-31-7
18-775J	15	8.5	X014-31-8	12	7.4	X014-31-7	12	6.8	X014-31-7
18-865J	15	9.5	X014-31-8	12	8.3	X014-31-7	12	7.6	X014-31-7
18-960J	20	10.6	X014-31-10	20	9.2	X014-31-10	20	8.5	X014-31-10

Three Phase; 80%; TGN Model J

Model #	AC Fuse Values								
	480			550			600		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
18-1050J	20	11.6	X014-31-10	20	10.1	X014-31-10	20	9.3	X014-31-10
18-1200J	25	13.2	X014-31-11	20	11.5	X014-31-10	20	10.6	X014-31-10
18-1400J	25	15.4	X014-31-11	20	13.5	X014-31-10	20	12.3	X014-31-10
18-1500J	25	16.5	X014-31-11	20	14.4	X014-31-10	20	13.2	X014-31-10
24-450J	12	6.6	X014-31-7	12	5.8	X014-31-7	12	5.3	X014-31-7
24-550J	12	8.1	X014-31-7	12	7.0	X014-31-7	12	6.5	X014-31-7
24-600J	12	8.8	X014-31-7	12	7.7	X014-31-7	12	7.0	X014-31-7
24-680J	15	10.0	X014-31-8	12	8.7	X014-31-7	12	8.0	X014-31-7
24-775J	15	11.4	X014-31-8	12	9.9	X014-31-7	12	9.1	X014-31-7
24-865J	20	12.7	X014-31-10	20	11.1	X014-31-10	20	10.2	X014-31-10
24-960J	20	14.1	X014-31-10	20	12.3	X014-31-10	20	11.3	X014-31-10
24-1050J	25	15.4	X014-31-11	20	13.5	X014-31-10	20	12.3	X014-31-10
36-380J	15	8.4	X014-31-8	12	7.3	X014-31-7	12	6.6	X014-31-7
36-450J	20	9.9	X014-31-10	20	8.7	X014-31-10	20	7.9	X014-31-10
36-550J	20	12.1	X014-31-10	20	10.6	X014-31-10	20	9.7	X014-31-10

Three Phase; 80%; TGN Model J

Model #	AC Fuse Values								
	480			550			600		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
36-600J	25	13.2	X014-31-11	20	11.5	X014-31-10	20	10.6	X014-31-10
36-680J	25	15.0	X014-31-11	20	13.1	X014-31-10	20	12.0	X014-31-10
36-775J	30	17.1	X014-31-12	25	14.9	X014-31-11	25	13.7	X014-31-11

Three Phase; 80%;TGN Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Cable	Diode	Sensor	Contactor
6-380J	57	100	X014-11-2	2	R507-12-68	X117-9-3	X129-62-52
6-450J	68	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
6-550J	83	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
6-600J	90	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52
6-680J	102	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52
6-775J	116	250	X014-11-16	1/0	R507-12-68	X117-9-4	X129-62-52
6-865J	130	250	X014-11-16	1/0	R507-12-68	X117-9-4	X129-62-52
6-960J	144	300	X014-11-17	2/0	R507-12-1	X117-9-4	X129-62-52
6-1050J	158	300	X014-11-17	2/0	R507-12-1	X117-9-4	X129-62-52
6-1200J	180	300	X014-11-17	2/0	R507-12-1	X117-9-4	X129-62-52

Three Phase; 80%;TGN Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Cable	Diode	Sensor	Contactor
12-380J	57	100	X014-11-2	2	R507-12-68	X117-9-3	X129-62-52
12-450J	68	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
12-550J	83	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
12-600J	90	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
12-680J	102	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52
12-775J	116	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52
12-865J	130	250	X014-11-16	1/0	R507-12-1	X117-9-4	X129-62-52
12-960J	144	250	X014-11-16	1/0	R507-12-1	X117-9-4	X129-62-52
12-1050J	156	250	X014-11-16	2/0	R507-12-1	X117-9-4	X129-62-52
12-1200J	180	300	X014-11-17	2/0	R507-12-1	X117-9-4	X129-62-52
12-1500J	225	400	X014-11-14	2/0	R507-12-2	X117-9-6	X129-62-52
18-380J	57	100	X014-11-2	2	R507-12-68	X117-9-3	X129-62-52
18-450J	68	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
18-550J	83	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
18-600J	90	150	X014-11-3	2	R507-12-68	X117-9-3	X129-62-52
18-680J	102	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52

Three Phase; 80%;TGN Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Cable	Diode	Sensor	Contactor
18-775J	116	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52
18-865J	130	200	X014-11-9	2	R507-12-68	X117-9-4	X129-62-52
18-960J	144	250	X014-11-16	2/0	R507-12-1	X117-9-4	X129-62-52
18-1050J	158	250	X014-11-16	2/0	R507-12-1	X117-9-4	X129-62-52
18-1200J	180	350	X014-11-13	2/0	R507-12-2	X117-9-6	X129-62-52
18-1400J	210	350	X014-11-13	2/0	R507-12-2	X117-9-6	X129-62-52
18-1500J	225	400	X014-11-14	2/0	R507-12-2	X117-9-6	X129-62-52
24-450J	68	150	X014-11-3	2	R507-12-68A	X117-9-3	X129-62-52
24-550J	83	150	X014-11-3	2	R507-12-68A	X117-9-3	X129-62-52
24-600J	90	150	X014-11-3	2	R507-12-68A	X117-9-3	X129-62-52
24-680J	102	200	X014-11-9	2	R507-12-68A	X117-9-4	X129-62-52
24-775J	116	200	X014-11-9	2	R507-12-68A	X117-9-4	X129-62-52
24-865J	130	250	X014-11-16	1/0	R507-12-1A	X117-9-4	X129-62-52
24-960J	144	250	X014-11-16	1/0	R507-12-1A	X117-9-4	X129-62-52
24-1050J	158	300	X014-11-17	2/0	R507-12-1A	X117-9-4	X129-62-52
36-380J	57	125	X014-35-0	2	R507-12-68A	X117-9-3	X129-62-52

Three Phase; 80%;TGN Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Cable	Diode	Sensor	Contactor
36-450J	68	150	X014-35-1	2	R507-12-68A	X117-9-3	X129-62-52
36-550J	83	150	X014-35-1	2	R507-12-68A	X117-9-3	X129-62-52
36-600J	90	200	X014-35-2	2	R507-12-68A	X117-9-4	X129-62-52
36-680J	102	200	X014-35-2	2	R507-12-68A	X117-9-4	X129-62-52
36-775J	116	250	X014-35-3	1/0	R507-12-68A	X117-9-4	X129-62-52

Three Phase; 100%; TGW Model J

Model #	Transformers	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
6-380J	X127-83-201AJ/BJ	4	029-136-8D	-	-
6-450J	X127-83-201AJ/BJ	4	029-136-8D	-	-
6-550J	X127-83-202AJ/BJ	4	029-136-8D	-	-
6-600J	X127-83-202AJ/BJ	4	029-136-8D	-	-
6-680J	X127-83-203AJ/BJ	3	029-136-7D	3	029-136-7D
6-775J	X127-83-203AJ/BJ	3	029-136-7D	3	029-136-7D
6-865J	X127-83-204AJ/BJ	3	029-136-7D	3	029-136-7D
6-960J	X127-83-205AJ/BJ	5	029-136-1D	4	029-136-8D
6-1050J	X127-83-205AJ/BJ	5	029-136-1D	4	029-136-8D

Three Phase; 100%; TGW Model J

Model #	Transformers	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
6-1200J	X127-83-206AJ/BJ	5	029-136-1D	4	029-136-8D
12-380J	X127-83-213AJ/BJ	3	029-136-7D	2.5	029-136-6D
12-450J	X127-83-213AJ/BJ	3	029-136-7D	2.5	029-136-6D
12-550J	X127-83-214AJ/BJ	5	029-136-1D	2.5	029-136-6D
12-600J	X127-83-214AJ/BJ	5	029-136-1D	2.5	029-136-6D
12-680J	X127-83-215AJ/BJ	10	029-136-2D	-	-
12-775J	X127-83-215AJ/BJ	10	029-136-2D	-	-
12-865J	X127-85-216AJ/BJ	10	029-136-2D	-	-
12-960J	X127-85-217AJ/BJ	15	029-136-4D	-	-
12-1050J	X127-85-217AJ/BJ	15	029-136-4D	-	-
12-1200J	X127-83-123AJ/BJ	15	029-136-4D	-	-
12-1500J	X127-83-171AJ/BJ	18	029-136-5D	-	-
18-380J	X127-83-130AJ/BJ	10	029-136-2D	-	-
18-450J	X127-83-130AJ/BJ	10	029-136-2D	-	-
18-550J	X127-83-132AJ/BJ	10	029-136-2D	-	-

Three Phase; 100%; TGW Model J

Model #	Transformers	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
18-600J	X127-83-132AJ/BJ	10	029-136-2D	-	-
18-680J	X127-83-134AJ/BJ	15	029-136-4D	-	-
18-775J	X127-83-134AJ/BJ	15	029-136-4D	-	-
18-865J	X127-83-135AJ/BJ	15	029-136-4D	-	-
18-960J	X127-83-137AJ/BJ	18	029-136-5D	-	-
18-1050J	X127-83-137AJ/BJ	18	029-136-5D	-	-
18-1200J	X127-84-138AJ/BJ	18	029-136-5D	3	029-136-7D
18-1400J	X127-84-724AJ/BJ	15	029-136-4D	10	029-136-2D
18-1500J	X127-84-724AJ/BJ	15	029-136-4D	10	029-136-2D
24-450J	X127-83-140AJ/BJ	10	029-136-2D	-	-
24-550J	X127-83-142AJ/BJ	15	029-136-4D	-	-
24-600J	X127-83-142AJ/BJ	15	029-136-4D	-	-
24-680J	X127-83-144AJ/BJ	18	029-136-5D	-	-
24-775J	X127-83-144AJ/BJ	18	029-136-5D	-	-
24-865J	X127-84-145AJ/BJ	10	029-136-2D	10	029-136-2D

Three Phase; 100%; TGW Model J

Model #	Transformers	Cap 1 Value	Capacitor 1 P/N	Cap 2 Value	Capacitor 2 P/N
24-960J	X127-84-147AJ/BJ	12	029-136-3D	12	029-136-3D
24-1050J	X127-84-147AJ/BJ	12	029-136-3D	12	029-136-3D
36-450J	X127-84-342AJ/BJ	15	029-136-4D	-	-
36-550J	X127-84-151AJ/BJ	18	029-136-5D	3	029-136-5D
36-600J	X127-84-151AJ/BJ	18	029-136-5D	3	029-136-7D
36-680J	X127-84-193AJ/BJ	15	029-136-4D	12	029-136-3D
36-775J	X127-84-193AJ/BJ	15	029-136-4D	12	029-136-3D

Three Phase; 100%;TGW Model J

Model #	AC Fuse Values								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
6-380J	4	1.6	X014-31-23	3	1.4	X014-31-22	3	1.3	X014-31-22
6-450J	4	1.9	X014-31-23	3	1.6	X014-31-22	3	1.5	X014-31-22
6-550J	4	2.3	X014-31-23	4	2.0	X014-31-23	4	1.8	X014-31-23
6-600J	4	2.5	X014-31-23	4	2.2	X014-31-23	4	2.0	X014-31-23
6-680J	6	2.9	X014-31-2	4	2.5	X014-31-23	4	2.3	X014-31-23
6-775J	6	3.3	X014-31-2	4	2.8	X014-31-23	4	2.6	X014-31-23

Three Phase; 100%;TGW Model J

Model #	AC Fuse Values								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
6-865J	6	3.6	X014-31-2	6	3.2	X014-31-2	6	2.9	X014-31-2
6-960J	8	4.0	X014-31-4	6	3.5	X014-31-2	6	3.2	X014-31-2
6-1050J	8	4.4	X014-31-4	6	3.8	X014-31-2	6	3.5	X014-31-2
6-1200J	8	5.0	X014-31-4	6	4.4	X014-31-2	6	4.0	X014-31-2
12-380J	8	3.2	X014-31-4	6	2.8	X014-31-2	6	2.6	X014-31-2
12-450J	8	3.8	X014-31-4	6	3.3	X014-31-2	6	3.0	X014-31-2
12-550J	10	4.6	X014-31-6	8	4.0	X014-31-4	8	3.7	X014-31-4
12-600J	10	5.0	X014-31-6	8	4.4	X014-31-4	8	4.0	X014-31-4
12-680J	12	5.7	X014-31-7	10	5.0	X014-31-6	10	4.6	X014-31-6
12-775J	12	6.5	X014-31-7	10	5.7	X014-31-6	10	5.2	X014-31-6
12-865J	12	7.3	X014-31-7	10	6.3	X014-31-6	10	5.8	X014-31-6
12-960J	15	8.1	X014-31-8	12	7.0	X014-31-7	12	6.4	X014-31-7
12-1050J	15	8.8	X014-31-8	12	7.7	X014-31-7	12	7.0	X014-31-7
12-1200J	15	10.1	X014-31-8	15	8.8	X014-31-8	15	8.1	X014-31-8

Three Phase; 100%;TGW Model J

Model #	AC Fuse Values								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
12-1500J	20	12.6	X014-31-10	20	11.0	X014-31-10	20	10.1	X014-31-10
18-380J	10	4.8	X014-31-6	8	4.2	X014-31-4	8	3.8	X014-31-4
18-450J	10	5.7	X014-31-6	8	4.9	X014-31-4	8	4.5	X014-31-4
18-550J	15	6.9	X014-31-8	12	6.0	X014-31-7	12	5.5	X014-31-7
18-600J	15	7.6	X014-31-8	12	6.6	X014-31-7	12	6.0	X014-31-7
18-680J	15	8.6	X014-31-8	12	7.5	X014-31-7	12	6.8	X014-31-7
18-775J	15	9.8	X014-31-8	12	8.5	X014-31-7	12	7.8	X014-31-7
18-865J	20	10.9	X014-31-10	20	9.5	X014-31-10	20	8.7	X014-31-10
18-960J	25	12.1	X014-31-11	20	10.5	X014-31-10	20	9.7	X014-31-10
18-1050J	25	13.2	X014-31-11	20	11.5	X014-31-10	20	10.6	X014-31-10
18-1200J	25	15.1	X014-31-11	20	13.2	X014-31-10	20	12.1	X014-31-10
18-1400J	25	17.6	X014-31-11	20	15.4	X014-31-10	20	14.1	X014-31-10
18-1500J	25	18.9	X014-31-11	20	16.5	X014-31-10	20	15.1	X014-31-10
24-450J	12	7.6	X014-31-7	12	6.6	X014-31-10	12	6.0	X014-31-7
24-550J	15	9.2	X014-31-8	12	8.1	X014-31-7	12	7.4	X014-31-7

Three Phase; 100%;TGW Model J

Model #	AC Fuse Values								
	480 Volts			550 Volts			600 Volts		
	Fuse	I AC	P/N	Fuse	I AC	P/N	Fuse	I AC	P/N
24-600J	15	10.1	X014-31-8	12	8.8	X014-31-7	12	8.1	X014-31-7
24-680J	20	11.4	X014-31-10	20	10.0	X014-31-10	20	9.1	X014-31-10
24-775J	20	13.0	X014-31-10	20	11.4	X014-31-10	20	10.4	X014-31-10
24-865J	25	14.5	X014-31-11	20	12.7	X014-31-10	20	11.6	X014-31-10
24-960J	25	16.1	X014-31-11	20	14.1	X014-31-10	20	12.9	X014-31-10
24-1050J	25	17.6	X014-31-11	20	15.4	X014-31-10	20	14.1	X014-31-10
36-450J	20	11.3	X014-31-10	20	9.9	X014-31-10	20	9.1	X014-31-10
36-550J	25	13.8	X014-31-11	20	12.1	X014-31-10	20	11.1	X014-31-10
36-600J	25	15.1	X014-31-11	20	13.2	X014-31-10	20	12.1	X014-31-10
36-680J	30	17.1	X014-31-12	25	14.9	X014-31-11	25	13.7	X014-31-11
36-775J	30	19.5	X014-31-12	25	17.0	X014-31-11	25	15.6	X014-31-11

Three Phase; 100%;TGW Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Diode	Sensor	Cable	Contactor
6-380J	76	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
6-450J	90	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
6-550J	110	200	X014-11-9	R507-12-68	X117-9-4	2	X129-62-52

Three Phase; 100%;TGW Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Diode	Sensor	Cable	Contactor
6-600J	120	200	X014-11-9	R507-12-68	X117-9-4	2	X129-62-52
6-680J	136	250	X014-11-16	R507-12-68	X117-9-4	1/0	X129-62-52
6-775J	155	250	X014-11-16	R507-12-68	X117-9-4	1/0	X129-62-52
6-865J	173	300	X014-11-17	R507-12-1	X117-9-4	2/0	X129-62-52
6-960J	192	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
6-1050J	210	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
6-1200J	240	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
12-380J	76	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
12-450J	90	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
12-550J	110	200	X014-11-9	R507-12-68	X117-9-4	2	X129-62-52
12-600J	120	200	X014-11-9	R507-12-68	X117-9-4	2	X129-62-52
12-680J	136	250	X014-11-16	R507-12-68	X117-9-4	1/0	X129-62-52
12-775J	155	250	X014-11-16	R507-12-68	X117-9-4	1/0	X129-62-52
12-865J	173	250	X014-11-16	R507-12-1	X117-9-4	2/0	X129-62-52
12-960J	192	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
12-1050J	210	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52

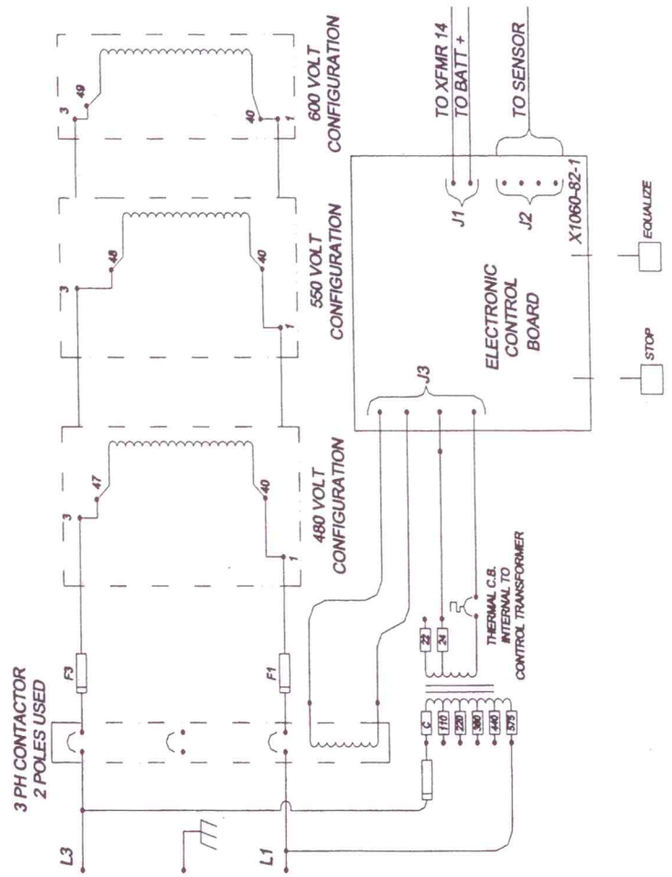
Three Phase; 100%;TGW Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Diode	Sensor	Cable	Contactor
12-1200J	240	400	X014-11-14	R507-12-2	X117-9-6	2/0	X129-62-52
12-1500J	300	400	X014-11-14	R507-12-2	X117-9-6	3/0	X129-62-52
18-380J	76	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
18-450J	90	150	X014-11-3	R507-12-68	X117-9-3	2	X129-62-52
18-550J	110	200	X014-11-9	R507-12-68	X117-9-4	2	X129-62-52
18-600J	120	200	X014-11-9	R507-12-68	X117-9-4	2	X129-62-52
18-680J	136	250	X014-11-16	R507-12-68	X117-9-4	1/0	X129-62-52
18-775J	155	250	X014-11-16	R507-12-68	X117-9-4	1/0	X129-62-52
18-865J	173	250	X014-11-16	R507-12-1	X117-9-4	2/0	X129-62-52
18-960J	192	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
18-1050J	210	300	X014-11-17	R507-12-2	X117-9-6	2/0	X129-62-52
18-1200J	240	400	X014-11-14	R507-12-2	X117-9-6	2/0	X129-62-52
18-1400J	280	400	X014-11-14	R507-12-2	X117-9-6	3/0	X129-62-52
18-1500J	300	400	X014-11-14	R507-12-2	X117-9-6	3/0	X129-62-52
24-450J	90	150	X014-11-3	R507-12-68A	X117-9-3	2	X129-62-52
24-550J	110	200	X014-11-9	R507-12-68A	X117-9-4	2	X129-62-52

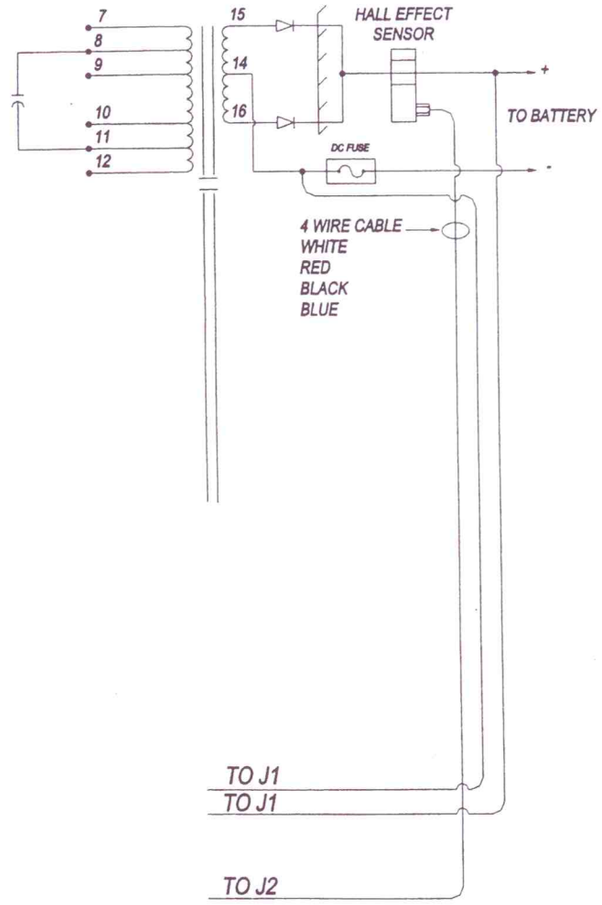
Three Phase; 100%;TGW Model J

Model #	DC Rating	DC Fuse	Fuse P/N	Diode	Sensor	Cable	Contactor
24-600J	120	200	X014-11-9	R507-12-68A	X117-9-4	2	X129-62-52
24-680J	136	250	X014-11-16	R507-12-1A	X117-9-4	1/0	X129-62-52
24-775J	155	250	X014-11-16	R507-12-1A	X117-9-4	1/0	X129-62-52
24-865J	173	300	X014-11-17	R507-12-1A	X117-9-4	2/0	X129-62-52
24-960J	192	300	X014-11-17	R507-12-2A	X117-9-6	2/0	X129-62-52
24-1050J	210	300	X014-11-17	R507-12-2A	X117-9-6	2/0	X129-62-52
36-450J	90	150	X014-35-1	R507-12-68A	X117-9-3	2	X129-62-52
36-550J	110	200	X014-35-2	R507-12-68A	X117-9-4	2	X129-62-52
36-600J	120	200	X014-35-2	R507-12-68A	X117-9-4	2	X129-62-52
36-680J	136	250	X014-35-3	R507-12-1A	X117-9-4	1/0	X129-62-52
36-775J	155	250	X014-35-3	R507-12-1A	X117-9-4	1/0	X129-62-52

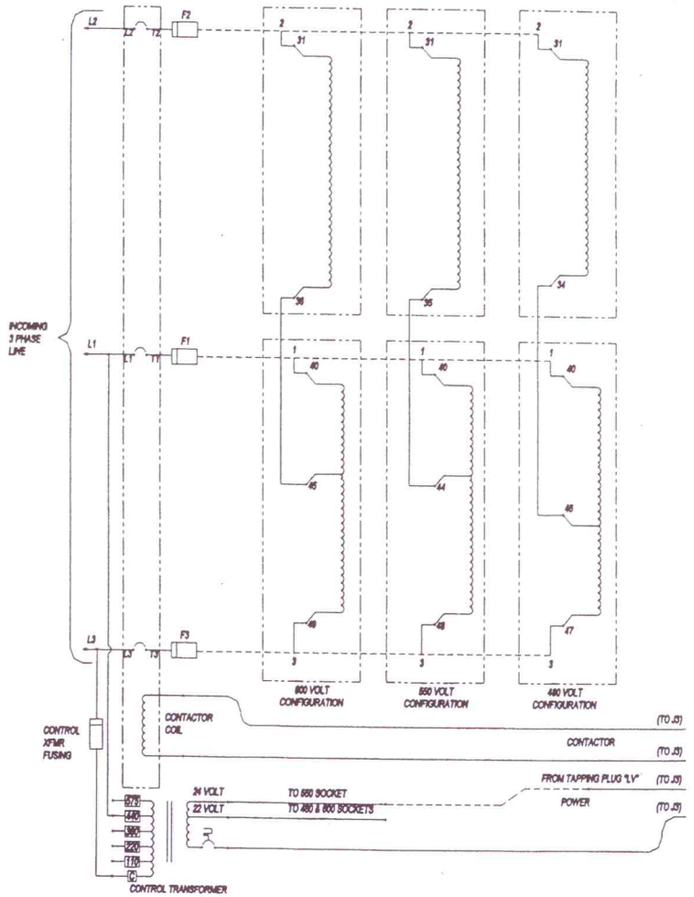
Single Phase Schematic Diagram (SGN/SGW)



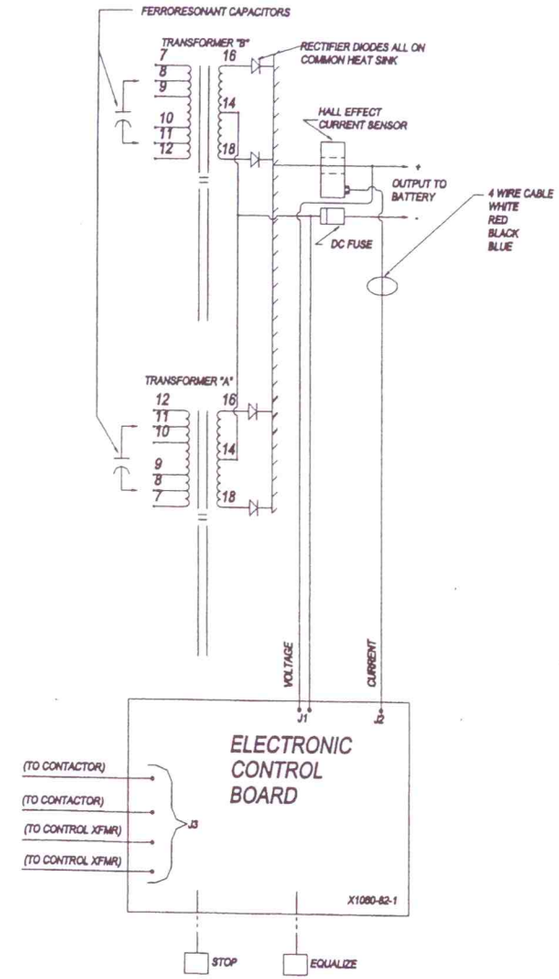
Single Phase Schematic Diagram (SGN/SGW)



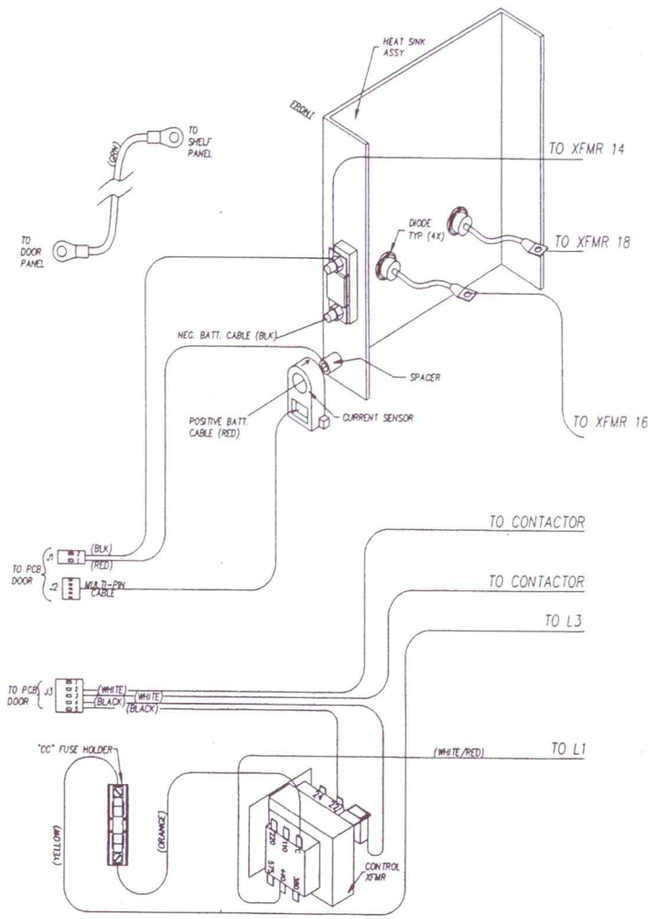
Three Phase Schematic Diagram (TGN/TGW)



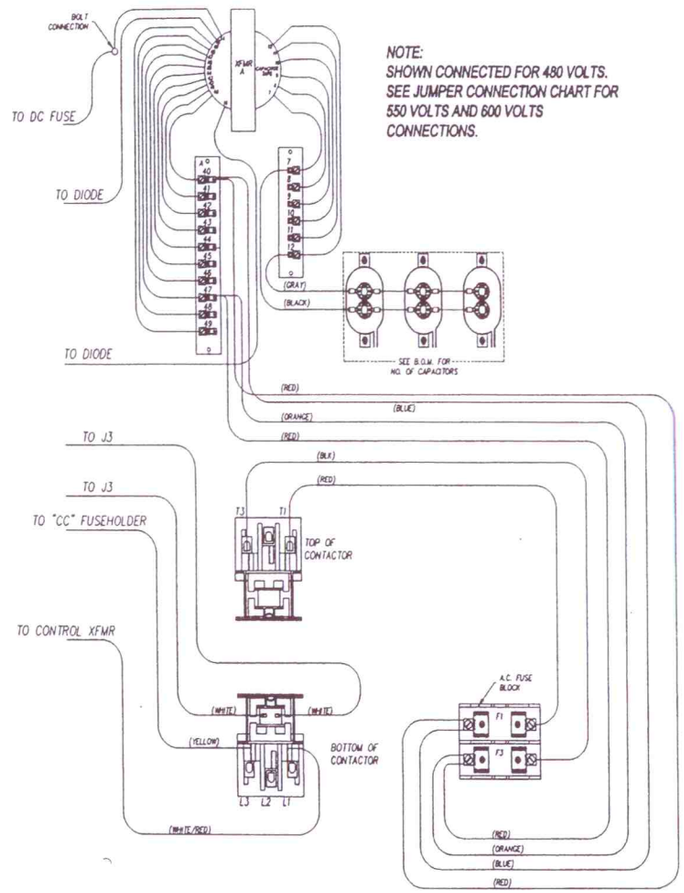
Three Phase Schematic Drawing (TGN/TGW)



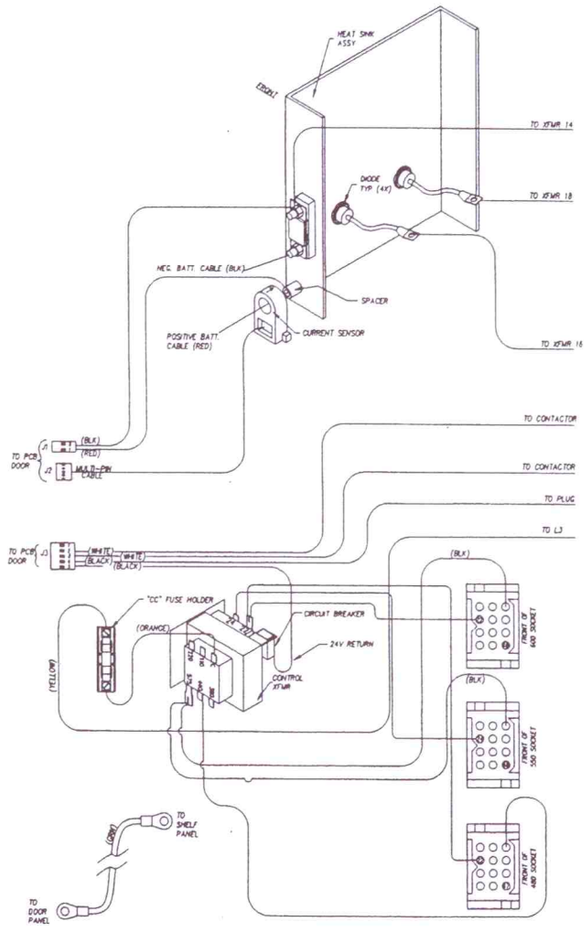
Single Phase Wiring Drawing (SGN) Model J



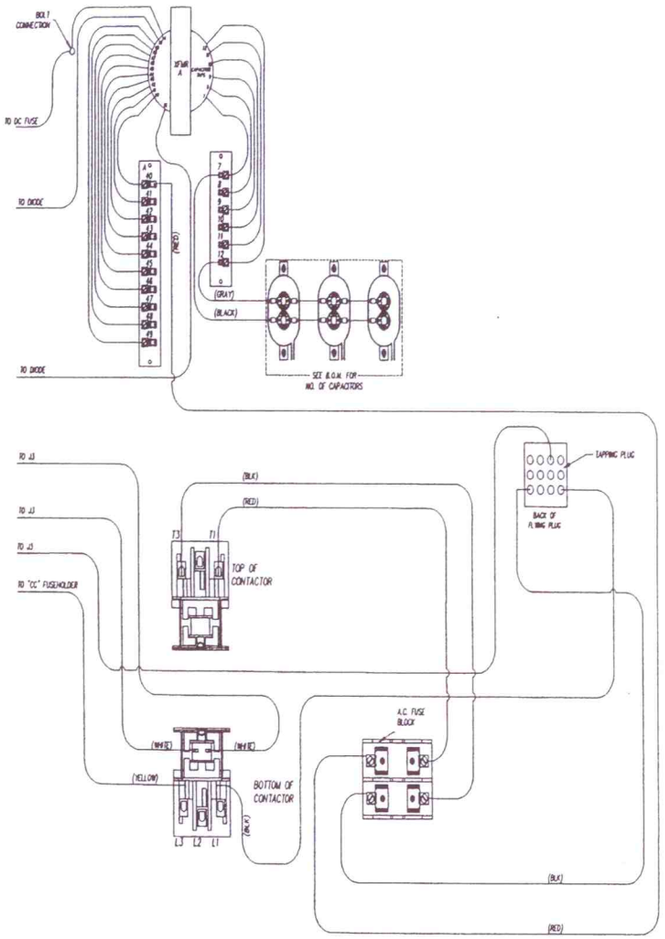
Single Phase Wiring Drawing (SGN) Model J



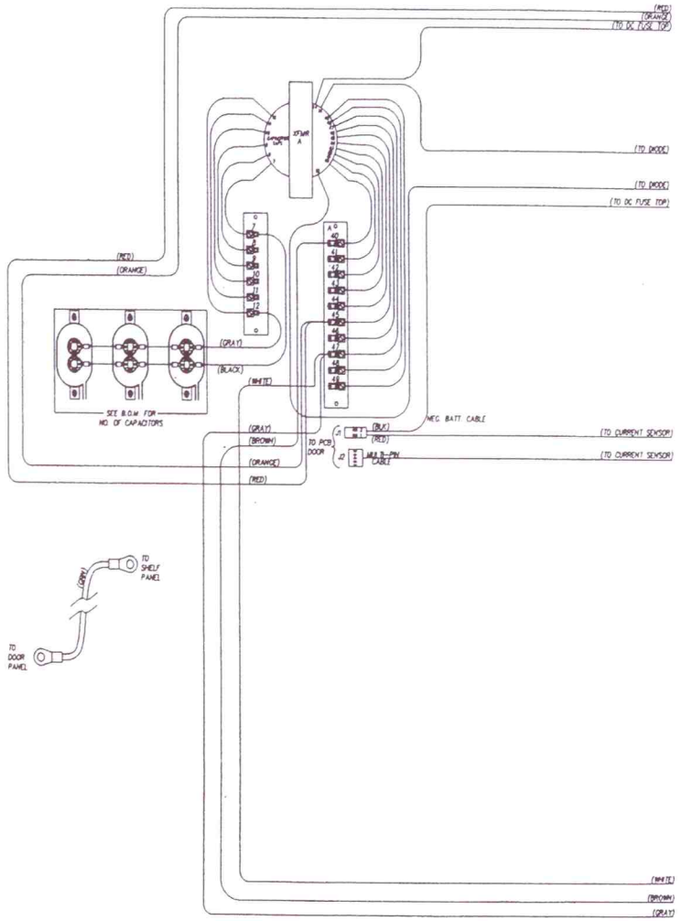
Single Phase Wiring Drawing (SGW) Model J



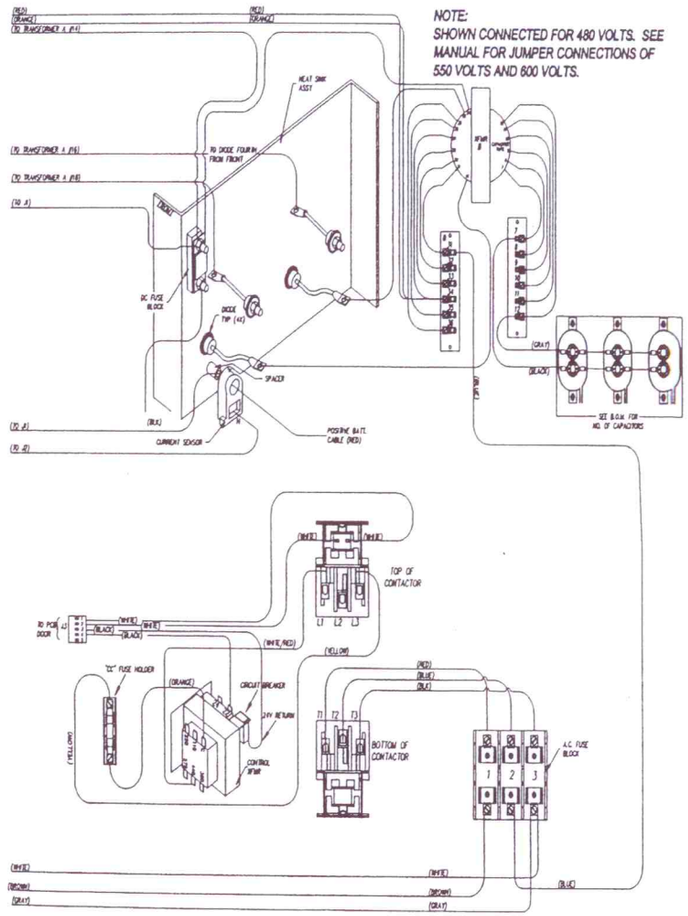
Single Phase Wiring Drawing (SGW) Model J



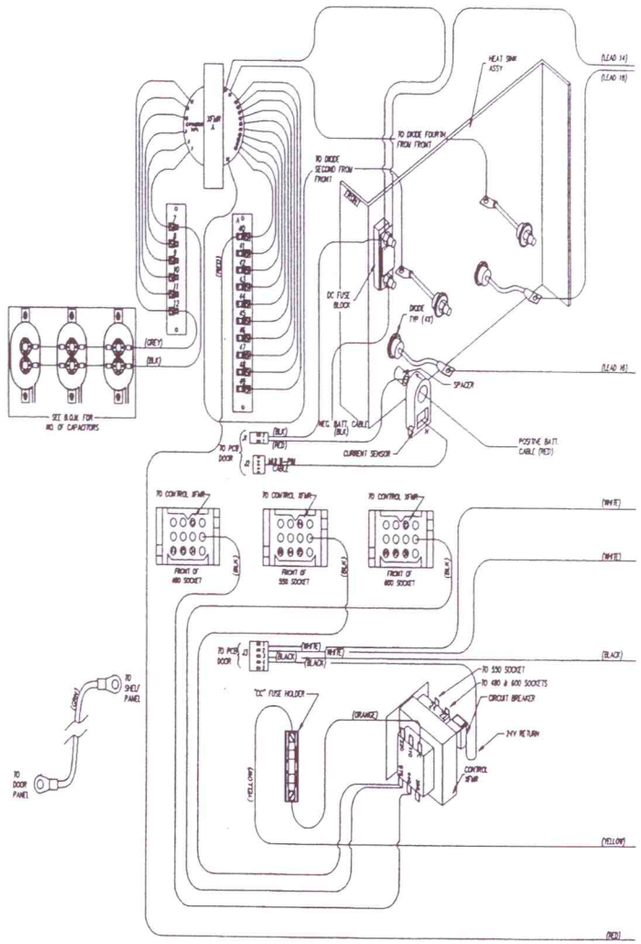
Three Phase Wiring Drawing (TGN) Model J



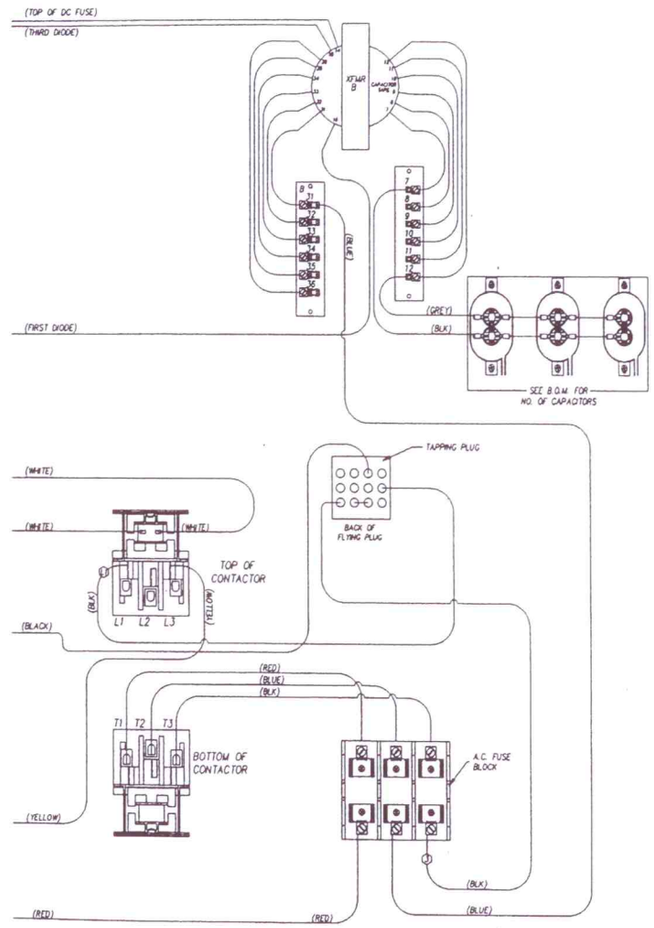
Three Phase Wiring Drawing (TGN) Model J



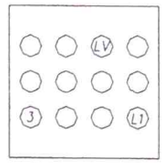
Three Phase Wiring Drawing (TGW) Model J



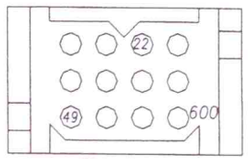
Three Phase Wiring Drawing (TGW) Model J



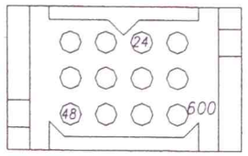
Single Phase (SGW) Plug & Sockets, Detailed



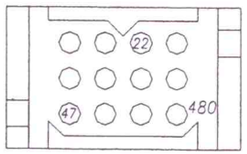
BACK OF
FLYING PLUG



FRONT OF
600 SOCKET

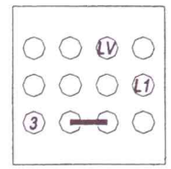


FRONT OF
550 SOCKET

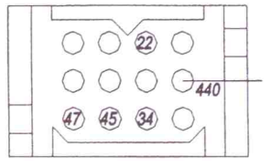


FRONT OF
480 SOCKET

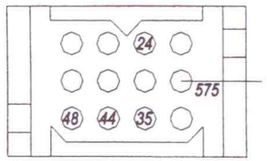
Three Phase (TGW) Plug & Sockets, Detailed



BACK OF
FLYING PLUG



FRONT OF
480



FRONT OF
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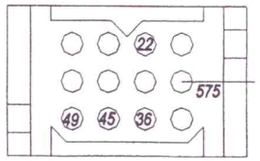

FRONT OF
600

Maintenance

1. Installation

Model:	S/N:	AC Input Voltage:
Date:	Installed by:	

2. Modifications to Factory Settings

Date	Variable	Change	Service Technician

3. Service

Date	Description	Service Technician

ADDENDUM TO PARTS LIST P. 21
TDR-080-98

X127-62-2 is the correct part number for the control transformer.