



Cutler-Hammer

SVX9000 Single-Phase Input Cable Connections

Application Guide AP04014007E

Effective August 2008



Operating the SVX9000 on a Single-Phase Supply

The SVX9000 series drive is designed for use on normal three-phase supplies. It is, however, possible to use it on single-phase supplies subject to certain limitations.

1. The motor must always be a three-phase motor; single-phase motors **CANNOT** be used.
2. The single-phase voltage must be the same magnitude as the three-phase voltage.
3. The drive must be sized per **Table 1** below. Additional capacitance KITS should be added as required.
4. The input impedance must not be greater than 5%.
5. The single-phase input must be connected to input terminals L1 and L2. Input terminals L2 and L3 should be connected together. The motor is connected, as normal, to terminals U, V and W.
6. The drive would normally trip on a missing input phase. In order to avoid this trip, the input phase supervision parameter must be disabled. The phase supervision function can be disabled by setting the Input Phase Supervision parameter to 0. (0 = No response). This parameter is in all applications except Basic. The parameter is ID number 730.

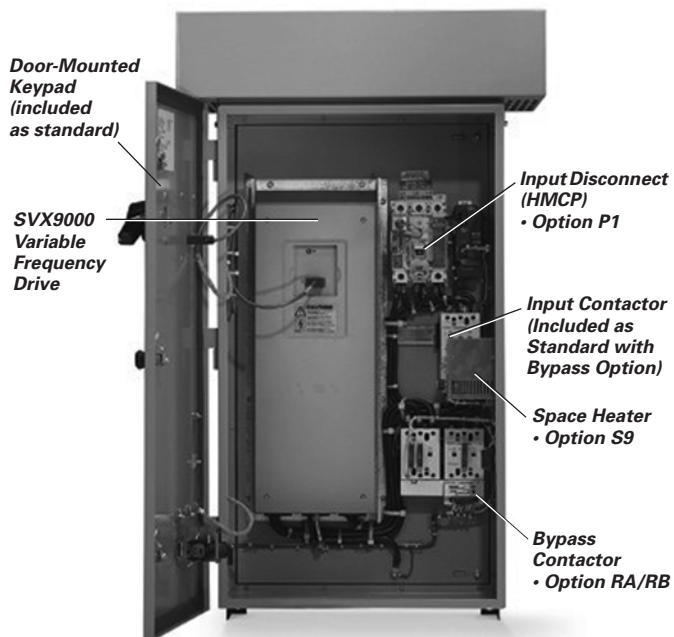
TABLE 1. DRIVE SIZE SPECIFICATIONS

MOTOR HORSEPOWER	230 VOLT	ADDITIONAL CAPACITANCE ASSEMBLY FOR 230 VOLT	480 VOLT	ADDITIONAL CAPACITANCE ASSEMBLY FOR 480 VOLT
0.75	SVX003A1-2A1B1	None Required	SVX001A1-4A1B1	SP41-KIT
1	SVX003A1-2A1B1	None Required	SVXF15A1-4A1B1	SP41-KIT
2	SVX004A1-2A1B1	None Required	SVX005A1-4A1B1	SP41-KIT
3	SVX005A1-2A1B1	None Required	SVX006A1-4A1B1	SP41-KIT
5	SVX007A1-2A1B1	SP21-KIT	SVX007A1-4A1B1	SP41-KIT
7.5	SVX010A1-2A1B1	SP21-KIT	SVX010A1-4A1B1	SP42-KIT
10	SVX015A1-2A1B1	SP21-KIT	SVX015A1-4A1B1	SP42-KIT
15	SVX025A1-2A1N1	SP22-KIT	SVX025A1-4A1B1	SP43-KIT
20	SVX030A1-2A1N1	SP22-KIT	SVX030A1-4A1B1	SP43-KIT
25	SVX040A1-2A1N1	None Required	SVX040A1-4A1N1	SP43-KIT
30	SVX050A1-2A1N1	SP23-KIT	SVX050A1-4A1N1	SP43-KIT
40	SVX060A1-2A1N1	SP23-KIT	SVX075A1-4A1N1	SP45-KIT
50	—	—	SVX075A1-4A1N1	SP45-KIT
60	—	—	SVX100A1-4A1N1	SP45-KIT

TABLE 2. 40°C CABLE AND FUSE/BREAKER SIZES — SINGLE-PHASE INPUT, THREE-PHASE OUTPUT

VT HP	FRAME SIZE	INPUT CURRENT	FUSE QUANTITY	FUSE [A]	BREAKER [A]	INPUT WIRE SIZE		OUTPUT NEC I [A]	OUTPUT WIRE SIZE		TERMINAL SIZE	
						POWER	GROUND		POWER	GROUND	POWER	GROUND
230 V Ratings												
0.75	FR4	6.9	2	10	15	14	14	3.2	14	14	16 – 12	16 – 14
1	FR4	8	2	12	15	14	14	4.2	14	14	16 – 12	16 – 14
1.5	FR4	10	2	15	15	14	14	6	14	14	16 – 12	16 – 14
2	FR5	12	2	15	20	12	12	6.8	14	14	16 – 8	16 – 8
3	FR5	17	2	25	25	10	10	9.6	14	14	16 – 8	16 – 8
5	FR5	28	2	35	35	6	8	15.2	12	12	16 – 8	16 – 8
7.5	FR6	40	2	50	50	6	8	22	10	10	14 – 0	10 – 2
10	FR6	50	2	70	70	4	6	28	8	8	14 – 0	10 – 2
15	FR7	88	2	125	125	2/0	4	42	4	8	14 – 0	10 – 00
20	FR7	114	2	150	150	3/0	2	54	2	6	14 – 0	10 – 00
25	FR8	140	2	175	175	3/0	1	68	2	6	4 – 3/0	4 – 000
30	FR8	170	2	225	225	300	2/0	80	1	6	000 – 350 kcmil	4 – 000
40	FR8	205	2	275	275	2 x 3/0	3/0	104	1/0	4	000 – 350 kcmil	4 – 000
480 V Ratings												
0.75	FR4	3.4	2	10	10	14	14	1.6	14	14	16 – 12	16 – 14
1	FR4	4	2	10	10	14	14	2.1	14	14	16 – 12	16 – 14
1.5	FR4	5	2	10	10	14	14	3	14	14	16 – 12	16 – 14
2	FR4	6	2	10	10	14	14	3.4	14	14	16 – 12	16 – 14
3	FR4	8.5	2	15	15	12	12	4.8	14	14	16 – 12	16 – 14
5	FR5	14	2	20	20	10	10	7.6	14	14	16 – 8	16 – 8
7.5	FR5	20	2	25	25	10	10	11	12	14	16 – 8	16 – 8
10	FR5	25	2	35	35	6	8	14	10	12	16 – 8	16 – 8
15	FR6	46	2	60	60	4	6	21	10	10	14 – 0	10 – 2
20	FR6	61	2	80	80	2	6	27	8	8	14 – 0	10 – 2
25	FR7	72	2	100	100	2	6	34	6	8	14 – 0	10 – 00
30	FR7	87	2	110	110	1	4	40	4	8	14 – 0	10 – 00
40	FR8	105	2	150	150	2/0	2	52	2	6	4 – 3/0	4 – 000
50	FR8	140	2	175	175	3/0	1	65	2	6	000 – 350 kcmil	4 – 000
60	FR8	170	2	225	225	300	2/0	77	1	6	000 – 350 kcmil	4 – 000

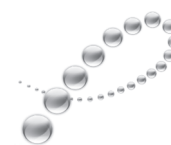
Note: UL® recognized type RK.



NEMA 3R ENCLOSED 9000X SERIES DRIVE

Features

- NEMA® Type 12 or Type 3R enclosures
- Single-phase input available (consult factory)
- Input Voltage: 208 V, 230 V, 480 V and 575 V (consult factory)
- Complete range of control, network and power options
- Horsepower range:
 - 208 V — 3/4 to 100 hp I_H; 1 to 100 hp I_L
 - 230 V — 3/4 to 100 hp I_H; 1 to 100 hp I_L
 - 480 V — 1 to 350 hp I_H; 1-1/2 to 400 hp I_L
- HMCP padlockable



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 Printed in USA
 Publication No. AP04014007E / Z7135
 August 2008

