

Vista SD Switchgear Portable Motor Control Pendant

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Introduction

Qualified Persons

WARNING

Only qualified persons who are knowledgeable in the installation, operation, and maintenance of overhead and underground electric distribution equipment, along with all associated hazards, may install, operate, and maintain the equipment covered by this publication. A qualified person is someone 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 special precautionary techniques, personal protective equipment, insulated 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

Thoroughly and carefully read this instruction sheet and all materials included in the product's instruction handbook before installing or operating your Vista SD Underground Distribution Switchgear. Familiarize yourself with the Safety Information and Safety Precautions on pages 4 and 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 your Vista SD Underground Distribution Switchgear. Designate a location where you can easily retrieve and refer to this publication.

Proper Application

WARNING

The equipment in this publication is only intended for a specific application. The application must be within the ratings furnished for the equipment. Ratings for the Vista SD Underground Distribution Switchgear are listed in the ratings table in Specification Bulletin 695-33. The ratings are also on the nameplate affixed to the product.

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).

Safety Information

Understanding Safety-Alert Messages

Several types of safety-alert messages may appear throughout this instruction sheet and on labels and tags attached to your Vista SD Underground Distribution Switchgear. 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 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 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 the S&C Global Support and Monitoring Center at 1-888-762-1100.

NOTICE

Read this instruction sheet thoroughly and carefully before installing your Vista SD Portable Motor Control Pendant.



Replacement Instructions and Labels

If additional copies of this instruction sheet are needed, 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.

⚠ DANGER



Vista SD Underground Distribution Switchgear operates at 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.

1. **QUALIFIED PERSONS.** Access to the Vista SD underground distribution switchgear 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. Always maintain proper clearance from energized components.
3. **PERSONAL PROTECTIVE EQUIPMENT.** Always use suitable protective equipment, such as rubber gloves, rubber mats, hard hats, safety glasses, and arc-flash clothing, in accordance with safe operating procedures and rules.
4. **DOORS.** High-voltage compartment doors must be securely closed and latched, with padlocks in place at all times unless work is being performed inside the enclosure.
5. **KEY INTERLOCKS.** Optional key interlocks, if furnished, must be in place. Check the operating sequence of key interlocks to verify proper sequencing. After the switchgear is installed, destroy all duplicate keys or make them accessible only to authorized persons so that the key-interlock scheme will not be compromised.
6. **OPENING DOORS.** Do not apply any undue force when attempting to open a door. The use of undue force may damage the door-latching mechanism.
7. **SAFETY LABELS.** Do not remove or obscure any of the “DANGER,” “WARNING,” “CAUTION,” or “NOTICE” labels.
8. **ENERGIZED BUSHINGS.** Always assume that the bushings are energized unless proven otherwise by test, by visual evidence of an open-circuit condition at the load-interrupter switch or fault interrupter, or by observing that the load-interrupter switch or fault interrupter is grounded.
9. **BACKFEED.** Bushings, cables, load-interrupter switches, and fault interrupters may be energized by backfeed.
10. **GROUNDING.**
 - Vista SD switchgear must be connected to a suitable earth ground before energizing, and at all times when energized.
 - The ground wire(s) must be bonded to the system neutral, if present. If the system neutral is not present, proper precautions must be taken to ensure that the local earth ground cannot be severed or removed.
 - After the switchgear has been completely disconnected from all sources of power and tested for voltage, properly ground the load-interrupter switches and fault interrupters before touching any bushings or components that are to be inspected, replaced, serviced, or repaired.
11. **LOAD-INTERRUPTER SWITCH OR FAULT INTERRUPTER POSITION.**
 - Always confirm the **Open/Closed** position of the load-interrupter switch or fault interrupter by visually observing the position of the isolating disconnect.
 - Load-interrupter switch or fault interrupter may be energized by backfeed.
 - Load-interrupter switch or fault interrupter may be energized in any position.
12. **MAINTAINING PROPER CLEARANCE.** Always maintain proper clearance from energized components.

Inspection and Handling

Packing

The Vista SD switchgear portable motor control pendant will be shipped in an individual carton separate from the switchgear assembly.

Inspection

Examine the shipment for external evidence of damage as soon after receipt as possible. Check the bill of lading to make sure all listed cartons 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 damage 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.

General

A Vista SD switchgear portable motor control pendant is used to control motor operators attached to Vista SD Underground Distribution Switchgear. Together, the portable motor control pendant and the motor operator provide safe and reliable remote operation of Vista SD switchgear.

Vista SD Switchgear Portable Motor Control Pendant

POWER INDICATOR lamp—Illuminates when the portable motor control pendant is receiving power from the motor operator (This lamp will flash if an error condition is detected.)

Isolating Disconnect OPEN or CLOSED Lamps—Illuminate when the isolating disconnect of the load-interrupter switch or fault interrupter is either in the Open or Closed positions.

Note: The optional auxiliary contact cable must be plugged into the motor operator for proper operation. The default colors are green for open and red for closed (these can be reversed).

Motor operator OPEN or CLOSED Lamps—Illuminate when the motor operator is either in the **Open** or **Closed** positions (The default colors are green for open and red for closed; these can be reversed).

OPEN/RESET or CLOSE pushbuttons—Signal the motor operator to move to the **Open** or **Closed** position, as applicable (The buttons must be used in conjunction with the ENABLE pushbutton.)

ENABLE pushbutton—Used to activate either the open or closed pushbuttons; prevents inadvertent operation of the motor operator.

LAMP TEST pushbutton—When pressed and held, will initiate a test of the operation of all lamps on the portable motor control pendant.

Identification Space—White space provided as a place to mark and identify the portable motor control pendant, motor operator, switchgear, or way number

PROGRAMMING Button—Hidden behind the S&C logo, used to program the indicator lamp colors

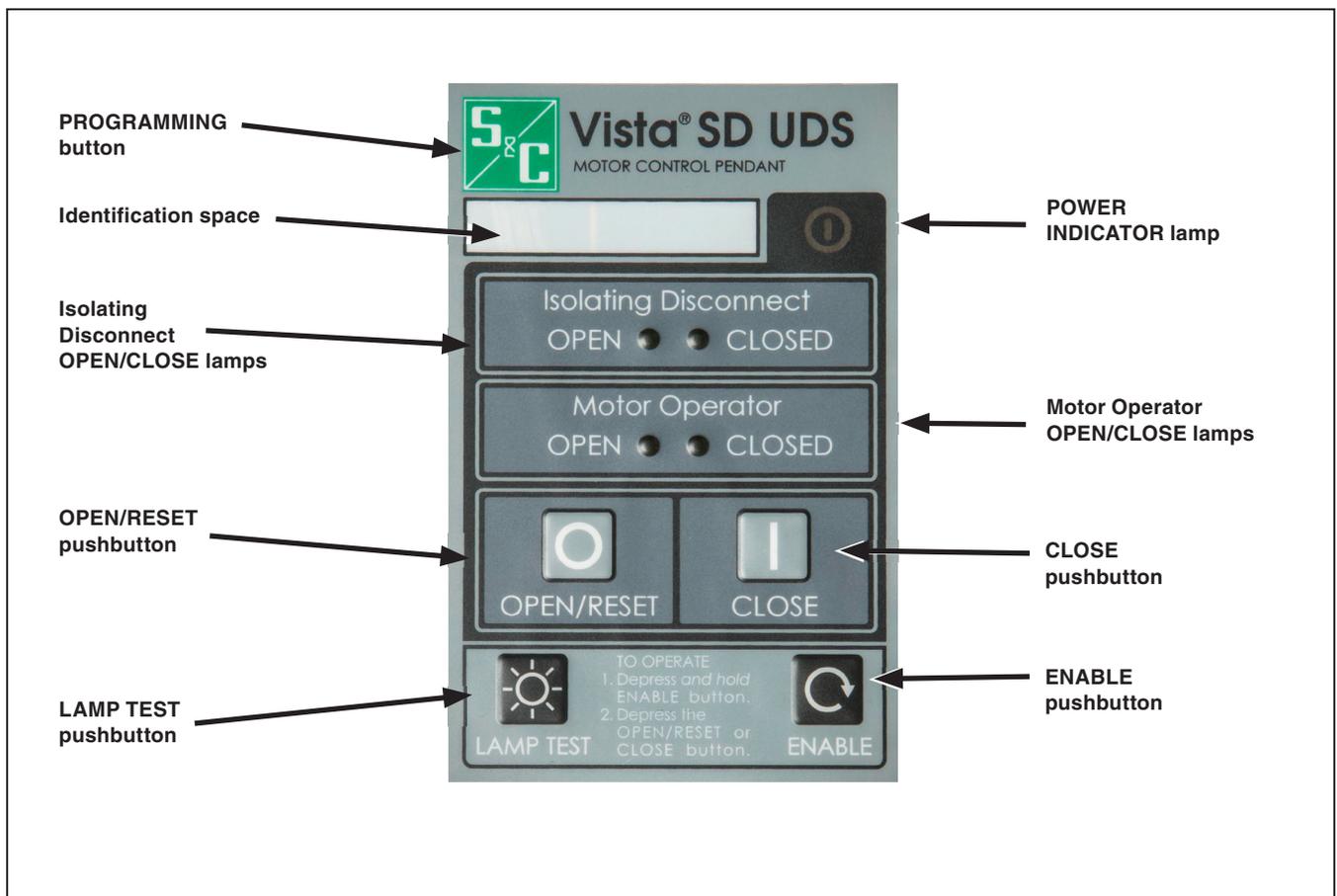


Figure 1. The Vista SD switchgear portable motor control pendant.

Connect Portable Motor Control Pendant

The portable motor control pendant attaches to the *right-hand* receptacle on the front of the Vista SD switchgear motor operator.

STEP 1. Remove the submersible cap from the motor operator receptacle. See Figure 2.

STEP 2. Remove the submersible cap from the portable motor control pendant connector. Attach the portable motor control pendant cable to the motor operator. While pushing gently on the connector, rotate the connector back and forth until it aligns with the receptacle. Rotate connector collar *clockwise* until a click is heard and felt. See Figure 3.

NOTICE

The portable motor control pendant connector must be installed correctly in order to ensure proper operation of the motor operator during or following complete submersion of the switchgear assembly. If a pendant is not connected to a motor operator, submersible caps must be properly attached to the receptacle on the motor operator and also to the portable motor control pendant connector. **Failure to follow these precautions may compromise the ability of the motor operator or the pendant or both to function properly during or following complete submersion of the switchgear assembly.**



Figure 2. Removing the submersible cap.



Figure 3. Attaching the Vista SD switchgear portable motor control pendant cable to motor operator.

Operating Load-Interrupter Switches and Fault Interrupters Using Portable Motor Control Pendant

Press and hold the ENABLE button on the portable motor control pendant. Then press either the OPEN/RESET or the CLOSE pushbuttons. The motor operator will move to the desired position and the appropriate motor operator position lamp will illuminate. If the auxiliary contacts connector is attached and the motor operator is coupled to the load-interrupter switch or fault interrupter, the isolating disconnect lamps will match the operator position lamps.

Should the Vista SD switchgear fault interrupter be tripped, the fault interrupter should be opened completely (to reset the operating mechanism) before closing the fault interrupter.

Testing Pendant Indicator Lamps

Press and hold the TEST LAMP pushbutton for approximately 10 seconds. During this time the portable motor control pendant will go through a test sequence; all indicator lamps will flash using the various colors they are capable of displaying.

Reversing Position Indicator Lamp Colors

To reverse the default color of the position indicator lamps (i.e., to green="Closed," red = "Open") press and hold the pushbutton hidden behind the S&C logo. The blue power indicator lamp will blink. Continue to press down on the S&C logo for at least five seconds. Then, press the OPEN/RESET and CLOSE buttons at the same time. After pressing this combination, the power lamp will turn back on, and the lamp color will be reversed (green/red).

If releasing the switch behind the S&C logo without pressing the OPEN and CLOSE buttons, the blue POWER INDICATOR lamp will come back on and normal operation will resume without changing anything. If pressing and holding the S&C logo for too long without pressing the OPEN and CLOSE buttons, the blue POWER INDICATOR lamp will turn back on and normal operation will resume.

WARNING

Do not reverse the default color of the position indicator lamps on the portable motor control pendant unless the switchgear assembly has been furnished with catalog number option suffix "-J1." This option reverses the color of the OPEN/RESET and CLOSED indicators on the operating mechanisms for load-interrupter switches and fault interrupters. **Failure to observe this precaution can result in serious personnel injury or death.**

Appendix A

Troubleshooting

Table 1. Troubleshooting Tips

Problem	Solution
POWER INDICATOR lamp is not on	<ul style="list-style-type: none"> No ac power—confirm the motor operator is connected to the power source. Portable motor control pendant is not connected—check the pendant connector. Pendant cable is damaged—replace the portable motor control pendant. Motor operator is not operating properly—replace the motor operator.
POWER INDICATOR lamp is flashing quickly	<ul style="list-style-type: none"> Motor overload—wait several minutes to allow the motor operator to automatically reset. Motor operator control board is not operating properly—replace the motor operator.
POWER INDICATOR lamp is flashing slowly (motor operator is making clicking sounds)	<ul style="list-style-type: none"> Motor operator inrush current is too high for power source—refer to Appendix B of S&C Instruction Sheet 695-520 for power source requirements.
Motor operator POSITION indicator lamps are flashing	<ul style="list-style-type: none"> Power loss during operation—press the OPEN pushbutton to continue operation. Load-interrupter switch or fault interrupter is not latched properly—open and try closing again. Load-interrupter switch or fault interrupter stop blocks are not set properly—adjust the switch stop blocks. Switchgear is not operating properly—check the switchgear.
Isolating disconnect OPEN or CLOSED lamps are not functioning	<ul style="list-style-type: none"> Switchgear auxiliary contacts connector is not attached to the motor operator. Motor operator is decoupled from the switchgear. Switchgear is not operating properly—check the switchgear.

Appendix B

Specifications

Table 2. Portable Motor Control Pendant Specifications

Supply voltage	24 Vdc
Maximum current draw	100 mA
Weight	1.4 kg (3 lbs)
Physical dimensions	5 inches (127 mm) high × 3.5 inches (89 mm) wide × 2.5 inches (64 mm) deep
Operating temperature range	-40° to 65°C (-40° to 149°F)
Button operating life	5,000 operations/25 years
Enclosure protection rating	IP68 (3 m depth for 30 days)

Connector Pinout

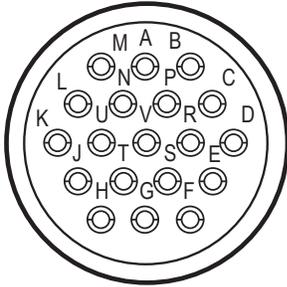


Table 3. Vista SD Switchgear Portable Motor Control Pendant Connector

Pin #	Function
A	+24 Vdc
B	Ground
C	n/c
D	n/c
E	n/c
F	n/c
G	n/c
H	n/c
J	RS485+ (for pendant use only)
K	RS485- (for pendant use only)
L	n/c
M	n/c
N	n/c
P	n/c
R	n/c
S	n/c
T	n/c
U	n/c
V	Shield

Legend: n/c = no connection