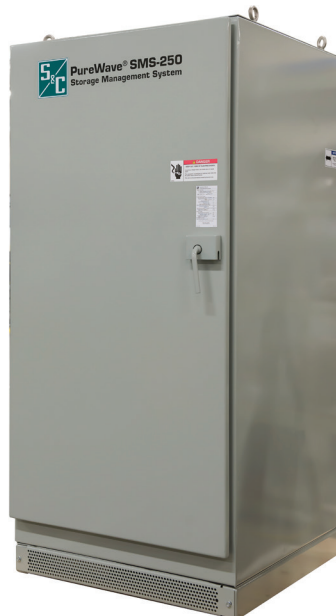


Installation

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Introduction

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 energy storage 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 and arc flash levels 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 before operating and maintaining the PureWave SMS-250 Storage Management System. Familiarize yourself with the Safety Information and Safety Precautions on pages 3 through 7. The latest version of this instruction sheet is available online in a PDF format at sandc.com/en/support/product-literature/.

Retain this Instruction Sheet

This instruction sheet is a permanent part of your power conversion system (PCS). It does not include instruction sheets from the original battery manufacturer. Instruction sheets such as this one can be placed inside a compartment in the PCS enclosure, where they can be easily retrieved for future use.

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 equipment. Failure to do so can result in damage to equipment.

Warranty

The warranty and/or obligations described in S&C's standard conditions of sale, as set forth in Price Sheet 150, 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 all seller's 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, 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 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.

Warranty Qualifications

The seller's warranties are contingent upon the installation and adjustment of the S&C PureWave SMS-250 Storage Management System in accordance with S&C's applicable instruction sheets, data sheets, and/or data bulletins.

Important Safety Instructions

Understanding Safety-Alert Messages

SAVE THESE INSTRUCTIONS

This manual contains important instructions for the PureWave® SMS-250 Storage Management System that shall be followed during installation and maintenance of the SMS-250.

Several types of safety-alert messages may appear throughout this instruction sheet and on labels attached to the PCS. Familiarize yourself with these types of messages and the importance of these various signal words:

⚠ DANGER
“DANGER” identifies the most serious and immediate hazards that <i>will likely</i> 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 <i>can</i> 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 you do not understand any portion of this instruction sheet and need assistance, contact your nearest S&C Sales Office or S&C Authorized Distributor. Their telephone numbers are listed on S&C’s website sandc.com, or call S&C Headquarters at (773) 338-1000; in Canada, call S&C Electric Canada Ltd. at (416) 249-9171.

NOTICE	
Read this instruction sheet thoroughly and carefully before installing or operating your S&C PureWave SMS-250 Storage Management System.	

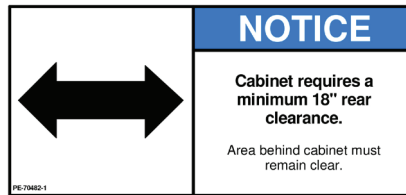
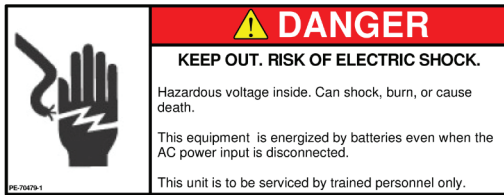
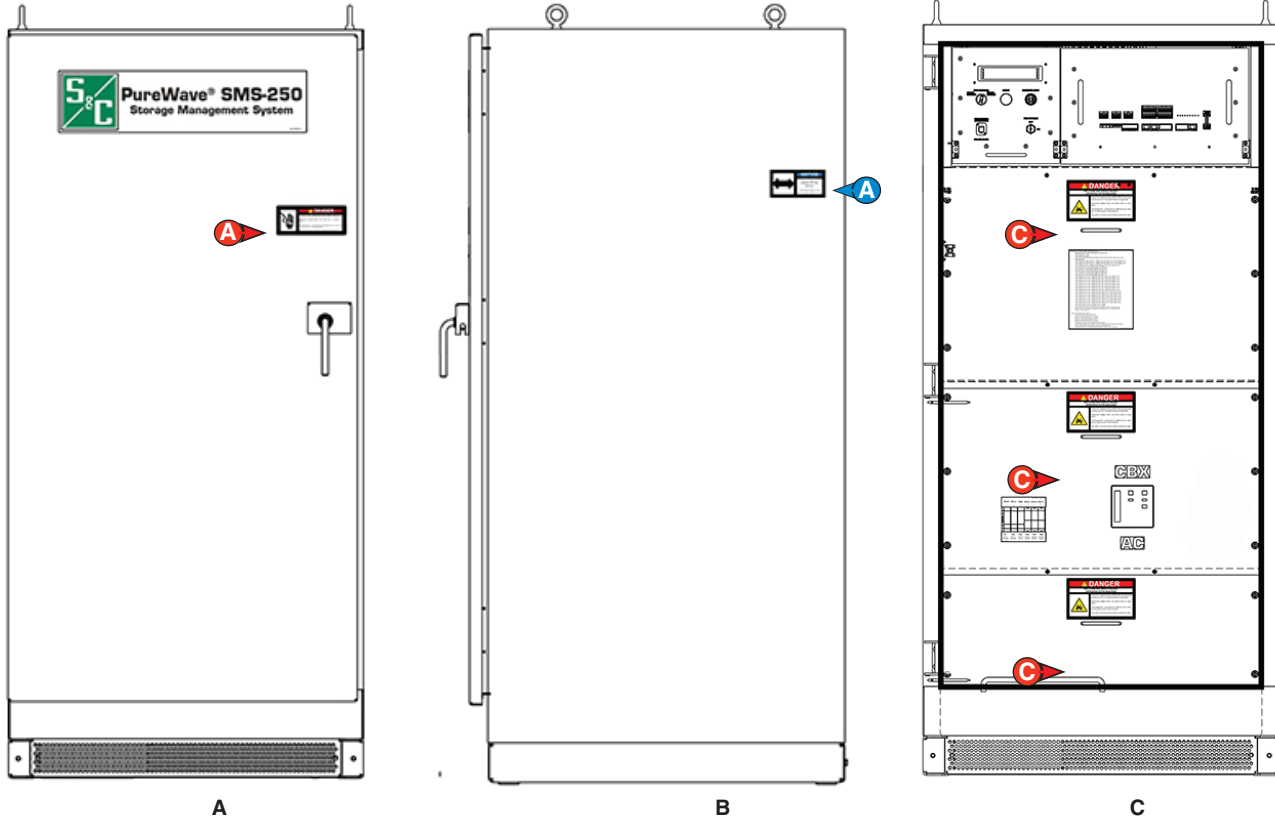
Replacement Instructions and Labels

If you need additional copies of this instruction sheet, contact your 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 your nearest S&C Sales Office, S&C Authorized Distributor, S&C Headquarters, or S&C Electric Canada Ltd.

Safety Information

Location of Safety Labels



Reorder Information for Safety Labels

Location	Safety Alert Message	Description	Part Number
A	DANGER	KEEP OUT. RISK OF ELECTRICAL SHOCK ...	PE-70479-1
B●	NOTICE	REAR CLEARANCE ...	PE-70482-1
C	DANGER	ARC FLASH AND SHOCK ...	PE-70483-1

● Label is on the left and right sides of the PCS enclosure.

Symbols and Terminal Markings

I	The “ I ” symbol represents the power on button. When the button with the “ I ” symbol is pressed, the breaker places the equipment into a fully-powered state.
⊕	Equipment grounding conductor.
○	The “ ○ ” symbol represents the power off button. When the button with the “ ○ ” symbol is pressed, the breaker disconnects the load side from the power source. The ac breaker disconnects the ac output to the load. A dc breaker to disconnect the PureWave SMS-250 from the battery is not included in the equipment and must be considered in the system design.
— —	Direct current, also indicated as dc.
~	Alternating current, also indicated as ac.

Trip Settings

The PCS will trip under the conditions shown in Table 1.

Table 1. Default Trip Settings

Default Limits	Default Limits			Adjustable Range	
	Nominal	Value	Trip Time (Sec.)	Value	Trip Time (Sec.)
<0.5 Vnom	380 V	190 V	0.16	150-370 V	0.1-300
0.5 Vnom ≤ V < 0.88 Vnom	380 V	334 V	2	150-370 V	0.1-300
1.1 Vnom ≤ V < 1.2 Vnom	380 V	418 V	1	390-532 V	0.1-300
1.2 Vnom ≤ V	380 V	456 V	0.16	390-532 V	0.1-300
Frequency, 60 Hz	60 Hz	60 ±1.5 Hz	0.15	60 ±2.5 Hz	0.1-300

NOTICE

Obtain approval from the authority having jurisdiction before adjusting these setpoints. During abnormal voltage or frequency conditions or in response to a detected unintentional islanding, the system will open the ac circuit breaker.

In case of a short circuit on the output of the PCS, the current and duration contribution from the PCS is explained in Table 2.

Table 2. Ac Output Short-Circuit Contribution

Condition	Amps	Duration
Short L1 - L2		
Short-circuit current — initial: amps (rms) and duration of 16.7 ms or 1 cycle	1612.4 A(rms)	16.68 ms
Short-circuit current — maximum: amps (peak) and duration (ms)	2280 A(rms)	16.68 ms
Short-circuit current — breaking: amps (RMS) and duration (ms)	0 Arms	-
Short L1 - L3		
Short-circuit current — initial: amps (rms) and duration of 16.7 ms or 1 cycle;	1110.3 A(rms)	13 ms
Short-circuit current — maximum: amps (peak) and duration (ms)	1570 A(peak)	13 ms
Short-circuit current — breaking: amps (RMS) and duration (ms)	0 A(rms)	-
Short L2 - L3		
Short-circuit current — initial: amps (rms) and duration of 16.7 ms or 1 cycle;	1354.3 A(rms)	16.55 ms
Short-circuit current — maximum: amps (peak) and duration (ms)	1915 A(peak)	16.55 ms
Short-circuit current — breaking: amps (RMS) and duration (ms)	0 A(rms)	-

The PCS is set to trip in the unbalance conditions stated in Table 3.

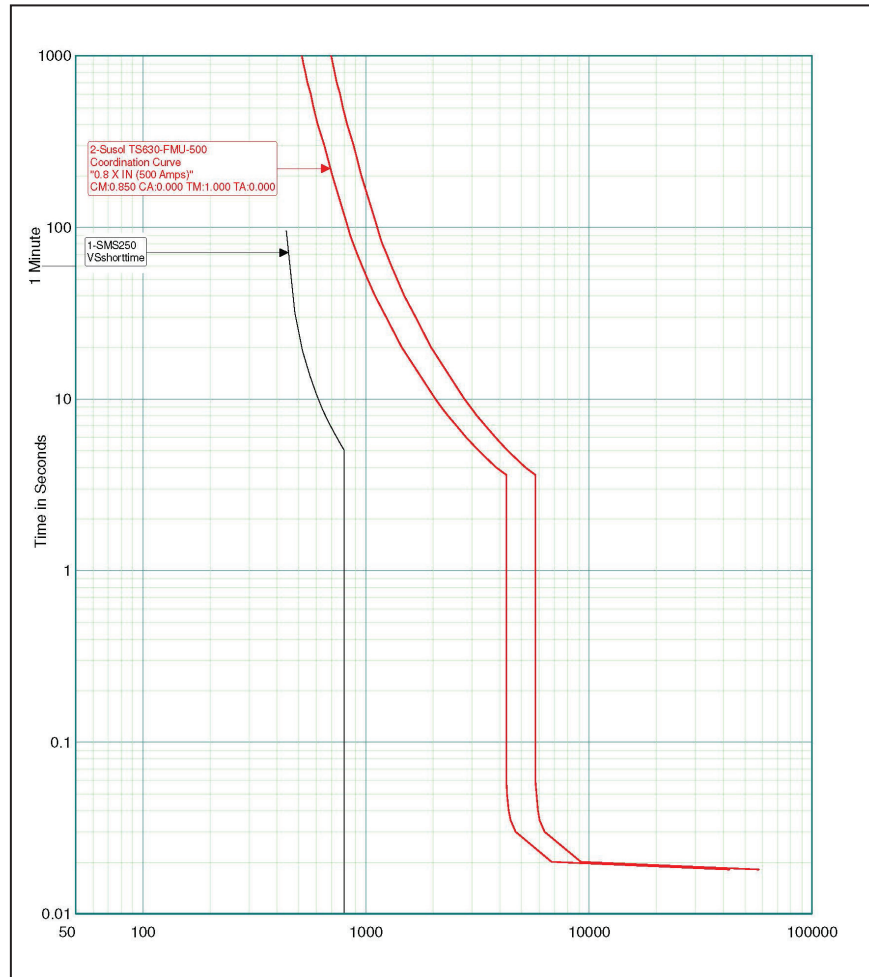
Table 3. Unbalance Conditions

Output Measured (V)	Output Measured (V)	Output Measured (V)	Output Freq (Hz)	Output Power (kW)	Current unbalance (%)
368.6	368.2	367.6	60.01	0	0.14
352.5	351.74	351.86	60	25	0.14
356.44	355.54	355.67	60	45	0.15
358.46	358.43	358.19	60	66	0.02
357	357.27	356.98	59.999	90	0.05
355.93	356.15	355.87	59.999	108	0.04
355.87	355.87	355.73	59.999	138	0.02
357.17	356.9	356.76	59.999	200	0.08
357.89	357.57	357.48	59.999	240	0.08
357.84	358.62	358.37	59.999	285	0.09

Breaker Protection Curves

The power conversion system has a fixed output. The ac breaker is configured at the factory with the following protection curve:

Current in Amperes



⚠ DANGER



The PureWave SMS-250 Storage Management System operates at hazardous 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.

1. **QUALIFIED PERSONS.** Access to the PureWave SMS-250 system must be restricted only to qualified persons. See "Qualified Persons" 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, and flame-retardant clothing, 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.
5. **ENCLOSURE.** Do not open access doors unless the system is offline or otherwise authorized by S&C Electric Company.

Hazardous voltages should also be expected in all interconnecting components and lines.

To maintain safety, the user should use a padlock on the door of the power conversion system (PCS) enclosure. The door and the use of the padlock provide protection against inadvertent contact with hazardous voltages.
8. **GROUNDING.** For grounding purposes, the proceeding must be followed:
 - The PCS base ground bar in the cable-termination area must be connected to a suitable earth ground for testing before energizing the unit and at all times when energized.
 - The overall ground system should be sufficient to limit the ground potential rise (GPR), step voltage, and touch voltage to acceptable limits as determined by the utility's practices and the National Electric Safety Code.
9. **ENERGIZED COMPONENTS.** Always consider all parts live until de-energized, locked open, and tested.
10. **ADDITIONAL CONNECTIONS.** The user should not attempt to connect any additional logic controls or power connections to the PureWave SMS-250 system (beyond the connections shown on the interconnect drawing) without having received written approval from S&C Electric Company.
11. **INSULATED HAND TOOLS.** To use insulated hand tools, the proceeding must be followed:
 - Insulated hand tools are required when working on or around any energized equipment. Use only properly rated tools for the energy present.
 - Tool inventories should be kept to ensure that all tools that enter the system enclosure are removed before energizing the system.
12. **EMERGENCY PROCEDURES AND EQUIPMENT.** For emergency procedures:
 - The owner should develop policies and procedures for handling emergency situations.
 - It is the responsibility of the owner to develop site-specific emergency action plans for response to such situations.
13. **ADDITIONAL SAFETY INSTRUCTIONS.** Consult the battery supplier for additional safety instructions and procedures regarding the battery used for the PureWave SMS-250 system.

Shipping and Handling

Packing

The power conversion system enclosure ships in one piece. See Figures 1 and 2.

NOTICE

The Human Machine Interface (HMI) computer and batteries for the PureWave SMS-250 system are shipped separately.



Figure 1. The power conversion system enclosure.



Figure 2. Internal view of the power conversion system.

Inspection

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

If there is visible loss and/or damage:

1. Notify the delivering carrier immediately.
2. Ask for a carrier inspection.
3. Note the condition of shipment on all copies of the delivery receipt.
4. File a claim with the carrier.

If concealed damaged is discovered:

1. Notify the delivering carrier within 15 days of receipt of shipment.
2. Ask for a carrier inspection.
3. File a claim with the carrier.

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

Handling

NOTICE

The PCS enclosure shall be lifted according to lifting drawing PEA-1610-4-IN and any other project-specific lifting drawings supplied with the PureWave SMS-250 system. Lifting equipment such as spreader bars and hoist sling straps are provided by others.

To avoid damaging the PCS enclosure when placing it at the desired location, observe normal recommended procedures as well as the following general instructions.

⚠ CAUTION

The PCS installer must ensure ALL lifting equipment, beams, slings, chains, spreader bars, and apparatus are properly rated for the identified load. Failure to do so can result in equipment damage and personal injury.

NOTICE

Before lifting the PCS enclosure, make sure all doors are closed and locked. The doors contribute to the structural integrity of the system and, if left opened, increase the risk of damage to the enclosure during lifting.

⚠ WARNING

When handling the PCS enclosure with an overhead hoist, observe standard lifting practices as well as the following general instructions. Failure to follow these procedures can result in serious personal injury and equipment damage.

Shipping and Handling

To lift and place the PureWave SMS-250 PCS, follow these procedures:

- STEP 1.** If spreader bars are used for lifting, make sure the spreader bar(s) are secured.
- STEP 2.** Arrange the hoist slings so the lifting forces are distributed equally. See Figure 3 for an illustration of lifting the PCS enclosure. The equipment must be lifted with a crane or forklift.
- STEP 3.** Avoid sudden starts and stops when lifting.
- STEP 4.** Properly place the PCS on the concrete pad. See Figure 4 for the location of cable entry conduit and mounting bracket installation areas. For further details, refer to drawing PEA-1610-4-IN and the other project-specific lifting drawings supplied with the PureWave SMS-250 system.
- STEP 5.** Remove the sling straps.

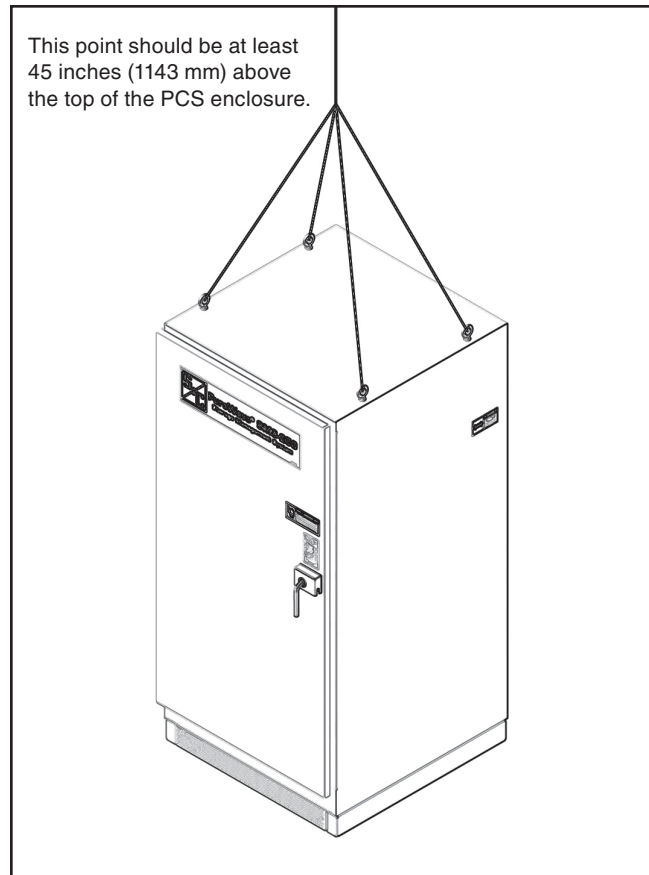


Figure 3. Proper lifting of the power conversion system enclosure.

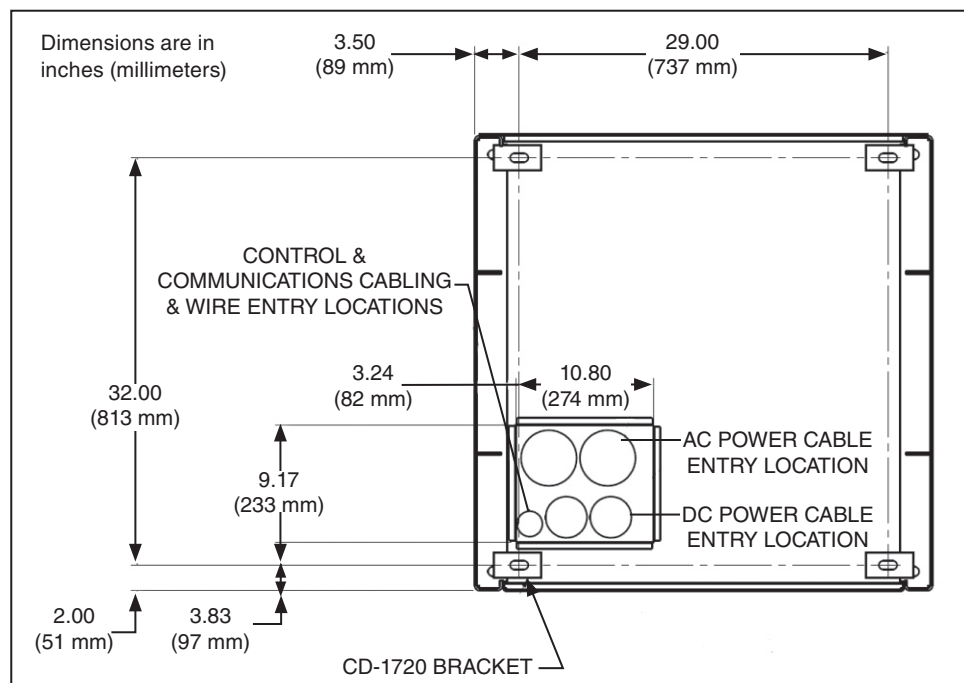


Figure 4. Conduit and bracket measurements for pad-mounting.

System Design

The PureWave SMS-250 Storage Management System can be connected to 380 Vac directly or, using an auto transformer, to 400, 415, or 480 Vac, 3-phase, 50/60 Hz (to match system frequency), 380-Vac delta primary, 265 kVA.

The storage management system consists of a 263-kW/263-kVA power converter housed in a weatherproof enclosure suitable for outdoor or indoor mounting on a concrete or equivalent pad, which can be applied either with or without a 618- to 850-Vdc battery pack, depending on the application-specific requirements. For specific applications that do not require a battery pack, the PureWave SMS-250 assembly will be supplied without the dc EMI filter, and dc bus terminations.

The PureWave SMS-250 system can use a modular design capable of parallel operation to achieve a rating of up to 526 kW/ 526 kVA.

NOTICE
Utility interconnection may require approval from the authority having jurisdiction.

Concrete Pad Specifications

NOTICE
The concrete pad is provided by others.

The concrete pad on which the PCS enclosure will be placed should be sized to accommodate the unit and its external mounting brackets. The pad should be poured with a maximum pitch of 1/2 degree and should have a flatness within 1/8 inch (3.175 mm).

The pad should extend beyond the edge of the enclosure by an adequate amount to prevent the pad from cracking or breaking when the Hilti Kwik Bolt TZ anchor bolts are installed to bolt the PCS enclosure to the pad.

Pad Requirements

General Requirements

The concrete pad contractor shall provide and be responsible for determination and execution of the methods of construction and for all safety precautions taken during construction. Site visits by the structural engineer will not include inspection of the means of construction. All construction shall be in accordance with local code requirements. Please contact S&C Electric Company for recommendations in accordance with equipment requirements.

Pad Dimensions and Mounting Provisions

The concrete pad contractor is responsible for pad design and dimensions. Reference the separately supplied drawing for the footprint dimensions and stub-up locations. Both ac and dc cable boxes are required to be supplied and installed by the installer for the power conductor connection compartment to aid in conductor terminations and connections.

NOTICE
Do not leave non-operating equipment in a high humidity environment. Internal condensation may occur and affect the operation of the unit.
Keep the equipment in a controlled environment until start-up can be completed.
Concrete pad must be fully cured and dry before placing equipment on top

Installation, Assembly, and Setup

Shimming, Grouting, and Caulking the PCS Enclosure

To shim, grout, and caulk the PureWave SMS-250 PCS enclosure, follow these procedures:

- STEP 1.** After placing the PCS enclosure at the desired location, check whether there are any gaps between the enclosure and the concrete pad.
- STEP 2.** If there are gaps, install shims until the enclosure is level.
- STEP 3.** Apply grout at the bottom of the enclosure as necessary to prevent entry of insects or debris into the enclosure. The grout should be recessed sufficiently to permit injecting a bead of caulk between the enclosure base and concrete pad.
- STEP 4.** Apply a bead of caulk (S&C part number 6943- 010, DAP Premium Polyurethane Waterproof Concrete & Masonry Sealant 300 ml Gray) around the outer edge of the bottom flange (where it meets the concrete pad) to provide a seal around the base of the PCS. The purpose of the caulk is to further prevent ingress of insects and debris into the enclosure.

Mounting

- STEP 5.** Anchor the PCS enclosure to the concrete pad. Use $\frac{3}{8}$ -inch (10-mm) diameter \times 2-inch (51-mm) embed Hilti Kwik Bolt TZ anchors for each bracket. The anchor brackets should be located at each corner, as shown in Figure 5. Tighten the bolts again three to five days after the initial installation.

NOTICE

If seismic rating is required, $\frac{3}{8}$ -inch diameter \times 2-inch embed Hilti Kwik Bolt TZ anchors **must** be installed at each mounting bracket location. Failure to do so can result in damage to equipment.

- STEP 6.** After pulling the cables, seal all conduit entrances on the outside with room temperature vulcanization silicone sealant and on the inside with duct seal foam to prevent water from entering the PCS enclosure.

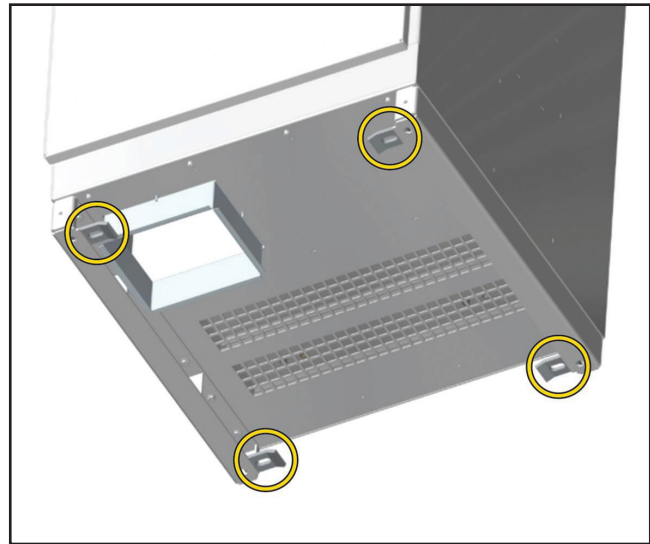


Figure 5. Mounting points.

Cable Terminations

NOTICE

For internal bus and cabling connections, refer to installation drawing PEA-1610-4-IN and any project-specific drawings supplied with the PureWave SMS-250 system. See Figure 6 for the location of the cable-termination area.

Battery Connection

STEP 7. The battery must be supplied with an adequate protection fuse and a disconnect breaker. The battery-protection fuse must be sized correctly for the short-circuit current capacity of the battery. The battery supplier shall include the BATTERY DISCONNECT switch in the battery module.

NOTICE

DC protection must be supplied at the battery branch level in the battery cabinet.

Terminate the dc cables from the separate battery pack (if supplied) to the dc inputs in the cable-termination area. The positive terminal of the battery must connect to the positive terminal on the PureWave SMS-250 system. The negative terminal of the battery must connect to the negative terminal on the PureWave SMS-250 system.

Note that battery voltage is floating from the earth reference. The battery enclosure must be bonded as indicated in the Earth Reference and Bonding section on page 16.

Power Connections

Terminate the ac cables to the line inputs (L1, L2, and L3) in the cable-termination area. The ac output of the SMS-250 (neutral) is not bonded to ground.

The input and output circuits are isolated from the enclosure. System grounding, when required by Sections 690.41, 690.42, and 690.43 of the National Electric Code, ANSI/NFPA 70, or the Canadian Electrical Code Part 1, is the responsibility of the installer.

The SMS-250 is non-isolated; there is no galvanic isolation provided inside the equipment between the dc input and the ac output.

Wiring

Use 75°C (167°F) wire either two each No. 4/0 AWG copper or two each 300-kcmil aluminum wire per terminal or equivalent.

For installations in the U.S., all wiring methods must be in accordance with the National Electrical Code and ANSI/NFPA 70.

For installations in Canada, all wiring methods must be in accordance with the Canadian Electrical Code, Part 1.

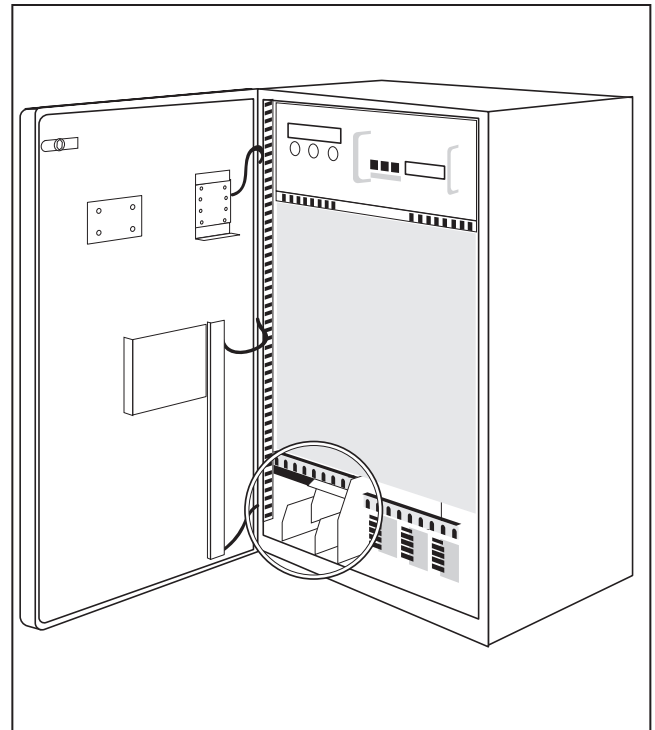


Figure 6. Location of the cable-termination area.

Installation, Assembly, and Setup

Lugs for Battery and Power Connections

Use the following recommended lugs or equivalent:

- Panduit LCA4/0-12-X (COPPER)
- T&B CTL40L-12 (COPPER)

Metering Current Transformers

External metering current transformers (CTs) can be connected at the terminal blocks located on the left side of the cable termination area.

External CTs must be 5A output and the ratio is settable in the HMI. The terminal blocks for the CTs are labeled CT A, CT B, and CT C corresponding to each of the phases.

Earth Reference and Bonding

Earth Reference Requirements

A low-impedance earth reference connection is required for the PureWave SMS-250 equipment. The earth (ground) reference system should be tailored to reflect the characteristics of the site and the requirements of the facility and shall use a grounding interface that meets the needs of the local electric utility's system and that complies with all applicable national and local electrical codes and standards. The PureWave SMS-250 unit uses power converters that switch at frequencies up to 5 kHz. For S&C PureWave SMS-250 equipment and systems rated less than 1000 kVA, the resistance of the PureWave SMS-250 earth reference connection to earth is required to be 25 ohms or less at both the nominal power frequency of 50 or 60 Hz and at the 5-kHz switching frequency of the PureWave SMS-250 power conversion system.

Any associated battery equipment must have its own direct earth reference connection. It is not permitted to only ground the battery equipment through the PureWave SMS-250 earth reference connections.

Bonding Requirements

Besides the importance of creating an earth reference, bonding is required between interconnected electrical equipment to establish a low impedance path that minimizes the potential difference between two metallic objects, minimizes electric shock hazards, provides lightning protection, and establishes references for electronic signals.

All cable tray, conduit, and raceway systems installed to interconnect power, control, and communications wiring to and from the PureWave SMS-250 unit shall be electrically continuous by bonding together at each individual section. Each individual cable tray, conduit, and raceway section, including pull boxes, junction boxes, and outlet boxes, shall be bonded to the facility earthing system within 2 feet (610 mm) of each end and at intervals not exceeding 50 feet

(15 meters) along the run. All cable trays, conduits, and raceways shall be securely bonded to all brackets, hangers, and structural members to which they are attached. The resistance of each bonding connection shall not exceed 5 milliohms. The total bonding resistance between the PureWave SMS-250 cabinet and any battery cabinet/enclosure shall be no more than 1 ohm.

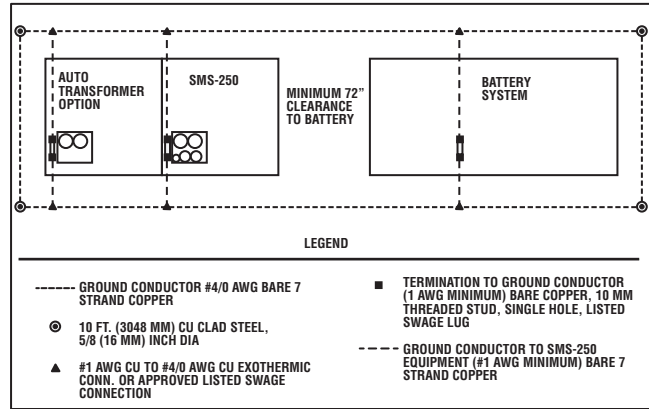


Figure 7. Example of a ground-plan diagram showing the S&C PureWave SMS-250 cabinet, the SMS-250 autotransformer option, and a battery system.

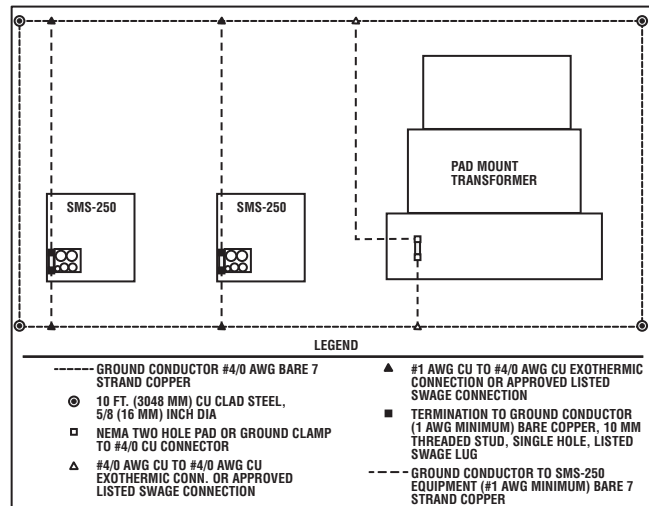


Figure 8. Example of a ground-plan diagram showing two S&C PureWave SMS-250 cabinets and a pad-mount isolation transformer (var-only application—no battery system).

Communications Signal Reference Requirements

All communications systems that interface with the PureWave SMS-250 equipment must be designed for operation in a multipoint earth (ground) reference system.

See examples of ground plan diagrams in Figures 7 and 8.

Control and Grounding Connections

For control and grounding connections:

- STEP 8.** Install control and communication cabling using the entry location in the cable termination area.
- STEP 9.** Attach the ground bus of the PCS to the system ground in accordance with the installation drawing.
- STEP 10.** Seal the conduits with duct-sealing compound to prevent water from entering the system through the conduits.

Connection Checks

Check all field-installed cables and wiring to the power conversion system by performing a “point-to-point” check on all of the wiring to verify the system is wired, labeled, and terminated per drawing PEA-1610-4-IN and any project-specific drawings supplied with the PureWave SMS-250 system. Note any problems found and corrective actions applied.

Torques

Check all factory and field-bolted electrical connections inside the PCS enclosure and verify they are torqued to the proper tightness. See Table 4 for torque requirements.

Table 4. Torque Requirements

Assembly	Part	Hardware	Tool	Torque (N-M)	Torque (FT-LBS)
Dead-front access panels	Panels	M8 serrated flange	13 mm Socket	13.6	10.0
	EMI fasteners	M5x12 screw	#2 Phillips	3.9	2.9
Bus connections	N/A	M10 flange nut/bolt	15 mm Socket	54.2	40.0
Islanding tray	Tray	M8 serrated flange	13 mm Socket	13.6	10.0
	CT terminal block	#10-32 Terminals	Slot Driver	2.0	1.5
	Terminal blocks	M4 terminals	Slot Driver	1.7	1.25
	Programmable logic controller	M3 mounting	#1 Phillips	1.1	0.8

Base Covers

Install the base covers (if not already installed) at the front and back forklift entries of the enclosure. They are typically stored on the inside of the enclosure door. See Figure 9.

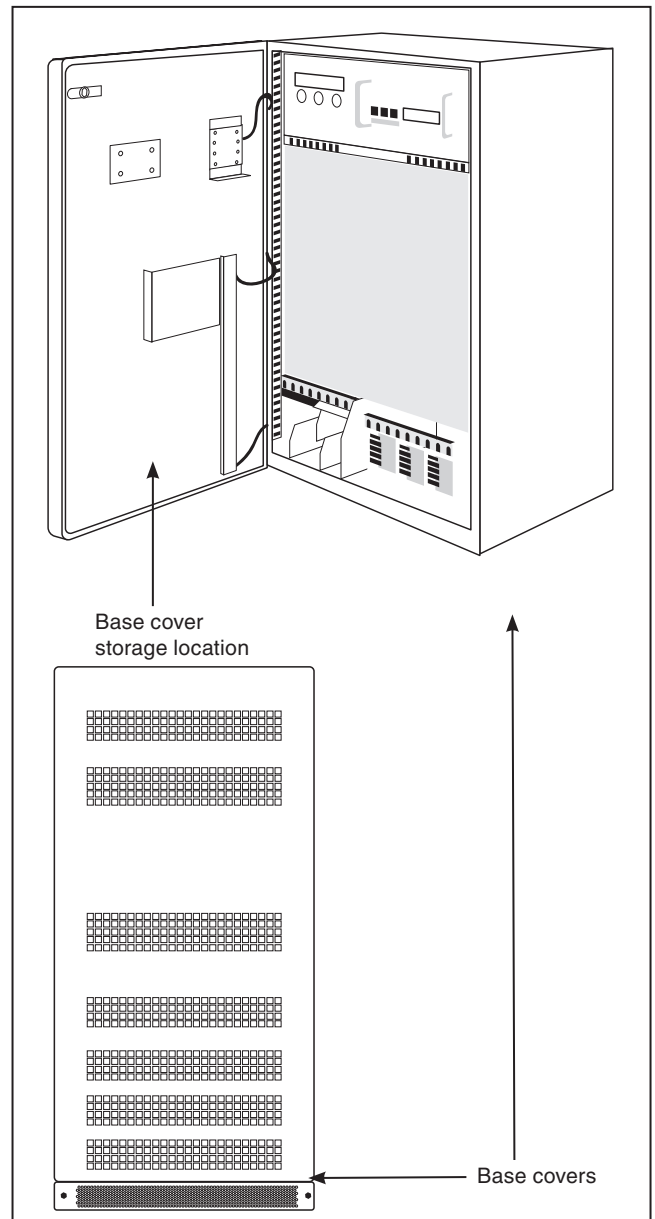


Figure 9. Location of base covers.

Inspection Recommendations

Before Completing the Installation

Follow these steps before completing installation:

- STEP 1.** Replace and secure the dead-front access panels.
- STEP 2.** Close and lock the door of the PCS enclosure(s).
- STEP 3.** Wipe down the exterior of the PCS enclosure(s) with a clean damp cloth. Refinish any scratches or abrasions.
- STEP 4.** When application of touch-up paint is necessary, the area to be touched up should be cleaned to remove all oil and grease. Sand the area, removing any traces of rust that may be present, and make sure all edges are feathered before applying primer.

Pre-Startup Checklist

The pre-startup checklist will be provided and should be reviewed and filled out by the installing contractor. The document must be signed and faxed to S&C Electric Company at (414) 423-8766.

Annual Inspections

After the PureWave SMS-250 system is commissioned and the unit is online, inspection and maintenance should be scheduled for the PCS on an annual basis to ensure the proper operation of the system. Schedules for maintenance should be reviewed by the customer based upon the given site conditions and, if required, the frequency of the recommended maintenance should increase to ensure the reliability of the PureWave SMS-250 system.