## 1-800-633-0405 Fort CE15 Contactor Specifications

45mm Cutler-Hammer CE15 Contactor Specifications								
Contactor Model			CE15AN	CE15BN	CE15CN	CE15DN	CE15EN	CE15FN
Insulation Voltage	AC	(V)	690 Volts AC					
Amnora Dating	Max. UL Current (AC3) <sup>1</sup>		7	10	12	18	25	32
Ampere Raung	AC1 Thermal Current (600V) <sup>2</sup>	(A)	20	20	20	32	32	32
	200V	(hp)	1.5	2	3	5	5	7.5
Maximum Power (hp) of	230/240V	(hp)	1.5	2	3	5	7.5	10
Three-Phase Motors	460/480V	(hp)	3	5	7.5	10	15	20
	575V	(hp)	5	7.5	10	15	20	25
Maximum Power (hp) of	115V	(hp)	0.25	0.5	0.5	1	2	2
Single-Phase Motors	230/240V	(hp)	0.5	1	2	3	3	5
	230/240V	(kW)	1.1	1.5	2.2	4	5.5	7.5
Maximum Power (kw) of	415/440V	(kW)	2.2	4	5.5	7.5	11	15
Three-Phase Motors AC3	500/550V	(kW)	2.2	4	5.5	7.5	11	15
Category <sup>7</sup>	500V	(kW)	4	5.5	7.5	11	15	18.5
	600V	(kW)	1.5	2.2	4	5.5	7.5	10
Auxiliary Contacts Electrica	l Capacity		A600 <sup>4</sup>					
SCCR			5kA					
Coil Voltage Operating Limi	ts		A.C.Pick-Up 85-110% Rated Control Voltage / A.C. Drop-Out 20-75% Rated Control Voltage					
Average Coil Power Require	ements / Coil current (A) = VA/Coil Voltage		A.C. Pick-Up (VA) 80-100 / A.C. Sealed (VA) 9-12					
Power Factor			Pick-Up .65 / Sealed .35					
Coil Operating Time at Rate	d Coil Voltage	_	Pick-Up (ms) 10-25 / Drop-Out (ms) 6-18					
Maximum Operating Freque	ency (No-Load Operation)		3000 Operations / Hour					
Mechanical Durability			10,000,000 Operations					
Electrical Durability	1,000,000 Operations							
<b>Operating Ambient Tempera</b>	-25° to +55°C							
Electrical Protection Degree	IP20 (IP10 for GH15ET and GH15FT)							
Mounting	Screw or 35mm DIN Rail							
Wire Sizes	Line / Load		#10 - #14 AWG stranded recommended #14 - #8 stranded recommended					
Wile Sizes	Control & Auxiliary Contacts		#12 - #14 AWG (stranded recommended)					
Line/Load Tighting Torque	N•m (lb•in)		7	7	7	15	15	15

1. AC3 type loads consist of squirrel cage three phase motors.

2. AC1 non-inductive or slightly inductive loads. Typically resistive loads (i.e. furnaces, ovens, etc.)

3. Type 2 coordination is a protection category for IEC 60947-4-1. Section 8.2.5.1 specifies that Type 2 coordination requires that, under short circuit conditions, the contactor or starter shall cause no danger to persons or installations and shall be suitable for further use. The risk of minor contact welding is possible.

4. NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page MRC-tMRC-130.

Cutler-Hammer CE15 Series Contactor Part Numbers											
Cutler				Number of Contacts				Additional Contacts			
IEC FRAME Hami SIZE Conta	Hammer Contactor	Part Number	Price	Auxiliary Contacts Main Included		Contacts uded	Coil Voltage and Frequency	Maximum Contact	Type of Additional		
	Model				N.0	N.C.		DIUCK AITAIIYEIIIEIII	CONTACT BIOCK		
	CE15AN	CE15AN4AB	\$310.00	4			110-120VAC 50-60Hz				
	CEISAN	CE15AN4BB	\$310.00	4			220-240VAC 50-60Hz		Side mount <u>C320KGS3</u> : 1 N.O. / 1 N.C. C320KGS1: 1 N.O. /		
		CE15BN4AB	\$319.00	4			110-120VAC 50-60Hz				
	CEIDBIN	CE15BN CE15BN4BB	\$319.00	4			220-240VAC 50-60Hz				
		CE15CN4AB	\$392.00	4			110-120VAC 50-60Hz	Up to two auxiliary			
4E 1000	CEISCN	CE15CN4BB	\$392.00	4			220-240VAC 50-60Hz	contact blocks may			
45 /////		CE15DNS3AB	\$467.00	3	1		110-120VAC 50-60Hz	contactors			
	CEIDDIN	CE15DNS3BB	\$467.00	3	1		220-240VAC 50-60Hz	(one per side).	1 N.C.		
CE15E CE15F		CE15ENS3AB	\$516.00	3	1		110-120VAC 50-60Hz				
	CEISEN	CE15ENS3BB	\$516.00	3	1		220-240VAC 50-60Hz				
	CE15EN	CE15FNS3AB	\$586.00	3	1		110-120VAC 50-60Hz				
	GEISFIN	CE15FN CE15FNS3BB		3	1		220-240VAC 50-60Hz				

Note: Holding circuit contact(s) supplied standard: a N.O. auxiliary contact block is mounted on the right-hand side. (On Sizes A-C, contact occupies fourth power pole position - no increase in width.)
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Motor Controls
tMRC-127

1-800-633-0405

# **FAT-N Motor Control Dimensions**

Size and Dimensions (Inches)											
Contactor Type											
Product	IEC Size	Wide	High	Deep	Mounting						
		A	В	С	D	Ε	E1	F	G	Ship weight in Pounds	
Starters	A-F	1.80	5.86	3.28	1.36	5.19	5.39	-	54	1.75	
Contactors	A-C	1.80	2.96	3.26	1.36	1.96	-	-	54	1.3	
Contactors	D-F	1.80	2.96	3.26	1.36	1.96	-	-	54	1.4	
Overload Relays	32 Amp	1.77	4.13	3.69	1.36	3.74	-	-	-	0.8	

IEC contactor sizes A-F, CE15



IEC starter sizes A-F, AE16



## 1-800-633-0405 Electrical Ratings Charts

### **Motor Current Ratings**

Full Load Ampere (FLA) Rating for AC Induction Motors										
Motor UD	115	VAC	200	VAC	230	460 VAC				
Motor HP	1-Phase (A)	3-Phase (A)	1-Phase (A)	3-Phase (A)	1-Phase (A)	3-Phase (A)	3-Phase (A)			
1/10	3.0				1.5					
1/8	3.8				1.9					
1/6	4.4		2.5		2.2					
1/4	5.8		3.3		2.9					
1/3	7.2		4.1		3.6					
1/2	9.8	4.4	5.6	2.5	4.9	2.2	1.1			
3/4	13.8	6.4	7.9	3.7	6.9	3.2	1.6			
1	16.0	8.4	9.2	4.8	8.0	4.2	2.1			
1 1/2	20.0	12.0	11.5	6.9	10	6.0	3.0			
2	24.0	13.6	13.8	7.8	12	6.8	3.4			
3	34.0	19.2	19.6	11.0	17	9.6	4.8			
5	56.0	30.4	32.2	17.5	28	15.2	7.6			
7 1/2	80.0	44.0	46.0	25.3	40	22	11			
10	100.0	56.0	57.5	32.2	50	28	14			
15		84.0		48.3		42	21			
20		108.0		62.1		54	27			
25		136.0		78.2		68	34			
30		160.0		92		80	40			
40		208.0		120		104	52			
50		260.0		150		130	65			
60				177		154	77			
75				221		192	96			
100				285		248	124			

The motor currents are approximate and not guaranteed to be accurate. This chart is provided as a guideline only. Values were extrapolated from NEC Tables 430-148 and 430-150. Motor currents should be taken from the motor's nameplate. It is the user's responsibility to properly size their motor control devices.

#### **Control Circuit Contact Electrical Ratings**

#### NEMA Mechanical Switching Ratings and Test Values for DC Control Circuit Contacts

	Thermal	Maximum	Make or Brea						
Contact Rating Designation	Continuous Test Current (A)	125 Volts	250 Volts	301 to 600 Volts	Voltamperes				
P300	5.0	1.1	0.55		138				
P600	5.0	1.1	0.55	0.20	138				
Q300	2.5	0.55	0.27		69				
Q600	2.5	0.55	0.27	0.10	69				
R300	1.0	0.22	0.11		28				

This chart is provided as a guideline only, and the ratings and values are not guaranteed to be accurate. It is the users' responsibility to properly size their control circuit devices.

The chart values are from NEMA Standard ICS 5-2000, Table 1-4-2.

NEMA Mechanical Switching Ratings and Test Values for AC Control Circuit Contacts											
	Thermal		Maximum AC Current, 50/60Hz (A)								
Contact Rating	Continuous	120	Volts	240 Volts		480 Volts		600 Volts		vonamperes	
Designation	(A)	Make	Break	Make	Break	Make	Break	Make	Break	Make	Break
A300	10	60	6.00	30	3.00					7200	720
A600	10	60	6.00	30	3.00	15	1.50	12	1.20	7200	720
B300	5	30	3.00	15	1.50					3600	360
B600	5	30	3.00	15	1.50	7.5	0.75	6	0.60	3600	360
C600	2.5	15	1.5	7.5	0.75	3.75	0.375	3.00	0.30	1800	180

This chart is provided as a guideline only, and the ratings and values are not guaranteed to be accurate. It is the users' responsibility to properly size their control circuit devices. The chart values are from NEMA Standard ICS 5-2000, Table 1-4-1.

## 1-800-633-0405 **IEC Utilization Categories**

	·	IEC Utilization Categories for Low Voltage Switchgear and Cor	ntrol Gear			
Current	Category	Typical Applications	Relevant IEC Product Standard <sup>3</sup>			
	AC-1	Non inductive or slightly inductive loads, resistance furnaces, heaters				
	AC-2	Slip-ring motors: switching off				
	AC-3	Squirrel-cage motors: starting,switching off motors during running most typical industrial application				
	AC-4	Squirrel-cage motors: starting, plugging <sup>1</sup> , inching <sup>2</sup>				
	AC-5a	Switching of electric discharge lamps				
	AC-5b	Switching of incandescent lamps	000.47.4			
	AC-6a	Switching of transformers	60947-4			
	AC-6b	Switching of capacitor banks				
	AC-7a	Slightly inductive load in household appliances: mixers, blenders				
10	AC-7b	Motor-loads for household applications: fans, central vacuum				
AC	AC-8a	Hermetic refrigerant compressor motor control with manual resetting overloads	1			
	AC-8b	Hermetic refrigerant compressor motor control with automatic resetting overloads				
	AC-12	Control of resistive loads and solid state loads with opto-coupler isolation				
	AC-13	Control of solid state loads with transformer isolation	60947-5			
	AC-14	Control of small electromagnetic loads				
	AC-15	Control of AC electromagnetic loads				
	AC-20	Connecting and disconnecting under no-load conditions				
	AC-21	Switching of resistive loads, including moderate loads	60947-3			
	AC-22	Switching of mixed resistive and inductive loads, including moderate overloads				
	AC-23	Switching of motor loads or other highly inductive loads				
AC and DC	А	Protection of circuits, with no rated short-time withstand current	60047.0			
AC and DC	В	Protection of circuits, with a rated short-time withstand current	60947-2			
	DC-1	Non-Inductive or slightly inductive loads, resistance furnaces, heaters				
	DC-3	Shunt-motors, starting, plugging <sup>1</sup> , inching <sup>2</sup> , dynamic breaking of motors				
	DC-5	Series-motors, starting, plugging <sup>1</sup> , inching <sup>2</sup> , dynamic breaking of motors	60947-4			
	DC-6	Switching of incandescent lamps				
	DC-12	Control of resistive loads and solid state loads with opto-coupler isolation				
DC	DC-13	Control of DC electromagnetics				
	DC-14	Control of D.C. electromagnetic loads having economy resistors in the circuit	60947-5			
	DC-20	Connecting and disconnecting under no-load conditions				
	DC-21	Switching of resistive loads, including moderate overloads				
	DC-22	Switching of mixed resistive and inductive loads, including moderate overloads (i.e. shunt motors)	60947-3			
	DC-23	Switching of highly inductive loads (i.e. series motors)				

<sup>1</sup>Plugging - Stopping a motor rapidly by reversing the primary power connections. <sup>2</sup>Inching - Energizing a motor repeatedly for short periods to obtain small incremental movements. <sup>3</sup>IEC Standards must be purchased from the International Electrotechnical Commission