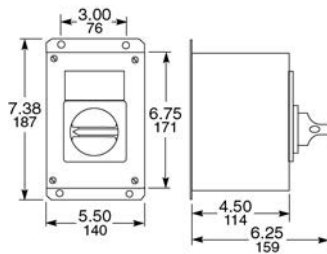


Class 9421 NEMA Type 1 V1G30, V2G30



Class 9421 NEMA Type 4, 4X, 12 V1W30, V2W30, V1A30, V2A30



Manual Motor Control Switch

Non-Metallic Enclosed Switches

The Vario Motor Disconnect Switch is also offered as an enclosed switch. The three-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 cable entry positions.

NOTE: VCGUN enclosures are UL approved.

Table 8.8: Non-Metallic Enclosed Switch [5] [6]

Ampere Size UL/IEC	IP55-PVC 3-Pole, NEMA Type 1 & 12	
	Catalog No.	
20/32	VC1GUN	
25/40	VC2GUN	
45/63	VC3GUN	
63/80	VC4GUN	
100/125	VC5GUN	
115/175	VC6GUN	

Table 8.9: Dimensions

Type	No. of Poles	a	b	c	d	e	f
VC1GUN	3	6.5 (164)	4.8 (121)	3.4 (87)	5.6 (141)	3.9 (98)	5.2 (132)
VC2GUN							
VC3GUN							
VC4GUN	3	7.6 (193)	6.5 (164)	3.4 (87)	6.7 (170)	5.6 (141)	5.2 (132)
VC5GUN							
VC6GUN	3	11.5 (291)	9.5 (241)	5.0 (128)	10.6 (269)	8.6 (219)	7.5 (191)

Metallic Enclosed Switches

Vario switches meet UL508 requirements as open manual motor controllers. They are also marked "Suitable as Motor Disconnect" allowing installation on the load side of the motor branch circuit short-circuit and ground-fault protection. If motor branch circuit short-circuit and ground-fault protection is needed, use a GS1 or 9422 fusible switch or circuit breaker meeting NEC 430.52 requirements.

Table 8.10: Metallic Enclosed Switches [5] [7]

Rating (A)		Horsepower Ratings			NEMA Type 1	NEMA Type 12	NEMA Type 4/4X
UL	IEC	240 V	480 V	600 V	Catalog No.	Catalog No.	Catalog No.
20	32	5	10	10	9421V1G30	9421V1A30	9421V1W30
25	40	5	10	15	9421V2G30	9421V2A30	9421V2W30

Vario Manual Motor Control Switches

The V1 and V2 come in metallic enclosures (NEMA Type 1, 4, 4X, and 12). The NEMA Type 1 comes with conduit knockouts top and bottom. To factory install a VZ7 auxiliary contact in these metallic enclosures, add Form X11 to the end of the catalog number (for example, 9421V1G30X11). To factory install a VZ20 auxiliary contact in these enclosures, add Form X20 to the end of the catalog number (for example, 9421V1W30X20).

Table 8.11: Vario Manual Motor Control Switches, IEC

Rating (A) IEC	kW Rating				3-Pole Switch Body	
	230 V	240 V	400 V	415 V	500 V	690 V
12	3	3	4	4	5.5	7.5
20	4	4	5.5	5.5	7.5	11
25	5.5	5.5	7.5	7.5	11	15
32	5.5	5.5	11	11	11	15
40	7.5	7.5	15	15	18.5	15
63	15	15	22	22	30	22
80	18.5	18.5	30	30	37	30
125	22	22	37	37	45	37
175	30	30	45	45	55	45

Table 8.12: Vario Manual Motor Control Switches

Rating (A)	Horsepower Rating			Shaft Size mm	3-Pole Switch Body Type
	240 V	480 V	600 V		
10	2	5	5	6	V02
16	3	7.5	7.5	6	V01
20	5	10	10	6	V0
20	5	10	10	6	V1
25	5	10	15	6	V2
45	10	20	30	8	V3
63	15	30	40	8	V4
100	25	50	50	8	V5
115	30	50	60	8	V6

[5] Assembled, includes switches mounted in enclosure with handle.

[6] Refer to Table 8.11 Vario Manual Motor Control Switches, IEC, page 8-4 and Table 8.12 Vario Manual Motor Control Switches, page 8-4 for horsepower ratings.

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

Table 8.13: Switch Body [8]

Rating (A)		Shaft Size mm	3-Pole Switch Body	
UL	IEC		Type	
10	12	6	V02	
16	20	6	V01	
20	25	6	V0	
20	32	6	V1	
25	40	6	V2	
45	63	8	V3	
63	80	8	V4	
100	125	8	V5	
115	175	8	V6	

Table 8.14: NEMA Type 1 and 12 Handle Operators: V02–V2 (6 mm Shaft), V3–V6 (8 mm Shaft) [9]

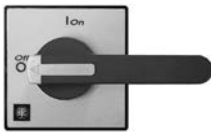
Operator Type		Red/Yellow Single Hole 45 x 45 mm	Red/Yellow Four Hole 45 x 45 mm	Black/Gray Single Hole 45 x 45 mm	Black/Gray Four Hole 45 x 45 mm
Switches	No. of Padlocks	Catalog No.	Catalog No.	Catalog No.	Catalog No.
V02–V2	0	KCC1LZ	KCE1LZ	KAC1BZ	KAE1BZ
V02–V2	1	KCC1YZ	KCE1YZ	—	—
Operator Type		Red/Yellow 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	KDF1PZ	KBD1PZ	KBF1PZ
V3–V4	0	—	KDF2PZ	—	KBF2PZ
V02–V2	3	KCD1PZ	KCF1PZ	KAD1PZ	KAF1PZ
V3–V4	3	—	KCF2PZ	—	KAF2PZ
Operator Type		Red/Yellow Four Hole 90 x 90 mm	Black/Gray Four Hole 90 x 90 mm		
V5–V6	0	KDF3PZ	KBF3PZ		
V5–V6	3	KCF3PZ	KAF3PZ		



Single-Hole Operator



Four-Hole Operator
(All except KDF3PZ and KBF3PZ)



Four-Hole Operator
KDF3PZ and KBF3PZ



Low-Profile Handle KCD1YZ

Table 8.15: Low Profile Handle Operators [9]

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	Black/Gray Four Hole 60 x 60 mm
Switches	No. of Padlocks	Catalog No.	Catalog No.	Catalog No.	Catalog No.
V02–V2	3	KCD1YZ	KCF1YZ	KAD1XZ	KAF1XZ
V3–V4	3	—	KCF2YZ	—	KAF2XZ
Operator Type		Red/Yellow Four Hole 90 x 90 mm	Black/Gray Four Hole 90 x 90 mm		
V5–V6	3	KCG2YZ	KAG2XZ		

Table 8.16: Gasket Kits

Catalog No.	Description
KZ65	45 x 45 mm gasket for V02-V2 for 4-hole type handles (order in quantities of 5)—IP65
KZ66	60 x 60 mm gasket for V02-V2 for 4-hole type handles (order in quantities of 5)—IP65
KZ62	60 x 60 mm gasket for V3-V4 for 4-hole type handles (order in quantities of 5)—IP65
KZ67	90 x 90 mm gasket for V5-V6 for 4-hole type handles (order in quantities of 5)—IP65

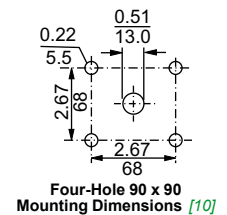
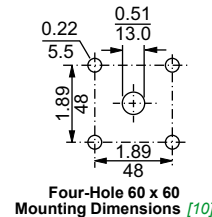
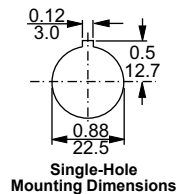
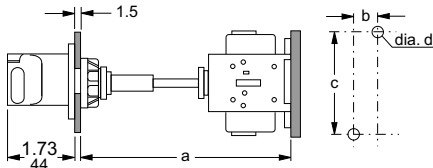


Table 8.17: Rear/Panel Mounting Switch Body Dimensions

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



[8] Refer to Table 8.10 Metallic Enclosed Switches, page 8-4 and Table 8.12 Vario Manual Motor Control Switches, page 8-4 for horsepower ratings.

[9] When using these handles for replacements on the non-metallic enclosed switches, the handle shaft that comes with the enclosure must be reused. See Section 17 of the Supplemental Digest.

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