



FREEDOM SERIES MOTOR STARTERS & SAFETY SWITCHES



Cutler-Hammer

The "Freedom Series" starters feature a compact, space-saving design, using state-of-the-art technology and the latest in high strength, impact and temperature resistant insulating materials.

Features:

- Adjustable Bimetallic Ambient Compensated Overload relays with interchangeable heater packs.
- A full line of snap-on accessories and side mounted auxiliary contacts, solid-state and pneumatic timers, etc.
- Straight-through wiring – line lugs at top, load lugs at bottom.
- Designed to meet or exceed NEMA, UL, CSA, & IEC.
- Available in Open and NEMA 1, 3R, 4/4X and 12 enclosures.

ECN05 w/ NEMA1 enclosure
Start / Stop Pushbutton option shown



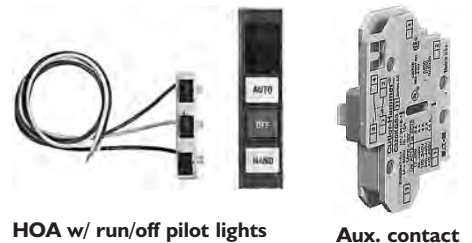
The following full voltage, non-reversing starters are available to ship from Duncan, SC warehouse in 48 hours.

NEMA Size	Motor Voltage	Maximum hp Rating	Magnet Coil Voltage	NEMA I General Purpose 3-Pole	Price Each	NEMA 3R Rainproof 3-Pole	Price Each	Control Power Transformer (CPT) 120VAC Secondary Adder
0	---	---	120	ECN0501AAA	\$176	ECN0502AAA	\$235	\$133
	208/230	3	240/208	ECN0501*AA	176	ECN0502*AA	235	133
	460	5	480	ECN0501CAA	176	ECN0502CAA	235	133
1	---	---	120	ECN0511AAA	\$200	ECN0512AAA	\$258	\$133
	208/230	7 1/2	240	ECN0511*AA	200	ECN0512*AA	258	133
	460	10	480	ECN0511CAA	200	ECN0512CAA	258	133
2	---	---	120	ECN0521AAA	\$400	ECN0522AAA	\$503	\$185
	208/230	15/25	240	ECN0521*AA	400	ECN0522*AA	503	185
	460	25	480	ECN0521CAA	400	ECN0522CAA	503	185
3	---	---	120	ECN0531AAA	\$663	ECN0532AAA	\$789	\$273
	208/230	25/30	240	ECN0531*AA	663	ECN0532*AA	789	273
	460	50	480	ECN0531CAA	663	ECN0532CAA	789	273
4	---	---	120	ECN0541AAA	\$1485	ECN0542AAA	\$1902	\$331
	208/230	40/50	240	ECN0541*AA	1485	ECN0542*AA	1902	331
	460	100	480	ECN0541CAA	1485	ECN0542CAA	1902	331
ALL	Overload Heater Packs REQUIRED for ALL Starters!		See table 33-74 for specific part#	\$22	Overload Heater Packs	\$22		

Notes:

- 1) " * " indicates change of model code to match magnet coil voltage. "E" is 208V, "B" is 230V, "C" is 460V.
- 2) Addition of CPT changes Magnet coil voltage to 120V, ALL 120V Transformers (CPT) change 5th character of part# to "7" ex: ECN0701CAA
- 3) Reference C-H CAT.202.01.TE, Section 33 for detailed information. Cat. Numbering system is on page 33-52.
- 4) Reference C-H PG.3.02.TE for detailed information. Cat. Wiring Diagrams Section # 1, Dimensions Section # 12.

OPTIONS for NEMA 1 or 3R		Price Each	Part#
Start / Stop Push Buttons	Starter Size 00 - 4	\$54	Change 9th digit to "B"
	Starter Size 5 - 9	\$110	
H-O-A with RUN/OFF pilot lights	Starter Size 00 - 4	\$232	Change 9th digit to "K"
	Starter Size 5 - 9	\$328	
Note: Pilot lights are RED=RUN, GREEN=STOP			
Auxiliary Contact - Side Mounted	(1) Normally Open or Normally Closed	\$14	C320KGS1 or C320KGS2 C320KGS3
		\$19	
Note: See CAT.202.01.TE, Section 33-19			



SAFETY SWITCHES - Heavy Duty - 3-pole - 600 VAL - Fuseable			
Enclosure	30 AMP	60 AMP	100 AMP
NEMA 1	CALL	CALL	CALL
NEMA 3R	CALL	CALL	CALL



Fusible Safety Switch

Note: No fuses provided, Model DH 36*FRK

L. R. GORRELL COMPANY

PRICES SUBJECT TO CHANGE WITHOUT NOTICE! Minimum Order is \$25.00

HV9000 ADJUSTABLE FREQUENCY DRIVES



Cutler-Hammer

Model **HV9000** Series Adjustable Frequency Drives are specifically engineered for HVAC, pump and fluid control applications. A broad range of horsepower, voltage, control, and enclosure options ensure the best solution at the right price.

Features



Hardware

Standard hardware features include:

- Variable torque horsepower ratings from 1 hp - 400 hp
- Compact NEMA, Standard Open and Protected Chassis, Standard NEMA I and NEMA 12 Enclosures, and Oversized NEMA and NEMA 12 Enclosures
- Keypad can be remote mounted.
- IGBTs and innovative control and packaging techniques permit quiet motor operation while maintaining full rated output current to the motor.

Software

Standard software features include:

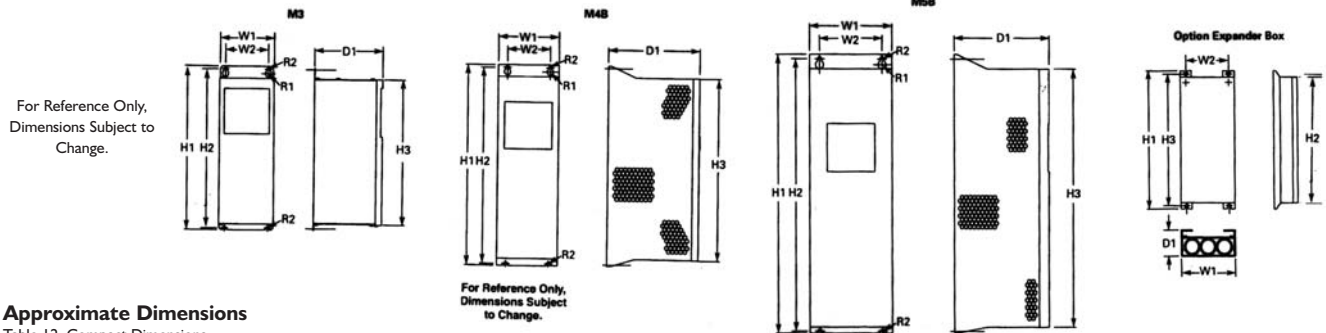
- Parameter settings are adjustable for specific application requirements. These settings can be adjusted with the standard multiline alphanumeric keypad or through HVDrives Windows-based programming software.
- HV9000 offers two software versions, Series A and Series B.
 - Series A offers seven standard applications which allow customized parameter sets.
 - Series B offers HVAC industry specific parameter sets.



The following adjustable frequency drives are available to ship from Duncan, SC warehouse in 48 hours.

HP	AMP Rating	Cutler-Hammer Frame Size	Overall Size W x H x D	Weight	Model #	Price Each*
1	3.0	M3/Compact NEMA	4.7 x 12.0 x 5.9	9.9	HV9F10_C-5M0B00	CALL
2	3.5				HV9F20_C-5M0B00	CALL
3	5.0				HV9F30_C-5M0B00	CALL
5	8.0				HV9F50_C-5M0B00	CALL
7 1/2	11.0	M4B/Compact NEMA	5.3 x 15.4 x 8.1	15.4	HV9F75_C-5M0B00	CALL
10	15.0				HV9010_C-5M0B00	CALL
15	21.0				HV9015_C-5M0B00	CALL
20	27.0				HV9020_C-5M0B00	CALL
25	34.0	M5B/Compact NEMA	7.3 x 22.8 x 8.5	33.1	HV9025_C-5M0B00	CALL
30	40.0				HV9030_C-5M0B00	CALL
40	52.0				HV9040_C-5M0B00	CALL

* Contact your local LRG salesperson for additional drive start-up pricing



Approximate Dimensions
Table 12. Compact Dimensions

Enclosure Size	Frame	Voltage	Approximate Dimensions in inches (mm)							
			W1	W2	H1	H2	H3	D1	R1	R2
Compact NEMA	M3	All	4.7 (119.3)	3.7 (93.9)	13.5 (342.8)	13.1 (332.6)	12.0 (304.7)	5.9 (149.8)	0.28 (7.1)	0.14 (3.6)
	M4B	All	5.3 (134.6)	3.7 (93.9)	17.0 (431.6)	16.5 (418.9)	15.4 (391.0)	8.1 (205.7)	0.28 (7.1)	0.14 (3.6)
	M5B	All	7.3 (185.3)	5.5 (139.6)	23.4 (594.1)	22.8 (578.9)	21.7 (551.0)	8.5 (215.8)	0.35 (8.9)	0.18 (4.6)