Specifications

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Standard

The seller's standard conditions of sale set forth in Price Sheet 150 apply, except as modified under the "Special Warranty Provisions" section on page 5.

Special to This Product

Inclusions

Vista Underground Distribution Switchgear features load-interrupter switches for switching 600- or 900-ampere main feeders and microprocessor-controlled arc-spinners or vacuum fault interrupters for switching and protection of 600- or 900-ampere main feeders and 200-, 600-, or 900-ampere taps, laterals, and subloops. These elbow-connected components are enclosed in a gas-insulated and gas-tight or hermetically sealed (CO_2 mix) welded-steel tank, completely protected from the environment. The switchgear is available with up to six ways (bus terminals, switches and/or fault interrupters) in ratings through 38 kV and 25 kA symmetrical. Standard Vista switchgear products ship with sulfur hexafluoride (SF_6) insulating gas. The new optional Vista Green Underground Distribution Switchgear ships with a dielectric gas mixture of CO_2 and C4-FN insulating gas instead of SF_6. See Anatomy of a Catalog Number on page 6 and How to Order Example on page 7 for details on how to build Vista and Vista Green switchgear catalog numbers.

The three-position (CLOSED-OPEN-GROUNDED) load-interrupter switches are manually operated and provide three-pole live switching of 600- or 900-ampere three-phase circuits. These switches also provide a visible gap when open and internal grounding for all three phases—without exposure to medium voltage or the need to manipulate elbows. Included are vacuum interrupters in series with manually operated three-position (CLOSED-OPEN-GROUNDED) disconnects for isolation and internal grounding of each phase. See Table 1 on page 9 for the available Vista and Vista Green switchgear ratings.

Fault interrupters provide three-pole load switching and fault interruption through 25 kA symmetrical or single-pole load switching and fault interruption through 12.5 kA symmetrical. (For other possible ratings, refer to the nearest S&C Sales Office.) Fault interruption is initiated by a programmable overcurrent control. The total clearing time (from initiation of the fault to total clearing) can be as fast as 40 milliseconds. For single-pole fault interrupters, the overcurrent control can also be programmed to provide three-pole fault interruption.

Large windows provide a clear view of the open gap, **Ground** position, and ground bus, allowing the operator to easily confirm the positions of the load-interrupter switches and disconnects of the fault interrupters. Trip indicators, which are readily visible through the windows, are provided for the fault interrupters. Each unit of gear is furnished with a manual handle to charge the operating mechanisms and open, close, and ground the load-interrupter switches and fault interrupters. The operating mechanisms operate independently of the speed of the manual handle and are designed to prevent inadvertent operation from the **Closed** position directly to the **Ground** position, and vice versa. Operating shafts are padlockable in any position and can also be padlocked to prevent operation to the **Ground** position.

Terminals are equipped with 200-ampere-rated bushing wells (SF_6 models only) or 600- or 900-ampere bushings (as specified). Bushing and bushing-well interfaces are in accordance with IEEE Standard 386 to accept all standard insulated connectors and inserts.

In addition, Vista Underground Distribution Switchgear has been certified as arc resistant per IEC 62271-200 for fault currents up to 12.5 kA symmetrical for 15 cycles (25 kA symmetrical for units rated 25 kA short circuit). Arc resistance is standard for the pad-mounted and UnderCover™ styles. For the vault-mounted style, catalog number suffix "-N" must be specified, in which case a flange will be welded to the pressure-relief device for connection of user-supplied piping to vent exhaust gases out of the vault area.

When optional voltage indication is specified, all routine operating tasks—switching, voltage testing, and grounding—can be accomplished by a single person without cable handling or exposure to medium voltage. An optional feature that combines voltage indication with provisions for low-voltage phasing is also available. Cable testing for faults can be performed through the back of a user-supplied elbow or through a user-supplied feedthru insert eliminating the need for difficult cable handling or parking stands.

Vista Overcurrent Control 2.0

Fault interruption is initiated by a programmable overcurrent control housed in a watertight enclosure. The control is programmed by using a USB-A cable that is attached to the USB (or USB-A) port on a personal computer. The control receives both sensing and control inputs from current transformers. No batteries are needed for the Vista Overcurrent Control 2.0.

Current transformers provide power and input signals. The control features a variety of time-current characteristic (TCC) curves—standard "E," "K," and "T" speed curves, Vista coordinating-speed tap and main curves, and relay curves per IEEE C37.112-2018.

Coordinating-speed tap curves are used for fault interrupters feeding subloop taps and are specifically designed to optimize coordination with load-side, weak-link, backup, and current-limiting fuse combinations. and source-side relays with low time-dial settings. The coordinating-speed main curves are used for fault interrupters on main feeders and have a longer minimum response time and a different shape to coordinate with tap-interrupter curves. Coordinating-speed curves have phase-overcurrent, ground-protection, negative-sequence fault, and sensitive-earth fault settings.

The coordinating-speed tap and main curves, as well as IEEE and IEC relay TCC curves, can be tailored to the application by using a variety of TCC curve based and definite-time settings. Ground-protection, negative-sequence fault, and sensitive-earth fault settings are also available.

Vista Switchgear Styles

Vista switchgear is available in several styles and is considerably smaller than traditional air-insulated gear, so it can be installed where needed. The standard mounting styles of switchgear are as follows:

UnderCover Style

When the UnderCover Style is specified, the gear is provided with a stainless steel tank and submersible wiring.

Vault-Mounted Style

Two versions of this style are available. The wet-vault-mounted style is intended for vaults subject to periodic flooding and includes submersible wiring and electrical components. The dry-vault-mounted style is intended for vaults not subject to periodic flooding and does not include submersible wiring and electrical components. A stainless steel tank suitable for mounting on the floor or wall of the vault is furnished with both wet- and dry-vault-mounted styles.

Pad-Mounted Style

When the pad-mounted style is specified, a mild steel or, optionally, stainless steel enclosure and tank are provided. Pad-mounted enclosures meet the requirements of ANSI C57.12.28 (enclosure integrity). The top of the pad-mounted enclosure is hinged on both sides for convenient access to the operation and termination compartments. The roof of the enclosure is sloped outward to ensure water flows away from the switchgear.

A removable panel provides access to the elbows and cables and is secured by the overlapping padlockable top. A resilient closed-cell gasket on the enclosure bottom flange protects the finish from being scratched during installation and isolates it from the alkalinity of a concrete foundation. Enclosures are protected from corrosion by S&C's Ultradur® II Outdoor Finish.

Application Notes

Fault Interrupter

Vista Underground Distribution Switchgear features either arc-spinning contacts (15.5-kV, 12.5-kA symmetrical SF6 gas-insulated models only) or vacuum fault interrupters for three-pole load switching and fault interruption through 25 kA symmetrical, or single-pole load switching and fault interruption through 12.5 kA symmetrical.

Complete ratings for the fault interrupter, as applied in Vista switchgear, are shown in Table 1 on page 9. In addition to the load-dropping ratings shown, the fault interrupter is capable of interrupting transformer magne-

tizing currents associated with the applicable loads, as well as line-charging and cable-charging currents typical for distribution systems of these voltage ratings. The duty-cycle fault-closing rating shown for the fault interrupter defines the ability to close the interrupter the designated number of times into the **Closed** position or **Grounded** position against a three-phase fault as follows:

- **Main Contacts.** The fault interrupter has the ability to close the designated number of times into a three-phase fault equal to rated value and interrupt the resulting short-circuit current. The fault interrupter remains operable and able to carry and interrupt its rated continuous current.
- **Ground Contacts.** The fault-interrupter ground switch has the ability to close the designated number of times against a three-phase fault equal to the rated value with the ground switch remaining operable and able to carry its rated fault-closing current.

A Note on Single-Pole Switching

In single-pole switching of ungrounded-primary three-phase transformers or banks (or single-phase transformers connected line to line), circuit connections or parameters may, in some cases, produce excessive overvoltages. In particular, for the following applications above 22 kV, single-pole switching by any means should be performed only under the conditions stated in italics:

- Switching unloaded or lightly loaded delta-connected or ungrounded-primary wye-wye-connected three-phase transformers or banks (or line-to-line connected single-phase transformers), rated 150 kVA or less three-phase, or 50 kVA or less single-phase—or of any kVA rating when combined with unloaded cables or lines—where maximum system operating voltage exceeds 22 kV. *(Single-pole switching should be performed only if each phase is carrying 5% load or more or if the transformer or bank is temporarily grounded at the primary neutral during switching.)*
- Switching loaded or unloaded ungrounded-primary wye-delta connected three-phase transformers or banks—alone or combined with unloaded cables or lines—where maximum system operating voltage exceeds 22 kV. *(Single-pole switching should be performed only if each phase is carrying 5% load or more and if the lighting-load phase is always switched open first [or switched closed last] or if the transformer or bank is temporarily grounded at the primary neutral during switching.)*

Load-Interrupter Switch

Vista Underground Distribution Switchgear features load-interrupter switches for three-pole live switching of three-phase circuits.

Complete ratings for the load-interrupter switch, as applied in Vista switchgear, are shown in Table 1 on page 9. In addition to the load-dropping ratings shown, the switch is capable of interrupting transformer magnetizing currents associated with the applicable loads as well as line-charging and cable-charging currents typical for distribution systems of these voltage ratings.

For applications involving load current with high harmonic content (such as rectifier load currents), refer to the nearest S&C Sales Office. The duty-cycle fault-closing rating shown for the switch defines the ability to close the switch into the **Closed** or **Grounded** position the designated number of times against a three-phase fault equal to the rated value with the switch remaining operable and able to carry and interrupt rated current.

Exclusions

Three-phase units listed in Table 2 on page 10 through page 15 do not include the switchgear style, optional features, or accessories listed in Table 3 on page 16, Table 4 on page 17, and Table 5 on page 18 through page 21.

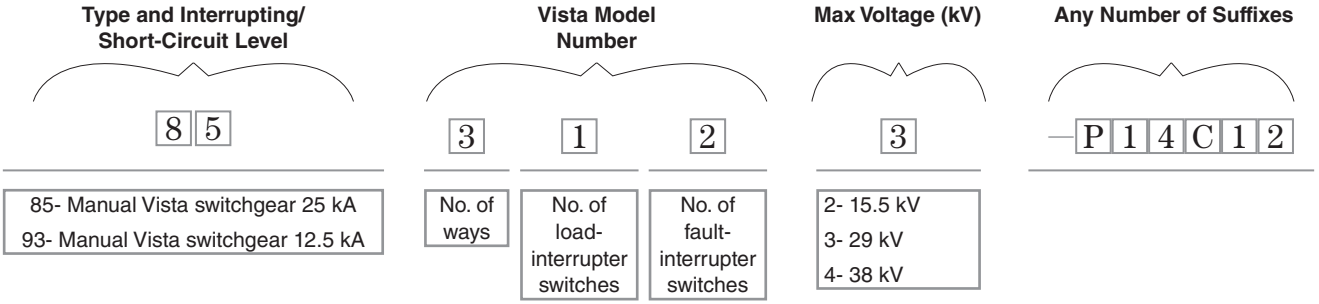
Special Warranty Provisions

The standard warranty contained in the seller's standard conditions of sale, as set forth in Price Sheets 150 and 181, applies only to manual Vista Underground Distribution Switchgear and its associated options. The Vista Overcurrent Control 2.0 shall have the following warranty provisions: the first and second paragraphs of Price Sheet 150 warranty are replaced with the following:

(1) General: The seller warrants to the immediate purchaser or end user for a period of 10 years from the date of shipment that the equipment delivered will be of the kind and quality specified in the contract description and will be free of defects of workmanship and material. Should any failure to conform to this warranty appear under proper and normal use within 10 years after the date of shipment, the seller agrees, upon prompt notification thereof and confirmation that the equipment has been stored, installed, operated, and maintained in accordance with recommendations of the seller and standard industry practice, to correct the nonconformity either by repairing any damaged or defective parts of the equipment or (at the seller's option) by shipment of necessary replacement parts. The seller's warranty does not apply to any equipment that has been disassembled, repaired, or altered by anyone other than the seller. This limited warranty is granted only to the immediate purchaser or, if the equipment is purchased by a third party for installation in third-party equipment, the end user of the equipment. The seller's duty to perform under any warranty may be delayed, at the seller's sole option, until the seller has been paid in full for all goods purchased by the immediate purchaser. No such delay shall extend the warranty period.

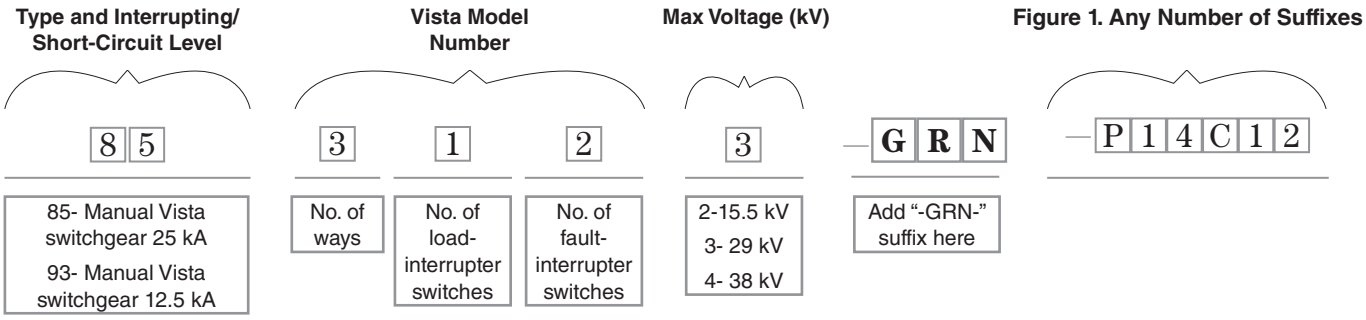
The seller further warrants to the immediate purchaser or end user that for a period of two years from the date of shipment, the software will perform substantially in accordance with the then-current release of specifications if properly used in accordance with the procedures described in the seller's instructions. The seller's liability regarding any of the software is expressly limited to exercising its reasonable efforts in supplying or replacing any media found to be physically defective or in correcting defects in the software during the warranty period. The seller does not warrant the use of the software will be uninterrupted or error-free.

Anatomy of a Vista Switchgear Catalog Number



The catalog number created above represents manual Vista switchgear, 25 kA, with a total of three ways that includes one load-interrupter switch and two fault-interrupter switches for a 29-kV application. The unit will also be pad-mount style with a stainless steel outer enclosure and an olive green finish, and include auxiliary contacts on the load-interrupter way with wires routed to terminal blocks mounted in an enclosure for customer connection. (The terminal block enclosure is typically mounted on the side of the Vista switchgear tank near the overcurrent relay enclosure.)

Anatomy of a Vista Green Switchgear Catalog Number



The catalog number created above represents manual Vista Green switchgear (CO_2 mix), 25 kA, with a total of three ways that includes one load interrupter switch and two fault-interrupter switches for a 29-kV application. The unit will also be pad-mounted with a stainless steel outer enclosure and an olive green finish, and include auxiliary contacts on the load-interrupter way with wires routed to terminal blocks mounted in an enclosure for customer connection. (The terminal block enclosure is typically mounted on the side of the Vista switchgear tank near the overcurrent relay enclosure.)

How to Order Example

Complete these steps to identify the base catalog number, the appropriate options, and the product accessories needed for a complete order:

STEP 1. Obtain the appropriate model number from Table 2 on page 10 through page 15.

Model Number: 4 2 2

STEP 2. Obtain the base catalog number of the desired switchgear unit from Table 2 on page 10 through page 15.

Catalog Number: 8 5 4 2 2 4

STEP 3. **Insulating Gas.** To order the new CO_2-mix insulating gas, add "-GRN-" after the base catalog number. (To order SF_6 insulating gas, skip this step and proceed to Step 4.)

Suffix: –G R N–

STEP 4. ***For 12.5-kA-rated models with one or more fault interrupters***: Add a suffix designation to the catalog number indicating the desired number of three-pole and single-pole fault interrupters, selected from Table 4 on page 17.

Note: This step is not applicable to models using the CO_2 mix gas or models rated 25 kA short circuit.

Suffix: ☐☐

STEP 5. Add suffix designations to the catalog number indicating the optional features desired, selected from Table 5 on page 18 through page 21. (Add as many suffixes as required.)

Suffixes: UL2

Note: At this point, the catalog number for the Vista switchgear unit is complete. The next steps using Table 6 and Table 7 on page 22 are for product accessories and touch-up kit components that would be separate line items on the order. Contact S&C for additional available options.

STEP 6. Obtain catalog numbers for any accessories from Table 6 on page 22 and apply as a separate line item on the order.

Catalog Number:

☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐

STEP 7. Include touch-up kit components from Table 7 on page 22.

Catalog Number: ☐☐☐☐☐☐☐

Example: The catalog number for an UnderCover Style Vista Green switchgear unit, Model 422, rated 25 kA for a 38-kV system, maximum at 60 Hertz, and equipped with voltage indication with provisions for low-voltage phasing is:

8 5 4 2 2 4 – G R N – U L 2

Note: To select and configure 40-kA Vista loadbreak switches or remote supervisory, source-transfer, or solid dielectric products, see the appropriate specification bulletin for those products.

How to Order the Vista or Vista Green Underground Distribution System

Complete these steps to identify the base catalog number, the appropriate options, and the product accessories needed for a complete order:

STEP 1. Obtain the appropriate model number from Table 2 on page 10 through page 15.

Model Number: ☐☐☐

STEP 2. Obtain the base catalog number of the desired switchgear unit from Table 2 on page 10 through page 15.

Catalog Number: ☐☐☐☐☐☐☐☐

STEP 3. **Insulating Gas.** To order the new CO_2-mix insulating gas, add "-GRN-" after the base catalog number. (To order SF_6 insulating gas, skip this step and proceed to Step 4.)

Suffix: –GRN–

STEP 4. ***For 12.5-kA-rated models with one or more fault interrupters***: Add a suffix designation to the catalog number indicating the desired number of three-pole and single-pole fault interrupters, selected from Table 4 on page 17. **Note**: This step is not applicable to models using the CO_2 mix gas or models rated 25 kA short circuit.

Suffix: ☐☐

STEP 5. Add suffix designations to the catalog number indicating the optional features desired, selected from Table 5 on page 18 through page 21. (Add as many suffixes as required.)

Suffixes: ☐☐☐☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐☐☐☐

Note: At this point, the catalog number for the Vista switchgear unit is complete. The next steps using Table 6 and Table 7 on page 22 are for product accessories and touch-up kit components that would be separate line items on the order. Contact S&C for additional available options.

STEP 6. Obtain catalog numbers for any accessories from Table 6 on page 22 and apply as a separate line item on the order.

Catalog Number:
☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐
☐☐☐☐☐☐☐☐☐

STEP 7. Include touch-up kit components from Table 7 on page 22.

Catalog Number: ☐☐☐☐☐☐☐

Complete Catalog Number, Including Suffixes:

_____

_____

_____

Note: To select and configure 40-kA Vista loadbreak switches or remote supervisory, source-transfer, or solid dielectric products, see the appropriate specification bulletin for those products.

Table 1. 50/60-Hz ANSI Ratings—IEC Ratings in Parentheses①

kV			Amperes, RMS								
					Fault Interrupter				Load-Interrupter Switch		
System Class	Max	BIL	Main Bus Cont. Current	Short-Circuit, Sym.	Cont., Load Dropping, and Load Splitting②	10-Time Duty-Cycle Fault-Closing, Sym.		10-Time Duty-Cycle Fault-Interr., Sym.	Cont., Load Dropping, and Load Splitting②	10-Time Duty-Cycle Fault-Closing, Sym.③	Mom. and One-Second, Sym.
						Into Closed Position	Into Grounded Position				
15.5 (12)	15.5 (15.5)	95 (95)	600 (630)▲	12 500 (12 500)	200 (200)●	12 500 (12 500)	12 500 (12 500)	12 500 (12 500)	600 (630)■	12 500 (12 500)	12 500 (12 500)
				25 000 (25 000)	600 (630)◆	25 000 (25 000)	▼	25 000 (25 000)	600 (630)□	▼	25 000 (25 000)
27 (24)	29 (29)	125 (125)	600 (630)▲	12 500 (12 500)	200 (200)●	12 500 (12 500)	12 500 (12 500)	12 500 (12 500)	600 (630)■	16 000 (16 000)	12 500 (12 500)
				25 000 (25 000)	600 (630)◆	25 000 (25 000)	▼	25 000 (25 000)	600 (630)□	▼	25 000 (25 000)
38 (36)	38 (38)	150 (150)	600 (630)▲	12 500 (12 500)	200 (200)●	12 500 (12 500)	12 500 (12 500)	12 500 (12 500)	600 (630)■	16 000 (16 000)	12 500 (12 500)
				25 000 (25 000)	600 (630)◆	25 000 (25 000)	▼	25 000 (25 000)	600 (630)□	▼	25 000 (25 000)

① Refer to the nearest S&C Sales Office for other possible ratings.

② Parallel or loop switching. Fault interrupters and load-interrupter switches can switch the magnetizing current of transformers associated with the load-dropping rating. Unloaded cable switching rating: 10 amperes at 15.5 kV; 20 amperes at 29 kV and 38 kV.

③ Applicable to fault closing into **Closed** or **Grounded** position.

● 600 (630) amperes when switchgear is furnished with optional 600-ampere bushings at fault interrupter terminals, catalog number suffix "-M2" or "-M3." **Note:** 600-ampere bushings are supplied as standard for Vista Green switchgear.

■ 200 (200) amperes when switchgear is furnished with optional 200-ampere bushing wells at load-interrupter switch terminals, catalog number suffix "-M4." **Note:** SF_6 models only.

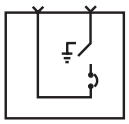
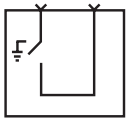
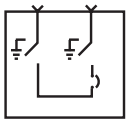
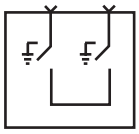
▲ 1200 (1200) amperes when switchgear is furnished with optional copper bus, catalog number suffix "-Z5."

◆ 900 (900) amperes when switchgear is furnished with optional 900-ampere fault interrupters, catalog number suffix "-Q1" through "-Q6," plus an optional copper bus, catalog number suffix "-Z5." (SF_6 and 15.5-kV, 25-kA Vista Green switchgear models only).

▼ 25 000 (25 000) amperes symmetrical three-time duty-cycle fault-closing rating; 16 000 (16 000) amperes symmetrical 10-time duty-cycle fault-closing rating.

□ 900 (900) amperes when switchgear is furnished with optional 900-ampere load-interrupter switches, catalog number suffix "-K1" through "-K6," plus an optional copper bus, catalog number suffix "-Z5." (SF_6 and 15.5-kV, 25-kA Vista Green switchgear models only).

Table 2. Three-Phase Units

Model①	One-Line Diagram②	Ratings③			Catalog Number	Net Wt., Lbs. (kg)④	Page Reference for Dimensional Information
		kV		Short-Circuit Amperes, RMS, Sym.			
		Max	BIL				
201		15.5	95	12 500	932012	550 (249)	23 through 28
				25 000	852012	550 (249)	
		29	125	12 500	932013	550 (249)	
				25 000	852013	800 (363)	
		38	150	12 500	932014●	800 (363)	
				25 000	852014	800 (363)	
210		15.5	95	12 500	932102	550 (249)	
				25 000	852102	550 (249)	
		29	125	12 500	932103	550 (249)	
				25 000	852103	800 (363)	
		38	150	12 500	932104●	800 (363)	
				25 000	852104	800 (363)	
211		15.5	95	12 500	932112	550 (249)	
				25 000	852112	550 (249)	
		29	125	12 500	932113	550 (249)	
				25 000	852113	800 (363)	
		38	150	12 500	932114●	800 (363)	
				25 000	852114	800 (363)	
220		15.5	95	12 500	932202	550 (249)	
				25 000	852202	550 (249)	
		29	125	12 500	932203	550 (249)	
				25 000	852203	800 (363)	
		38	150	12 500	932204	800 (363)	
				25 000	852204	800 (363)	

① The model number defines the total number of ways, the number of load-interrupter switch ways, and the number of fault-interrupter ways. For example, a Model 431 has "4" ways in total of which "3" are load-interrupter switch ways and "1" is a fault-interrupter way.

② Refer to the nearest S&C Sales Office for other possible configurations.

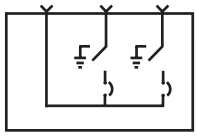
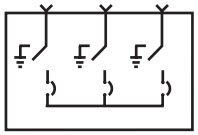
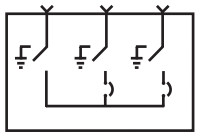
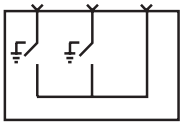
③ Refer to Table 1 on page 9 for continuous, load-dropping, interrupting, and momentary ratings.

④ Welded-steel tank, including components and insulating gas.

● These models have not been certified as arc resistant for unrestricted access. Refer to the nearest S&C Sales Office.

TABLE CONTINUED ►

Table 2. Three-Phase Units—Continued

Model①	One-Line Diagram②	Ratings③			Catalog Number	Net Wt., Lbs. (kg)④	Page Reference for Dimensional Information
		kV		Short-Circuit Amperes, RMS, Sym.			
		Max	BIL				
302		15.5	95	12 500	933022	825 (374)	23 through 28
				25 000	853022	825 (374)	
		29	125	12 500	933023	825 (374)	
				25 000	853023	1075 (488)	
		38	150	12 500	933024	1075 (488)	
				25 000	853024	1075 (488)	
303■		15.5	95	12 500	933032	825 (374)	
				25 000	853032	825 (374)	
		29	125	12 500	933033	825 (374)	
				25 000	853033	1075 (488)	
		38	150	12 500	933034	1075 (488)	
				25 000	853034	1075 (488)	
312		15.5	95	12 500	933122	825 (374)	
				25 000	853122	825 (374)	
		29	125	12 500	933123	825 (374)	
				25 000	853123	1075 (488)	
		38	150	12 500	933124	1075 (488)	
				25 000	853124	1075 (488)	
320		15.5	95	12 500	933202	825 (374)	
				25 000	853202	825 (374)	
		29	125	12 500	933203	825 (374)	
				25 000	853203	1075 (488)	
		38	150	12 500	933204	1075 (488)	
				25 000	853204	1075 (488)	

① The model number defines the total number of ways, the number of load-interrupter switch ways, and the number of fault-interrupter ways. For example, a Model 431 has "4" ways in total of which "3" are load-interrupter switch ways and "1" is a fault-interrupter way.

② Refer to the nearest S&C Sales Office for other possible configurations.

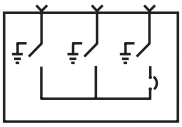
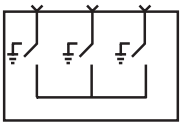
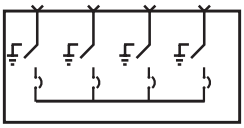
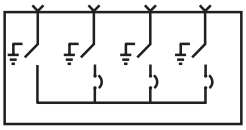
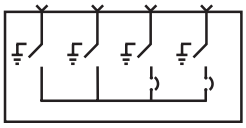
③ Refer to Table 1 on page 9 for continuous, load-dropping, interrupting, and momentary ratings.

④ Welded-steel tank, including components and insulating gas.

■ Auxiliary contacts unavailable as standard. Refer to the nearest S&C Sales Office.

TABLE CONTINUED ►

Table 2. Three-Phase Units—Continued

Model①	One-Line Diagram②	Ratings③			Catalog Number	Net Wt., Lbs. (kg)④	Page Reference for Dimensional Information
		kV		Short-Circuit Amperes, RMS, Sym.			
		Max	BIL				
321		15.5	95	12 500	933212	825 (374)	23 through 28
				25 000	853212	825 (374)	
		29	125	12 500	933213	825 (374)	
				25 000	853213	1075 (488)	
		38	150	12 500	933214	1075 (488)	
				25 000	853214	1075 (488)	
330		15.5	95	12 500	933302	825 (374)	
				25 000	853302	825 (374)	
		29	125	12 500	933303	825 (374)	
				25 000	853303	1075 (488)	
		38	150	12 500	933304	1075 (488)	
				25 000	853304	1075 (488)	
404		15.5	95	12 500	934042	1100 (499)	
				25 000	854042	1100 (499)	
		29	125	12 500	934043	1100 (499)	
				25 000	854043	1350 (612)	
		38	150	12 500	934044	1350 (612)	
				25 000	854044	1350 (612)	
413		15.5	95	12 500	934132	1100 (499)	
				25 000	854132	1100 (499)	
		29	125	12 500	934133	1100 (499)	
				25 000	854133	1350 (612)	
		38	150	12 500	934134	1350 (612)	
				25 000	854134	1350 (612)	
422		15.5	95	12 500	934222	1100 (499)	
				25 000	854222	1100 (499)	
		29	125	12 500	934223	1100 (499)	
				25 000	854223	1350 (612)	
		38	150	12 500	934224	1350 (612)	
				25 000	854224	1350 (612)	

① The model number defines the total number of ways, the number of load-interrupter switch ways, and the number of fault-interrupter ways. For example, a Model 431 has "4" ways in total of which "3" are load-interrupter switch ways and "1" is a fault-interrupter way.

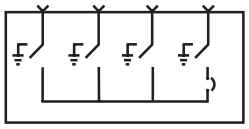
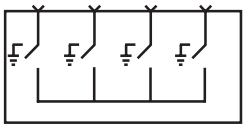
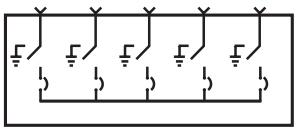
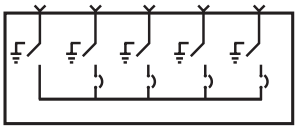
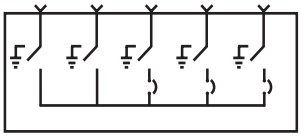
② Refer to the nearest S&C Sales Office for other configurations.

③ Refer to Table 1 on page 9 for continuous, load-dropping, interrupting, and momentary ratings.

④ Welded-steel tank, including components and insulating gas.

TABLE CONTINUED ►

Table 2. Three-Phase Units—Continued

Model①	One-Line Diagram②	Ratings③			Catalog Number	Net Wt., Lbs. (kg)④	Page Reference for Dimensional Information
		kV		Short-Circuit Amperes, RMS, Sym.			
		Max	BIL				
431		15.5	95	12 500	934312	1100 (499)	23 through 28
				25 000	854312	1100 (499)	
		29	125	12 500	934313	1100 (499)	
				25 000	854313	1350 (612)	
		38	150	12 500	934314	1350 (612)	
				25 000	854314	1350 (612)	
440		15.5	95	12 500	934402	1100 (499)	
				25 000	854402	1100 (499)	
		29	125	12 500	934403	1100 (499)	
				25 000	854403	1350 (612)	
		38	150	12 500	934404	1350 (612)	
				25 000	854404	1350 (612)	
505■		15.5	95	12 500	935052	1375 (624)	
				25 000	855052	1375 (624)	
		29	125	12 500	935053	1375 (624)	
				25 000	855053	1625 (737)	
		38	150	12 500	935054	1625 (737)	
				25 000	855054	1625 (737)	
514		15.5	95	12 500	935142	1375 (624)	
				25 000	855142	1375 (624)	
		29	125	12 500	935143	1375 (624)	
				25 000	855143	1625 (737)	
		38	150	12 500	935144	1625 (737)	
				25 000	855144	1625 (737)	
523		15.5	95	12 500	935232	1375 (624)	
				25 000	855232	1625 (737)	
		29	125	12 500	935233	1625 (737)	
				25 000	855233	1625 (737)	
		38	150	12 500	935234	1625 (737)	
				25 000	855234	1625 (737)	

① The model number defines the total number of ways, the number of load-interrupter switch ways, and the number of fault-interrupter ways. For example, a Model 431 has "4" ways in total of which "3" are load-interrupter switch ways and "1" is a fault-interrupter way.

② Refer to the nearest S&C Sales Office for other configurations.

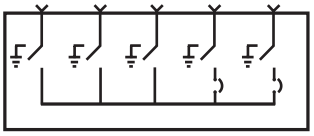
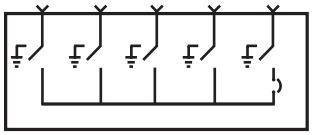
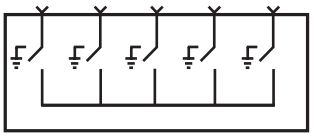
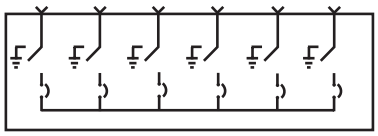
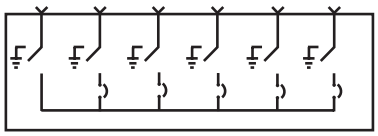
③ Refer to Table 1 on page 9 for continuous, load-dropping, interrupting, and momentary ratings.

④ Welded-steel tank, including components and insulating gas.

■ Auxiliary contacts unavailable as standard. Contact the nearest S&C Sales Office.

TABLE CONTINUED ►

Table 2. Three-Phase Units—Continued

Model①	One-Line Diagram②	Ratings③			Catalog Number	Net Wt., Lbs. (kg)④	Page Reference for Dimensional Information
		kV		Short-Circuit Amperes, RMS, Sym.			
		Max	BIL				
532		15.5	95	12 500	935322	1375 (624)	23 through 28
				25 000	855322	1375 (624)	
		29	125	12 500	935323	1375 (624)	
				25 000	855323	1625 (737)	
		38	150	12 500	935324	1625 (737)	
				25 000	855324	1625 (737)	
541		15.5	95	12 500	935412	1375 (624)	
				25 000	855412	1375 (624)	
		29	125	12 500	935413	1375 (624)	
				25 000	855413	1625 (737)	
		38	150	12 500	935414	1625 (737)	
				25 000	855414	1625 (737)	
550		15.5	95	12 500	935502	1375 (624)	
				25 000	855502	1375 (624)	
		29	125	12 500	935503	1375 (624)	
				25 000	855503	1625 (737)	
		38	150	12 500	935504	1625 (737)	
				25 000	855504	1625 (737)	
606		15.5	95	12 500	936062	1650 (748)	
				25 000	856062	1650 (748)	
		29	125	12 500	936063	1650 (748)	
				25 000	856063	1900 (862)	
		38	150	12 500	936064	1900 (862)	
				25 000	856064	1900 (862)	
615		15.5	95	12 500	936152	1650 (748)	
				25 000	856152	1650 (748)	
		29	125	12 500	936153	1650 (748)	
				25 000	856153	1900 (862)	
		38	150	12 500	936154	1900 (862)	
				25 000	856154	1900 (862)	

① The model number defines the total number of ways, the number of load-interrupter switch ways, and the number of fault-interrupter ways. For example, a Model 431 has "4" ways in total of which "3" are load-interrupter switch ways and "1" is a fault-interrupter way.

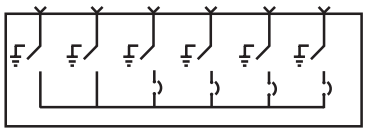
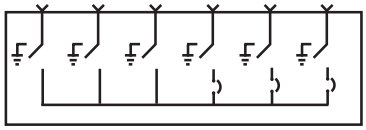
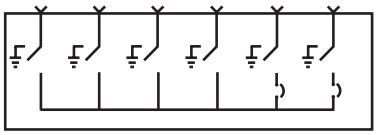
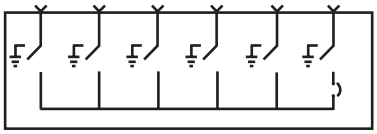
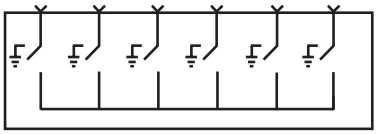
② Refer to the nearest S&C Sales Office for other configurations.

③ Refer to Table 1 on page 9 for continuous, load-dropping, interrupting, and momentary ratings.

④ Welded-steel tank, including components and insulating gas.

TABLE CONTINUED ►

Table 2. Three-Phase Units—Continued

Model①	One-Line Diagram②	Ratings③			Catalog Number	Net Wt., Lbs. (kg)④	Page Reference for Dimensional Information
		kV		Short-Circuit Amperes, RMS, Sym.			
		Max	BIL				
624		15.5	95	12 500	936242	1650 (748)	23 through 28
				25 000	856242	1650 (748)	
		29	125	12 500	936243	1650 (748)	
				25 000	856243	1900 (862)	
		38	150	12 500	936244	1900 (862)	
				25 000	856244	1900 (862)	
633		15.5	95	12 500	936332	1650 (748)	
				25 000	856332	1650 (748)	
		29	125	12 500	936333	1650 (748)	
				25 000	856333	1900 (862)	
		38	150	12 500	936334	1900 (862)	
				25 000	856334	1900 (862)	
642		15.5	95	12 500	936422	1650 (748)	
				25 000	856422	1650 (748)	
		29	125	12 500	936423	1650 (748)	
				25 000	856423	1900 (862)	
		38	150	12 500	936424	1900 (862)	
				25 000	856424	1900 (862)	
651		15.5	95	12 500	936512	1650 (748)	
				25 000	856512	1650 (748)	
		29	125	12 500	936513	1650 (748)	
				25 000	856513	1900 (862)	
		38	150	12 500	936514	1900 (862)	
				25 000	856514	1900 (862)	
660		15.5	95	12 500	936602	1650 (748)	
				25 000	856602	1650 (748)	
		29	125	12 500	936603	1650 (748)	
				25 000	856603	1900 (862)	
		38	150	12 500	936604	1900 (862)	
				25 000	856604	1900 (862)	

① The model number defines the total number of ways, the number of load-interrupter switch ways, and the number of fault-interrupter ways. For example, a Model 431 has "4" ways in total of which "3" are load-interrupter switch ways and "1" is a fault-interrupter way.

② Refer to the nearest S&C Sales Office for other configurations.

③ Refer to Table 1 on page 9 for continuous, load-dropping, interrupting, and momentary ratings.

④ Welded-steel tank, including components and insulating gas.

Table 3. Switchgear Styles

Item				Suffix to be Added to Switchgear Catalog Number	Applicable to Models	Net Weight, Lbs. (Kg)
UnderCover Style. Includes stainless steel tank and submersible wiring and control housings				-U	All models	—
Dry-vault floor-mounted style. Includes mild steel tank. Does not include submersible wiring and control housings				-V3	All models	
Wet-vault floor-mounted style. Includes stainless steel tank and submersible wiring and control housings				-V4	All models	
Dry-vault wall-mounted style. Includes a mild steel tank. Does not include submersible wiring and control housings. Labels are placed to be read while the tank feet are secured to a vertical wall and the operating shafts are below the terminations				-V5	All models	
Wet-vault wall-mounted style. Includes a stainless steel tank, submersible wiring, and control housings. Labels are placed to be read while the tank feet are secured to a vertical wall and the operating shafts are below the termination				-V6	All models	
Pad-mounted style. Includes a mild steel tank and a mild steel or stainless steel pad-mounted enclosure for mounting switchgear on a pad. Does not include submersible wiring or control housings	Two-way unit	Mild-steel outer enclosure	Olive-green finish	-P2	201, 210, 211, 220	360 (163)●
			Light gray finish	-P7	201, 210, 211, 220	
		Stainless steel outer enclosure	Olive-green finish	-P12	201, 210, 211, 220	
			Light gray finish	-P17	201, 210, 211, 220	
	Three- or four-way unit	Mild-steel outer enclosure	Olive-green finish	-P4	302, 303, 312, 320, 321, 330, 404, 413, 422, 431, 440	519 (235)●
			Light gray finish	-P9	302, 303, 312, 320, 321, 330, 404, 413, 422, 431, 440	
		Stainless steel outer enclosure	Olive-green finish	-P14	302, 303, 312, 320, 321, 330, 404, 413, 422, 431, 440	
			Light gray finish	-P19	302, 303, 312, 320, 321, 330, 404, 413, 422, 431, 440	
	Five- or six-way unit	Mild-steel outer enclosure	Olive-green finish	-P6	505, 514, 523, 532, 541, 550, 606, 615, 624, 633, 642, 651, 660	812 (368)●
			Light gray finish	-P11	505, 514, 523, 532, 541, 550, 606, 615, 624, 633, 642, 651, 660	
		Stainless steel outer enclosure	Olive-green finish	-P16	505, 514, 523, 532, 541, 550, 606, 615, 624, 633, 642, 651, 660	
			Light gray finish	-P21	505, 514, 523, 532, 541, 550, 606, 615, 624, 633, 642, 651, 660	

● Weight includes outer enclosure and base spacer.

Table 4. Single-Pole or Three-Pole Fault Interrupting①②③

Item	Suffix to be Added to Switchgear Catalog Number	Applicable to Models
Single-pole manual fault interrupter on all fault-interrupting ways	-T0	12.5 kA-rated models with 1 or more fault interrupters
Three-pole manual fault interrupter on one fault-interrupting way (single-pole manual fault interrupter on all other fault-interrupting ways)	-T1	12.5 kA-rated models with 1 or more fault interrupters
Three-pole manual fault interrupter on two fault-interrupting ways (single-pole manual fault interrupter on all other fault-interrupting ways)	-T2	12.5 kA-rated models with 2 or more fault interrupters
Three-pole manual fault interrupter on three fault-interrupting ways (single-pole manual fault interrupter on all other fault-interrupting ways)	-T3	12.5 kA-rated models with 3 or more fault interrupters
Three-pole manual fault interrupter on four fault-interrupting ways (single-pole manual fault interrupter on all other fault-interrupting ways)	-T4	12.5 kA-rated models with 4 or more fault interrupters
Three-pole manual fault interrupter on five fault-interrupting ways (single-pole manual fault interrupter on all other fault-interrupting ways)	-T5	12.5 kA-rated models with 5 or more fault interrupters
Three-pole manual fault interrupter on six fault-interrupting ways	-T6	12.5 kA-rated models with 6 or more fault interrupters

① Not applicable to models rated 25 kA short circuit. All 25 kA-rated models include three-pole manual fault interrupters.

② Refer to the nearest S&C Sales Office for other possible configurations.

③ For standard models, components are in the following order (from left to right) when facing the operating side of the gear: load switches, bus taps, three-pole fault interrupters, single-pole fault interrupters.

Table 5. Optional Features

Item				Suffix to be Added to Switchgear Catalog Number	Applicable to Models
Stainless steel tank for dry-vault-mounted style, wet-vault-mounted style, or pad-mounted style switchgear				-S	All models
Auxiliary contacts. Standard form open/close contact switches①②	All load-interrupter switches③	With wires routed in a bundle on tank for future customer connections		-C11●	All models
		With wires routed to terminal blocks mounted in an enclosure for customer connection (Terminal block enclosure is typically mounted on the side of the Vista switchgear tank near the overcurrent relay enclosure)		-C12■	Pad-mounted and dry-vault style models
	All fault interrupters④⑤⑥	With wires routed in a bundle on the tank for future customer connections		-C21●	All models
		With wires routed to terminal blocks mounted in an enclosure for customer connection (Terminal block enclosure is typically mounted on the side of the Vista switchgear tank near the overcurrent relay enclosure)		-C22■	Pad-mounted and dry-vault style models
Mounting provisions for fault indicators for each load-Interrupter switch, fault interrupter switch, or both. Accommodates three-phase indicator with single-phase sensors⑦		For each load-interrupter switch	Without viewing window in pad-mounted enclosure	-F1	All models except 201, 302, 303, 404, 505, and 606
			With viewing window in pad-mounted enclosure	-F2	
		For each fault-interrupter switch	Without viewing window in pad-mounted enclosure	-F3	All models except 210, 220, 320, 330, 440, 530, 540, 550, 660
			With viewing window in pad-mounted enclosure	-F4	
Potential indication with test feature. Includes LCD display to indicate presence of voltage on each phase, and solar panel to supply power for testing of complete voltage-indication circuit and phasing circuit (if furnished). One potential indicator is provided for each bus-terminal, load-interrupter switch, and fault-interrupter way			Without provisions for low-voltage phasing	-L1	All models
			With provisions for low-voltage phasing	-L2	
Spanish labels				-L51	All models
International crating⑧				-L71	All models

① Order auxiliary contacts for planned future manual to remote supervisory conversions. Field retrofit of the auxiliary contacts is not possible. See similar recommendation for the **Remote Low-Pressure Alarm** feature for suffix options "-R11," "-R12," and "-R2." For Models 303 and 505, contact the nearest S&C Sales Office.

② If auxiliary contacts are specified for both load-interrupter switches and fault interrupters, both options must have the same termination style.

③ Provides verification of **Closed/Open/Grounded** blade position.

④ On three-pole fault interrupters, auxiliary contacts provide indication of **Closed/Open/Grounded** blade position, as well as trip indication.

⑤ Not available with single-pole fault interrupters (catalog option "-T0") for models with catalog numbers ending in "R1."

⑥ For single pole fault interrupters, on Vista switchgear models rated 29 kV and 38 kV, auxiliary contacts only provide trip indication.

⑦ Catalog number suffix "-F1" and "-F3" may be selected together or separately; "-F2" and "-F4" may also be selected in the same manner. No mixed combination of "-F1" or "-F3" with "-F2" or "-F4" is permitted.

⑧ Wood products used in packaging are either hardwood or certified by the wood supplier as being "heat treated" (kiln dried) to a core temperature of 133°F (56°C) for a minimum of 30 minutes.

● Not available with option "-R2," "-C12," or "-C22."

■ Not available with option "-R11," "-C11," or "-C21."

TABLE CONTINUED ►

Table 5. Optional Features—Continued

Item		Suffix to be Added to Switchgear Catalog Number	Applicable to Models
900-ampere load-interrupter switch⑨⑩⑪⑫ on	Way 1	-K1	All models rated 25 kA (SF_6 models and 15.5-kV Vista Green models only)
	Way 2	-K2	
	Way 3	-K3	
	Way 4	-K4	
	Way 5	-K5	
	Way 6	-K6	
900-ampere fault interrupter⑨⑩⑪⑫ on	Way 1	-Q1	
	Way 2	-Q2	
	Way 3	-Q3	
	Way 4	-Q4	
	Way 5	-Q5	
	Way 6	-Q6	
600-A⑬ bushings *without* studs, at load-interrupter switch and bus terminals (in lieu of standard 600-A bushings *with* studs)		-M1	All models rated 12.5 kA
600-A⑬ bushings *without* studs, at load-interrupter switch, fault interrupter, and bus terminals (in lieu of standard 600-A bushings *with* studs)			All models (both SF_6 and Vista Green) rated 25 kA
600-A bushings at fault-interrupter terminals (in lieu of 200-A bushing wells)	*Without* studs	-M2	All SF_6 models rated 12.5 kA except Models 210, 220, 320, 330, 440, 550, and 660.
	With studs	-M3	
200-A bushing wells at load-interrupter switch and bus terminals (in lieu of 600-A bushings *with* studs)		-M4	All SF_6 models rated 12.5 kA except Model 201⑭
Arc resistance for vault-mounted style (arc resistance is standard for pad-mounted and UnderCover Styles), per IEC 298 Appendix AA, for arcs occurring internal to the tank (15 cycles, 12 kA symmetrical for 12.5-kA rated models and 15 cycles, 25 kA symmetrical for 25-kA-rated models)		-N	All models with catalog number suffix "-V3," "-V4," "V5," or "-V6"
Two-hole ground pad, one per way, located below bushings or bushing wells (in lieu of standard one ground pad per tank)		-O	All models

⑨ 900-ampere cable connectors must be used.

⑩ If piggybacked cable connectors are desired, refer to the nearest S&C Sales Office.

⑪ Copper bus, catalog number suffix "-Z5," must be specified if 900-ampere load-interrupter switches and/or 900-ampere fault interrupters are specified.

⑫ If any "-K" or "-Q" suffix options are selected, any bus tap ways and terminals are also rated 900 amperes.

⑬ Bushings are rated 900 amperes on ways furnished with 900-ampere load-interrupter switches (catalog number suffix "-K1" through "-K6") and/or 900-ampere fault interrupters (catalog number suffix "-Q1" through "-Q6").

⑭ Model 201 is furnished with 200-ampere bushing wells at bus terminals as standard.

Table 5. Optional Features—Continued

Item				Suffix to be Added to Switchgear Catalog Number	Applicable to Models
Remote low-pressure alarm⑮—includes internal contact for remote low-pressure indication, with wiring to outside of tank			With wires routed in a bundle on the tank for future customer connections	-R11▲	All pad-mounted and dry-vault-mounted styles
			With wires routed to terminal blocks mounted in an enclosure for customer connection (Terminal block enclosure is typically mounted on the side of the Vista switchgear tank near the overcurrent relay enclosure)	-R12	All UnderCover and wet-vault-mounted styles
				-R2 ◆	All pad-mounted and dry-vault-mounted styles
External trip provisions. Allows three-pole tripping of single-pole or three-pole fault interrupters via a trip signal from a remote location or an external relay. Requires a 110/120-Vac 50/60-Hz control power source⑯			In addition to standard overcurrent control for all fault interrupters	-R31	All pad-mounted and dry-vault-mounted styles
				-R32	All UnderCover and wet-vault-mounted styles
			In lieu of standard overcurrent control and current transformers for all fault interrupters	-R41	All pad-mounted and dry-vault-mounted styles
				-R42	All UnderCover and wet-vault-mounted styles
External trip provisions. Allows three-pole tripping of single-pole or three-pole fault interrupters via a trip signal from a remote location or an external relay. Requires a 220/240-Vac 50/60-Hz control power source⑯			In addition to standard overcurrent control for all fault interrupters	-R33	All pad-mounted and dry-vault-mounted styles
				-R34	All UnderCover and wet-vault-mounted styles
			In lieu of standard overcurrent control and current transformers for all fault interrupters	-R43	All pad-mounted and dry-vault-mounted styles
				-R44	All UnderCover and wet-vault-mounted styles
Base spacers, Includes a mild steel or stainless steel base spacer color-matched to enclosure with integral tank supports ▼	15.5 kV 29 kV 38 kV	6-inch (152-mm) base spacer for enclosure and tank	Mild steel	-W1	Pad-mounted style enclosures (mild steel) "-P2", "-P4", "-P6", "-P7", "-P9", "-P11"
			Stainless steel	-W11	Pad-mounted style enclosures (mild and stainless steel) "-P2", "-P4", "-P6", "-P7", "-P9", "-P11" "-P12", "-P14", "-P16", "-P17", "-P19", "-P21"
	15.5 kV 29 kV 38 kV	12-inch (305-mm) base spacer for enclosure and tank	Mild steel	-W3	Pad-mounted style enclosures (mild steel) "-P2", "-P4", "-P6", "-P7", "-P9", "-P11"
			Stainless steel	-W13	Pad-mounted style enclosures (mild and stainless steel) "-P2", "-P4", "-P6", "-P7", "-P9", "-P11" "-P12", "-P14", "-P16", "-P17", "-P19", "-P21"
	15.5 kV 29 kV 38 kV	18-inch (457-mm) base spacer for enclosure and tank	Mild steel	-W5	Pad-mounted style enclosures (mild steel) "-P2", "-P4", "-P6", "-P7", "-P9", "-P11"
			Stainless steel	-W15	Pad-mounted style enclosures (mild and stainless steel) "-P2", "-P4", "-P6", "-P7", "-P9", "-P11", "-P12", "-P14", "-P16", "-P17", "-P19", "-P21"

⑮ Must be specified if remote supervisory features such as remote low-pressure indication are planned.

⑯ The user-supplied trip-initiating signal must be a momentary contact. Refer to the nearest S&C Sales Office if an application requires the use of a latching contact.

▲ Not available with option "-C12" or "C22."

◆ Not available with option "-C11" or "-C21."

▼ When using a portable motor operator (PMO) on a manual Vista unit, order a 6-inch (152-mm) base spacer for the pad-mount enclosure without tank support rails to allow room for the PMO to be installed.

TABLE CONTINUED ►

Table 5. Optional Features—Continued

Item		Suffix to be Added to Switchgear Catalog Number	Applicable to Models
Key interlocks. Locks load-interrupter switch or three-pole fault interrupter (catalog number suffix "-T1" through "-T6") in the **Open** position⑰⑱	Way 1	-X1	Any in which Way 1 is a load-interrupter switch or three-pole fault interrupter
	Way 2	-X2	Any in which Way 2 is a load-interrupter switch or three-pole fault interrupter
	Way 3	-X3	Any in which Way 3 is a load-interrupter switch or three-pole fault interrupter
	Way 4	-X4	Any in which Way 4 is a load-interrupter switch or three-pole fault interrupter
	Way 5	-X5	Any in which Way 5 is a load-interrupter switch or three-pole fault interrupter
	Way 6	-X6	Any in which Way 6 is a load-interrupter switch or three-pole fault interrupter
Provisions for future key interlocks. Includes welded mounting blocks and locking shaft position indicators for future installation of key interlocks on load-interrupter switches or three-pole fault interrupters⑰⑱⑲	Way 1	-X19	Any in which Way 1 is a load-interrupter switch or three-pole fault interrupter
	Way 2	-X29	Any in which Way 2 is a load-interrupter switch or three-pole fault interrupter
	Way 3	-X39	Any in which Way 3 is a load-interrupter switch or three-pole fault interrupter
	Way 4	-X49	Any in which Way 4 is a load-interrupter switch or three-pole fault interrupter
	Way 5	-X59	Any in which Way 5 is a load-interrupter switch or three-pole fault interrupter
	Way 6	-X69	Any in which Way 6 is a load-interrupter switch or three-pole fault interrupter
Copper bus⑳		-Z5	All models

⑰ Motor operators can not be retrofitted onto ways with key interlocks.

⑱ The portable motor operator accessory cannot be used on ways with key interlock mounting provisions or key interlocks. Permanent-style motor operators for remote supervisory Vista switchgear cannot be retrofitted onto ways with key interlocks or key interlock mounting provisions.

⑲ Key interlock mounting provisions cannot be added after shipment. Only switchgear with ordered key interlock mounting provisions can be field equipped with key interlocks.

⑳ Main bus can be rated up to 1200 amperes when catalog number suffix "-Z5" is specified.

Table 6. Accessories

Item		Catalog Number
Shotgun clamp sticks for use with separable connectors	6-foot–5½-inch (197-cm) length	9933-150
	8-foot–5½-inch (258-cm) length	9933-151
Storage bag for shotgun clamp sticks, heavy canvas	6-foot-6-inch (198-cm) length	9933-152
	8-foot-6-inch (259-cm) length	9933-153
Portable motor operator① for operation of load-interrupter switches and single- or three-pole fault interrupters from a remote location. Includes carrying case, and 50-foot (1524-cm) cable with remote controls. Power supplied by:②	User-furnished 24-Volt battery and battery charger	38320R1
	S&C-furnished 24-Volt battery and battery charger	38322R1
	S&C-furnished ac input power supply	38323R1
Pentahead socket, for ½-inch drive		9931-074
Vista overcurrent control 2.0 connection cable. (For connecting control to user PC for programming and status information. This 2-meter (6.6-foot) long cable includes USB Type A-to-Type A connection.)		TR-11887
UV protection canopy	Vista switchgear 4-way–6-way	CUA-9514-1
	Vista switchgear 2-way–4-way	CUA-9514-2

① If a customer wants to use a portable motor operator on a unit with key interlocks, a custom design is required. Contact sales support or product marketing for more details.

② When ordering a portable motor operator for use on an "R1" (next generation) Vista switchgear unit, also order a 6-inch (152-mm) base spacer for the HVE only and specify a cutout top rail on the order.

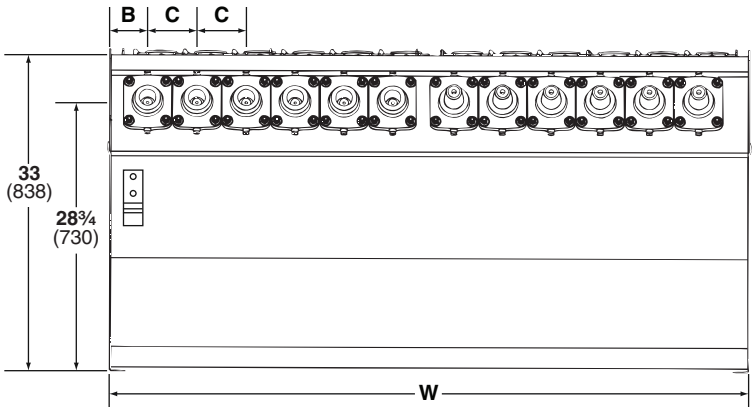
Table 7. Touch-Up Kit Components—Aerosol Coatings in 12-Ounce Cans

Item	Catalog Number
S&C light gray outdoor finish	9999-080
S&C olive green (Munsell 7GY 3.29/1.5) outdoor finish	9999-058
S&C red-oxide primer	9999-061

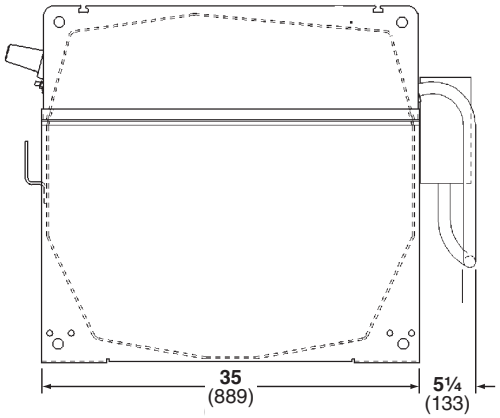
Vista Underground Distribution System Tank—Applicable to All Models

(Model 422, 29 kV, 12.5 kA symmetrical shown)

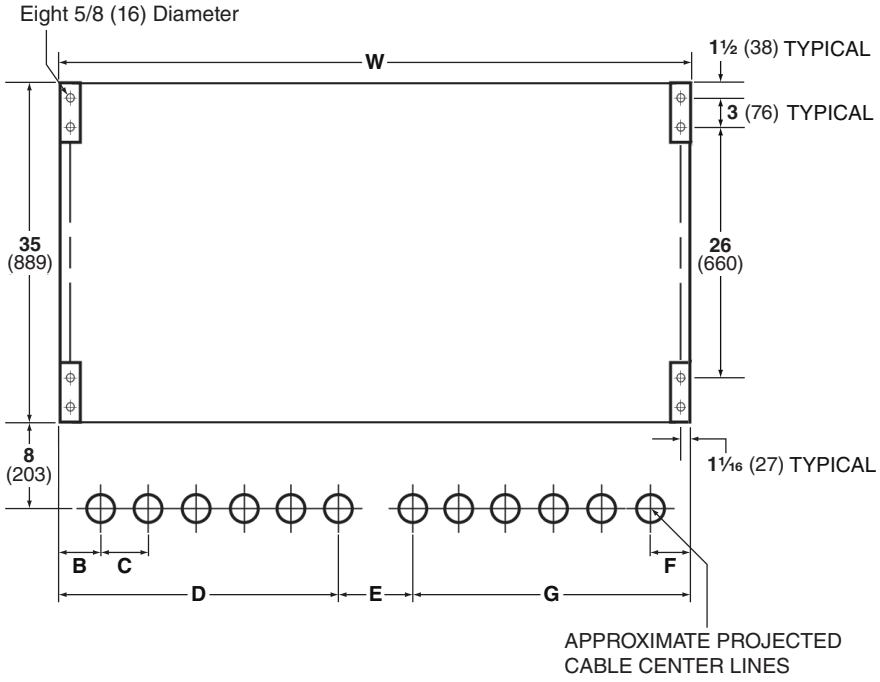
Dimensions in inches (mm)



TERMINATION VIEW



SIDE VIEW



ANCHOR BOLT PLAN

Dimensional Drawings

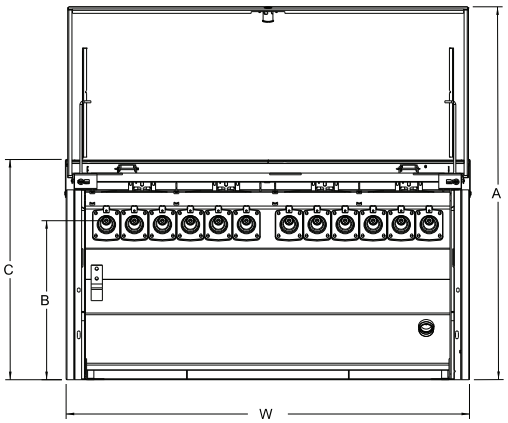
Model	Ratings		B	C	D①	E①	F	G①	W
	kV, Max	Short-Circuit, Amperes, RMS, Sym.							
201 210 211 220	15.5	12 500	3 15/16 (100)	5 (127)	NA	NA	3 15/16 (100)	NA	32 7/16 (824)
		25 000	26 11/16 (678)	5 (127)	NA	NA	3 15/16 (100)	NA	55 9/16 (1411)
	29	12 500	3 15/16 (100)	5 (127)	NA	NA	3 15/16 (100)	NA	32 7/16 (824)
		25 000	22 1/16 (560)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	55 9/16 (1411)
	38	12 500	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	38 5/16 (973)
		25 000	22 1/16 (560)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	55 9/16 (1411)
302 303 312 320 321 330	15.5	12 500	3 15/16 (100)	5 (127)	NA	NA	3 15/16 (100)	NA	47 13/16 (1214)
		25 000	11 11/16 (297)	5 (127)	NA	NA	3 15/16 (100)	NA	55 9/16 (1411)
	29	12 500	3 15/16 (100)	5 (127)	NA	NA	3 15/16 (100)	NA	47 13/16 (1214)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	55 9/16 (1411)
	38	12 500	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	55 9/16 (1411)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	55 9/16 (1411)
404 413 422 431 440	15.5	12 500	3 15/16 (100)	5 (127)	28 15/16 (735)	7 5/8 (194)	3 15/16 (100)	28 15/16 (735)	65 7/16 (1662)
		25 000	3 15/16 (100)	5 (127)	28 15/16 (735)	7 5/8 (194)	3 15/16 (100)	28 15/16 (735)	65 7/16 (1662)
	29	12 500	3 15/16 (100)	5 (127)	28 15/16 (735)	7 5/8 (194)	3 15/16 (100)	28 15/16 (735)	65 7/16 (1662)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	72 13/16 (1849)
	38	12 500	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	72 13/16 (1849)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	72 13/16 (1849)
505 514 523 532 541 550	15.5	12 500	3 15/16 (100)	5 (127)	28 15/16 (735)	7 5/8 (194)	3 15/16 (100)	43 15/16 (1116)	80 7/16 (2043)
		25 000	3 15/16 (100)	5 (127)	28 15/16 (735)	7 5/8 (194)	3 15/16 (100)	43 15/16 (1116)	80 7/16 (2043)
	29	12 500	3 15/16 (100)	5 (127)	28 15/16 (735)	7 5/8 (194)	3 15/16 (100)	43 15/16 (1116)	80 7/16 (2043)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	90 1/16 (2288)
	38	12 500	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	90 1/16 (2288)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	90 1/16 (2288)
606 615 624 633 642 651 660	15.5	12 500	3 15/16 (100)	5 (127)	43 5/16 (1100)	7 5/8 (194)	3 15/16 (100)	43 5/16 (1100)	95 7/16 (2424)
		25 000	3 15/16 (100)	5 (127)	43 5/16 (1100)	7 5/8 (194)	3 15/16 (100)	43 5/16 (1100)	95 7/16 (2424)
	29	12 500	3 15/16 (100)	5 (127)	43 5/16 (1100)	7 5/8 (194)	3 15/16 (100)	43 5/16 (1100)	95 7/16 (2424)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	107 5/16 (2726)
	38	12 500	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	107 5/16 (2726)
		25 000	4 13/16 (122)	5 3/4 (146)	NA	NA	4 13/16 (122)	NA	107 5/16 (2726)

① All four-, five-, and six-way units rated 15.5 kV, 25 kA symmetrical or 29 kV, 12.5 kA symmetrical include an extra 2⅝-inch (67-mm) gap between ways 2 and 3 (four-way units) or between ways 3 and 4 (five- and six-way units).

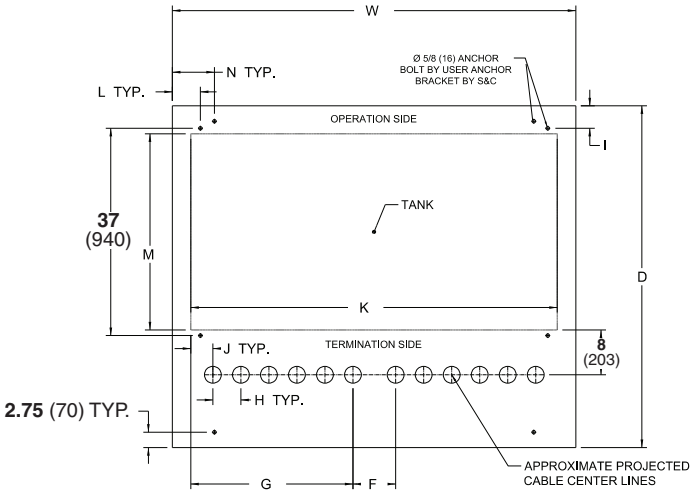
Pad-Mounted Style Switchgear—Models 201, 210, 211, 220, 302, 303, 312, 320, 321, 330, 404, 413, 422, 431, 440★

(Model 422, 29 kV, 12.5 kA symmetrical shown)

Dimensions in inches (mm)



TERMINATION VIEW



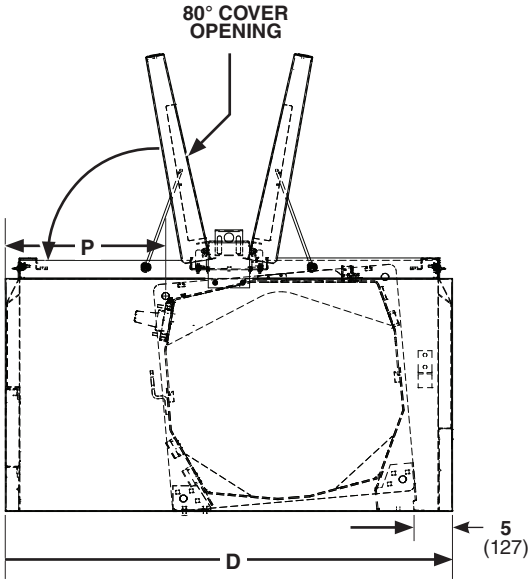
ANCHOR BOLT PLAN

Model	Ratings		A	B	C	D	F①	G①	H
	kV, Max	Short-Circuit, Amperes, RMS, Sym.							
201 210 211 220	15.5	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1549)	NA	NA	5 (127)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5 (127)
	29	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5 (127)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
	38	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
302 303 312 320 321 330	15.5	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1549)	NA	NA	5 (127)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5 (127)
	29	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5 (127)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
	38	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
404 413 422 431 440	15.5	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1549)	7⅝ (194)	32³⁄₁₆ (818)	5 (127)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	7⅝ (194)	32³⁄₁₆ (818)	5 (127)
	29	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	7⅝ (194)	32³⁄₁₆ (818)	5 (127)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
	38	12 500	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)
		25 000	65⁹⁄₁₆ (1665)	28 (711)	39⁵⁄₁₆ (999)	65 (1651)	NA	NA	5¾ (146)

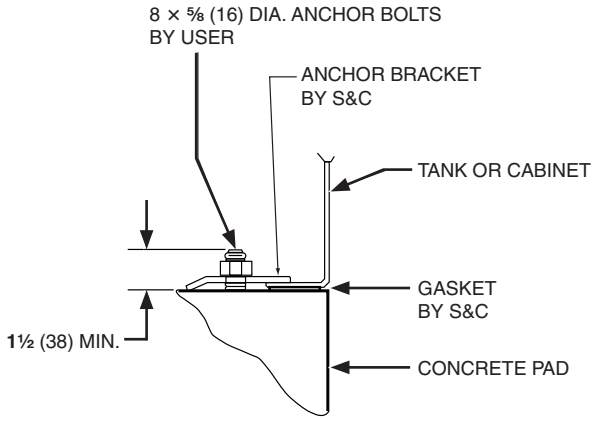
★ See pages 27 and page 28 for Models 505, 514, 523, 532, 541, 550, 606, 615, 624, 633, 642, 651, and 660.

① All four-, five-, and six-way units rated 15.5 kV or 29 kV, 12.5 kA symmetrical include an extra 2⅝-inch (67-mm) gap between ways 2 and 3 (four-way units) or between ways 3 and 4 (five- and six-way units).

Dimensions in inches (mm)



SIDE VIEW



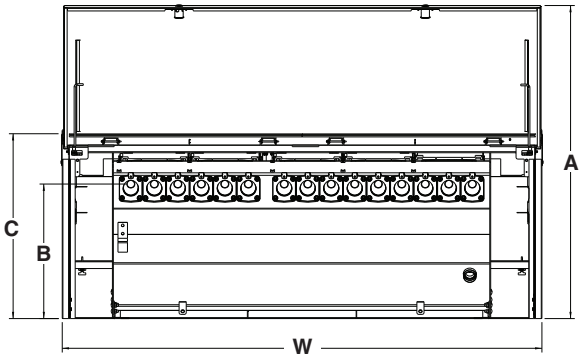
ANCHOR BOLT DETAIL

Model	Ratings		I	J	K	L	M	N	P	W
	kV, Max	Short-Circuit, Amperes, RMS, Sym.								
201 210 211 220	15.5	12 500	4 (102)	7 (178)	32 13/16 (833)	4½ (114)	35 (889)	7½ (191)	19½ (495)	39 (991)
		25 000	4 (102)	38⅜ (975)	55 9/16 (1411)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
	29	12 500	4 (102)	7 (178)	32 13/16 (833)	4½ (114)	35 (889)	7½ (191)	23½ (597)	39 (991)
		25 000	4 (102)	33¾ (857)	55 9/16 (1411)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
	38	12 500	4 (102)	7⅝ (194)	38 13/16 (986)	4½ (114)	35 (889)	7½ (191)	23½ (597)	44 (1118)
		25 000	4 (102)	33¾ (857)	55 9/16 (1411)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
302 303 312 320 321 330	15.5	12 500	4 (102)	16 (406)	47 13/16 (1214)	13½ (343)	35 (889)	7½ (191)	19½ (495)	72 (1829)
		25 000	4 (102)	23⅜ (594)	55 9/16 (1411)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
	29	12 500	4 (102)	16 (406)	47 13/16 (1214)	13½ (343)	35 (889)	7½ (191)	23½ (597)	72 (1829)
		25 000	4 (102)	16½ (419)	55⅝ (1413)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
	38	12 500	4 (102)	16½ (419)	55⅝ (1413)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
		25 000	4 (102)	16½ (419)	55⅝ (1413)	13⅛ (333)	35 (889)	7½ (191)	23½ (597)	79 (2007)
404 413 422 431 440	15.5	12 500	4 (102)	7 3/16 (183)	65 7/16 (1662)	4⅝ (117)	35 (889)	7½ (191)	19½ (495)	72 (1829)
		25 000	4 (102)	10 1/16 (271)	65 7/16 (1662)	8⅛ (206)	35 (889)	11 (279)	23½ (597)	79 (2007)
	29	12 500	4 (102)	7 3/16 (183)	65 7/16 (1662)	4⅝ (117)	35 (889)	7½ (191)	23½ (597)	72 (1829)
		25 000	4 (102)	7⅞ (200)	72 13/16 (1849)	4½ (114)	35 (889)	7½ (191)	23½ (597)	79 (2007)
	38	12 500	4 (102)	7⅞ (200)	72 13/16 (1849)	4½ (114)	35 (889)	7½ (191)	23½ (597)	79 (2007)
		25 000	4 (102)	7⅞ (200)	72 13/16 (1849)	4½ (114)	35 (889)	7½ (191)	23½ (597)	79 (2007)

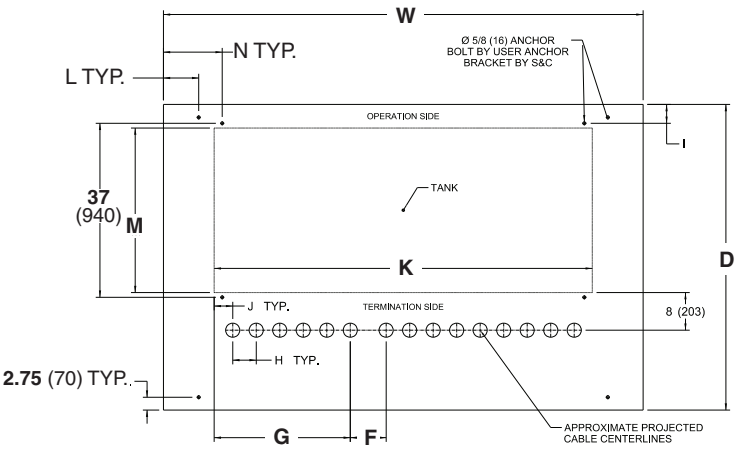
Pad-Mounted Style Switchgear—Models 505, 514, 523, 532, 541, 550, 606, 615, 624, 633, 642, 651, and 660★

(Model 523, 29 kV, 12.5 kA symmetrical shown)

Dimensions in inches (mm)



TERMINATION VIEW



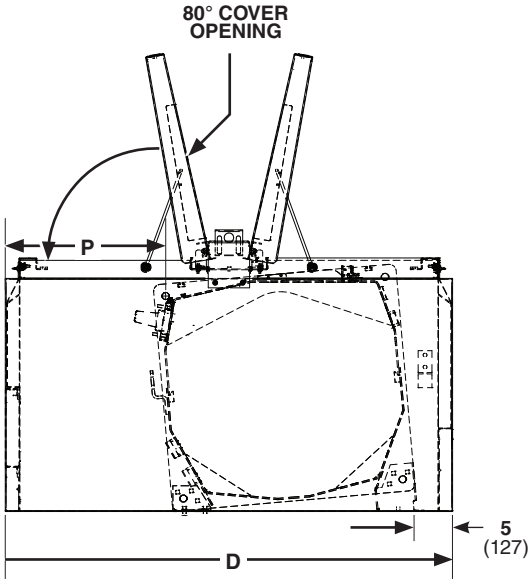
ANCHOR BOLT PLAN

Model	Ratings		A	B	C	D	F①	G①	H
	kV, Max	Short-Circuit, Amperes, RMS, Sym.							
505 514 523 532 541 550	15.5	12 500	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	7 5/8 (194)	39 11/16 (1008)	5 (127)
		25 000	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	7 5/8 (194)	39 11/16 (1008)	5 (127)
	29	12 500	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	7 5/8 (194)	39 11/16 (1008)	5 (127)
		25 000	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	NA	NA	5 3/4 (146)
	38	12 500	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	NA	NA	5 3/4 (146)
		25 000	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	NA	NA	5 3/4 (146)
606 615 624 633 642 651 660	15.5	12 500	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	7 5/8 (194)	47 3/16 (1199)	5 (127)
		25 000	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	7 5/8 (194)	47 3/16 (1199)	5 (127)
	29	12 500	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	7 5/8 (194)	47 3/16 (1199)	5 (127)
		25 000	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	NA	NA	5 3/4 (146)
	38	12 500	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	NA	NA	5 3/4 (146)
		25 000	65 9/16 (1665)	28 (711)	39 5/16 (999)	65 (1651)	NA	NA	5 3/4 (146)

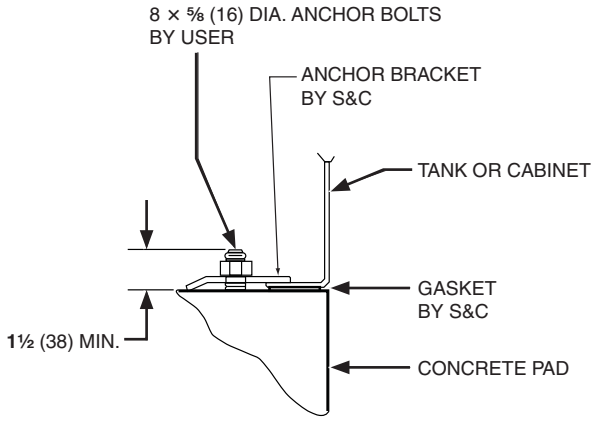
★ See pages 24 through 26 for Models 201, 210, 211, 220, 302, 303, 312, 320, 321, 330, 404, 413, 422, 431, and 440.

① All four-, five-, and six-way units rated 15.5 kV or 29 kV, 12.5 kA symmetrical include an extra 2⅝-inch (67-mm) gap between ways 2 and 3 (four-way units) or between ways 3 and 4 (five- and six-way units).

Dimensions in inches (mm)



SIDE VIEW



ANCHOR BOLT DETAIL

Model	Ratings		I	J	K	L	M	N	P	W
	kV, Max	Short-Circuit, Amperes, RMS, Sym.								
505 514 523 532 541 550	15.5	12 500	4 (102)	14 11/16 (373)	80 7/16 (2043)	12 1/8 (308)	35 (889)	7½ (191)	19½ (495)	102 (2591)
		25 000	4 (102)	14 11/16 (373)	80 7/16 (2043)	12 1/8 (308)	35 (889)	7½ (191)	23½ (597)	102 (2591)
	29	12 500	4 (102)	14 11/16 (373)	80 7/16 (2043)	12 1/8 (308)	35 (889)	7½ (191)	23½ (597)	102 (2591)
		25 000	4 (102)	16¼ (413)	90 1/16 (2288)	12 7/8 (327)	35 (889)	7½ (191)	23½ (597)	113 (2870)
	38	12 500	4 (102)	16¼ (413)	90 1/16 (2288)	12 7/8 (327)	35 (889)	7½ (191)	23½ (597)	113 (2870)
		25 000	4 (102)	16¼ (413)	90 1/16 (2288)	12 7/8 (327)	35 (889)	7½ (191)	23½ (597)	113 (2870)
606 615 624 633 642 651 660	15.5	12 500	4 (102)	7 3/16 (183)	95 7/16 (2424)	4 5/8 (187)	35 (889)	7½ (191)	19½ (495)	102 (2591)
		25 000	4 (102)	7 3/16 (183)	95 7/16 (2424)	4 5/8 (117)	35 (889)	7½ (191)	23½ (597)	102 (2591)
	29	12 500	4 (102)	7 3/16 (183)	95 7/16 (2424)	4 5/8 (117)	35 (889)	7½ (191)	23½ (597)	102 (2591)
		25 000	4 (102)	7⅝ (194)	107 5/16 (2726)	4¼ (108)	35 (889)	7½ (191)	23½ (597)	113 (2870)
	38	12 500	4 (102)	7⅝ (194)	107 5/16 (2726)	4¼ (108)	35 (889)	7½ (191)	23½ (597)	113 (2870)
		25 000	4 (102)	7⅝ (194)	107 5/16 (2726)	4¼ (108)	35 (889)	7½ (191)	23½ (597)	113 (2870)