

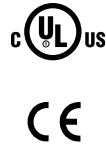
# Series CA8 Contactors and CAT8 Starters

An ingenious miniature contactor and starter system

Sprecher + Schuh's CA8 Series of miniature contactors and starters provide an extremely compact and reliable method of controlling motors of 7.5 HP or less (@460V). The CA8 is an economical choice for applications where space is limited or where a minimal enclosure is desired.

## Small but rugged

Even though their contacts and coils are not replaceable, Sprecher + Schuh has subjected this series of contactors to monitored endurance tests that demonstrate their ruggedness. At full load, under 3-phase power, the contacts in the CA8 have an electrical life of 700,000 operations, while the AC magnet system has a mechanical life of 15,000,000 operations.



## The CAT8 Starter – Efficient and reliable

This miniature starter features the new CT8 Thermal Overload Relay. A complex current limiting calibration procedure performed after each unit ensures the consistent high quality of Sprecher + Schuh's thermal overload relay. Today's Class 10 T-frame design, like the CT Series, has been recognized by many motor manufacturers as the ideal type to assure optimum motor protection due to less use of copper and iron.



CAT8 starters feature the CT8 thermal overload.

## Accessories require no additional panel space

The entire CA8 System is logically engineered. Modular accessories like auxiliary contact blocks snap-on without increasing the CA8's original width of 45mm. Also, due to its horizontal switching movement, the basic contactor has the same low profile whether an AC or DC operating magnet is used. This permits the use of enclosures with shallow mounting depths. Once the CA8 is installed,



▲  
Contactors  
CA8

all auxiliary contact blocks can be snapped-on or removed without changing any existing power wiring. Other accessories include a snap-on RC Link (surge suppressor), mechanical interlocks and space saving adaptors for connecting auxiliary components.

## Effortless installation

Both the CA8 Contactor and the CAT8 Starter are DIN-rail mountable for instant installation and modification. Fittings are also included on the CA8 for base mounting. All terminals are clearly marked and shipped in the open position for installation with either manual or power screwdrivers.



45mm  
(=1 7/16")

9A  
12A

**Series CA8 Miniature Contactors, Starters, Overloads & Industrial Relays**

Contactors

CA8

- ✓ Rated 690V
- ✓ RoHs Compliant
- ✓ Conforming to U.S., Canadian, and IEC Standards
- ✓ Same Dimensions for AC and DC

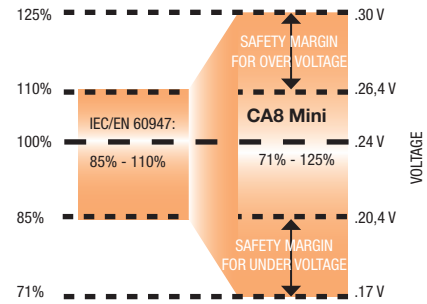
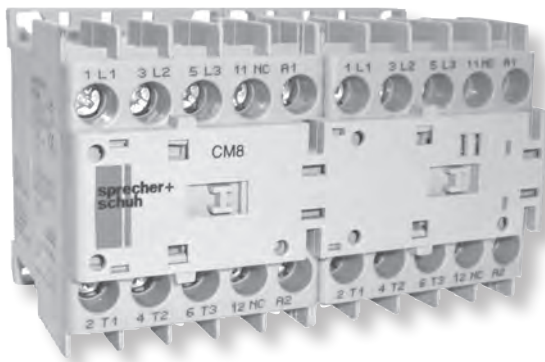


**Pluggable Surge Suppressor Modules**

- Suppressor modules are simply plugged on the front of the contactors, next to the auxiliary contact blocks.
- No wiring required.
- Fast and easy installation.

**Auxiliary Contact Reliability**

- Bifurcated, AgNi (silver/nickel) plated contacts for high contact reliability for 15V/2 mA electronic signals.
- H-shaped self cleaning auxiliary contacts provide a 4-way current path ensure high contact reliability for low energy switching.

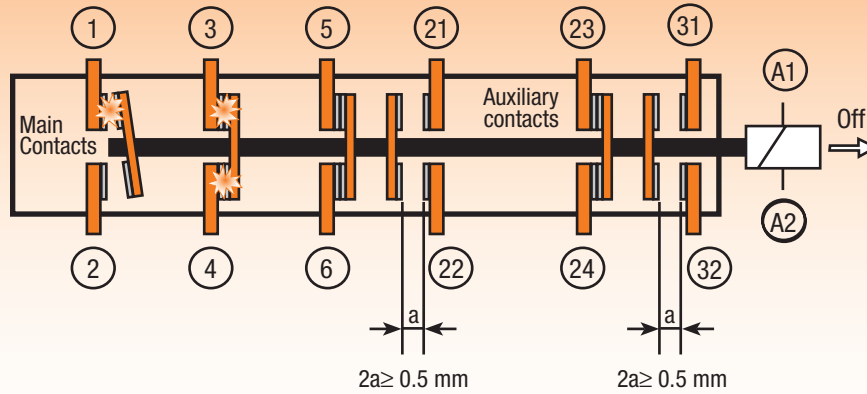


Contactors  
CA8

**High Performance AC & DC Coils**

- Wide range DC coils can provide reliability in case of over- and under-voltage, a common issue with battery-fed control power supply systems.
- The low coil consumption allows the contactors to be directly controlled via a PLC.
- Optional, integral factory-installed surge suppressor modules for AC and DC for limiting coil switching transients.

**MIRROR AND MECHANICALLY LINKED DESIGN**



**All Around Safety**

- CA8: mechanically linked performance between main contacts and internal auxiliary contacts. This feature provides status feedback in the event of a contact weld.
- CA8/Auxiliary contacts: mirror contact between main and auxiliary contacts as per IEC 60947-4-1 prevent any unclear status indications if a N.O. power pole welds.

#### Non-Reversing, Three Pole Contactors With AC Coil, Series CA8 (Open type only) ①

$I_e$ [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type	
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)									
	1 Ø		3 Ø											
40°C											NO	NC	Catalog Number	Price
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V				
20	3	4	4	4	1/2	1-1/2	2	2	5	5	1	0	CA8-09-10-*	109
											0	1	CA8-09-01-*	109
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	1	0	CA8-12-10-*	132
											0	1	CA8-12-01-*	132



CA8-09-10 contactor

#### Non-Reversing, Three Pole Contactors With DC Coil, Series CA8 (Open type only) ①②

$I_e$ [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type	
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)									
	1 Ø		3 Ø											
40°C											NO	NC	Catalog Number	Price
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V				
20	3	4	4	4	1/2	1-1/2	2	2	5	5	1	0	CA8-09C-10-*	134
											0	1	CA8-09C-01-*	134
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	1	0	CA8-12C-10-*	166
											0	1	CA8-12C-01-*	166

#### AC Coil Codes ①③

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
12	12V	12V
24Z	24V	24V
48Z	48V	48V
120	110V	120V
208	200V-220V	208V-240V
240	240V	240V
380 ④	Use Coil Code 400	
400 ④	400V	400V
480	440V	480V
575 ④	Use Coil Code 600	
600 ④	525V	600V

#### DC Coil Codes ①③

DC Coil Code	Voltage
12D	12V
24D	24V ④
110D	110V
125D	125V
220D	220V

#### Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Codes on this page

- ① CA8 not available without coil. Coils and contacts not replaceable.
- ② Select Coil Code from DC Coil Code table only.
- ③ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative to determine if special voltages, are required.
- ④ Integrated diode surge suppressor coils available. Order coil code **24DD** and add \$42 to list price. Ex: CA8-09C-10-**24D** becomes CA8-09C-10-**24DD**.
- ⑤ The European Community has agreed that 400V is the nominal voltage in lieu of 380V. Use this code when 380V is required.
- ⑥ Use this code for 575V applications.

#### Non-Reversing, Four Pole Contactors With AC Coil, Series CA8 (Open type only) ①④

I <sub>e</sub> [A]	Ratings for Switching AC Motors (AC2 / AC3)										Contact configuration main poles		Open Type		
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)										
					1 Ø		3 Ø								
40°C	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number	Price	
AC-1															
20	3	4	4	4	1/2	1-1/2	2	2	5	5	4	0	CA8-09-M40-*	109	
											3	1	CA8-09-M31-*	122	
											2	2	CA8-09-M22-*	122	
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	4	0	CA8-12-M40-*	134	
											3	1	CA8-12-M31-*	144	
											2	2	CA8-12-M22-*	144	



CA8-09-M40 contactor

Contactors  
CA8

#### Non-Reversing, Four Pole Contactors With DC Coil, Series CA8 (Open type only) ①②④

I <sub>e</sub> [A]	Ratings for Switching AC Motors (AC2 / AC3)										Contact configuration main poles		Open Type		
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)										
					1 Ø		3 Ø								
40°C	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number	Price	
AC-1															
20	3	4	4	4	1/2	1-1/2	2	2	5	5	4	0	CA8-09C-M40-*	134	
											3	1	CA8-09C-M31-*	147	
											2	2	CA8-09C-M22-*	147	
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	4	0	CA8-12C-M40-*	167	
											3	1	CA8-12C-M31-*	179	
											2	2	CA8-12C-M22-*	179	

#### AC Coil Codes ①③

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
12	12V	12V
24Z	24V	24V
48Z	48V	48V
120	110V	120V
208	200V-220V	208V-240V
240	240V	240V
380 ⑥	Use Coil Code 400	
400 ⑥	400V	400V
480	440V	480V
575 ⑦	Use Coil Code 600	
600 ⑦	525V	600V

#### DC Coil Codes ①③

DC Coil Code	Voltage
12D	12V
24D	24V ⑥
110D	110V
125D	125V
220D	220V

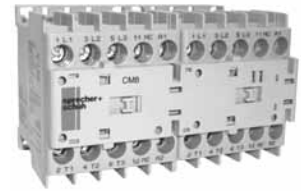
#### Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Codes on this page

- ① CA8 not available without coil. Coils and contacts not replaceable.
- ② Select Coil Code from DC Coil Code table only.
- ③ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative to determine if other voltages.
- ④ No auxiliary contacts provided in the base of a CA8. Add auxiliaries from page A19.
- ⑤ Integrated diode surge suppressor coils available. Order coil code **24DD** and add \$42 to list price. Ex: CA8-09C-10-**24D** becomes CA8-09C-10-**24DD**.
- ⑥ The European Community has agreed that 400V is the nominal voltage in lieu of 380V. Use this code when 380V is required.
- ⑦ Use this code for 575V applications.

#### Reversing, Three Pole Contactors With AC Coil, Series CAU8 (Open type only) ①②

I <sub>e</sub> [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type	
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)									
					1 Ø ⑦		3 Ø							
40°C														
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number	Price
20	3	4	4	4	1/2	1-1/2	2	2	5	5	0	1	CAU8-09-02-∗-LW	253
											2	1	CAU8-09-42-∗-PW	295
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	0	1	CAU8-12-02-∗-LW	318
											2	1	CAU8-12-42-∗-PW	360



#### CAU8...LW Includes:

- Mechanical interlock (CM8)

#### CAU8...PW Includes:

- Mechanical and electrical interlock (CM8) ②
- Reversing power and control wiring (using Wiring Kit Cat.# CAUT8-PW)
- Top mount auxiliary contact block (Cat.# CA8-P20 on the -42- models)

#### Reversing, Three Pole Contactors With DC Coil, Series CAU8 (Open type only) ①②

I <sub>e</sub> [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type	
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)									
					1 Ø ⑦		3 Ø							
40°C														
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number	Price
20	3	4	4	4	1/2	1-1/2	2	2	5	5	0	1	CAU8-09C-02-∗-LW	337
											2	1	CAU8-09C-42-∗-PW	379
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	0	1	CAU8-12C-02-∗-LW	419
											2	1	CAU8-12C-42-∗-PW	460

#### AC Coil Codes ①③

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
12	12V	12V
24Z	24V	24V
48Z	48V	48V
120	110V	120V
208	200V-220V	208V-240V
240	240V	240V
380 ⑤	Use Coil Code 400	
400 ⑤	400V	400V
480	440V	480V
575 ⑤	Use Coil Code 600	
600 ⑤	525V	600V

#### DC Coil Codes ①③

DC Coil Code	Voltage
12D	12V
24D	24V ⑤
110D	110V
125D	125V
220D	220V

#### Ordering Instructions

Specify Catalog Number	
Replace (∗) with Coil Code	See Coil Codes on this page

- ① CA8 not available without coil. Coils and contacts not replaceable.
- ② Internal NC contacts on each contactor are used for electrical interlocking.
- ③ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative to determine if other voltages are required.
- ④ Integrated diode surge suppressor coils available. Order coil code **24DD** and add \$84 to list price. Ex: CAU8-09C-02-**24D** becomes CAU8-09C-02-**24DD**.
- ⑤ The European Community has agreed that 400V is the nominal voltage in lieu of 380V. Use this code when 380V is required.
- ⑥ Use this code for 575V applications.
- ⑦ Does not apply to CAU8...-PW.



#### Non-Reversing, Three Pole Starters With AC Coil, Series CAT8 (Open type only) ①

$I_e$ [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type			
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)											
					1 Ø		3 Ø				NO	NC	Catalog Number	Price		
40°C																
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V						
20	3	4	4	4	1/2	1-1/2	2	2	5	5	1	0	CAT8-09-10-*-◆	179		
											0	1	CAT8-09-01-*-◆	179		
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	1	0	CAT8-12-10-*-◆	209		
											0	1	CAT8-12-01-*-◆	209		



A  
Contactors  
CAT8

#### Non-Reversing, Three Pole Starters With DC Coil, Series CAT8 (Open type only) ①②

$I_e$ [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type			
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)											
					1 Ø		3 Ø				NO	NC	Catalog Number	Price		
40°C																
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V						
20	3	4	4	4	1/2	1-1/2	2	2	5	5	1	0	CAT8-09C-10-*-◆	204		
											0	1	CAT8-09C-01-*-◆	204		
20	3	5.5	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	1	0	CAT8-12C-10-*-◆	245		
											0	1	CAT8-12C-01-*-◆	245		

Representative model of a CAT8-09... starter with the CT8 bimetallic overload relay

**NOTE:** CAT8 starters are priced to include Sprecher + Schuh's economical CT8 bimetallic overload relay. See page A21 for selection.

#### AC Coil Codes ①③

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
12	12V	12V
24Z	24V	24V
48Z	48V	48V
120	110V	120V
208	200V-220V	208V-240V
240	240V	240V
380 ⑤	Use Coil Code 400	
400 ⑤	400V	400V
480	440V	480V
575 ⑤	Use Coil Code 600	
600 ⑤	525V	600V

#### DC Coil Codes ①③

DC Coil Code	Voltage
12D	12V
24D	24V ④
110D	110V
125D	125V
220D	220V

#### Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	Coil Codes on this page O/L Relay Code on A21
Replace (◆) with O/L Relay Code	

- ① CA8 not available without coil. Coils and contacts not replaceable.
- ② Select Coil Code from DC Coil Code table only.
- ③ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative to determine if other voltages are required.
- ④ Integrated diode surge suppressor coils available. Order coil code **24DD** and add \$42 to list price. Ex: CAT8-09C-10-**24D** becomes CAT8-09C-10-**24DD**.
- ⑤ The European Community has agreed that 400V is the nominal voltage in lieu of 380V. Use this code when 380V is required.
- ⑥ Use this code for 575V applications.

#### Reversing, Three Pole Starters With AC Coil, Series CAUT8 (Open type only) ①②

I <sub>e</sub> [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type	
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)									
					1 Ø		3 Ø							
40°C														
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number	Price
20	3	4	4	4	~	~	2	2	5	5	0	1	CAUT8-09-02- <b>*</b> - <b>◆</b> -LW	323
											2	1	CAUT8-09-42- <b>*</b> - <b>◆</b> -PW	365
20	3	5.5	5.5	5.5	~	~	3	3	7-1/2	7-1/2	0	1	CAUT8-12-02- <b>*</b> - <b>◆</b> -LW	395
											2	1	CAUT8-12-42- <b>*</b> - <b>◆</b> -PW	437



#### CAUT8...LW Includes:

- Mechanical interlock
- Utilizes CT8 bimetallic overload relay. Select code from page A21.

#### CAUT8...PW Includes:

- Mechanical and electrical interlock ②
- Utilizes CT8 bimetallic overload relay. Select code from page A21.
- Reversing power and control wiring (using Wiring Kit Cat.# CAUT8-PW)
- Top mount auxiliary contact block (Cat.# CA8-P20 on the -42- models)

#### Reversing, Three Pole Starters With DC Coil, Series CAUT8 (Open type only) ①②

I <sub>e</sub> [A]	Ratings for Switching AC Motors (AC2 / AC3 / AC4)										Auxiliary Contacts per Contactor		Open Type	
	3 Ø kW (50 Hz)				UL/CSA HP (60 Hz)									
					1 Ø		3 Ø							
40°C														
AC-1	230V	400V 415V	500V	690V	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number	Price
20	3	4	4	4	~	~	2	2	5	5	0	1	CAUT8-09C-02- <b>*</b> - <b>◆</b> -LW	414
											2	1	CAUT8-09C-42- <b>*</b> - <b>◆</b> -PW	456
20	3	5.5	5.5	5.5	~	~	3	3	7-1/2	7-1/2	0	1	CAUT8-12C-02- <b>*</b> - <b>◆</b> -LW	496
											2	1	CAUT8-12C-42- <b>*</b> - <b>◆</b> -PW	538

#### AC Coil Codes ①③

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
12	12V	12V
24Z	24V	24V
48Z	48V	48V
120	110V	120V
208	200V-220V	208V-240V
240	240V	240V
380 ⑤	Use Coil Code 400	
400 ⑤	400V	400V
480	440V	480V
575 ⑤	Use Coil Code 600	
600 ⑤	525V	600V

#### DC Coil Codes ①③

DC Coil Code	Voltage
12D	12V
24D	24V ④
110D	110V
125D	125V
220D	220V


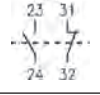


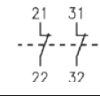

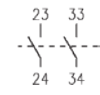


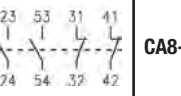

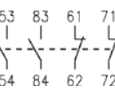
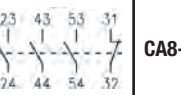
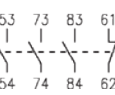
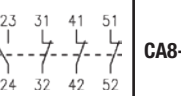
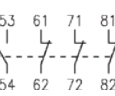
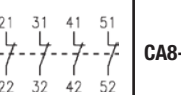
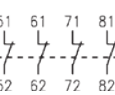
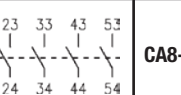
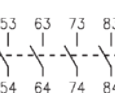
#### Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	Coil Codes on this page O/L Relay Code on A21
Replace (◆) with O/L Relay Code	

- ① CA8 not available without coil. Coils and contacts not replaceable.
- ② NC contacts on each contactor are used for electrical interlocking.
- ③ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative to determine if other voltages are required.
- ④ Integrated diode surge suppressor coils available. Order coil code **24DD** and add \$84 to list price. Ex: CAUT8-09C-02-**24D** becomes CAUT8-09C-02-**24DD**.
- ⑤ The European Community has agreed that 400V is the nominal voltage in lieu of 380V. Use this code when 380V is required.
- ⑥ Use this code for 575V applications.



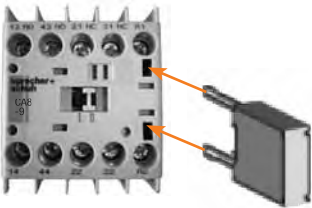

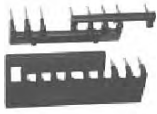




**Auxiliary Contact Blocks (2 & 4 Pole) ①**

Auxiliary Contact Blocks	NO	NC	Contact Arrangement	Catalog No.	Price	Auxiliary Contact Blocks	NO	NC	Contact Arrangement	Catalog No.	Price
 2-Pole	1	1		CA8-P11	27	 2-Pole	1	1		CS8-P11E	27
	0	2		CA8-P02			0	2		CS8-P02E	
	2	0		CA8-P20			2	0		CS8-P20E	
Typical auxiliary contact block   4-Pole	2	2		CA8-P22	54	Typical auxiliary contact block   4-Pole	2	2		CS8-P22Z	54
	3	1		CA8-P31			3	1		CS8-P31Z	
	1	3		CA8-P13			1	3		CS8-P13E	
	0	4		CA8-P04			0	4		CS8-P04E	
	4	0		CA8-P40			4	0		CS8-P40E	

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 Contactors  
 CA8

① Auxiliary contacts mirror contact performance per IEC 60947-4-1. Contacts are bifurcated (H-bridge) with a minimum rating of 2mA @ 15V.

#### Miscellaneous Accessories

Accessory	Description	Catalog Number	Price
	<b>Surge Suppressor CR_8</b> - for limiting voltage spikes when switching off coil. Coil itself provides sufficient limitation at voltages over 240V.  RC Link (Type CRC8...) for AC Control 24-48VAC 110-280VAC 380-480VAC	<b>CRC8-50</b> <b>CRC8-280</b> <b>CRC8-480</b>	33
	Diode Link (Type CRD8...) for DC Control ❶ 12-250VDC (diode)	<b>CRD8-250</b>	33
	Varistor Link (Type CRV8...) for AC/DC Control 12-55VAC/12-77VDC 56-136VAC/78-180VDC 137-277VAC/181-250VDC	<b>CRV8-55</b> <b>CRV8-136</b> <b>CRV8-277</b>	22
	<b>Mechanical Interlock Kit -</b> For interlocking of two adjacent contactor – without additional space requirement in width – attachable from the front (top) of contactor – optional auxiliary contact blocks can be mounted on the top (does not interfere with mounting CR_8)	<b>CM8</b>	12
	<b>Wiring Kit -</b> For connecting line, load and control wiring of a CAU8 reversing contactor. – works with CT8 Overloads	<b>CAUT8-PW</b>	15
	<b>Connection Modules -</b> For KTA7 motor circuit controller with a CA8 contactor.	<b>KT7-25S-PEK12</b>	40
	<b>Feeder Terminal for Compact Bus Bars -</b> Supply of compact bus bars. For use with CA8-09 and CA8-12 34 Amps max.	<b>CA8-WT</b>	42
	<b>Three-Phase Compact Bus Bars -</b> For use with CA8-09 and CA8-12 Contactors with 45 mm spacing. (3 connections) 34 Amps max.	<b>CA8-W453</b>	50
	<b>Three-Phase Compact Bus Bars -</b> For use with CA8-09 and CA8-12 Contactors with 45 mm spacing. (4 connections) 34 Amps max.	<b>CA8-W454</b>	59

❶ CA8 contactors with 24 VDC coils can be special ordered with integrated diodes (built-in) rather than applying CRD8 to the coil terminals.

**CAT8 Starters with CT8 Thermal Overload Relay**

For use with contactor....	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
<b>CT8 Thermal Overload Relay, 1 or 3-Phase, Auto/Manual, Class 10</b>				
CA8-09	0.10...0.16	8A16	CT8-A16	Standard
	0.16...0.25	8A25	CT8-A25	Standard
	0.25...0.4	8A40	CT8-A40	Standard
	0.35...0.5	8A50	CT8-A50	Standard
	0.45...0.63	8A63	CT8-A63	Standard
	0.55...0.8	8A80	CT8-A80	Standard
	0.75...1.0	8B10	CT8-B10	Standard
	0.90...1.3	8B13	CT8-B13	Standard
	1.10...1.6	8B16	CT8-B16	Standard
	1.4...2.0	8B20	CT8-B20	Standard
	1.8...2.5	8B25	CT8-B25	Standard
	2.3...3.2	8B32	CT8-B32	Standard
	2.9...4.0	8B40	CT8-B40	Standard
	3.5...4.8	8B48	CT8-B48	Standard
	4.5...6.3	8B63	CT8-B63	Standard
5.5...7.5	8B75	CT8-B75	Standard	
CA8-09 or 12	7.2...10	8C10	CT8-C10	Standard
CA8-12	9.0...12.5	8C12	CT8-C12	Standard

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Contactors  
CA8

**Obsolete Contactors Cross Reference, Series CA4 to Series CA8 (Open Type Only)**

I <sub>e</sub> [A]		Ratings for Switching AC Motors (AC2 / AC3 / AC4)									Auxiliary Contacts per Contactor		Series CA4 Obsolete Catalog Number	Series CA8 Replacement Catalog Number
		kW (50 Hz)			UL/CSA HP (60 Hz)									
		230V	400V	500V	1 Ø			3 Ø						
115V	230V				200V	230V	460V	575V						
AC-3	AC-1	3	4	4	1/2	1-1/2	2	2	5	5	1	0	CA4-9-10	
											0	1	CA4-9-01	
~	20	3	4	4	1/2	1-1/2	2	2	5	5	1	0		CA8-09-10
											0	1		CA8-09-01
12	20	3	5.5	4	1/2	2	3	3	7-1/2	10	1	0	CA4-12-10	
											0	1	CA4-12-01	
~	20	3	5.5	5.5	3/4	2	3	3	7-1/2	7-1/2	1	0		CA8-12-10
											0	1		CA8-12-01



CA4-9-10 Contactor



**Electrical Data**

			CA8-09	CA8-12	<b>Short Circuit Coordination</b> (Max. Fuse or Circuit Breaker Rating)			CA8-09	CA8-12
<b>Switching power transformers AC-6a (50Hz)</b>					50 kA Max. DIN fuse gG per IEC 60947-4-1 (Contactor and Fuse only)				
Inrush					Available Fault Current				
Rated transformer current = $\eta$					Type 1 Coordination (690V) max. [A] 35 35				
$\eta = 30$					Type 2 Coordination (690V) max. [A] 20 20				
	$\leq 230V$	[A]	5.4	5.4	Class K5 and RK5 fuses ❶ max. [A] 40 40				
	$\leq 240V$	[A]	5.4	5.4					
	$\leq 400V$	[A]	4.1	5.4					
	$\leq 415V$	[A]	4.1	5.4					
	$\leq 500V$	[A]	3.2	3.2					
	230VAC	[kVA]	2	2	<b>Resistance and Watt Loss <math>I_e</math> AC3</b>				
	240VAC	[kVA]	2	2	Resistance per power pole [mΩ] 2.2 2.2				
	400VAC	[kVA]	2.8	3.4	Watt Loss - 3 power poles @400V [W] 0.9 0.9				
	415VAC	[kVA]	2.8	3.4	Coil and AC @400V, warm [W] 2.7 2.7				
	500VAC	[kVA]	2.8	3.4	3 power poles DC, warm [W] 3.5 3.5				
	690VAC	[kVA]	4	5					
<b>DC Ratings</b>					<b>Coil Data</b>				
<b>DC-1 Rating at 60°C</b>									
1 Pole					CA8-09 CA8-12				
	24VDC	[A]	9	9	<b>Voltage Range</b>				
	48/60VDC	[A]	6/1.5	6/1.5	AC: 50Hz, 60Hz, 50/60 Hz Pickup [x $U_S$ ] 0.85...1.1				
	110VDC	[A]	1	1	Dropout [x $U_S$ ] 0.2...0.75				
	220VDC	[A]	0.3	0.3	DC Pickup [x $U_S$ ] 0.85...1.1				
	440VDC	[A]	0.1	0.1	Dropout [x $U_S$ ] 0.1...0.75				
2 Pole in Series					9, 12, 24, 110V DC: 0.7...1.25				
	24VDC	[A]	9	9	<b>Coil Consumption</b>				
	48/60VDC	[A]	8	8	AC: 50Hz, 60Hz, 50/60 Hz Pickup [VA/W] 35/32				
	110VDC	[A]	6	6	Hold-in [VA/W] 5/1.8				
	220VDC	[A]	1.2	1.2	DC Pickup [W] cold 3.0, warm 2.6				
	440VDC	[A]	0.3	0.3	Hold-in [W] cold 3.0, warm 2.6				
3 Pole in Series					<b>Operating Times</b>				
	24VDC	[A]	9	9	AC: 50Hz, 60Hz, 50/60 Hz Pickup [ms] 15...40				
	48VDC	[A]	9	9	Dropout [ms] 15...33				
	110VDC	[A]	9	9	with RC Suppressor Dropout [ms] 15...28				
	220VDC	[A]	4	4	DC Pickup [ms] 18...40				
	440VDC	[A]	0.6	0.6	Dropout [ms] 6...12				
<b>Shunt-wound Motors</b>					with Integ. Suppression Dropout [ms] 8...12				
Starting, reverse current braking, reversing stepping DC-3, 60°C					with external diode Suppression Dropout [ms] 35...50				
	24V	[A]	9	9	Minimal changeover time for reversing [ms] >50				
	48/60V	[A]	6	6					
	110V	[A]	3	3					
	220V	[A]	1.2	1.2					
	440V	[A]	0.2	0.2					
<b>Series-wound Motors</b>									
Starting, reverse current braking, reversing stepping DC-5, 60°C									
	24V	[A]	9	9					
	48/60V	[A]	3	3					
	110V	[A]	1	1					
	220V	[A]	0.1	0.1					
	440V	[A]	~	~					
<b>Short Time Withstand-<math>I_{CW}</math>, 60°C</b>									
	10s	[A]	96	96					

❶ UL listed combination.

### Mechanical Data

			CA8-09	CA8-12
<b>Service Life</b>				
Mechanical	AC/DC	[Mil.Op.]	15	
Electrical	AC-3(400V)	[Mil.Op.]	0.7	
Reversing combination, mechanical, electrical		[Mil.Op.]	0.7	

### Shipping Weights

AC-CA8	[kg]	0.16
	[Lbs]	0.35
AC-CAU8	[kg]	0.35
	[Lbs]	0.77
DC-CA8	[kg]	0.20
	[Lbs]	0.44
DC-CAU8	[kg]	0.43
	[Lbs]	0.91

### Terminations - Screw Type Terminals

Main contacts and Auxiliary contacts



Terminal Type	Combination Screw Head: Cross, Slotted, Pozidrive		
Fine stranded w/ ferrule	1 wire	[mm <sup>2</sup> ]	0.75...2.5
	2 wires	[mm <sup>2</sup> ]	0.75...2.5
Solid or coarse stranded	1 wire	[mm <sup>2</sup> ]	1...4
	2 wires	[mm <sup>2</sup> ]	1...2.5 + 1...4
		[AWG]	18...12
Torque Requirement	[Nm]	1.2	
	[Lb-in]	10.6	

### Environmental and General Specifications

#### Ambient Temperature

Storage	-55...+80° C (-67...176° F)
Operation	-25...+60° C (-13...140° F)
Conditioned 15% current reduction after AC-1 at >60° C	-25...+70° C (-13...158° F)

**Altitude at installed site** 2000 meters above sea level per IEC 60947-4-1

#### Resistance to Corrosion / Humidity

Damp-alternating climate: cyclic to IEC 68-2, 56 cycles.  
Dry Heat: IEC 68-2, +100°C (212°F), relative humidity <50%, 7 days.  
Damp tropical: IEC 68-2, +40°C (104°F), relative humidity <92%, 56 days.

**Shock Resistance** IEC 68-2/EN 60068

**Vibration Resistance** IEC 68-2/EN 60068

**Operating Position** Refer to Dimension Pages

**Standards** IEC/EN 60947-1, -4-1, -5-1, -5-4;  
UL 508; CSA 22.2. No. 14

#### Approvals



### High Fault Short Circuit Ratings per UL508 and CSA 22.2 No.14

Overload Cat. No.	Contactor Cat. No.	Max. starter FLC (A)	Fuse Ratings			UL Listed Circuit Breaker Ratings ①			Group Installation ①
			Max. available fault current (kA)	Max. voltage (V)	UL Class J, CC, CSA HRCI-J fuse max. (A)	Short Circuit Rating (kA)	Max. voltage (V)	Max. CB Rating (A)	Max. CB rating (A)
CT8	A16...A40	CA8-09	50	600	1	5	600	15	30
	A50...A63				2				
	A80...B10				3				
	B13				4				
	B16				5				
	B20				8				
	B25				10				
	B32				12				
	B40...B48				15				
	B63				20				
	B75				25				
	C10				35				
	C12	CA8-12	13.8			50			

① Group installation ratings can be applied when used with CA8 Compact Bus Bars (see page A20) in a minimum 1,152 cu. in. enclosure with two latches.



### Auxiliary Contacts

		Built-in Auxiliary Contacts										Add-on Auxiliary Contacts									
<b>Current Switching</b>																					
AC-12 $I_{th}$	at 40°C [A]	10										10									
	at 60°C [A]	6										6									
AC-15, switching electromagnetic loads at:	[V]	24	120	240	400	480	500	600	690			24	120	240	400	480	500	600	690		
	[A]	6	6	3	1.8	1.5	1.4	1.2	1			3	3	2	1.2	1	1	0.6	0.6		
DC-13, switching DC electromagnets at:	[V]	24	48	110	125	220	250	400	440	600		24	48	110	125	220	250	400	440	600	
	[A]	2.8	1.2	0.55	0.55	0.27	0.27	0.15	0.15	0.10		2.3	1	0.55	0.55	0.27	0.27	0.15	0.15	0.10	
DC-12, L/R < 1 ms resistive loads at:	[V]	24	48	110	125	220	250	400	440												
	[A]	6	4	0.6	0.6	0.2	0.2	0.08	0.08												
DC-14, L/R < 15 ms inductive loads with economy resistor in series at:	[V]	24	48	110	125	220	250	400	440												
	[A]	4	2.5	0.4	0.4	0.12	0.12	0.05	0.05												
<b>Low Level Signal Switching</b>																					
Contact design		X-stamped										H-bridge, bi-furcated									
Minimum switching recommendation		17V										15V									
		10mA										2mA									
<b>Short-Circuit Protection - gG Fuse</b>																					
Type 2 Coordination		10										10									
<b>Load carrying capacity per UL/CSA</b>																					
Rated Voltage	AC [V]	600 max.										600 max.									
Continuous Rating	40°C [A]	10 general purpose										10 general purpose									
Switching Capacity	AC	Heavy pilot duty (A600)										Heavy pilot duty (B600)									
Rated Voltage	DC [V]	600 max.										600 max.									
Switching Capacity	DC	Standard pilot duty (Q600)										Standard pilot duty (Q600)									
Mechanically Linked Contacts IEC 60947-5-1, Annex L		Yes										No									
Mirror Contacts IEC 60947-4, Annex F		Yes										Yes									

Contactors  
CA8

### Contact Ratings (Per NEMA/UL A600, B600 & Q600)

Standard	Circuit Voltage	Make (Amps/VA)	Break (Amps/VA)	Continuous Amps
A600	120AC	60A/7200VA	60A/720VA	10
	240AC	30A/7200VA	30A/720VA	
	480AC	15A/7200VA	15A/720VA	
	600AC	12A/7200VA	12A/720VA	
B600	120AC	30A/3600VA	3.0A/360VA	10
	240AC	15A/3600VA	1.5A/360VA	
	480AC	7.5A/3600VA	0.75A/360VA	
	600AC	6A/3600VA	0.60A/360VA	
Q600	125DC	0.55/69VA	0.55/69VA	2.5
	250DC	0.27/69VA	0.27/69VA	
	301-600DC	0.1A/69VA	0.1A/69VA	

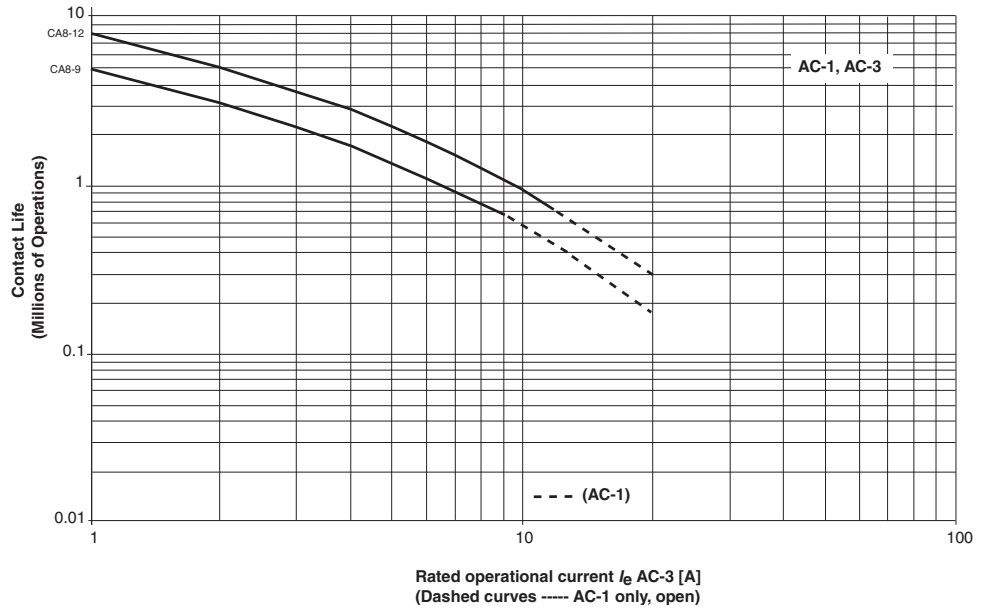
**Life-Load Curves**

- Locate the Rated Operational Current ( $I_e$ ) along the bottom of the chart and follow the graph lines up to the intersection of the appropriate contactor's life-load curve.
- Read the estimated contact life along the vertical axis.

**INSTRUCTIONS ON  
"HOW TO READ"  
LIFE CURVES CAN BE  
FOUND ON PAGE A7**

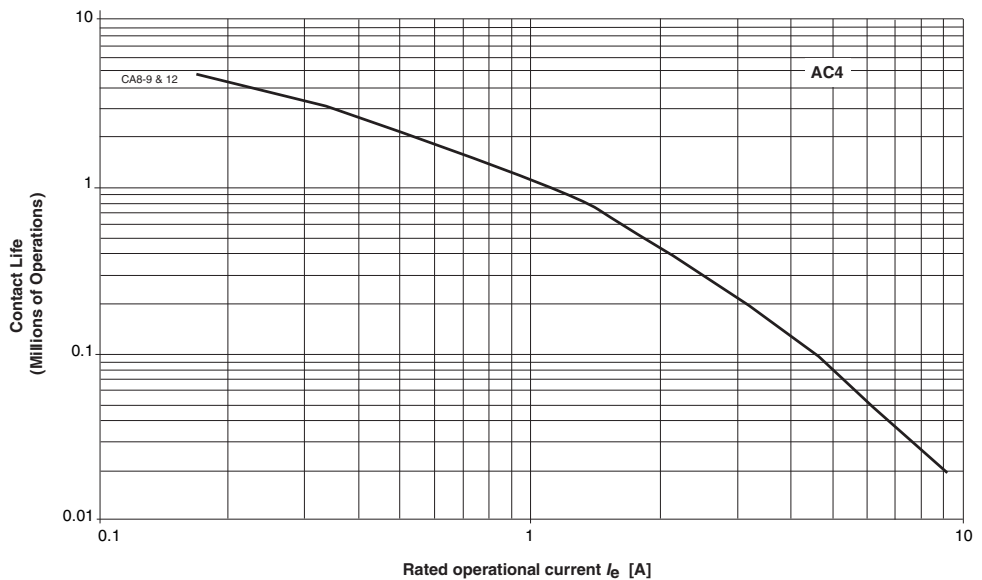
**AC-1, AC3**  
(400...460V AC)

AC-1 Non- or slightly inductive loads, resistance furnaces;  
AC-3 Switching of squirrel-cage motors while starting  
 $U_e = 400...415$  VAC



**AC-4**  
(400...460V AC)

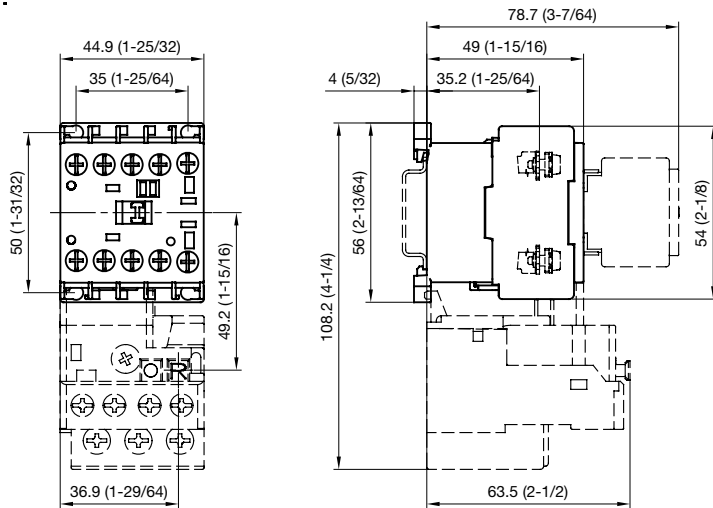
AC-4 Stepping of squirrel-cage motors  
 $U_e = 400...415$  VAC



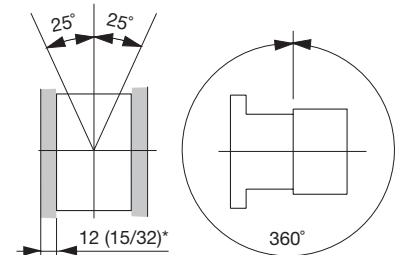
**NOTE:** The life-load curves shown here are based on Sprecher+Schuh tests according to the requirements defined in IEC 60947-4-1. Since contact life in any given application is dependent on environmental conditions and duty cycle, actual application contact life may vary from that indicated by the curves shown here.

**Series CA8 & Series CAU8 (Contactors & Reversing Contactors)**

Dimensions are in millimeters (inches). Dimensions not intended for manufacturing purposes.

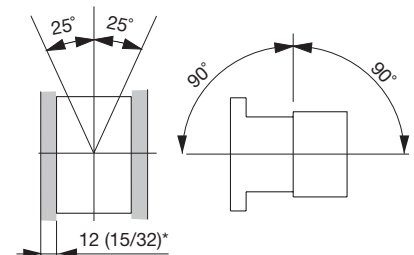


**Mounting Position without Accessories**



\* Minimum distance to grounded parts or walls

**Mounting Position with Accessories**



\* Minimum distance to grounded parts or walls

**Reversing Contactors & Accessories**

Contactor with...	Dim. [mm]	Dim. [inches]
reversing with mechanical interlock	89.8	3.53
with aux. contact block	78.7	3.1
with timer		
on contactor	81.7	3.25
at side of contactor	66.9	2.63
with neutral terminal		
at side of contactor	64.9	2.56
with protection element		
with nameplate	51	2