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Section 7 Operating Mechanisms and Disconnect Switches



Manual Motor Control Switch



Fusible Switch



NEMA Style Rotary Handle Disconnect Switch



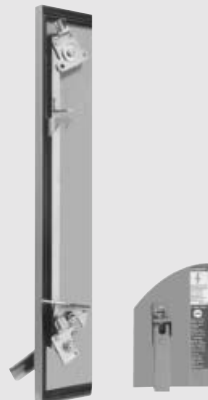
9422R Circuit Breaker Mechanism



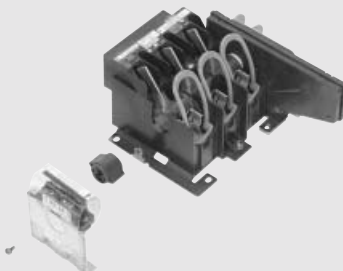
9421L Circuit Breaker Mechanism



9422 Circuit Breaker Cable Operator



9423 Door Closing Mechanisms



NEMA Style Flange Handle Disconnect Switch

Door-Mounted Switches and Circuit Breaker Mechanisms

Manual Motor Control Switches	Mini VARIO and VARIO™	10–115 A	7-2
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Flange-Mounted and Cable-Operated Disconnect Switches and Circuit Breaker Mechanisms

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Door Closing Mechanisms

Single or Multidoor	9423	Up to 90" door openings	7-25
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Note: All Square D switches and circuit breaker mechanisms are lockable in the “OFF” position, and can be used to comply with OSHA requirements for an Energy Isolation Device.

How to Order:

To Order Specify:	Catalog Number	
1. Class Number	Class	Type
2. Type Number	9421	LN1
OR		
1. Class Number And...		
2. Type Number of Switch Body		
3. Type Number of Shaft Extension		
4. Type Number of Handle Accessories		
5. Type Number of Door Interlock Plate		
6. Type Number of Any Desired Accessories		



SQUARE D
Schneider Electric

Manual Motor Control Switches

Mini-VARIO and VARIO™ Assembled and Enclosed Switches

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Identification System

The Mini-VARIO/ VARIO manual motor control switch catalog numbers can be identified as follows:
 See Catalog 9421CT9901 for specific applications.



VCFN12GE



VN12



VN12/KCC1YZ



VBDN12



VCDN12



VCCDN20

Model (V-VARIO, K-Operator)	V	CF	N12	GE
Operator Type/ Accessory Designation				
CD Single hole Red & Yellow	BD Single hole Black & Gray			
CF Four hole Red & Yellow	BF Four hole Black and Gray			
CCD Single hole Red & Yellow w/ extension shaft	VE Switch with Red handle installed on unit (one padlock only)			
CCF Four hole Red & Yellow w/ extension shaft	VD Switch with Black handle installed on unit (No padlock provision)			
Blank No operator or accessory	Z Accessory, power pole, neutral or ground			
Switch Type				
Blank	1 VARIO 20/32 amp			
N12 Mini-VARIO 10/12 amp	2 VARIO 20/40 amp			
N20 Mini-VARIO 16/20 amp	3 VARIO 45/63 amp			
02 VARIO 10/12 amp	4 VARIO 63/80 amp			
01 VARIO 16/20 amp	5 VARIO 100/125 amp			
0 VARIO 20/25 amp	6 VARIO 115/175 amp			
Enclosure Type (if applicable)				
Blank No Enclosure	G30, A30, W30 Type 1/12/4/4X			
GE Mini-VARIO IP55 Non-Metallic	GU VARIO IP65 Non-Metallic			

▲ Switches/contacts are dual rated (UL/IEC)

Mini-VARIO

Assembled Switches—IP65

Current Rating	Complete switches for door mounting (3-Padlock)				Complete switches for rear mounting includes extension shaft (3-Padlock)	
	Red/Yellow (single hole)		Black/Gray (single hole)		Red/Yellow (single hole)	
AMPS UL/IEC	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price
10/12	VCDN12	\$50.	VBDN12	\$50.	VCCDN12	\$59.
16/20	VCDN20	60.	VBDN20	60.	VCCDN20	71.

Enclosed Switches

Complete switches mounted in IP55 non-metallic enclosure	
Red/Yellow mounted in sealable enclosure, non-UL Listed	
Catalog Number	Price
VCFN12GE	\$79.
VCFN20GE	92.

Component Parts

Catalog Number	Description	Price
VN12■	10/12 amp switch only	\$23.00
VN20■	16/20 amp switch only	28.00
VZN12■	Add on power pole for 10/12 amp switch	11.50
VZN20■	Add on power pole for 16/20 amp switch	14.00
VZN11	Neutral Pole w/ early make late break for VN12 or VN20 switch	13.00
VZN14	Grounding module for VN12 or VN20	13.00
VZN05	N/O late make auxiliary contact♦	12.00
VZN06	N/C early break auxiliary contact♦	12.00
VZN26	Single pole shroud for auxiliary contacts	2.60
VZN08	Three pole shroud for VN12 or VN20	3.40

■ Switches/contacts are dual rated (UL/IEC)
 ♦ Auxiliary contacts are dual rated UL/IEC 10/12 A.

Operators and Accessories

Catalog Number	Description	Price
KCC1YZ	45 X 45 mm Red & Yellow operator	\$17.40
KCD1PZ	60 X 60 mm Red & Yellow operator	17.40
KAD1PZ	60 X 60 mm Black & Gray operator	17.40
VZN17	300- 340 mm shaft extension	10.00
VZN30	400- 430 mm shaft extension	12.00
KZ32	Door interlocking plate for 45 or 60 mm operator	9.00
KZ83	Door mounting plate for 45 or 60 mm operator	9.00

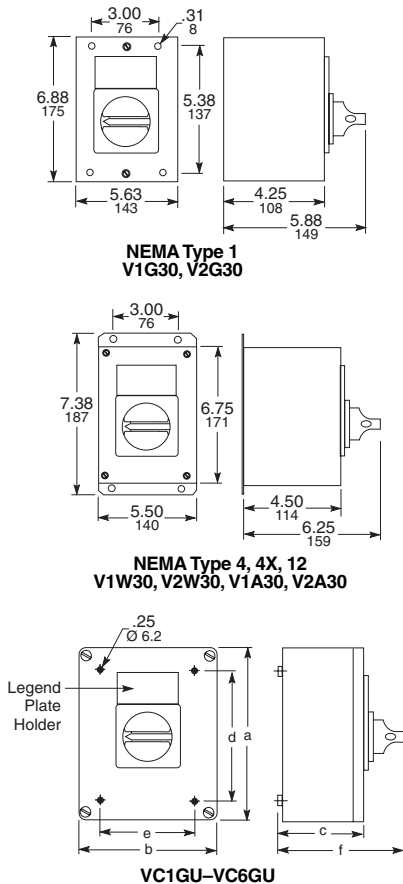
7 OPERATING MECHANISMS AND DISCONNECT SWITCHES

For additional information, reference Catalog #9421CT9901.





Non-Metallic Enclosure Metallic Enclosure
Metallic Enclosed Switch Dimensions



VARIO
Assembled Switches

Operator Style	Complete switches (switch and handle) for door mounting (3-Padlock)							
	Red/Yellow (four hole)		Black/Gray (four hole)		Red/Yellow (single hole)		Black/Gray (single hole)	
AMPS UL/IEC	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price
10/12	VCF02	\$ 55.	VBFO2	\$ 55.	VCD02	\$ 59.	VBD02	\$ 59.
16/20	VCF01	65.	VBFO1	65.	VCD01	71.	VBD01	71.
20/25	VCF0	77.	VBFO	77.	VCD0	91.	VBD0	91.
20/32	VCF1	82.	VBFO1	82.	VCD1	97.	VBD1	97.
25/40	VCF2	105.	VBFO2	105.	VCD2	112.	VBD2	112.
45/63	VCF3	125.	VBFO3	125.	—	—	—	—
63/80	VCF4	146.	VBFO4	146.	—	—	—	—
100/125	VCF5	178.	VBFO5	178.	—	—	—	—
110/175	VCF6	272.	VBFO6	272.	—	—	—	—

Operator Style	Complete switches for rear mounting w/extension shaft (3-Padlock)▲				Switches with handles installed on unit DIN rail mount only			
	Red/Yellow (four hole)		Red/Yellow (single hole)		Red/Yellow (1-Padlock)		Black/Gray (No-Padlock)	
AMPS UL/IEC	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price
10/12	VCCF02	\$ 72.	VCCD02	\$ 72.	—	—	—	—
16/20	VCCF01	82.	VCCD01	82.	—	—	—	—
20/25	VCCF0	87.	VCCD0	87.	VVE0	\$ 66.	VVD0	\$ 66.
20/32	VCCF1	91.	VCCD1	91.	VVE1	69.	VVD1	69.
25/40	VCCF2	112.	VCCD2	112.	VVE2	80.	VVD2	80.
45/63	VCCF3	142.	—	—	VVE3	94.	VVD3	94.
63/80	VCCF4	158.	—	—	VVE4	133.	VVD4	133.
100/125	VCCF5	206.	—	—	—	—	—	—
110/175	VCCF6	269.	—	—	—	—	—	—

▲ Complete switch includes handle operator, shaft, door interlock plate, and line terminal shroud.

Non-Metallic Enclosed Switches

(Assembled, includes: switches mounted in enclosure with handle)

The VARIO Manual Motor Control Switch is also offered as an enclosed switch, which is made of corrosion resistant material suitable for IP55 environments. The 3-pole version makes the VARIO switch ideal for manual motor control applications. They are compact, easy to wire and connect, and come undrilled to allow variable cable entry positions. Note: VCGU enclosures are UL approved.

Ampere Size UL/IEC	Horsepower Ratings			IP55-PVC 3-Pole, NEMA Type 1 & 12	
	240 V	480 V	600 V	Catalog No.	Price
20/32	5	10	10	VC1GU	\$106.00
25/40	7.5	15	20	VC2GU	127.00
45/63	15	30	40	VC3GU	153.00
63/80	20	40	50	VC4GU	169.00
100/125	25	50	60	VC5GU	243.00
115/175	30	60	75	VC6GU	375.00

Metallic Enclosed Switches

(Assembled, includes: switches mounted in enclosure with handle)

The V1 and V2 come in metallic enclosures (NEMA Type 1, 4, 4X, and 12). The NEMA Type 1 is supplied with conduit knockouts top and bottom. A VZ7 auxiliary contact can be factory installed in these metallic enclosures by adding Form X11 to the catalog number. A VZ20 auxiliary contact can be factory installed in these enclosures by adding FORM X20 to the catalog number. Price Adder \$28.00

Ampere Size UL/IEC	Horsepower Ratings			NEMA Type 1		NEMA Type 12		NEMA Type 4/4X■	
	240 V	480 V	600 V	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price
20/32	5	10	10	9421V1G30	\$148.00	9421V1A30	\$243.00	9421V1W30	\$349.00
25/40	7.5	15	20	9421V2G30	169.00	9421V2A30	264.00	9421V2W30	370.00

■ For indoor use only. The NEMA 4/4X enclosure is made of #304 stainless steel with 3/4" in T&B stainless steel hubs on the top and bottom.

Non-Metallic Enclosed Switch Dimensions

Catalog No. ♦	No. of Poles	Dimensions											
		a		b		c		d		e		f	
		IN	mm	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm
VC1GU-VC2GU	3	6.7	170	4.1	105	3.2	82	4.8	122	2.1	53	5.0	128
VC3GU-VC4GU	3	6.7	170	5.3	135	3.3	85	5.1	130	3.7	95	5.2	131
VC5GU-VC6GU	3	11.0	280	8.6	220	5.0	126	7.9	201	7.5	190	8.6	203

♦ UL Rated, NEMA Type 1, 12, IP55.

For additional information, reference Catalog #9421CT9901.



Manual Motor Control Switches

Mini-VARIO and VARIO™ Switches

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Manual Motor Control Switch

VARIO Manual Motor Control Switches

VARIO switches act as enclosure disconnects when short circuit protection is provided upstream of the switch (if short circuit protection is not provided upstream, use 651, LK3, Class 9421 Type N, Class 9422 Type T or D10 disconnect switches). Type V switches meet UL 508 requirements as manual motor controllers.

Ampere Size UL/IEC	Horsepower Ratings			Shaft Size	3 Pole Switch Body	
	240 V	480 V	600 V		Type	Price
10/12	1	2	2	6 mm	V02	\$ 27.40
16/20	1.5	3	3	6 mm	V01	33.00
20/25	5	10	10	6 mm	V0	37.00
20/32	5.5	10	10	6 mm	V1	42.20
25/40	7.5	15	20	6 mm	V2	63.00
45/63	15.5	30	40	8 mm	V3	79.00
63/80	20.5	40	50	8 mm	V4	95.00
100/125	25.5	50	60	8 mm	V5	127.00
115/175	30.5	60	75	8 mm	V6	190.00



Single-Hole Operator



Four-Hole Operator
(All except KDF3PZ
and KBF3PZ)

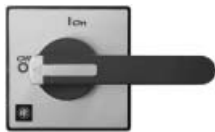
Handle Operators—V02–V2 (6 mm Shaft), V3–V6 (8 mm Shaft)▲

Operator Type		Red/Yellow Single Hole 45 X 45 mm		Red/Yellow Four Hole 45 X 45 mm		Black/Gray Single Hole 45 X 45 mm		Black/Gray Four Hole 45 X 45 mm	
Switches	# Of Padlocks	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price
V02–V2	0	KCC1LZ	\$17.40	KCE1LZ	\$17.40	KAC1BZ	\$17.40	KAE1BZ	\$17.40
V02–V2	1	KCC1YZ	17.40	KCE1YZ	17.40	—	—	—	—
Operator Type		Red/Yellow Single Hole 60 X 60 mm		Red/Yellow Four Hole 60 X 60 mm		Black/Gray Single Hole 60 X 60 mm		Black/Gray Four Hole 60 X 60 mm	
V02–V2	0	KDD1PZ	\$17.40	KDF1PZ	\$17.40	KBD1PZ	\$17.40	KBF1PZ	\$17.40
V3–V4	0	—	—	KDF2PZ	19.20	—	—	KBF2PZ	19.20
V02–V2	3	KCD1PZ	17.40	KCF1PZ	17.40	KAD1PZ	17.40	KAF1PZ	17.40
V3–V4	3	—	—	KCF2PZ	19.20	—	—	KAF2PZ	19.20
Operator Type		Red/Yellow Four Hole 90 X 90 mm		Black/Gray Four Hole 90 X 90 mm		Tightening Tool for Single Hole Operators			
V5–V6	0	KDF3PZ	47.00	KBF3PZ	47.00	Catalog Number			
V5–V6	3	KCF3PZ	47.00	KAF3PZ	47.00	Price			
						Z01	\$6.00		

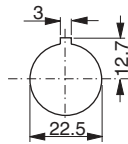
▲ When using these handles for replacements on the Non-metallic enclosed switches see page 7-3, the handle shaft supplied with the enclosure must be reused.

Gasket Kits

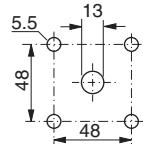
Catalog Number	Description	Price
KZ65	45 X 45 mm Gasket for V02-V2 for 4-hole type handles (order in quantities of 5)	\$2.60
KZ66	60 X 60 mm Gasket for V02-V2 for 4-hole type handles (order in quantities of 5)	5.30
KZ62	60 X 60 mm Gasket for V3-V4 for 4-hole type handles (order in quantities of 5)	5.30
KZ67	90 X 90 mm Gasket for V5-V6 for 4-hole type handles (order in quantities of 5)	6.90



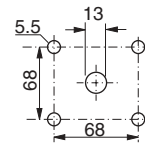
Four-Hole Operator
KDF3PZ and KBF3PZ



Single-Hole
Mounting Dimensions



Four-Hole 60x60
Mounting Dimensions



Four-Hole 90x90
Mounting Dimensions

■ The door interlock plate included with the VCC Kits has the same drilling as the handle operators.

Rear/Panel Mounting Switch Body Dimensions

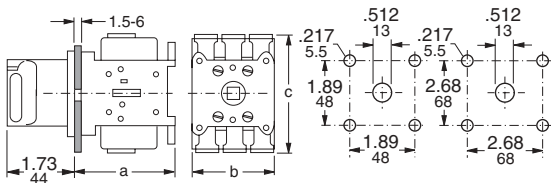
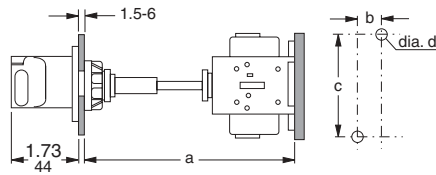
Type	Shaft Extension	Dimensions							
		a		b		c		d	
		IN	mm	IN	mm	IN	mm	IN	mm
V02 to V2	VZ17	5.5–13.0	140–330	0.60	15	2.4	60	0.17	4.2
	VZ30	5.5–16.9	140–430						
V3 to V4	VZ18	5.5–12.6	140–320	0.79	20	2.4	60	0.20	5.2
	VZ31	5.5–16.5	140–420						
V5 to V6	VZ18	6.5–13.8	165–350	1.20	30	3.9	100	0.28	7.0
	VZ31	6.5–17.7	165–450						

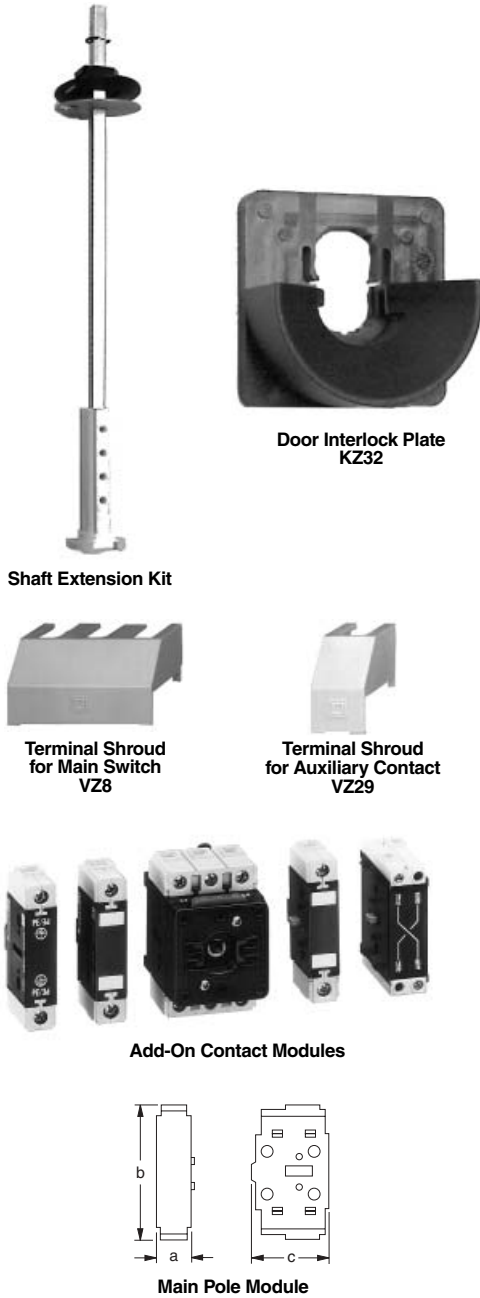
Four-Hole Mounting Dimensions

Type	Dimensions						Weight Approx. lbs.
	a		b		c		
	IN	mm	IN	mm	IN	mm	
V02 to V2♦	2.83	72	2.17	55	2.91	74	0.44
V02 to V2	2.36	60	2.17	55	2.91	74	0.44
V3 to V4	2.56	65	2.36	60	3.27	83	1.10
V5 to V6	3.54	90	3.54	90	4.92	125	2.00

♦ Dimensions for single-hole mounting.

For additional information, reference Catalog #9421CT0001.





Shaft Extension and Door Interlock

For Switch Type	Maximum Panel Depth		Shaft Extension Kit	Price	Door Interlock Plate	Price	Door Mounting Plate	Price
	IN	mm						
V02 to V2	13.0	330	VZ17	\$12.70	KZ32	\$ 9.00	KZ83	\$ 9.00
V3, V4	12.6	320	VZ18	15.80	KZ74	17.40	KZ81	17.40
V5, V6	13.8	351	VZ18	15.80	KZ74	17.40	KZ81	17.40
V02 to V2	16.9	429	VZ30	15.80	KZ32	9.00	KZ83	9.00
V3, V4	16.5	419	VZ31	19.00	KZ74	17.40	KZ81	17.40
V5, V6	17.7	450	VZ31	19.00	KZ74	17.40	KZ81	17.40

Accessories

For Switch Type	Line Side Terminal Shroud For Main Switch	Price	Terminal Shroud for Add-on Power Pole	Price	Terminal Shroud for Auxiliary Contact	Price
V02 to V2	VZ8	\$3.70	VZ26	\$2.60	VZ29	\$2.60
V3, V4	VZ9	3.70	VZ27	2.60	VZ29	2.60
V5, V6	VZ10	5.30	VZ28	4.20	VZ29	2.60

Add-On Contact Modules

For Switch Type	Main Pole Module	Main Pole	Ampere Rating UL/IEC	Price	Auxiliary Contacts		Price
					1 N.O. & 1 N.C. ▲	2 N.O.	
V02	VZ02	VZ02	10/12	\$14.00	VZ7■	VZ20■	\$ 19.00
V01	VZ01	VZ01	16/20	14.60			
V0	VZ0	VZ0	20/25	15.20			
V1	VZ1	VZ1	20/32	15.80			
V2	VZ2	VZ2	25/40	24.30			
V3	VZ3	VZ3	45/63	29.50	—	—	—
V4	VZ4	VZ4	63/80	35.90			
V5	—	—	—	—			
V6	—	—	—	—			

▲ Early Break, Late Make.
■ Auxiliary contacts are rated UL/IEC 10/12 A.

Style	Neutral Modules Early Make/Late Break		Grounding Module		Auxiliary Contacts			
	Switches	Catalog Number	Price	Catalog Number	Price	Catalog Number	Description	Price
V02-V2	VZ11	\$19.	VZ14	\$19.	VZ7	1 Late Make N/O & 1 Early Break N/C 2 N/O Contacts	\$19.	
V3-V4	VZ12	24.	VZ15	24.	VZ20			19.
V5-V6	VZ13	31.	VZ16	31.	—			—

Labeling Accessories

Nameplate Holder with Nameplate			Nameplate Holder Only		Nameplate Only		
Size	Catalog Number	Price	Catalog Number	Price	For Use With	Catalog Number	Price
45 X 45 mm	KZ13	\$2.10	KZ14	\$1.90	KZ14	KZ76	\$1.50
60 X 60 mm	KZ15	2.10	KZ16	1.90	KZ16	KZ77	1.50
90 X 90 mm	KZ103	3.50	KZ101	3.00	KZ1010	KZ100	1.50

Shrouds

Size	3-Pole		Single-Pole Shroud		
	Catalog Number	Price	For Add-On Power Pole	Catalog Number	Price
V02-V2	VZ8	\$3.70	VZ02-VZ2, VZ11 & VZ14	VZ26	\$2.60
V3-V4	VZ9	3.70	VZ23, VZ4, VZ12 & VZ15	VZ27	2.60
V5-V6	VZ10	5.30	VZ13 & VZ16	VZ28	4.20
—	—	—	For 2-Pole Aux. Contact	VZ29	2.60

Main Pole Module Dimensions

Type	Dimensions						Weight Approx. lbs.
	a		b		c		
	IN	mm	IN	mm	IN	mm	
V02 to VZ2	0.63	16	2.9	74	1.38	35	.10
VZ3 to VZ4	0.79	20	3.3	83	1.80	46	.22

For additional information, reference Catalog #9421CT9901.



IEC Style Door Mounted Disconnect Switches—Type N

Class 9421

Square D
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 FOR CURRENT INFORMATION



Class 9421
Disconnect Switch

The 9421 Type N is an IEC-style door-mounted disconnect switch with onboard fusing for Class CC and Class J fuses. The switch is UL Listed and CSA certified, and provides service entrance spacing, 100 kA withstandability and Type 2 coordinated protection when used with Square D and Telemecanique starters in accordance with fuse selection tables.

Each installation will require a disconnect switch, handle, and shaft.

Class 9421 Disconnect Switches

Disconnect Switch Size	Maximum Horsepower Ratings								Fuse Selection	Switch	
	1 Phase AC		3 Phase AC				DC			Type	Price
	115 V	230 V	200 V	230 V	460 V	575 V	125 V	250 V			
30 A	2	3	7.5	7.5	15	20	3	5	Unfused 30 A Class CC 30 A Class J	NC1	\$140.00
	.75	2	5	5	10	10	2	3		NC2	153.00
	2	3	7.5	7.5	15	20	3	5		NC3	167.00
60 A	3	10	15	15	30	50	5	10	Unfused 60 A Class J	ND1	169.00
	3	10	15	15	30	50	5	10		ND3	216.00

Handles

Disconnect Switch Size	Fuse Selection	Handle Color	Handle Selection NEMA Type	Handle Kit	
				Type	Price
30 A, 60 A	All	Red/Yellow	1/12/4/4X	NW2	\$40.10
		Black	1/12/4/4X	NW2B	40.10

Terminal Shields and Fuse Covers

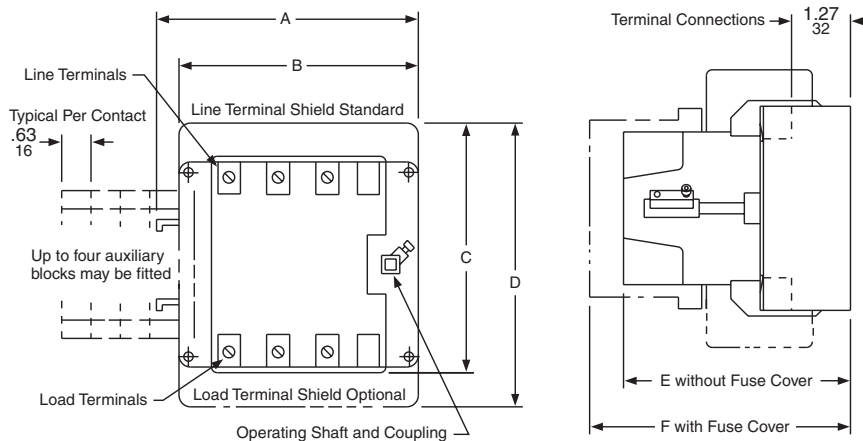
Disconnect Switch Size		Type	Price
30 A	Terminal Shield▲	NTS30	\$10.60
	CC Fuse Cover■	NCF30	15.80
	J Fuse Cover	NJF30	21.10
60 A	Terminal Shield▲	NTS60	15.80
	J Fuse Cover■	NJF60	21.10
	Auxiliary Contact Shield♦	NXSH	10.60

▲ Terminal shield for line or load side.
 ■ 30 A CC fuse cover and 60 A J fuse cover are also used for non-fusible applications.
 ♦ 2 per package

UL File E152727 CCN WJAZ
 CSA File LR75721 Class 465204

Outline Dimensions and General Location Information for Type N Disconnect Switches

	A	B	C	D	E		F	
					1 & 2	3	1 & 2	3
NC	4.33"	3.82"	4.45"	4.65"	3.73"	5.25"	4.20"	5.70"
ND	5.62"	5.14"	5.36"	6.1"	4.90"		5.06"	



Shafts and Shorting Links

Disconnect Switch Size	Enclosure Depth (max.)	Shaft Length	Shaft Kit	
			Type	Price
30 A, 60 A	10"	166 mm	NS16	\$12.70
			NS36	15.80
Shorting Links *				
30 A			NSL30	15.80
60 A			NSL60	15.80

* 3 per package; replacement for 9421 NC1 & 9421 ND1
 Note: Can be used to convert fusible to non-fused.

Auxiliary Contacts

Disconnect Switch Size				Auxiliary Contact Kit	
				Type	Price
30 A, 60 A	SPST	N.O.	Inner	NAX10	\$36.90
	SPST	N.O.	Outer	NBX10	36.90
	DPST	2 N.O.	Inner	NAX20	53.00
	DPST	2 N.O.	Outer	NBX20	53.00

Note: Each installation requires a disconnect switch, handle, and shaft. Further, the first auxiliary contact block that is used must be an inner block (maximum is 1 inner and 3 outer blocks).

Auxiliary Contact
 Shaft and Shorting Links



Handle



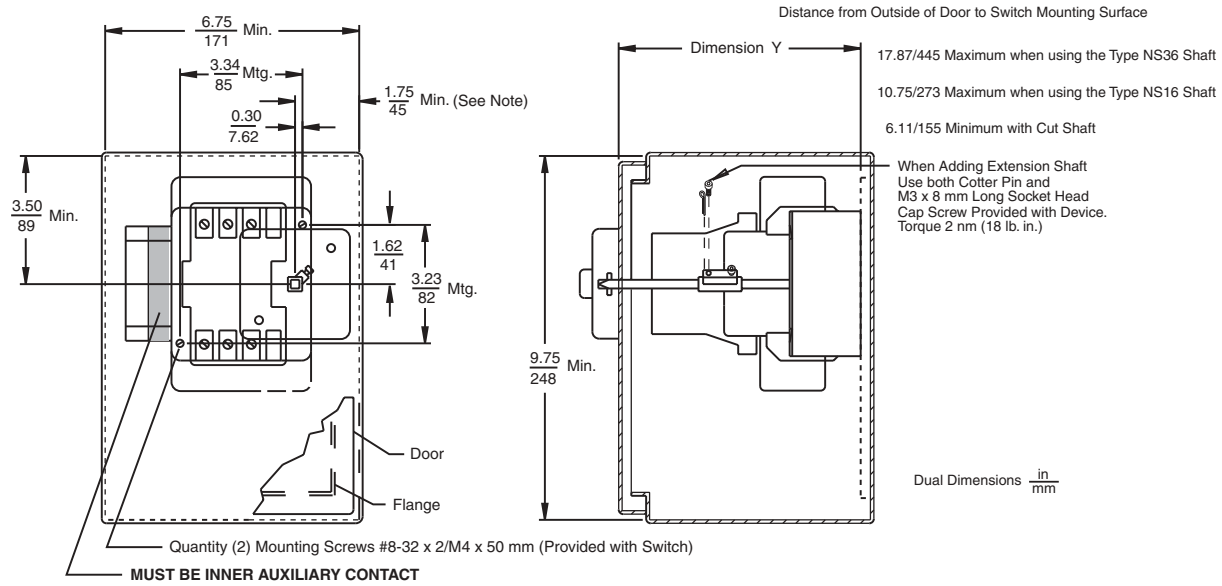
Terminal Shields and Fuse Covers



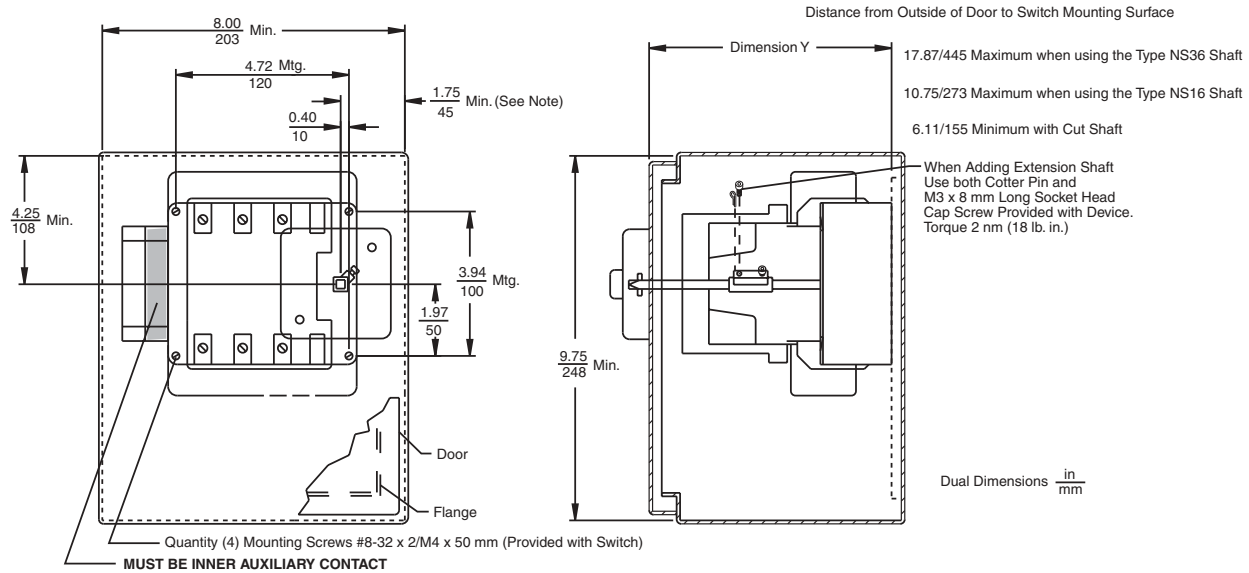
For additional information, reference Catalog #9420CT9701.



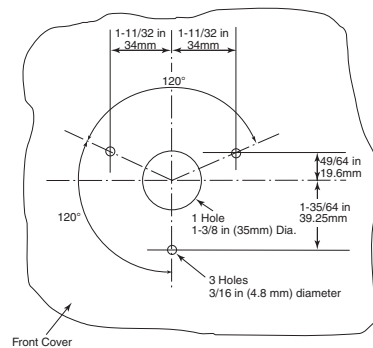
30 AMP—Type NC Mounting Dimensions



60 AMP—Type ND Mounting Dimensions



Door Drillings for 9421 NW2/NW2B



For additional information, reference Catalog #9420CT9701.



IEC Style Disconnect Switches

GS1 Fusible and LK3 Non-Fusible

UL 98 Tested

Square D
www.SquareD.com
FOR CURRENT INFORMATION

Identification System

The GS1 part numbers can be identified as follows:
See Catalog 9421CT9901 for specific applications.

Model "GS1"—Fusible (Class J Fuse Unless Noted), "LK3"—Non-Fusible

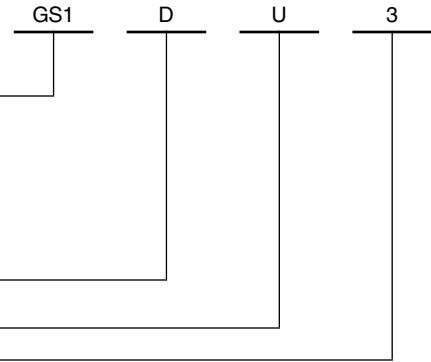
Current Range, Operator Style (Front Operator Unless Noted), Accessory Type

"D"—30 A Front and Side Operation, "DD"—30 A Class CC Front and Side Operation "E"—30 A, "EE"—30 A Class CC, "G"—60 A, "J"—100 A, "M"—200 A, "Q"—400 A, "S"—600 A, "T"—800 A (Class L if Fused), "U"—1000 A, "W"—1200 A

"AH"—Handle, "AHT"—Handle w/ Test, "AE"—Extension Shaft, "AD"—Aux contact holder, "AM"—Aux Contact

UL Certification

Poles- Number of Poles 2 or 3



Note: All fusible switches through 400 A and non-fused switches through 200 A are equipped with a feature to test optional auxiliary contacts without energizing the load when the appropriate GS1AHT*** handle is used.

Switches

Catalog Number	Description	Price
Compact GS1 Fusible IEC Style Disconnect Switches		
GS1DDU3	30 Amp, 3-Pole, Class CC, use 5x5 Shaft	\$ 153.
GS1DU3	30 Amp, 3-Pole, Class J, use 5x5 Shaft	167.
GS1 Fusible IEC Style Disconnect Switches		
GS1EEU3	30 Amp, 3-Pole, Class CC, use 10x10 Shaft	153.
GS1EU3	30 Amp, 3-Pole, Class J, use 10x10 Shaft	167.
GS1GU3	60 Amp, 3-Pole, Class J, use 10x10 Shaft	216.
GS1JU3	100 Amp, 3-Pole, Class J, use 10x10 Shaft	345.
GS1MU3▲	200 Amp, 3-Pole, Class J, use 10x10 Shaft	760.
GS1QU3▲	400 Amp, 3-Pole, Class J, use 10x10 Shaft	1450.
GS1SU3▲	600 Amp, 3-Pole, Class J, use 15x15 Shaft	2175.
GS1TU3▲	800 Amp, 3-Pole, Class L, use 15x15 Shaft	3260.
Compact LK3 Non-Fusible IEC Style Disconnect Switches		
LK3DU3	30 Amp, 3-Pole, 5x5 Shaft	140.
LK3 Non-Fusible IEC Style Disconnect Switches		
LK3GU3	60 Amp, 3-Pole, use 10x10 Shaft	169.
LK3JU3	100 Amp, 3-Pole, use 10x10 Shaft	295.
LK3MU3▲	200 Amp, 3-Pole, use 10x10 Shaft	650.
LK3QU3▲	400 Amp, 3-Pole, use 15x15 Shaft	1230.
LK3SU3▲	600 Amp, 3-Pole, use 15x15 Shaft	1850.
LK3TU3▲	800 Amp, 3-Pole, use 15x15 Shaft	2770.
LK3UJ3▲	1000 Amp, 3-Pole, use 15x15 Shaft	3460.
LK3WU3▲	1200 Amp, 3-Pole, use 15x15 Shaft	4155.

Switches with direct mount side handle

GS1EERU20	20 Amp, 2-Pole, Class CC	130.
GS1EERU30	30 Amp, 3-Pole, Class CC	156.

- ▲ Shipped with line side terminal shrouds, order additional shrouds below.
- Terminal lug must be ordered separately—see page 7-9.

Shafts for Switches

Catalog Number	Description	Shaft End Type	Price
GS1AE7♦	5 x 5 320 mm type D extension shaft	A	\$12.
GS1AE71♦	5 x 5 400 mm type D extension shaft	A	15.
GS1AE8♦	5 x 5 320 mm type G extension shaft	B	12.
GS1AE81♦	5 x 5 400 mm type G extension shaft	B	15.
GS1AE2	10 x 10 320 mm type D extension shaft	B	13.
GS1AE21	10 x 10 400 mm type D extension shaft	B	16.
GS1AE6	15 x 15 200 mm type H extension shaft	C	21.
GS1AE61	15 x 15 400 mm type H extension shaft	C	26.

♦ Used on compact switches only.

Lockable Operators—for GS1/LK3 unless noted

Catalog No.	Description	Shaft End Type	Price
Front Mounted with Defeaters			
Type 1, 12 Rated (Indoor/outdoor)			
GS1AH101	Black/Black, for Compact Switches only	A	\$ 33.
GS1AH102	Red/Yellow, for Compact Switches only	A	33.
GS1AH110	Black/Black, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	40.
GS1AH120	Red/Yellow, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	40.
GS1AH130★	Black/Black, for 200–400 A GS1; 200 A LK3	B	45.
GS1AH140★	Red/Yellow, for 200–400 A GS1; 200 A LK3	B	45.
Type 4, 4X Rated (Indoor/outdoor)			
GS1AH410	Black/Black, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	45.
GS1AH420	Red/Yellow, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	45.
GS1AH430★	Black/Black, for 200–400 A GS1; 200 A LK3	B	50.
GS1AH440★	Red/Yellow, for 200–400 A GS1; 200 A LK3	B	50.
GS1AH170	Black/Black, for 600–800 A GS1	C	248.
GS1AH180	Red/Yellow, for 600–800 A GS1	C	248.
LK3AH170	Black/Black, for 400–1200 A LK3	C	248.
LK3AH180	Red/Yellow, for 400–1200 A LK3	C	248.

Front Mounted without Defeaters

Type 4, 4X Rated (Indoor/outdoor)			
GS1AH150	Black/Black, for 600–800 A GS1	C	150.
GS1AH160	Red/Yellow, for 600–800 A GS1	C	150.
LK3AH150	Black/Black, for 400–1200 A LK3; 600–800 A GS1	C	150.
LK3AH160	Red/Yellow, for 400–1200 A LK3; 600–800 A GS1	C	150.

Front Mounted with Defeaters and Test Function

Type 1, 12 Rated (Indoor/outdoor)			
GS1AHT110	Black/Black, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	75.
GS1AHT120	Red/Yellow, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	75.
GS1AHT130	Black/Black, for 200–400 A GS1; 200 A LK3	B	80.
GS1AHT140	Red/Yellow, for 200–400 A GS1; 200 A LK3	B	80.
Type 4, 4X Rated (Indoor/outdoor)			
GS1AHT410	Black/Black, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	80.
GS1AHT420	Red/Yellow, for 30–100 A GS1; 60–100 A LK3 Compact or Standard	B	80.
GS1AHT430	Black/Black, for 200–400 A GS1; 200 A LK3	B	85.
GS1AHT440	Red/Yellow, for 200–400 A GS1; 200 A LK3	B	85.

★ 400 A GS1 switches only—for 400 A LK3 switches use LK3AH170 or LK3AH180.

For additional information, reference Catalog #9421CT0001.



200 A Switch
GS1MU3



Compact 30 A Switch
LK3DU3



30 A Side Handle
GS1EERU30



Accessories

Catalog Number	Description	Price
Auxiliary Contact Holder		
GS1AD20▲	Front Mount Aux contact holder for non-compact GS1 and LK3 30–200 A and GS1 400 A with locking provision	\$ 30.00
LK3AD30	Auxiliary contact holder for LK3QU3, SU3, TU3, UU3 & WU3	30.00
Auxiliary Contacts for Compact GS1/LK3 Only▲		
GS1AM110	1 N.O. Aux contact for GS1/ LK3 Compacts & AD10/20/30	9.50
GS1AM101	1 N.C. Aux contact for GS1/LK3 Compacts & AD10/20/30	9.50
GS1AMU211	Side Mounted Auxiliary contact block 2 each N.O./N.C.	55.00
Shorting Links for 3-Pole Fusible Disconnect Switches		
GS1AU203	Short links for GS1GU3	19.00
GS1AU303	Short links for GS1JU3	27.00
GS1AU403	Short links for GS1MU3	40.00
GS1AU503	Short links for GS1QU3	60.00
GS1AU803	Short links for GS1TU3	100.00
Terminal Shrouds for Load Side		
GS1AP33■	3Pole Shroud for GS1JU3	65.00
GS1AP43■	3Pole Shroud for GS1MU3 & LK3MU3	85.00
GS1APU53	3Pole Shroud for GS1QU3	90.00

Accessories

Catalog Number	Description	Price
Auxiliary Contacts for all other GS1 / LK3		
GS1ANT11	Side Mount 1 N.O. + 1 N.C. Aux contact w/ test	\$ 60.00
GS1ANT22	Side Mount 2 N.O. + 2 N.C. Aux contact w/ test	100.00
GS1AN11	Side Mount 1 N.O. + 1 N.C. Aux contact	50.00
GS1AN22	Side Mount 2 N.O. + 2 N.C. Aux contact	90.00
GS1AMU3	Contact #1 N.O./ N.C. for GS1SU3/TU3	37.00
GS1AMU4	Contact #2 N.O./ N.C. for GS1SU3/TU3	53.00
Terminal Lugs (qty—6 except GS1AW903, qty—12)		
GS1AW303	1 wire 2/0–#14 AWG for GS1JU3/LK3, JU3	38.00
GS1AW403	1 wire 3/0–#6 AWG for GS1MU3/LK3MU3	63.00
GS1AW503	2 wire 600 kcmil–#2 AWG for GS1/LK3QU3,SU3	127.00
GS1AW803	3 wire 600 kcmil–#2 AWG for GS1/LK3TU3,UU3	158.00
GS1AW903	2 wire 600 kcmil–#2 AWG for LK3TU3,UU3& WU3	254.00
Terminal Shrouds for Load Side		
GS1AP83	3-Pole Shroud for GS1SU3,TU3	90.00
LK3AP63	3-Pole Shroud for LK3QU3,SU3	55.00
LK3AP83	3-Pole Shroud for LK3TU3,UU3,WU3	65.00
Padlock Kits		
All switches except those listed in this table are padlockable as supplied		
GS1AXU3	Locking kit for use with GS1 600 A and 800 A	40.00

▲ Use Auxiliary Contacts GS1AM110 and GS1AM101
 ■ 3 Piece shroud kit for either Line or Load Side

Example parts order to build a complete switch:

Choose a switch + Shaft + Handle Assembly + Lugs if needed
 i.e. **LK3SU3** (600 A Non- Fusible Switch , use15X150 Shaft) + **GS1AE6** (15X15 200 mm Type H shaft) + **LK3AH150** (Black/ Black, Lockable)



600 A
LK3SU3



Shaft 200 mm
GS1AE6



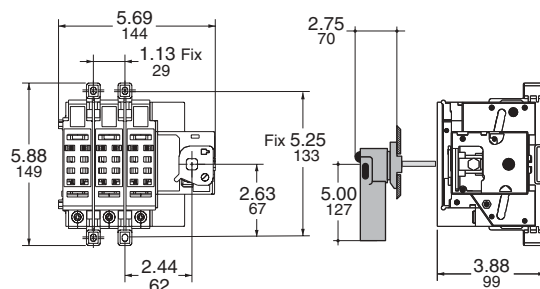
Black Handle
LK3AH150



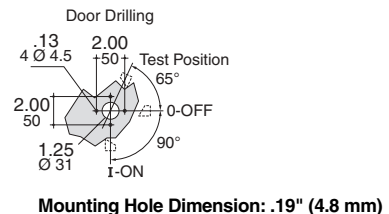
Lugs Kit
GS1AW503

To add auxiliary contacts:

For front mounted contacts order **GS1AD30** (Front mounted aux contact holder) + **GS1AM110** (NO contact for GS1AD10, 20 & 30)



GS1EEU3, GS1 30 A CC

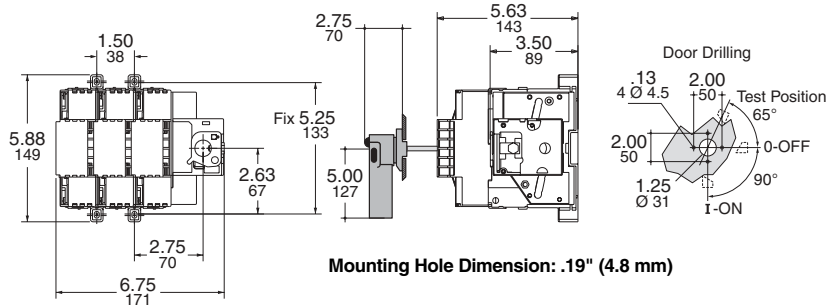


GS1 Fusible and LK3 Non-Fusible Disconnect Switches

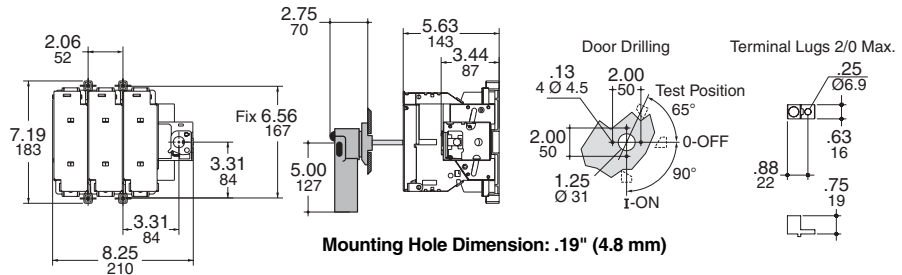
Dimensions

Square D
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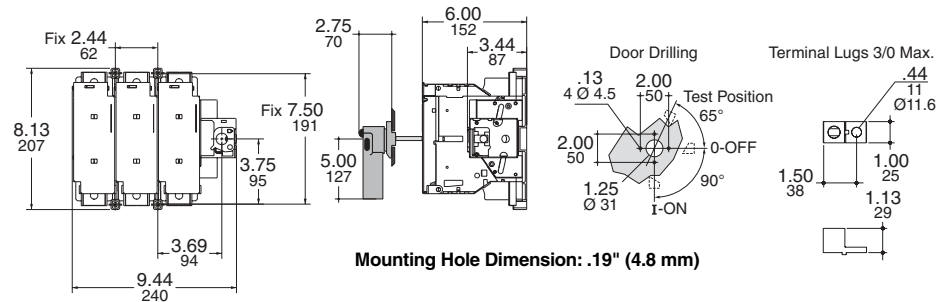
GS1EU3/GS1GU3, GS1 30 A/60 A J



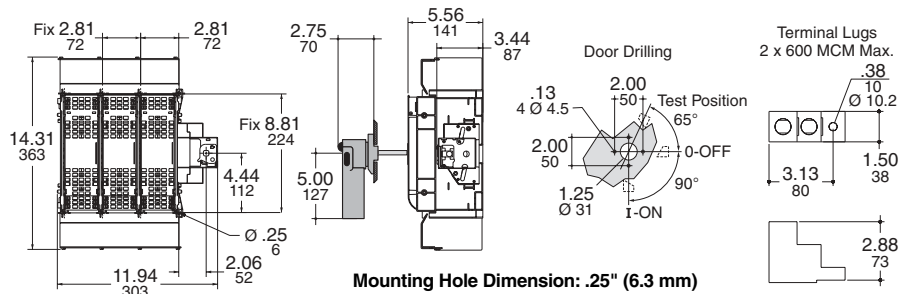
GS1JU3, GS1 100A J



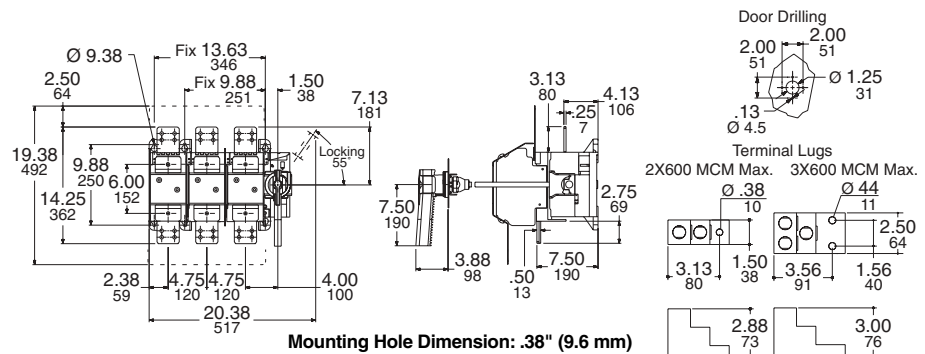
GS1MU3, GS1 200 A J



GS1QU3, GS1 400 A J



GS1SU3/GS1TU3, GS1 600 A J AND 800 A L



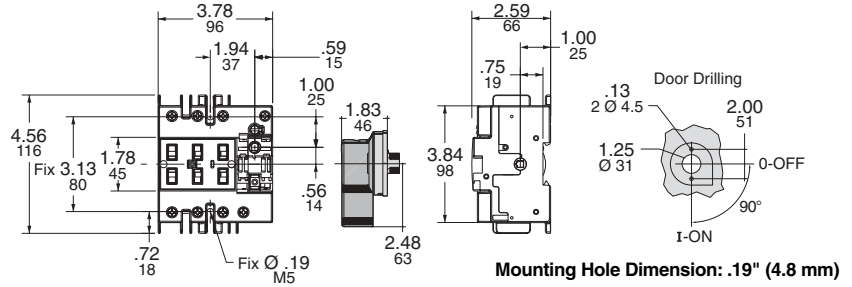
7 OPERATING MECHANISMS AND DISCONNECT SWITCHES



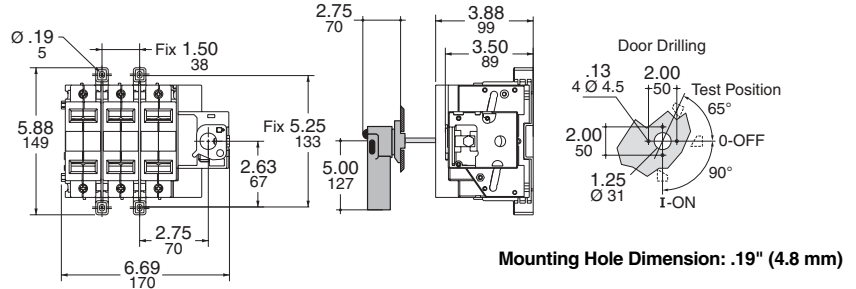
GS1 Fusible and LK3 Non-Fusible Disconnect Switches

Dimensions

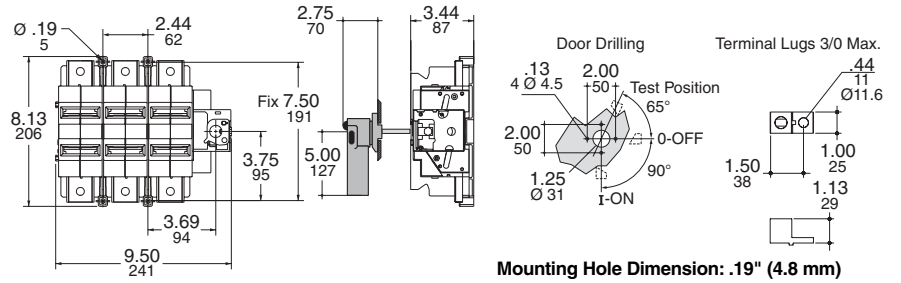
LK3DU3, Compact LK3 30 A



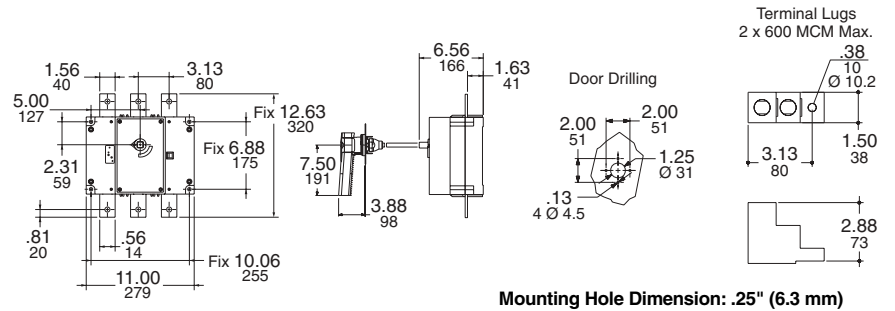
LK3GU3/LK3JU3, LK3 60 A/100 A



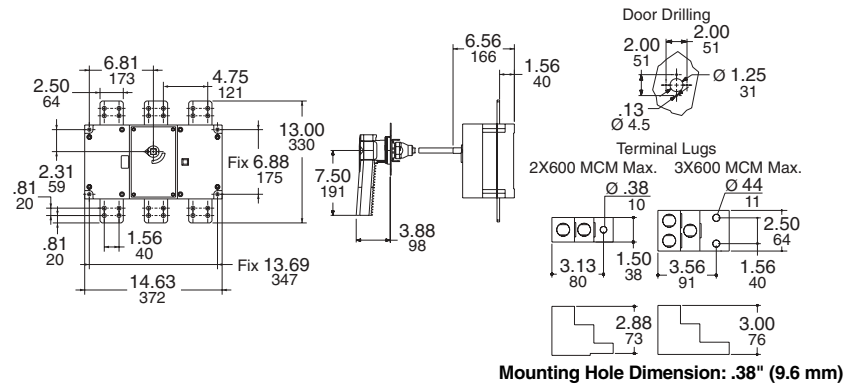
LK3MU3, LK3 200 A



LK3QU3/LK3SU3, LK3 400 A/600 A



LK3TU3/LK3UU3/LK3WU3, LK3 800 A/1000 A/1250 A



NEMA Style Door Mounted Disconnect Switches

File D10

Square D
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FOR CURRENT INFORMATION

The D10 disconnect switch features high I²T rating, longer contact life, visible contact indication, fuse-mounting flexibility, dead-front construction, and auxiliary interlocks.

A complete installation includes a D10 disconnect switch, D11 handle operator, and D12 fuse clip kit. The D10 accepts Class H, K, J or R fuses or can be used for non-fusible applications. The D10 disconnect switch is operated by a cast metal handle operator that is lockable in the "OFF" position and defeatable in the "ON" position.

Disconnect Switches (without fuse clips or shorting straps)

600 V—Without Service Entrance Rating							
Starter NEMA Type Size	Switch Rating Amperes	Max. Horsepower Rating [▲]				Catalog Number	Price
		120 V	200–240 V	480 V	600 V		
0–1	30	5	10	20	25	D10S1	\$130.00
2	60	10	20	40	50	D10S2	141.00
3	100	15	30	60	75	D10S3	218.00
4	200	25	50	100	100	D10S4	415.00

600 V—With Service Entrance Rating							
Starter NEMA Type Size	Switch Rating Amperes	Max. Horsepower Rating [▲]				Catalog Number	Price
		120 V	200–240 V	480 V	600 V		
0–1	30	5	10	20	25	D10S1H	\$155.00
2	60	10	20	40	50	D10S2H	170.00
3	100	15	30	60	75	D10S3H	263.00
4	200	25	50	100	100	D10S4H	499.00

▲ Non-fused ratings

Rotary Handle Operating Mechanism

Rotary Handle Operator Kits—Door Mounting NEMA Type 1, 3, 3R, 4, 12			For MC Switches	
Description	Amp Rating	Enclosure Interior Depth—Inches	Catalog Number	Price
Variable Depth Rotary Operator	30, 60, 100, 200	5 ³ / ₈ –6 6–10 10–16	D11SF4 D11SF10 D11SF16	\$ 51.00 57.00 63.00

Auxiliary Electrical Interlock (for mounting on 30 A—200 A disconnect switch[■])

Block Description (With Switch Contacts Open)	Catalog Number	Price
1 Normally Open	D11N0	\$38.00
1 Normally Closed	D11NC	38.00
1 Normally Open and 1 Normally Closed	D11N0C	51.00
2 Normally Open	D11N00	51.00
2 Normally Open and 2 Normally Closed	D11N0C2	63.00

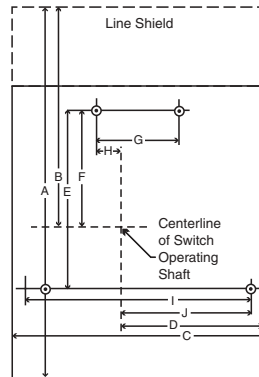
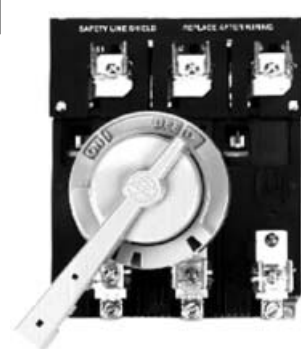
■ One block per switch.

Switch Dimensions (in inches)

Switch Size	Length		Width	Mounting Hole Dimensions								Depth	
	A	B		C	D	E	F	G	H	I	J	K [♦]	I [★]
30	7 ⁵ / ₁₆	4 ¹⁵ / ₃₂	5 ⁷ / ₈	3 ¹⁵ / ₃₂	6	3 ¹⁵ / ₃₂	1 ⁷ / ₈	1 ³ / ₃₂	5 ⁷ / ₁₆	3 ¹ / ₄	4 ³ / ₃₂	4 ¹¹ / ₃₂	
60	7 ⁵ / ₁₆	4 ¹⁵ / ₃₂	5 ⁷ / ₈	3 ¹⁵ / ₃₂	6	3 ¹⁵ / ₃₂	1 ⁷ / ₈	1 ³ / ₃₂	5 ⁷ / ₁₆	3 ¹ / ₄	4 ¹¹ / ₃₂	4 ¹¹ / ₃₂	
100	9 ²⁷ / ₃₂	5 ¹¹ / ₃₂	8 ³ / ₁₆	4 ⁵ / ₈	5 ¹³ / ₁₆	3 ¹³ / ₁₆	2 ¹¹ / ₁₆	5 ¹ / ₆₄	7 ⁹ / ₁₆	4 ³ / ₁₆	5 ²³ / ₃₂	4 ²⁷ / ₃₂	
200	12 ³ / ₁₆	7 ⁷ / ₃₂	8 ³ / ₁₆	4 ⁵ / ₈	5 ¹³ / ₁₆	3 ¹³ / ₁₆	2 ¹¹ / ₁₆	5 ¹ / ₆₄	7 ⁹ / ₁₆	4 ³ / ₁₆	5 ²³ / ₃₂	4 ²⁷ / ₃₂	

♦ Maximum depth with largest fuse.

★ Depth including insulating barrier on service entrance switches.



Fuse Clip Kits

D10 Switch Size	Fuse-Clip Rating [▼]			Catalog Number	Price	
	Amperes	AC Volts	Type			
30 A	No Fuse			D12C01	\$ 3.20	
	0–30	250	H, K	D12C21	6.30	
			R	D12CR21	25.30	
		600	H, K	D12C61	9.50	
			R	D12CR61	25.30	
		600	J	D12CJ1	19.00	
			600	250	H, K	D12C22	9.50
	R	D12C62			19.00	
	600	H, K		D12CR62	31.70	
		J		D12CJ2	22.20	
	600	250		H, K	D12C23	25.30
				R	D12C63	31.70
60 A	No Fuse			D12D02	9.50	
	0–30	250	R	D12DR21	25.30	
			H, K	D12D61	9.50	
		600	R	D12DR61	25.30	
			H, K	D12D22	9.50	
		600	R	D12DR22	31.70	
			H, K	D12D62	15.80	
	600	250	R	D12DR62	31.70	
			J	D12DJ2	22.20	
	600	250	H, K	D12D23	25.30	
			R	D12D63Δ	44.30	
		600	J	D12DJ3	41.10	
R			D12DR63	44.00		
No Fuse			D12E03	19.00		
100 A		30–60	250	H, K	D12E22	15.80
	R			D12E62	15.80	
	600		H, K	D12E23	31.70	
			R	D12ER23	44.30	
	600		H, K	D12F63	34.80	
			R	D12FR63	44.30	
	600	250	J	D12EJ3	44.30	
			600	250	H, K	D12F24	41.10
	R	D12F64			47.50	
	600	J		D12FJ4	54.00	
		H, K		D12F25Δ	73.00	
	600	R		D12FR5Δ	89.00	
600		250		J	D12FJ5Δ	89.00
	200 A		No Fuse			D12F04	31.70
600		600	H, K	D12F63	34.80	
			R	D12F24	41.10	
		250	R	D12FR24	54.00	
			H, K	D12F64	47.50	
		600	R	D12FR64	54.00	
			600	250	J	D12FJ4	54.00
600		250			H, K	D12F25Δ	73.00
			R	D12FR25Δ	89.00	
		600	H, K	D12F65Δ	73.00	
			R	D12FR65Δ	89.00	
		600	250	J	D12FJ5Δ	89.00

▼ Continuous current should not exceed switch rating (size). Fuse clip kits should be sized to accommodate inrush.

Δ Cannot be used with service entrance rated switch.

MC Switch Interrupting and Withstandability Ratings

Switch Rating Amperes	Interrupting Rating Amperes Symmetrical 600 Vac, 3Ø	Withstandability I ² T (Amperes ² seconds)
30	1,200	.38 x 10 ⁶
60	1,800	1.28 x 10 ⁶
100	2,000	2.62 x 10 ⁶
200	3,600	5.25 x 10 ⁶

Note: These switches are for motor circuit applications.

Lug Data

Switch Rating	Number Per Pole	Wire Range [□]	Wire Type
30	1	#14–#8	Cu
60		#14–#4	Cu
100		#14–#1/0	Al–Cu
200		#6–250 kcmil	Al–Cu

□ One conductor per lug.

For additional information, reference Catalog #9420CT9701.

Type L Circuit Breaker Mechanisms

Type L door mounted, variable depth operating mechanisms feature heavy duty, all metal construction with trip indication. All can be padlocked in the "OFF" position when the enclosure door is open. Further, the handle assemblies can be locked "OFF" with up to three padlocks, which also locks the door closed. (The 3" handle accepts one padlock.)

Complete Kits

Complete kits are rated for NEMA Type 1, 3R and 12 enclosures, and a door-drilling template is supplied to ease installation. They include a handle assembly, operating mechanism, and shaft assembly

Complete Kit Does Not Include Circuit Breaker			Includes: Operating Mechanism Standard 6" Handle Standard Shaft Kit			Includes: Operating Mechanism Standard 6" Handle Long Shaft Kit			Includes: Operating Mechanism Short 3" Handle Long Shaft Kit		
Use With			Type	Price	Mounting Depth▲ Min.-Max.	Type	Price	Mounting Depth▲ Min.-Max.	Type	Price	Mounting Depth▲ Min.-Max.
Circuit Breaker or Interrupter Type	Number of Poles	Frame Size (Amps)									
GJL	3	75, 100	LG1	\$ 62.00	5 1/2-10 1/4	LG4	\$ 70.00	5 1/2-20 7/8	LG3	\$ 88.00	5 1/2-20 7/8
FAL, FCL, FHL	2-3	100	LN1	62.00	5 1/2-10 7/16	LN4	70.00	5 1/2-21	LN3	88.00	5 1/2-21
KAL, KCL, KHL	2-3	250	LP1	76.00	6 1/4-11 3/16	LP4	84.00	6 1/4-21 3/4	LP3	102.00	6 1/4-21 3/4
LAL, LHL, Q4L	2-3	400	LR1	107.00	6 5/16-10 7/8	LR4	113.00	6 5/16-21 1/2	3" handles are not recommended for use with these circuit breakers.		
MEL, MXL	2-3	800	LT1■	107.00	7 3/16-11 5/8	LT4■	113.00	7 3/16-22 1/4			
MAL, MHL	2-3	1000	LT1■	107.00	7 3/16-11 5/8	LT4■	113.00	7 3/16-22 1/4			
NAL, NCL, NEL, NXL	2-3	1200	LX1■	107.00	8 1/4-12 3/4	LX4■	113.00	8 1/4-23 3/8			

▲ Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosure door in inches.
 ■ Types LT1, LT4, LX1, and LX4 include an 8" handle rather than a 6" handle.

Component Parts

Component parts kits are rated for NEMA Type 1, 3, 3R, 4, 4X, and 12 enclosures. All handle assemblies are painted (the handle is flat black and the base ring is silver).

Use With			3" Handle Assemblies Type 1, 3R, 12		Standard Handle Assemblies Type 1, 3R, 12		Operating Mechanism Includes Lockout		Standard Shaft (Support Bracket Not Required)			Long Shaft (Support Bracket Included)		
Circuit Breaker or Interrupter Type	No. of Poles	Frame Size (Amps)	Type	Price	Type	Price	Type	Price	Mounting Depth▲ Min.-Max.	Type	Price	Mounting Depth▲ Min.-Max.	Type	Price
GJL	3	75, 100	LH3	\$40.10	LH6	\$22.20	LG7	\$31.70	5 1/2-10 7/16	LS8	\$9.50	5 1/2-21	LS13	\$15.80
FAL, FCL, FHL	2-3	100	LH3	40.10	LH6	22.20	LF1	31.70	5 1/2-10 7/16	LS8	9.50	5 1/2-21	LS12	15.80
KAL, KCL, KHL	2-3	250	LH3	40.10	LH6	22.20	LK1	46.40	6 1/4-11 3/16	LS8	9.50	6 1/4-21 3/4	LS12	15.80
LAL, LHL, Q4L	2-3	400	3" handles are not recommended for use with these circuit breakers.	LH6	22.20	LL1	75.00	6 5/16-10 7/8	LS8	9.50	6 5/16-21 1/2	LS10	15.80	
MEL, MXL	2-3	800		LH8	22.20	LM1	75.00	7 3/16-11 5/8	LS8	9.50	7 3/16-22 1/4	LS10	15.80	
MAL, MHL	2-3	1000		LH8	22.20	LM1	75.00	7 3/16-11 5/8	LS8	9.50	7 3/16-22 1/4	LS10	15.80	
NAL, NCL, NEL, NXL	2-3	1200		LH8	22.20	LX7	75.00	8 1/4-12 3/4	LS8	9.50	8 1/4-23 3/8	LS10	15.80	

▲ Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosure door in inches.

NEMA Type 3 and 4 Handle Assemblies★

Use With			Standard Handle Assemblies				Special 3" Version			
Circuit Breaker or Interrupter Type	No. of Poles	Frame Size (Amps)	NEMA Type 3, 4 (Painted)		NEMA Type 3, 4 (Chrome Plated)		NEMA Type 3, 4 (Painted)		NEMA Type 3, 4 (Chrome Plated)	
			Type	Price	Type	Price	Type	Price	Type	Price
GJL	3	75	LH46	\$40.10	LC46	\$66.00	LH43	\$73.00	LC43	\$103.00
FAL, FCL, FHL	2-3	100	LH46	40.10	LC46	66.00	LH43	73.00	LC43	103.00
KAL, KCL, KHL	2-3	250	LH46	40.10	LC46	66.00	LH43	73.00	LC43	103.00
LAL, LHL, Q4L	2-3	400	LH46	40.10	LC46	66.00	3" handles are not recommended for use with these circuit breakers.			
MEL, MXL	2-3	800	LH48	40.10	LC48	66.00				
MAL, MHL	2-3	1000	LH48	40.10	LC48	66.00				
NAL, NCL, NEL, NXL	2-3	1200	LH48	40.10	LC48	66.00				

★ Due to gasketing, NEMA Type 3 & 4 handle assemblies are NOT trip indicating.

IEC Style Operating Mechanisms

Circuit Breaker or Interrupter Type	Type 1, 4, 4X, 12			Operating Mechanism includes lockout		Extension Shafts			
	Color	Type	Price	Type	Price	Mounting Depth		Type	Price
						Min.	Max.		
GJL	Red/ Yellow	NW3	\$40.10	LG8	\$31.70	6 1/8	10 3/4	NS16	\$12.70
	Black	NW3B	40.10			6 1/8	17 7/8	NS336▼	15.80

▼ Contains support bracket.

Electrical Interlock Kits—Class 9999

(optional accessory for use with 9421L operating mechanisms)

Description	Class	Type	Price
Single Pole Double Throw	9999	R47	\$58.00
Double Pole Double Throw	9999	R48	98.00

Note: Not used with GJL, NAL, NCL, NEL, or NXL; use field-installable circuit breaker interlocks instead.



3" Handle Assembly



Standard Handle



Operating Mechanism (includes lockout)



IEC-Style Handle



Extension Shaft

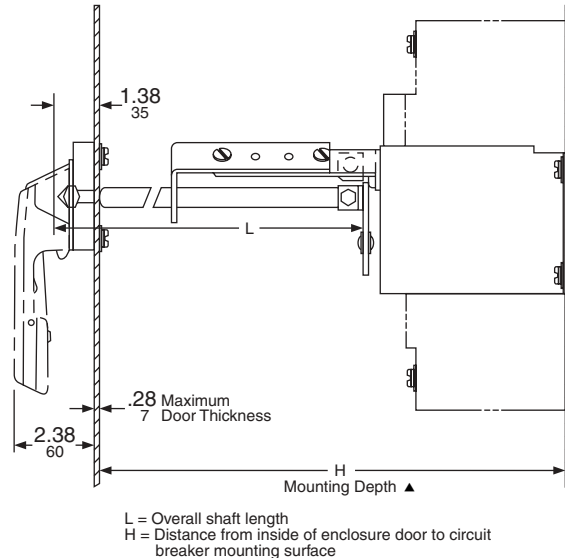
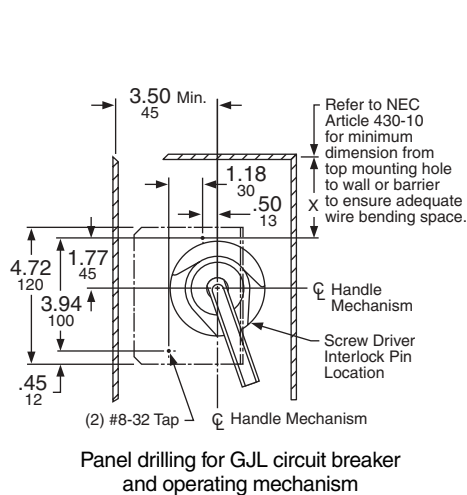
For additional information, reference Catalog #9420CT9701.



Door Mounted Operating Mechanisms for Square D Circuit Breakers

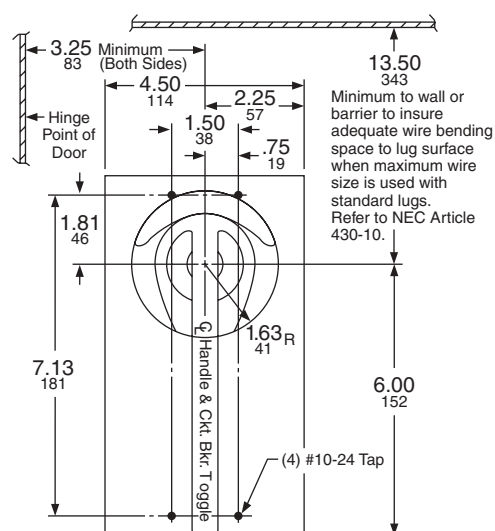
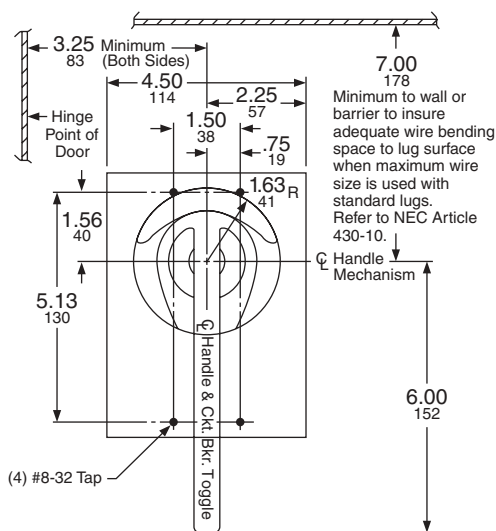
Dimensions—Class 9421

Square D
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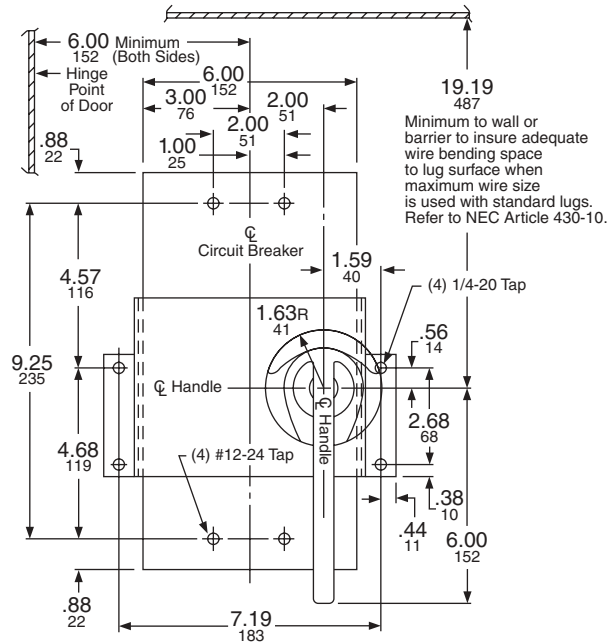
Class	Type	Shaft Length Formula	H=Standard Shaft		H=Long Shaft	
			Min.	Max.	Min.	Max.
9421	LG7, LG1, LG4, LG3	$L = H - 2.5$ 64	5.50 140	10.25 260	5.50 140	20.85 530
9421	LF1, LN1, LN3, LN4	$L = H - 2.88$ 73	5.50 140	10.44 265	5.50 140	21.00 533
9421	LK1, LP1, LP3, LP4	$L = H - 3.63$ 92	6.25 159	11.19 284	6.25 159	21.75 552
9421	LL1, LR1, LR4	$L = H - 3.13$ 79	6.31 160	10.88 276	6.31 160	21.50 546
9421	LM1, LT1, LT4	$L = H - 4.00$ 102	7.18 182	11.63 295	7.18 182	22.25 565
9421	LX7, LX1, LX4	$L = H - 5.17$ 131	8.25 210	12.75 324	8.25 210	23.38 594

▲ Mounting depth measured from circuit breaker mounting surface (control panel) to outside of enclosure door.

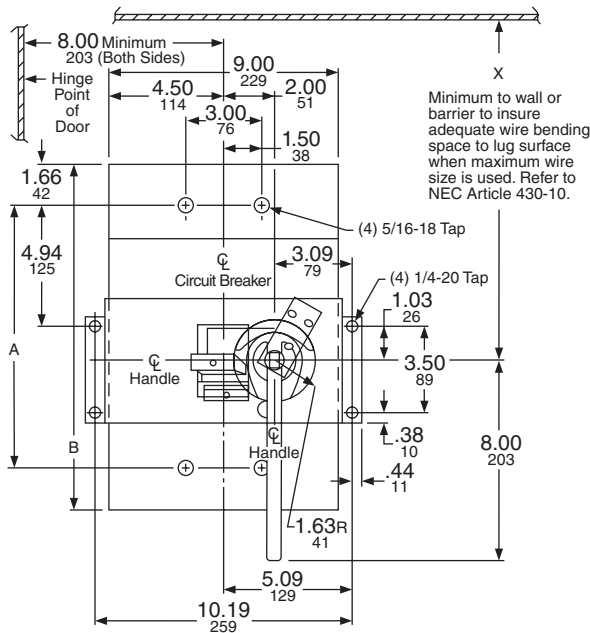


For additional information, reference Catalog #9420CT9701.

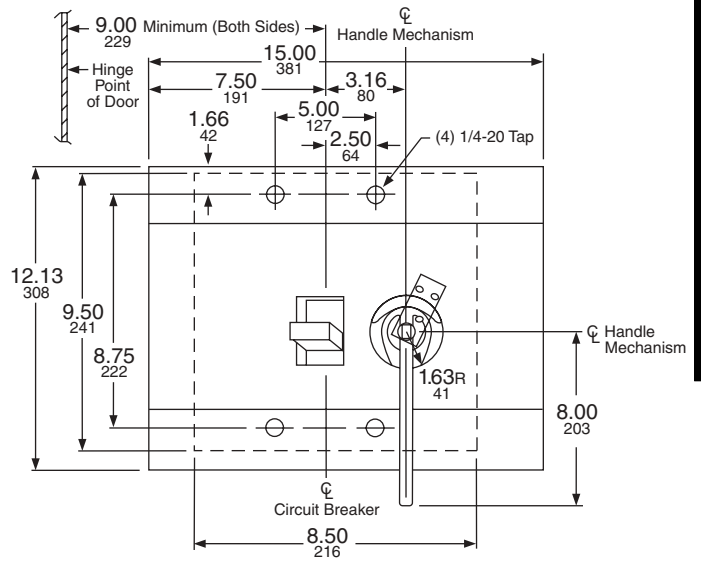




**Panel Drilling for LAL, LHL, and Q4L
 Circuit Breaker and Operating Mechanism**



**Panel Drilling for MAL, MEL, MHL, and MXL
 Circuit Breaker and Operating Mechanism**



**Panel Drilling for NAL, NCL, NEL, and NXL
 Circuit Breaker and Operating Mechanism**

Circuit Breaker Type	Dimensions – inches (millimeters)	
	A	B
MAL, MHL	10.69 (272)	14.00 (356)
MEL, MXL	11.47 (291)	14.75 (375)

For additional information, reference Catalog #9420CT9701.



Flange Mounted, Variable Depth, and Cable Operated Disconnect Switches

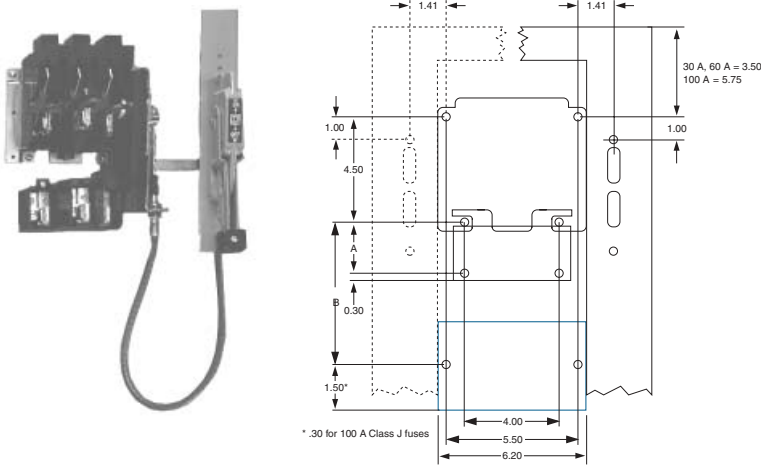
Class 9422

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The Class 9422 Type TCF, TCN, TDF, TDN, TEF, TEN disconnect switches were designed for control panel installations. These switches include common switch profile 30–100 A, interchangeable fuse clips 30–60 A, ability to add fuse clip kits and cable mechanisms. They are compatible with 9422A and 9423, and are UL recognized and CSA certified.

Disconnect Switch Size	Variable Depth Mtg. Range Min.–Max. (inches)	Maximum Horsepower Ratings					Fuse Type	Fuse Clip Rating (Amperes) Non-Interchangeable Type For Class H, J, K or R Fuses Only		Switch and Operating Mechanism Only—Does Not Include Handle Mechanism		Switch and Operating Mechanism and Handle Mechanism—Overpacked			
		AC Systems Volts (Motor Volts)				DC Using 2 Poles 250 V Maximum		250 V	600 V	Type	Price	Includes Type A1 Handle Mechanism		Includes Type A2 Handle Mechanism	
		208 (200)	240 (230)	480 (460)	600 (575)							Type	Price	Type	Price
30 A	6 ⁵ / ₈ "–18"	7.5	7.5	15	20	5	None	—	—	TCN30	\$146.00	ATCN301	\$209.00	ATCN302	\$260.00
							H, K, J, R	30	—	TCF30	165.00	ATCF301	228.00	ATCF302	279.00
								60	30	TCF33	177.00	ATCF331	241.00	ATCF332	293.00
60 A	6 ⁵ / ₈ "–18"	15	15	30	50	10	None	—	—	TDN60	171.00	ATDN601	234.00	ATDN602	285.00
							H, K, J, R	60	30	TDF60	203.00	ATDF601	266.00	ATDF602	317.00
								—	60	TDF63	215.00	ATDF631	279.00	ATDF632	329.00
100 A	6 ⁵ / ₈ "–18"	25	30	60	75	20	None	—	—	TEN10	253.00	ATEN101	317.00	ATEN102	367.00
							H, K, J, R	100	100	TEF10	348.00	ATEF101	411.00	ATEF102	462.00

See 9422 TF and TG on page 7-17



Class 9422 Replacement/Retrofit Fuse Clip Kits

Disconnect Switch Size	Switch Type	Fuse Type	Fuse Clip Rating (Amps)		Line and Load Fuse Clip Kit (includes load base and fuse pullers)	
			250 V	600 V	Type	Price
30 A	TCF30 TCN30 TCF33	H, K, J, R	30	—	TC30	\$19.00
			60	30	TC33	31.70
60 A	TDN60	H, K, J, R	60	30	TC33	31.70
			—	60	TD63	44.30

Class R Fuse Clip Kits

Disconnect Switch Size	Switch Type	Fuse Type	Fuse Clip Rating (AIR)		Rejection Feature—Class R Kit	
			250 V	600 V	Type ▲	Price ■
30 A	TCF30	R	30	—	RFK03	\$15.50
			60	30	RFK06	16.20
60 A	TDF60	R	60	30	RFK06	16.20
			—	60	RFK06H	16.20
100 A	TEF10	R	100	100	RFK10	30.30

▲ No Class Number required.
■ Discount Schedule DE1, not CP1.

Class 9422 Disconnect Switch Cable Operators (must purchase switch separately)

Disconnect Switch Size	Switch Types	Cable Mechanisms ♦			Cable Mechanisms with A1 Handle for Types 1, 3, 3R, 4 and 12	
		Cable Length	Type	Price	Type	Price
30 A, 60 A, 100 A	TCF, TCN TDF, TDN TEF, TEN	36"	CFT30	\$121.00	CFT31	\$185.00
		48"	CFT40	129.00	—	—
		60"	CFT50	129.00	CFT51	192.00
		120"	CFT10	148.00	CFT11	211.00

♦ Must purchase handle mechanism separately (9422, A1, A2, A3 or A4).

Dimensions

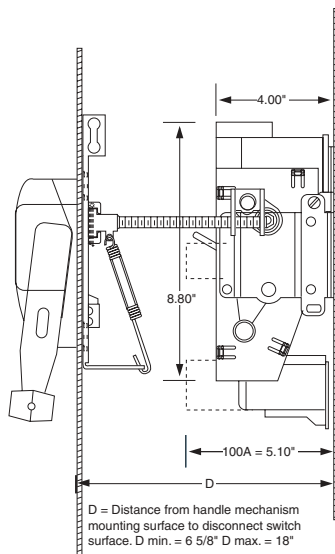
Switch Type	Maximum Voltage	Fuse Type Class	Dimension A	Dimension B
30 A, 60 A	30 A, 250 V	H, K, R	1.625	3.25
	30 A, 600 V	H, K, R	4.25	
	30 A, 600 V	J	1.625	
	60 A, 250 V	H, K, R	2.25	
	60 A, 600 V	H, K, R	4.75	
	60 A, 600 V	J	1.625	
100 A	100 A, 250 V	H, K, R	—	3.25
	100 A, 600 V	H, K, R	—	5.25
	100 A, 600 V	J	—	3.25

Class 9999 Electrical Interlocks

Disconnect Switch Size	Switch Types	Electrical Interlock	
		Type	Price
30 A 60 A 100 A	TCF, TCN TDF, TDN TEF, TEN	SPDT★	TC10 \$ 53.00
		DPDT▼	TC20 106.00
	BTCF, BTCN BTDF, BTDN BTEF, BTEN	SPDT★	TC11 53.00
		DPDT▼	TC21 106.00

★ 1 N.C. or 1 N.O. depending on wiring.
▼ 2 N.C., 2 N.O. or 1 N.O., 1 N.C. depending on wiring.

For additional information, reference Catalog #9420CT9701.



Ordering Information

The 9422 Type T disconnect switches are designed for variable depth, flange mounting applications. These switches are fully compatible with 9422 handle operators and 9423 door closing mechanisms. They feature: 200 and 400 A; fusible (Classes H, K, J, or R fuses) and nonfusible; right or left flange mounting (except 400 A, which mounts only right), UL recognized, and CSA certified. See page 7-20 for modifications and special features.

Disconnect Switches

Disconnect Switch Size	Variable Depth Mounting Range Min.-Max. (inches)	Maximum Horsepower Ratings▲					Fuse Clip Rating (Amperes) Non-Interchangeable Type For Class H, J, K or R Fuses Only	Switch and Operating Mechanism Only—Does Not Include Handle Mechanism		Switch and Operating Mechanism and Handle Mechanism—Overpacked				
		AC Systems Volts (Motor Volts)				DC Using 2 Poles 250 V Maximum		Type	Price	Includes Type A1 Handle Mechanism		Includes Type A2 Handle Mechanism		
		208 (200)	240 (230)	480 (460)	600 (575)					Type	Price	Type	Price	
200 Ampere	9.12–19.25■	40	60	125	150	40	Non-Fusible		TF1	\$ 554.00	ATF11	\$617.00	ATF21	\$ 668.00
							200 —	200 400	TF2 TF3♦	617.00 912.00	ATF12 ATF13♦	680.00 975.00	ATF22 ATF23♦	731.00 1025.00
400 A Fixed Depth★	11.38 (A5 or A6 Handle)	75	125	250	350	50	Non-Fusible		TG1△□	1187.00	For handle selection, see Table below.			
400 A Adj. Depth★	15.87–19▼ (A7 or A8 Handle)						400	400	TG2△□	1345.00				

- ▲ Refers to rating of switch only.
- 9422 R, shown on page 7-22, will extend maximum mounting depth 7"
- ♦ Accommodates Class J fuses only.
- ★ Switches are either fixed-depth or adjustable; the handle will determine installation.
- ▼ In steps of 0.63 inches.
- △ Commercially available enclosures may not accept type TG operating mechanisms. Contact enclosure manufacturer for availability of enclosures for use with these switches.
- Right hand flange mounting only.

Class R Fuses

Fusible disconnect switches on this page will accept Class R fuses as standard. A field installable rejection kit is available which, when installed, rejects all but Class R fuses. With the rejection kit and Class R fuses installed, the switch is UL component recognized for use on systems with up to 200,000 RMS symmetrical Amperes fault current available.

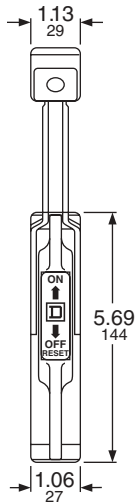
Switch Ampere Rating	Type	Fuse Clip Rating		Class	Type	Price
		250 Vac	600 Vac			
200	TF	200 A	200 A	9999	SR4	\$21.10
400	TG	400 A	400 A	9999	SR5	47.50

Handle Mechanisms

Handle mechanism kits are used with all disconnect switch and circuit breaker installations. The kits contain all parts necessary for mounting the handle to the flange of the enclosure. The Types A1 through A4, A9 through A10 are suitable for right or left hand flange mounting. Two mounting methods are offered. The Types A5 through A8 handles are designed for right hand mounting only.

Type of Handle	NEMA Type Enclosure	Type	Price
6" HANDLE♦, ★	1, 3, 3R, 4 (sheet steel), 12	A1	\$ 63.00
	4,4X (stainless steel)★	A2	114.00
4" HANDLE♦, ★	1, 3, 3R, 4 (sheet steel), 12	A3	63.00
	4, 4X (stainless steel)★	A4	114.00
12" HANDLE (fixed depth)▼	1, 3, 3R, 4 (sheet steel), 12	A5	111.00
	4 (stainless steel)	A6	142.00
12" HANDLE (variable depth)▼	1, 3, 3R, 4 (sheet steel), 12	A7	133.00
	4 (stainless steel)	A8	165.00
10" HANDLE◊	1, 3, 3R, 4 (sheet steel), 12	A9	70.00
	4 (stainless steel)	A10	120.00

- ◊ For use with 30–200 Ampere switches and all circuit breaker mechanisms.
- ★ All external metal parts are either stainless steel or a chrome-plated non-ferrous die casting.
- ▼ For use with 400 Ampere Type TG1 and TG2 disconnect switches ONLY.
- ◊ For use with Type D2 remote or dual adaptor kit listed on page 7-23.



Type A1

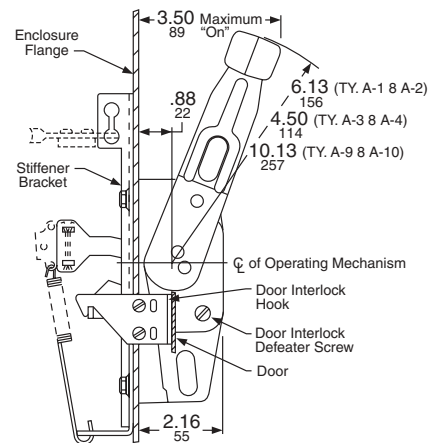
Electrical Interlocks

Optional accessory for use with disconnect switches listed on this page

For Use On: Switch Type	Class	Single Pole Interlock Type	Price	Class	Two Pole Interlock Type	Price
TF, ATF	9999	R8	\$ 55.	9999	R9	\$108.00
TG	9999	R35	183.	9999	R36	231.00

Lug Data

Disconnect Switch Size	Wire Size Minimum–Maximum
30 A	#14–#2 Cu, #10–#2 Al
60 A	#14–#2 Cu, #10–#2 Al
100 A	#10–#0 Cu, #6–#0 Al
200 A	#6–300 kcmil Cu or Al
400 A	#4–500 kcmil Cu



For additional information, reference Catalog #9420CT9701.



Flange Mounted, Variable Depth Disconnect Switches

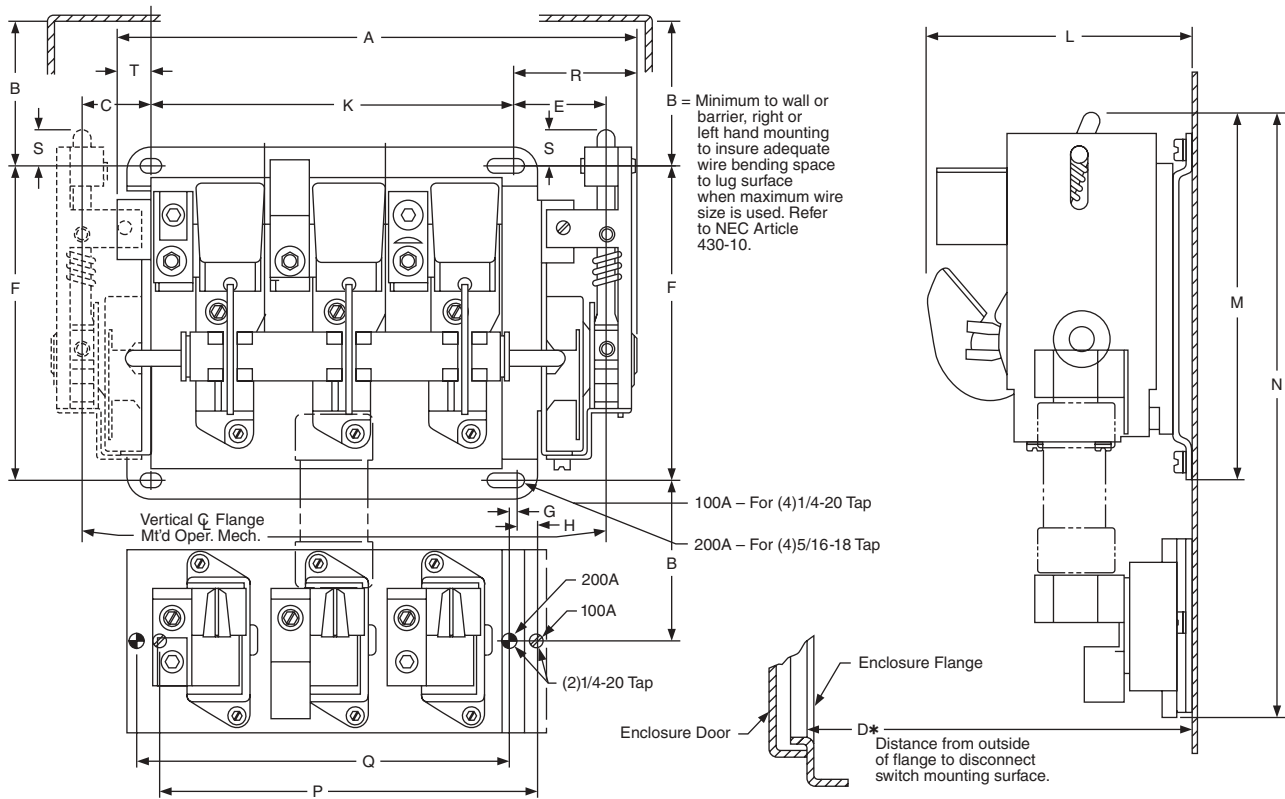
Dimensions—Class 9422

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Dimensions for 200 A Type TF Disconnect Switches

Type	Switch Size		A	B	C	D [▲]	E	F	G	H	J	K	L	M	N	P	Q	R	S	T
	Ampere Rating																			
	Sw	Fuse Clips																		
TF1	200	None	13.33 339	9.38 238	1.64 42	9.12–19.25 232 489	2.33 59	8.00 203	–	–	–	9.44 240	6.50 165	9.53 242	–	–	–	3.14 80	1.03 26	.75 19
TF2	200	Class J 200 A 600 V	13.33 339	9.38 238	1.64 42	9.12–19.25 232 489	2.33 59	8.00 203	.09 3	–	2.77 70	9.44 240	6.50 165	–	14.11 358	–	9.63 245	3.14 80	1.03 26	.75 19
TF2	200	Class H, K, R 200 A 250 V	13.33 339	9.38 238	1.64 42	9.12–19.25 232 489	2.33 59	8.00 203	.09 3	–	4.14 105	9.44 240	6.50 165	–	15.48 393	–	9.63 245	3.14 80	1.03 26	.75 19
TF2	200	Class H, K, R 200 A 600 V	13.33 339	9.38 238	1.64 42	9.12–19.25 232 489	2.33 59	8.00 203	.09 3	–	6.64 169	9.44 240	6.50 165	–	17.98 457	–	9.63 245	3.14 80	1.03 26	.75 19
TF3	200	Class J 400 A 600 V	13.33 339	9.38 238	1.64 42	9.12–19.25 232 489	2.33 59	8.00 203	.09 3	–	2.77 70	9.44 240	6.50 165	9.53 242	18.53 471	–	9.63 245	3.14 80	1.03 26	.75 19

▲ The dimensions shown may be extended 7" by utilizing 9422 R2 (two required per switch).



For additional information, reference Catalog #9420CT9701.



Disconnect Switches—400 Ampere Type TG

Outline Dimensions And General Location, 400 Ampere Disconnect Switches
 Non-Fusible And Non-Interchangeable Fuse Clip Type Fusible Switches

Handle Mechanism—Types A5 through A8

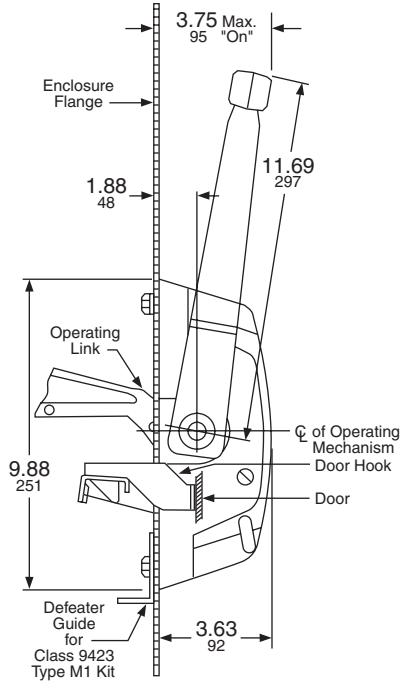


Figure 1

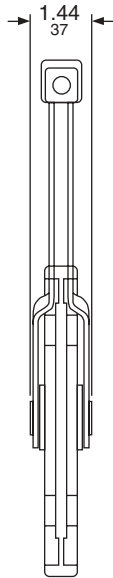


Figure 2

Switch Type	B	X
TG1, 2	11.28 286	16.06 408

B And X = Minimum to wall or barrier to ensure adequate wire bending space to lug surface when maximum wire size is used. Refer to NEC Article 430.10.

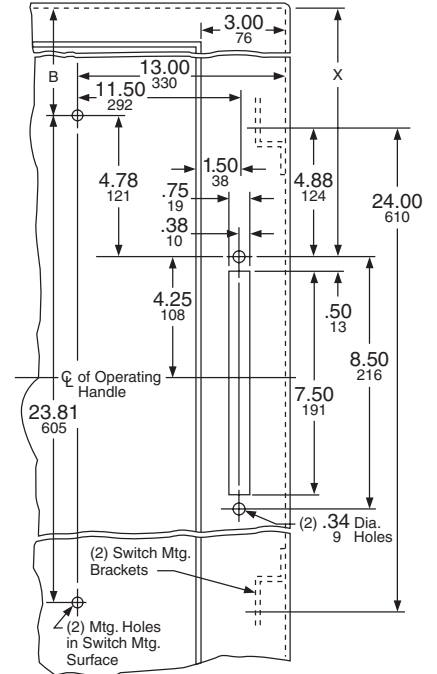


Figure 3

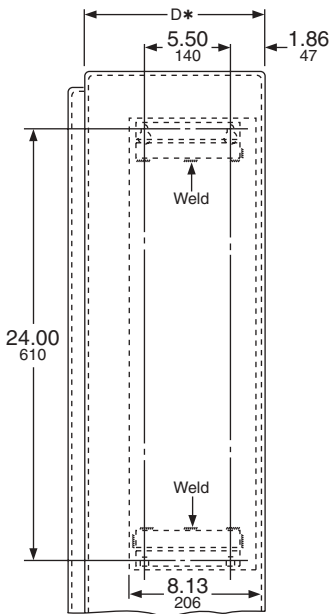


Figure 4

Non-Fusible and Fusible Switches

Dimension D—Distance from outside of flange to disconnect switch mounting surface.
For Type TG1 or TG2 with:

Type A5 or A6 fixed depth handle mechanism.....D = **11.38** 289

Type A7 or A8 adjustable depth handle mechanism.....D = **15.87** 19 403 to 483

In steps of .63 16

Note: Copper lugs standard on all Type TG disconnect switches.

***D = Mounting depth measured from switch mounting surface to surface of flange.**

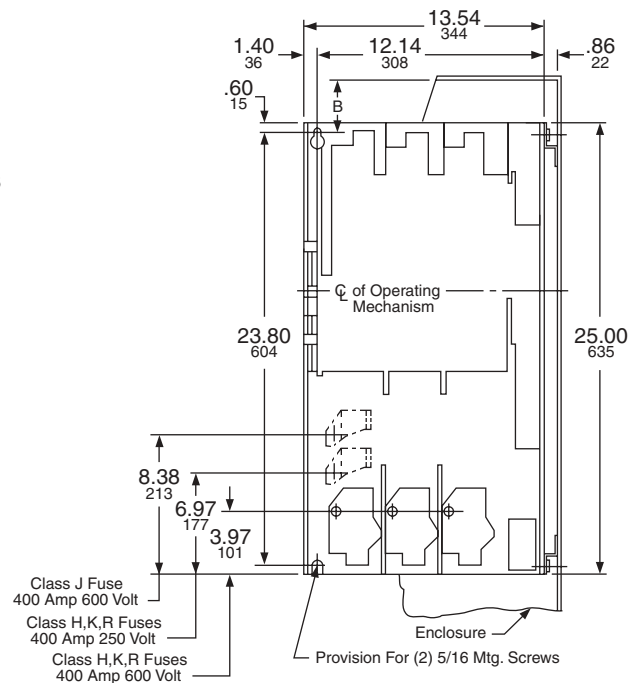


Figure 5

Dual Dimensions: **INCHES**
Millimeters

For additional information, reference Catalog #9420CT9701.



Bracket Mounted Disconnect Devices

Class 9422

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The Class 9422 Type T disconnect switches listed in the table below are shipped with switch and external handle assembled to a bracket, ready for installation into the enclosure. A trim plate is provided with each kit to eliminate any mounting screws from being accessible from the front and also to provide an attractive installation. These switches can be used with Class 9423 door closing mechanisms

Disconnect Switch Size	Maximum Horsepower Rating					Fuse Type	Fuse Clip Rating		Bracketed Mounted Switch Mechanism and Handle	
	AC System Volts (Motor Voltage)				250 V DC		250 V (Amps)	600 V (Amps)	Catalog No.	Price
	208 (200)	240 (230)	480 (480)	600 (600)						
30 A	7.5	7.5	15	20	5	None	—	—	BTCN30	\$ 209.00
						H, K, J, R	30	—	BTCF30	228.00
							60	30	BTCF33	241.00
60 A	15	15	30	50	10	J▲	60	30	BTCF32	241.00
						None	—	—	BTDN60	234.00
						H, K, J, R	60	30	BTFD60	260.00
—	60	—	BTFD63	279.00						
100 A	25	30	60	75	20	J▲	—	60	BTFD62	279.00
						None	—	—	BTEN10	317.00
						H, K, J, R	100	100	BTEF10	411.00
J▲	100	100	BTEF11	411.00						
200 A	40	60	125	150	40	None	—	—	TFB1	661.00
						J	200	200	TFB2	715.00
							—	400	—	TFB3	1006.00

▲ Space saving design—Type J fuses mounted on the non-fused bracket.
For Lug Data, see page 7-17; for Electrical Interlocks, see page 7-17.

Note: Some enclosures may not accept the listed bracket mounted operating mechanisms; contact the enclosure manufacturer.

Bracket Mounted Operating Mechanisms for Use With Square D Circuit Breakers

Circuit Breaker operating mechanisms listed below are shipped with the external operating handle assembled to a bracket. Circuit breakers are not included and must be ordered separately. A trim plate is provided with each kit to eliminate any mounting screws from being accessible from the front and also to provide an attractive installation. The operating handle is Type A1. These switches can be used with Class 9423 door closing mechanisms.

Breaker or Interrupter Type	No. of Poles	Frame Size (Amps)	Operating Mechanism	
			Catalog No.	Price
GJL	3	100	BG1	\$114.00
FAL, FHL	2-3	100	BN1	114.00
KAL, KHL	2-3	250	BP1	120.00
LAL, LHL, Q4L	2-3	400	BR1	241.00

Note: Some enclosures may not accept the listed bracket mounted operating mechanisms; contact the enclosure manufacturer.

Electrical Interlock Kits—Class 9999

Optional accessory for use with circuit breaker operating mechanisms listed to the left

Description	Class	Type	Price
Single Pole, Double Throw	9999	R26	\$ 58.00
Double Pole, Double Throw	9999	R27	108.00

Note: Not used with GJL; use field installable circuit breaker interlocks found on page 7-17 instead.

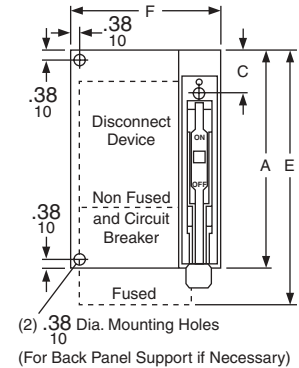
Dimensions

Type	A IN (mm)	C IN (mm)	D IN (mm)	Min. Enclosure Depth ■ IN (mm)	Fusible Device		F IN (mm)
					E-IN (mm)		
BTCN, BTDN, BTEN			6.56 (167)	8.00 (203)	—	—	
BTCF, BTDF, BTEF	9.50 (241)	1.88 (48)	8.56 (217)	10.00 (254)	11.88 (302)	6.38 (162)	
TFB1	11.50 (292)				—	—	
TFB2, TFB3	20.00 (508)	3.88 (99)	9.50 (241)	12.00 (305)	20.00 ◆ (508)	13.19 (335)	
BG1, BN1	8.75 (222)				—	—	7.13 (181)
BP1	9.13 (232)	1.13 (29)	6.50 (165)	8.00 (203)	—	—	7.38 (187)
BR1	11.25 (286)	2.75 (70)	8.50 (216)	10.00 (254)	—	—	10.13 (257)

■ The minimum enclosure depth is greater than Dimension D since additional space is needed when mounting the mechanism.

◆ Fuses and fuse base assembly do not extend beyond bracket.

Note: Back panel support is recommended for Types TFB1, 2, & 3. Other devices may also require support if flange is not sufficiently rigid.



(2) .38 Dia. Mounting Holes

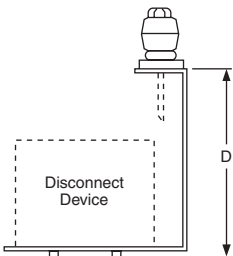
(For Back Panel Support if Necessary)

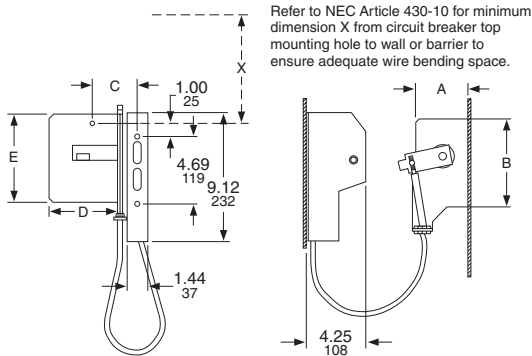
Class 9422—Flexible Cable Mechanisms for Use With Square D Circuit Breakers

For use with Square D circuit breakers and Class 9422 A handle operators. Especially designed for tall, deep enclosures where placement flexibility is required. See page 7-21 for dimensions.

Circuit Breaker Type	No. of Poles	Frame Size Amps	Cable Mechanism			Cable Mechanisms with A1 Handle For Types 1, 3, 3R, 12	
			Cable Length	Catalog No.	Price	Catalog No.	Price
GJL	3	100	36"	CGJ30	\$121.00	CGJ31	\$185.00
			48"	CGJ40	129.00	CGJ41	192.00
			60"	CGJ50	129.00	CGJ51	192.00
			120"	CGJ10	148.00	CGJ11	211.00
FAL, FHL	2-3	100	36"	CFA30	121.00	CFA31	185.00
			60"	CFA50	129.00	CFA51	192.00
			120"	CFA10	148.00	CFA11	211.00
KAL, KHL	2-3	250	36"	CKA30	128.00	CKA31	191.00
			60"	CKA50	135.00	CKA51	198.00
			120"	CKA10	154.00	CKA11	217.00
LAL, LHL, Q4L	2-3	400	36"	CLA30	216.00	CLA31	280.00
			60"	CLA50	224.00	CLA51	287.00
			120"	CLA10	243.00	CLA11	306.00

For additional information, reference Catalog #9402CT9701.





Refer to NEC Article 430-10 for minimum dimension X from circuit breaker top mounting hole to wall or barrier to ensure adequate wire bending space.

Note: Bend radius in cable must never be less than 6 inches. Electrical clearances must be maintained between cable and live electrical parts.

Class 9422
Flexible Cable Mechanisms for Use With MERLIN GERIN® Circuit Breakers
 For use with MC circuit breakers and Class 9422 A handle operators. Especially designed for tall, deep enclosures where placement flexibility is required.

Circuit Breaker Type	No. of Poles	Frame Size Amps	Cable Mechanism		
			Length	Type	Price
MG-NSF	3	250	36"	CSF30	\$128.
			60"	CSF50	135.
			84"	CSF70	143.
			120"	CSF10	154.
MG-NSF	4	250	36"	CSF304	132.
			60"	CSF504	139.
			120"	CSF104	158.
MG-NSJ	3	600	36"	CSJ30	216.
			60"	CSJ50	224.
			120"	CSJ10	243.
MG-NSJ	4	600	36"	CSJ304	222.
			60"	CSJ504	229.
			120"	CSJ104	248.

Class 9422
Cable Operating Mechanisms for Circuit Breakers—Dimensions

Type	A		B		C		D		E	
	IN	mm	IN	mm	IN	mm	IN	mm	IN	mm
CGJ	3.50	89	5.25	133	2.50	63	3.75	95	5.25	133
CFA	4.26	108	8.50	216	3.75	95	6.75	171	8.50	216
CKA	4.94	125	10.13	257	3.75	95	7.13	181	10.13	257
CLA	6.00	152	11.00	279	3.75	95	10.19	259	11.00	279
CSF 3-Pole	3.70	94	6.19	157	3.50	89	4.86	123	6.19	157
CSF 4-Pole	3.70	94	6.19	157	3.50	89	6.24	158	6.19	157
CSJ 3-Pole	4.13	105	9.50	241	3.00	76	7.25	183	9.50	241
CSJ 4-Pole	4.13	105	9.50	241	3.00	76	9.03	229	9.50	241

Class 9422
Dual Cable Mechanism for SQUARE D GJL Circuit Breakers Only

Dual Cable Operator Mechanisms are designed for use with Type GJL, 100 A Frame circuit breakers. The cable mechanism allows for a single handle operator, Class A1 to operate both circuit breakers simultaneously. The cable mechanism is designed especially for tall, deep enclosures where placement flexibility is required. There are six different cable arrangements to choose from to accommodate most applications.

Type CGJD1, 3, 4, and 5 are equipped with left and right hand operating mechanisms which allow the two circuit breakers to be mounted side by side.

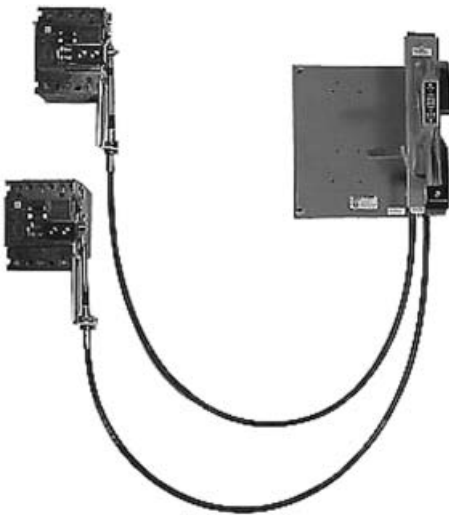
Type CJD8 and 9 are equipped with two right hand operating mechanisms and two different cable lengths allowing the two circuit breakers to be mounted one above the other or diagonally from each other.

Features

- Utilizes GJL Circuit Breakers up to 65 K @ 480 V
- Smaller breaker footprint
- Separate cables for each breaker
- Left-hand and right-hand versions available
- Rugged metal flange handle operator
- Maximizes flexibility of breaker placement for existing and new applications
- Control panel can be fed from two separate supply voltages (if required)
- Dual Mechanism allows both separate supply voltages to be controlled by a single handle to improve security features

Selection

Circuit Breaker Type	Cable Lengths (Quantity)	Catalog Number	Frame Size (max.)	Price
GJL	36" (2)	CGJD3	100 A	\$260.
	48" (2)	CGJD4		270.
	60" (2)	CGJD5		300.
	120" (2)	CGJD1		350.
	36" (1), 60" (1)	CGJD8		285.
	60" (1), 120" (1)	CGJD9		320.



Flange Mounted, Variable Depth Operating Mechanisms for Square D Circuit Breakers

Class 9422

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Variable Depth Mechanisms for Use With SQUARE D® and MERLIN GERIN® Circuit Breakers
Designed for installation in custom built control enclosures where main or branch circuit protective devices are required. All circuit breaker operating mechanisms are suitable for either right- or left-hand flange mounting, convertible on the job.

Use With				Operating Mechanism					
Circuit Breaker Frame Size	No. of Poles	Frame Size (Amps)	Variable Depth Mtg. Range Min.-Max.▲ (Inches)	Operating Mechanism Only — Does Not Include Handle Mechanism		Operating Mechanism and Handle Mechanism			
				Type	Price	Includes Type A1 Handle Mechanism		Includes Type A2 Handle Mechanism	
						Type	Price	Type	Price
SQUARE D Circuit Breakers									
GJL	3	100	6.00–17.75	RG1	\$ 51.	ARG11	\$114.	ARG21	\$165.
FAL, FHL	2-3	100	5.38–17.75	RN1	51.	ARN11	114.	ARN21	165.
KAL, KHL	2-3	250	6.38–17.88	RP1	57.	ARP11	120.	ARP21	171.
LAL, LHL, Q4L	2-3	400	7.44–18.25	RR1	146.	ARR11	209.	ARR21	260.
MEL, MXL	2-3	800	9.00–18.38	RT1	199.	ART11	263.	ART21	313.
MAL, MHL	2-3	1000	9.00–18.38	RT1	199.	ART11	263.	ART21	313.
NAL, NCL, NEL, NXL	2-3	1200	11.00–18.37	RX1	228.	...	...	...	...
MERLIN GERIN Circuit Breakers									
MG-NSF	3	250	5.88–17.75	9422RQ1	82.	...	...	...	...
MG-NSJ	3	600	9.00–17.75	9422RS1	170.	...	...	...	...

▲ Class 9422 Type R2 will extend mounting depth 7 inches (see page 7-17).

Electrical Interlocks—Class 9999

Description	Class	Type	Price
Single Pole, Double Throw	9999	R26■	\$ 58.00
Double Pole, Double Throw	9999	R27■	108.00

■ Not for use with the GJL operating mechanism.

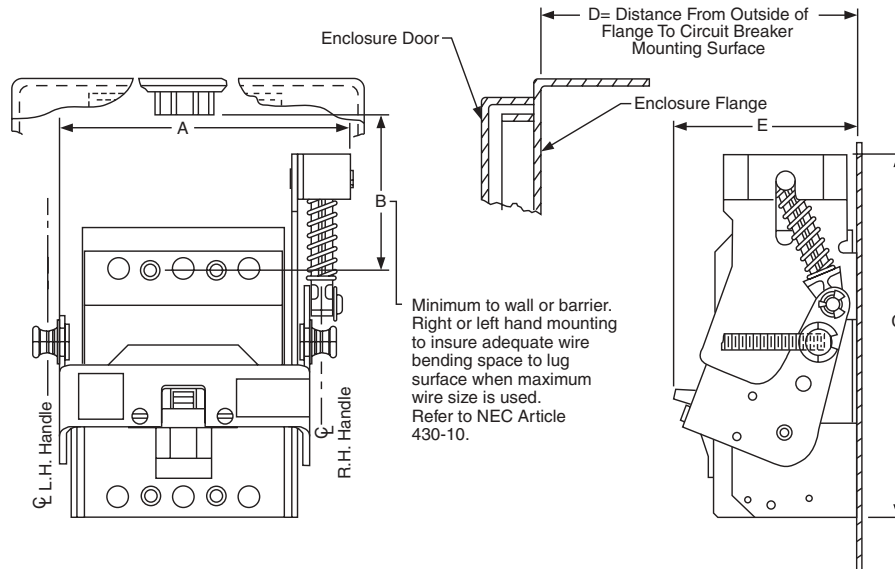
Dimensions

Circuit Breaker Frame Size	Type	Width (A)		Minimum to Wall or Barrier▲ (B)		Height (C)		Distance to Enclosure Flange★ (D)				Bracket Depth (E)	
		IN	mm	IN	mm	IN	mm	Minimum		Maximum		IN	mm
								IN	mm	IN	mm		
GJL	RG1	5.00	127	6.00	152	4.75	121	6.00	152	17.75	451	4.00	102
FAL, FHL	RN1	6.75	171	5.38	137	8.50	216	5.51	140	17.75	451	4.26	108
KAL, KHL	RP1	7.13	181	11.69	297	10.13	257	6.51	165	17.88	454	4.94	125
LAL, LHL, Q4L	RR1	10.19	259	14.69	373	11.00	279	7.44	189	18.25	464	6.00	152
MEL, MXL	RT1	13.38	340	16.38	416	14.00	356	9.00	229	18.38	467	9.69	246
MAL, MHL▼	RT1	13.38	340	16.38	416	14.00	356	9.00	229	18.38	467	9.69	246
NAL, NCL, NEL, NXL	RX1	19.63	499	25.50	648	13.50	343	11.00	279	18.37	467	9.00	229

◆ To ensure adequate wire bending space to lug surface when maximum wire size is used, refer to NEC® article 430-10.

★ 9422 R2 will extend dimension 7". Two required.

▼ Minimum mounting depth when using MAL or MHL circuit breakers can be decreased to 7.63 inches by using the Class 9422 Type RT1B conversion kit. \$23.



For additional information, reference Catalog #9420CT9701.



Switch
or
Breaker



Remote operation shown (handle mechanism not included in kit)

Remote or Dual Adaptor Kit

For the remote or dual operation of 30, 60, 100 and 200 ampere disconnect switches, or FAL, FHL, KAL, KHL, LAL, LHL, Q4L, MAL, MHL, MEL and MXL circuit breakers.

Remote Operation—permits mounting the Class 9422 Type A9 or A10 handle mechanism at a lower level than the disconnect device it controls. This arrangement is often required where the disconnect device is mounted too high for personnel to easily reach a conventional operator.

Dual Operation—permits controlling two disconnect devices, one in line with and one remote from a single Class 9422 Type A9 or A10 handle mechanism.

Note: Class 9422 Type A9 or A10 (page 7-17) handle and preferred mounting method must be used.

Disconnect Device	Enclosure Mounting Depth		Type	Price
	Min.	Max.		
Disconnect Switch				
30 A Type TCF/TCN	10.63	19.50	D2	\$111.00
60 A Type TDF/TDN	10.63	19.50		
100 A Type TEF/TEN	12.13	20.25		
200 A Type TF	13.13	20.81		
Circuit Breaker				
GJL	10.50	19.50		
FAL, FHL	10.66	19.50		
KAL, KHL	11.13	19.50		
LAL, LHL, Q4L	12.13	19.88		
MAL, MHL, MEL, MXL	13.75	20.25		

Air Valve Interlock

Note that Air Valve Interlocks will only accept specific three-way air valves manufactured by Schrader Bellows listed in the table below.



Air valve interlock mounted on enclosure

Schrader Bellows Valve Model Number			Class 9422 Air Valve Interlock	
Air Valve Size	Knob Operated	Lever Operated	Type	Price▲
.50 NPT 13	M04841885	M08541890	G1	\$228.00
	M08541848			
.75 NPT 19	M04861885	M08561890	G2	228.00
	M08561848			
1.00 NPT 25	M00080004	M088581890	G1	228.00
1.50 NPT 38	M08591885	M09091885	G2	228.00

▲ Prices do not include air valves or handle mechanism. For more information on air valves listed above contact Schrader Bellows, P.O. Box 631, Akron, OH 44309-0631 Ph. 330-923-5202, Fax 1-800-426-3259.

Other Accessories

	Description	Class	Type	Price
Alternate Mounting Kit	Permits mounting Class 9422 Type A1 or A2 handle mechanisms in enclosures with flange thickness of 16 gauge to 0.5 inch.	9422	AM2	\$ 6.30
Channel/Flange Support Kit	Auxiliary kit recommended for use with 30 and 60 A disconnect switches and FAL, FCL, FHL, KAL, KHL, NSF and NSJ circuit breaker mechanisms when these devices are to be mounted on the center channel of a multi-door enclosure or when extra rigidity for the flange is required. Supplied as standard with 100 and 200 A disconnect switches and LAL, LHL, Q4L, MAL, MHL, MEL and MXL circuit breaker mechanisms.	9422	C1	19.00
Auxiliary Lock Plate	Auxiliary kit recommended for use with the Class 9422 Type A-1 flange handle to facilitate padlocking the handle in the "OFF" position. Primarily used when the handle is mounted on the center channel of a multi-door enclosure. Also in any case where the enclosure doors interfere with the normal padlock slot in the flange handle. Meets both the Automotive and NFPA 79 specifications.	9422	L1	7.90
Special Lugs for Disconnect Switches	Copper Lugs Only—Specify Form Y157 Tin Plated Aluminum Lugs For 400 A Type TG Switch—Specify Form Y1572 (000-750 kcmil Cu/Al wire)	—	—	N/C
	Anderson Type VCEL Compression Lugs—Specify Form Y1574. Exceptions: All 30 and 60 A disconnect switches are not available with compression lugs.	—	—	N/C
Operating Rods	Standard operating rod for use with Class 9422 variable depth mechanisms. Included as standard in each kit	9422	R1	12.70
	Extra long operating rod for use with Class 9422 variable depth mechanisms. Can be used as a substitute for the standard rod included in each kit to increase the maximum mounting depth 7". (Two are required for Types ARR, RR, ART, RT, ATE, TE, ATF, TF).	9422	R2	22.20



Alternate Mounting Kit



Channel/Flange Support Kit



Auxiliary Lock Plate

For additional information, reference Catalog #9420CT9701.



Thru-the-Door Operating Mechanism Kits

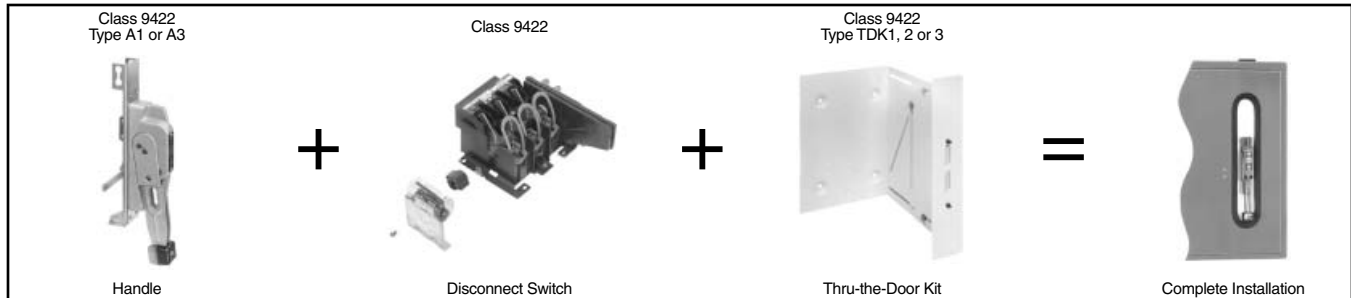
Class 9422

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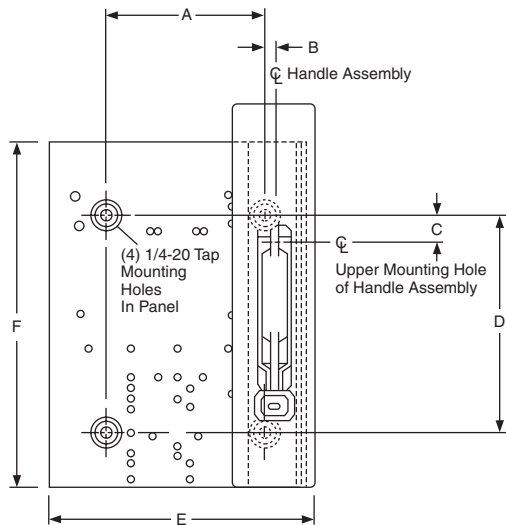
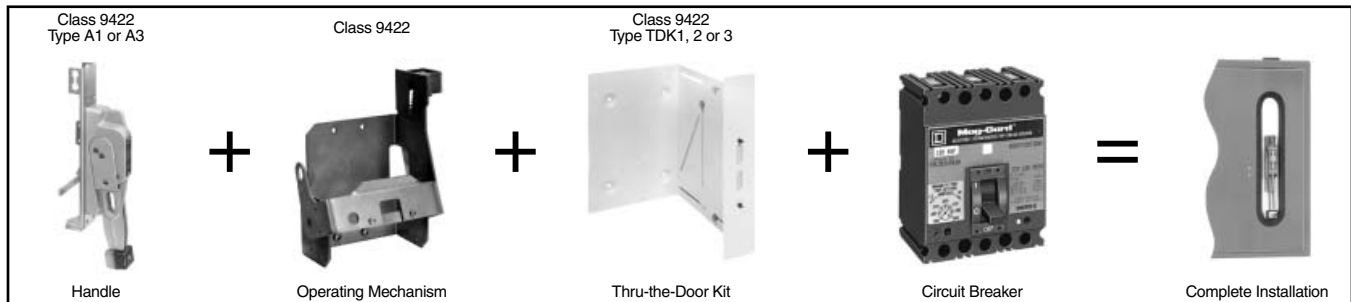
Type TDKs are variable depth, thru-the-door bracket mounting kits. Standard Class 9422 variable depth operating mechanisms can be used.

Thru-the-door kits allow variable depth, flange mounted operating mechanisms to be mounted in enclosures which have no flange. Kits include: A two-piece, variable depth bracket; gasket plate to maintain NEMA Type 1, 3, 3R and 12 enclosure ratings; door drilling template with locator pins; and door cutout trim and mounting hardware.

Selection Guide For Disconnect Switch Applications



Selection Guide For Circuit Breaker Applications



Selection Guide

Variable Depth Bracket Kit	Class 9422 Disconnect Switch	Class 9422 Circuit Breaker Operator	Enclosure Depth▲				List Price
			Min		Max		
			IN	mm	IN	mm	
TDK1	TCF, TCN TDF, TDN TEN	RG1 RN1 RP1	8.00	203	12.00	305	\$ 88.00
TDK2	TEF TF1	RR1	10.00	254	16.00	406	103.00
TDK3	TF2, 3	RT1	10.00	254	16.00	406	119.00

▲ Measured from inside surface of enclosure door to disconnect means mounting surface (control panel).

Dimensions

Kit Type	A		B		C		D		E		F	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
TDK1	5.37	136	.32	8	.94	24	7.50	191	8.59	218	11.88	302
TDK2	9.60	244	.25	6	2.13	54	6.75	171	13.70	348	11.50	292
TDK3	10.25	220	.60	15	2.00	51	14.87	378	13.70	348	18.70	475

For additional information, reference Catalog #9420CT9701.





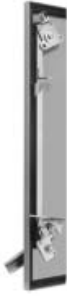


9422 TCN30

Class 9423 door-closing mechanisms cover a range of enclosures with up to 91 inch high maximum door openings. The door closing mechanisms are designed to be used on control enclosures and interlocked with a Class 9422 disconnect device, although they all can be used independently. Three different systems are available and their use is as recommended below. A complete system is available for interlocking all the doors of a multi-door enclosure with the master door when using the 6" or 8" vault handle mechanism.

Note that the "Master Door" is defined to be the door of a single or multi-door enclosure which is interlocked directly with the disconnect device. The master door can be hinged on either the right or left hand side. It can be located in any position on a multi-door enclosure. On the other hand, the "Auxiliary Door" is defined to be the remaining door(s) of a multi-door enclosure which is (are) interlocked with the master door by means of the overhead interlocking system as illustrated on pages 7-26 and 7-27.

Selection Procedure

- Step 1.** Determine enclosure construction (number of doors, door height, hinge location, etc.).
- Step 2.** Determine Class 9422 disconnect device to be used—either a disconnect switch or a circuit breaker mechanism.
- Step 3.** Determine the location of disconnect device and handle mechanism (right or left hand flange or center channel).
- Step 4.** Select the door closing mechanism required

Door Closing Mechanism		
60" Maximum Door Opening (Recommended)	46–60" Door Opening (Recommended)	61–91" Door Opening (Recommended)
 <ul style="list-style-type: none"> • 2 Point Locking is Standard • A Third Roller Latch Kit is Available for Three Point Locking • For 3/4" Door Depths 	 <ul style="list-style-type: none"> • Use on Single or Multi-Door Enclosures • Use with Doors Hinged on Right or Left Side • Referred to as the 6" Vault Handle Mechanism • For 3/4" Door Depths 	 <ul style="list-style-type: none"> • Use on Single or Multi-Door Enclosures • Use with Doors Hinged on Right or Left Side • Referred to as the 8" Vault Handle Mechanism • For 1 1/8" Door Depths



Circuit Breaker Mechanism

- Step 5.** Select auxiliary door closing mechanisms and multi-door interlocking hardware, if required. (A complete system for interlocking all auxiliary doors of a multi-door enclosure with center channel is available for the medium and large enclosures.)

Single Door Enclosures—NEMA Type 4 or 12 with 60" High Maximum Opening

The door closing mechanisms listed below are for use on small to medium size single door control enclosures. They are designed to be used in conjunction with Class 9422 flange mounted disconnect switches and circuit breaker operating mechanisms; however, they can be used independently as well. When used on properly designed and gasketed NEMA Type 12 enclosures, they meet NFPA 79 standards.



Type M4
 Latch bar not included, but most prepunched enclosures that accept Square D operating mechanisms supply a predrilled latch bar.

Description	Use On (Enclosure Type)	Use In Conjunction With	Door Latch Handle Length	Suggested Maximum Door Opening	Door Depth	Type	Price
Two Point, Roller Latch, Door Closing Mechanism for Use on Enclosures with DOORS HINGED ON LEFT HAND SIDE.	NEMA Type 4 and 12 Sheet Steel	Class 9422 Types A1, A3, A9	4"	Less than 39"	3/4"	M4■	\$101.00
			4"	Less than 39"	▲	M10	139.00
			6"	60"	3/4"	M9■	108.00
Two Point, Roller Latch, Door Closing Mechanism for Use on Enclosures with DOORS HINGED ON RIGHT HAND SIDE.	NEMA Type 4 and 12 Stainless Steel	Class 9422 Types A2, A4, A10	4"	Less than 39"	3/4"	M24	133.00
			4"	Less than 39"	▲	M10L	139.00
			6"	60"	3/4"	M9L	108.00
Third Roller Latch Kit for Three Point Locking. Used where 3 Point Locking is Desired or Where Door Opening is 39" or more.	NEMA Type 4 and 12 Sheet Steel	Class 9423 Types M4, M9, M4L, M9L	—	—	3/4"	M3■	22.20
	NEMA Type 4 and 12 Stainless Steel	Class 9423 Types M24, M24L	—	—	3/4"	M23	25.30

▲ Suitable for door depths of 1 1/8", 1 1/4", 1 3/8" and 1 1/2".
 ■ Package quantity 10.

For additional information, reference Catalog #9420CT9701.



Door Closing Mechanisms

Class 9423

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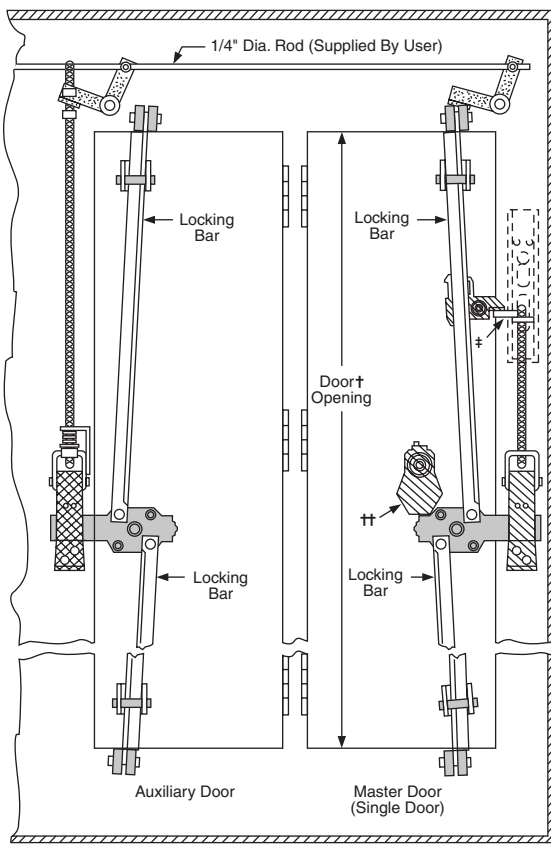
Vault Type for Single And Multi-Door Enclosures

Single or Multi-Door Enclosures—NEMA Type 12 with 40" to 60" Door Opening

The requirements are shown in the table below:

Single-Door Enclosure		Multi-Door Enclosure		
Without Interlocking	With Interlocking	Without Interlocking	With Interlocking	
1—M6 door closing mechanism 1—Type M660 locking bar kit	1—M6 door closing mechanism 1—Type M660 locking bar kit 1—Type M5 (use with 9422A handles)	For each door: 1—M6 door closing mechanism 1—Type M660 locking bar kit	For Master door: 1—M6 door closing mechanism 1—Type M660 locking bar kit 1—Type M5 (use with 9422A handles)	Each Auxiliary door: 1—M6 door closing mechanism 1—Type M660 locking bar kit Necessary quantities of Types M2 and M7 for each door (see below)

Viewed from Inside Enclosure



‡ Interlocking lever extension of the flange mounted handle mechanism.
† Actual enclosure opening—not door height.
†† Screwdriver interlock assembly can be ordered separately. Class 9423 Type CEQ2493. \$30.

Note: All mechanisms listed on this page are suitable for either left or right hand mounting.

TYPE M6 DOOR CLOSING MECHANISM	Price
The Class 9423 Type M6 door closing mechanism is designed to close and seal 0.75" deep doors of single or multi-door NEMA Type 12 enclosures. The Type M6 can be used on doors hinged on either the left or right hand side. Recommended door openings are from 40"–60". Vault type handle length is 6".	\$114.00
TYPE M660 LOCKING BAR KITS The lock bar kit for the Type M6 door closing mechanism contains two lock bars and is available from stock. The bars can be cut to fit door openings through 60". One lock bar kit is required for each Type M6 ordered.	38.00
TYPE M5 The Class 9423 Type M5 mechanical interlock kit is designed to interlock a Class 9422 handle mechanism with the Type M6 door closing mechanism. This kit prevents opening the master door (or single door) with the disconnect handle in the "ON" position, making it mandatory to use a screwdriver to gain entry to the enclosure at any time, regardless of the disconnect handle position.	95.00

Required Accessories for Auxiliary Doors

TYPE M2	Price
One Type M2 kit is required for each auxiliary door. This kit is required to interlock any auxiliary door(s) with the master door.	\$ 114.00
TYPE M7 The first auxiliary door requires 2 Type M7 kits. Additional auxiliary doors require only 1 Type M7 kit. The 0.25" diameter rod used to interconnect the M7 kits is furnished by the user. If the distance between any two Type M7 kits exceeds 36", an additional Type M7 kit should be installed to prevent the rod from buckling.	31.70

For additional information, reference Catalog #9420CT9701.



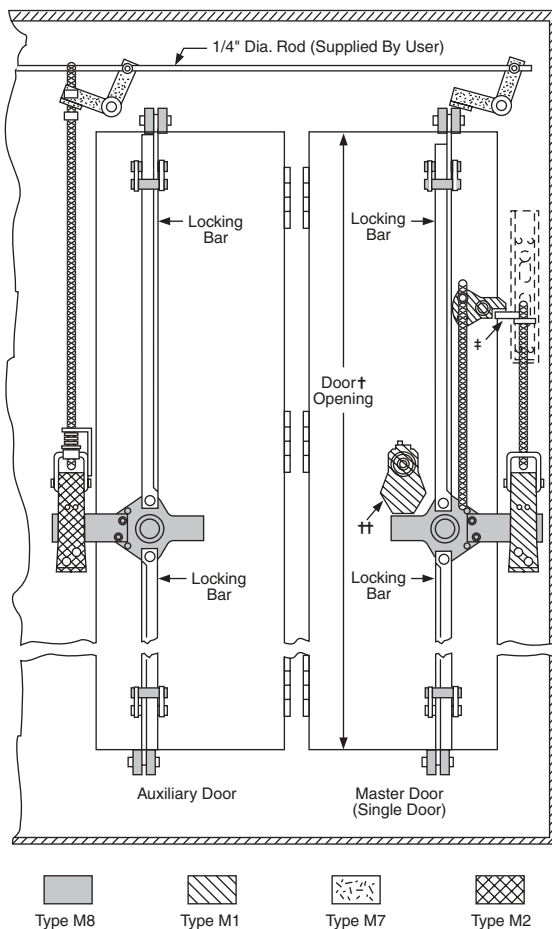
Vault Type For Single And Multi-Door Enclosures

Single Or Multi-Door Enclosures—NEMA Type 12 With 61" To 90" Door Openings

The requirements are shown in the table below:

Single-Door Enclosure		Multi-Door Enclosure		
Without Interlocking	With Interlocking	Without Interlocking	With Interlocking	
1—M8 door closing mechanism 1—Type M891 locking bar kit	1—M8 door closing mechanism 1—Type M891 locking bar kit 1—Type M1 (use with 9422A handles)	For each door: 1—M8 door closing mechanism 1—Type M891 locking bar kit	For Master door: 1—M8 door closing mechanism 1—Type M891 locking bar kit 1—Type M1 (use with 9422A handles)	Each Auxiliary door: 1—M8 door closing mechanism 1—Type M891 locking bar kit Necessary quantities of Types M2 and M7 for each door (see below)

Viewed From Inside Enclosure



‡ Interlocking lever extension of the flange mounted handle mechanism.
 † Actual enclosure opening—not door height.
 †† Screwdriver interlock assembly can be ordered separately. Class 9423 Type CEQ2493. \$30

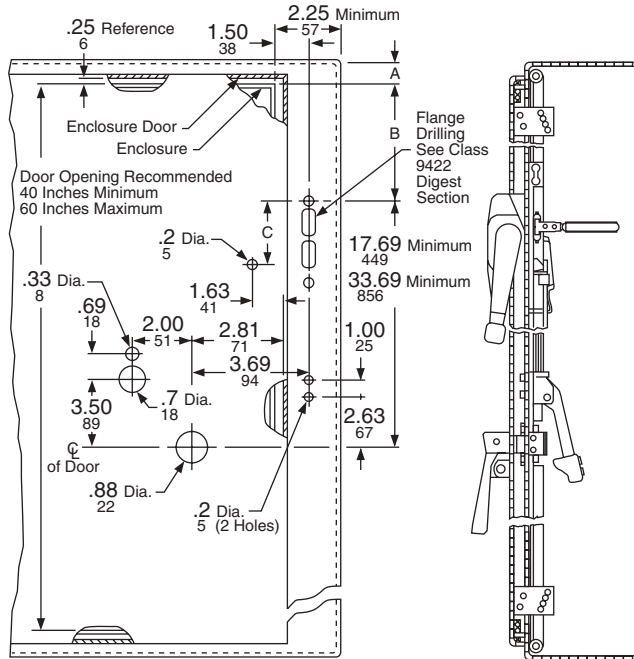
Note: All mechanisms listed on this page are suitable for either left or right hand mounting.

TYPE M8 DOOR CLOSING MECHANISM	Price
The Class 9423 Type M8 door closing mechanism is designed to close and seal 1.125" deep doors of single or multi-door NEMA Type 12 enclosures. The Type M8 can be used on doors hinged on either the left or right hand side. Recommended door openings are from 61"—91". Vault type handle length is 8".	\$222.00
TYPE M891 LOCKING BAR KITS	Price
The lock bar kit for the Type M8 door closing mechanism contains two lock bars and is available from stock. The bars can be cut to fit door openings through 91". One lock bar kit is required for each Type M8 ordered.	38.00
TYPE M1	Price
The Class 9423 Type M1 mechanical interlock kit is designed to interlock a Class 9422 handle mechanism with the Type M8 door closing mechanism. This kit prevents opening the master door (or single door) with the disconnect handle in the "ON" position, making it mandatory to use a screwdriver to gain entry to the enclosure at any time, regardless of the disconnect handle position.	190.00
Required Accessories for Auxiliary Doors	
TYPE M2	Price
One Type M2 kit is required for each auxiliary door. This kit is required to interlock any auxiliary door(s) with the master door.	\$114.00
TYPE M7	Price
The first auxiliary door requires 2 Type M7 kits. Additional auxiliary doors require only 1 Type M7 kit. The 0.25" diameter rod used to interconnect the M7 kits is furnished by the user. If the distance between any two Type M7 kits exceeds 36", an additional Type M7 kit should be installed to prevent the rod from buckling.	31.70

For additional information, reference Catalog #9420CT9701.

Enclosure Construction and General Location Information For Types M5 & M6

Drilling and location information below is complete for a single door enclosure with door hinged on left side, incorporating a Type M6, M5, and Class 9422 handle mechanism. Transpose all horizontal dimensions for doors hinged on right side.



Dimension A

Single door enclosures: A minimum = 1"
Multi-Door enclosures without overhead interlocking system: A minimum = 1".
Multi-Door enclosures with overhead interlocking system: A minimum = 4 1/2".

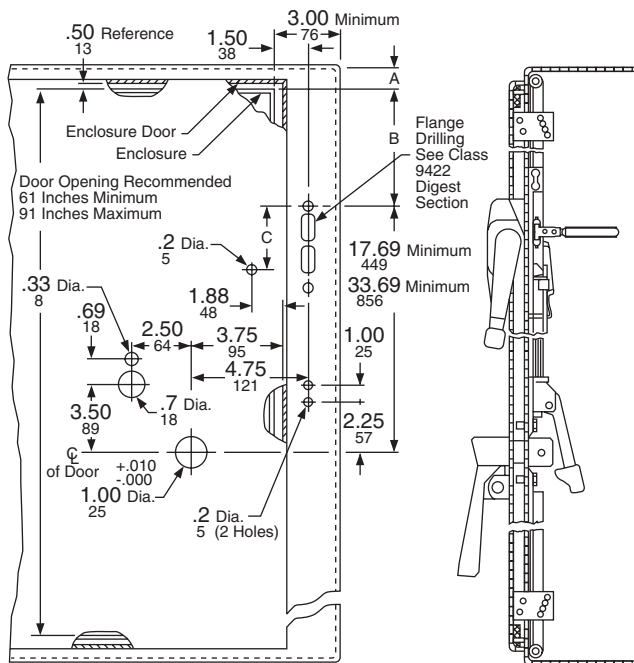
Note: Overhead interlocking system consists of the required number of Class 9423 Type M2 and M7 kits for interlocking the auxiliary doors with the master door. See page 7-26 and 7-27.

Dimension B (Minimums)

Type	Disconnect Device	If A = 1 Minimum B =	If A = 4 1/2 Minimum B =	C
TCF, TCN TDF, TDN TD	60 A Disconnect Switch	3 7/16	2 1/2	3 3/16
TE, TEF TEN	100 A Disconnect Switch	5 1/4	2 1/2	3 3/16
TF	200 A Disconnect Switch	11 5/8	8 1/8	3 3/16
TG	400 A Disconnect Switch	15 1/16	11 9/16	6 3/4
RN1	FAL, FHL, Circuit Breaker	4 27/32	2 1/2	3 3/16
RP1	KAL, KHL Circuit Breaker	11 5/32	7 21/32	3 3/16
RR2	ILL Circuit Breaker	17 31/32	14 15/32	3 3/16
RT1	MAL, MHL, MEL, MXL Circuit Breaker	18 5/8	15 1/8	3 3/16

Enclosure Construction and General Location Information For Types M1 & M8

Drilling and location information below is complete for a single door enclosure with door hinged on left side, incorporating a Type M8, M1, and Class 9422 handle mechanism. Transpose all horizontal dimensions for doors hinged on right side.



Dimension A

Single door enclosures: A minimum = 1 1/2"
Multi-Door enclosures without overhead interlocking system: A minimum = 1 1/2".
Multi-Door enclosures with overhead interlocking system: A minimum = 4 1/2".

Note: Overhead interlocking system consists of the required number of Class 9423 Type M2 and M7 kits for interlocking the auxiliary doors with the master door. See page 7-26 and 7-27.

Dimension B (Minimums)

Type	Disconnect Device	If A = 1 1/2 Minimum B =	If A = 4 1/2 Minimum B =	C
TCF, TCN TDF, TDN TD	60 A Disconnect Switch	2 15/16	2 1/2	3 3/16
TE, TEF TEN	100 A Disconnect Switch	4 3/4	2 1/2	3 3/16
TF	200 A Disconnect Switch	11 1/8	8 1/8	3 3/16
TG	400 A Disconnect Switch	14 9/16	11 9/16	5 7/8
RN1	FAL, FHL Circuit Breaker	4 11/32	2 1/2	3 3/16
RP1	KAL, KHL Circuit Breaker	10 21/32	7 21/32	3 3/16
RR2	ILL Circuit Breaker	17 15/32	14 15/32	3 3/16
RT1	MAL, MHL, MEL, MXL Circuit Breaker	18 1/8	15 1/8	3 3/16

For additional information, reference Catalog #9420CT9701.

