The enclosure and insulating-barrier dimensions listed in this document have been determined using the *minimum* clearances (shown in Note 4 on page 3) recommended to facilitate fuse handling and to maintain the inherent electrical ratings of S&C Alduti-Rupter Switches with Power Fuses—Indoor Distribution when installed in metal enclosures. These clearances are sufficient, provided normal consideration has been given to avoidance of point-gap configurations. When installing bus or cable connections and cable terminations, these clearances should be observed. (Note: Lesser clearances than those shown are acceptable only if substantiated by impulse testing of the complete assembly consisting of the enclosure, the switch with power fuses, barriers, the bus, connectors, terminators, etc.) In addition, enclosure dimensions should be sufficient—or barriers should be provided—to ensure a minimum clearance of 1 inch (25 mm) between the metal parts of a hookstick and ground during fuse opening and closing operations.

Enclosures containing S&C Alduti-Rupter Switches with Power Fuses should be provided with a key or mechanical door interlock to guard against: (1) opening the door when the Alduti-Rupter Switch is closed and (2) closing the Alduti-Rupter Switch when the door is open.

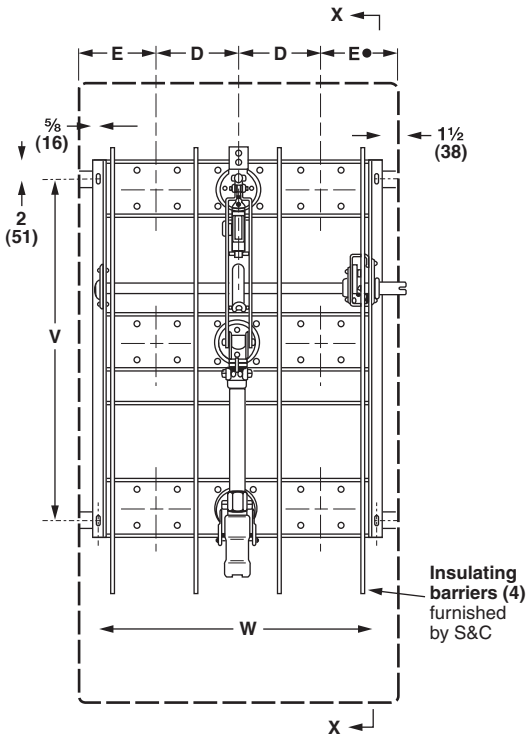
There are no requirements for special reinforcement of enclosures, provided the enclosures reflect adequate consideration of environmental factors such as controlled access, tamper-resistance, and sealing against ingress of rodents, insects, and weeds.

★ Not applicable to submersible enclosures.

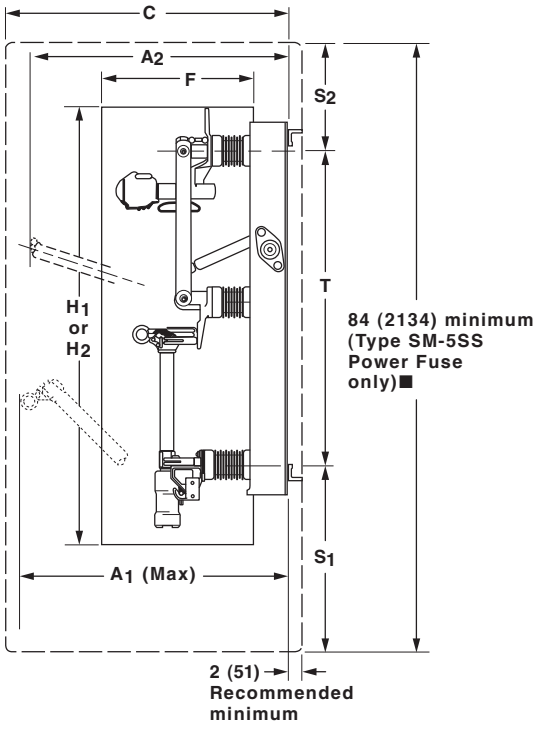
Supersedes Data Bulletin 792-60 dated 5-16-88

March 11, 2019

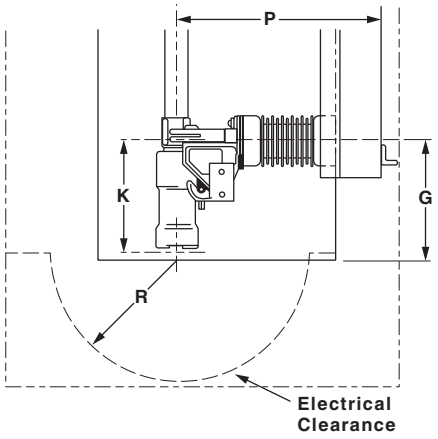
Three-Pole—Main Contact at Top



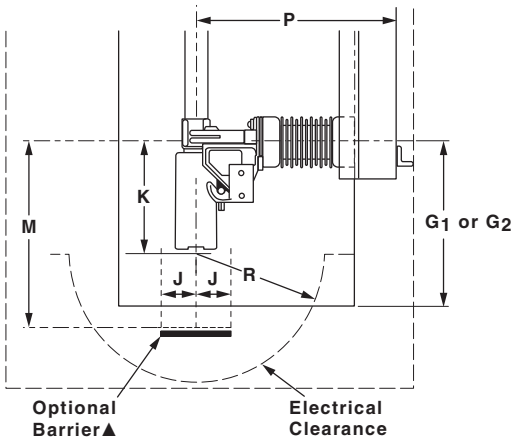
Front view



Section X-X



Detail of Barrier and Clearance Requirements for a Type SM-4Z Power Fuse



Detail of Barrier and Clearance Requirements for Type SM-5S and SM-5SS Power Fuses

● Chain-coupled handle requires 3 inches (76 mm) additional clearance.

■ The sum of dimensions “S1,” “S2,” and “T” equals 73 inches (1854 mm). The additional clearance needed to achieve the 84-inch (2134-mm) minimum overall-height requirement can be added to either dimension “S1” or dimension “S2” (or both), as desired to facilitate cable terminations or bus connections.

▲ Surge arresters, potheads, terminators, and bus insulators may be located beneath cylindrical space “J-J” and within electrical clearance (radius “R”) only when an insulated barrier is installed at or below the position indicated by dimension “M” (Types SM-5S and SM-5SS Power Fuses only).

NOTES

1. The enclosure and insulating-barrier dimensions listed in this document have been determined using the *minimum* clearances (shown in Note 4) recommended to facilitate fuse handling and to maintain the inherent electrical ratings of S&C Alduti-Rupter Switches with Power Fuses—Indoor Distribution when installed in metal enclosures. These clearances are sufficient, provided that normal consideration has been given to avoidance of point-gap configurations. When installing bus or cable connections and cable terminations, these clearances should be observed. In addition, enclosure dimensions should be sufficient—or barriers should be provided—to ensure a minimum clearance of 1 inch (25 mm) between the metal parts of a hookstick and ground during fuse opening and closing operations.
2. Enclosures containing S&C Alduti-Rupter Switches with Power Fuses should be provided with a key or mechanical door interlock to guard against: (a) opening the door when the Alduti-Rupter Switch is closed and (b) closing the Alduti-Rupter Switch when the door is open.
3. Clearance from holder in the **Closed** position to any grounded part should not be less than the minimum recommended metal-to-metal clearance listed in Note 4.
4. If the complete assembly of the enclosure, the switch with power fuses, barriers, the bus, connectors, and terminators, etc., is not impulse-tested to verify it will fully meet its assigned BIL rating, the assembly should be checked to ensure the following minimum recommended clearances have been met or exceeded. Greater clearances may be required if corners, edges, or small-radius points exist.

Alduti-Rupter Switch with Power Fuses Rating, kV, BIL	Minimum Recommended Clearances, Inches (mm)		
	Metal-to-Metal① (phase-to-phase and phase-to-ground)	Energized Part-to-Barrier	Barrier-to-Ground (in vicinity of energized parts)
60	3½ (89)	½ (13)	½ (13)
95	6 (152)	1 (25)	1 (25)

① Where barriers are provided, metal-to-metal distances should be measured around the edge of the barrier.

Table 1. Dimensions

Fuse Type and Max Ampere Rating	Alduti-Rupter Switch Rating				Minimum Dimensions,① Inches (mm)																		
	kV			Amps, Cont.																			
	Nom.	Max Des.	BIL		$A_1$②	$A_2$②	C③	D②	E	F	$G_1$④	G2⑤	$H_1$④	H2⑤	K	J⑥	M⑥	P②	R⑦	S_1	S_2	T②	V②	W②
SM-4Z 200E	4.8	5.5	60	600	29 (737)	26½ (673)	30 (762)	8½ (216)	8 (203)	15 (381)	9 (229)	9 (229)	46 (1168)	46 (1168)	9 (229)	—	—	13⅛ (333)	5½ (140)	14½ (368)	9 (229)	31½ (800)	34½ (876)	29 (737)
	13.8	17.0	95	600	34⅜ (873)	33⅝ (854)	39⅝ (1006)	10 (254)	9 (229)	20¾ (527)	9 (229)	9 (229)	54 (1372)	54 (1372)	9 (229)	—	—	15⅝ (397)	8 (203)	17 (432)	11½ (292)	39½ (1003)	42½ (1080)	34¼
SM-5S 400E	4.8	5.5	60	600	31 (787)	26½ (673)	30 (762)	8½ (216)	8 (203)	15 (381)	14 (356)	16 (406)	51 (1295)	53 (1346)	12 (305)●	4 (102)	19 (483)	13⅞ (352)	6 (152)	19 (483)●	9 (229)	31½ (800)	34½ (876)	29 (737)
	13.8	17.0	95	600	35¾ (908)	33⅝ (854)	39⅝ (1006)	10 (254)	9 (229)	20¾ (527)	15 (381)	18 (457)	60 (1524)	63 (1600)	12 (305)●	4 (102)	19 (483)	16⅜ (416)	8½ (216)	20½ (521)●	11½ (292)	39½ (1003)	42½ (1080)	34¼ (870)
SM-5SS 400E■	13.8	15.5	95	600	—	33⅝ (854)	39⅝ (1006)	10 (254)	9 (229)	20¾ (527)	18 (457)	—	63 (1600)	—	15 (381)	5 (127)	25 (635)	16 (406)	8½ (216)	25 (635)	9	39½ (1003)	42½ (1080)	34¼ (870)

① All dimensions shown are applicable for switch-and-fuse assemblies with the operating handle on the right.

② These dimensions are inherent to the Alduti-Rupter Switch with Power Fuses and are thus invariable.

③ Clearance from an open interrupter-switch blade to the door or panel provides full BIL insulation.

④ Applies when an incoming (source- or line-side) connection is made at the upper terminal pad.

⑤ Applies when an incoming (source- or line-side) connection is made at the lower terminal pad.

⑥ The cylindrical space described by dimensions "J" and "M" must contain no switchgear components or terminators.

⑦ Minimum distance to nearest switchgear component other than bus or cable of same phase.

● Add 3 inches (76 mm) to the dimension shown when an incoming (source- or line-side) connection is made at the lower terminal pad.

■ Available in the non-disconnect style only. Also, this switch-and-fuse assembly must have the incoming (source- or line-side) connections made at the upper terminal pads only.