

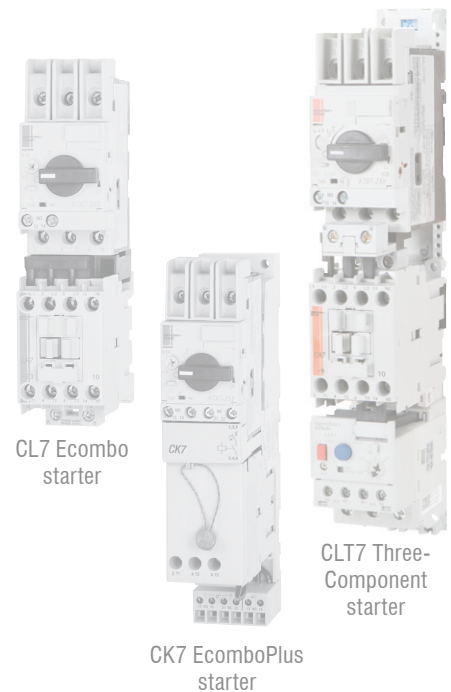
# Ecombo and EcomboPlus Starters

Save space, save money in individual or multi-motor starter applications

Sprecher + Schuh's Ecombo and EcomboPlus starters are the compact alternative to larger and higher priced combination starters. Both models consist of a KTA7 Motor Circuit Controller (cULus listed as a Type E, self-protected combination starter), assembled with a CA7 or CA8 contactor, which provides remote operation (Type E/F). Whether used as a standalone starter or in multi-motor starter applications, Ecombo and EcomboPlus starters save significant panel space and dollars over conventional combination starter alternatives.

## Control and protection for most industrial applications

The Ecombo starter line covers motors to 45 amperes, while providing current limiting short circuit protection up to 65kA. Class 10 thermal overload protection is also assured with a very accurate current adjustment setting which is factory calibrated to the smallest and largest current the unit can handle. A "differential tripping" mechanism also provides acceleration tripping under single phase conditions (see illustration on page 14). Ecombo starters may be selected as Type 2 Coordinated per IEC 60947-4-1, or UL Construction Type E or F.



See our online white paper

## Methods of Applying

# KT7

Motor Circuit Controllers



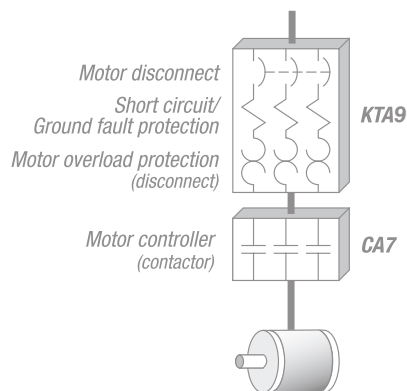
Section Obsolete - F1.40 - F1.55  
See pages

## EcomboPlus... the complete solution

The EcomboPlus starter (CK7) is factory assembled on a special socket base that provides support and allows the starter to be mounted on one or two DIN-rails or screw mounted. Each starter comes standard with a front mounted auxiliary trip contact that is pre-wired to a built-in terminal block at the bottom of the unit. Contactor coil connections are also at the bottom of the starter to provide attractive and cost effective panel wiring.

## Reduce panel size, complexity and cost

Because KT7 Motor Circuit Controllers are UL listed as self-protected combination starters, NEC / CEC group motor rules are simplified substantially. In many cases, only a non-fused switch is required for panel disconnect. See our online white paper "Methods of Applying KT7 Motor Circuit Controllers", which explains applying KT7s in multi-motor starter applications.



The Ecombo starter line combines a KTA7 self-protected Type E combination controller with a CA7 contactor to form a cost effective compact Type E/F alternative to traditional combination starters.

## The Ecombo starter...

Ecombo starters (CL7) come standard with a KTA7 Motor Circuit Controller connected to Sprecher + Schuh's CA7 contactor (or CA8 mini contactor) through a specially designed connection module. The unit is DIN-rail mounted. Contactor coil connections are at the bottom of the starter to provide attractive and cost effective panel wiring. Ecombo starters may also be purchased with just three parts and assembled by the user to further increase economy. The CLT7 is a three component starter with a KTB7 controller, CA7 contactor, and a CEP7 solid state overload relay, pre-assembled on a bus bar module and ready to mount to a DIN rail or panel.

F

Ecombo Circuit Controllers

<b>Starter Type</b>	
<b>EcomboPlus Starter with CA7</b>	
<b>CK7</b>	2 component DOL Starter
<b>CKU7</b>	2 component REV Starter
<b>Ecombo Starter with CA7</b>	
<b>CL7</b>	2 component DOL Starter
<b>CLU7</b>	2 component REV Starter
<b>CLT7</b>	3 component DOL Starter
<b>CLUT7</b>	3 component REV Starter
<b>Ecombo Starter with CA8</b>	
<b>CL8</b>	2 component DOL Starter
<b>CLU8</b>	2 component REV Starter

<b>Contactor Series</b>	
<b>Series CA7</b> ①	
	9(E)
	12(E)
	16(E)
	23(E)
	30(E)
	37(E)
	43(E)
<b>Series CA8</b>	
	9(C)
	12(C)

<b>Auxiliary Contact</b>	
<b>01</b>	1 NC
<b>10</b>	1 NO
<b>11</b>	1 NO + 1 NC
<b>02</b>	2 NC
<b>22</b>	2 NO + 2 NC

<b>Control Voltage*</b>	
<b>Code</b>	<b>AC Voltage</b>
<b>24Z</b>	24V 50/60Hz
<b>120</b>	110V 50Hz / 120V 60Hz
<b>220W</b>	200...220V 50Hz / 208...240V 60Hz
<b>277</b>	240V 50Hz / 277V 60Hz
<b>480</b>	440V 50Hz / 480V 60Hz
<b>600</b>	550V 50Hz / 600V 60Hz
<b>Code</b>	<b>DC Voltage</b>
<b>12D(E)</b>	12V
<b>24D(E)</b>	24V
<b>48D(E)</b>	48V
<b>110D(E)</b>	110V
<b>220D(E)</b>	220V
* Other control voltages available (E) designates Electronic DC Coils	

This illustration is for reference only.

**Section Obsolete**  
**See pages F1.40 - F1.55**

Turn to the appropriate page to determine specific catalog number

<b>Circuit Breaker Type</b>	
<b>KT..Z</b>	
<b>A...</b>	Motor Protection
<b>B...</b>	Starter Protection
<b>C...</b>	High Inrush Protection
<b>...S</b>	Standard Performance
<b>...H</b>	High Performance

<b>Adj. Range</b>	
<b>0.16A</b>	0.1...0.16A
<b>0.25A</b>	0.16...0.25A
<b>0.4A</b>	0.25...0.4A
<b>0.63A</b>	0.4...0.63A
<b>1A</b>	0.63...1.0A
<b>1.6A</b>	1.0...1.6A
<b>2.5A</b>	1.6...2.5A
<b>4A</b>	2.5...4.0A
<b>6.3A</b>	4.0...6.3A
<b>10A</b>	6.3...10A
<b>16A</b>	10...16A
<b>20A</b>	16...20A
<b>25A</b>	20...25A
<b>32A</b>	25...32A
<b>45A</b>	32...45A

<b>Auxiliaries + Trip Contacts</b>	
<b>X</b>	No auxiliary contacts
<b>Front Mounted Auxiliaries</b>	
<b>A10</b>	Aux. Contact 1 NO
<b>A01</b>	Aux. Contact 1 NC
<b>A11</b>	Aux. Contact 1 NO + 1 NC
<b>A20</b>	Aux. Contact 2 NO
<b>T10A01</b>	1 NO Short Circuit or Overload + 1 NC Aux. Contact
<b>T10A10</b>	1 NO Short Circuit or Overload + 1 NO Aux. Contact
<b>Side Mounted Auxiliaries</b>	
<b>AS11</b>	Aux. Contact 1 NO + 1 NC
<b>AS20</b>	Aux. Contact 2 NO
<b>R10</b>	1 NC Short Circuit or Overload + 1 NO Aux. Contact
<b>R11</b>	1 NC Short Circuit or Overload + 1 NC Aux. Contact

<b>Option(s)</b>
For complete listing of <b>Option Codes</b> , refer to Modifications page in this section.

① (D & E) designations indicate DC coil.

**Non-Reversing Ecombo Starters with AC Coil, Series CA8 Contactor**

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1M	~	~	~	~	CL8-09-10- <i>*</i> -AS0.16A-X
0.16...0.25	3.3	2M	~	~	~	~	CL8-09-10- <i>*</i> -AS0.25A-X
0.25...0.40	5.2	3M	~	~	~	~	CL8-09-10- <i>*</i> -AS0.4A-X
0.40...0.63	8.2	4M	~	~	~	~	CL8-09-10- <i>*</i> -AS0.63A-X
0.63...1	13	5M	~	~	~	1/2	CL8-09-10- <i>*</i> -AS1A-X
1...1.6	21	6M	~	~	1/2	3/4	CL8-09-10- <i>*</i> -AS1.6A-X
1.6...2.5	33	7M	1/2	1/2	1	1-1/2	CL8-09-10- <i>*</i> -AS2.5A-X
2.5...4	52	8M	3/4	3/4	2	3	CL8-09-10- <i>*</i> -AS4A-X
4...6.3	82	9M	1	1-1/2	3	~	CL8-09-10- <i>*</i> -AS6.3A-X
6.3...10	130	10M	2	2	5	~	CL8-09-10- <i>*</i> -AS10A-X
6.3...10	130	11M	~	3	~	~	CL8-12-10- <i>*</i> -AS10A-X
10...16	208	12M	3	~	7-1/2	~	CL8-12-10- <i>*</i> -AS16A-X



Includes:

- KTA7-25S (Standard Interrupting Capacity) Motor Controller
- CA8 Contactor
- Connecting Module (Cat.# KT7-25S-PEK12)
- Terminal Adaptor for Type F Applications (Cat.# KT7-25-TE1)
- Can mount on one DIN-rail

**Non-Reversing Ecombo Starters with DC Coil, Series CA8 Contactor**

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1M	~	~	~	~	CL8-09C-10- <i>*</i> -AS0.16A-X
0.16...0.25	3.3	2M	~	~	~	~	CL8-09C-10- <i>*</i> -AS0.25A-X
0.25...0.40	5.2	3M	~	~	~	~	CL8-09C-10- <i>*</i> -AS0.4A-X
0.40...0.63	8.2	4M	~	~	~	~	CL8-09C-10- <i>*</i> -AS0.63A-X
0.63...1	13	5M	~	~	~	1/2	CL8-09C-10- <i>*</i> -AS1A-X
1...1.6	21	6M	~	~	1/2	3/4	CL8-09C-10- <i>*</i> -AS1.6A-X
1.6...2.5	33	7M	1/2	1/2	1	1-1/2	CL8-09C-10- <i>*</i> -AS2.5A-X
2.5...4	52	8M	3/4	3/4	2	3	CL8-09C-10- <i>*</i> -AS4A-X
4...6.3	82	9M	1	1-1/2	3	~	CL8-09C-10- <i>*</i> -AS6.3A-X
6.3...10	130	10M	2	2	5	~	CL8-09C-10- <i>*</i> -AS10A-X
6.3...10	130	11M	~	3	~	~	CL8-12C-10- <i>*</i> -AS10A-X
10...16	208	12M	3	~	7-1/2	~	CL8-12C-10- <i>*</i> -AS16A-X

Section Obsolete  
See pages F1.40 - F1.55

F Ecombo Circuit Controllers

**AC Coil Codes ③**

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

**DC Coil Codes ③**

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

Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

**Ordering Instructions**

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② Does not include auxiliary contacts. See Factory Options on page F69 for additional auxiliary contact configurations.
- ③ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative if special voltages are required.
- ④ Integrated surge suppressor for coil is available. See page F69 for options.
- 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 Ecombo Starters with AC Coil, Series CA8 Contactor

Thermal Trip [A]	Magnetic Trip [A]	Index ❶	Typical Three Phase [HP]				Catalog Number ❷
			200V	230V	460V	575V	
KTA7-25S — Standard Interrupting Capacity							
0.10...0.16	2.1	1M	~	~	~	~	CLU8-09-02-*AS0.16A-X
0.16...0.25	3.3	2M	~	~	~	~	CLU8-09-02-*AS0.25A-X
0.25...0.40	5.2	3M	~	~	~	~	CLU8-09-02-*AS0.4A-X
0.40...0.63	8.2	4M	~	~	~	~	CLU8-09-02-*AS0.63A-X
0.63...1	13	5M	~	~	~	1/2	CLU8-09-02-*AS1A-X
1...1.6	21	6M	~	~	1/2	3/4	CLU8-09-02-*AS1.6A-X
1.6...2.5	33	7M	1/2	1/2	1	1-1/2	CLU8-09-02-*AS2.5A-X
2.5...4	52	8M	3/4	3/4	2	3	CLU8-09-02-*AS4A-X
4...6.3	82	9M	1	1-1/2	3	~	CLU8-09-02-*AS6.3A-X
6.3...10	130	10M	2	2	5	~	CLU8-09-02-*AS10A-X
6.3...10	130	11M	~	3	~	~	CLU8-12-02-*AS10A-X
10...16	208	12M	3	~	7-1/2	~	CLU8-12-02-*AS16A-X



Includes:

- KTA7-25S (Standard Interrupting Capacity) Motor Controller
- One Reversing CAU8 Contactor with Mechanical Interlock (CM8) Connecting Module (Cat.# KT7-25S-PEK12)
- Terminal Adaptor for Type F Applications (Cat.# KT7-25-TE1)
- Reversing Power Wiring Kit (Cat.# CAUT8-PW)
- Can mount on one DIN-rail

Reversing Ecombo Starters with DC Coil, Series CA8 Contactor

Thermal Trip [A]	Magnetic Trip [A]	Index ❶	Typical Three Phase [HP]				Catalog Number ❷
			200V	230V	460V	575V	
KTA7-25S — Standard Interrupting Capacity							
0.10...0.16	2.1	1M	~	~	~	~	CLU8-09C-02-*AS0.16A-X
0.16...0.25	3.3	2M	~	~	~	~	CLU8-09C-02-*AS0.25A-X
0.25...0.40	5.2	3M	~	~	~	~	CLU8-09C-02-*AS0.4A-X
0.40...0.63	8.2	4M	~	~	~	~	CLU8-09C-02-*AS0.63A-X
0.63...1	13	5M	~	~	~	1/2	CLU8-09C-02-*AS1A-X
1...1.6	21	6M	~	~	1/2	3/4	CLU8-09C-02-*AS1.6A-X
1.6...2.5	33	7M	1/2	1/2	1	1-1/2	CLU8-09C-02-*AS2.5A-X
2.5...4	52	8M	3/4	3/4	2	3	CLU8-09C-02-*AS4A-X
4...6.3	82	9M	1	1-1/2	3	~	CLU8-09C-02-*AS6.3A-X
6.3...10	130	10M	2	2	5	~	CLU8-09C-02-*AS10A-X
6.3...10	130	11M	~	3	~	~	CLU8-12C-02-*AS10A-X
10...16	208	12M	3	~	7-1/2	~	CLU8-12C-02-*AS16A-X

Section Obsolete  
See pages F1.40 - F1.55

AC Coil Codes ❸

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

DC Coil Codes ❸

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

Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- ❶ KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ❷ Does not include auxiliary contacts. See Factory Options on page F69 for additional auxiliary contact configurations.
- ❸ The coil codes shown are the most commonly stocked items. Contact your Sprecher + Schuh representative if special voltages are required.
- ❹ Integrated surge suppressor for coil is available. See page F69 for options.
- ❺ The European Community has agreed that 400V is the nominal voltage in lieu of 380V. Use this code when 380V is required.
- ❻ Use this code for 575V applications.

F Ecombo Circuit Controllers

**Non-Reversing Ecombo Starters with AC Coil, Series CA7 Contactor ③**

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②⑥
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CL7-9-10-*-AS0.16A-A10
0.16...0.25	3.3	2	~	~	~	~	CL7-9-10-*-AS0.25A-A10
0.25...0.40	5.2	3	~	~	~	~	CL7-9-10-*-AS0.4A-A10
0.40...0.63	8.2	4	~	~	~	~	CL7-9-10-*-AS0.63A-A10
0.63...1	13	5	~	~	~	1/2	CL7-9-10-*-AS1A-A10
1...1.6	21	6	~	~	1/2	3/4	CL7-9-10-*-AS1.6A-A10
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CL7-9-10-*-AS2.5A-A10
2.5...4	52	8	3/4	3/4	2	3	CL7-9-10-*-AS4A-A10
4...6.3	82	9	1	1-1/2	3	5	CL7-9-10-*-AS6.3A-A10 ⑤
6.3...10	130	11	2	3	5	7-1/2 ⑤	CL7-12-10-*-AS10A-A10 ⑤
10...16	208	12	3	5	10	10 ⑤	CL7-16-10-*-AS16A-A10 ⑤
14.5...20	260	15	5	5	10	15 ⑤	CL7-23-10-*-AS20A-A10 ⑤
18.5...25	325	16	5 ⑤	7-1/2 ⑤	15 ⑤	20 ⑤	CL7-23-10-*-AS25A-A10 ⑤
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CL7-9-10-*-AH2.5A-A10
2.5...4	52	19	3/4	3/4	2	3	CL7-9-10-*-AH4A-A10
4...6.3	82	22	1	1-1/2	3	5	CL7-9-10-*-AH6.3A-A10
6.3...10	130	24	2	3	5	7-1/2	CL7-12-10-*-AH10A-A10
10...16	208	28	3	5	10	10	CL7-16-10-*-AH16A-A10
14.5...20	260	31	5	5	10	15 ⑤	CL7-23-10-*-AH20A-A10 ⑤
18...25	325	33	5	7-1/2	15	20 ⑤	CL7-23-10-*-AH25A-A10 ⑤
<b>KTA7-45H — High Interrupting Capacity ④</b>							
6.3...10	130	36	2	3	5	7-1/2	CL7-30-10-*-AH10A-A10-W
10...16	208	37	3	5	10	10	CL7-30-10-*-AH16A-A10-W
14.5...20	260	38	5	5	15	15	CL7-30-10-*-AH20A-A10-W
18...25	325	39	7-1/2	10	15	20	CL7-30-10-*-AH25A-A10-W
23...32	416	41	7-1/2	10	20	25	CL7-30-10-*-AH32A-A10-W
32...45	585	45	10	10	25	30	CL7-37-10-*-AH45A-A10-W
32...45	585	46	10	15	25	30	CL7-43-11-*-AH45A-A10-W ④



CL7-16-10-AS16A-A10

*Includes:*

- KT7 Motor Controller with 1 NO Auxiliary Contact
- CA7 Contactor (AC)
- Connecting Module (Cat.# KT7-25[S or H]-PEC23)
- Terminal Adaptor for Type E/F Applications
- Can mount on one DIN-rail

*Optional: ③*

- Type W Mounting Module is optional on 25S & 25H. Type W Module is standard on 45H models. See modifications on page F69.



Section Obsolete  
See pages F1.40 - F1.55

For applications above 45 amps please consider a type combination starters on page C59.

**Coil Codes (\*) ②**

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
277	240V	277V
415	400-415V	~
480 ⑥	440V	480V
600 ⑥	550V	600V

**Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.**

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

**Ordering Instructions**

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② Other voltages available, see Section A in this catalog.
- ③ CL7-30...43 with KTA7-45H include Type W Mounting Modules for 35mm or 70mm DIN rail or Panel Mounting as necessary from page F17. To add Type W Mounting Modules for 25S or 25H models add -W to end of catalog number. See page F69 for modifications.
- ④ CL7-43 supplied with (1) NO and (1) NC front mount auxiliary.
- ⑤ Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.
- ⑥ Suffix -A10 uses front-mount KT7-PE1-10 300 VAC maximum control circuit. For control circuits greater than 300 VAC use side-mount KT7-PA1-11 and change suffix -A10 to -AS11 (example CL7-9-10-\*-AS0.16A-AS11) See options on page F69.

**Non-Reversing Ecombo Starters with Electronic DC Coil, Series CA7 Contactor** ③

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CL7-9E-10- <i>*</i> -AS0.16A-A10
0.16...0.25	3.3	2	~	~	~	~	CL7-9E-10- <i>*</i> -AS0.25A-A10
0.25...0.40	5.2	3	~	~	~	~	CL7-9E-10- <i>*</i> -AS0.4A-A10
0.40...0.63	8.2	4	~	~	~	~	CL7-9E-10- <i>*</i> -AS0.63A-A10
0.63...1	13	5	~	~	~	1/2	CL7-9E-10- <i>*</i> -AS1A-A10
1...1.6	21	6	~	~	1/2	3/4	CL7-9E-10- <i>*</i> -AS1.6A-A10
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CL7-9E-10- <i>*</i> -AS2.5A-A10
2.5...4	52	8	3/4	3/4	2	3	CL7-9E-10- <i>*</i> -AS4A-A10
4...6.3	82	9	1	1-1/2	3	5 ⑥	CL7-9E-10- <i>*</i> -AS6.3A-A10 ③
6.3...10	130	11	2	3	5	7-1/2 ⑥	CL7-12E-10- <i>*</i> -AS10A-A10 ③
10...16	208	12	3	5	10	10 ⑥	CL7-16E-10- <i>*</i> -AS16A-A10 ③
14.5...20	260	15	5	5	10	15 ⑥	CL7-23E-10- <i>*</i> -AS20A-A10 ③
18.5...25	325	16	5 ⑥	7-1/2 ⑥	15 ⑥	20 ⑥	CL7-23E-10- <i>*</i> -AS25A-A10 ③
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CL7-9E-10- <i>*</i> -AH2.5A-A10
2.5...4	52	19	3/4	3/4	2	3	CL7-9E-10- <i>*</i> -AH4A-A10
4...6.3	82	22	1	1-1/2	3	5	CL7-9E-10- <i>*</i> -AH6A-A10
6.3...10	130	24	2	3	5	7-1/2	CL7-12E-10- <i>*</i> -AH10A-A10
10...16	208	28	3	5	10	10	CL7-16E-10- <i>*</i> -AH16A-A10
14.5...20	260	31	5	5	10	15 ⑥	CL7-23E-10- <i>*</i> -AH20A-A10
18...25	325	33	5	7-1/2	15	20 ⑥	CL7-23E-10- <i>*</i> -AH25A-A10 ③
<b>KTA7-45H — High Interrupting Capacity ④</b>							
6.3...10	130	36	3	3	5	7-1/2	CL7-30E-10- <i>*</i> -AH10A-A10-W
10...16	208	38	3	5	10	10	CL7-30E-10- <i>*</i> -AH16A-A10-W
14.5...20	260	38	5	5	10	15	CL7-30E-10- <i>*</i> -AH20A-A10-W
18...25	325	39	7-1/2	7-1/2	15	20	CL7-30E-10- <i>*</i> -AH25A-A10-W
23...32	416	41	7-1/2	10	20	25	CL7-30E-10- <i>*</i> -AH32A-A10-W
32...45	585	44	10	10	25	30	CL7-37E-10- <i>*</i> -AH45A-A10-W
32...45	585	46	10	15	30	30	CL7-43E-11- <i>*</i> -AH45A-A10-W ⑤

For applications above 45 amps please consider open type combination starters on page C59



CL7-23E-10-24E-AS25A-A10

Includes:

- KT7 Motor Controller with 1 NO Auxiliary Contact
- CA7-9E...43E Contactor
- Connecting Module (Cat.# KT7-25[S or H]-PEC23)
- Terminal Adaptor for Type E/F Applications
- Can mount on one DIN-rail

Optional: ③

- Type W Mounting Module is optional on 25S & 25H. Type W Module is standard on 45H models. See modifications on page F69.

Section Obsolete  
See pages F1.40 - F1.55

**Coil Codes** ②

DC Coil Codes	Voltage
12E	12V
24E	24V
36E	36-48V
48E	48-72V
110E	110-125V
220E	220-250V

**Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.**

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

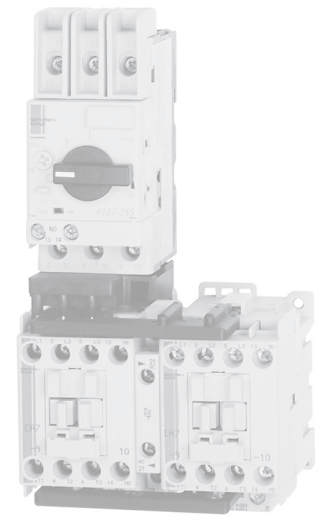
**Ordering Instructions**

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② CL7-9E...43E with electronic coils are not interchangeable with non-electronic DC or AC coils.
- ③ See Section A for limitations on adding auxiliaries to Electronic DC Coil contacts.
- ④ CL7-30E...43E with KTA7-45H include Type W Mounting Modules for 35mm or 70mm DIN rail or Panel Mounting as necessary from page F17. To add Type W Mounting Modules for 25S or 25H models add -W to end of catalog number. See page F69 for modifications.
- ⑤ CL7-43E supplied with (1) NO and (1) NC front mount auxiliary.
- ⑥ Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.

Reversing Ecombo Starters with AC Coil, Series CA7 Contactor ③

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②⑥
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CLU7-9-22-*AS0.16A-A10
0.16...0.25	3.3	2	~	~	~	~	CLU7-9-22-*AS0.25A-A10
0.25...0.40	5.2	3	~	~	~	~	CLU7-9-22-*AS0.4A-A10
0.40...0.63	8.2	4	~	~	~	~	CLU7-9-22-*AS0.63A-A10
0.63...1	13	5	~	~	~	1/2	CLU7-9-22-*AS1A-A10
1...1.6	21	6	~	~	1/2	3/4	CLU7-9-22-*AS1.6A-A10
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CLU7-9-22-*AS2.5A-A10
2.5...4	52	8	3/4	3/4	2	3	CLU7-9-22-*AS4A-A10
4...6.3	82	9	1	1-1/2	3	5 ⑤	CLU7-9-22-*AS6.3A-A10 ⑤
6.3...10	130	11	2	3	5	7-1/2 ⑤	CLU7-12-22-*AS10A-A10 ⑤
10...16	208	12	3	5	10	10 ⑤	CLU7-16-22-*AS16A-A10 ⑤
14.5...20	260	15	5	5	10	15 ⑤	CLU7-23-22-*AS20A-A10 ⑤
18.5...25	325	16	5 ⑤	7-1/2 ⑤	15 ⑤	20 ⑤	CLU7-23-22-*AS25A-A10 ⑤
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CLU7-9-22-*AH2.5A-A10
2.5...4	52	19	3/4	3/4	2	3	CLU7-9-22-*AH4A-A10
4...6.3	82	22	1	1-1/2	3	5	CLU7-9-22-*AH6.3A-A10
6.3...10	130	24	2	3	5	7-1/2	CLU7-12-22-*AH10A-A10
10...16	208	28	3	5	10	10	CLU7-16-22-*AH16A-A10
14.5...20	260	31	5	5	10	15 ⑤	CLU7-23-22-*AH20A-A10 ⑤
18...25	325	33	5	7-1/2	15	20 ⑤	CLU7-23-22-*AH25A-A10 ⑤
<b>KTA7-45H — High Interrupting Capacity</b>							
6.3...10	130	36	2	3	5	7-1/2	CLU7-30-22-*AH10A-A10-W
10...16	208	37	3	5	10	10	CLU7-30-22-*AH16A-A10-W
14.5...20	260	38	5	5	10	15	CLU7-30-22-*AH20A-A10-W
18...25	325	39	7-1/2	10	15	20	CLU7-30-22-*AH25A-A10-W
23...32	416	41	7-1/2	10	20	25	CLU7-30-22-*AH32A-A10-W
32...45	585	45	10	10	25	30	CLU7-37-22-*AH45A-A10-W
32...45	585	46	10	15	30	30	CLU7-43-22-*AH45A-A10-W ④



CLU7-9-22-120-AS25A-A10

Includes:

- KT7 Motor Controller with 1 NO Auxiliary Contact
- Two CA7 Contactors (AC)
- Connecting Module (Cat.# K17-25[S or H]-PEC23)
- Terminal Adaptor for Type E/F Applications
- Reversing Power Wiring Kit (Cat.# CAUT7-PW23)
- Electrical / Mechanical Interlock
- Can mount on one DIN-rail

Optional: ③

- Type W Mounting Module is optional on 25S & 25H. Type W Module is standard on 45H models. See modifications on page F69.

Section Obsolete  
See pages F140 - F155

Coil Codes (\*) ②

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
277	240V	277V
415	400-415V	~
480 ⑤	440V	480V
600 ⑤	550V	600V

Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

Ordering Instructions

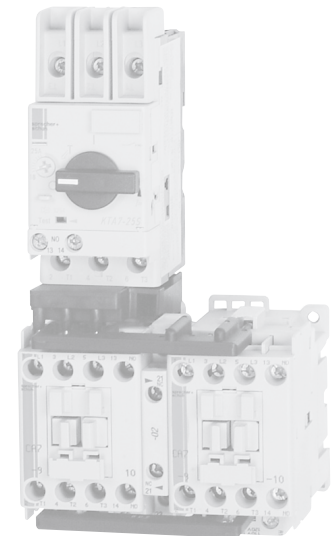
Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② Other voltages available, see Section A in this catalog.
- ③ CLU7-30...43 with KTA7-45H include Type W Mounting Modules for 35mm or 70mm DIN rail or Panel Mounting as necessary from page F17 To add Type W Mounting Modules for 25S or 25H models add -W to end of catalog number. See page F69 for modifications.
- ④ CLU7-43 supplied with (1) NO and (1) NC front mount auxiliary per contactor.
- ⑤ Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.
- ⑥ Suffix -A10 uses front-mount KT7-PE1-10 300 VAC maximum control circuit. For control circuits greater than 300 VAC use side-mount KT7-PA1-11 and change suffix -A10 to -AS11 (example CLU7-9-22-\*AS0.16A-AS11) See options on page F69.

F Ecombo Circuit Controllers

Reversing Ecombo Starters with Electronic DC Coil, Series CA7 Contactor ③

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CLU7-9E-22-*AS0.16A-A10
0.16...0.25	3.3	2	~	~	~	~	CLU7-9E-22-*AS0.25A-A10
0.25...0.40	5.2	3	~	~	~	~	CLU7-9E-22-*AS0.4A-A10
0.40...0.63	8.2	4	~	~	~	~	CLU7-9E-22-*AS0.63A-A10
0.63...1	13	5	~	~	~	1/2	CLU7-9E-22-*AS1A-A10
1...1.6	21	6	~	~	1/2	3/4	CLU7-9E-22-*AS1.6A-A10
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CLU7-9E-22-*AS2.5A-A10
2.5...4	52	8	3/4	3/4	2	3	CLU7-9E-22-*AS4A-A10
4...6.3	82	9	1	1-1/2	3	5	CLU7-9E-22-*AS6.3A-A10 ⑥
6.3...10	130	11	2	3	5	7-1/2	CLU7-12E-22-*AS10A-A10 ⑥
10...16	208	12	3	5	10	10	CLU7-16E-22-*AS16A-A10 ⑥
14.5...20	260	15	5	5	10	15	CLU7-23E-22-*AS20A-A10 ⑥
18.5...25	325	16	5	7-1/2	15	20	CLU7-23E-22-*AS25A-A10 ⑥
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CLU7-9E-22-*AH2.5A-A10
2.5...4	52	19	3/4	3/4	2	3	CLU7-9E-22-*AH4A-A10
4...6.3	82	22	1	1-1/2	3	5	CLU7-9E-22-*AH3A-A10
6.3...10	130	24	2	3	5	7-1/2	CLU7-12E-22-*AH4A-A10
10...16	208	28	3	5	10	10	CLU7-16E-22-*AH16A-A10
14.5...20	260	31	5	5	10	15	CLU7-23E-22-*AH20A-A10 ⑥
18...25	325	33	5	7-1/2	15	20	CLU7-23E-22-*AH25A-A10 ⑥
<b>KTA7-45H — High Interrupting Capacity ④</b>							
6.3...10	130	34	1	1-1/2	3	5	CLU7-30E-22-*AH10A-A10-W
10...16	208	37	1	1-1/2	3	5	CLU7-30E-22-*AH16A-A10-W
14.5...20	260	38	1	1-1/2	3	5	CLU7-30E-22-*AH20A-A10-W
18...25	325	39	7-1/2	7-1/2	15	20	CLU7-30E-22-*AH25A-A10-W
23...32	416	41	7-1/2	7-1/2	15	25	CLU7-30E-22-*AH32A-A10-W
32...45	585	45	10	10	25	30	CLU7-37E-22-*AH45A-A10-W
32...45	585	45	10	15	30	30	CLU7-43E-22-*AH45A-A10-W ⑤



CLU7-9E-22-24E-AS25A-A10

Includes:

- KT7 Motor Controller with 1 NO Auxiliary Contact
- 1 CA7-9E...43E Contactors
- Connecting Module (Cat.# KT7-25[S or H]-PEC23)
- Terminal Adaptor for Type E/F Applications
- Reversing Power Wiring Kit (Cat.# CAUT7-PW23)
- Electrical / Mechanical Interlock
- Can mount on one DIN-rail

Optional: ③

- Type W Mounting Module is optional on 25S & 25H. Type W Module is standard on 45H models. See modifications on page F69.

Section Obsolete  
See pages F1.40 - F1.55

Coil Codes ②

DC Coil Codes	Voltage
12E	12V
24E	24V
36E	36-48V
48E	48-72V
110E	110-125V
220E	220-250V

Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② CLU7-9E...43E with electronic coils are not interchangeable with non-electronic DC or AC coils.
- ③ See Section A for limitations on adding auxiliaries to Electronic DC Coil contacts.
- ④ CLU7-30E...43E with KTA7-45H include Type W Mounting Modules for 35mm or 70mm DIN rail or Panel Mounting as necessary from page F17 To add Type W Mounting Modules for 25S or 25H models add -W to end of catalog number. See page F69 for modifications.
- ⑤ CLU7-43E supplied with (1) NO and (1) NC front mount auxiliary per contactor.
- ⑥ Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.



Non-Reversing EcomboPlus Starters with AC Coil, Series CA7 Contactors

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②⑥
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CK7-9-10-*AS0.16A-A11
0.16...0.25	3.3	2	~	~	~	~	CK7-9-10-*AS0.25A-A11
0.25...0.40	5.2	3	~	~	~	~	CK7-9-10-*AS0.4A-A11
0.40...0.63	8.2	4	~	~	~	~	CK7-9-10-*AS0.63A-A11
0.63...1	13	5	~	~	~	1/2	CK7-9-10-*AS1A-A11
1...1.6	21	6	~	~	1/2	3/4	CK7-9-10-*AS1.6A-A11
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CK7-9-10-*AS2.5A-A11
2.5...4	52	8	3/4	3/4	2	3	CK7-9-10-*AS4A-A11
4...6.3	82	9	1	1-1/2	3	5 ⑤	CK7-9-10-*AS6.3A-A11 ⑤
6.3...10	130	11	2	3	5	7-1/2 ⑤	CK7-12-10-*AS10A-A11 ⑤
10...16	208	12	3	5	10	10 ⑤	CK7-16-10-*AS16A-A11 ⑤
14.5...20	260	15	5	5	10	15 ⑤	CK7-23-10-*AS20A-A11 ⑤
18.5...25	325	16	5 ⑤	7-1/2 ⑤	15 ⑤	20 ⑤	CK7-23-10-*AS25A-A11 ⑤
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CK7-9-10-*AH2.5A-A11
2.5...4	52	19	3/4	3/4	2	3	CK7-9-10-*AH4A-A11
4...6.3	82	22	1	1-1/2	3	5	CK7-9-10-*AH6.3A-A11
6.3...10	130	24	2	3	5	7-1/2	CK7-12-10-*AH10A-A11
10...16	208	28	3	5	10	10	CK7-16-10-*AH16A-A11
14.5...20	260	31	5	5	10	15 ⑤	CK7-23-10-*AH20A-A11 ⑤
18...25	325	33	5	7-1/2	15	20	CK7-23-10-*AH25A-A11
<b>KTA7-45H — Higher Interrupting Capacity</b>							
6.3...10	130	36	2	3	5	7-1/2	CK7-12-10-*AH10A-A11
10...16	208	37	3	5	10	10	CK7-16-10-*AH16A-A11
14.5...20	260	38	5	5	10	15 ⑤	CK7-23-10-*AH20A-A11
18...25	325	39	7-1/2	7-1/2	15	20	CK7-30-11-*AH25A-A11
23...32	416	41	7-1/2	10	15	20	CK7-30-11-*AH32A-A11
32...45	585	45	10	10	25	30	CK7-37-11-*AH45A-A11
32...45	585	46	10	15	30	30	CK7-43-11-*AH45A-A11



**Description ③**  
 The EcomboPlus starter is a factory assembly consisting of a KT7 contactor with 1 NO - 1 NC auxiliary and a CA7 contactor housed in a specially designed frame. All control wiring is pre-wired and brought out to a built-in terminal block, integral to the mounting frame. Terminal Adaptor (Cat.# KT7-25-TE1 or KT7-45-TE) is also included for Type E applications.

Section Obsolete  
See pages F1.40 - F1.55

For applications above 45 amps please consider open type combination starters on page C59.

**Coil Codes (\*) ④⑥**

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200V-220V	208V-240V
277	240V	277V

**Horsepower ratings shown in the tables are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.**

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② See Factory Options on page F69 for additional auxiliary contact configurations.
  - KT7 supplied with (1) NO and (1) NC auxiliary contact
  - CK7-9...23 supplied with (1) NO auxiliary contact
  - CK7-30...37 supplied with (1) NO and (1) NC side mount auxiliary contact
  - CK7-43 supplied with (1) NO and (1) NC front mount auxiliary contact
- ③ Mounting Options:
  - Screw Fixing
  - Snap Fixing on (1) or (2) 35 mm DIN Rails
  - Snap Fixing on (1) 75 mm DIN Rail
- ④ Other voltages available, see Section A in this catalog.
- ⑤ Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.
- ⑥ Suffix -A11 uses front-mount KT7-PE1-11 300 VAC maximum control circuit. This assembly is not applicable with control circuits greater than 300 VAC.

**Ordering Instructions**

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

Non-Reversing EcomboPlus Starters with Electronic DC Coil, Series CA7 Contactors ④⑤

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CK7-9E-10-*AS0.16A-A11
0.16...0.25	3.3	2	~	~	~	~	CK7-9E-10-*AS0.25A-A11
0.25...0.40	5.2	3	~	~	~	~	CK7-9E-10-*AS0.4A-A11
0.40...0.63	8.2	4	~	~	~	~	CK7-9E-10-*AS0.63A-A11
0.63...1	13	5	~	~	~	1/2	CK7-9E-10-*AS1A-A11
1...1.6	21	6	~	~	1/2	3/4	CK7-9E-10-*AS1.6A-A11
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CK7-9E-10-*AS2.5A-A11
2.5...4	52	8	3/4	3/4	2	3	CK7-9E-10-*AS4A-A11
4...6.3	82	9	1	1-1/2	3	5 ⑥	CK7-9E-10-*AS6.3A-A11 ⑥
6.3...10	130	11	2	3	5	7-1/2 ⑥	CK7-12E-10-*AS10A-A11 ⑥
10...16	208	12	3	5	10	10 ⑥	CK7-16E-10-*AS16A-A11 ⑥
14.5...20	260	15	5	5	10	15 ⑥	CK7-23E-10-*AS20A-A11 ⑥
18.5...25	325	16	5 ⑥	7-1/2 ⑥	15 ⑥	20 ⑥	CK7-23E-10-*AS25A-A11 ⑥
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CK7-9E-10-*AH2.5A-A11
2.5...4	52	19	3/4	3/4	2	3	CK7-9E-10-*AH4A-A11
4...6.3	82	22	1	1-1/2	3	5	CK7-9E-10-*AH6.3A-A11
6.3...10	130	24	2	3	5	7-1/2	CK7-12E-10-*AH10A-A11
10...16	208	28	3	5	10	10	CK7-16E-10-*AH16A-A11
14.5...20	260	31	5	5	10	15 ⑥	CK7-23E-10-*AH20A-A11 ⑥
18...25	325	33	5 ⑥	7-1/2 ⑥	15 ⑥	20 ⑥	CK7-23E-10-*AH25A-A11 ⑥
<b>KTA7-30E-11 — High Interrupting Capacity</b>							
6.3...10	130	34	2	3	5	10	CK7-30E-11-*AH10A-A11
10...16	208	37	3	5	10	10	CK7-30E-11-*AH16A-A11
14.5...20	260	38	5	5	10	15	CK7-30E-11-*AH20A-A11
18...25	325	39	7-1/2	10	15	20	CK7-30E-11-*AH25A-A11
23...32	416	41	10	15	20	25	CK7-30E-11-*AH32A-A11
32...45	585	42	15	20	25	30	CK7-37E-11-*AH45A-A11
32...45	585	43	10	15	30	30	CK7-43E-11-*AH45A-A11



**Description ③**

- The EcomboPlus starter is a factory assembly consisting of a KT7 controller with 1 NO and 1 NC auxiliary and a CA7-9E...43E contactor housed in a specially designed frame. All control wiring is pre-wired and brought out to a built-in terminal block, integral to the mounting frame. Terminal Adaptor (Cat.# KT7-25-TE1 or KT7-45-TE) is also included for Type E applications.

Section Obsolete  
See pages F1.40 - F1.55

For applications above 45 amp, please consider open type combination starters on page C59.

**Coil Codes ④**

DC Coil Codes	Voltage
12E	12V
24E	24V
36E	36-48V
48E	48-72V
110E	110-125V
220E	220-250V

Horsepower ratings shown in the tables are for reference only. **The final selection of the controller depends on the actual motor full load current and service factor.**

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the appropriate current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0. - 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-25S-4A.

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② See Factory Options on page F69 for additional auxiliary contact configurations.
  - CK7 supplied with (1) NO and (1) NC auxiliary contact
  - CK7-9...23E supplied with (1) NO auxiliary contact
  - CK7-30...37E supplied with (1) NO and (1) NC side mount auxiliary contact
  - CK7-43E supplied with (1) NO and (1) NC front mount auxiliary contact

- ③ Mounting Options:
  - Screw Fixing
  - Snap Fixing on (1) or (2) 35 mm DIN Rails
  - Snap Fixing on (1) 75 mm DIN Rail

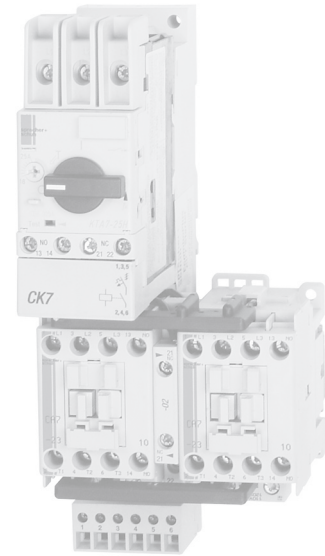
- ④ CK7-9E...43E with electronic coils are not interchangeable with non-electronic DC or AC coils.
- ⑤ See pages A47 for limitations on adding auxiliaries to Electronic DC Coil contactors.
- ⑥ Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.

**Ordering Instructions**

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

Reversing EcomboPlus Starters with AC Coil, Series CA7 Contactors

Thermal Trip [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②⑥
			200V	230V	460V	575V	
<b>KTA7-25S — Standard Interrupting Capacity</b>							
0.10...0.16	2.1	1	~	~	~	~	CKU7-9-22-*AS0.16A-A11
0.16...0.25	3.3	2	~	~	~	~	CKU7-9-22-*AS0.25A-A11
0.25...0.40	5.2	3	~	~	~	~	CKU7-9-22-*AS0.4A-A11
0.40...0.63	8.2	4	~	~	~	~	CKU7-9-22-*AS0.63A-A11
0.63...1	13	5	~	~	~	1/2	CKU7-9-22-*AS1A-A11
1...1.6	21	6	~	~	1/2	3/4	CKU7-9-22-*AS1.6A-A11
1.6...2.5	33	7	1/2	1/2	1	1-1/2	CKU7-9-22-*AS2.5A-A11
2.5...4	52	8	3/4	3/4	2	3	CKU7-9-22-*AS4A-A11
4...6.3	82	9	1	1-1/2	3	5 ⑤	CKU7-9-22-*AS6.3A-A11 ⑤
6.3...10	130	11	2	3	5	7-1/2 ⑤	CKU7-12-22-*AS10A-A11 ⑤
10...16	208	12	3	5	10	10 ⑤	CKU7-16-22-*AS16A-A11 ⑤
14.5...20	260	15	5	5	10	15 ⑤	CKU7-23-22-*AS20A-A11 ⑤
18.5...25	325	16	5 ⑤	7-1/2 ⑤	15 ⑤	20 ⑤	CKU7-23-22-*AS25A-A11 ⑤
<b>KTA7-25H — High Interrupting Capacity</b>							
1.6...2.5	33	17	1/2	1/2	1	1-1/2	CKU7-9-22-*AH2.5A-A11
2.5...4	52	19	3/4	3/4	2	3	CKU7-9-22-*AH4A-A11
4...6.3	82	22	1	1-1/2	3	5	CKU7-9-22-*AH6.3A-A11
6.3...10	130	24	2	3	5	7-1/2	CKU7-12-22-*AH10A-A11
10...16	208	28	3	5	10	10	CKU7-16-22-*AH16A-A11
14.5...20	260	31	5	5	10	15 ⑤	CKU7-23-22-*AH20A-A11 ⑤
18...25	325	33	5	7-1/2	15	20	CKU7-23-22-*AH25A-A11



Description ③

The EcomboPlus Reversing starter is a factory assembly consisting of a KT contactor with 1 NO - 1 NC auxiliary and reversing CA7 contactors housed in a specially designed frame. All control wiring is pre-wired and brought out to a built-in terminal block, integral to the mounting frame. A Reversing Power Wiring Kit (Cat.# CAUT7-PW23) is used to wire the reversing contactors. An electrical and mechanical interlock is also provided (Cat.# CM7-02), as well as a Terminal Adaptor (Cat.# KT7-25-TE1) for Type E applications.

Horsepower ratings shown in the table are for reference only. The final selection of the controller depends on the actual motor full load current and service factor.

- For motor with service factor less than 1.15. Use motor nameplate full load current times 0.9 and choose the motor starter with the 0.9hp current range. Example: Motor F.L.C. = 4.2A; S.F. = 1.0; 4.2A x 0.9 = 3.78A. Select Catalog Number KTA7-5S-4.

Coil Codes (\*) ④⑥

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200V-220V	208V-240V
277	240V	277V

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

- KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- See Factory Options on page F69 for additional auxiliary contact configurations.
  - KT7 supplied with (1) NO and (1) NC auxiliary contact
  - CKU7 supplied with (2) NO auxiliary contact
  - CM7-02 interlock supplied with (2) NC auxiliary contacts
- Mounting Options:
  - Screw Fixing
  - Snap Fixing on (1) or (2) 35 mm DIN Rails
  - Snap Fixing on (1) 75 mm DIN Rail
- Other voltages available, see Section A in this catalog.
- Catalog numbers and/or specific voltages (i.e. @ 575V) shaded in gray are suitable for Group Installation, per NEC 430-53C, because they are not Type E/F rated. See page F73 for ratings.
- Suffix -A11 uses front-mount KT7-PE1-11 300 VAC maximum control circuit. This assembly is not applicable with control circuits greater than 300 VAC.

Section Obsolete  
See pages F1.40 - F1.55

**CL8 and CL7 Modifications ④⑤**

Modification	Change Last Digit in Catalog Number to: ①
<b>KT7 Auxiliary (Front Mount 300VAC max.) and Trip Contacts</b>	
Auxiliary Contact 1 NO (CL8 only)	<b>A10</b>
Auxiliary Contact 1 NC	<b>A01</b>
Auxiliary Contact 1 NO + 1 NC	<b>A11</b>
Auxiliary Contact 2 NO	<b>A20</b>
1 NO SC or OL + 1 NC Auxiliary Contact	<b>T10A01</b>
1 NO SC or OL + 1 NO Auxiliary Contact	<b>T10A10</b>
<b>KT7 Auxiliary (Side Mount 600VAC max.) and Trip Contacts</b>	
Auxiliary Contact 1 NO + 1 NC	<b>AS11</b>
Auxiliary Contact 2 NO	<b>AS20</b>
1 NC SC or OL + 1 NO Auxiliary Contact	<b>R10</b>
1 NO SC or OL + 1 NC Auxiliary Contact	<b>R11</b>

**CL8 and CL7 Additions ④⑤**

Add desired suffix AFTER auxiliary contact option code.

Addition	Add Suffix to Catalog Number:
<b>Accessories</b>	
Electronic Interfaces (CA7)	<b>-JE</b> ③
Surge Suppressor RC (CA7, CA8)	<b>-R</b>
Surge Suppressor Varistor (CA7, CA8)	<b>-V</b>
Surge Suppressor Diode (CA7, CA8)	<b>-D</b>
Lockable Twist Knob (KT7) - Black	<b>-KN</b>
Lockable Twist Knob (KT7) - Red/Yellow	<b>-KRY</b>
Type W Mounting Module for CL7...23 includes 45mm short module (W-3248) ②	<b>-W</b>
Type W Mounting Module for CLU7...23 includes 45mm (W-32849) and 54mm (W-32490) short module ②	<b>-W</b>
<b>Additional CA7 Contactor Auxiliaries (Side Mount)</b>	
1 NC	<b>-S01</b>
1 NO	<b>-S10</b>
1 NO + 1 NC	<b>-S11</b>
2 NO	<b>-S20</b>
<b>Additional CA7 &amp; CA8 Contactor Auxiliaries (Front Mount)</b>	
1 NO + 1 NC	<b>-F11</b>
2 NO	<b>-F20</b>
2 NO + 2 NC	<b>-F22</b>
<b>Additional KT7 Auxiliaries (Side Mount) ⑤</b>	
2 NC	<b>-AS02</b>
2 NO	<b>-AS20</b>
1 NO + 1 NC	<b>-AS11</b>
<b>Additional KT7 Trip Contacts (Side Mount) ⑤</b>	
1 NO SC or OL + 1 NO SC	<b>-R00</b>
1 NO SC or OL + 1 NC SC	<b>-R01</b>
1 NC SC or OL + 1 NO SC	<b>-R10</b>
1 NC SC or OL + 1 NC SC	<b>-R11</b>
1 NO SC + 1 NC SC	<b>-M11</b>

- ① For CL8, change last digit "X" to one of the modifications listed. Example: CL8-09-10-**\***-AS0.16A-**X** changes to CL8-09-10-**\***-AS0.16A-**A10**. For CL7, change last digits "A10" to one of the modifications listed. Example: CL7-9-10-**\***-AS0.16A-**A10** changes to CL7-9-10-**\***-AS0.16A-**A01**.
- ② CL7/CLU7-30...43 include all Type W Mounting Modules necessary from page F17.

**CK7 Modifications ⑤**

Modification	Change Last Digits (A11) in Catalog Number to: ①
<b>CK7 Auxiliary (Front Mount 300VAC max.) and Trip Contacts</b>	
Auxiliary Contact 2 NO	<b>A20</b>
1 NO SC or OL + 1 NC Auxiliary Contact	<b>T10A01</b>
1 NO SC or OL + 1 NO Auxiliary Contact	<b>T10A10</b>

**CK7 Additions ④⑤**

Add desired suffix AFTER auxiliary contact option code.

Addition	Add Suffix to Catalog Number:
<b>Accessories</b>	
Electronic Interfaces (CA7)	<b>-JE</b>
Surge Suppressor RC (CA7)	<b>-R</b>
Surge Suppressor Varistor (CA7)	<b>-V</b>
Surge Suppressor Diode (CA7)	<b>-D</b>
Socket and Plug for Control Circuit	<b>-SP</b>
Lockable Twist Knob (KT7) - Black	<b>-KN</b>
Lockable Twist Knob (KT7) - Red/Yellow	<b>-KRY</b>
<b>Additional Contactor Auxiliaries (Side Mount)</b>	
1 NC	<b>-S01</b>
1 NO	<b>-S10</b>
1 NO + 1 NC	<b>-S11</b>
2 NO	<b>-S20</b>
<b>Additional CA7 Auxiliaries (Side Mount) ⑤</b>	
2 NC	<b>-AS02</b>
2 NO	<b>-AS20</b>
1 NO + 1 NC	<b>-AS11</b>
<b>Additional KT7 Trip Contacts (Side Mount) ⑤</b>	
1 NO SC or OL + 1 NO SC	<b>-R00</b>
1 NO SC or OL + 1 NC SC	<b>-R01</b>
1 NC SC or OL + 1 NO SC	<b>-R10</b>
1 NC SC or OL + 1 NC SC	<b>-R11</b>
1 NO SC + 1 NC SC	<b>-M11</b>

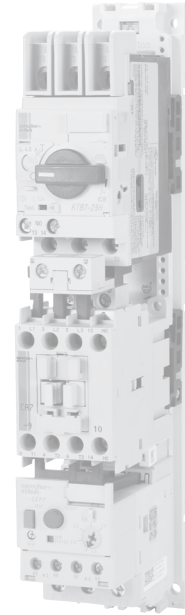
- ③ CRI7E-24 will be used. CRI7E-12 by special order only.
- ④ See pages A47 for limitations on adding auxiliaries to Electronic DC Coil contactors.
- ⑤ Front Mount Auxiliary contacts have a maximum rating of 300VAC. Side Mounted Auxiliaries have a maximum rating of 600VAC where there would be no connection to the terminal block provided.

**F**  
ECombo Circuit Controllers

Section Obsolete  
See pages F1.40 - F1.55

**Non-Reversing 3-Component Ecombo Starters with AC Coil ③⑤**

Rated Oper. Current [A] ⑥	Overload Adj. Range [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP] ⑥				Catalog Number ②④⑦
				200V	230V	460V	575V	
<b>KTB7-25S — Standard Interrupting Capacity</b>								
0.40	0.1...0.5	5.2	3B	~	~	~	~	CLT7-9-*B2S0.4-A10-D1AB
0.40	0.1...0.5	5.2	3B	~	~	~	~	CLT7-9-*B2S0.4-A10-EAB
1.0	0.2...1.0	13	5B	~	~	~	1/2	CLT7-9-*B2S1-A10-D1BB
1.0	0.2...1.0	13	5B	~	~	~	1/2	CLT7-9-*B2S1-A10-EBB
2.5	1.0...5.0	33	7B	1/2	1/2	1	~	CLT7-9-*B2S2.5-A10-D1CB
2.5	1.0...5.0	33	7B	1/2	1/2	1	~	CLT7-9-*B2S2.5-A10-ECB
<b>KTB7-25H — High Interrupting Capacity</b>								
2.5	1.0...5.0	33	17B	1/2	1/2	1	~	CLT7-9-*B2H2.5-A10-D1CB
2.5	1.0...5.0	33	17B	1/2	1/2	1	~	CLT7-9-*B2H2.5-A10-ECB
2.5	1.0...5.0	33	18B	1/2	1/2	1	1-1/2	CLT7-23-*B2H2.5-A10-D1CB
2.5	1.0...5.0	33	18B	1/2	1/2	1	1-1/2	CLT7-23-*B2H2.5-A10-ECB
4.0	1.0...5.0	52	21B	3/4	3/4	2	3	CLT7-23-*B2H4-A10-D1CB
4.0	1.0...5.0	52	21B	3/4	3/4	2	3	CLT7-23-*B2H4-A10-ECB
10	5.1...27	130	27B	2	3	5	7-1/2	CLT7-30-*B2H10-A10-EED
16	5.1...27	208	30B	3	5	10	10	CLT7-30-*B2H10-A10-EED
25	5.1...27	325	34B	5	7-1/2	15	~	CLT7-30-*B2H10-A10-EED
<b>KTB7-45H — High Interrupting Capacity</b>								
25	5.1...27	325	39B	5	7-1/2	15	~	CLT7-30-*B4H25-A10-EED
32	9...45	416	41B	7-1/2	10	20	20	CLT7-37-*B4H32-A10-EED
32	9...45	416	42B	7-1/2	10	20	20	CLT7-37-*B4H32-A10-EFD
45	9...45	585	45B	10	10	25	30	CLT7-37-*B4H45-A10-EFD
45	9...45	585	46B	10	15	30	~	CLT7-43-*B4H45-A10-EFD



**Includes:**

- KTB7 Motor Controller
- CA7 Contactor (AC)
- CEP7 Solid State Overload Relay
- KT7-PE10 PNC Connectors
- Terminal Adaptor for Type E Applications
- Mounting Modules for 25A or 45A Frame Units as required from page F17
- See page F72 for Factory Options

Section Obsolete  
See pages F1.40 - F1.55

**Coil Codes (\*) ②**

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
277	240V	277V
415	400-415V	~
480 ⑦	440V	480V
600 ⑦	550V	600V

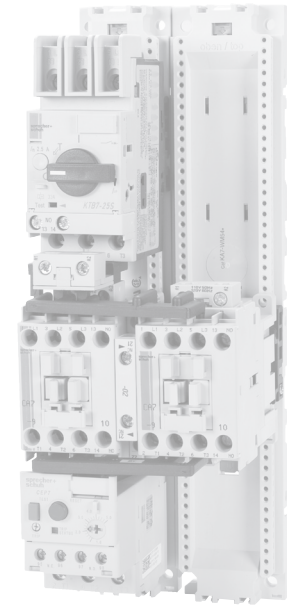
- KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- Other voltages available, see Section A in this catalog.
- All CLT7 contactors are supplied with Auxiliary Contacts as follows:  
 CLT7-9...23 (1) NO Internal Mount  
 CLT7-30...37 (1) NO Side Mount  
 CLT7-43 (1) NO & (1) NC Front Mount  
 All KTB7s are supplied with (1) NO auxiliary contact (A10), which should be used in series with the NC contact on the overload (95-96).
- See page F72 for CEP7 Overload Relay information.
- Horsepower ratings shown in tables are for reference only. **The final selection of the controller and solid state overload relay depends on the actual motor full load current and service factor.**
- The KTB7 Motor Circuit Controller is designed and tested to protect a motor circuit in case of a short circuit. A separate Sprecher + Schuh CEP7-EE\_ overload relay with selectable trip class should be used to protect the motor against overload.  
 In Applications with motor starting times exceeding 10 seconds (heavy duty starting) the rated operational current (I<sub>e</sub>) of the motor FLA must be multiplied by the following factors for selection of the KTB7 Motor Circuit Controller KTB7-25S, KTB7-25H/32H and KTB7-45H.  
 Trip classes according to UL 508 Section 52 and IEC 60947-4-1  
 CLASS 10 = 1.0, CLASS 15 = 1.22, CLASS 20 = 1.42, CLASS 25 = 1.58, CLASS 30 = 1.73  
 The maximum number of motor starts in 25 cycles/hour with a minimum OFF-time of 120 seconds between cycles. This additional calculation and selecting a larger frame size is necessary to compensate (dissipate) the increased heat resulting from long acceleration applications effecting the rated operational current of the KTB7.
- Catalog number includes -A10 which uses front-mount KT7-PE1-10 300 VAC maximum control circuit. For control circuits greater than 300 VAC use side-mount KT7-PA1-11 and change -A10 to -AS11 (example CLT7-9-\*B2S0.4-AS11-D1AB) Add \$66.43 or see options on page F72.

**Ordering Instructions**

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

Reversing 3-Component Ecombo Starters with AC Coil ③④⑤

Rated Oper. Current [A] ⑥	Overload Adj. Range [A]	Magnetic Trip [A]	Index ①	Typical Three Phase [HP]				Catalog Number ②④⑦
				200V	230V	460V	575V	
<b>KTBT-25S — Standard Interrupting Capacity</b>								
0.40	0.1...0.5	5.2	3B	~	~	~	~	CLUT7-9-*B2S0.4-A10-D1AB
0.40	0.1...0.5	5.2	3B	~	~	~	~	CLUT7-9-*B2S0.4-A10-EAB
1.0	0.2...1.0	13	5B	~	~	~	1/2	CLUT7-9-*B2S1-A10-D1BB
1.0	0.2...1.0	13	5B	~	~	~	1/2	CLUT7-9-*B2S1-A10-EBB
2.5	1.0...5.0	33	7B	1/2	1/2	1	~	CLUT7-9-*B2S2.5-A10-D1CB
2.5	1.0...5.0	33	7B	1/2	1/2	1	~	CLUT7-9-*B2S2.5-A10-ECB
<b>KTBT-25H — High Interrupting Capacity</b>								
2.5	1.0...5.0	33	17B	1/2	1/2	1	~	CLUT7-9-*B2H2.5-A10-D1CB
2.5	1.0...5.0	33	17B	1/2	1/2	1	~	CLUT7-9-*B2H2.5-A10-ECB
2.5	1.0...5.0	33	18B	1/2	1/2	1	1-1/2	CLUT7-23-*B2H2.5-A10-D1CB
2.5	1.0...5.0	33	18B	1/2	1/2	1	1-1/2	CLUT7-23-*B2H2.5-A10-ECB
4.0	1.0...5.0	52	21B	3/4	3/4	2	3	CLUT7-23-*B2H4-A10-D1CB
4.0	1.0...5.0	52	21B	3/4	3/4	2	3	CLUT7-23-*B2H4-A10-ECB
10	5.1...27	130	27B	2	3	5	7-1/2	CLUT7-30-*B2H7-A10-EED
16	5.1...27	208	30B	3	5	10	10	CLUT7-30-*B2H10-A10-EED
25	5.1...27	325	34B	5	7-1/2	15	~	CLUT7-30-*B2H25-A10-EED
<b>KTBT-45H — High Interrupting Capacity</b>								
25	5.1...27	325	39B	5	7-1/2	15	20	CLUT7-30-*B4H25-A10-EED
32	9...45	416	42B	7-1/2	10	20	20	CLUT7-30-*B4H32-A10-EFD
32	9...45	416	42P	7-1/2	10	20	20	CLUT7-37-*B4H32-A10-EFD
45	9...45	585	45B	10	10	20	~	CLUT7-37-*B4H45-A10-EFD
45	9...45	585	46B	10	10	20	~	CLUT7-43-*B4H45-A10-EFD



Includes:

- KTBT Motor Controller
- CAU7 Reversing Contactor (AC)
- CEP7 Solid State Overload Relay
- RT1 PSC and PNC Connectors
- Terminal Adaptor for Type E Applications
- Mounting Modules for 25A or 45A Frame Units as required from page F17
- See page F72 for Factory Options

Section Obsolete  
See pages F1.40 - F1.55

Coil Codes (\*) ②

AC Coil Code	Voltage Range	
	50 Hz	60 Hz
24Z	24V	24V
120	110V	120V
220W	200-220V	208-240V
277	240V	277V
415	400-415V	~
480 ⑦	440V	480V
600 ⑦	550V	600V

- ① KAIC Assembly Rating Index. See pages F73-F76 for Application Rating Guide.
- ② Other voltages available, see Section A in this catalog.
- ③ All CLUT7 are supplied with Auxiliary Contacts for customer use as follows;
  - CLUT7-9...23 (1) NO Internal Mount
  - CLUT7-30...37 (1) NO Side Mount
  - CLUT7-43 (1) NO & (1) NC Front Mount
  - CM7-02 interlock (2) NC (Electrical Interlocks)
 All KTBTs are supplied with (1) NO auxiliary contact (A10), which should be used in series with the NC contact on the overload (95-96).
- ④ All CAU7 reversing contactors are supplied with CM7-02, including (2) NC contacts for electronic interlocking (not available for customer use).
- ⑤ Horsepower ratings shown in tables are for reference only. **The final selection of the controller and solid state overload relay depends on the actual motor full load current and service factor.**
- ⑥ The KTBT Motor Circuit Controller is designed and tested to protect a motor circuit in case of a short circuit. A separate Sprecher + Schuh CEP7-EE\_ overload relay with selectable trip class should be used to protect the motor against overload.
 

In Applications with motor starting times exceeding 10 seconds (heavy duty starting) the rated operational current (I<sub>o</sub>) of the motor FLA must be multiplied by the following factors for selection of the KTBT Motor Circuit Controller KTBT-25S, KTBT-25H/32H and KTBT-45H.

Trip classes according to UL 508 Section 52 and IEC 60947-4-1  
 CLASS 10 = 1.0, CLASS 15 = 1.22, CLASS 20 = 1.42, CLASS 25 = 1.58, CLASS 30 = 1.73

The maximum number of motor starts in 25 cycles/hour with a minimum OFF-time of 120 seconds between cycles. This additional calculation and selecting a larger frame size is necessary to compensate (dissipate) the increased heat resulting from long acceleration applications effecting the rated operational current of the KTBT.
- ⑦ Catalog number includes -A10 which uses front-mount KT7-PE1-10 300 VAC maximum control circuit. For control circuits greater than 300 VAC use side-mount KT7-PA1-11 and change -A10 to -AS11 (example CLUT7-9-\*B2S0.4-AS11-D1AB) Add \$66.43 or see options on page F72.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See Coil Code table on this page for codes.

**CLT7/CLUT7 Modifications ⑩**

Modification	Change "X" Digit in Catalog Number to: ⑥
<b>KT7 Auxiliary (Front Mount 300VAC max.) and Trip Contacts</b>	
Auxiliary Contact 1 NO + 1 NC	A11
Auxiliary Contact 2 NO	A20
1 NO SC + 1 NC Auxiliary Contact	T10A01
1 NO SC + 1 NO Auxiliary Contact	T10A10
<b>KT7 Auxiliary (Side Mount 300VAC max.) and Trip Contacts</b>	
Auxiliary Contact 1 NO + 1 NC	AS11
Auxiliary Contact 2 NO	AS20
1 NC SC + 1 NO Auxiliary Contact	R10
1 NC SC + 1 NC Auxiliary Contact	R11

**CLT7/CLUT7 Additions ⑩**

Addition	Add Suffix to end of Catalog Number:
<b>Accessories</b>	
Electronic Interfaces	-JE
Surge Suppressor RC	-R
Surge Suppressor Varistor	-V
Surge Suppressor Diode	-D
Lockable Twist Knob (KT7) - Black	-KN
Lockable Twist Knob (KT7) - Red/Yellow	-KRY
<b>Additional CA7 Contactor Auxiliaries (Side Mount) ⑩</b>	
1 NC	-S10
1 NO	-S11
1 NO + 1 NC	-S11
2 NO	-S20
<b>Additional CA7 Contactor Auxiliaries (Front Mount) ⑩</b>	
1 NO + 1 NC	-F10
2 NO	-F20
2 NO + 2 NC	-F22
<b>Additional KT7 Auxiliaries (Side Mount) ⑩⑩</b>	
2 NC	-AS02
2 NO	-AS20
1 NO + 1 NC	-AS11
<b>Additional KT7 Trip Contacts (Side Mount) ⑩</b>	
1 NO SC + 1 NO SC	-R00
1 NO SC + 1 NC SC	-R01
1 NC SC + 1 NC SC	-R11

**CEP7 Solid State Overload Relay ①②③**

(As specified in the CLT7/CLUT7 Catalog Number)

For use with contactor...	Amp Range	Last Suffix in Catalog Number ⑥	Catalog Number (of Overload Relay used)
<b>3-Phase / Manual Reset / Class 10</b>			
CA7-9...CA7-23	0.1...0.5	D1AB	CEP7-ED1AB
	0.2...1.0	D1BB	CEP7-ED1BB
	1.0...5.0	D1CB	CEP7-ED1CB
<b>3-Phase / Auto or Manual / Adjustable Trip Class 10, 15, 20 &amp; 30</b>			
CA7-9...CA7-23	0.1...0.5	EAB	CEP7-EEAB
	0.2...1.0	EBB	CEP7-EEBB
	1.0...5.0	ECB	CEP7-EECB
CA7-30...CA7-43	5.4...27	EED	CEP7-EEED
	9...45	EFD	CEP7-EEFD

**CEP7 Side Mount Module Addition ④⑦⑨**

Addition	For use with...	Add Suffix to end of Catalog Number
Remote Reset Module	Side-mount to any CEP7-EE_	-ERR
Jam Protection and Remote Reset Module	Side-mount to any CEP7-EE_	-EJM
Ground Fault Protection and Remote Reset Module ⑥	Side-mount to any CEP7-EE_	-EGF
Ground Fault/Jam Protection and Remote Reset Module ⑥	Must use with CEP7-CBCT_ Current Sensor	-EGJ
PTC Thermistor Relay and Remote Reset Module	Side-mount to any CEP7-EE_	-EPT
Ethernet Network Communication Module	Side-mount to any CEP7-EE_	-ETN

Section Obsolete  
See pages F1.40 - F1.55

- ① 3-phase CEP7 units are only designed for 3∅ applications.
- ② The reset time of a CEP7 set in the automatic mode is approximately 120 seconds.
- ③ CEP7 Overload relays do not work with Variable Frequency Drives or any Sprecher + Schuh Softstarter with braking options.
- ④ Side mount modules must have 24 - 240V, 47 - 63HZ or DC applied to terminals A1 and A2 for control power. See Section B for connection details.
- ⑤ CEP7 Overloads shown are UL approved. Other overload combinations may be possible. Contact your Sprecher + Schuh representative.
- ⑥ ATTENTION: The CEP7 Overload relay is not a ground fault circuit interrupter for

- personnel protection as defined in Article 100 of the NEC.
- ⑦ See Section B for Technical Data, Wiring, and DIP Switch set up.
- ⑧ For CLT7, change digit "A10" to one of the modifications listed. Example: Change CLT7-9-\*B2S0.4-A10-D1AB to CLT7-9-\*B2S0.4-A11-D1AB.
- ⑨ Side mount auxiliaries and CEP7 modules change the width dimension of the device. See Dimensions in this section for more information.
- ⑩ Front Mount Auxiliary contacts have a maximum rating of 300VAC. Side Mounted Auxiliaries have a maximum rating of 600VAC. See page F12 for additional information.