

Specifications

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Standard

The seller's standard conditions of sale set forth in Price Sheet 150 apply, except as modified in the "Warranty Qualifications" section on page 3.

Special to This Product

Inclusions

PMH configurations of manual PME Pad-Mounted Gear feature elbow-connected encased components. They are of freestanding, self-supporting construction—not for bolting directly to transformers—with provisions for cable entrance and exit through the bottom. Enclosures meet the requirements of ANSI C57.12.28 (enclosure integrity).

PMH-configured PME gear is ideal for retrofitting 25-kV manual PMH Pad-Mounted Gear installations when elbow connections are desired because of the following installation criteria:

- The cable length in the pit is limited, so after re-terminating the cables with elbows, cables would not be able to reach the bushings of standard manual PME Pad-Mounted Gear.
- Additional construction, such as pouring a new pad or running new cables, is not desired.
- The existing pad is sufficiently large enough for the manual PME gear footprint, which is larger than that of manual PMH gear.
- System specifications allow the use of "repair & replacement" elbows on switch compartments.

Note: Adjustable parking stands are available in the fuse compartment to help manage the variability in cable termination height.

Access to termination compartments is controlled by the Penta-Latch® Mechanism, which provides automatic door latching and permits padlocking only when the door is securely latched. The door can be opened only with a pentahead socket wrench or tool.

The enclosure roof is undercoated with an insulating "no-drip" compound. 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 olive green Ultradur® II Outdoor Finish.

Switch terminals are equipped with 600-ampere-rated bushings, and fuse terminals are equipped with 200-ampere-rated bushing-wells. Bushing and bushing-well interfaces are in accordance with ANSI/IEEE Standard 386 to accept all standard separable insulated connectors and inserts.

Parking stands are provided adjacent to each bushing and bushing well. Parking stands in fuse compartments are adjustable for up to 3 inches (76 mm) below the adjacent bushing well. Grounding provisions suitable for use with separable insulated connectors and related accessories are located in each termination compartment. Full-length steel barriers separate adjoining termination compartments. PMH-configured PME gear models are provided with an instruction manual holder and storage racks on each fuse termination-compartment door for spare S&C Fuse Units.

All medium-voltage switch and fuse components are completely encased in an inner grounded steel compartment. The component compartment floor of 22-gauge galvanized steel sheet excludes foliage and animals. Fiberglass-reinforced polyester barriers are provided where required to achieve published BIL ratings.

Roof sections over the cable compartments are hinged to allow easy cable pulling during installation.

External handle-operated 600-ampere Mini-Rupter® Switches provide three-pole live switching of three-phase source circuits. A folding switch-operating handle, secured inside the switch-operating-hub pocket, is provided with each Mini-Rupter Switch.

These PME switchgear models are offered with S&C Type SME-20 Power Fuses. SME-20 Fuse Mountings use the SMU-20® Fuse Units.

Fuses provide fault protection of the tap circuits, and loadbreak inserts and separable insulated connectors supplied by the user permit single-pole switching of the taps. These units feature TransFuser™ Mountings, which are fuse-handling mechanisms with a mechanical interlock that guards against gaining access to the fuse before opening the loadbreak separable insulated connector at the fuse terminal. The fuse is accessible only when de-energized and isolated for full-view non-loadbreak disconnection and removal with a shotgun stick.

Individual ground rings are provided for each fuse mounting to allow convenient grounding of cable concentric neutrals and elbow accessories. These ground rings

are also equipped with cable guides to assist in cable training and to prevent cables from interfering with movement of the fuse-access panel.

Exclusions

Three-phase units listed in Table 2 on page 6 do not include optional features, fuse components, switch blades, or accessories listed in Table 3 through Table 8.

Specification Deviations

Features or modifications other than those listed in Table 3 on page 7 cannot be accommodated. Specifically, the following modifications are not available:

- Relocation of components (switches and fuses)
- Inclusion of bracket- or base-mounted surge arresters or any type of cable-terminating device other than separable insulated connectors
- Mechanical cable interlocks

Application Notes

For application information as well as a guide to the selection of appropriate ampere ratings and speeds for S&C SME Power Fuses, contact the nearest S&C Sales Office.

Switching With Mini-Rupter Switches

PMH-configured PME gear features Mini-Rupter Switches for three-pole live switching of three-phase circuits.

Complete ratings for Mini-Rupter Switches, as applied in manual PMH-configured PME gear, are shown in Table 1 on page 5. In addition to the load-dropping ratings shown, Mini-Rupter Switches are 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 on systems rated higher than 7.2 kV and involving load current with high harmonic content (such as rectifier load currents), refer to the nearest S&C Sales Office. The three-time duty-cycle fault-closing ratings for Mini-Rupter Switches shown in Table 1 on

page 5 define the ability to close the switches three times against a three-phase fault with asymmetrical current in at least one phase equal to the rated value, with the switch remaining operable and able to carry and interrupt rated current.

A Note on Single-Pole Switching

In using separable insulated connectors (elbows) for single-pole switching of three-phase transformers or transformer banks (or single-phase transformers connected line-to-line) where the maximum system operating voltage exceeds 22 kV, circuit connections or parameters may, in some cases, produce overvoltages that exceed the switching capability of the elbow. Therefore, follow the elbow manufacturer's recommendations and the user's operating and safety procedures for switching such transformers from anywhere other than at the transformer location when they are unloaded or lightly loaded.

Operation Note

PMH-configured PME gear accommodates separable insulated connectors and accessories. This gear must be operated by qualified persons who are thoroughly trained in, and who understand any hazards that may be involved with, the operation of separable insulated connectors and related accessories.

Warranty Qualifications

The standard warranty contained in the seller's standard conditions of sale (as set forth in Price Sheet 150) does not apply to PMH-configured PME gear where fuse units, fuse unit end-fittings, holders, refill units, or switch blades of other-than-S&C manufacture are used in conjunction with S&C SME Mountings.

How to Order

Complete the following steps to order PMH-configured PME switchgear:

STEP 1. Select the pad-mounted gear and options:

- (a) Obtain the catalog number of the desired unit from Table 2 on page 6.

Catalog Number:

- (b) Add suffix designations (to the catalog number above) to indicate the optional features desired, selected from Table 3 on page 7.

[illegible]

STEP 2. Obtain the catalog numbers of accessories and touch-up kit components from Table 7 and Table 8 on page 9.

[illegible]

STEP 3. Obtain the catalog number of the SME end-fittings and SME-20 Fuse Units from Table 4 and Table 5 on page 8.

Catalog Number: 3093

Catalog Number:

Example: The catalog number of a 25kV manual Model PMH-configured PME-9 with SME-20 Mountings with an optional **Fuse Storage** feature for three spare fuse units with end-fittings in Compartment 1 is:

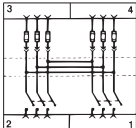
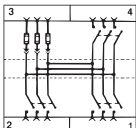
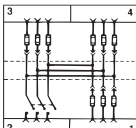
6 5 7 5 3 R 1 – E 1

Table 1. Ratings for Mini-Rupter® Switch

Voltage, kV			Current, Amperes						
Nom.	Max	BIL	Cont.	Live Switching		Three-Time Duty-Cycle Fault-Closing		Short-Circuit	
				Load-Splitting (Parallel or Loop Switching)	Load Dropping	Peak	RMS, Sym.	Peak Withstand, Peak	One-Second Short Time Withstand, RMS, Sym.
25	29	125	600	600	600	32 500	12 500	32 500	12 500

Ordering Tables

Table 2. Three-Phase Units (including mountings, less fuse components)①

Model② and Connection Diagram③	Fuse Type	Ratings									MVA 3-Phase Sym. at Rated Voltage	Catalog Number	Net Wt., Lbs. (kgs.)	Page Reference for Dimen- sional Information
		kV			Current, Amperes RMS			Short-Circuit						
					Fuse, Max	Mini-Rupter		Current, Amperes, RMS, Sym.④						
		Nom.	Max	BIL		Cont.	Load Drop.	Mini- Rupter	Main Bus	Pad- Mount. Gear⑤				
PME-9● 	SME-20	25	27	125	200E■	600	600	12 500	12 500	12 500	540	65753R1	2225 (1009)	10
PME-11● 	SME-20	25	27	125	200E■	600	600	12 500	12 500	12 500	540	65763R1	2375 (1077)	11
PME-12● 	SME-20	25	27	125	200E■	600	600	12 500	12 500	12 500	540	65773R1	2150 (975)	12

① Fuse components must be ordered separately.

② Vertical-type portable feed-thru inserts cannot be accommodated in fuse-termination compartments of models furnished with SME-20 Power Fuses. Also, "piggybacked" Blackburn 600-ampere T-bodies cannot be accommodated in switch-termination compartments.

③ Compartment numbers appear in the corners of each connection diagram.

④ Asymmetrical current rating is 1.6 times symmetrical current rating.

⑤ Short-circuit rating of complete pad-mounted gear unit may be limited by ratings of bushing inserts, elbows, T-bodies, fuses, and cables used. Fault-closing and/or short-circuit ratings of switches and bus, and interrupting ratings of fuses meet or exceed short-circuit rating of the gear. For complete switch ratings, refer to the "Application Notes" section on page 3.

● Optional key interlocks, catalog number suffix "-C3" or "-C4," must be furnished if end user is not an electric utility.

■ SMU-20® Fuse Units are available in ratings through 200K amperes as well as 200E amperes.

Table 3. Optional Features

Item		Suffix to be Added to Pad-Mounted Gear Catalog No.	Applicable to Models
Light gray outdoor Ultradur® II Outdoor Finish instead of olive green		-A2	All models
Equipment green outdoor Ultradur II Outdoor Finish (Toronto standard) instead of olive green		-A3	All models
Seafoam green outdoor Ultradur II Outdoor Finish instead of olive green		-A4	All models
Special color outdoor Ultradur II Outdoor Finish instead of olive green		-A5	All models
Hexhead actuator for use in lieu of pentahead actuator on all Penta-Latch Mechanisms	For use <i>except</i> when option suffix “-F2” is specified	-B1	All models
	For use when option suffix “-F2” is also specified	-B2	All models
Key interlocks to prevent paralleling of switches in Compartments 1 and 2 ^①		-C1	PME-9, -11
Key interlocks to prevent opening fuse termination-compartment doors unless all switches are locked open ^①		-C3	PME-9, -11, -12
Key interlocks. Combines functions of options “-C1” and “-C3” above ^①		-C4	PME-9, -11
Fuse-storage feature for three spare fuse assemblies per compartment ^②	Located in Compartment 1	-E1	PME-9, -11
	Located in Compartment 2	-E2	PME-9, -11, -12
	Located in Compartments 1 and 2	-E3	PME-9, -11
Mounting provisions for a fault indicator in each switch compartment Note: Accommodates three-phase indicator with single-phase sensors	Without viewing window in door	-F1	PME-9, -11, -12
	With viewing window in door	-F2	PME-9, -11, -12
Base spacer 6-inch (152 mm)	Carbon steel	-K7	All models
Base spacer 12-inch (305 mm)	Carbon steel	-K8	All models
International crating ^③		-L71	All models
600-ampere bushings without studs, at switch terminals		-M1	PME-9, -11, -12

① When ordering, please furnish the name of ultimate user, station, and location of gear.

② Fuse assemblies (fuse holders or fuse units with end-fittings) are not included.

③ Choosing this option signifies that wood products to be used in the packaging of any items on international orders must either be hard wood or certified by the wood supplier as having “been heat treated (kiln dried) to a core temperature of 56°C (133°F) for a minimum of 30 minutes.”

Table 4. SME-20 Power Fuse Components

Fuse-Unit End-Fittings	
Item	Catalog Number
End-fittings (including silencer), for use with SMU-20® Fuse Units	3093
SMU-20® Fuse Units ^①	
14.4 kV Nominal, 17 kV Max	25 kV Nominal, 27 kV Max
For a complete listing of available ampere ratings, speeds, and catalog numbers, refer to Table 5.	

^① These fuse units are usable in SME-20 Mountings.

Table 5. SMU-20® Fuse Units (for use in SME-20 Mountings)^①

25 kV Nominal, 27 kV Max ^②					
“K” Ratings		“E” Ratings			
Rating, Amperes ↓	Catalog Number	Rating, Amperes ↓	Catalog Number		
Speed →	S&C “K” TCC 165-2	Speed →	S&C Std. TCC 115-2		
		1	703001		
		Speed →	S&C Std. TCC 153-2	S&C Slow TCC 119-2	S&C Very Slow TCC 176-2
3K	703003				
6K	703006	5E	613005		
8K	703008	7E	613007		
10K	703010	10E	613010		
12K	703012	13E	613013		
15K	703015	15E	613015	713015	
20K	703020	20E	613020	713020	
25K	703025	25E	613025	713025	
30K	703030	30E	613030	713030	
40K	703040	40E	613040	713040	
50K	703050	50E	613050	713050	603050
65K	703065	65E	613065	713065	603065
80K	703080	80E	613080	713080	603080
100K	703100	100E	613100	713100	603100
140K	703140	125E	613125	713125	603125
200K	703200	150E	613150	713150	603150
		175E	613175	713175	603175
		200E	613200	713200	603200

^① These fuse units are equally suitable for use in SMD-20 outdoor distribution mountings.

^② Also suitable for protection of single-phase-to-neutral circuits (lines or transformers) on 20/34.5 GrY-kV systems.

Table 6. Switch Blades^①

Item	Rating			Catalog Number
	kV		Amps, Cont.	
	Nom.	Max		
Switch blade, for use in lieu of SMU-20® Fuse Unit in SME-20 Mounting	25	27	200	5453

① When switch blades are used in lieu of fuses, the short-circuit rating of the pad-mounted gear is 12,500 amperes, RMS symmetrical at 25 kV. Actual short-circuit capabilities may be limited to lower values by the capabilities of bushing inserts, elbows, and cables used on the gear.

Table 7. Accessories

Item			Catalog Number
Shotgun clamp sticks for use with separable connectors and voltage testers	77½-inch (1969-mm) length		9933-150
	101½-inch (2578-mm) length		9933-151
Storage bag, heavy canvas	For shotgun clampstick	78-inch (1981-mm) length	9933-152
		102-inch (2591-mm) length	9933-153
Voltage tester with audio and visual signals, includes voltage tester, batteries, adapter for shotgun clampsticks, and storage case①			9931-072
Pentahead socket, for ½-inch drive			9931-074

① For ultimate users other than electric utilities, also specify a shotgun clamp stick of the appropriate length.

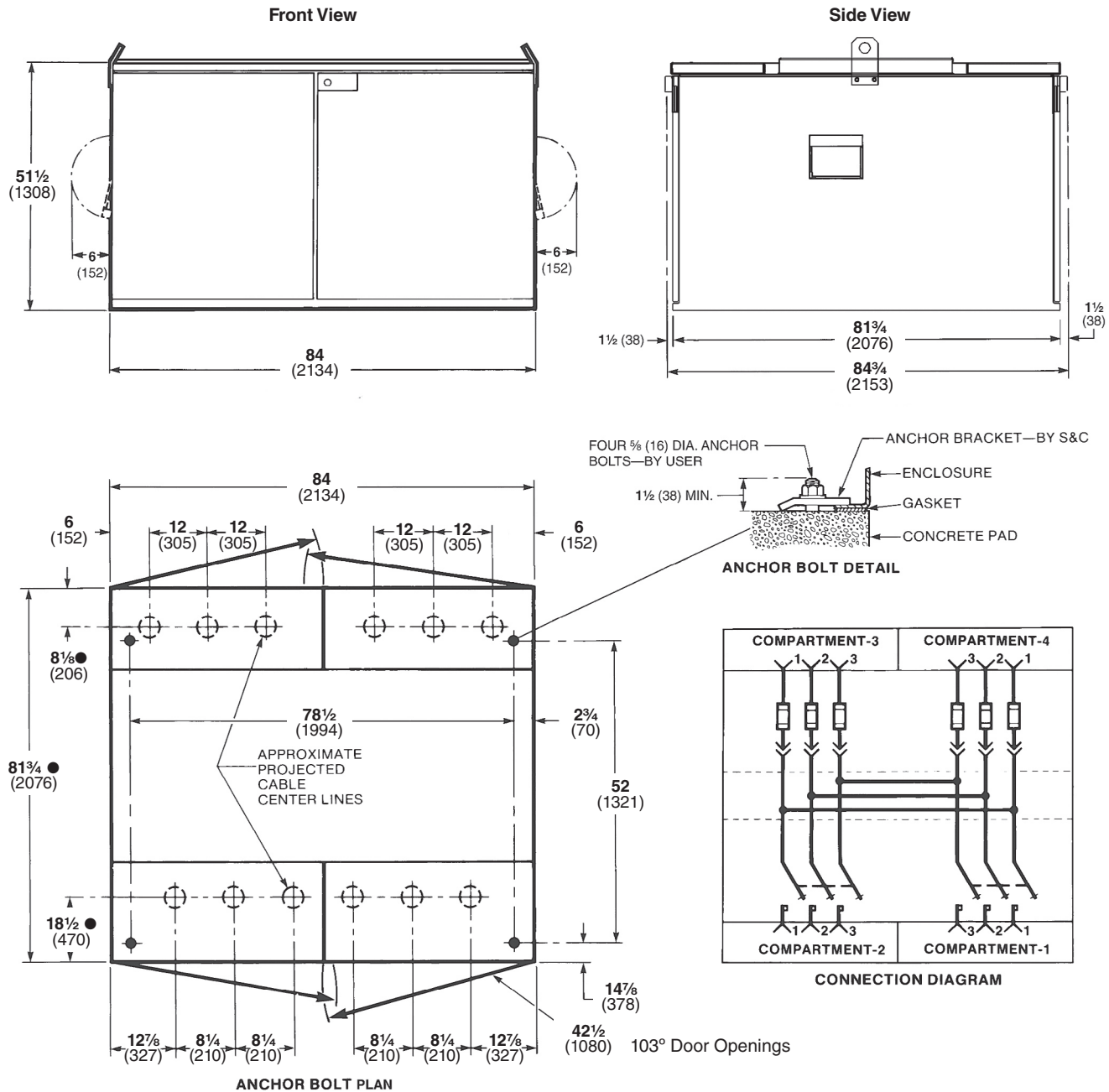
Table 8. Touch-Up Kit Components—Aerosol Coatings in 12-Ounce Cans

Item	Catalog Number
S&C light gray outdoor finish	9999-080
S&C olive green (Munsell 7GY3.29/1.5) outdoor finish	9999-058
S&C red-oxide primer	9999-061

Dimensional Drawings

Model PME-9

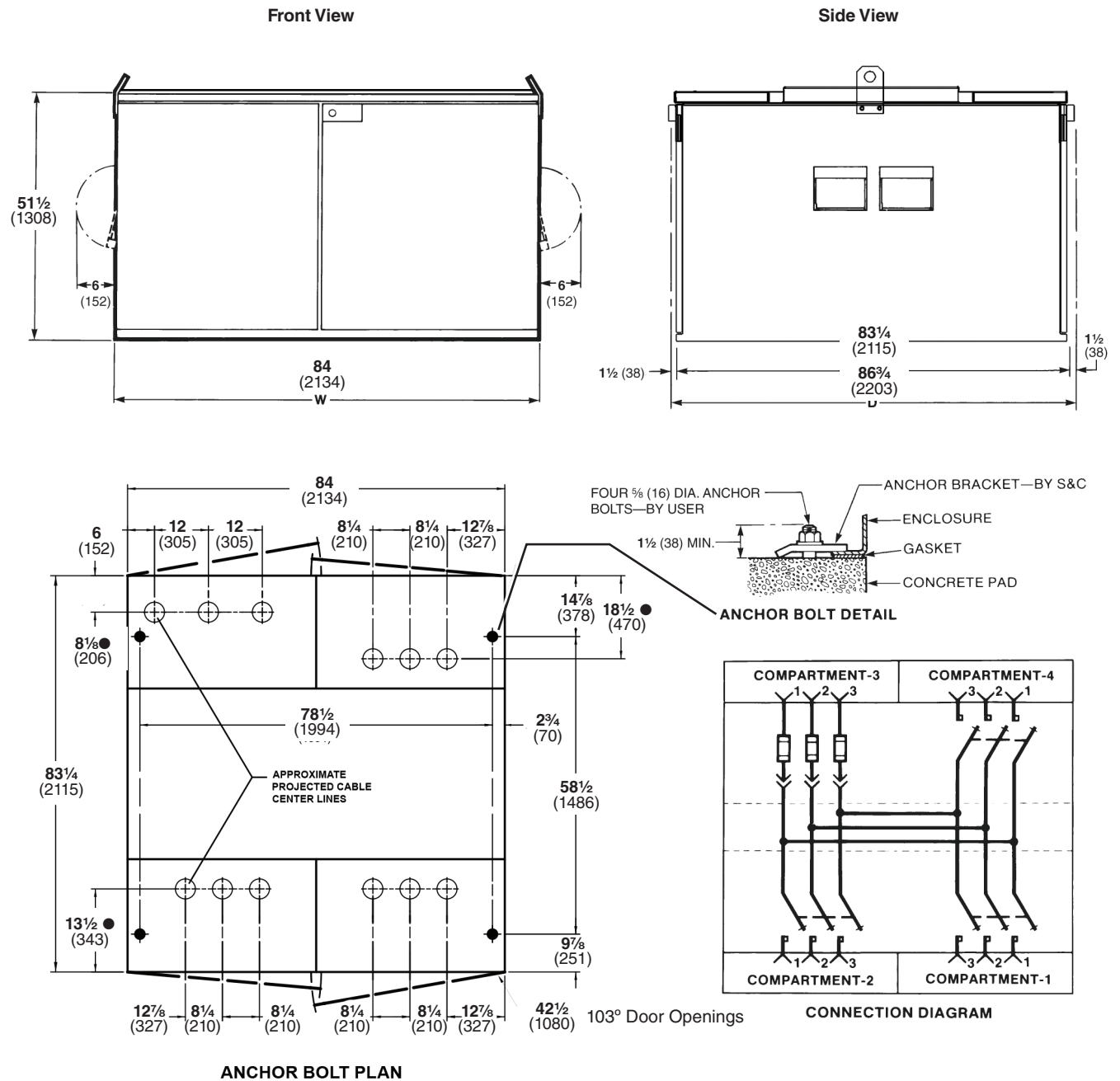
Dimensions in inches (mm)



- Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to page 14.

Model PME-11

Dimensions in inches (mm)

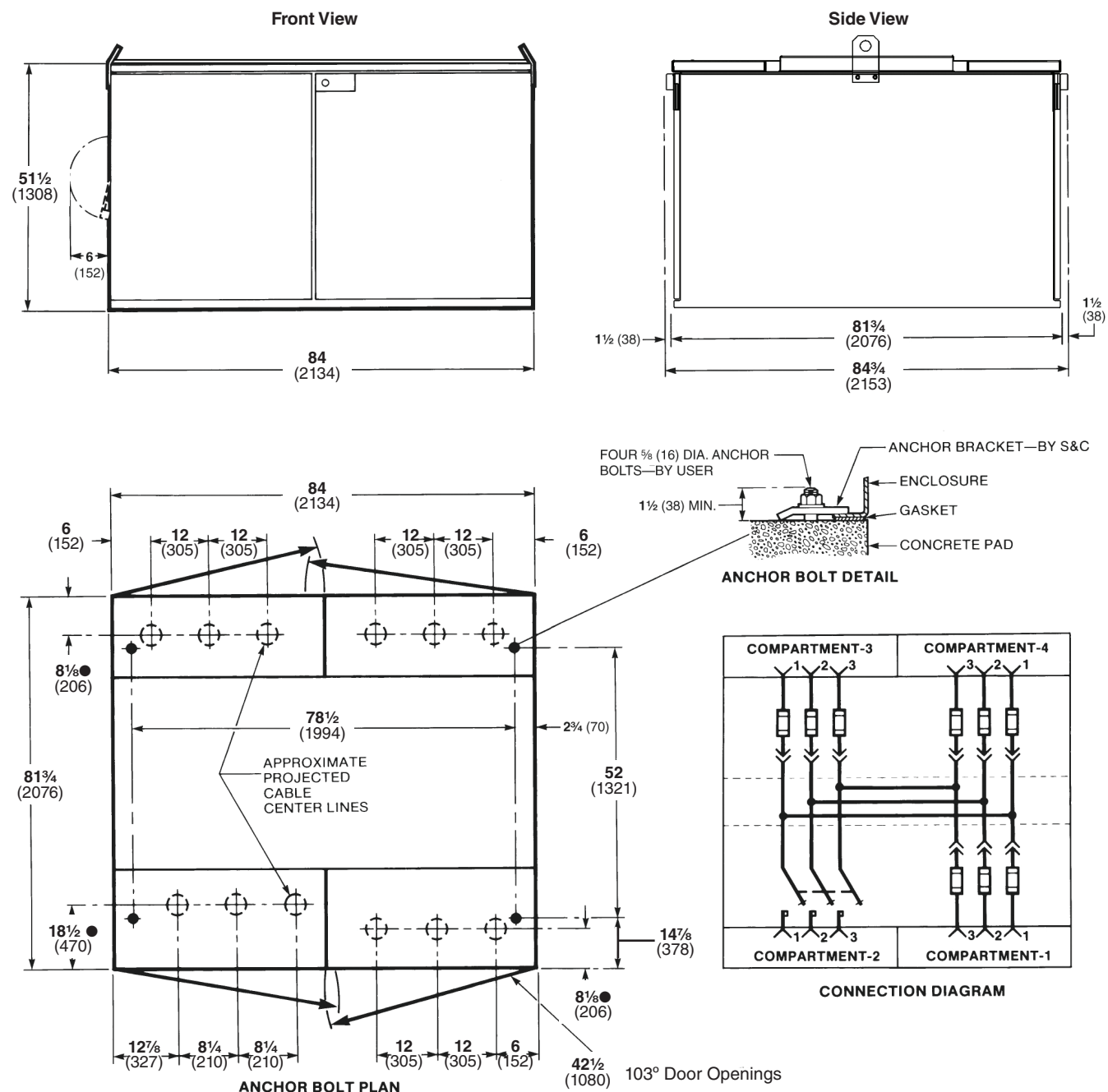


- Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to page 14.

Dimensional Drawings

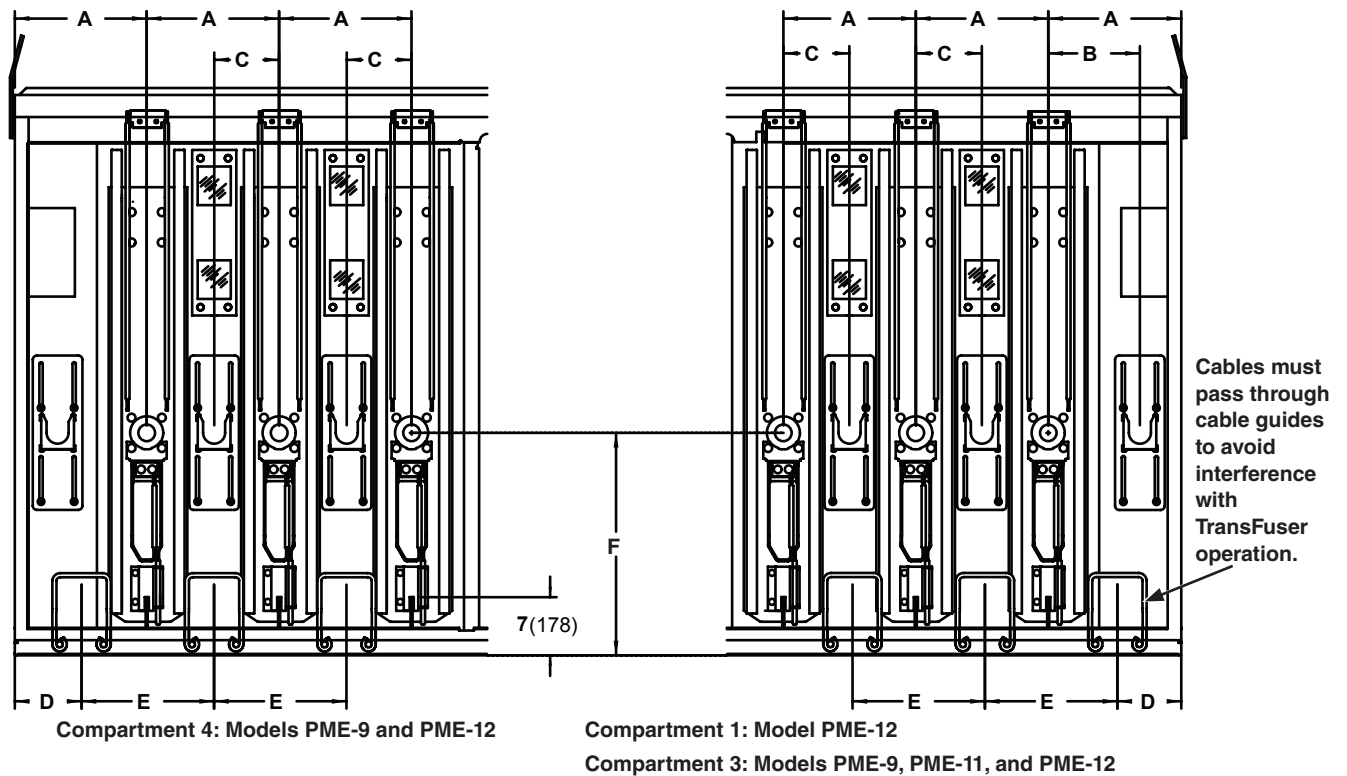
Model PME-12

Dimensions in inches (mm)

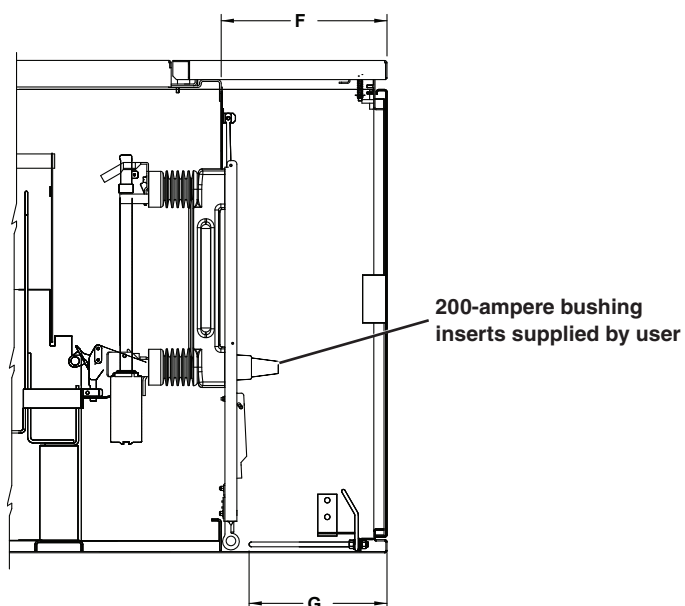


- Projected cable center lines are applicable for PME models with cable installed in a cable pit. For cable installed in conduit, refer to page 14.

Typical Cable Compartments for Fuses

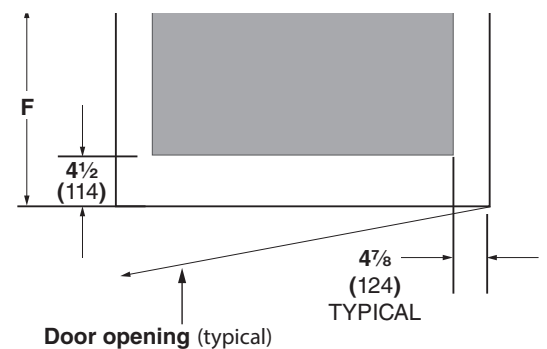


Voltage, kV			Dimensions in Inches (mm) ^①					
Nom.	Max	BIL	A	B	C	D	E	F
25	27	125	12 (305)	8½ (216)	6 (152)	6 (152)	12 (305)	20 (508)

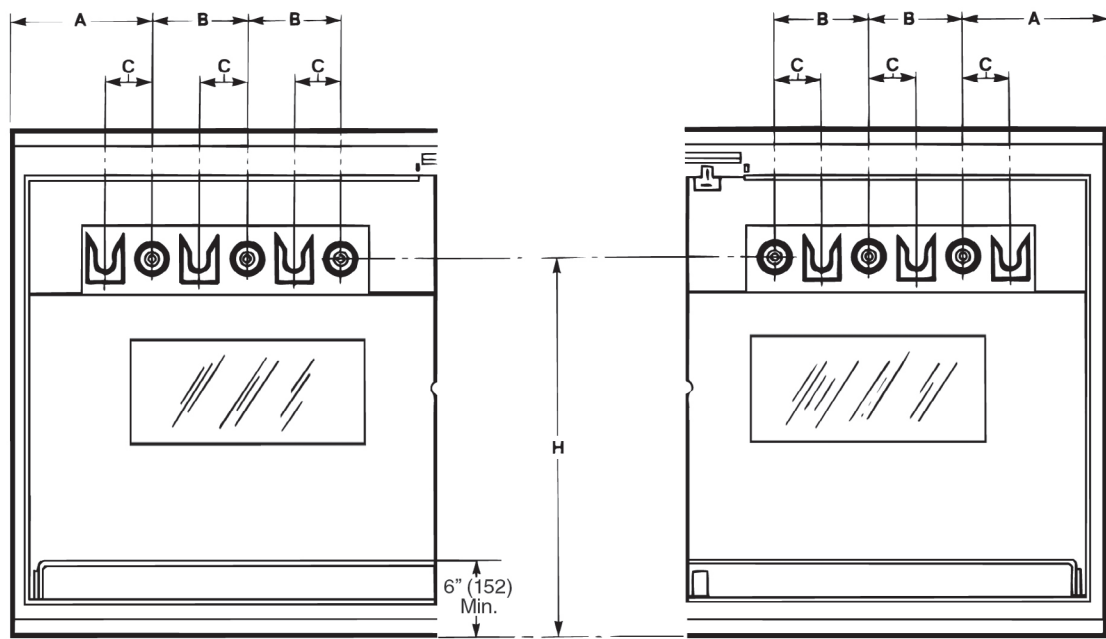


CONDUIT ENTRANCE

Shaded area indicates available area for conduit entrance. See applicable pages 10, 11, and 12 for approximate projected cable center lines for the cables to pass through the cable guides.



Typical Cable Compartments for Switches



Compartment 2: Models PME-9, PME-11, and PME-12

Compartment 1: Models PME-9 and PME-11

Compartment 4: Model PME-11

Voltage, kV			Dimensions in Inches (mm)①					
Nom.	Max	BIL	A	B	C	D	E	H
25	27	125	12 ⁷ / ₈ (327)	8 ¹ / ₄ (210)	4 ¹ / ₈ (105)	24 (610)	19 ¹ / ₂ (495)	34 ¹ / ₄ (870)

① To the nearest 1/8-inch (3 mm).

