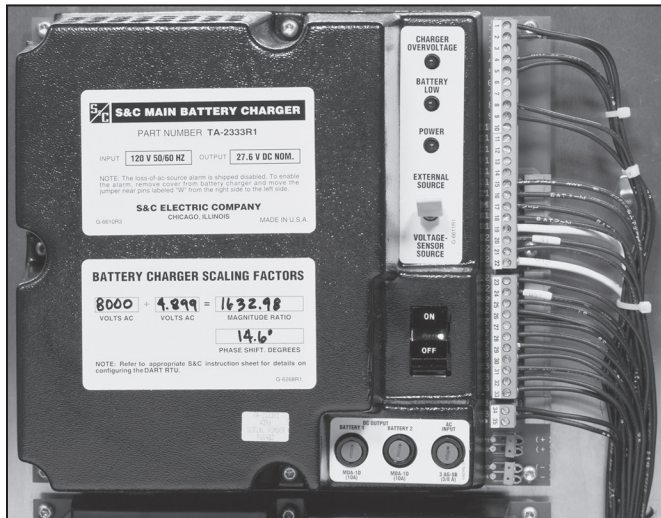


Component Replacement in Self-Powered Communication and Control Units

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The S&C Battery Charger.



The S&C Switch Control.



Qualified Persons

WARNING

The equipment covered by this publication must be installed, operated, and maintained by qualified persons who are knowledgeable in the installation, operation, and maintenance of overhead electric power distribution equipment along with the associated hazards. A qualified person is one who is trained and competent in:

- The skills and techniques necessary to distinguish exposed live parts from nonlive parts of electrical equipment
- The skills and techniques necessary to determine the proper approach distances corresponding to the voltages to which the qualified person will be exposed
- The proper use of the special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools for working on or near exposed energized parts of electrical equipment

These instructions are intended only for such qualified persons. They are not intended to be a substitute for adequate training and experience in safety procedures for this type of equipment.

Read this Instruction Sheet

NOTICE

Read this instruction sheet thoroughly and carefully before installing or operating the communication and control unit. Become familiar with the Safety Information and Safety Precautions on pages 3 through 5. The latest version of this publication is available online in PDF format at sandc.com/en/support/product-literature/.

Retain this Instruction Sheet

This instruction sheet is a permanent part of the Scada-Mate Switching System communication and control unit. Designate a location where users can easily retrieve and refer to this publication.

Proper Application

WARNING

The equipment in this publication must be selected for a specific application. The application must be within the ratings furnished for the selected equipment.

Warranty

The warranty and/or obligations described in S&C's Price Sheet 150, "Standard Conditions of Sale—Immediate Purchasers in the United States," (or Price Sheet 153, "Standard Conditions of Sale—Immediate Purchasers Outside the United States"), plus any special warranty provisions, as set forth in the applicable product-line specification bulletin, are exclusive. The remedies provided in the former for breach of these warranties shall constitute the immediate purchaser's or end user's exclusive remedy and a fulfillment of the seller's entire liability. In no event shall the seller's liability to the immediate purchaser or end user exceed the price of the specific product that gives rise to the immediate purchaser's or end user's claim. All other warranties, whether express or implied or arising by operation of law, course of dealing, usage of trade or otherwise, are excluded. The only warranties are those stated in Price Sheet 150 (or Price Sheet 153), and THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY EXPRESS WARRANTY OR OTHER OBLIGATION PROVIDED IN PRICE SHEET 150 (OR PRICE SHEET 153) IS GRANTED ONLY TO THE IMMEDIATE PURCHASER AND END USER, AS DEFINED THEREIN. OTHER THAN AN END USER, NO REMOTE PURCHASER MAY RELY ON ANY AFFIRMATION OF FACT OR PROMISE THAT RELATES TO THE GOODS DESCRIBED HEREIN, ANY DESCRIPTION THAT RELATES TO THE GOODS, OR ANY REMEDIAL PROMISE INCLUDED IN PRICE SHEET 150 (OR PRICE SHEET 153).

Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet and on labels attached to the Scada-Mate Switching System communication and control unit. Become familiar with these types of messages and the importance of these various signal words:

⚠ DANGER

“DANGER” identifies the most serious and immediate hazards that will likely result in serious personal injury or death if instructions, including recommended precautions, are not followed.

⚠ WARNING

“WARNING” identifies hazards or unsafe practices that can result in serious personal injury or death if instructions, including recommended precautions, are not followed.

⚠ CAUTION

“CAUTION” identifies hazards or unsafe practices that can result in minor personal injury if instructions, including recommended precautions, are not followed.

NOTICE

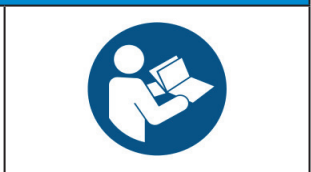
“NOTICE” identifies important procedures or requirements that can result in product or property damage if instructions are not followed.

Following Safety Instructions

If any portion of this instruction sheet is unclear and assistance is needed, contact the nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C’s website sandc.com, or call the S&C Global Support and Monitoring Center at 1-888-762-1100.

NOTICE

Read this instruction sheet thoroughly and carefully before installing or operating a Scada-Mate Switching System communication and control unit.



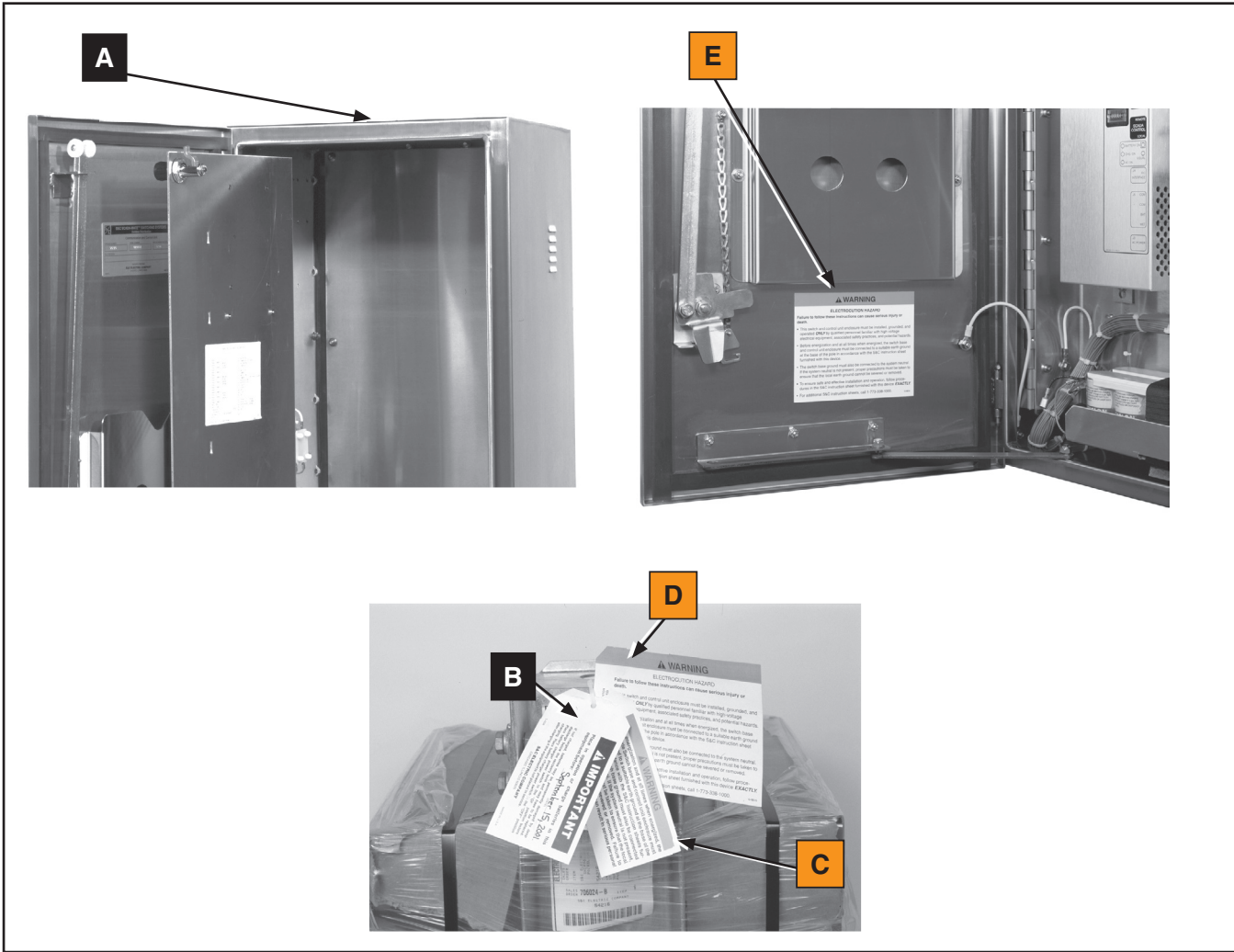
Replacement Instructions and Labels

If additional copies of this instruction sheet are required, contact the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

It is important that any missing, damaged, or faded labels on the equipment be replaced immediately. Replacement labels are available by contacting the nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

Safety Information

Location of Safety Labels and Tags



Reorder Information for Safety Labels

Location	Safety Alert Message	Description	Part Number
A	⚠ IMPORTANT	Place in operation or charge batteries in this equipment . . .	G-6227●
B	⚠ IMPORTANT	Place in operation or charge batteries in this equipment . . .	G-6226●
C	⚠ WARNING	Electrical Shock—Before energization and at all times when energized . . .	G-6289●
D	⚠ WARNING	Electrocution Hazard—Failure to follow these instructions can cause serious injury or death . . .	G-6815●
E	⚠ WARNING	Electrocution Hazard—Failure to follow these instructions can cause serious injury or death . . .	G-6814

● This tag is to be removed and discarded after the control unit is installed and adjusted.

⚠ DANGER



Scada-Mate Switching Systems contain high voltage. Failure to observe the precautions below will result in serious personal injury or death.

Some of these precautions may differ from your company's operating procedures and rules. Where a discrepancy exists, follow your company's operating procedures and rules.

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. QUALIFIED PERSONS. Access to switches and controls must be restricted only to qualified persons. See the "Qualified Persons" section on page 2. 2. SAFETY PROCEDURES. Always follow safe operating procedures and rules. 3. PERSONAL PROTECTIVE EQUIPMENT. Always use suitable protective equipment, such as rubber gloves, rubber mats, hard hats, safety glasses, arc-flash clothing, and fall protection, in accordance with safe operating procedures and rules. 4. SAFETY LABELS. Do not remove or obscure any of the "DANGER," "WARNING," "CAUTION," or "NOTICE" labels and tags. Remove tags ONLY if instructed to do so. 5. OPERATING MECHANISM AND BASE. The stored-energy operating mechanism and switch base contain fast-moving parts that can severely injure fingers. Do not remove or disassemble the operating mechanism or remove access panel on the switch base unless directed to do so by S&C Electric Company. 6. ENERGIZED COMPONENTS. Always consider all parts live until de-energized, tested, and grounded. | <ol style="list-style-type: none"> 7. GROUNDING. Before energization and at all times when energized, the switch base and control unit enclosure must be connected to suitable earth ground at the pole base in accordance with the S&C instruction sheet furnished with this device.

The switch base ground must also be connected to the system neutral. If the system neutral is not present, proper precautions must be taken to ensure the local earth ground cannot be severed or removed. 9. LOAD-INTERRUPTER SWITCH POSITION. Always confirm the Open/Close position of load-interrupter switches by visually observing the indicator.

Interrupters and terminal pads may be energized from either terminal.

Interrupters and terminal pads may be energized with the interrupters in any position. 12. MAINTAINING PROPER CLEARANCE. Always maintain proper clearance from energized components. |
|--|---|

Shipping and Handling

Packing

The replacement kit will be packaged and crated appropriately to avoid damage during shipment. It will include either a replacement battery charger or a replacement switch control and the associated hardware.

Inspection

Examine the shipment for external evidence of damage as soon after receipt as possible and preferably before removal from the carrier's vehicle. Check the bill of lading to make sure all listed shipping skids, crates, and containers are present.

If there is visible loss and/or damage:

STEP 1. Notify the delivering carrier immediately.

STEP 2. Ask for a carrier inspection.

STEP 3. Note condition of shipment on all copies of the delivery receipt.

STEP 4. File a claim with the carrier.

If concealed damage is discovered:

STEP 1. Notify the delivering carrier within 15 days of receipt of shipment.

STEP 2. Ask for a carrier inspection.

STEP 3. File a claim with the carrier.

Also, notify S&C Electric Company in all instances of loss and/or damage.

Component Replacement Procedure

These instructions are for replacing components in the communication and control unit when replacement is indicated in the troubleshooting guide.

When replacing a component, precautions should be taken to prevent static charges, which can damage not only the existing component but the replacement item as well.

Although replacement items are furnished in static-shielded bags, the use of a static-dissipative work surface, such as the 3M 8501 Portable Static-Dissipative Field Service Kit (available from S&C as catalog number 9931-218), is highly recommended.

This kit includes a static-dissipative work mat and a ground cord assembly with a wrist strap for connecting the mat and the person changing the item to the same ground point. See Figure 1.

Tool required:

- T-20 Torx Driver for Torx screws

Complete the following steps to replace components in the communication and control unit:

STEP 1. Place the POWER switch on the battery charger in the **Off** position. See Figure 2.

STEP 2. If a remote terminal unit is included, disconnect the control power. See Figure 3.

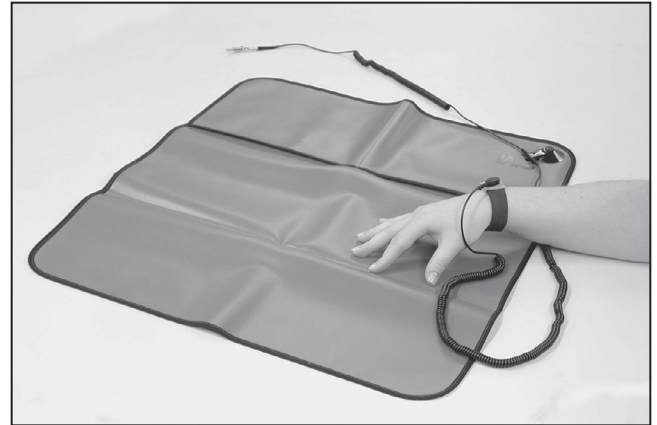


Figure 1. The portable static dissipative field service kit, catalog number 9931-218.

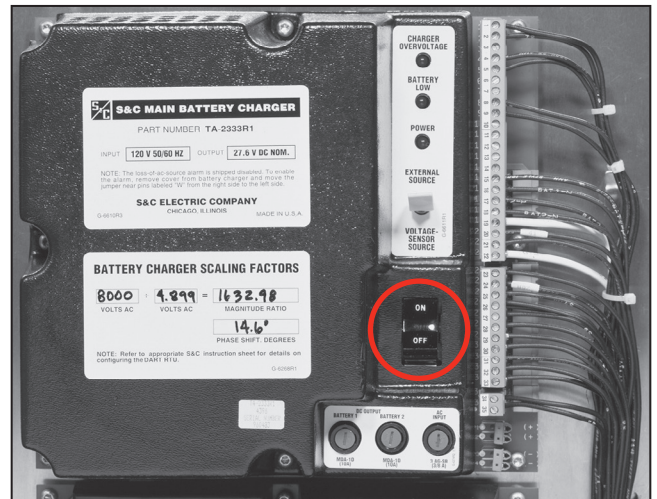


Figure 2. The battery charger POWER switch.

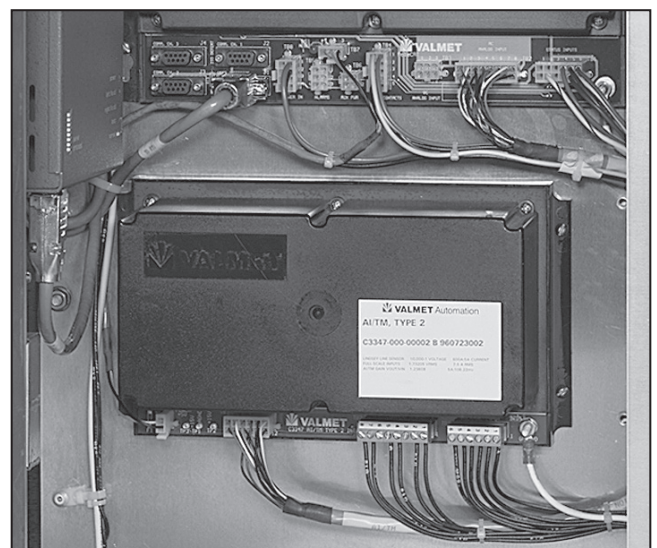


Figure 3. The remote terminal unit.

Replacement

STEP 3. If the communication and control unit is not installed close to the ground, use of the static-dissipative work mat may not be practical.

If the communication and control unit is installed close to the ground or has been taken indoors, open the static-dissipative work mat in front of the communication and control unit. Attach the ground cord assembly onto the work mat with the large black snap. See Figure 4.

STEP 4. Attach the alligator clip on the shorter of the two wire leads of the ground cord assembly to the ground stud on the communication and control unit enclosure. See Figure 5.

STEP 5. Slip on the elastic wrist strap and attach the band so it fits snugly but comfortably. Attach the longer of the two wire leads of the ground cord assembly to the wristband with the small plastic snap. See Figure 6.

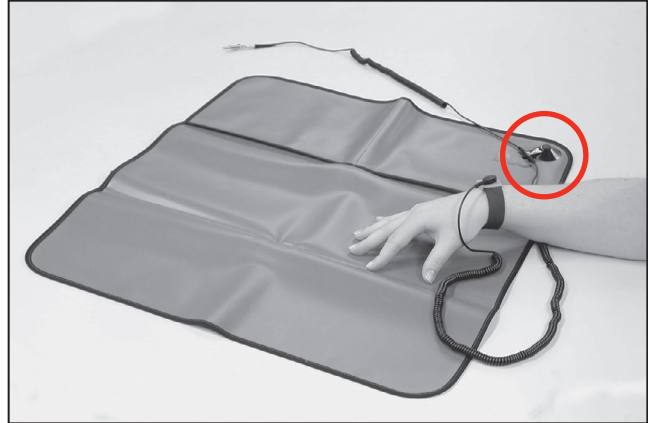


Figure 4. Attach the ground cord assembly to the work mat.

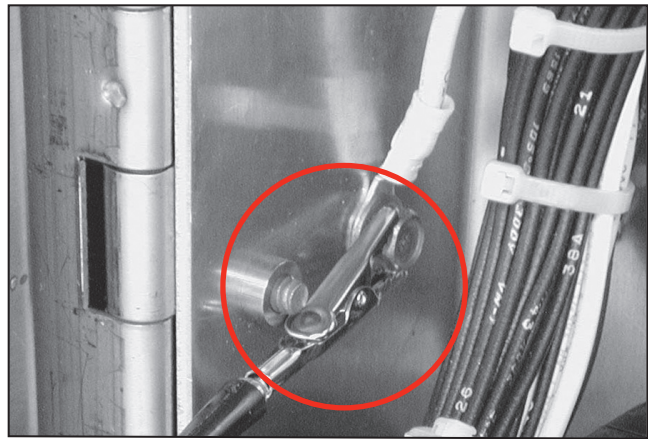


Figure 5. Attach the alligator clip.

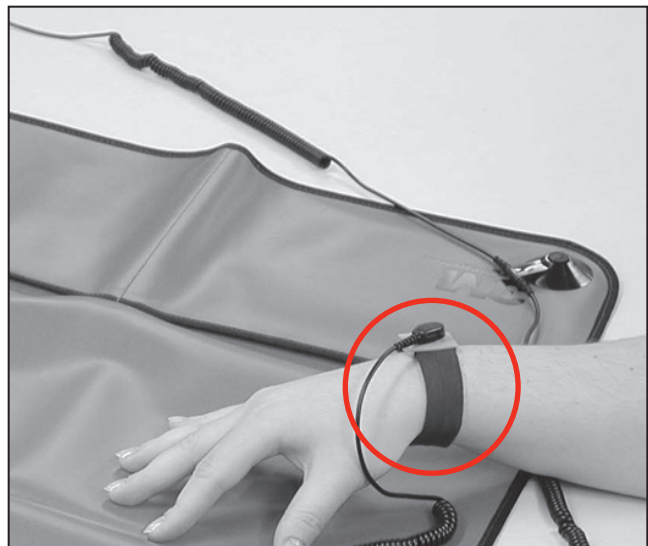


Figure 6. Attach the wire leads to the wristband by means of the snap.

Replacing the Battery Charger

Use the following procedure to replace the battery charger. See Figure 7.

STEP 6. When a 120-Vac control power source is used, de-energize the source. Then, carefully remove the two-pin terminal strip from the battery charger board if applicable. See Figure 8.

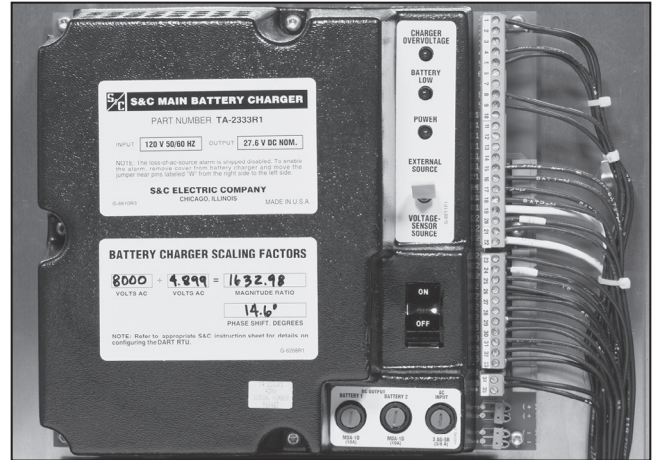


Figure 7. The battery charger.

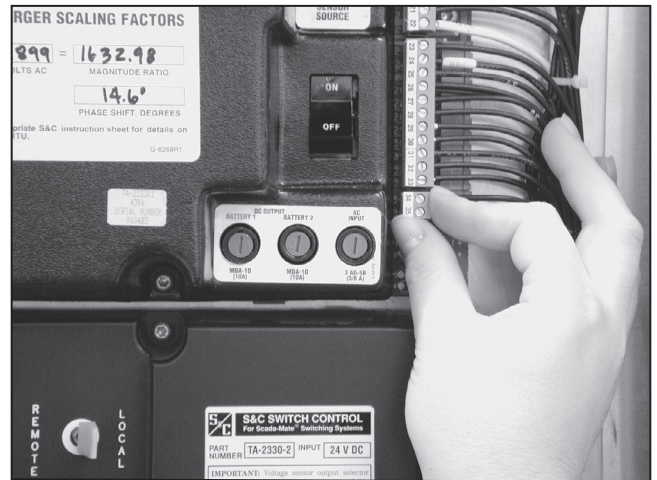


Figure 8. Remove the two-pin terminal strip.

Replacement

- STEP 7.** Carefully remove the 11-pin and 22-pin terminal strips from the battery charger board. See Figures 9 and 10.
- STEP 8.** Remove the eight T-20 self-tapping stainless steel Torx screws that attach the battery charger to the nylon standoffs. Retain the hardware. See Figure 11.
- STEP 9.** Place the battery charger on the static-dissipative work mat.
- STEP 10.** Remove the replacement battery charger from the static-shielded bag. Attach it to the standoffs using the eight T-20 self-tapping stainless steel Torx screws removed earlier.

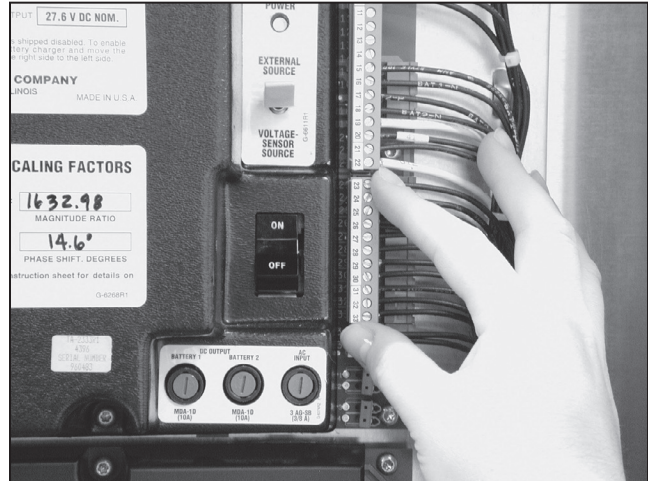


Figure 9. Remove the 11-pin terminal strip.

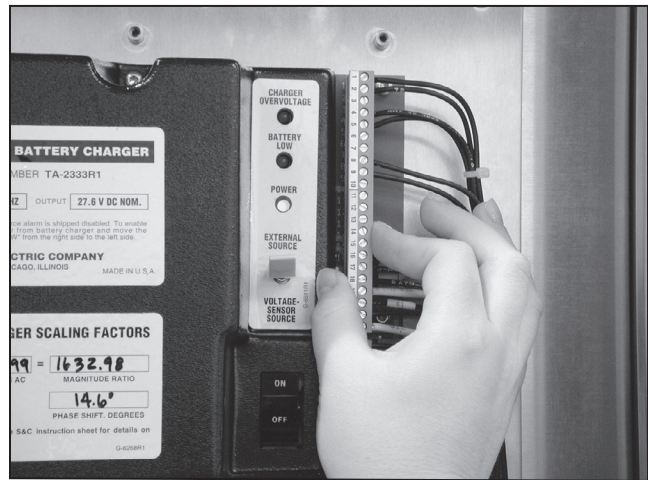


Figure 10. Remove the 22-pin terminal strip.



Figure 11. Remove the screws.

- STEP 11.** Carefully reconnect the 11-pin and 22-pin terminal strips to the battery charger board. Then, if applicable, carefully reconnect the two-pin terminal strip to the battery charger board.
- STEP 12.** Insert the replaced battery charger in the static-shielded bag.
- STEP 13.** Remove the wrist strap and detach the ground cord assembly lead from the ground stud on the communication and control unit enclosure. Then, remove the static-dissipative kit from the work area.



Figure 12. The switch control.

Replacement

Replacing the Switch Control

See Figure 12 on page 11 and follow this procedure:

STEP 14. Carefully remove the five-pin, 12-pin, and 18-pin terminal strips from the switch control board. See Figures 13, 14, and 15.

Note: There may be two five-pin terminal straps, one on each side. Both will need to be removed.

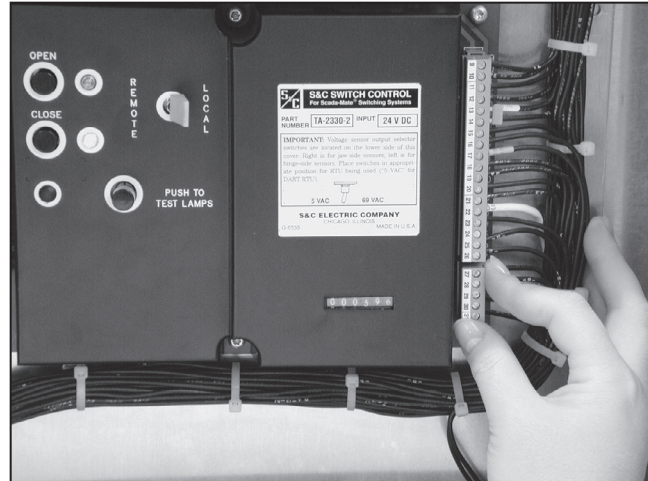


Figure 13. Remove the five-pin terminal strip.



Figure 14. Remove the 12-pin terminal strip.



Figure 15. Remove the 18-pin terminal strip

- STEP 15.** Remove the six T-20 self-tapping stainless steel Torx screws that attach the switch control to the nylon standoffs. Retain the hardware. See Figure 16.
- STEP 16.** Place the switch control on the static-dissipative work mat.
- STEP 17.** Remove the replacement switch control from its static-shielded bag. Attach it to the standoffs using the six T-20 self-tapping stainless steel Torx screws removed earlier.
- STEP 18.** Carefully reconnect the five-pin, 12-pin, and 18-pin terminal strips to the switch control board.
- STEP 19.** Insert the replaced switch control in the static-shielded bag.
- STEP 20.** Remove the wrist strap and detach the ground cord assembly lead from the ground stud on the communications and control unit enclosure. Then, remove the static-dissipative kit from the work area.

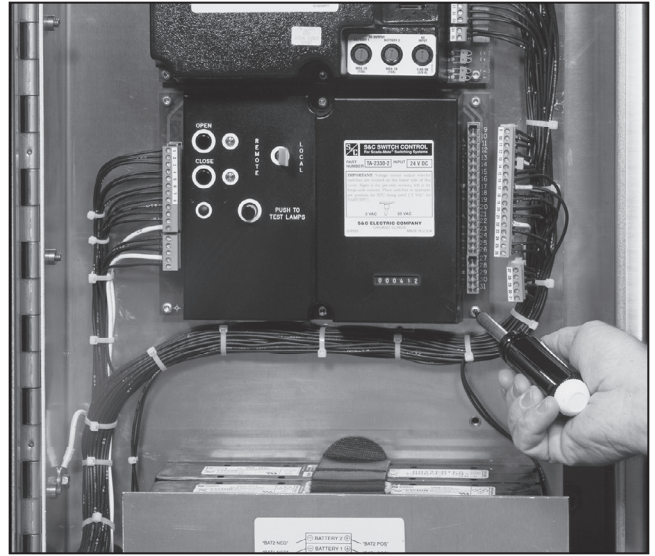


Figure 16. Remove the Torx screws.

Repair Service

Follow these steps to obtain repair service for a replaced component:

- STEP 1.** Issue a purchase order indicating the appropriate return ship-to address.
- STEP 2.** Obtain from the nearest S&C Sales Office a Return Material Authorization (RMA) number to place on the carton in which the component is returned.
- STEP 3.** Pack the component (still inside the static-shielded bag) carefully—enclosing a packing slip indicating the purchase order number along with a short note describing the problem.
- STEP 4.** Ship the component, transportation charges prepaid, to S&C Electric Company, Repair Center. For product returns, contact the local S&C representative for proper RMA documentation.

If the component is no longer under warranty, S&C will inspect it and determine whether it is repairable. If it is deemed repairable, S&C will repair it and ship it back, transportation charges prepaid, within 10 working days.

If it is deemed non-repairable, the customer will be so notified and the device will either be returned as is, transportation charges prepaid, or it will be disposed of in accordance with the customer's directive.