

Starters + Enclosed Product

<i>General Description</i>	C1
KWIKstarters II	C4
Enclosed Contactors	C11
Magnetic Motor Starters	C19
Combination Starters	C27
Explosion-Proof Starters	C34
Multi-Speed Starters	C36
Reduced Voltage Starters	C40
Pump Controllers	C46
<i>Simplex Controllers</i>	C47
<i>Duplex Controllers</i>	C51
Technical Data	C57
<i>Coil & Overload Relay Codes</i>	C57
<i>Modifications</i>	C60
<i>Accessories - Field Installable</i>	C64
<i>Technical Information</i>	C66
<i>Control Power Sizing</i>	C67
<i>Wiring Diagrams</i>	C68
<i>Enclosure Dimensions</i>	C81

Starters and Enclosed Product

Open & enclosed pre-wired starters and enclosed contactors for any application

In addition to selling “open” components, Sprecher + Schuh also offers a full array of preassembled and enclosed products ready to install when they reach your dock.

Standard or customized

The cataloged product in this section comprises Sprecher + Schuh’s standard offering. In most cases, engineering drawings and bills-of-material have already been created and assembly procedures have been standardized. Generally speaking, lead times are shorter on these standard items.



- Enclosed contactors
- Magnetic motor starters
- KWIKstarters
- Combination starters
- Explosion-proof starters
- Multi-speed starters
- Reduced voltage starters
- Pump controllers
- Softstarters (see Section D)

Your sales representative and our Engineering department will also work with you to customize any of our standard pre-assembled or enclosed products to suit your exact specifications. Any combination of enclosure types, pilot devices, control power



transformers, meters and other modifications can be combined to provide exactly the panel you need.

UL/CSA approved shop

Sprecher + Schuh’s assembly operations in the US and Canada are UL Approved UL508A shops. Our Canadian shop is also CSA certified. This means, upon customer request, we can build UL 508A Listed panels that satisfy the most rigorous UL inspection. Regardless of whether your panel has a UL508A Listing, panels built by Sprecher + Schuh adhere to UL mandated design and wiring standards.

Built with quality and pride

Every panel built by Sprecher + Schuh is meticulously designed and constructed. Where possible, all panels are laid out with generous wiring space. Control wiring is neatly bundled and tied to the back pan. Outsourced components are industrial control quality from name brand manufacturers. Control wiring and device function is electrically tested before the panel leaves our facility.



Starters & Enclosed Prod.

Catalog Number Coding

Starters and Enclosed Product

CAT 7-30 - 480

Contactor or Starter Type

Contactor Size

Coil Code (or CPT)

Non-reversing	
CA	Contacto
CAT	Starter
CBT	Starter (Single Phase)
CATN	Starter (NEMA)
Reversing	
CAU	Reversing Contactor
CBU	Reversing Contactor (Single Phase)
CAUT	Reversing Starter
CBUT	Reversing Starter (Single Phase)
CAUTN	Reversing Starter (NEMA)
Multi-speed	
CAZTT	Multispeed-Two Wind. (Conts/VAR TQ)
CAZHT	Multispeed-Two Wind. (Const. HP)
CAETT	Multispeed-One Wind. (Conts/VAR TQ)
CAEHT	Multispeed-One Wind. (Const. HP)
Reduced Voltage	
CAAT	Autotransformer Starter
CAYT	Wye-Delta Starter
CAPWT	Part Winding Starter
Pump Panels	
CAPT	Simplex Pump Panel
CAPTN	Simplex Pump Panel (NEMA Size)
CXP7	Simplex Pump Panel (KTA7)
CADPT	Duplex Pump Panel
CXDPT	Duplex Pump Panel (KTA7)

Small - Series CA7 ①	
7-9(C)	
7-12(C)	
7-16(C)	
7-23(C)	
7-30(C)	
7-37(C)	
7-43(C)	
7-60(D)	
7-72(D)	
7-85(D)	
7-97(D)	
Medium - Series CA6	
6-110(-EI)	
6-140(-EI)	
6-180(-EI)	
6-210-EI	
6-250-EI	
6-300-EI	
6-420-EI	
6-630-EI	
6-860-EI	
Large - Series CA5	
5-1200	

AC		DC	
24(Z)	110	12D(D)	24D(E, DD)
120	208	48D(D)	110D(D)
220	220	220D(D)	
220W	240		
277	380		
440	480		
575	600		
Control Transformer			
Code	Primary	Secondary	
XA	208	120	
XB	240	120	
XC	480	120	
XD	575	120	
XE	240	24	
XF	480	24	
XG	380	110	
For additional Control Transformer Codes , refer to Modifications page in this section.			

This illustration is for reference only.
Turn to the appropriate page to determine specific catalog number & pricing.

① (C, D & E) suffix designates contactors with DC coils

EED

TB20

G

3

Overload Relay

Short-Circuit / Disconnect

Enclosure

Enclosure Cover Control

Options

CEP7 Second Generation - Solid State

CA7-9 thru CA6-860-EI

D1... CEP7 O/L Relay, 3Ø, Class 10, man. reset

E... CEP7S O/L Relay, 1Ø, (selectable)

E... CEP7 O/L Relay, 3Ø, (selectable)

CT7N - Bimetallic Thermal

CA7-9 thru CA7-85

...A-C CT7N O/L Relay, Class 10, manual or automatic reset

...P CT7N O/L Relay, Class 10, manual or automatic reset, separate mount

- G** General Purpose - Type 1 (M1)
- D** Dusttight - Type 12 (M12)
- W** Watertight - Type 4 (M4)
- C** Watertight Corrosion Resistant - Type 4X (F4)
- R** Raintight - Type 3R (M3R)
- E** Explosion proof - Type 7 (M7)

Non-Reversing

- 1** Pilot Light Only
- 2** Pilot Lights (2) Only
- 3** "Start-Stop" PB
- 4** "On-Off" PB
- 5** "Hand-Auto" S/S
- 6** "Off-On" S/S
- 7** "Hand-Off-Auto" S/S
- 0** None

Reversing

- 2** Pilot Lights (2) Only
- 3** "For-Stop-Rev" PB
- 4** "Up-Stop-Down" PB
- 5** "Open-Stop-Close" PB
- 6** "For-Off-Rev" S/S
- 7** "Up-Off-Close" S/S
- 8** "Open-Off-Close" S/S
- 0** None

Multi-speed

- 2** Pilot Lights (2) Only
- 3** "High-Stop-Low"
- 4** "Fast-Stop-Slow"
- 5** "High-Off-Low"
- 6** "Fast-Off-Slow" S/S

For additional **Cover Control Codes**, refer to Modifications page in this section.

For complete listing of **Option Codes**, refer to Modifications page in this section.

Through-the-Door Operated Combo

Thermal Magnet Circuit Breaker		Fusible Disconnect		Non Fusible Disconnect	
TB5	15 Amp	JF61	600V/30A	JU61	600V/30A
TB20	20 Amp	JF62	600V/60A	JU62	600V/60A
TB25	25 Amp	JF63	600V/100A	JU63	600V/100A
	↓ thru ↓	JF64	600V/200A	JU64	600V/200A
		JF65	600V/400A	JU65	600V/400A
TB700	700 Amp				
Blank	None	Blank	None	Blank	None

Starters & Enclosed Prod.

KWIKstarters II

Preassembled or
build from stock –
Easy, fast, economical
enclosed starters for
applications up to 30HP

Sprecher + Schuh offers a broad selection of pre-assembled or “build-from-stock” starters housed in a high impact, non-metallic, cUL Approved, Type 1, 12, 4, or 4x enclosure. Built for convenience, space savings and economy, KWIKstarters II are efficiently designed to use stock CA7 contactors and CEP7 or CT7N overloads usually stocked by distributors. Contactor and overload are either pre-wired and pre-mounted onto the enclosure’s built-in DIN-rail or may be ordered as separate components. Ample knockouts and open terminals guarantee quick, no fuss wiring.

Sized for most industrial applications

KWIKstarters II control motors up to 30HP @ 460V in two sizes of enclosures, measuring only 208 x 98mm (7.4” x 3.9”) or 250 x 125mm (9.85” x 4.93”) for our larger sizes. This covers over 85% of industrial motor control applications in a very compact package that can be mounted adjacent to or directly on equipment.



Top line performance...

These rugged, modular starters are built with our state-of-the-art CA7 Series contactors, noted for their long and reliable service. “Bounce free” contacts and high contact pressure allow the device to handle high inrush currents with no effect on performance.

Thermal overload option

KWIKstarters, sized 9 to 23 amps, are equipped with Sprecher + Schuh’s CT7N bimetallic thermal overload relay as standard. The consistent high quality of our thermal overload relays is ensured by a complex current calibration procedure performed after each unit is at full operating temperature. Calibration is performed at the largest and smallest current the overload can handle. The accurate time/current characteristic curve obtained in this manner guarantees reliable motor protection every time.



Solid state overload options

KWIKstarters II, sizes 9 to 23 amps, can also be supplied with Sprecher + Schuh’s CEP7 Second Generation solid state overload relay. The CEP7 Overload is standard on larger (sizes 30 to 43 amps) and all reversing KWIKstarters. Unlike traditional overload relays that indirectly sense motor current through heater elements, CEP7 solid state overload relays measure motor current directly through integrated current transformers and on board electronics. The electronics provide increased accuracy and numerous other advantages over electromechanical relays. Learn more about Sprecher + Schuh overload relays in Section B of this catalog.

No fuss flexibility...

The enclosure for the KWIKstarter II is designed for simplicity. The START button mechanically interfaces with a special mounted N.O. contact with minimal wiring. The STOP button also mechanically interfaces with the N.C. contact on the overload relay, providing the STOP function. The RESET is provided as standard and functions with no additional wiring. Kwikstarter II’s can also be adapted for a 2-wire maintain control circuit.



Build it yourself...

KWIKstarters may be assembled from stock components. Just grab a CA7 contactor and overload of your choice and snap them into the enclosure. Minimal wiring is required and assembly can be completed in minutes.



KWIKstarters are also available with our advanced CEP7 Solid State Overload Relay (select appropriate overload relay code for this option)

KWIKstarters II with CT7N or CEP7 Overload Relays; ①⑥

Cover Control/ Enclosure	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved- Type 1/12/4/4X IP66	Price	Dimension Code	
	Single Ø		Three Ø				NO	NC				
	115V	230V	200V	230V	460V	575V			Catalog Number			
KWIKstarter with Start & Raised Stop ④⑤												
	1/2	1 1/2	~	~	~	~	1	0	CBK7-9-*-◆-P2	⊗	302	Q1
	~	~	2	2	5	7 1/2			CAK7-9-*-◆-P2	⊗		
	1/2	2	~	~	~	~	1	0	CBK7-12-*-◆-P2	⊗	338	Q1
	~	~	3	3	7 1/2	10			CAK7-12-*-◆-P2	⊗		
	1	3	~	~	~	~	1	0	CBK7-16-*-◆-P2	⊗	363	Q1
	~	~	5	5	10	15			CAK7-16-*-◆-P2	⊗		
	2	3	~	~	~	~	1	0	CBK7-23-*-◆-P2	⊗	390	Q1
	~	~	5	7 1/2	15	15			CAK7-23-*-◆-P2	⊗		
KWIKstarter with Reset												
	1/2	1 1/2	~	~	~	~	1	0	CBK7-9-*-◆-P0	⊗	276	Q1
	~	~	2	2	5	7 1/2			CAK7-9-*-◆-P0	⊗		
	1/2	2	~	~	~	~	1	0	CBK7-12-*-◆-P0	⊗	313	Q1
	~	~	3	3	7 1/2	10			CAK7-12-*-◆-P0	⊗		
	1	3	~	~	~	~	1	0	CBK7-16-*-◆-P0	⊗	338	Q1
	~	~	5	5	10	15			CAK7-16-*-◆-P0	⊗		
	2	3	~	~	~	~	1	0	CBK7-23-*-◆-P0	⊗	365	Q1
	~	~	5	7 1/2	15	15			CAK7-23-*-◆-P0	⊗		

Coil Codes ⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
277	240V	277V	Common	~
380	380V-400V	440V	~	Common
480	440V	480V	~	Common
600	550V	600V	~	Common

Control Circuit Note

Common: Coils are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.

Separate: Coils are assumed to be from a separate source and will not be connected to the line source per the table.



 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See this page See page C8
Replace (◆) with O/L Relay	
Important Note: KWIKstarters II are only designed to accommodate CT7N Thermal Overload Relays or CEP7 Second Generation Solid State Overload Relays. Select O/L Relay Code from page C8.	

- ① KWIKstarters II are designed for three-wire control circuits. Two-wire (maintain) control can be accomplished by adding pushbutton latch KS7-PLA.
- ② A special design NO auxiliary contact (Cat.# KS7-PCK) is used as the holding circuit interlock, as well as, the START button interface. It is not available for other use.
- ③ Refer to page C10.3 for dimensional information.
- ④ STOP button also functions as RESET button. Plastic Bezel is standard.
- ⑤ Other voltages available, see Section A. *Non-standard coil voltages not listed here must be ordered and installed separately as renewal parts.*
- ⑥ Use CT7N or CEP7-ED/CEP7-EE Second Generation overload.

KWIKstarters II with CT7N or CEP7 Overload Relays; ①④⑤⑥

Cover Control/ Enclosure	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved- Type 1/12/4/4X IP66	Catalog Number	Price	Dimension Code ③
	Single Ø		Three Ø				NO	NC				
	115V	230V	200V	230V	460V	575V						
KWIKstarter with Start & Raised Stop ④⑤												
	1/2	1 1/2	~	~	~	~	1 ②	0	CBK7-9E-24E-◆-P2	379	Q1	
	~	~	2	2	5	7 1/2			CAK7-9E-24E-◆-P2			
	1/2	2	~	~	~	~	1 ②	0	CBK7-12E-24E-◆-P2	425	Q1	
	~	~	3	3	7 1/2	10			CAK7-12E-24E-◆-P2			
	1	3	~	~	~	~	1 ②	0	CBK7-16E-24E-◆-P2	456	Q1	
	~	~	5	5	10	15			CAK7-16E-24E-◆-P2			
	2	3	~	~	~	~	1 ②	0	CBK7-23E-24E-◆-P2	489	Q1	
	~	~	5	7 1/2	15	15			CAK7-23E-24E-◆-P2			
KWIKstarter with Reset												
	1/2	1 1/2	~	~	~	~	1	0	CBK7-9E-24E-◆-P0	353	Q1	
	~	~	2	2	5	7 1/2			CAK7-9E-24E-◆-P0			
	1/2	2	~	~	~	~	1	0	CBK7-12E-24E-◆-P0	400	Q1	
	~	~	3	3	7 1/2	10			CAK7-12E-24E-◆-P0			
	1	3	~	~	~	~	1	0	CBK7-16E-24E-◆-P0	431	Q1	
	~	~	5	5	10	15			CAK7-16E-24E-◆-P0			
	2	3	~	~	~	~	1	0	CBK7-23E-24E-◆-P0	464	Q1	
	~	~	5	7 1/2	15	15			CAK7-23E-24E-◆-P0			


Starters & Enclosed Prod.
KWIK

Ordering Instructions

Specify Catalog Number	
Replace (◆) with O/L Relay	See page C8
Important Note: KWIKstarters II are only designed to accommodate CT7N Thermal Overload Relays or CEP7 Second Generation Solid State Overload Relays. Select O/L Relay Code from page C8.	

- ① KWIKstarters II are designed for three-wire control circuits. Two-wire (maintain) control can be accomplished by adding pushbutton latch KS7-PLA.
- ② A special design NO auxiliary contact (Cat.# KS7-PCK) is used as the holding circuit interlock, as well as, the START button interface. It is not available for other use.
- ③ Refer to page C10.3 for dimensional information.
- ④ STOP button also functions as RESET button. Plastic Bezel is standard.
- ⑤ Only available in 24VDC for separate control source. AC and DC coils are not interchangeable.
- ⑥ Use CT7N or CEP7-ED/CEP7-EE Second Generation overload.

KWIKstarters II with CT7N or CEP7 Overload Relays with H-O-A and Light ①②③⑤⑥

Cover Control/ Enclosure	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved- Type 1/12/4/4X IP66	Price	Dimension Code
	Single Ø		Three Ø								
	115V	230V	200V	230V	460V	575V	NO	NC	Catalog Number		④
	KWIKstarter with Reset and H-O-A Selector Switch and Light with AC Coil										
	1/2	1 1/2	~	~	~	~	1	0	CBK7-9-*-◆-P0+1R7 ⓧ	380	Q1
	~	~	2	2	5	7 1/2			CAK7-9-*-◆-P0+1R7 ⓧ		
	1/2	2	~	~	~	~	1	0	CBK7-12-*-◆-P0+1R7 ⓧ	417	Q1
	~	~	3	3	7 1/2	10			CAK7-12-*-◆-P0+1R7 ⓧ		
	1	3	~	~	~	~	1	0	CBK7-16-*-◆-P0+1R7 ⓧ	442	Q1
	~	~	5	5	10	15			CAK7-16-*-◆-P0+1R7 ⓧ		
	2	3	~	~	~	~	1	0	CBK7-23-*-◆-P0+1R7 ⓧ	469	Q1
	~	~	5	7 1/2	15	15			CAK7-23-*-◆-P0+1R7 ⓧ		
	KWIKstarter with Reset and H-O-A Selector Switch and Light with Elec. 24VDC Coil ⑦										
	1/2	1 1/2	~	~	~	~	1	0	CBK7-9E-24E-◆-P0+1R7	457	Q1
	~	~	2	2	5	7 1/2			CAK7-9E-24E-◆-P0+1R7		
	1/2	2	~	~	~	~	1	0	CBK7-12E-24E-◆-P0+1R7	504	Q1
	~	~	3	3	7 1/2	10			CAK7-12E-24E-◆-P0+1R7		
1	3	~	~	~	~	1	0	CBK7-16E-24E-◆-P0+1R7	535	Q1	
~	~	5	5	10	15			CAK7-16E-24E-◆-P0+1R7			
2	3	~	~	~	~	1	0	CBK7-23E-24E-◆-P0+1R7	568	Q1	
~	~	5	7 1/2	15	15			CAK7-23E-24E-◆-P0+1R7			

Starters & Enclosed Prod. KWIK


Coil Codes ⑤

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
D.C. Coil Code	Voltage Range		Control Source	
	VDC		CBK7	CAK7
24E	24V		Separate	Separate

Control Circuit Note

Common: Coils and pilot devices in the control circuit are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.

Separate: Coils and pilot devices in the control circuit are assumed to be from a separate source and will not be connected to the line source per the table. Line Voltage not listed: (i.e.: 480 and 575 VAC) require a separate control source (i.e.: 120 VAC). D7D pilot devices are rated 300 VAC maximum.




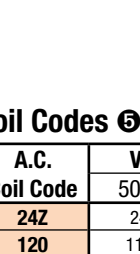
 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See this page See page C8
Replace (◆) with O/L Relay	
Important Note: KWIKstarters II are only designed to accommodate CT7N Thermal Overload Relays or CEP7 Second Generation Solid State Overload Relays. Select O/L Relay Code from page C8.	

- ① This is a factory assembly. The KS7-C0S1 does not include knock-outs for field assembly of this starter.
- ② Uses D7D-P4N_ Red Monolithic "Run" pilot light with LED bulb. Pilot light voltage to match coil voltage for 24, 120, 240 VAC control. Red "Run" Light can be changed for Green. Change +1R7 to +1G7. For example, CAK7-9-*-◆-P0+1R7 becomes CAK7-9-*-◆-P0-1G7.
- ③ Uses D7D-SM32x20 Monolithic 3-position selector switch for maintain control, HAND-OFF-AUTO function with legend plate.
- ④ Refer to page C10 for wiring diagram and C10.2 for dimensional information. This is a clam-shell enclosure design with wires to cover controls.
- ⑤ Uses CT7N or CEP7-ED/CEP7-EE Second Generation overload.
- ⑥ One NO auxiliary for customer use. There is no room for additional auxiliaries.
- ⑦ Only available in 24V Electronic DC, a separate control source. AC and DC Coils are not interchangeable. Uses D7D-P4N3 Red Monolithic "Run" pilot light.

NEMA KWIKstarters II with CT7N or CEP7 Overload Relays ①⑥

Cover Control/ Enclosure	NEMA Size	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved- Type 1/12/4/4X IP66	Catalog Number	Price	Dimension Code
		Single Ø		Three Ø				NO	NC				
		115V	230V	200V	230V	460V	575V						
KWIKstarter with Start & Raised Stop with AC Coil ④⑤													
	00	1/3	1	~	~	~	~	1 ②	0	CBKN7-12-*-◆-P2	⊗	338	Q1
		~	~	1-1/2	1-1/2	2	2	CAKN7-12-*-◆-P2	⊗				
	0	1	2	~	~	~	~	1 ②	0	CBKN7-16-*-◆-P2	⊗	363	Q1
		~	~	3	3	5	5	CAKN7-16-*-◆-P2	⊗				
KWIKstarter with Start & Raised Stop with Elec. 24 VDC Coil ⑦													
	00	1/3	1	~	~	~	~	1 ②	0	CBKN7-12E-24E-◆-P2		425	Q1
		~	~	1-1/2	1-1/2	2	2	CAKN7-12E-24E-◆-P2					
	0	1	2	~	~	~	~	1 ②	0	CBKN7-16E-24E-◆-P2		456	Q1
		~	~	3	3	5	5	CAKN7-16E-24E-◆-P2					
KWIKstarter with Reset with AC Coil													
	00	1/3	1	~	~	~	~	1 ②	0	CBKN7-12-*-◆-P0	⊗	313	Q1
		~	~	1-1/2	1-1/2	2	2	CAKN7-12-*-◆-P0	⊗				
	0	1	2	~	~	~	~	1 ②	0	CBKN7-16-*-◆-P0	⊗	338	Q1
		~	~	3	3	5	5	CAKN7-16-*-◆-P0	⊗				
KWIKstarter with Reset with Elec. 24 VDC Coil ⑦													
	00	1/3	1	~	~	~	~	1 ②	0	CBKN7-12E-24E-◆-P0		400	Q1
		~	~	1-1/2	1-1/2	2	2	CAKN7-12E-24E-◆-P0					
	0	1	2	~	~	~	~	1 ②	0	CBKN7-16E-24E-◆-P0		431	Q1
		~	~	3	3	5	5	CAKN7-16E-24E-◆-P0					

Starters & Enclosed Prod. KWIK


Coil Codes ⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
277	240V	277V	Common	~
380	380V-400V	440V	~	Common
480	440V	480V	~	Common
600	550V	600V	~	Common

Control Circuit Note

Common: Coils are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.

Separate: Coils are assumed to be from a separate source and will not be connected to the line source per the table.


 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See this page See page C8
Replace (◆) with O/L Relay	
Important Note: KWIKstarters II are only designed to accommodate CT7N Thermal Overload Relays or CEP7 Second Generation Solid State Overload Relays. Select O/L Relay Code from page C8.	

- ① KWIKstarters II are designed for three-wire control circuits. Two-wire (maintain) control can be accomplished by adding pushbutton latch KS7-PLA.
- ② A special design NO auxiliary contact (Cat.# KS7-PCK) is used as the holding circuit interlock, as well as, the START button interface. It is not available for other use.
- ③ Refer to page C10.2 for dimensional information.
- ④ STOP button also functions as RESET button. Plastic Bezel is standard.
- ⑤ Other voltages available, see Section A. *Non-standard coil voltages not listed here must be ordered and installed separately as renewal parts.*
- ⑥ Use CT7N or CEP7-ED/CEP7-EE Second Generation overload.
- ⑦ Only available in 24V Electronic DC for separate control source. AC and DC Coils are not interchangeable.

NEMA KWIKstarters II with CT7N or CEP7 Overload Relays with H-O-A and Light ①②③④⑤⑥

Cover Control/ Enclosure	NEMA Size	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved-Type 1/12/4/4X IP66	Catalog Number	Price	Dimension Code
		Single Ø		Three Ø				NO	NC				
		115V	230V	200V	230V	460V	575V						
	NEMA KWIKstarter with Reset and H-O-A Selector Switch and Light with AC Coil												
	00	1/3	1	~	~	~	~	1 ⑥	0	CBKN7-12-*-◆-P0+1R7 ④	471	Q1	
		~	~	1-1/2	1-1/2	2	2			CAKN7-12-*-◆-P0+1R7 ④			
	0	1	2	~	~	~	~	1 ⑥	0	CBKN7-16-*-◆-P0+1R7 ④	442	Q1	
		~	~	3	3	5	5			CAKN7-16-*-◆-P0+1R7 ④			
	NEMA KWIKstarter with Reset and H-O-A Selector Switch and Light with Elec 24VDC Coil ⑦												
	00	1/3	1	~	~	~	~	1 ⑥	0	CBKN7-12E-24E-◆-P0+1R7	504	Q1	
		~	~	1-1/2	1-1/2	2	2			CAKN7-12E-24E-◆-P0+1R7			
	0	1	2	~	~	~	~	1 ⑥	0	CBKN7-16E-24E-◆-P0+1R7	535	Q1	
		~	~	3	3	5	5			CAKN7-16E-24E-◆-P0+1R7			

Starters & Enclosed Prod. KWIK


Coil Codes ⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
D.C. Coil Code	Voltage Range		Control Source	
	VDC		CBK7	CAK7
24E	24V		Separate	Separate

Control Circuit Note

Common: Coils and pilot devices in the control circuit are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.

Separate: Coils and pilot devices in the control circuit are assumed to be from a separate source and will not be connected to the line source per the table. Line Voltage not listed: (i.e.: 480 and 575 VAC) require a separate control source (i.e.: 120 VAC). D7D pilot devices are rated 300 VAC maximum.



 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions





Specify Catalog Number	
Replace (*) with Coil Code	See this page See page C8
Replace (◆) with O/L Relay	
Important Note: KWIKstarters II are only designed to accommodate CT7N Thermal Overload Relays or CEP7 Second Generation Solid State Overload Relays. Select O/L Relay Code from page C8.	

- ① This is a factory assembly. The KS7-C0S1 does not include knock-outs for field assembly of this starter.
- ② Uses D7D-P4N_ Red Monolithic "Run" pilot light with LED bulb. Pilot light voltage to match coil voltage for 24, 120, 240 VAC control. Red "Run" Light can be changed for Green. Change +1R7 to +1G7. For example, CAKN7-9-*-◆-P0+1R7 becomes CAKN7-9-*-◆-P0-1G7.
- ③ Uses D7D-SM32x20 Monolithic 3-position selector switch for maintain control, HAND-OFF-AUTO function with legend plate.
- ④ Refer to page C10 for wiring diagram and C10.2 for dimensional information. This is a clam-shell enclosure design with wires to cover controls.
- ⑤ Uses CT7N or CEP7-ED/CEP7-EE Second Generation overload.
- ⑥ One NO auxiliary for customer use. There is no room for additional auxiliaries.
- ⑦ Only available in 24V Electronic DC, a separate control source. AC and DC Coils are not interchangeable. Uses D7D-P4N3 Red Monolithic "Run" pilot light.

KWIKstarter II Enclosures with CT7N or CEP7 Overload Relays ❶❷

Component	Description	For Use With		Environmental Approvals	Catalog Number	Price
		Contactors	Overload			
	Flush Green START / Extended Red STOP- Mechanical interface auxiliary contact required. See following page for pricing. KS7-PCK included	CA7-9...23	CT7N CEP7-ED1 CEP7-EE	cUL Type 1/12/4/4x IEC IP66	KS7-COS4	70
	Blue RESET Only	CA7-9...23	CT7N CEP7-ED1 CEP7-EE	cUL Type 1/12/4/4x IEC IP66	KS7-COS1	45

KWIKstarter II Components with CT7N or CEP7 Overload Relays

Component	Description	For Use With...	Catalog Number	Price
	Start - Contact kit Specially designed NO auxiliary; mechanically interfaces with the START button. Mounts on right side. A KS7-PCK is included in every KS7-COS4 enclosure.	KS7-COS4 (Renewal Part)	KS7-PCK	17
	Pushbutton Latch - For maintain contact control (2-wire control)	KS7-COS4	KS7-PLA	8.50
	Neutral Terminal	KS7-COS1 KS7-COS4	KS7-PNT	12
	Grounding Kit (for use with metal conduit)	All KWIKstarter enclosures	KS7-GR1	13.50

KWIK Starters & Enclosed Prod.

- ❶ KWIKstarters II are only designed to accommodate CA7-9...23 contactors with CT7N Thermal Overload Relays or CEP7 Second Generation Solid State Overload Relays. Select contactor from Section A and overload relay from Section B in this catalog.
- ❷ KS7-COS4 and KS7-COS1 may be used with either CEP7 Second Generation or CT7N (field interchangeable).

KWIKstarters II with CEP7 Solid State Overload Relay 3-Phase Application ②③ ex

For use with KWIKstarter...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
3-Phase / Manual Reset / Class 10				
CAK7-9...CAK7-23	0.1...0.5	D1AB	CEP7-ED1AB	+9
	0.2...1.0	D1BB	CEP7-ED1BB	+9
	1.0...5.0	D1CB	CEP7-ED1CB	+9
	3.2...16	D1DB	CEP7-ED1DB	+9
	5.4...27	D1EB	CEP7-ED1EB	+9
3-Phase / Selectable Function and Class				
CAK7-9...CAK7-23	0.1...0.5	EAB	CEP7-EEAB	+17
	0.2...1.0	EBB	CEP7-EEBB	+17
	1.0...5.0	ECB	CEP7-EECB	+17
	3.2...16	EDB	CEP7-EEDB	+17
	5.4...27	EEB	CEP7-EEEB	+17

KWIKstarters II with CT7N Bimetallic Overload Relays ① ex

For use with Kwikstarter...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
CAK7-9...CAK7-23 and CBK7-9...CBK7-23 Frame "A"	0.10...0.16	AA16	CT7N-23-A16	Standard
	0.16...0.25	AA25	CT7N-23-A25	Standard
	0.25...0.40	AA40	CT7N-23-A40	Standard
	0.35...0.50	AA50	CT7N-23-A50	Standard
	0.45...0.63	AA63	CT7N-23-A63	Standard
	0.55...0.80	AA80	CT7N-23-A80	Standard
	0.75...1.0	AB10	CT7N-23-B10	Standard
	0.90...1.3	AB13	CT7N-23-B13	Standard
	1.1...1.6	AB16	CT7N-23-B16	Standard
	1.4...2.0	AB20	CT7N-23-B20	Standard
	1.8...2.5	AB25	CT7N-23-B25	Standard
	2.3...3.2	AB32	CT7N-23-B32	Standard
	2.9...4.0	AB40	CT7N-23-B40	Standard
	3.5...4.8	AB48	CT7N-23-B48	Standard
	4.5...6.3	AB63	CT7N-23-B63	Standard
	5.5...7.5	AB75	CT7N-23-B75	Standard
	7.2...10	AC10	CT7N-23-C10	Standard
	9.0...12.5	AC12	CT7N-23-C12	Standard
	11.3...16	AC16	CT7N-23-C16	Standard
	15...20	AC20	CT7N-23-C20	Standard
	17.5...21.5	AC21	CT7N-23-C21	Standard
21...25	AC25	CT7N-23-C25	Standard	

KWIKstarters II with CEP7 Solid State Overload Relay 1-Phase Application ②③ ex


For use with KWIKstarter...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
1-Phase / Selectable Function and Class				
CBK7-9...CBK7-23	1.0-5.0	EPB	CEP7S-EEPB	+15
	3.2-16	ERB	CEP7S-EERB	+15
	5.2-27	ESB	CEP7S-EESB	+15

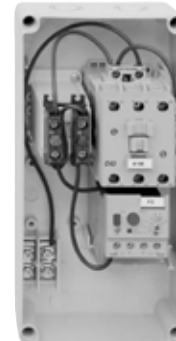
Starters & Enclosed Prod.
KWIK

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

- ① If using CT7N in single phase application with CBK7-9...16, wire per drawing on page C10.
- ② CEP7 Overloads are available for use in KWIKStarters if the premium features are required (see Section B).
- ③ 3-phase CEP7-ED or CEP7-EE units are only designed for 3Ø applications. Single phase CEP7S units are only designed for 1Ø applications. If using CEP7S, wire per drawing on page C10.

KWIKstarters II with CEP7 Overload Relays ①⑦

Enclosure (KS7-C2S4)	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved-Type 1/12/4/4X IP66	Price	Dimension Code
	Single Ø		Three Ø				NO	NC			
	115V	230V	200V	230V	460V	575V			Catalog Number		
	KWIKstarters II with AC Coil										
	2	5	~	~	~	~	1	0	CBK7-30-*-ETD-P▼	462	Q2
	~	~	7-1/2	10	20	25			CAK7-30-*-◆-P▼		
	3	5	~	~	~	~	1	0	CBK7-37-*-ETD-P▼	507	Q2
	~	~	10	10	25	30			CAK7-37-*-◆-P▼		
	3	7-1/2	~	~	~	~	1	0	CBK7-43-*-ETD-P▼	600	Q2
	~	~	10	15	30	30			CAK7-43-*-◆-P▼		
	KWIKstarters II with Electronic 24VDC Coil ④										
	2	5	~	~	~	~	1	0	CBK7-30E-24E-ETD-P▼	572	Q2
	~	~	7-1/2	10	20	25			CAK7-30E-24E-◆-P▼		
	3	5	~	~	~	~	1	0	CBK7-37E-24E-ETD-P▼	633	Q2
	~	~	10	10	25	30			CAK7-37E-24E-◆-P▼		
3	7-1/2	~	~	~	~	1	0	CBK7-43E-24E-ETD-P▼	767	Q2	
~	~	10	15	30	30			CAK7-43E-24E-◆-P▼			



Coil Codes (*) ④⑤⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
277	240V	277V	Common	~
380	380V-400V	440V	~	Common
480	440V	480V	~	Common
600	550V	600V	~	Common

Control Circuit Note

Common: Coils and pilot devices in the control circuit are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.

Separate: Coils and pilot devices in the control circuit are assumed to be from a separate source and will not be connected to the line source per the table. Pilot lights are 240 VAC maximum.

Pilot Device Options (includes reset) ②⑥

Pushbutton Description	Replace ▼ in catalog number with	Price Adder
START-STOP Multi-function	3U	Standard
I-O Multi-function	4U	Standard
OFF-ON 2-Position Selector switch	6	Standard
HAND-OFF-AUTO 3-Position Selector switch	7	Standard
Run Pilot Light Green	1G	Standard
Run Pilot Light Red	1R	Standard
Overload Alarm Pilot Light	1Y	Standard

Optional CA7 Modifications (Factory Assembled)

Description	Add to end of catalog number	Price Adder
Electronic Interface	-JE	+94
Surge Suppressor RD	-C	+54
Surge Suppressor Varistor	-V	+54
Additional NC Contact	-L01	+45
Additional NO Contact	-L10	+45

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See this page only
Replace (◆) with O/L Relay	
Replace (▼) with Pilot Device Option	

Replace ◆ with one of the following Overload Relays

For use with KWIKstarter...	Amp Range	Overload Relay Code (◆)	Catalog No. (of Overload Relay used)	Price Adder
3-Phase / Manual Reset / Class 10				
CAK7-30...43	1.0...5.0	D1CD	CEP7-ED1CD	+0
	3.2...16	D1DD	CEP7-ED1DD	+0
	5.4...27	D1ED	CEP7-ED1ED	+0
	9...45	D1FD	CEP7-ED1FD	+0
3-Phase / Auto or Manual Reset / Class 10, 15, 20, 30				
CAK7-30...43	1.0...5.0	ECD	CEP7-EECD	+21
	3.2...16	EDD	CEP7-EEDD	+21
	5.4...27	EED	CEP7-EEED	+21
	9...45	EFD	CEP7-EEFD	+21

① Use CEP7-ED/CEP7-EE Second Generation overloads only. Single-phase applications utilize CEP7S-EETD only.

② Plastic Bezel is standard. Pilot Device options include D7-BX_ Base Mounted contact blocks. See page H68 for more information.

③ Refer to page C10 for wiring diagram and C10.2 for dimensional information.


④ Electronic 24VDC Coils are not interchangeable with other coil sizes or types.

⑤ Other voltages available, see Section A. *Non-standard coil voltages not listed here must be ordered and installed separately as renewal parts.*

⑥ One Pilot Device option must be selected. Blanks are not available. If Pilot Light option is selected then Pilot Light must match Coil Voltage 24V AC or DC, 120V or 240V AC only.

⑦ CPT not possible with KS7-C2S4 enclosure.

Three Phase Reversing KWIKstarters II with CEP7 Overload Relays ①⑦

Enclosure (KS7-COS4R)	Maximum Horsepower				Auxiliary Contacts per Contactor ②		cUL Approved- Type 1/12/4/4X IP66	Price	Dimension Code
	Three Ø				NO	NC			
	200V	230V	460V	575V			Catalog Number		
	FVR 3-Phase with AC Coil								
	2	2	5	7 1/2	1	1	CAUK7-9-*-◆-P▼	675	Q3
	3	3	7 1/2	10	1	1	CAUK7-12-*-◆-P▼	745	Q3
	5	5	10	15	1	1	CAUK7-16-*-◆-P▼	790	Q3
	5	7 1/2	15	15	1	1	CAUK7-23-*-◆-P▼	835	Q3
	FVR 3-Phase with Electronic 24V DC Coil								
	2	2	5	7 1/2	1	1	CAUK7-9E-24E-◆-P▼	829	Q3
	3	3	7 1/2	10	1	1	CAUK7-12E-24E-◆-P▼	919	Q3
	5	5	10	15	1	1	CAUK7-16E-24E-◆-P▼	976	Q3
	5	7 1/2	15	15	1	1	CAUK7-23E-24E-◆-P▼	1033	Q3



Coil Codes (*) ④⑤⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
277	240V	277V	Common	~
380	380V-400V	440V	~	Common
480	440V	480V	~	Common
600	550V	600V	~	Common

Control Circuit Note

Common: Coils and pilot devices in the control circuit are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.

Separate: Coils and pilot devices in the control circuit are assumed to be from a separate source and will not be connected to the line source per the table. Pilot lights are 240 VAC maximum.

Pilot Device Options (includes reset) ②③

Pushbutton Description	Replace ▼ in catalog number with	Price Adder
FOR-STOP-REV Multi-function	3U	Standard
UP-STOP-DOWN Multi-function	4U	Standard
OPEN-STOP-CLOSE Multi-function	5U	Standard
FOR-STOP-REV 3-Position Selector switch	6	Standard
UP-OFF-DOWN 3-Position Selector switch	7	Standard
OPEN-OFF-CLOSE 3-Position Selector switch	8	Standard
Overload Alarm Pilot Light	1Y	Standard

Optional CA7 Modifications (Factory Assembled)

Description (supplied on each contactor)	Add to end of catalog number	Price Adder
Electronic Interface	-2JE	+188
Surge Suppressor RD	-2C	+108
Surge Suppressor Varistor	-2V	+108
Additional NC Contact	-2L01	+90
Additional NO Contact	-2L10	+90

Ordering Instructions



Specify Catalog Number	
Replace (*) with Coil Code	See this page ONLY
Replace (◆) with O/L Relay	
Replace (▼) with Pilot Device Option	

Replace ◆ with one of the following Overload Relays

For use with KWIKstarter...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
3-Phase / Manual Reset / Class 10				
CAUK7-9...23 CAUK7-9E...23E	0.1...0.5	D1AB	CEP7-ED1AB	Standard
	0.2...1.0	D1BB	CEP7-ED1BB	Standard
	1.0...5.0	D1CB	CEP7-ED1CB	Standard
	3.2...16	D1DB	CEP7-ED1DB	Standard
	5.4...27	D1EB	CEP7-ED1EB	Standard
3-Phase / Auto or Manual Reset / Class 10, 15, 20, 30				
CAUK7-9...23 CAUK7-9E...23E	0.1...0.5	EAB	CEP7-EEAB	+17
	0.2...1.0	EBB	CEP7-EEBB	+17
	1.0...5.0	ECB	CEP7-EECB	+17
	3.2...16	EDB	CEP7-EEDB	+17
	5.4...27	EEB	CEP7-EEEB	+17

- ① Use CEP7-ED/CEP7-EE Second Generation overloads only.
- ② Plastic Bezel is standard. Pilot Device options include D7-BX_ Base Mounted contact blocks. See page H68 for more information.
- ③ Refer to page C10.1 for wiring diagram and C10.3 for dimensional information.
- ④ Electronic 24VDC Coils are not interchangeable with other coil sizes or types.
- ⑤ Other voltages available, see Section A. *Non-standard coil voltages not listed here must be ordered and installed separately as renewal parts.*
- ⑥ One Pilot Device option must be selected. Blanks are not available. If Pilot Light option is selected then Pilot Light must match Coil Voltage 24V AC or DC, 120V or 240V AC only.
- ⑦ CPT not possible with KS7-COS4R enclosure.
- ⑧ One N.C. auxiliary contact is used for electrical interlocking. On CAUK7 reversing starters, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat# CM7-02).

NEMA KWIKstarters II with CEP7 Overload Relays ①⑦

Enclosure (KS7-C2S4)	NEMA Size	Maximum Horsepower						Total Aux. Contacts Installed		cUL Approved- Type 1/12/4/4X IP66	Price	Dimension Code
		Single Ø		Three Ø				NO	NC			
		115V	230V	200V	230V	460V	575V			Catalog Number		
NEMA KWIKstarters II with AC Coil												
	1	2	3	~	~	~	~	1	0	CBKN7-37-*-ETD-P▼	507	Q2
		~	~	7-1/2	7-1/2	10	10			CAKN7-37-*-◆-P▼		
	2	3	7-1/2	~	~	~	~	1	0	CBKN7-43-*-ETD-P▼	600	Q2
		~	~	10	15	25	25			CAKN7-43-*-◆-P▼		
NEMA KWIKstarters II with Electronic 24VDC Coil ④												
	1	3	5	~	~	~	~	1	0	CBKN7-37E-24E-ETD-P▼	633	Q2
		~	~	10	10	25	30			CAKN7-37E-24E-◆-P▼		
	2	3	7-1/2	~	~	~	~	1	0	CBKN7-43E-24E-ETD-P▼	767	Q2
		~	~	10	15	30	30			CAKN7-43E-24E-◆-P▼		

Coil Codes (*) ④⑤⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
277	240V	277V	Common	~
380	380V-400V	440V	~	Common
480	440V	480V	~	Common
600	550V	600V	~	Common

Control Circuit Note

Common: Coils and pilot devices in the control circuit are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.
Separate: Coils and pilot devices in the control circuit are assumed to be from a separate source and will not be connected to the line source per the table. Pilot lights are 240 VAC maximum.

Pilot Device Options (includes reset) ②⑥

Pushbutton Description	Replace ▼ in catalog number with	Price Adder
START-STOP Multi-function	3U	Standard
I-O Multi-function	4U	Standard
OFF-ON 2-Position Selector switch	6	Standard
HAND-OFF-AUTO 3-Position Selector switch	7	Standard
Run Pilot Light Green	1G	Standard
Run Pilot Light Red	1R	Standard
Overload Alarm Pilot Light	1Y	Standard

Optional CA7 Modifications (Factory Assembled)

Description	Add to end of catalog number	Price Adder
Electronic Interface	-JE	+94
Surge Suppressor RD	-C	+54
Surge Suppressor Varistor	-V	+54
Additional NC Contact	-L01	+45
Additional NO Contact	-L10	+45

Ordering Instructions


Specify Catalog Number	
Replace (*) with Coil Code	See this page only
Replace (◆) with O/L Relay	
Replace (▼) with Pilot Device Option	

Replace ◆ with one of the following Overload Relays

For use with KWIKstarter...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
3-Phase / Manual Reset / Class 10				
CAK7-30...43	1.0...5.0	D1CD	CEP7-ED1CD	+0
	3.2...16	D1DD	CEP7-ED1DD	+0
	5.4...27	D1ED	CEP7-ED1ED	+0
	9...45	D1FD	CEP7-ED1FD	+0
3-Phase / Auto or Manual Reset / Class 10, 15, 20, 30				
CAK7-30...43	1.0...5.0	ECD	CEP7-EECD	+21
	3.2...16	EDD	CEP7-EEEDD	+21
	5.4...27	EED	CEP7-EEED	+21
	9...45	EFD	CEP7-EEFD	+21

- Use CEP7-ED/CEP7-EE Second Generation overloads only. Single-phase applications utilize CEP7S-EETD only.
- Plastic Bezel is standard. Pilot Device options include D7-BX_ Base Mounted contact blocks. See page H68 for more information.
- Refer to page C10 for wiring diagram and C10.2 for dimensional information.
- Electronic 24VDC Coils are not interchangeable with other coil sizes or types.
- Other voltages available, see Section A. *Non-standard coil voltages not listed here must be ordered and installed separately as renewal parts.*
- One Pilot Device option must be selected. Blanks are not available. If Pilot Light option is selected then Pilot Light must match Coil Voltage 24V AC or DC, 120V or 240V AC only.
- CPT not possible with KS7-C2S4 enclosure.

Three Phase Reversing NEMA KWIKstarters II with CEP7 Overload Relays ①⑦

Enclosure (KS7-COS4R)	NEMA Size	Maximum Horsepower				Auxiliary Contacts per Contactor ②		cUL Approved-Type 1/12/4/4X IP66	Price	Dimension Code ③
		Three Ø				NO	NC			
		200V	230V	460V	575V			Catalog Number		
	3-Phase FVR NEMA KWIKstarter with AC Coil									
	00	1-1/2	1-1/2	2	2	1	1	CAUKN7-12-*--♦-P▼	745	Q3
	0	3	3	5	5	1	1	CAUKN7-16-*--♦-P▼	790	Q3
	3-Phase FVR NEMA KWIKstarter with Electronic 24V DC Coil									
	00	1-1/2	1-1/2	2	2	1	1	CAUKN7-12E-24E-♦-P▼	919	Q3
	0	3	3	5	5	1	1	CAUKN7-23E-24E-♦-P▼	1033	Q3



Coil Codes (*) ④⑤⑥

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	~	208V	~	Common
220W	~	208V-240V	Common	Common
240	220V	240V	Common	Common
277	240V	277V	Common	~
380	380V-400V	440V	~	Common
480	440V	480V	~	Common
600	550V	600V	~	Common

Control Circuit Note

Common: Coils and pilot devices in the control circuit are assumed to be common with the line voltage and will be connected to the line source (L1-L2) per the table.
Separate: Coils and pilot devices in the control circuit are assumed to be from a separate source and will not be connected to the line source per the table. Pilot lights are 240 VAC maximum.

Pilot Device Options (includes reset) ②⑥

Pushbutton Description	Replace ▼ in catalog number with	Price Adder
FOR-STOP-REV Multi-function	3U	Standard
UP-STOP-DOWN Multi-function	4U	Standard
OPEN-STOP-CLOSE Multi-function	5U	Standard
FOR-STOP-REV 3-Position Selector switch	6	Standard
UP-OFF-DOWN 3-Position Selector switch	7	Standard
OPEN-OFF-CLOSE 3-Position Selector switch	8	Standard
Overload Alarm Pilot Light	1Y	Standard

Optional CA7 Modifications (Factory Assembled)

Description (supplied on each contactor)	Add to end of catalog number	Price Adder
Electronic Interface	-2JE	+188
Surge Suppressor RD	-2C	+108
Surge Suppressor Varistor	-2V	+108
Additional NC Contact	-2L01	+90
Additional NO Contact	-2L10	+90

Ordering Instructions



Specify Catalog Number	
Replace (*) with Coil Code	See this page ONLY
Replace (♦) with O/L Relay	
Replace (▼) with Pilot Device Option	

Replace ♦ with one of the following Overload Relays




For use with KWIKstarter...	Amp Range	Overload Relay Code (♦)	Catalog Number (of Overload Relay used)	Price Adder
3-Phase / Manual Reset / Class 10				
CAUKN7-12..16 CAUKN7-12E..16E	0.1...0.5	D1AB	CEP7-ED1AB	Standard
	0.2...1.0	D1BB	CEP7-ED1BB	Standard
	1.0...5.0	D1CB	CEP7-ED1CB	Standard
	3.2...16	D1DB	CEP7-ED1DB	Standard
	5.4...27	D1EB	CEP7-ED1EB	Standard
3-Phase / Auto or Manual Reset / Class 10, 15, 20, 30				
CAUKN7-12..16 CAUKN7-12E..16E	0.1...0.5	EAB	CEP7-EEAB	+17
	0.2...1.0	EBB	CEP7-EEBB	+17
	1.0...5.0	ECB	CEP7-EECB	+17
	3.2...16	EDB	CEP7-EEDB	+17
	5.4...27	EEB	CEP7-EEEB	+17

- ① Use CEP7-ED/CEP7-EE Second Generation overloads only.
- ② Plastic Bezel is standard. Pilot Device options include D7-BX_ Base Mounted contact blocks. See page H68 for more information.
- ③ Refer to page C10.1 for wiring diagram and C10.3 for dimensional information.
- ④ Electronic 24VDC Coils are not interchangeable with other coil sizes or types.
- ⑤ Other voltages available, see Section A. *Non-standard coil voltages not listed here must be ordered and installed separately as renewal parts.*
- ⑥ One Pilot Device option must be selected. Blanks are not available. If Pilot Light option is selected then Pilot Light must match Coil Voltage 24V AC or DC, 120V or 240V AC only.
- ⑦ CPT not possible with KS7-COS4R enclosure.
- ⑧ One N.C. auxiliary contact is used for electrical interlocking. On CAUKN7 reversing starters, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat# CM7-02).

KWIKstarter II Enclosures for use with CA7 Contactors and Overload Relays ③

Component	Description	For Use With		Environmental Approvals	Catalog Number	Price
		Contactor	Overload			
	Enclosure for KWIKstarter II ① CAK7/CBK7-30...43 CAK7/CBK7-30E...43E	CA7-30...43 CA7-30E...43E	CEP7-ED1CD...ED1FD CEP7-EECD...EEFD CEP7S-EETD	cUL Type 1/12/4/4x IEC IP66	KS7-C2S4	110
	Enclosure for Reversing KWIKstarter II ② CAUK7-9...23 CAUK7-9E...23E	CAU7-9...23 CAU7-9E...23E	CEP7-ED1AB...ED1EB CEP7-EEAB...EEEB	cUL Type 1/12/4/4x IEC IP66	KS7-C0S4R	110

KWIKstarter II Pilot Device Kits (for use with KS7-C2S4 or KS7-C0S4R) ③④

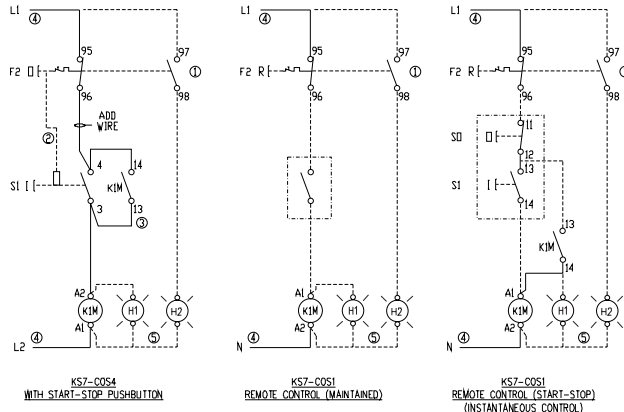
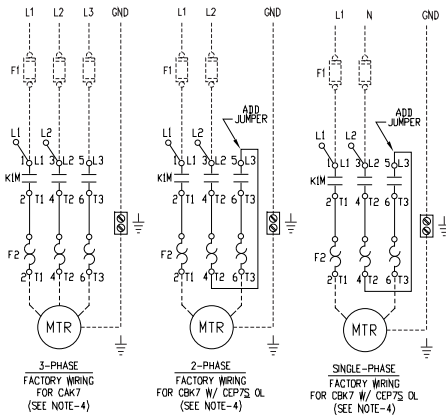
Kits	Description	For Use With Enclosure...	Contact Blocks included		Catalog Number	Price
			NO	NC		
	Multi-Function Pushbutton kit Non-illuminated					
	START-STOP I-O	KS7-C2S4 Type 1, 12, 4, 4X	1	1	KS7-P3U KS7-P4U	55
	FOR-STOP-REV UP-STOP-DOWN OPEN-STOP-CLOSE	KS7-C0S4R Type 1, 12, 4, 4X	2	1	KS7-P3U-REV KS7-P4U-REV KS7-P5U-REV	103
	Selector switch kits Non-illuminated, includes legend plate					
	ON-OFF 2-Position	KS7-C2S4 Type 1, 12, 4, 4X	1	-	KS7-P6	41
	HAND-OFF-AUTO 3-Position	KS7-C2S4 Type 1, 12, 4, 4X	2	-	KS7-P7	54
	Run Pilot Light or Overload Alarm Pilot Light Plastic operator with diffuser lens in Red, Green or Yellow, with integrated LED power module	KS7-C2S4 or KS7-C0S4R Type 1, 12, 3R, 4, 4X Replace ⑤ with color choice R = Red G = Green Y = Yellow	-	-	KS7-P1⑥24V ⑥ KS7-P1⑥120V KS7-P1⑥240V	50
	Reset Pushbutton, Blue Plastic, flush operator with Blue Cap and R text	KS7-C2S4 KS7-C0S4R	-	-	D7P-F611 ⑥	See page H4

① KWIKstarter enclosure KS7-C2S4 are designed to fit CA7-30...43 contactors with CEP7 Overload Relays. CT7N Thermal Overloads can not be substituted.
② KWIKstarter enclosure KS7-C0S4R are designed to fit CAU7-9...23 reversing contactors with CEP7 Overload Relays. CT7N Thermal Overloads can not be substituted.

③ KS7-C2S4 and KS7-C0S4R are supplied with two 22mm holes for Pilot Devices. A Reset is required and one additional pilot device kit from this page must be selected. CPT not possible.
④ Plastic bezel is standard. Pilot Device Kits include D7-BX_ Base Mounted contact blocks. See page H68 for more information.
⑤ D7P-R611 and CEP7-ERA can not be used with KS7-C2S4 or KS7-C0S4R.
⑥ KS7-P1⑥24V can be used with 24V AC or 24V DC.

KWIKstarter II (in enclosure KS7-C0S1/C0S4)

CUSTOMER MUST PROVIDE PROPER BRANCH CIRCUIT PROTECTION (F1)
SEE THE APPLICATION INSTRUCTION SHEET - COMPONENT SELECTION TABLES
FOR MAX. FUSE SIZE & CLASS AND APPLICABLE SHORT CIRCUIT RATING
(USE 75°C COPPER WIRE ONLY)



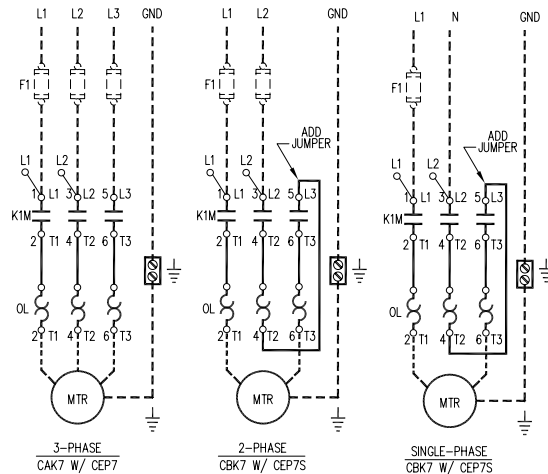
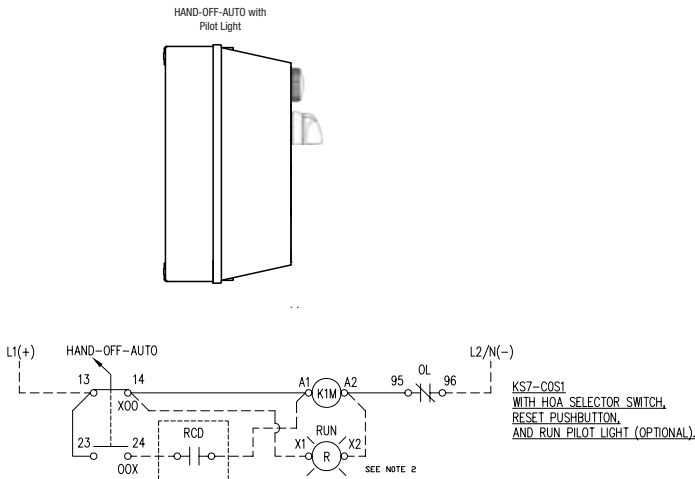
NOTES:

- 1) MECHANICAL LATCH KS7-PLA FOR MAINTAINED CONTROL (OPTIONAL).
- 2) START CONTACT KIT KS7-PCK (INCLUDED) MOUNTS ON THE RIGHT SIDE WITH MOLDED PRE-FORMED JUMPERS.
- 3) DO NOT WIRE CONTROLS CIRCUIT TO LINE SIDE OF CONTACTOR WHEN COIL VOLTAGE IS 120V OR LESS. (FACTORY WIRING STANDARD)
- 4) OPTIONAL PILOT LIGHTS.

THIS DRAWING IS FOR THE FOLLOWING ENCLOSURES:
KS7-C0S4 with integrated START-STOP push buttons
KS7-C0S1 with integrated RESET push button

KWIKstarter II (in enclosure KS7-C0S1/C0S4) with HOA option

CUSTOMER WILL PROVIDE BRANCH CIRCUIT PROTECTION (F1)
SEE THE APPLICATION INSTRUCTION SHEET - COMPONENT SELECTION TABLES
FOR MAX. FUSE SIZE, CLASS, AND APPLICABLE SHORT CIRCUIT RATING
(USE 75°C COPPER WIRE ONLY)

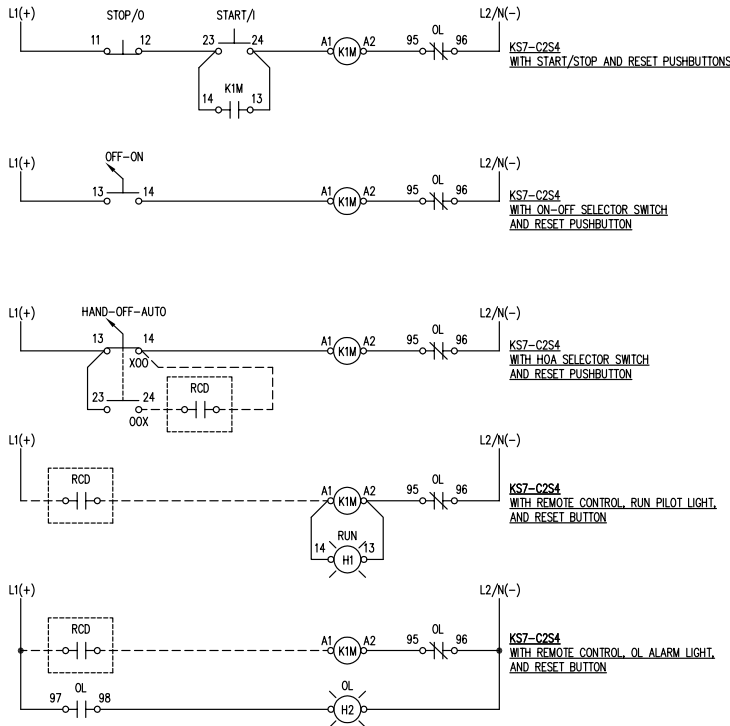


NOTES:

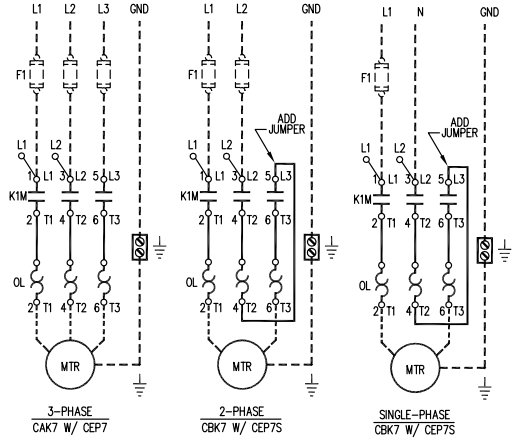
1. RCD = REMOTE CONTROL DEVICE (BY OTHERS). WIRE RCD TO TERMINAL 24 ON THE H-O-A SEL. SW. AND TERMINAL A1 ON THE CONTACTOR.
2. DASHED LINES - - - - - INDICATE WIRING PROVIDED IN THE FIELD.
3. DOOR WIRES TO BE SECURED WITH ADHESIVE MOUNTS AND SPIRAL WRAPPED.

A.C. Coil Code	Voltage Range		Control Source	
	50 Hz	60 Hz	CBK7	CAK7
24Z	24V	24V	Separate	Separate
120	110V	120V	Common	Separate
208	-	208V	-	Common
220W	-	208V-240V	Common	Common
240	220V	240V	Common	Common
D.C. Coil Code	Voltage Range		Control Source	
	VDC		CBK7	CAK7
24E	24V		Separate	Separate

KWIKstarter II (in enclosure KS7-C2S4)

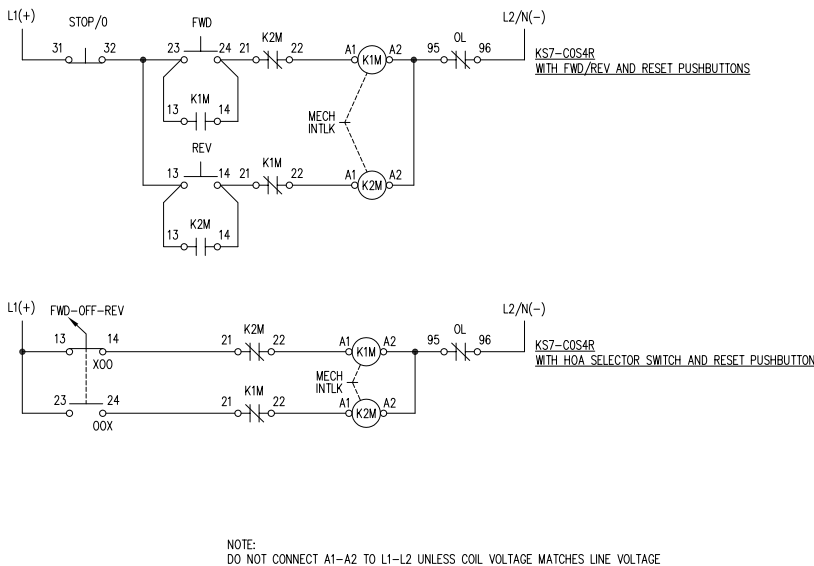


CUSTOMER WILL PROVIDE BRANCH CIRCUIT PROTECTION (F1)
SEE THE APPLICATION INSTRUCTION SHEET - COMPONENT SELECTION TABLES
FOR MAX. FUSE SIZE, CLASS, AND APPLICABLE SHORT CIRCUIT RATING
(USE 75°C COPPER WIRE ONLY)



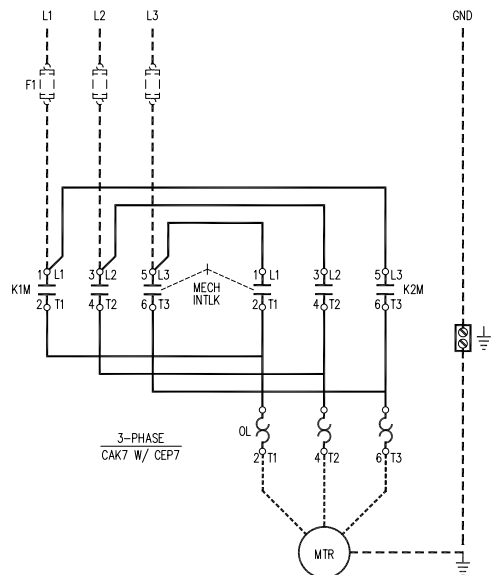
- NOTES:
- DO NOT CONNECT A1-A2 TO L1-L2 UNLESS COIL VOLTAGE MATCHES LINE VOLTAGE
 - PILOT LIGHTS POSSIBLE FOR REMOTE OR OVERLOAD ALARM IF NO START/STOP CONTROL DEVICES IN COVER
 - RCD = REMOTE CONTROL DEVICE (BY OTHERS)

KWIKstarter II (in enclosure KS7-C0S4R)



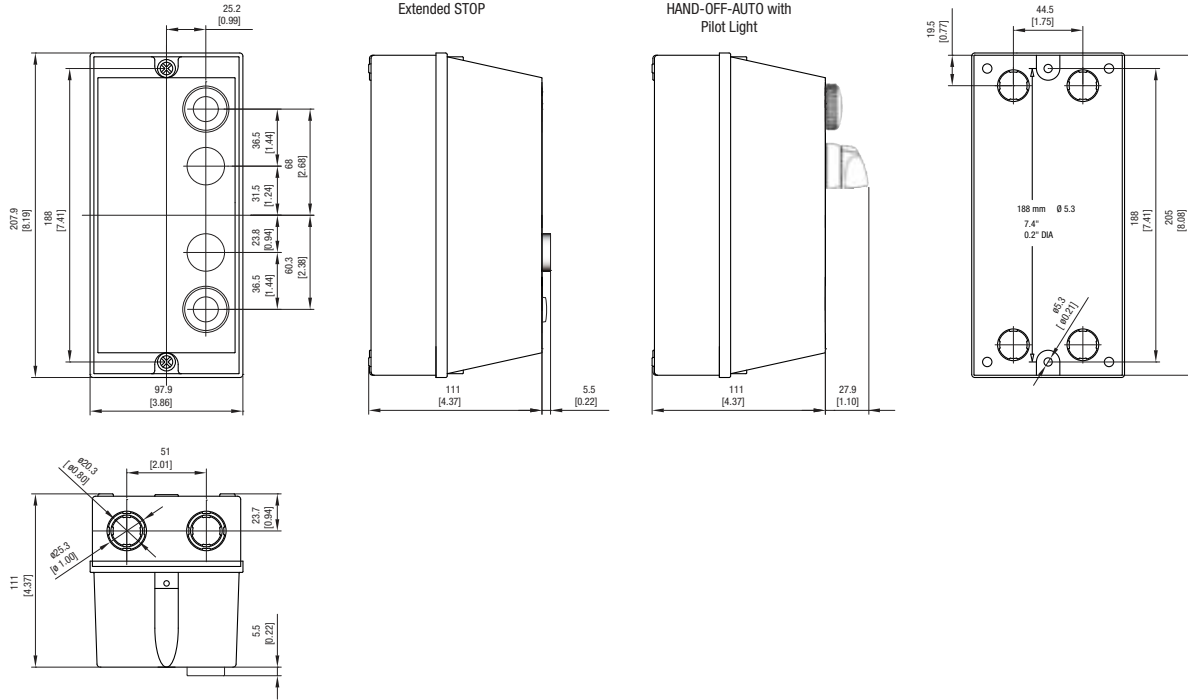
NOTE:
DO NOT CONNECT A1-A2 TO L1-L2 UNLESS COIL VOLTAGE MATCHES LINE VOLTAGE

CUSTOMER WILL PROVIDE BRANCH CIRCUIT PROTECTION (F1)
SEE THE APPLICATION INSTRUCTION SHEET - COMPONENT SELECTION TABLES
FOR MAX. FUSE SIZE, CLASS, AND APPLICABLE SHORT CIRCUIT RATING
(USE 75°C COPPER WIRE ONLY)

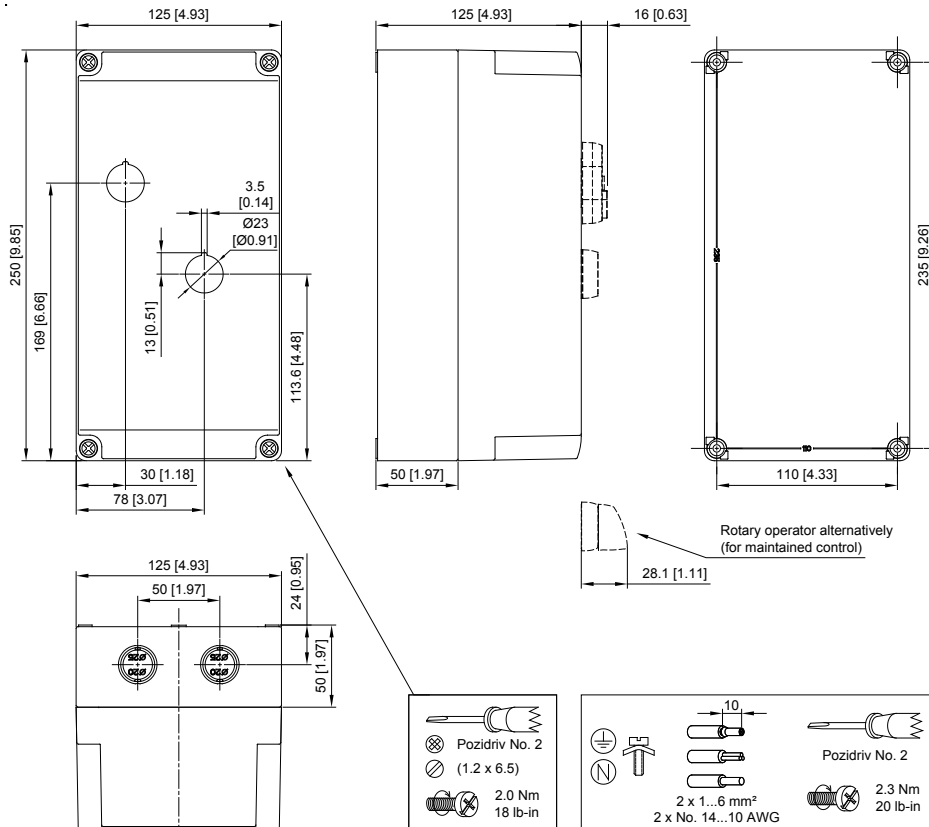


KWIKstarter II Enclosure KS7-C0S1/C0S4 (Dimension Code Q1)

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

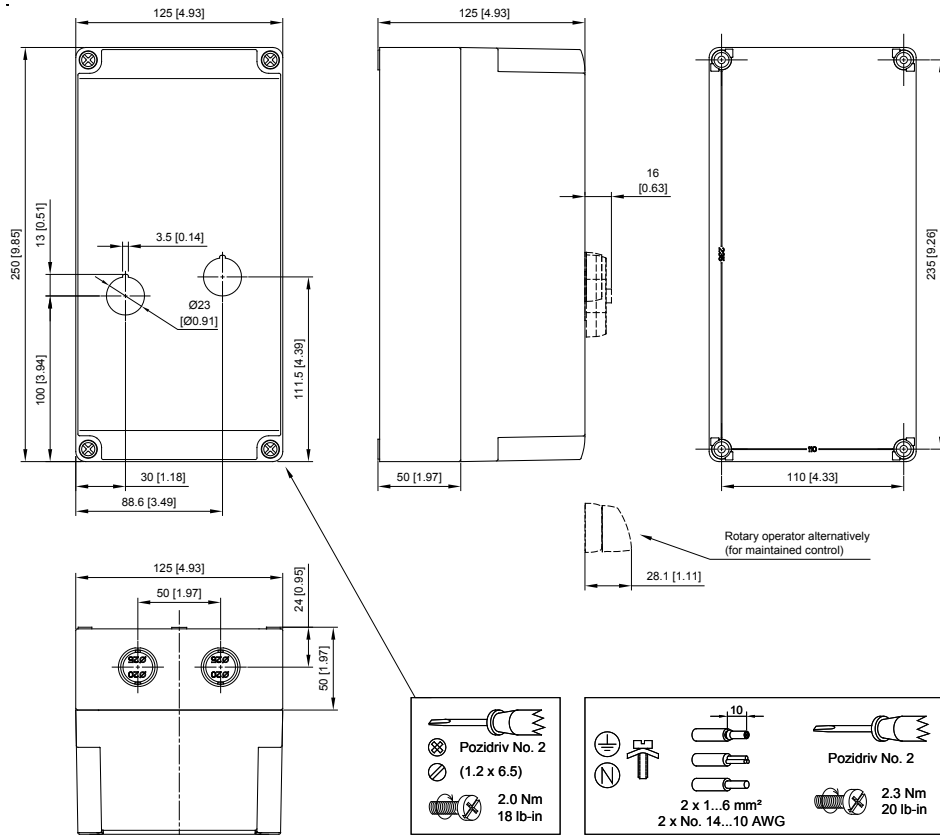


KWIKstarter II Enclosure KS7-C2S4 (Dimension Code Q2)



KWIKstarter II Enclosure KS7-COS4R (Dimension Code Q3)

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



Enclosed Contactors

Sprecher + Schuh's entire contactor line housed in a variety of enclosures

Sprecher + Schuh's broad line of IEC contactors can be purchased pre-installed in a variety of standard enclosures. Cataloged enclosures include:

- Type 1 (M1)** General Purpose
- Type 12 (M12)** Industrial Dusttight
- Type 3R (M3)** Raintight (outdoor)
- Type 4 (M4)** Watertight
- Type 4X / (F4)** Watertight, Corrosion Resistant Non-Metallic

Even though these are the most popular enclosure types for most industrial applications, we can house any contactor in a custom enclosure of your choice.

Quality enclosures ensure the highest confidence



Sprecher + Schuh only sources enclosures from name brand manufacturers, ensuring the highest quality. We primarily use enclosures that meet UL Standards, i.e., Type 1, Type 3R, etc., however, we can also source IEC-type enclosures at your request. Enclosures are sized first to accommodate the depth of the contactor and offer sufficient electrical clearances to satisfy UL.

Add a variety of modifications

If you need a larger enclosure than what is specified in our catalog, your sales representative and our Engineering department will work with you to customize any of our enclosed products to suit your exact specifications. Any combination of enclosure types, sizes, pilot devices, meters and other modifications can be combined to provide exactly the panel you need.



Precisely match the contactor to the application

Unique to IEC-style contactors is the ability to select the exact device required for a specific application. By identifying the conditions under which the contactor will be used, i.e., resistive loads, reversing, inching and plugging, etc., published "life-curve" data predicts contact life in millions of operations. This information enables you to select the precise contactor for your application... without buying too much or too little. Refer to Section A in this catalog for detailed technical information on all Sprecher + Schuh contactors.

Other unique features...

Virtually all Sprecher+Schuh contactors offer one or more of the latest design techniques and innovations, such as electronically controlled coils, field installable auxiliary contacts or universal accessories across the entire contactor family.



Type 1



Type 3R



Type 4



Type 4X

Three Phase, Non-Reversing CA7, CA6 & CA5

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ⑤		Type 1 (M1) General Purpose	Price	D I M ①	Type 12, (M12) [Type 3R (M3) ②] Industrial Dusttight	Price	D I M ①
	Enclosed	200V	230V	460V	575V	NO	NC			Catalog Number		
25	2	2	5	7.5	1	0	CA7-9-* GO ③	218	A ⑥	CA7-9-* DO ③	319	L
25	3	3	7.5	10	1	0	CA7-12-* GO ③	252	A ⑥	CA7-12-* DO ③	352	L
30	5	5	10	15	1	0	CA7-16-* GO ③	268	A ⑥	CA7-16-* DO ③	368	L
30	5	7.5	15	15	1	0	CA7-23-* GO ③	285	A ⑥	CA7-23-* DO ③	386	L
55	7.5	10	20	25	1	0	CA7-30-* GO ③	335	A ⑥	CA7-30-* DO ③	436	L
60	10	10	25	30	1	0	CA7-37-* GO ③	377	A ⑥	CA7-37-* DO ③	478	L
75	10	15	30	30	1	0	CA7-43-* GO ③	537	A ⑥	CA7-43-* DO ③	570	L
90	15	20	40	50	1	0	CA7-60-* GO ③	578	B ⑥	CA7-60-* DO ③	620	M
90	20	25	50	60	1	0	CA7-72-* GO ③	637	B ⑥	CA7-72-* DO ③	670	M
100	25	30	60	60	1	0	CA7-85-* GO ③	696	B ⑥	CA7-85-* DO ③	738	M
120	30	30	75	75	1	0	CA7-97-* GO ③	876	B ⑥	CA7-97-* DO ③	919	O
160	40	40	75	100	1	1	CA6-110-* GO ④	1424	E	CA6-110-* DO ④	1592	Q
220	40	50	100	125	1	1	CA6-140-* GO ④	1843	E	CA6-140-* DO ④	2011	Q
220	50	60	150	150	1	1	CA6-180-* GO ④	2178	E	CA6-180-* DO ④	2681	R
300	60	75	150	200	1	1	CA6-210-EI-* GO	2681	F	CA6-210-EI-* DO	3392	T
300	75	100	200	250	1	1	CA6-250-EI-* GO	3016	F	CA6-250-EI-* DO	3727	T
340	100	125	250	300	1	1	CA6-300-EI-* GO	3518	H	CA6-300-EI-* DO	4021	H
420	150	175	350	400	1	1	CA6-420-EI-* GO	6198	H	CA6-420-EI-* DO	6701	H
630	200	250	500	600	1	1	CA6-630-EI-* GO	R/ F	~	CA6-630-EI-* DO	R/ F	~
860	250	300	600	700	1	1	CA6-860-EI-* GO	R/ F	~	CA6-860-EI-* DO	R/ F	~
1215	450	450	900	900	1	2	CA5-1200-* GO	R/ F	~	CA5-1200-* DO	R/ F	~

NEW

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code Factory Modifications available	Refer to page C57 Refer to pages C60-63

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CA7-23-***DO** becomes CA7-23-***R0**.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ CA6-110...CA6-180 contactors are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CA6-110-* becomes CA6-110-EI-*. See page C57 for price adder.
- ⑤ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Three Phase, Non-Reversing CA7, CA6 & CA5

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ②		Type 4 (M4) Watertight	Price	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	D I M
	Enclosed	200V	230V	460V	575V	NO						
25	2	2	5	7.5	1	0	CA7-9-* -WO	461	N	CA7-9-* -CO	344	S1
25	3	3	7.5	10	1	0	CA7-12-* -WO	495	N	CA7-12-* -CO	377	S1
30	5	5	10	15	1	0	CA7-16-* -WO	511	N	CA7-16-* -CO	394	S1
30	5	7.5	15	15	1	0	CA7-23-* -WO	530	N	CA7-23-* -CO	411	S1
55	7.5	10	20	25	1	0	CA7-30-* -WO	578	N	CA7-30-* -CO	461	S1
60	10	10	25	30	1	0	CA7-37-* -WO	620	N	CA7-37-* -CO	503	S1
75	10	15	30	30	1	0	CA7-43-* -WO	637	N	CA7-43-* -CO	520	S1
90	15	20	40	50	1	0	CA7-60-* -WO	779	O	CA7-60-* -CO	679	U1
90	20	25	50	60	1	0	CA7-72-* -WO	838	O	CA7-72-* -CO	738	U1
100	25	30	60	60	1	0	CA7-85-* -WO	897	O	CA7-85-* -CO	796	U1
120	30	30	75	75	1	0	CA7-97-* -WO	1017	O	CA7-97-* -CO	978	U1
160	40	40	75	100	1	1	CA6-110-* -WO ③	2011	Q	CA6-110-* -CO ③	1810	W2
220	40	50	100	125	1	1	CA6-140-* -WO ③	2178	Q	CA6-140-* -CO ③	2262	W2
220	50	60	150	150	1	1	CA6-180-* -WO ③	2882	R	CA6-180-* -CO ③	3853	X1
300	60	75	150	200	1	1	CA6-210-EI-* -WO	3518	T	CA6-210-EI-* -CO	4523	X1
300	75	100	200	250	1	1	CA6-250-EI-* -WO	3853	T	CA6-250-EI-* -CO	4858	X1
340	100	125	250	300	1	1	CA6-300-EI-* -WO	4523	H	CA6-300-EI-* -CO	5696	Y1
420	150	175	350	400	1	1	CA6-420-EI-* -WO	7203	H	CA6-420-EI-* -CO	8376	Y1
630	200	250	500	600	1	1	CA6-630-EI-* -WO	R/ F	~	CA6-630-EI-* -CO	R/ F	~
860	250	300	600	700	1	1	CA6-860-EI-* -WO	R/ F	~	CA6-860-EI-* -CO	R/ F	~
1215	450	450	900	900	1	2	CA5-1200-* -WO	R/ F	~	CA5-1200-* -CO	R/ F	~

NEW

Starters & Enclosed Prod.
CONT

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	Refer to page C57 Refer to pages C60-63
Replace (*) with Coil Code Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ③ CA6-110...CA6-180 contactors are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CA6-110-* -WO becomes CA6-110-EI-* -WO. See page C57 for price adder.

Three Phase, Reversing CAU7, CAU6 & CAU5

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ③		Type 1 (M1) General Purpose	Price	D I M	Type 12, (M12) [Type 3R (M3) ②] Industrial Dusttight	Price	D I M
	Enclosed	200V	230V	460V	575V	NO	NC ④			Catalog Number		
25	2	2	5	7.5	1	1	CAU7-9-*GO ⑤	580	A ⑥	CAU7-9-*DO ⑤	639	M
25	3	3	7.5	10	1	1	CAU7-12-*GO ⑤	654	A ⑥	CAU7-12-*DO ⑤	704	M
30	5	5	10	15	1	1	CAU7-16-*GO ⑤	696	A ⑥	CAU7-16-*DO ⑤	746	M
30	5	7.5	15	15	1	1	CAU7-23-*GO ⑤	715	A ⑥	CAU7-23-*DO ⑤	791	M
55	7.5	10	20	25	1	1	CAU7-30-*GO ⑤	833	A ⑥	CAU7-30-*DO ⑤	883	M
60	10	10	25	30	1	1	CAU7-37-*GO ⑤	917	A ⑥	CAU7-37-*DO ⑤	1043	M
75	10	15	30	30	1	1	CAU7-43-*GO ⑤	984	B ⑥	CAU7-43-*DO ⑤	1111	M
90	15	20	40	50	1	1	CAU7-60-*GO ⑤	1313	C	CAU7-60-*DO ⑤	1338	O
90	20	25	50	60	1	1	CAU7-72-*GO ⑤	1430	C	CAU7-72-*DO ⑤	1456	O
100	25	30	60	60	1	1	CAU7-85-*GO ⑤	1540	C	CAU7-85-*DO ⑤	1565	O
120	30	30	75	75	1	1	CAU7-97-*GO ⑤	1780	C	CAU7-97-*DO ⑤	1805	O
160	40	40	75	100	1	1	CAU6-110-*GO ⑤	2681	E	CAU6-110-*DO ⑤	2848	Q
220	40	50	100	125	1	1	CAU6-140-*GO ⑤	3351	E	CAU6-140-*DO ⑤	3518	Q
220	50	60	150	150	1	1	CAU6-180-*GO ⑤	4356	E	CAU6-180-*DO ⑤	4691	R
300	60	75	150	200	1	1	CAU6-210-EI-*GO	5528	F	CAU6-210-EI-*DO	6031	T
300	75	100	200	250	1	1	CAU6-250-EI-*GO	6198	F	CAU6-250-EI-*DO	6701	T
340	100	125	250	300	1	1	CAU6-300-EI-*GO	6868	H	CAU6-300-EI-*DO	7371	H
420	150	175	350	400	1	1	CAU6-420-EI-*GO	12731	H	CAU6-420-EI-*DO	13233	H
630	200	250	500	600	1	1	CAU6-630-EI-*GO	R/ F	~	CAU6-630-EI-*DO	R/ F	~
860	250	300	600	700	1	1	CAU6-860-EI-*GO	R/ F	~	CAU6-860-EI-*DO	R/ F	~
1215	450	450	900	900	1	1	CAU5-1200-*GO	R/ F	~	CAU5-1200-*DO	R/ F	~

NEW

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	Refer to page C57 Refer to pages C60-63
Replace (*) with Coil Code Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAU7-23-*DO becomes CAU7-23-*RO.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ One N.C. auxiliary contact is used for electrical interlocking. On CAU7 reversing contactors, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat # CM7-02).
- ⑤ CAU6-110...CAU6-180 reversing contactors are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CAU6-110-*GO becomes CAU6-110-EI-*GO. See page C57 for price adder.
- ⑥ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Three Phase, Reversing CAU7, CAU6 & CAU5

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ②		Type 4 (M4) Watertight	Price	D I M ①	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	D I M
	Enclosed	200V	230V	460V	575V	NO						
25	2	2	5	7.5	1	1	CAU7-9-* -WO	690	N	CAU7-9-* -CO	673	U1
25	3	3	7.5	10	1	1	CAU7-12-* -WO	757	N	CAU7-12-* -CO	740	U1
30	5	5	10	15	1	1	CAU7-16-* -WO	799	N	CAU7-16-* -CO	782	U1
30	5	7.5	15	15	1	1	CAU7-23-* -WO	841	N	CAU7-23-* -CO	824	U1
55	7.5	10	20	25	1	1	CAU7-30-* -WO	934	N	CAU7-30-* -CO	917	U1
60	10	10	25	30	1	1	CAU7-37-* -WO	1094	N	CAU7-37-* -CO	1010	U1
75	10	15	30	30	1	1	CAU7-43-* -WO	1161	N	CAU7-43-* -CO	1077	U1
90	15	20	40	50	1	1	CAU7-60-* -WO	1363	O	CAU7-60-* -CO	2062	V1
90	20	25	50	60	1	1	CAU7-72-* -WO	1481	O	CAU7-72-* -CO	2188	V1
100	25	30	60	60	1	1	CAU7-85-* -WO	1590	O	CAU7-85-* -CO	2289	V1
120	30	30	75	75	1	1	CAU7-97-* -WO	1830	O	CAU7-97-* -CO	2529	V1
160	40	40	75	100	1	1	CAU6-110-* -WO ④	3282	Q	CAU6-110-* -CO ④	3030	W2
220	40	50	100	125	1	1	CAU6-140-* -WO ④	3955	Q	CAU6-140-* -CO ④	3913	W2
220	50	60	150	150	1	1	CAU6-180-* -WO ④	5134	R	CAU6-180-* -CO ④	6396	X1
300	60	75	150	200	1	1	CAU6-210-EI-* -WO	6691	T	CAU6-210-EI-* -CO	7575	X1
300	75	100	200	250	1	1	CAU6-250-EI-* -WO	7364	T	CAU6-250-EI-* -CO	7953	X1
340	100	125	250	300	1	1	CAU6-300-EI-* -WO	7911	H	CAU6-300-EI-* -CO	9174	Y1
420	150	175	350	400	1	1	CAU6-420-EI-* -WO	13803	H	CAU6-420-EI-* -CO	14892	Y1
630	200	250	500	600	1	1	CAU6-630-EI-* -WO	R/ F	~	CAU6-630-EI-* -CO	R/ F	~
860	250	300	600	700	1	1	CAU6-860-EI-* -WO	R/ F	~	CAU6-860-EI-* -CO	R/ F	~
1215	450	450	900	900	1	2	CAU5-1200-* -WO	R/ F	~	CAU5-1200-* -CO	R/ F	~

NEW

Starters & Enclosed Prod.
CONT

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	Refer to page C57 Refer to pages C60-63
Replace (*) with Coil Code Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ③ One N.C. auxiliary contact is used for electrical interlocking. On CAU7 reversing contactors, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat # CM7-02).
- ④ CAU6-110...CAU6-180 reversing contactors are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CAU6-110-* -WO becomes CAU6-110-EI-* -WO. See page C57 for price adder.

NEW

Single Phase, Non-Reversing CB7 and CB6

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor ③		Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
	Enclosed	115V	230V	NO									NC	Catalog No.	Price	①
					CB7-											
25	1/2	1 1/2	1	0	9-*G0 ④	218	A ⑤	9-*D0 ④	319	L	9-*W0	462	N	9-*C0	345	S1
25	1/2	2	1	0	12-*G0 ④	252	A ⑤	12-*D0 ④	353	L	12-*W0	496	N	12-*C0	378	S1
30	1	3	1	0	16-*G0 ④	269	A ⑤	16-*D0 ④	370	L	16-*W0	513	N	16-*C0	395	S1
30	2	3	1	0	23-*G0 ④	286	A ⑤	23-*D0 ④	387	L	23-*W0	531	N	23-*C0	412	S1
55	2	5	1	0	30-*G0 ④	336	A ⑤	30-*D0 ④	437	L	30-*W0	580	N	30-*C0	462	S1
60	3	5	1	0	37-*G0 ④	378	A ⑤	37-*D0 ④	479	L	37-*W0	622	N	37-*C0	505	S1
75	3	7 1/2	1	0	43-*G0 ④	538	A ⑤	43-*D0 ④	570	L	43-*W0	639	N	43-*C0	521	S1
90	5	10	1	0	60-*G0 ④	580	B ⑤	60-*D0 ④	622	M	60-*W0	782	O	60-*C0	681	U1
90	5	15	1	0	72-*G0 ④	639	B ⑤	72-*D0 ④	673	M	72-*W0	841	O	72-*C0	740	U1
100	7 1/2	15	1	0	85-*G0 ④	698	B ⑤	85-*D0 ④	740	M	85-*W0	900	O	85-*C0	799	U1
					CB6-											
160	7 1/2	15	1	1	95-*G0 ④	1262	E	95-*D0	1430	Q	95-*W0 ④	1851	Q	95-*C0 ④	1641	W2
160	10	25	1	1	110-*G0 ④	1430	E	110-*D0 ④	1599	Q	110-*W0 ④	2020	Q	110-*C0 ④	1818	W2
220	15	30	1	1	140-*G0 ④	1851	E	140-*D0 ④	2020	Q	140-*W0 ④	2188	Q	140-*C0 ④	2272	W2
220	~	40	1	1	180-*G0 ④	2188	E	180-*D0 ④	2693	R	180-*W0 ④	2895	R	180-*C0 ④	3871	X1
300	~	50	1	1	210-EI-*G0	2693	F	210-EI-*D0	3408	T	210-EI-*W0	3535	T	210-EI-*C0	4545	X1
300	~	~	1	1	250-EI-*G0	3030	F	250-EI-*D0	3745	T	250-EI-*W0	3871	T	250-EI-*C0	4881	X1
340	~	~	1	1	300-EI-*G0	3535	H	300-EI-*D0	4040	H	300-EI-*W0	4545	H	300-EI-*C0	5723	Y1
420	~	~	1	1	420-EI-*G0	6228	H	420-EI-*D0	6733	H	420-EI-*W0	7238	H	420-EI-*C0	8416	Y1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	Refer to page C57 Refer to pages C60-63
Replace (*) with Coil Code Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CB7-23-*D0 becomes CB7-23-*R0.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ CB6-95...CB6-180 contactors are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CB6-95-*G0 becomes CB6-95-EI-*G0. See page C57 for price adder.
- ⑤ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Single Phase, Reversing CBUR7 (Reconnectable Winding - Three Lead Motor) NEW

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor Ⓢ		Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3)Ⓢ] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
	Enclosed	115V	230V	NO									NC Ⓢ	Catalog No.	Price Ⓢ	Catalog No.
					CBUR		CBUR		CBUR		CBUR					
25	1/2	1 1/2	1	1	7-9-*-GO Ⓢ	580	A Ⓢ	7-9-*-DO Ⓢ	639	A Ⓢ M	7-9-*-WO	690	N	7-9-*-CO	673	U1
25	1/2	2	1	1	7-12-*-GO Ⓢ	656	A Ⓢ	7-12-*-DO Ⓢ	707	M	7-12-*-WO	757	N	7-12-*-CO	740	U1
30	1	3	1	1	7-16-*-GO Ⓢ	698	A Ⓢ	7-16-*-DO Ⓢ	749	M	7-16-*-WO	799	N	7-16-*-CO	782	U1
30	2	3	1	1	7-23-*-GO Ⓢ	715	A Ⓢ	7-23-*-DO Ⓢ	791	M	7-23-*-WO	841	N	7-23-*-CO	824	U1
55	2	5	1	1	7-30-*-GO Ⓢ	833	A Ⓢ	7-30-*-DO Ⓢ	883	M	7-30-*-WO	934	N	7-30-*-CO	917	U1

Single Phase, Reversing CBUS7 (Series Winding – Four Lead Repulsion Induction Motor) NEW

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor Ⓢ		Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3)Ⓢ] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
	Enclosed	115V	230V	NO									NC Ⓢ	Catalog No.	Price Ⓢ	Catalog No.
					CBUS		CBUS		CBUS		CBUS					
25	1/2	1 1/2	1	1	7-9-*-GO Ⓢ	580	A Ⓢ	7-9-*-DO Ⓢ	639	M	7-9-*-WO	690	N	7-9-*-CO	673	U1
25	1/2	2	1	1	7-12-*-GO Ⓢ	656	A Ⓢ	7-12-*-DO Ⓢ	707	M	7-12-*-WO	755	N	7-12-*-CO	740	U1
30	1	3	1	1	7-16-*-GO Ⓢ	698	A Ⓢ	7-16-*-DO Ⓢ	749	M	7-16-*-WO	799	N	7-16-*-CO	782	U1
30	2	3	1	1	7-23-*-GO Ⓢ	715	A Ⓢ	7-23-*-DO Ⓢ	791	M	7-23-*-WO	841	N	7-23-*-CO	824	U1
55	2	5	1	1	7-30-*-GO Ⓢ	833	A Ⓢ	7-30-*-DO Ⓢ	883	M	7-30-*-WO	934	N	7-30-*-CO	917	U1

Single Phase, Reversing CBUP7 (Parallel Winding – Four Lead Capacitor or Split Phase Motor) NEW

Continuous Amp Rating - UL/CSA -	Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor Ⓢ		Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3)Ⓢ] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
	Enclosed	115V	230V	NO									NC Ⓢ	Catalog No.	Price Ⓢ	Catalog No.
					CBUP		CBUP		CBUP		CBUP					
25	1/2	1 1/2	1	1	7-9-*-GO Ⓢ	580	A Ⓢ	7-9-*-DO Ⓢ	639	M	7-9-*-WO	690	N	7-9-*-CO	673	U1
25	1/2	2	1	1	7-12-*-GO Ⓢ	656	A Ⓢ	7-12-*-DO Ⓢ	707	M	7-12-*-WO	757	N	7-12-*-CO	740	U1
30	1	3	1	1	7-16-*-GO Ⓢ	698	A Ⓢ	7-16-*-DO Ⓢ	749	M	7-16-*-WO	799	N	7-16-*-CO	782	U1
30	2	3	1	1	7-23-*-GO Ⓢ	715	A Ⓢ	7-23-*-DO Ⓢ	791	M	7-23-*-WO	841	N	7-23-*-CO	824	U1
55	2	5	1	1	7-30-*-GO Ⓢ	833	A Ⓢ	7-30-*-DO Ⓢ	883	M	7-30-*-WO	934	N	7-30-*-CO	917	U1

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CBUx7-23-*-DO becomes CBUx7-23-*-RO.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ One N.C. auxiliary contact is used for electrical interlocking. On CBU reversing contactors, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat # CM7-02).
- ⑤ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Ordering Instructions

Specify Catalog Number	Refer to page C57 Refer to pages C60-63
Replace (*) with Coil Code Factory Modifications available	

Open and Enclosed Magnetic Motor Starters

Built to your specifications and ready to install

Sprecher + Schuh magnetic motor starters are intended to eliminate the purchase and assembly of a separate contactor, overload relay and associated wiring. When purchased with an enclosure, the starters are mounted and ready to install on receipt.

Starting with the best

At the heart of all magnetic starters is the Sprecher + Schuh CAT7, CAT6 and CAT5 line of motor starters. These starters are compact and offer intermediate sizes to better match specific motor requirements. This equates to generous wiring space and less wasted horsepower capacity.

Top line protection...

Magnetic starters are equipped with Sprecher + Schuh's new CEP7 solid state overload relay. Unlike traditional overload relays that indirectly sense motor current through heater elements, CEP7 solid state overload relays measure motor current directly through integrated current transformers and on board electronics. The electronics provide numerous advantages over electromechanical relays.



The right enclosure... whatever the application

Sprecher + Schuh's broad line of IEC style starters can be purchased pre-installed in a variety of standard enclosures. Cataloged enclosures include:

- Type 1 (M1)** General Purpose
- Type 12 (M12)** Industrial Dusttight
- Type 3R (M3)** Raintight (outdoor)
- Type 4 (M4)** Watertight
- Type 4X (F4)** Watertight, Corrosion Resistant

Even though these are the most popular enclosure types for most industrial applications, we can house any starter in a custom enclosure of your choosing.



Quality enclosures ensure the highest confidence

Sprecher + Schuh only sources enclosures from name brand manufacturers, ensuring the highest quality. We primarily use enclosures that meet UL Standards, i.e., Type 1, Type 3R, etc., however, we can also source IEC-type enclosures at your request. Enclosures are sized first to accommodate the depth of the contactor and offer sufficient electrical clearances to satisfy UL.

Add a variety of modifications

If you need a larger enclosure than what is specified in our catalog, your sales representative and our Engineering department will work with you to customize any of our enclosed products to suit your exact specifications. Any combination of enclosure types, sizes, pilot devices, meters and other modifications can be combined to provide exactly the panel you need.



Type 1



Type 3R



Type 4



Type 4X

Three Phase, Non-Reversing CAT7, CAT6 & CAT5

Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ③		Open Type ⑤	Price	Type 1 (M1) General Purpose	Price	D I M	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	Price	D I M
200V	230V	460V	575V	NO	NC								
2	2	5	7 1/2	1	0	CAT7-9-*◆	235	CAT7-9-*◆-GO ④	303	A ⑥	CAT7-9-*◆-DO ④	429	L
3	3	7 1/2	10	1	0	CAT7-12-*◆	269	CAT7-12-*◆-GO ④	336	A ⑥	CAT7-12-*◆-DO ④	462	L
5	5	10	15	1	0	CAT7-16-*◆	294	CAT7-16-*◆-GO ④	361	A ⑥	CAT7-16-*◆-DO ④	488	L
5	7 1/2	15	15	1	0	CAT7-23-*◆	311	CAT7-23-*◆-GO ④	378	A ⑥	CAT7-23-*◆-DO ④	505	L
7 1/2	10	20	25	1	0	CAT7-30-*◆	412	CAT7-30-*◆-GO ④	462	A ⑥	CAT7-30-*◆-DO ④	606	L
10	10	25	30	1	0	CAT7-37-*◆	462	CAT7-37-*◆-GO ④	505	A ⑥	CAT7-37-*◆-DO ④	648	L
10	15	30	30	1	0	CAT7-43-*◆	530	CAT7-43-*◆-GO ④	595	A ⑥	CAT7-43-*◆-DO ④	789	M
15	20	40	50	1	0	CAT7-60-*◆	631	CAT7-60-*◆-GO ④	791	B ⑥	CAT7-60-*◆-DO ④	967	O
20	25	50	60	1	0	CAT7-72-*◆	690	CAT7-72-*◆-GO ④	841	B ⑥	CAT7-72-*◆-DO ④	1026	O
25	30	60	60	1	0	CAT7-85-*◆	749	CAT7-85-*◆-GO ④	909	B ⑥	CAT7-85-*◆-DO ④	1085	O
30	30	75	75	1	0	CAT7-97-*◆	869	CAT7-97-*◆-GO ④	1194	O	CAT7-97-*◆-DO ④	1223	O
40	40	75	100	1	1	CAT6-110-*◆	1515	CAT6-110-*◆-GO ④	2104	E2	CAT6-110-*◆-DO ④	2482	R2
40	50	100	125	1	1	CAT6-140-*◆	2062	CAT6-140-*◆-GO ④	2861	G	CAT6-140-*◆-DO ④	3324	T
50	60	150	150	1	1	CAT6-180-*◆	2525	CAT6-180-*◆-GO ④	3324	G	CAT6-180-*◆-DO ④	3787	T
60	75	150	200	1	1	CAT6-210-EI-*◆	3703	CAT6-210-EI-*◆-GO ④	4460	G	CAT6-210-EI-*◆-DO ④	4907	T
75	100	200	250	1	1	CAT6-250-EI-*◆	3955	CAT6-250-EI-*◆-GO ④	5555	I	CAT6-250-EI-*◆-DO ④	5723	I
100	125	250	300	1	1	CAT6-300-EI-*◆	4208	CAT6-300-EI-*◆-GO ④	6060	I	CAT6-300-EI-*◆-DO ④	6228	I
150	175	350	400	1	1	CAT6-420-EI-*◆	6901	CAT6-420-EI-*◆-GO ④	8753	I	CAT6-420-EI-*◆-DO ④	8921	I
200	250	500	600	1	1	CAT6-630-EI-*◆	R/F	CAT6-630-EI-*◆-GO ④	R/F	~	CAT6-630-EI-*◆-DO ④	R/F	~
250	300	600	700	1	1	CAT6-860-EI-*◆	R/F	CAT6-860-EI-*◆-GO ④	R/F	~	CAT6-860-EI-*◆-DO ④	R/F	~
450	450	900	900	1	2	CAT5-1200-*◆	R/F	CAT5-1200-*◆-GO ④	R/F	~	CAT5-1200-*◆-DO ④	R/F	~

NEW

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAT7-23-*◆-DO becomes CAT7-23-*◆-RO.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ CAT6-110...CAT6-180 starters are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CAT6-110-*◆ becomes CAT6-110-EI-*◆. See page C57 for price adder.
- ⑤ CAT5 "Open Type" starters include terminal screws only. If lugs are required, see "Accessories" for CA6 and CA5 contactors in Section A of this catalog.
- ⑥ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Three Phase, Non-Reversing CAT7, CAT6 & CAT5

Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ②		Type 4 (M4) Watertight	Price ①	DIM	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price ①	DIM
200V	230V	460V	575V	NO	NC	Catalog No.			Catalog No.		
2	2	5	7 1/2	1	0	CAT7-9-*◆-WO	572	N	CAT7-9-*◆-CO ☒	454	S1
3	3	7 1/2	10	1	0	CAT7-12-*◆-WO	606	N	CAT7-12-*◆-CO ☒	488	S1
5	5	10	15	1	0	CAT7-16-*◆-WO	631	N	CAT7-16-*◆-CO ☒	513	S1
5	7 1/2	15	15	1	0	CAT7-23-*◆-WO	648	N	CAT7-23-*◆-CO ☒	530	S1
7 1/2	10	20	25	1	0	CAT7-30-*◆-WO	749	O	CAT7-30-*◆-CO ☒	732	U1
10	10	25	30	1	0	CAT7-37-*◆-WO	799	O	CAT7-37-*◆-CO ☒	782	U1
10	15	30	30	1	0	CAT7-43-*◆-WO	866	O	CAT7-43-*◆-CO ☒	841	U1
15	20	40	50	1	0	CAT7-60-*◆-WO	1052	O	CAT7-60-*◆-CO ☒	951	U1
20	25	50	60	1	0	CAT7-72-*◆-WO	1111	O	CAT7-72-*◆-CO ☒	1010	U1
25	30	60	60	1	0	CAT7-85-*◆-WO	1178	O	CAT7-85-*◆-CO ☒	1077	U1
30	30	75	75	1	0	CAT7-97-*◆-WO	1298	O	CAT7-97-*◆-CO ☒	1598	V1
40	40	75	100	1	1	CAT6-110-*◆-WO ③	2861	R2	CAT6-110-*◆-CO ③	2693	W2
40	50	100	125	1	1	CAT6-140-*◆-WO ③	3619	T	CAT6-140-*◆-CO ③	4372	X1
50	60	150	150	1	1	CAT6-180-*◆-WO ③	4082	T	CAT6-180-*◆-CO ③	4881	X1
60	75	150	200	1	1	CAT6-210-EI-*◆-WO	5218	T	CAT6-210-EI-*◆-CO	6060	X1
75	100	200	250	1	1	CAT6-250-EI-*◆-WO	6607	J	CAT6-250-EI-*◆-CO	6396	X1
100	125	250	300	1	1	CAT6-300-EI-*◆-WO	6901	J	CAT6-300-EI-*◆-CO	7154	Y1
150	150	350	400	1	1	CAT6-420-EI-*◆-WO	9595	J	CAT6-420-EI-*◆-CO	9847	Y1
200	250	500	600	1	1	CAT6-630-EI-*◆-WO	R/F	~	CAT6-630-EI-*◆-CO	14350	~
250	300	600	700	1	1	CAT6-860-EI-*◆-WO	R/F	~	CAT6-860-EI-*◆-CO	R/F	~
450	450	900	900	1	2	CAT5-1200-*◆-WO	R/F	~	CAT5-1200-*◆-CO	R/F	~

NEW

Starters & Enclosed Prod.
F/WR

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ③ CAT6-110...CAT6-180 starters are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CAT6-110-*◆-WO becomes CAT6-110-EI-*◆-WO. See page C57 for price adder.

Three Phase, Reversing CAUT7, CAUT6 & CAUT5

Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ③		Open Type ⑥	Price	Type 1 (M1) General Purpose	Price	D I M ①	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	Price ①	D I M ①
200V	230V	460V	575V	NO	NC ④								
2	2	5	7 1/2	1	1	CAUT7-9-*-◆	429	CAUT7-9-*-◆-GO	673	A ⑦	CAUT7-9-*-◆-DO	723	M
3	3	7 1/2	10	1	1	CAUT7-12-*-◆	496	CAUT7-12-*-◆-GO	740	A ⑦	CAUT7-12-*-◆-DO	791	M
5	5	10	15	1	1	CAUT7-16-*-◆	538	CAUT7-16-*-◆-GO	782	A ⑦	CAUT7-16-*-◆-DO	833	M
5	7 1/2	15	15	1	1	CAUT7-23-*-◆	580	CAUT7-23-*-◆-GO	824	A ⑦	CAUT7-23-*-◆-DO	875	M
7 1/2	10	20	25	1	1	CAUT7-30-*-◆	715	CAUT7-30-*-◆-GO	959	A ⑦	CAUT7-30-*-◆-DO	1010	M
10	10	25	30	1	1	CAUT7-37-*-◆	808	CAUT7-37-*-◆-GO	1043	A ⑦	CAUT7-37-*-◆-DO	1094	M
10	15	30	30	1	1	CAUT7-43-*-◆	959	CAUT7-43-*-◆-GO	1220	B ⑦	CAUT7-43-*-◆-DO	1262	M
15	20	40	50	1	1	CAUT7-60-*-◆	1161	CAUT7-60-*-◆-GO	1557	C	CAUT7-60-*-◆-DO	1599	O
20	25	50	60	1	1	CAUT7-72-*-◆	1279	CAUT7-72-*-◆-GO	1671	C	CAUT7-72-*-◆-DO	1717	O
25	30	60	60	1	1	CAUT7-85-*-◆	1388	CAUT7-85-*-◆-GO	1784	C	CAUT7-85-*-◆-DO	1826	O
30	30	75	75	1	1	CAUT7-97-*-◆	1628	CAUT7-97-*-◆-GO	2024	C	CAUT7-97-*-◆-DO	2066	O
40	40	75	100	1	1	CAUT6-110-*-◆ ⑤	2735	CAUT6-110-*-◆-GO ⑤	3366	E2	CAUT6-110-*-◆-DO ⑤	3619	R2
40	50	100	125	1	1	CAUT6-140-*-◆ ⑤	3829	CAUT6-140-*-◆-GO ⑤	4629	G	CAUT6-140-*-◆-DO ⑤	5050	T
50	60	150	150	1	1	CAUT6-180-*-◆ ⑤	4797	CAUT6-180-*-◆-GO ⑤	5639	G	CAUT6-180-*-◆-DO ⑤	6060	T
60	75	150	200	1	1	CAUT6-210-EI-*-◆	6691	CAUT6-210-EI-*-◆-GO	7406	G	CAUT6-210-EI-*-◆-DO	7827	T
75	100	200	250	1	1	CAUT6-250-EI-*-◆	7238	CAUT6-250-EI-*-◆-GO	8921	I	CAUT6-250-EI-*-◆-DO	9090	I
100	125	250	300	1	1	CAUT6-300-EI-*-◆	7617	CAUT6-300-EI-*-◆-GO	9258	I	CAUT6-300-EI-*-◆-DO	9426	I
150	175	350	400	1	1	CAUT6-420-EI-*-◆	13454	CAUT6-420-EI-*-◆-GO	15150	I	CAUT6-420-EI-*-◆-DO	15318	I
200	250	500	600	1	1	CAUT6-630-EI-*-◆	R/F	CAUT6-630-EI-*-◆-GO	R/F	~	CAUT6-630-EI-*-◆-DO	R/F	~
250	300	600	700	1	1	CAUT6-860-EI-*-◆	R/F	CAUT6-860-EI-*-◆-GO	R/F	~	CAUT6-860-EI-*-◆-DO	R/F	~
450	450	900	900	1	1	CAUT5-1200-*-◆	R/F	CAUT5-1200-*-◆-GO	R/F	~	CAUT5-1200-*-◆-DO	R/F	~

NEW

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAUT7-23-*-◆-DO becomes CAUT7-23-*-◆-R0.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ One N.C. auxiliary contact is used for electrical interlocking. On CAUT7 reversing starters, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat # CM7-02).
- ⑤ CAUT6-110...CAUT6-180 reversing starters are available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CAUT6-110-*-◆ becomes CAUT6-110-EI-*-◆. See page C57 for price adder.
- ⑥ CAUT5 "Open Type" starters include terminal screws only. If lugs are required, see "Accessories" for CA6 and CA5 contactors in Section A of this catalog.
- ⑦ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.



Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

Three Phase, Reversing CAUT7, CAUT6 & CAUT5

Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ②		Type 4 (M4) Watertight	Price	D I M ①	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	D I M ①
200V	230V	460V	575V	NO	NC ③	Catalog No.			Catalog No.		
2	2	5	7 1/2	1	1	CAUT7-9-*-*◆-WO	774	N	CAUT7-9-*-*◆-CO	757	U1
3	3	7 1/2	10	1	1	CAUT7-12-*-*◆-WO	841	N	CAUT7-12-*-*◆-CO	824	U1
5	5	10	15	1	1	CAUT7-16-*-*◆-WO	892	N	CAUT7-16-*-*◆-CO	875	U1
5	7 1/2	15	15	1	1	CAUT7-23-*-*◆-WO	934	N	CAUT7-23-*-*◆-CO	917	U1
7 1/2	10	20	25	1	1	CAUT7-30-*-*◆-WO	1055	0	CAUT7-30-*-*◆-CO	1043	U1
10	10	25	30	1	1	CAUT7-37-*-*◆-WO	1144	0	CAUT7-37-*-*◆-CO	1136	U1
10	15	30	30	1	1	CAUT7-43-*-*◆-WO	1270	0	CAUT7-43-*-*◆-CO	1262	U1
15	20	40	50	1	1	CAUT7-60-*-*◆-WO	1565	0	CAUT7-60-*-*◆-CO	1733	V1
20	25	50	60	1	1	CAUT7-72-*-*◆-WO	1683	0	CAUT7-72-*-*◆-CO	1851	V1
25	30	60	60	1	1	CAUT7-85-*-*◆-WO	1809	0	CAUT7-85-*-*◆-CO	1977	V1
30	30	75	75	1	1	CAUT7-97-*-*◆-WO	2049	0	CAUT7-97-*-*◆-CO	2217	V1
40	40	75	100	1	1	CAUT6-110-*-*◆-WO ④	3972	R2	CAUT6-110-*-*◆-CO ④	3871	W2
40	50	100	125	1	1	CAUT6-140-*-*◆-WO ④	5470	T	CAUT6-140-*-*◆-CO ④	6438	X1
50	60	150	150	1	1	CAUT6-180-*-*◆-WO ④	6396	T	CAUT6-180-*-*◆-CO ④	7406	X1
60	75	150	200	1	1	CAUT6-210-EI-*-*◆-WO	8248	T	CAUT6-210-EI-*-*◆-CO	9258	X1
75	100	200	250	1	1	CAUT6-250-EI-*-*◆-WO	10100	J	CAUT6-250-EI-*-*◆-CO	10521	Y1
100	125	250	300	1	1	CAUT6-300-EI-*-*◆-WO	10436	J	CAUT6-300-EI-*-*◆-CO	10941	Y1
150	175	350	400	1	1	CAUT6-420-EI-*-*◆-WO	16160	J	CAUT6-420-EI-*-*◆-CO	16833	Y1
200	250	500	600	1	1	CAUT6-630-EI-*-*◆-WO	R/F	~	CAUT6-630-EI-*-*◆-CO	R/F	~
250	300	600	700	1	1	CAUT6-860-EI-*-*◆-WO	R/F	~	CAUT6-860-EI-*-*◆-CO	R/F	~
450	450	900	900	1	1	CAUT5-1200-*-*◆-WO	R/F	~	CAUT5-1200-*-*◆-CO	R/F	~

NEW

Starters & Enclosed Prod.

F/R

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Replace (◆) with O/L Relay	See pages C58-59
Factory Modifications available	See pages C60-63

- ① Refer to page C81-85 for dimensional information.
- ② Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ③ One N.C. auxiliary contact is used for electrical interlocking. On CAUT7 reversing starters, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat # CM7-02).
- ④ CAUT6-110...CAUT6-180 reversing starters available with electronic interface coil "EI." Change catalog number to include "-EI". Example: CAUT6-110-*-*◆-WO becomes CAUT6-110-EI-*-*◆-WO. See page C57 for price adder.

NEW

Single Phase, Non-Reversing CBT7 ④

Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor ③		Open Type	Price	Type 1 (M1) General Purpose		D I M ①	Type 12 (M12) [Type 3R (M3) ②]		D I M ①	Type 4 (M4) Watertight		D I M ①	Type 4X (F4) Watertight Corrosion Resistant		D I M ①	
115V	230V	NO	NC			Catalog No.	Catalog No.		Price	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.
				CBT7-		CBT7-			CBT7-			CBT7-			CBT7-			
1/2	1 1/2	1	0	9*-◆	235	9*-◆-G0	303	A ④	9*-◆-D0	429	L	9*-◆-W0	572	N	9*-◆-C0	454	S1	
1/2	2	1	0	12*-◆	269	12*-◆-G0	336	A ④	12*-◆-D0	462	L	12*-◆-W0	606	N	12*-◆-C0	488	S1	
1	3	1	0	16*-◆	294	16*-◆-G0	361	A ④	16*-◆-D0	488	L	16*-◆-W0	631	N	16*-◆-C0	513	S1	
2	3	1	0	23*-◆	311	23*-◆-G0	378	A ④	23*-◆-D0	505	L	23*-◆-W0	648	N	23*-◆-C0	530	S1	
2	5	1	0	30*-◆	412	30*-◆-G0	462	A ④	30*-◆-D0	606	L	30*-◆-W0	745	O	30*-◆-C0	732	U1	
3	5	1	0	37*-◆	462	37*-◆-G0	505	A ④	37*-◆-D0	648	L	37*-◆-W0	795	O	37*-◆-C0	782	U1	
3	7 1/2	1	0	43*-◆	530	43*-◆-G0	740	A ④	43*-◆-D0	791	M	43*-◆-W0	860	O	43*-◆-C0	841	U1	
5	10	1	0	60*-◆	631	60*-◆-G0	791	B ④	60*-◆-D0	967	O	60*-◆-W0	1046	O	60*-◆-C0	951	U1	
5	15	1	0	72*-◆	690	72*-◆-G0	841	B ④	72*-◆-D0	1026	O	72*-◆-W0	1105	O	72*-◆-C0	1010	U1	
7 1/2	15	1	0	85*-◆	749	85*-◆-G0	909	B ④	85*-◆-D0	1085	O	85*-◆-W0	1175	O	85*-◆-C0	1077	U1	

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Starters & Enclosed Prod.

F/WR

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CBT7-23*-◆-D0 becomes CBT7-23*-◆-R0.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

NEW

Single Phase, Reversing CBUTR7 (Reconnectable Winding – Three Lead Motor)

Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor ④		Open Type	Type 1 (M1) General Purpose		D I M ①	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight		D I M ①	Type 4 (M4) Watertight		D I M ①	Type 4X (F4) Watertight Corrosion Resistant Non-metallic		D I M ①	
115V	230V	NO	NC ④		Catalog No.	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.
				CBUTR7		CBUTR7		CBUTR7			CBUTR7		CBUTR7				
1/2	1 1/2	1	1	-9-*◆	429	-9-*◆-G0 ⑤	673	A ⑥	-9-*◆-D0 ⑤	723	M	-9-*◆-W0	774	N	-9-*◆-C0 ⑤	757	U1
1/2	2	1	1	-12-*◆	496	-12-*◆-G0 ⑤	740	A ⑥	-12-*◆-D0 ⑤	791	M	-12-*◆-W0	841	N	-12-*◆-C0 ⑤	824	U1
1	3	1	1	-16-*◆	538	-16-*◆-G0 ⑤	782	A ⑥	-16-*◆-D0 ⑤	833	M	-16-*◆-W0	892	N	-16-*◆-C0 ⑤	875	U1
2	3	1	1	-23-*◆	580	-23-*◆-G0 ⑤	824	A ⑥	-23-*◆-D0 ⑤	875	M	-23-*◆-W0	934	N	-23-*◆-C0 ⑤	917	U1
2	5	1	1	-30-*◆	715	-30-*◆-G0 ⑤	959	A ⑥	-30-*◆-D0 ⑤	1010	M	-30-*◆-W0	1060	O	-30-*◆-C0 ⑤	1043	U1

Single Phase, Reversing CBUTS7 (Series Winding – Four Lead Repulsion Induction Motor)

NEW

Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor ④		Open Type	Type 1 (M1) General Purpose		D I M ①	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight		D I M ①	Type 4 (M4) Watertight		D I M ①	Type 4X (F4) Watertight Corrosion Resistant Non-metallic		D I M ①	
115V	230V	NO	NC ④		Catalog No.	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.
				CBUTS7		CBUTS7		CBUTS7			CBUTS7		CBUTS7				
1/2	1 1/2	1	1	-9-*◆	429	-9-*◆-G0 ⑤	673	A ⑥	-9-*◆-D0 ⑤	723	M	-9-*◆-W0	774	N	-9-*◆-C0 ⑤	757	U1
1/2	2	1	1	-12-*◆	496	-12-*◆-G0 ⑤	740	A ⑥	-12-*◆-D0 ⑤	791	M	-12-*◆-W0	841	N	-12-*◆-C0 ⑤	824	U1
1	3	1	1	-16-*◆	538	-16-*◆-G0 ⑤	782	A ⑥	-16-*◆-D0 ⑤	833	M	-16-*◆-W0	892	N	-16-*◆-C0 ⑤	875	U1
2	3	1	1	-23-*◆	580	-23-*◆-G0 ⑤	824	A ⑥	-23-*◆-D0 ⑤	875	M	-23-*◆-W0	934	N	-23-*◆-C0 ⑤	917	U1
2	5	1	1	-30-*◆	715	-30-*◆-G0 ⑤	959	A ⑥	-30-*◆-D0 ⑤	1010	M	-30-*◆-W0	1060	O	-30-*◆-C0 ⑤	1043	U1

Single Phase, Reversing CBUTP7 (Parallel Winding – Four Lead Capacitor or Split Phase Motor)

NEW

Maximum Horsepower Single Ø		Auxiliary Contacts per Contactor ④		Open Type	Type 1 (M1) General Purpose		D I M ①	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight		D I M ①	Type 4 (M4) Watertight		D I M ①	Type 4X (F4) Watertight Corrosion Resistant Non-metallic		D I M ①	
115V	230V	NO	NC ④		Catalog No.	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.	Price		Catalog No.
				CBUTP7		CBUTP7		CBUTP7			CBUTP7		CBUTP7				
1/2	1 1/2	1	1	-9-*◆	429	-9-*◆-G0 ⑤	673	A ⑥	-9-*◆-D0 ⑤	723	M	-9-*◆-W0	774	N	-9-*◆-C0 ⑤	757	U1
1/2	2	1	1	-12-*◆	496	-12-*◆-G0 ⑤	740	A ⑥	-12-*◆-D0 ⑤	791	M	-12-*◆-W0	841	N	-12-*◆-C0 ⑤	824	U1
1	3	1	1	-16-*◆	538	-16-*◆-G0 ⑤	782	A ⑥	-16-*◆-D0 ⑤	833	M	-16-*◆-W0	892	N	-16-*◆-C0 ⑤	875	U1
2	3	1	1	-23-*◆	580	-23-*◆-G0 ⑤	824	A ⑥	-23-*◆-D0 ⑤	875	M	-23-*◆-W0	934	N	-23-*◆-C0 ⑤	917	U1
2	5	1	1	-30-*◆	715	-30-*◆-G0 ⑤	959	A ⑥	-30-*◆-D0 ⑤	1010	M	-30-*◆-W0	1060	O	-30-*◆-C0 ⑤	1043	U1

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CBUTx7-23-*◆-D0 becomes CBUTx7-23-*◆-R0.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ One N.C. auxiliary contact is used for electrical interlocking. On CAUT7 reversing starters, the N.C. contact comes from the Mechanical/Electrical Interlock unit (Cat # CM7-02).
- ⑤ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

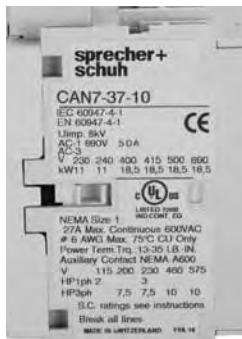
NEMA Sized Open and Enclosed Magnetic Motor Starters

Built to your specifications and ready to install

Starters & Enclosed Prod.
NEMA



CAN7 NEMA labeled contactor (AC)



Sprecher + Schuh magnetic motor starters are intended to eliminate the purchase and assembly of a separate contactor, overload relay and associated wiring. When purchased with an enclosure, the starters are mounted and ready to install on receipt.

Starting with the best

At the heart of all Sprecher + Schuh NEMA sized magnetic motor starters is the CATN7 and CATN6 line of motor starters. Each starter proudly displays the NEMA size (00, 0, 1, 2, 3, 4 or 5) and HP at applied voltage. This line of starters is designed to meet rigid consultant specifications for NEMA starters.

Top line protection...

NEMA magnetic starters are equipped with Sprecher + Schuh's premium CEP7 solid state overload relay. Unlike traditional overload relays that indirectly sense motor current through heater elements, CEP7 solid state overload relays measure motor current directly through integrated current transformers and on board electronics. The electronics provide numerous advantages over electromechanical relays. Alternatively, the CT7N Thermal Overload Relay may also be selected.

The right enclosure... whatever the application

Sprecher + Schuh's line of NEMA style starters can be purchased pre-installed in a variety of standard enclosures. Cataloged enclosures include:

- Type 1 (M1) General Purpose
- Type 12 (M12) Industrial Dusttight
- Type 3R (M3) Raintight (outdoor)
- Type 4 (M4) Watertight
- Type 4X (F4) Watertight, Corrosion Resistant



Even though these are the most popular enclosure types for most industrial applications, we can house any starter in a custom enclosure of your choosing.

Quality enclosures ensure the highest confidence

Sprecher + Schuh only sources enclosures from name brand manufacturers, ensuring the highest quality. We primarily use enclosures that meet UL Standards, i.e., Type 1, Type 3R, etc., however, we can also source other enclosures at your request. Enclosures are sized first to accommodate the depth of the contactor and offer sufficient electrical clearances to satisfy UL.

Add a variety of modifications

If you need a larger enclosure than what is specified in our catalog, your sales representative and our Engineering department will work with you to customize any of our enclosed products to suit your exact specifications. Any combination of enclosure types, sizes, pilot devices, meters and other modifications can be combined to provide exactly the panel you need.



CAN6 NEMA labeled contactor (AC)



C25.9



Type 1



Type 3R



Type 4



Type 4X

Three Phase, Non-Reversing CATN7, CATN6

NEMA Size	Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ②		Open Type	Price	Type 1 (M1) General Purpose	Price	D I M	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	Price	D I M
	200V	230V	460V	575V	NO	NC			Catalog Number			① Catalog Number		
00	1-1/2	1-1/2	2	2	1	0	CATN7-12-*-*◆	269	CATN7-12-*-*◆-G0 ③	336	A ④	CATN7-12-*-*◆-D0 ③	462	L
0	3	3	5	5	1	0	CATN7-16-*-*◆	294	CATN7-16-*-*◆-G0 ③	361	A ④	CATN7-16-*-*◆-D0 ③	488	L
1	7-1/2	7-1/2	10	10	1	0	CATN7-37-*-*◆	462	CATN7-37-*-*◆-G0 ③	505	A ④	CATN7-37-*-*◆-D0 ③	648	L
2	10	15	25	25	1	0	CATN7-43-*-*◆	530	CATN7-43-*-*◆-G0 ③	595	A ④	CATN7-43-*-*◆-D0 ③	789	L
3	25	30	50	50	1	1	CATN7-85-*-*◆	749	CATN7-85-*-*◆-G0 ③	909	B ④	CATN7-85-*-*◆-D0 ③	1085	M
4	40	50	100	100	1	1	CATN6-180-*-*◆ ④	2525	CATN6-180-*-*◆-G0 ④	3324	G	CATN6-180-*-*◆-D0 ④	3787	T
5	75	100	200	200	1	1	CATN6-300-EI-*-*◆	4208	CATN6-300-EI-*-*◆-G0	6060	I	CATN6-300-EI-*-*◆-D0	6228	I

Three Phase, Non-Reversing CATN7, CATN6

NEMA Size	Maximum Horsepower Three Phase				Auxiliary Contacts per Contactor ②		Type 4 (M4) Watertight	Price	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	D I M
	200V	230V	460V	575V	NO	NC				Catalog Number		
00	1-1/2	1-1/2	2	2	1	0	CATN7-12-*-*◆-W0	606	N	CATN7-12-*-*◆-C0 ③	488	S1
0	3	3	5	5	1	0	CATN7-16-*-*◆-W0	631	N	CATN7-16-*-*◆-C0 ③	513	S1
1	7-1/2	7-1/2	10	10	1	0	CATN7-37-*-*◆-W0	799	N	CATN7-37-*-*◆-C0 ③	782	U1
2	10	15	25	25	1	0	CATN7-43-*-*◆-W0	866	N	CATN7-43-*-*◆-C0 ③	841	U1
3	25	30	50	50	1	1	CATN7-85-*-*◆-W0	1178	O	CATN7-85-*-*◆-C0 ③	1077	U1
4	40	50	100	100	1	1	CATN6-180-*-*◆-W0 ④	4082	T	CATN6-180-*-*◆-C0 ④	4881	X1
5	75	100	200	200	1	1	CATN6-300-EI-*-*◆-W0	6901	J	CATN6-300-EI-*-*◆-C0	7154	Y1

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CATN7-37-*-*◆-D0 becomes CATN7-37-*-*◆-R0.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ CATN6-180 starters are available with electronic interface coil "EI." Change catalog number to include "EI". Example: CATN6-180-*-*◆ becomes CATN6-180-EI-*-*◆. See page C57 for price adder.
- ⑤ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Single Phase, Non-Reversing CBTN7

NEMA Size	Maximum HP Single ø		Auxiliary Contacts per Contactor ②		Open Type	Price	Type 1 (M1) General Purpose	Price	D I M	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	Price	D I M
	115V	230V	NO	NC								
00	1/3	1	1	0	CBTN7-12-*-*◆	269	CBTN7-12-*-*◆-G0 ③	336	A ④	CBTN7-12-*-*◆-D0 ③	462	L
0	1	2	1	0	CBTN7-16-*-*◆	294	CBTN7-16-*-*◆-G0 ③	361	A ④	CBTN7-16-*-*◆-D0 ③	488	L
1	2	3	1	0	CBTN7-37-*-*◆	462	CBTN7-37-*-*◆-G0 ③	505	A ④	CBTN7-37-*-*◆-D0 ③	648	L
2	3	7-1/2	1	0	CBTN7-43-*-*◆	530	CBTN7-43-*-*◆-G0 ③	595	A ④	CBTN7-43-*-*◆-D0 ③	789	L
3	7-1/2	15	1	0	CBTN7-85-*-*◆	749	CBTN7-85-*-*◆-G0 ③	909	B ④	CBTN7-85-*-*◆-D0 ③	1085	M

Single Phase, Non-Reversing CBTN7

NEMA Size	Maximum HP Single ø		Auxiliary Contacts per Contactor ②		Type 4 (M4) Watertight	Price	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	D I M
	115V	230V	NO	NC						
00	1/3	1	1	0	CBTN7-12-*-*◆-W0	606	N	CBTN7-12-*-*◆-C0 ③	488	S1
0	1	2	1	0	CBTN7-16-*-*◆-W0	631	N	CBTN7-16-*-*◆-C0 ③	513	S1
1	2	3	1	0	CBTN7-37-*-*◆-W0	799	N	CBTN7-37-*-*◆-C0 ③	782	U1
2	3	7-1/2	1	0	CBTN7-43-*-*◆-W0	866	N	CBTN7-43-*-*◆-C0 ③	841	U1
3	7-1/2	15	1	0	CBTN7-85-*-*◆-W0	1178	O	CBTN7-85-*-*◆-C0 ③	1077	U1

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CBTN7-37-*-*◆-D0 becomes CBTN7-37-*-*◆-R0.
- ③ Contactors are equipped with number and type of auxiliaries indicated. See Modification Section to order additional or different auxiliary contacts.
- ④ "A" and "B" enclosures have hinged cover designs. See pages C65.1, C81 and C83.

Combination Starters - Through the Door Operated

Smart and cost effective... for any application

Sprecher + Schuh's through-the-door operated combination starters represent an economical alternative to the classic flange-operated combo solution. It is designed to meet rigid UL/NEC withstand specifications. Sprecher + Schuh has been building custom control panels with this design for years. Experience the durability of this product!

Starting with the best

At the heart of all combination starters is the Sprecher + Schuh CAT7 and CAT6 line of motor starters. These starters are compact and offer intermediate sizes to better match specific motor requirements. This equates to generous wiring space and less wasted horsepower capacity.

Top line protection...

Combination starters are equipped with Sprecher + Schuh's new state of the art CEP7 solid state overload relay. CEP7 solid state overload relays measure motor current directly through integrated current transformers and on board electronics (AISC). The electronics provide numerous advantages over electromechanical relays such as increased accuracy, a wider adjustment range, and running at a cooler temperature.

Choice of Disconnect

- Choices for disconnect include:
- Thermal Magnetic Molded Case Circuit Breaker (MCCB)
 - Motor Circuit Switch
 - L10 fusible or non-fusible Disconnect switch

Thermal Magnetic Molded Case Circuit Breaker (MCCB)

The through-the-door operated combo MCCB is available to meet UL short circuit withstand specifications. An MCCB prevents single phasing by simultaneously opening all three phases when a fault occurs in any one phase. An MCCB can often be reset after the fault has been cleared.



L10 Disconnect Switch

The through-the-door operated combo is available with the L10 switch. A mechanical door interlock system prevents the door from being opened when the disconnect is closed, and conversely, prevents the disconnect from being closed when the door is open. Both functions can be defeated for test and maintenance purposes. Other safety features include padlock provisions and a high visibility operating handle.

The L10 Switch disconnects have a quick make/quick break, non-teasing action. The L10 fusible switch is suitable for interrupting up to 100,000 amperes when class "J" fuses are used. L10 disconnect switches conform to UL 98 standards (100A-400A switches) and UL 1087/489 standards (30 and 60A switches).

Choice of Enclosures

- Available enclosures include;
- Type 1 General Purpose
 - Type 3R Raintight
 - Type 12 Dusttight
 - Type 4 Watertight
 - Type 4X corrosion resistant



Series CAT7 & CAT6 with Thermal-Magnetic Circuit Breaker

Maximum Horsepower Three Phase				MCCB Amps	Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) Ⓣ] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
200V	230V	460V	575V		Catalog No.		Price ①		Catalog No.		Price ①		Catalog No.	Price ①	Catalog No.	Price ①
					CAT		CAT		CAT		CAT					
2	2	5	7.5	15	7-9-*◆-TB15GO	1256	C	7-9-*◆-TB15DO	1466	C2	7-9-*◆-TB15WO	2178	C	7-9-*◆-TB15CO	1633	V1
~	3	~	~	15	7-12-*◆-TB15GO	1298	C	7-12-*◆-TB15DO	1508	C2	7-12-*◆-TB15WO	2219	C	7-12-*◆-TB15CO	1675	V1
3	~	7.5	10	20	7-12-*◆-TB20GO	1298	C	7-12-*◆-TB20DO	1508	C2	7-12-*◆-TB20WO	2219	C	7-12-*◆-TB20CO	1675	V1
~	5	10	~	25	7-16-*◆-TB25GO	1340	C	7-16-*◆-TB25DO	1549	C2	7-16-*◆-TB25WO	2261	C	7-16-*◆-TB25CO	1717	V1
5	~	~	15	30	7-16-*◆-TB30GO	1340	C	7-16-*◆-TB30DO	1549	C2	7-16-*◆-TB30WO	2261	C	7-16-*◆-TB30CO	1717	V1
5	~	~	15	30	7-23-*◆-TB30GO	1382	C	7-23-*◆-TB30DO	1591	C2	7-23-*◆-TB30WO	2303	C	7-23-*◆-TB30CO	1759	V1
~	7.5	15	~	35	7-23-*◆-TB35GO	1382	C	7-23-*◆-TB35DO	1591	C2	7-23-*◆-TB35WO	2303	C	7-23-*◆-TB35CO	1759	V1
7.5	~	~	~	40	7-30-*◆-TB40GO	1508	C	7-30-*◆-TB40DO	1759	C2	7-30-*◆-TB40WO	2429	C	7-30-*◆-TB40CO	1884	V1
~	10	20	25	50	7-30-*◆-TB50GO	1508	C	7-30-*◆-TB50DO	1759	C2	7-30-*◆-TB50WO	2429	C	7-30-*◆-TB50CO	1884	V1
10	10	~	30	50	7-37-*◆-TB50GO	1549	C	7-37-*◆-TB50DO	1801	C2	7-37-*◆-TB50WO	2471	C	7-37-*◆-TB50CO	1926	V1
~	~	25	~	60	7-37-*◆-TB60GO	1549	C	7-37-*◆-TB60DO	1801	C2	7-37-*◆-TB60WO	2471	C	7-37-*◆-TB60CO	1926	V1
10	~	~	30	50	7-43-*◆-TB50GO	1591	C	7-43-*◆-TB50DO	2010	C2	7-43-*◆-TB50WO	2513	C	7-43-*◆-TB50CO	2178	V1
~	~	30	~	60	7-43-*◆-TB60GO	1591	C	7-43-*◆-TB60DO	2010	C2	7-43-*◆-TB60WO	2513	C	7-43-*◆-TB60CO	2178	V1
~	15	~	~	70	7-43-*◆-TB70GO	1591	C	7-43-*◆-TB70DO	2010	C2	7-43-*◆-TB70WO	2513	C	7-43-*◆-TB70CO	2178	V1
15	~	40	50	80	7-60-*◆-TB80GO	1717	D3	7-60-*◆-TB80DO	2136	Q	7-60-*◆-TB80WO	2680	Q	7-60-*◆-TB80CO	2303	W2
~	20	~	~	90	7-60-*◆-TB90GO	1717	D3	7-60-*◆-TB90DO	2136	Q	7-60-*◆-TB90WO	2680	Q	7-60-*◆-TB90CO	2303	W2
20	~	50	60	100	7-72-*◆-TB100GO	1759	D3	7-72-*◆-TB100DO	2680	Q	7-72-*◆-TB100WO	2722	Q	7-72-*◆-TB100CO	2345	W2
~	25	~	~	125	7-72-*◆-TB125GO	2261	D3	7-72-*◆-TB125DO	2722	Q	7-72-*◆-TB125WO	2788	Q	7-72-*◆-TB125CO	2848	W2
~	~	~	60	100	7-85-*◆-TB100GO	1801	D3	7-85-*◆-TB100DO	3190	Q	7-85-*◆-TB100WO	3268	Q	7-85-*◆-TB100CO	2387	W2
25	30	60	~	125	7-85-*◆-TB125GO	2303	D3	7-85-*◆-TB125DO	3692	Q	7-85-*◆-TB125WO	3770	Q	7-85-*◆-TB125CO	2889	W2
~	30	~	75	125	7-97-*◆-TB125GO	2423	D3	7-97-*◆-TB125DO	3812	Q	7-97-*◆-TB125WO	3890	Q	7-97-*◆-TB125CO	3009	W2
30	~	75	~	150	7-97-*◆-TB150GO	2623	D3	7-97-*◆-TB150DO	4012	Q	7-97-*◆-TB150WO	4090	Q	7-97-*◆-TB150CO	3209	W2
30	~	75	100	150	6-110-*◆-TB150GO	3853	E2	6-110-*◆-TB150DO	4355	R2	6-110-*◆-TB150WO	4523	R2	6-110-*◆-TB150CO	6868	X1
~	40	~	~	175	6-110-*◆-TB175GO	4020	E2	6-110-*◆-TB175DO	4550	R2	6-110-*◆-TB175WO	4690	R2	6-110-*◆-TB175CO	7035	X1
40	~	~	~	200	6-110-*◆-TB225GO	4020	E2	6-110-*◆-TB225DO	4550	R2	6-110-*◆-TB225WO	4690	R2	6-110-*◆-TB225CO	7035	X1
40	50	100	125	200	6-140-*◆-TB225GO	4355	G	6-140-*◆-TB225DO	4850	T	6-140-*◆-TB225WO	5025	T	6-140-*◆-TB225CO	7370	X1
50	~	~	150	225	6-180-*◆-TB225GO	4858	G	6-180-*◆-TB225DO	5360	T	6-180-*◆-TB225WO	5695	T	6-180-*◆-TB225CO	7705	A2
~	60	125	~	250	6-180-*◆-TB250GO	4858	G	6-180-*◆-TB250DO	5550	T	6-180-*◆-TB250WO	5695	T	6-180-*◆-TB250CO	7705	A2
~	~	150	~	300	6-180-*◆-TB300GO	5528	G	6-180-*◆-TB300DO	6050	T	6-180-*◆-TB300WO	6198	T	6-180-*◆-TB300CO	8040	A2
60	75	150	200	300	6-210-EI-*◆-TB300GO	7873	H	6-210-EI-*◆-TB300DO	9050	H	6-210-EI-*◆-TB300WO	9213	H	6-210-EI-*◆-TB300CO	10050	Y1
75	~	~	~	350	6-250-EI-*◆-TB350GO	9213	I	6-250-EI-*◆-TB350DO	10050	W	6-250-EI-*◆-TB350WO	10888	J	6-250-EI-*◆-TB350CO	11306	Y1
~	100	200	250	400	6-250-EI-*◆-TB400GO	9213	I	6-250-EI-*◆-TB400DO	10575	W	6-250-EI-*◆-TB400WO	11250	J	6-250-EI-*◆-TB400CO	11306	Y1
100	~	~	300	450	6-300-EI-*◆-TB225GO	10050	I	6-300-EI-*◆-TB225DO	10888	W	6-300-EI-*◆-TB225WO	11800	J	6-300-EI-*◆-TB225CO	12563	Y1
~	125	250	~	500	6-300-EI-*◆-TB500GO	10050	I	6-300-EI-*◆-TB500DO	10888	W	6-300-EI-*◆-TB500WO	11800	J	6-300-EI-*◆-TB500CO	12563	Y1
125	~	300	400	600	6-420-EI-*◆-TB600GO	11223	I	6-420-EI-*◆-TB600DO	12060	W	6-420-EI-*◆-TB600WO	13400	J	6-420-EI-*◆-TB600CO	13735	Y1
150	175	350	~	700	6-420-EI-*◆-TB700GO	14740	J	6-420-EI-*◆-TB700DO	15578	J	6-420-EI-*◆-TB700WO	16918	J	6-420-EI-*◆-TB700CO	17253	Y1

Larger sizes available. Contact your Sprecher + Schuh representative.



NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAT7-30-*◆-TB30D0 becomes CAT7-30-*◆-TB30R0.

Series CAUT7 & CAUT6 with Thermal-Magnetic Circuit Breaker

Maximum Horsepower Three Phase				MCCB Amps	Type 1 (M1) General Purpose	Price	DIM	Type 12 (M12) [Type 3R (M3) Ⓣ]	Price	DIM	Type 4 (M4) Watertight	Price	DIM	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	DIM
200V	230V	460V	575V		Catalog No.			Catalog No.			Catalog No.			Catalog No.		
					CAUT		CAUT				CAUT			CAUT		
2	2	5	7.5	15	7-9-*◆-TB15G0	1667	D3	7-9-*◆-TB15D0	2178	Q	7-9-*◆-TB15W0	2471	Q	7-9-*◆-TB15C0	2010	V1
~	3	~	~	15	7-12-*◆-TB15G0	1750	D3	7-12-*◆-TB15D0	2261	Q	7-12-*◆-TB15W0	2554	Q	7-12-*◆-TB15C0	2094	V1
3	~	7.5	10	20	7-12-*◆-TB20G0	1750	D3	7-12-*◆-TB20D0	2261	Q	7-12-*◆-TB20W0	2554	Q	7-12-*◆-TB20C0	2094	V1
~	5	10	~	25	7-16-*◆-TB25G0	1834	D3	7-16-*◆-TB25D0	2345	Q	7-16-*◆-TB25W0	2638	Q	7-16-*◆-TB25C0	2178	V1
5	~	~	15	30	7-16-*◆-TB30G0	1834	D3	7-16-*◆-TB30D0	2345	Q	7-16-*◆-TB30W0	2638	Q	7-16-*◆-TB30C0	2178	V1
5	~	~	15	30	7-23-*◆-TB30G0	1918	D3	7-23-*◆-TB30D0	2429	Q	7-23-*◆-TB30W0	2722	Q	7-23-*◆-TB30C0	2261	V1
~	7.5	15	~	35	7-23-*◆-TB35G0	1918	D3	7-23-*◆-TB35D0	2429	Q	7-23-*◆-TB35W0	2722	Q	7-23-*◆-TB35C0	2261	V1
7.5	~	~	~	40	7-30-*◆-TB40G0	2127	D3	7-30-*◆-TB40D0	2638	Q	7-30-*◆-TB40W0	2931	Q	7-30-*◆-TB40C0	2471	V1
~	10	20	25	50	7-30-*◆-TB50G0	2127	D3	7-30-*◆-TB50D0	2638	Q	7-30-*◆-TB50W0	2931	Q	7-30-*◆-TB50C0	2471	V1
10	10	~	30	50	7-37-*◆-TB50G0	2253	D3	7-37-*◆-TB50D0	2764	Q	7-37-*◆-TB50W0	3057	Q	7-37-*◆-TB50C0	2596	V1
~	~	25	~	60	7-37-*◆-TB60G0	2253	D3	7-37-*◆-TB60D0	2764	Q	7-37-*◆-TB60W0	3057	Q	7-37-*◆-TB60C0	2596	V1
10	~	~	30	50	7-43-*◆-TB50G0	2365	D3	7-43-*◆-TB50D0	2906	Q	7-43-*◆-TB50W0	3199	Q	7-43-*◆-TB50C0	2739	V1
~	~	30	~	60	7-43-*◆-TB60G0	2395	D3	7-43-*◆-TB60D0	2906	Q	7-43-*◆-TB60W0	3199	Q	7-43-*◆-TB60C0	2739	V1
~	15	~	~	70	7-43-*◆-TB70G0	2395	D3	7-43-*◆-TB70D0	2906	Q	7-43-*◆-TB70W0	3199	Q	7-43-*◆-TB70C0	2739	V1
15	~	40	50	80	7-60-*◆-TB80G0	2605	D3	7-60-*◆-TB80D0	3116	Q	7-60-*◆-TB80W0	3409	Q	7-60-*◆-TB80C0	2948	W2
~	20	~	~	90	7-60-*◆-TB90G0	2605	D3	7-60-*◆-TB90D0	3116	Q	7-60-*◆-TB90W0	3409	Q	7-60-*◆-TB90C0	2948	W2
20	~	50	60	100	7-72-*◆-TB100G0	2730	D3	7-72-*◆-TB100D0	3241	Q	7-72-*◆-TB100W0	3534	Q	7-72-*◆-TB100C0	3074	W2
~	25	~	~	125	7-72-*◆-TB125G0	3232	D3	7-72-*◆-TB125D0	3743	Q	7-72-*◆-TB125W0	4036	Q	7-72-*◆-TB125C0	3576	W2
~	~	~	60	100	7-85-*◆-TB100G0	2856	D3	7-85-*◆-TB100D0	3367	Q	7-85-*◆-TB100W0	3660	Q	7-85-*◆-TB100C0	3199	W2
25	30	60	~	125	7-85-*◆-TB125G0	3358	D3	7-85-*◆-TB125D0	3869	Q	7-85-*◆-TB125W0	4162	Q	7-85-*◆-TB125C0	3701	W2
~	30	~	75	125	7-97-*◆-TB125G0	3478	D3	7-97-*◆-TB125D0	3989	Q	7-97-*◆-TB125W0	4282	Q	7-97-*◆-TB125C0	3821	W2
30	~	75	~	150	7-97-*◆-TB150G0	3678	D3	7-97-*◆-TB150D0	4189	Q	7-97-*◆-TB150W0	4482	Q	7-97-*◆-TB150C0	4021	W2
30	~	75	100	150	6-110-*◆-TB150G0	5402	G	6-110-*◆-TB150D0	5737	T	6-110-*◆-TB150W0	6239	T	6-110-*◆-TB150C0	9087	A2
~	40	~	~	175	6-110-*◆-TB175G0	5569	G	6-110-*◆-TB175D0	5904	T	6-110-*◆-TB175W0	6407	T	6-110-*◆-TB175C0	9254	A2
40	~	~	~	200	6-110-*◆-TB225G0	5569	G	6-110-*◆-TB225D0	5904	T	6-110-*◆-TB225W0	6407	T	6-110-*◆-TB225C0	6254	A2
40	50	100	125	200	6-140-*◆-TB225G0	6407	H	6-140-*◆-TB225D0	6742	H	6-140-*◆-TB225W0	7244	H	6-140-*◆-TB225C0	10092	Y1
50	~	~	150	225	6-180-*◆-TB225G0	7412	H	6-180-*◆-TB225D0	7747	H	6-180-*◆-TB225W0	8249	H	6-180-*◆-TB225C0	11097	Y1
~	60	125	~	250	6-180-*◆-TB250G0	7412	H	6-180-*◆-TB250D0	7747	H	6-180-*◆-TB250W0	8249	H	6-180-*◆-TB250C0	11097	Y1
~	~	150	~	300	6-180-*◆-TB300G0	7579	H	6-180-*◆-TB300D0	7914	H	6-180-*◆-TB300W0	8417	H	6-180-*◆-TB300C0	11264	Y1
60	75	150	200	300	6-210-EI-*◆-TB300G0	11264	J	6-210-EI-*◆-TB300D0	11599	J	6-210-EI-*◆-TB300W0	12102	J	6-210-EI-*◆-TB300C0	14279	Y1
75	~	~	~	350	6-250-EI-*◆-TB350G0	12939	J	6-250-EI-*◆-TB350D0	13274	J	6-250-EI-*◆-TB350W0	13777	J	6-250-EI-*◆-TB350C0	16624	Z1
~	100	200	250	400	6-250-EI-*◆-TB400G0	12939	J	6-250-EI-*◆-TB400D0	13274	J	6-250-EI-*◆-TB400W0	13777	J	6-250-EI-*◆-TB400C0	16624	Z1
100	~	~	300	450	6-300-EI-*◆-TB225G0	14949	J	6-300-EI-*◆-TB225D0	15284	J	6-300-EI-*◆-TB225W0	15787	J	6-300-EI-*◆-TB225C0	18634	Z1
~	125	250	~	500	6-300-EI-*◆-TB500G0	14949	J	6-300-EI-*◆-TB500D0	15284	J	6-300-EI-*◆-TB500W0	15787	J	6-300-EI-*◆-TB500C0	18634	Z1
125	~	300	400	600	6-420-EI-*◆-TB600G0	17797	J	6-420-EI-*◆-TB600D0	18132	J	6-420-EI-*◆-TB600W0	18634	J	6-420-EI-*◆-TB600C0	21482	Z1
150	175	350	~	700	6-420-EI-*◆-TB700G0	20100	J	6-420-EI-*◆-TB700D0	20435	J	6-420-EI-*◆-TB700W0	20938	J	6-420-EI-*◆-TB700C0	23785	Z1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAUT7-30-*◆-TB30D0 becomes CAUT7-30-*◆-TB30R0.

Series CAT7 & CAT6 with Fusible Disconnect (J-Type) ③④

Maximum Horsepower Three Phase				Fuse Clip Amps	Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
200V	230V	460V	575V		Catalog No.		Price ①		Catalog No.		Price ①		Catalog No.	Price ①	Catalog No.	Price ①
					CAT		CAT		CAT		CAT					
2	2	5	7.5	30	7-9-*◆-JF61GO	1047	C	7-9-*◆-JF61DO	1382	C2	7-9-*◆-JF61WO	1884	Q	7-9-*◆-JF61CO	1214	V1
3	3	7.5	10	30	7-12-*◆-JF61GO	1089	C	7-12-*◆-JF61DO	1424	C2	7-12-*◆-JF61WO	1926	Q	7-12-*◆-JF61CO	1256	V1
5	5	10	15	30	7-16-*◆-JF61GO	1131	C	7-16-*◆-JF61DO	1466	C2	7-16-*◆-JF61WO	1968	Q	7-16-*◆-JF61CO	1298	V1
5	~	~	~	30	7-23-*◆-JF61GO	1173	C	7-23-*◆-JF61DO	1508	C2	7-23-*◆-JF61WO	2010	Q	7-23-*◆-JF61CO	1340	V1
~	7.5	15	15	60	7-23-*◆-JF62GO	1256	C	7-23-*◆-JF62DO	1591	C2	7-23-*◆-JF62WO	2094	Q	7-23-*◆-JF62CO	1424	V1
7.5	10	20	25	60	7-30-*◆-JF62GO	1382	C	7-30-*◆-JF62DO	1717	C2	7-30-*◆-JF62WO	2219	Q	7-30-*◆-JF62CO	1549	V1
10	10	25	30	60	7-37-*◆-JF62GO	1424	C	7-37-*◆-JF62DO	1759	C2	7-37-*◆-JF62WO	2261	Q	7-37-*◆-JF62CO	1591	V1
10	~	30	30	60	7-43-*◆-JF62GO	1466	C	7-43-*◆-JF62DO	1801	C2	7-43-*◆-JF62WO	2303	Q	7-43-*◆-JF62CO	1633	V1
~	15	~	~	100	7-43-*◆-JF63GO	1884	D3	7-43-*◆-JF63DO	2471	Q	7-43-*◆-JF63WO	2931	Q	7-43-*◆-JF63CO	2303	W1
15	20	40	50	100	7-60-*◆-JF63GO	2010	D3	7-60-*◆-JF63DO	2596	Q	7-60-*◆-JF63WO	3057	Q	7-60-*◆-JF63CO	2429	W2
20	25	50	60	100	7-72-*◆-JF63GO	2052	D3	7-72-*◆-JF63DO	2638	Q	7-72-*◆-JF63WO	3099	Q	7-72-*◆-JF63CO	2471	W2
~	~	~	60	100	7-85-*◆-JF63GO	2094	D3	7-85-*◆-JF63DO	2680	Q	7-85-*◆-JF63WO	3141	Q	7-85-*◆-JF63CO	2513	W2
25	30	60	~	200	7-85-*◆-JF64GO	2848	G	7-85-*◆-JF64DO	3434	T	7-85-*◆-JF64WO	3894	T	7-85-*◆-JF64CO	4858	X1
30	30	75	75	200	7-97-*◆-JF64GO	2968	G	7-97-*◆-JF64DO	3554	T	7-97-*◆-JF64WO	4014	T	7-97-*◆-JF64CO	4978	X1
40	40	75	100	200	6-110-*◆-JF64GO	3853	G	6-110-*◆-JF64DO	4355	T	6-110-*◆-JF64WO	4690	T	6-110-*◆-JF64CO	6030	A2
40	50	100	125	200	6-140-*◆-JF64GO	4188	G	6-140-*◆-JF64DO	4690	T	6-140-*◆-JF64WO	5025	T	6-140-*◆-JF64CO	6365	A2
50	60	150	150	400	6-180-*◆-JF65GO	5863	H	6-180-*◆-JF65DO	6365	H	6-180-*◆-JF65WO	6700	H	6-180-*◆-JF65CO	8878	Y1
60	75	150	200	400	6-210-EI-*◆-JF65GO	7538	H	6-210-EI-*◆-JF65DO	8040	H	6-210-EI-*◆-JF65WO	8543	H	6-210-EI-*◆-JF65CO	10218	Y1
75	100	200	250	400	6-250-EI-*◆-JF65GO	9213	J	6-250-EI-*◆-JF65DO	9715	J	6-250-EI-*◆-JF65WO	10385	J	6-250-EI-*◆-JF65CO	12060	Y1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Starters & Enclosed Prod. COMB

This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAT7-23-*◆-JF21DO becomes CAT7-23-*◆-JF21RO.
- ③ Fusible combo starter uses the L10 Disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ④ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Series CAUT7 & CAUT6 with Fusible Disconnect (J-Type) ③④

Maximum Horsepower Three Phase				Fuse Clips Amps	Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) ②]	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M
200V	230V	460V	575V		Catalog No.		Price ①		Catalog No.		Price ①	
					CAUT		CAUT		CAUT		CAUT	
2	2	5	7.5	30	7-9-*◆-JF61GO	1382 D3	7-9-*◆-JF61DO	1843 Q	7-9-*◆-JF61WO	2052 Q	7-9-*◆-JF61CO	1667 V1
3	3	7.5	10	30	7-12-*◆-JF61GO	1466 D3	7-12-*◆-JF61DO	1926 Q	7-12-*◆-JF61WO	2136 Q	7-12-*◆-JF61CO	1750 V1
5	5	10	15	30	7-16-*◆-JF61GO	1549 D3	7-16-*◆-JF61DO	2010 Q	7-16-*◆-JF61WO	2219 Q	7-16-*◆-JF61CO	1834 V1
5	~	~	~	30	7-23-*◆-JF61GO	1633 D3	7-23-*◆-JF61DO	2094 Q	7-23-*◆-JF61WO	2303 Q	7-23-*◆-JF61CO	1918 V1
	7.5	15	15	60	7-23-*◆-JF62GO	1717 D3	7-23-*◆-JF62DO	2178 Q	7-23-*◆-JF62WO	2387 Q	7-23-*◆-JF62CO	2002 V1
7.5	10	20	25	60	7-30-*◆-JF62GO	1968 D3	7-30-*◆-JF62DO	2429 Q	7-30-*◆-JF62WO	2638 Q	7-30-*◆-JF62CO	2253 V1
10	10	25	30	60	7-37-*◆-JF62GO	2052 D3	7-37-*◆-JF62DO	2513 Q	7-37-*◆-JF62WO	2722 Q	7-37-*◆-JF62CO	2337 V1
10	~	30	30	60	7-43-*◆-JF62GO	2136 D3	7-43-*◆-JF62DO	2596 Q	7-43-*◆-JF62WO	2806 Q	7-43-*◆-JF62CO	2420 V1
~	15	~	~	100	7-43-*◆-JF63GO	2806 E	7-43-*◆-JF63DO	3266 R	7-43-*◆-JF63WO	3476 R	7-43-*◆-JF63CO	3090 W1
15	20	40	50	100	7-60-*◆-JF63GO	3057 E	7-60-*◆-JF63DO	3518 R	7-60-*◆-JF63WO	3727 R	7-60-*◆-JF63CO	3342 W2
20	25	50	60	100	7-72-*◆-JF63GO	3141 E	7-72-*◆-JF63DO	3601 R	7-72-*◆-JF63WO	3811 R	7-72-*◆-JF63CO	3425 W2
~	~	~	60	100	7-85-*◆-JF63GO	3224 E	7-85-*◆-JF63DO	3685 R	7-85-*◆-JF63WO	3894 R	7-85-*◆-JF63CO	3509 W2
25	30	60	~	200	7-85-*◆-JF64GO	3727 F	7-85-*◆-JF64DO	4355 T	7-85-*◆-JF64WO	4564 T	7-85-*◆-JF64CO	6859 A2
30	30	75	75	200	7-97-*◆-JF64GO	3967 F	7-97-*◆-JF64DO	4595 T	7-97-*◆-JF64WO	4804 T	7-97-*◆-JF64CO	7628 A2
40	40	75	100	200	6-110-*◆-JF64GO	6030 H	6-110-*◆-JF64DO	6658 H	6-110-*◆-JF64WO	6993 H	6-110-*◆-JF64CO	R/F Y1
40	50	100	125	200	6-140-*◆-JF64GO	6700 H	6-140-*◆-JF64DO	7328 H	6-140-*◆-JF64WO	7663 H	6-140-*◆-JF64CO	R/F Y1
50	60	150	150	400	6-180-*◆-JF65GO	9213 J	6-180-*◆-JF65DO	9841 J	6-180-*◆-JF65WO	10176 J	6-180-*◆-JF65CO	R/F Z1
60	75	150	200	400	6-210-EI-*◆-JF65GO	12563 J	6-210-EI-*◆-JF65DO	13191 J	6-210-EI-*◆-JF65WO	13526 J	6-210-EI-*◆-JF65CO	R/F Z1
75	100	200	250	400	6-250-EI-*◆-JF65GO	15368 J	6-250-EI-*◆-JF65DO	15996 J	6-250-EI-*◆-JF65WO	16331 J	6-250-EI-*◆-JF65CO	R/F Z1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAUT7-23-*◆-JF21DO becomes CAUT7-23-*◆-JF21RO.
- ③ Fusible combo starter used the L10 disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ④ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Series CAT7 & CAT6 with Non-Fusible Disconnect ③④

Maximum Horsepower Three Phase				Disc Size/ Amps	Type 1 (M1) General Purpose			D I M	Type 12 (M12) [Type 3R (M3) ②]			D I M	Type 4 (M4) Watertight			D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic			D I M
200V	230V	460V	575V		Catalog No.	Price ①			Catalog No.	Price ①			Catalog No.	Price ①			Catalog No.	Price ①		
					CAT				CAT				CAT				CAT			
2	2	5	7.5	30	7-9-*◆-JU61GO	1005	C	7-9-*◆-JU61DO	1340	C2	7-9-*◆-JU61WO	1843	Q	7-9-*◆-JU61CO	1173	V1				
3	3	7.5	10	30	7-12-*◆-JU61GO	1047	C	7-12-*◆-JU61DO	1381	C2	7-12-*◆-JU61WO	1885	Q	7-12-*◆-JU61CO	1214	V1				
5	5	10	15	30	7-16-*◆-JU61GO	1089	C	7-16-*◆-JU61DO	1424	C2	7-16-*◆-JU61WO	1926	Q	7-16-*◆-JU61CO	1256	V1				
5	7.5	15	15	30	7-23-*◆-JU61GO	1131	C	7-23-*◆-JU61DO	1466	C2	7-23-*◆-JU61WO	1969	Q	7-23-*◆-JU61CO	1298	V1				
7.5	~	~	20	30	7-30-*◆-JU61GO	1214	C	7-30-*◆-JU61DO	1549	C2	7-30-*◆-JU61WO	2052	Q	7-30-*◆-JU61CO	1382	V1				
~	10	20	25	60	7-30-*◆-JU62GO	1340	C	7-30-*◆-JU62DO	1675	C2	7-30-*◆-JU62WO	2178	Q	7-30-*◆-JU62CO	1508	V1				
10	10	25	30	60	7-37-*◆-JU62GO	1382	C	7-37-*◆-JU62DO	1717	C2	7-37-*◆-JU62WO	2219	Q	7-37-*◆-JU62CO	1549	V1				
10	15	30	30	60	7-43-*◆-JU62GO	1424	C	7-43-*◆-JU62DO	1759	C2	7-43-*◆-JU62WO	2261	Q	7-43-*◆-JU62CO	1591	V1				
15	~	~	50	60	7-60-*◆-JU62GO	1843	D3	7-60-*◆-JU62DO	2429	Q	7-60-*◆-JU62WO	2931	Q	7-60-*◆-JU62CO	2219	W2				
~	20	40	~	100	7-60-*◆-JU63GO	1968	D3	7-60-*◆-JU63DO	2680	Q	7-60-*◆-JU63WO	3183	Q	7-60-*◆-JU63CO	2345	W2				
20	25	50	60	100	7-72-*◆-JU63GO	2010	D3	7-72-*◆-JU63DO	2722	Q	7-72-*◆-JU63WO	3224	Q	7-72-*◆-JU63CO	2387	W2				
25	30	60	60	100	7-85-*◆-JU63GO	2052	D3	7-85-*◆-JU63DO	2764	Q	7-85-*◆-JU63WO	3266	Q	7-85-*◆-JU63CO	2429	W2				
30	30	75	75	100	7-97-*◆-JU63GO	2172	D3	7-97-*◆-JU63DO	2884	Q	7-97-*◆-JU63WO	3386	Q	7-97-*◆-JU63CO	2549	W2				
40	40	75	100	200	6-110-*◆-JU64GO	3685	G	6-110-*◆-JU64DO	4188	T	6-110-*◆-JU64WO	4523	T	6-110-*◆-JU64CO	5863	A2				
40	50	100	125	200	6-140-*◆-JU64GO	4020	G	6-140-*◆-JU64DO	4523	T	6-140-*◆-JU64WO	4858	T	6-140-*◆-JU64CO	6198	A2				
50	60	125	150	200	6-180-*◆-JU64GO	5025	G	6-180-*◆-JU64DO	5528	T	6-180-*◆-JU64WO	6198	T	6-180-*◆-JU64CO	7873	A2				
~	~	150	~	400	6-180-*◆-JU65GO	5695	H	6-180-*◆-JU65DO	6198	H	6-180-*◆-JU65WO	6533	H	6-180-*◆-JU65CO	8710	Y1				
60	75	150	200	400	6-210-EI-*◆-JU65GO	7370	H	6-210-EI-*◆-JU65DO	7873	H	6-210-EI-*◆-JU65WO	8375	H	6-210-EI-*◆-JU65CO	10050	Y1				
75	100	200	250	400	6-250-EI-*◆-JU65GO	9045	J	6-250-EI-*◆-JU65DO	9547	J	6-250-EI-*◆-JU65WO	10217	J	6-250-EI-*◆-JU65CO	11892	Y1				

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Starters & Enclosed Prod. COMB

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change.
Example: CAT7-23-*◆-JU61DO becomes CAT7-23-*◆-JU61RO.
- ③ Non-fusible combo-starter uses the L10 non-fusible disconnect.
- ④ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JU" to "LU" in catalog number.

Series CAUT7 & CAUT6 with Non-Fusible Disconnect ③④

Maximum Horsepower Three Phase				Disc Size/ Amps	Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) ②]	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
200V	230V	460V	575V		Catalog No.		Price ①		Catalog No.		Price ①		Catalog No.	Price ①	Catalog No.	Price ①
					CAUT		CAUT		CAUT		CAUT					
2	2	5	7.5	30	7-9-*◆-JU61GO	1340	D3	7-9-*◆-JU61DO	1801	Q	7-9-*◆-JU61WO	2010	Q	7-9-*◆-JU61CO	1625	W1
3	3	7.5	10	30	7-12-*◆-JU61GO	1424	D3	7-12-*◆-JU61DO	1884	Q	7-12-*◆-JU61WO	2094	Q	7-12-*◆-JU61CO	1709	W1
5	5	10	15	30	7-16-*◆-JU61GO	1508	D3	7-16-*◆-JU61DO	1968	Q	7-16-*◆-JU61WO	2178	Q	7-16-*◆-JU61CO	1792	W1
5	7.5	15	15	30	7-23-*◆-JU61GO	1591	D3	7-23-*◆-JU61DO	2052	Q	7-23-*◆-JU61WO	2261	Q	7-23-*◆-JU61CO	1876	W1
7.5	~	~	20	30	7-30-*◆-JU61GO	1675	D3	7-30-*◆-JU61DO	2136	Q	7-30-*◆-JU61WO	2345	Q	7-30-*◆-JU61CO	1960	W1
~	10	20	25	60	7-30-*◆-JU62GO	1926	D3	7-30-*◆-JU62DO	2387	Q	7-30-*◆-JU62WO	2596	Q	7-30-*◆-JU62CO	2211	W1
10	10	25	30	60	7-37-*◆-JU62GO	2010	D3	7-37-*◆-JU62DO	2471	Q	7-37-*◆-JU62WO	2680	Q	7-37-*◆-JU62CO	2295	W1
10	15	30	30	60	7-43-*◆-JU62GO	2094	D3	7-43-*◆-JU62DO	2554	Q	7-43-*◆-JU62WO	2764	Q	7-43-*◆-JU62CO	2379	W2
15	~	~	50	60	7-60-*◆-JU62GO	2764	E	7-60-*◆-JU62DO	3224	Q	7-60-*◆-JU62WO	3434	Q	7-60-*◆-JU62CO	3049	W2
~	20	40	~	100	7-60-*◆-JU63GO	3015	E	7-60-*◆-JU63DO	3476	R	7-60-*◆-JU63WO	3685	R	7-60-*◆-JU63CO	3300	W2
20	25	50	60	100	7-72-*◆-JU63GO	3099	E	7-72-*◆-JU63DO	3559	R	7-72-*◆-JU63WO	3769	R	7-72-*◆-JU63CO	3384	W2
25	30	60	60	100	7-85-*◆-JU63GO	3643	E	7-85-*◆-JU63DO	3467	R	7-85-*◆-JF63WO	3183	R	7-85-*◆-JU63CO	3853	W2
30	30	75	75	100	7-97-*◆-JU63GO	3883	E	7-97-*◆-JU63DO	3707	R	7-97-*◆-JF63WO	3423	R	7-97-*◆-JU63CO	4093	W2
40	40	75	100	200	6-110-*◆-JU64GO	5653	H	6-110-*◆-JU64DO	6281	H	6-110-*◆-JU64WO	6616	H	6-110-*◆-JU64CO	R/F	Y1
40	50	100	125	200	6-140-*◆-JU64GO	6323	H	6-140-*◆-JU64DO	6951	H	6-140-*◆-JU64WO	7286	H	6-140-*◆-JU64CO	R/F	Y1
50	60	125	150	200	6-180-*◆-JU64GO	7998	H	6-180-*◆-JU64DO	8626	H	6-180-*◆-JU64WO	8961	H	6-180-*◆-JU64CO	R/F	Y1
~	~	150	~	400	6-180-*◆-JU65GO	8836	J	6-180-*◆-JU65DO	9464	J	6-180-*◆-JU65WO	9799	J	6-180-*◆-JU65CO	R/F	Z1
60	75	150	200	400	6-210-EI-*◆-JU65GO	12186	J	6-210-EI-*◆-JU65DO	12814	J	6-210-EI-*◆-JU65WO	13149	J	6-210-EI-*◆-JU65CO	R/F	Z1
75	100	200	250	400	6-250-EI-*◆-JU65GO	15201	J	6-250-EI-*◆-JU65DO	15829	J	6-250-EI-*◆-JU65WO	16164	J	6-250-EI-*◆-JU65CO	R/F	Z1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAUT7-23-*◆-JU61DO becomes CAUT7-23-*◆-JU61RO.
- ③ Non-fusible combo-starter uses the L10 non-fusible disconnect.
- ④ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JU" to "LU" in catalog number.

NEMA Sized Combination Starters - Through the Door Operated

Smart and
cost effective...
for any application

Starters &
Enclosed Prod.
COMB



CAN7 NEMA labeled
contactor (AC)



CAN6 NEMA labeled
contactor (AC)



Sprecher + Schuh's through-the-door operated combination starters represent an economical alternative to the classic flange-operated combo solution. It is designed to meet rigid UL/NEC withstand specifications. Sprecher + Schuh has been building custom control panels with this design for years. Experience the durability of this product!

Starting with the best

At the heart of all Sprecher + Schuh NEMA sized combination starters is the CATN7 and CATN6 line of motor starters. Each starter proudly displays the NEMA size (00, 0, 1, 2, 3, 4 & 5) and HP at applied voltage. This line of starters is designed to meet rigid consultant specifications for NEMA starters.

Top line protection...

Combination starters are equipped with Sprecher + Schuh's new state of the art CEP7 solid state overload relay. CEP7 solid state overload relays measure motor current directly through integrated current transformers and on board electronics (AISC). The electronics provide numerous advantages over electromechanical relays such as increased accuracy, a wider adjustment range, and running at a cooler temperature. Alternatively, the CT7N Thermal Overload can be utilized.

Choice of Disconnect

Choices for disconnect include:

- Thermal Magnetic Molded Case Circuit Breaker (MCCB)
- L10 fusible or non-fusible Disconnect switch



Thermal Magnetic Molded Case Circuit Breaker (MCCB)

The through-the-door operated combo MCCB is available to meet UL short circuit withstand specifications. An MCCB prevents single phasing by simultaneously opening all three phases when a fault occurs in any one phase. An MCCB can often be reset after the fault has been cleared.

L10 Disconnect Switch

The through-the-door operated combo is available with the L10 switch. A mechanical door interlock system prevents the door from being opened when the disconnect is closed, and conversely, prevents the disconnect from being closed when the door is open. Both functions can be defeated for test and maintenance purposes. Other safety features include padlock provisions and a high visibility operating handle.

The L10 Switch disconnects have a quick make/quick break, non-teasing action. The L10 fusible switch is suitable for interrupting up to 100,000 amperes when class "J" fuses are used. L10 disconnect switches conform to UL 98 standards (100A-400A switches) and UL 1087/489 standards (30 and 60A switches).

Choice of Enclosures

Available enclosures include;

- Type 1 General Purpose
- Type 3R Raintight
- Type 12 Dusttight
- Type 4 Watertight
- Type 4X corrosion resistant

Series CATN7 & CATN6 with Thermal-Magnetic Circuit Breaker

NEMA Size	Maximum Horsepower Three Phase				MCCB Amps	Type 1 (M1) General Purpose		D I M	Type 12 (M12) [Type 3R (M3) Ⓞ] Industrial Dusttight		D I M	Type 4 (M4) Watertight		D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic		D I M
	200V	230V	460V	575V		Catalog No.	Price		Ⓞ	Catalog No.		Price	Ⓞ		Catalog No.	Price	
						CATN			CATN			CATN			CATN		
0	1-1/2	1-1/2	2	2	15	7-12-*◆-TB15G0	1298	C	7-12-*◆-TB15D0	1508	C2	7-12-*◆-TB15W0	2219	C	7-12-*◆-TB15C0	1675	V1
	2	3	5	5	15	7-16-*◆-TB15G0	1340	C	7-16-*◆-TB15D0	1549	C2	7-16-*◆-TB15W0	2261	C	7-16-*◆-TB15C0	1717	V1
	3	~	~	~	20	7-16-*◆-TB20G0	1340	C	7-16-*◆-TB20D0	1549	C2	7-16-*◆-TB20W0	2261	C	7-16-*◆-TB20C0	1717	V1
1	~	~	~	7-1/2	15	7-37-*◆-TB15G0	1549	C	7-37-*◆-TB15D0	1801	C2	7-37-*◆-TB15W0	2471	C	7-37-*◆-TB15C0	1926	V1
	~	~	7-1/2	10	20	7-37-*◆-TB20G0	1549	C	7-37-*◆-TB20D0	1801	C2	7-37-*◆-TB20W0	2471	C	7-37-*◆-TB20C0	1926	V1
	~	5	10	~	25	7-37-*◆-TB25G0	1549	C	7-37-*◆-TB25D0	1801	C2	7-37-*◆-TB25W0	2471	C	7-37-*◆-TB25C0	1926	V1
	5	~	~	~	30	7-37-*◆-TB30G0	1549	C	7-37-*◆-TB30D0	1801	C2	7-37-*◆-TB30W0	2471	C	7-37-*◆-TB30C0	1926	V1
	~	7-1/2	~	~	35	7-37-*◆-TB35G0	1549	C	7-37-*◆-TB35D0	1801	C2	7-37-*◆-TB35W0	2471	C	7-37-*◆-TB35C0	1926	V1
	7-1/2	~	~	~	40	7-37-*◆-TB40G0	1549	C	7-37-*◆-TB40D0	1801	C2	7-37-*◆-TB40W0	2471	C	7-37-*◆-TB40C0	1926	V1
	~	~	~	15	30	7-43-*◆-TB30G0	1591	C	7-43-*◆-TB30D0	2010	C2	7-43-*◆-TB30W0	2513	C	7-43-*◆-TB30C0	2178	V1
2	~	~	15	20	35	7-43-*◆-TB35G0	1591	C	7-43-*◆-TB35D0	2010	C2	7-43-*◆-TB35W0	2513	C	7-43-*◆-TB35C0	2178	V1
	10	10	20	25	50	7-43-*◆-TB50G0	1591	C	7-43-*◆-TB50D0	2010	C2	7-43-*◆-TB50W0	2513	C	7-43-*◆-TB50C0	2178	V1
	~	~	25	~	60	7-43-*◆-TB60G0	1591	C	7-43-*◆-TB60D0	2010	C2	7-43-*◆-TB60W0	2513	C	7-43-*◆-TB60C0	2178	V1
	~	15	~	~	70	7-43-*◆-TB70G0	1591	C	7-43-*◆-TB70D0	2010	C2	7-43-*◆-TB70W0	2513	C	7-43-*◆-TB70C0	2178	V1
	~	~	~	30	50	7-85-*◆-TB50G0	1801	D3	7-85-*◆-TB50D0	3190	Q	7-85-*◆-TB50W0	3268	Q	7-85-*◆-TB50C0	2387	W2
3	~	~	30	~	60	7-85-*◆-TB60G0	1801	D3	7-85-*◆-TB60D0	3190	Q	7-85-*◆-TB60W0	3268	Q	7-85-*◆-TB60C0	2387	W2
	~	~	~	40	70	7-85-*◆-TB70G0	1801	D3	7-85-*◆-TB70D0	3190	Q	7-85-*◆-TB70W0	3268	Q	7-85-*◆-TB70C0	2387	W2
	15	~	40	50	80	7-85-*◆-TB80G0	1801	D3	7-85-*◆-TB80D0	3190	Q	7-85-*◆-TB80W0	3268	Q	7-85-*◆-TB80C0	2387	W2
	~	20	~	~	90	7-85-*◆-TB90G0	1801	D3	7-85-*◆-TB90D0	3190	Q	7-85-*◆-TB90W0	3268	Q	7-85-*◆-TB90C0	2387	W2
	20	~	50	~	100	7-85-*◆-TB100G0	1801	D3	7-85-*◆-TB100D0	3190	Q	7-85-*◆-TB100W0	3268	Q	7-85-*◆-TB100C0	2387	W2
	25	30	~	~	125	7-85-*◆-TB125G0	2303	D3	7-85-*◆-TB125D0	3692	Q	7-85-*◆-TB125W0	3770	Q	7-85-*◆-TB125C0	2889	W2
	~	~	~	60	100	6-180-*◆-TB100G0	4056	G	6-180-*◆-TB100D0	4756	T	6-180-*◆-TB100W0	4893	T	6-180-*◆-TB100C0	6903	A2
4	~	30	60	75	125	6-180-*◆-TB125G0	4558	G	6-180-*◆-TB125D0	5258	T	6-180-*◆-TB125W0	5395	T	6-180-*◆-TB125C0	7405	A2
	30	~	75	100	150	6-180-*◆-TB150G0	4558	G	6-180-*◆-TB150D0	5258	T	6-180-*◆-TB150W0	5395	T	6-180-*◆-TB150C0	7405	A2
	~	40	~	~	175	6-180-*◆-TB175G0	4858	G	6-180-*◆-TB175D0	5558	T	6-180-*◆-TB175W0	5695	T	6-180-*◆-TB175C0	7705	A2
	40	50	100	~	200	6-180-*◆-TB200G0	4858	G	6-180-*◆-TB200D0	5558	T	6-180-*◆-TB200W0	5695	T	6-180-*◆-TB200C0	7705	A2
5	~	~	~	125	200	6-300-EI-*◆-TB200G0	8738	I	6-300-EI-*◆-TB200D0	9576	W	6-300-EI-*◆-TB200W0	10488	J	6-300-EI-*◆-TB200C0	11251	Y1
	50	~	~	150	225	6-300-EI-*◆-TB225G0	8738	I	6-300-EI-*◆-TB225D0	9576	W	6-300-EI-*◆-TB225W0	10488	J	6-300-EI-*◆-TB225C0	11251	Y1
	~	60	125	~	250	6-300-EI-*◆-TB250G0	8738	I	6-300-EI-*◆-TB250D0	9576	W	6-300-EI-*◆-TB250W0	10488	J	6-300-EI-*◆-TB250C0	11251	Y1
	60	75	150	200	300	6-300-EI-*◆-TB300G0	9408	I	6-300-EI-*◆-TB300D0	10246	W	6-300-EI-*◆-TB300W0	11158	J	6-300-EI-*◆-TB300C0	11921	Y1
	75	~	~	~	350	6-300-EI-*◆-TB350G0	9408	I	6-300-EI-*◆-TB350D0	10246	W	6-300-EI-*◆-TB350W0	11158	J	6-300-EI-*◆-TB350C0	11921	Y1
	~	100	200	~	400	6-300-EI-*◆-TB400G0	9408	I	6-300-EI-*◆-TB400D0	10246	W	6-300-EI-*◆-TB400W0	11158	J	6-300-EI-*◆-TB400C0	11921	Y1

Larger sizes available. Contact your Sprecher + Schuh representative.



Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

- Ⓞ Refer to page C81-85 for dimensional information.
- Ⓞ For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CATN7-37-*◆-TB40D0 becomes CATN7-37-*◆-TB40R0.

Series CATN7 & CATN6 with Fusible Disconnect (J-Type) ③④

NEMA Size	Maximum Horsepower Three Phase				Fuse Clip Amps	Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) ②] Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M
	200V	230V	460V	575V		Catalog No.		Price ①		Catalog No.		Price ①	
						CATN		CATN		CATN		CATN	
00	1-1/2	1-1/2	2	2	30	7-12-*◆-JF61GO ⑤	1089 C	7-12-*◆-JF61DO ⑤	1424 C2	7-12-*◆-JF61WO	1926 Q	7-12-*◆-JF61CO ⑤	1256 V1
0	3	3	5	5	30	7-16-*◆-JF61GO ⑤	1131 C	7-16-*◆-JF61DO ⑤	1466 C2	7-16-*◆-JF61WO	1968 Q	7-16-*◆-JF61CO ⑤	1298 V1
1	5	5	10	10	30	7-37-*◆-JF61GO ⑤	1341 C	7-37-*◆-JF61DO ⑤	1676 C2	7-37-*◆-JF61WO	2178 Q	7-37-*◆-JF61CO ⑤	1508 V1
	7-1/2	7-1/2	~	~	60	7-37-*◆-JF62GO ⑤	1424 C	7-37-*◆-JF62DO ⑤	1759 C2	7-37-*◆-JF62WO	2261 Q	7-37-*◆-JF62CO ⑤	1591 V1
2	~	~	~	15	30	7-43-*◆-JF61GO ⑤	1383 C	7-43-*◆-JF61DO ⑤	1718 C2	7-43-*◆-JF61WO	2220 Q	7-43-*◆-JF61CO ⑤	1550 V1
	10	10	25	25	60	7-43-*◆-JF62GO ⑤	1466 C	7-43-*◆-JF62DO ⑤	1801 C2	7-43-*◆-JF62WO	2303 Q	7-43-*◆-JF62CO ⑤	1633 V1
	~	15	~	~	100	7-43-*◆-JF63GO ⑤	1884 D3	7-43-*◆-JF63DO ⑤	2434 Q	7-43-*◆-JF63WO	2931 Q	7-43-*◆-JF63CO ⑤	2303 W1
3	~	~	30	40	60	7-85-*◆-JF62GO ⑤	2052 D3	7-85-*◆-JF62DO ⑤	2638 Q	7-85-*◆-JF62WO	3099 Q	7-85-*◆-JF62CO ⑤	2471 W2
	20	25	50	50	100	7-85-*◆-JF63GO ⑤	2094 D3	7-85-*◆-JF63DO ⑤	2680 Q	7-85-*◆-JF63WO	3141 Q	7-85-*◆-JF63CO ⑤	2513 W2
	25	30	~	~	200	7-85-*◆-JF64GO ⑤	2848 G	7-85-*◆-JF64DO ⑤	3434 T	7-85-*◆-JF64WO	3894 T	7-85-*◆-JF64CO ⑤	4858 X1
4	~	~	~	60	100	6-180-*◆-JF63GO	4296 G	6-180-*◆-JF63DO	4800 T	6-180-*◆-JF63WO	5460 T	6-180-*◆-JF63CO	7144 A2
	40	50	100	100	200	6-180-*◆-JF64GO	5193 G	6-180-*◆-JF64DO	5696 T	6-180-*◆-JF64WO	6366 T	6-180-*◆-JF64CO	8041 A2
5	~	~	~	125	200	6-300-*◆-JF64GO	8108 H	6-300-*◆-JF64DO	8610 H	6-300-*◆-JF64WO	9280 H	6-300-*◆-JF64CO	10955 Y1
	75	100	200	200	400	6-300-*◆-JF65GO	9408 J	6-300-*◆-JF65DO	9910 J	6-300-*◆-JF65WO	10580 J	6-300-*◆-JF65CO	12255 Y1

Larger sizes available. Contact your Sprecher + Schuh representative.

Starters & Enclosed Prod.

COMB

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CATN7-16-*◆-JF61DO becomes CATN7-16-*◆-JF61RO.
- ③ Fusible combo starter uses the L10 Disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ④ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Series CATN7 & CATN6 with Non-Fusible Disconnect ③④

NEMA Size	Maximum Horsepower Three Phase				Disc Size/Amps	Type 1 (M1) General Purpose	D I M	Type 12 (M12) [Type 3R (M3) ②]	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M				
	200V	230V	460V	575V		Catalog No.		Price ①		Catalog No.		Price ①		Catalog No.	Price ①	Catalog No.	Price ①
						CATN		CATN		CATN		CATN					
00	1-1/2	1-1/2	2	2	30	7-12-*◆-JU61GO	1047	C	7-12-*◆-JU61DO	1381	C2	7-12-*◆-JU61WO	1885	Q	7-12-*◆-JU61CO	1214	V1
0	3	3	5	5	30	7-16-*◆-JU61GO	1089	C	7-16-*◆-JU61DO	1424	C2	7-16-*◆-JU61WO	1926	Q	7-16-*◆-JU61CO	1256	V1
1	5	7-1/2	10	10	30	7-37-*◆-JU61GO	1256	C	7-37-*◆-JU61DO	1591	C2	7-37-*◆-JU61WO	2093	Q	7-37-*◆-JU61CO	1423	V1
	7-1/2	~	~	~	60	7-37-*◆-JU62GO	1382	C	7-37-*◆-JU62DO	1717	C2	7-37-*◆-JU62WO	2219	Q	7-37-*◆-JU62CO	1549	V1
2	~	~	15	15	30	7-43-*◆-JU61GO	1298	C	7-43-*◆-JU61DO	1633	C2	7-43-*◆-JU61WO	2135	Q	7-43-*◆-JU61CO	1465	V1
	10	15	25	25	60	7-43-*◆-JU62GO	1424	C	7-43-*◆-JU62DO	1759	C2	7-43-*◆-JU62WO	2261	Q	7-43-*◆-JU62CO	1591	V1
3	15	~	30	40	60	7-85-*◆-JU62GO	1927	D3	7-85-*◆-JU62DO	2639	Q	7-85-*◆-JU62WO	3141	Q	7-85-*◆-JU62CO	2304	W2
	25	30	50	50	100	7-85-*◆-JU63GO	2052	D3	7-85-*◆-JU63DO	2764	Q	7-85-*◆-JU63WO	3266	Q	7-85-*◆-JU63CO	2429	W2
4	40	50	100	100	200	6-180-*◆-JU64GO	5025	G	6-180-*◆-JU64DO	5528	T	6-180-*◆-JU64WO	6198	T	6-180-*◆-JU64CO	7873	A2
5	50	60	125	150	200	6-300-*◆-JU64GO	7940	H	6-300-*◆-JU64DO	8442	H	6-300-*◆-JU64WO	9112	H	6-300-*◆-JU64CO	10787	Y1
	75	100	200	200	400	6-300-*◆-JU65GO	9240	J	6-300-*◆-JU65DO	9742	J	6-300-*◆-JU65WO	10412	J	6-300-*◆-JU65CO	12087	Y1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For M3-Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change.
Example: CATN7-16-*◆-JU61DO becomes CATN7-16-*◆-JU61R0.
- ③ Non-fusible combo-starter uses the L10 non-fusible disconnect.
- ④ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JU" to "LU" in catalog number.

Explosion-proof Starters

Safe and reliable starting in hazardous applications

Sprecher + Schuh offers explosion-proof starters for environments covered by the following classifications:

NEMA: 7BCD, 9EFG

NEC: Class I, Groups B, C, D
Class II, Groups E, F, G
Class III

UL: Standard 1203
Hazardous (Classified) Locations

CSA: Standard 22.2 No. 25 & 30

Explosion-proof combination starters also comply with NEMA 3, 3R, 4 & 12.



Type 7 and Type 9 protection

Type 7 enclosures are designed to provide protection against an internal explosion when operated in a hazardous gas environment. Type 9 enclosures protect from internal explosion in a hazardous dust environment.

Both types must also prevent enclosed heat generating mechanisms from causing external surfaces to reach temperatures capable of igniting explosive gas-air mixtures in the surrounding atmosphere. Sprecher + Schuh explosion-proof starters meet all requirements of both classifications.

Starting with the best

At the heart of all explosion-proof starters is Sprecher + Schuh's CAT7 and CAT6 line of motor starters. These starters are compact and offer intermediate sizes to better match specific motor requirements. This equates to generous wiring space and less wasted horsepower capacity.

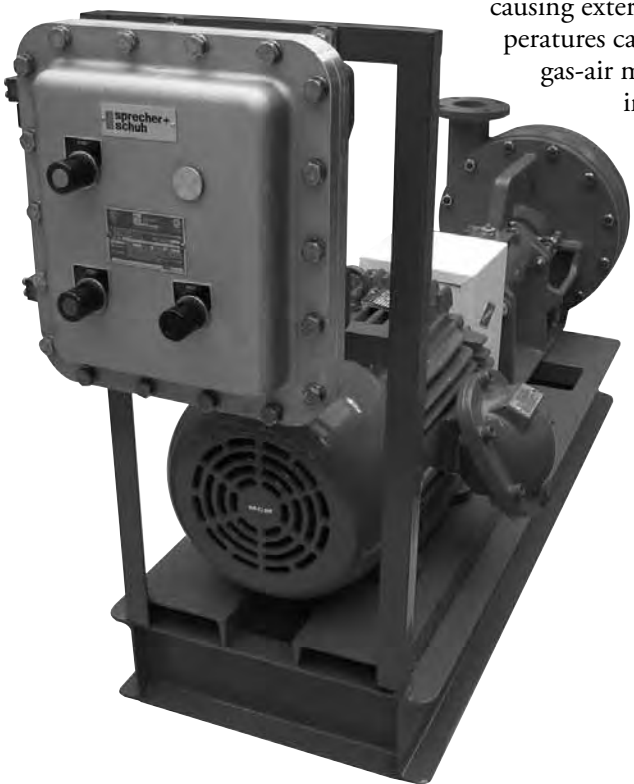
Top line protection...

Explosion Proof starters are equipped with Sprecher + Schuh's CEP7 solid state overload relay. Unlike traditional overload relays that indirectly sense motor current through heater elements, CEP7 solid state overload relays measure motor current directly through integrated current transformers and on board electronics. The electronics provide numerous advantages over electromechanical relays.

Combination starters for protection and convenience

Explosion-proof combination starters can include either a UL489 approved Thermal Magnetic Circuit Breaker (MCCB) or non-fusible disconnect. The MCCB utilizes the instantaneous trip ability of a magnetic breaker for short circuit currents combined with the overload tolerance of thermal circuit breakers for normal starting demands. An MCCB can also be quickly reset after the fault has been cleared.

A molded case switch (MCS) is used in applications requiring only a non-fused disconnect.



Explosion Proof motor control panel mounted directly to motor and pump frame.

Series CAT7 & CAT6

Maximum Horsepower Three Phase				Without Short Circuit Protection	Price	D I M	MCCB Amps	With Thermal Magnetic Circuit Breaker (MCCB)	Price	D I M	With Non Fusible Disconnect	Price	D I M
200V	230V	460V	575V	Catalog No.				Catalog No.			Catalog No.		
2	3	5	7.5	CAT7-30-*◆-E0	2823	A7	15	CAT7-30-*◆-TB15E0	4816	E7			
3	~	7.5	10	CAT7-30-*◆-E0	2823	A7	20	CAT7-30-*◆-TB20E0	4816	E7			
~	5	10	~	CAT7-30-*◆-E0	2823	A7	25	CAT7-30-*◆-TB25E0	4816	E7			
5	~	~	15	CAT7-30-*◆-E0	2823	A7	30	CAT7-30-*◆-TB30E0	4816	E7			
~	7.5	15	20	CAT7-30-*◆-E0	2823	A7	35	CAT7-30-*◆-TB35E0	4816	E7			
7.5	~	~	~	CAT7-30-*◆-E0	2823	A7	40	CAT7-30-*◆-TB40E0	4816	E7			
~	10	20	25	CAT7-30-*◆-E0	2823	A7	50	CAT7-30-*◆-TB50E0	4816	E7			
10	~	~	30	CAT7-37-*◆-E0	2931	A7	50	CAT7-37-*◆-TB50E0	5025	E7			
~	~	25	~	CAT7-37-*◆-E0	2931	A7	60	CAT7-37-*◆-TB60E0	5025	E7			
~	~	~	30	CAT7-43-*◆-E0	3036	A7	50	CAT7-43-*◆-TB50E0	5130	E7			
~	~	30	~	CAT7-43-*◆-E0	3036	A7	60	CAT7-43-*◆-TB60E0	5130	E7			
~	15	~	~	CAT7-43-*◆-E0	3036	A7	70	CAT7-43-*◆-TB70E0	5130	E7			
15	~	40	50	CAT7-60-*◆-E0	3141	A7	80	CAT7-60-*◆-TB80E0	5235	F7			
~	20	~	~	CAT7-60-*◆-E0	3141	A7	90	CAT7-60-*◆-TB90E0	5235	F7			
20	~	50	60	CAT7-72-*◆-E0	3193	A7	100	CAT7-72-*◆-TB100E0	5339	F7			
~	25	~	~	CAT7-72-*◆-E0	3193	A7	125	CAT7-72-*◆-TB125E0	5339	F7			
~	~	~	60	CAT7-85-*◆-E0	3298	A7	100	CAT7-85-*◆-TB100E0	5444	F7			
25	30	60	~	CAT7-85-*◆-E0	3298	A7	125	CAT7-85-*◆-TB125E0	5444	F7			
~	30	~	75	CAT7-97-*◆-E0	3418	A7	125	CAT7-97-*◆-TB125E0	5564	F7			
30	~	75	~	CAT7-97-*◆-E0	3418	A7	150	CAT7-97-*◆-TB150E0	5764	F7			
30	~	75	100	CAT6-110-*◆-E0	5235	B7	150	CAT6-110-*◆-TB150E0	11516	G7			
~	40	~	~	CAT6-110-*◆-E0	5235	B7	175	CAT6-110-*◆-TB175E0	11516	G7			
40	~	~	~	CAT6-110-*◆-E0	5235	B7	200	CAT6-110-*◆-TB200E0	11516	G7			
~	50	100	125	CAT6-140-*◆-E0	5758	B7	200	CAT6-140-*◆-TB200E0	12039	G7			
50	~	~	150	CAT6-180-*◆-E0	9213	C7	225	CAT6-180-*◆-TB225E0	20100	H7			
~	60	125	~	CAT6-180-*◆-E0	9213	C7	250	CAT6-180-*◆-TB250E0	20100	H7			
~	~	150	~	CAT6-180-*◆-E0	9213	C7	300	CAT6-180-*◆-TB300E0	20100	H7			
60	75	~	200	CAT6-210-EI-*◆-E0	18006	D7	300	CAT6-210-EI-*◆-TB300E0	23450	H7			
75	~	175	~	CAT6-250-EI-*◆-E0	20435	D7	350	CAT6-250-EI-*◆-TB350E0	25125	H7			
~	100	200	250	CAT6-250-EI-*◆-E0	20435	D7	400	CAT6-250-EI-*◆-TB400E0	25125	H7			
100	~	~	300	CAT6-300-EI-*◆-E0	20770	D7	450	CAT6-300-EI-*◆-TB450E0	25544	H7			
~	125	250	~	CAT6-300-EI-*◆-E0	20770	D7	500	CAT6-300-EI-*◆-TB500E0	25544	H7			
125	150	300	400	CAT6-420-EI-*◆-E0	21775	D7	600	CAT6-420-EI-*◆-TB600E0	28475	H7			
150	175	350	~	CAT6-420-EI-*◆-E0	21775	D7	700	CAT6-420-EI-*◆-TB700E0	28475	H7			

To order, select equivalent Thermal-Magnetic Circuit Breaker catalog number from this chart. Specify on order, "With molded case switch."

Starters & Enclosed Prod. EXPL

Larger sizes and reversing starters available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① See page C81-85 for dimensional information.
- ② Enclosures have gaskets for outdoor use (Type 4).

Pilot Device Kits – Type 7/9 Applications (For use with Type 7/9 Explosion Proof Enclosures)

Kits	Description	Contact Blocks included		Catalog Number	Price
		NO	NC		
	START Pushbutton Green, Non-illuminated, momentary, with legend ①②	1	0	XHPB-BT4-XNP	174
	STOP Pushbutton Red, Non-illuminated, momentary, with legend ①②	0	1	XHPB-BT5-XNP	174
	DUAL Pushbutton Non-illuminated, momentary	1	1	XHDPB-BT1A	340
	OFF-ON Selector Switch Non-illuminated, maintained, with legend	1	0	XHSS-1-BT4-XNP/OFF-ON	297
	HAND-AUTO Selector Switch Non-illuminated, maintained, with legend	1	1	XHSS-1-BT1A-XNP/HAND-AUTO	313
	HAND-OFF-AUTO Selector Switch Non-illuminated, maintained, with legend	2	0	XHSS-3-BT2-XNP/HAND-OFF-AUTO	313
	FWD-OFF-REV Selector Switch Non-illuminated, maintained, with legend	2	0	XHSS-3-BT2-XNP/FWD-OFF-REV	313
	RED MUSHROOM Pushbutton Non-illuminated, momentary, with legend	0	1	XHPBM-BT5-XNP	209
	GUARDED Pilot Light 120V incandescent, screw terminations	Amber Blue Clear Green Red White		XLAT-GH XLBT-GH XLCT-GH XLGT-GH XLRT-GH XLWT-GH	283
	PUSHBUTTON LOCKOUT - Accessory Padlock device to activate pushbutton	~		XHPL	166
	OPERATOR PROTECTIVE BOOT Rubber push button cap	Green Red		XBG XBR	56
	OPERATOR PROTECTIVE BOOT Rubber selector switch cap	Black		XBSB	56
	COMBINATION BREATHER/DRAIN ③ Install on top of enclosure for Breather Install in bottom of enclosure for Drain	Stainless steel		XDBH2	86

Starters & Enclosed Prod.
EXPL

① Legend Plates are anodized aluminum with engraved letters on black background (XNP).
② STOP has red background. START has green background.

③ Requires purchase of 2 pcs for application of both Breather and Drain.

Multispeed Starters

Versatile starters for any multispeed motor or application

Sprecher + Schuh multispeed starters can produce multiple constant speeds by specially arranging the windings of multispeed motors. Motors with two separate windings or one reconnectable winding can be used.

All Sprecher + Schuh multispeed starters feature our CAT7 and CAT6 motor starters. These compact starters offer intermediate sizes to better match specific motor requirements. This equates to generous wiring space and less wasted horsepower capacity. Advanced CEP7 solid state overload relays are used with starters. See Section B in this catalog for a full description of these excellent motor protection relays.

Choose the right starter for your application

Multispeed motors fall into three types, all with differing torque characteristics. Selecting the proper type depends on the connected load.

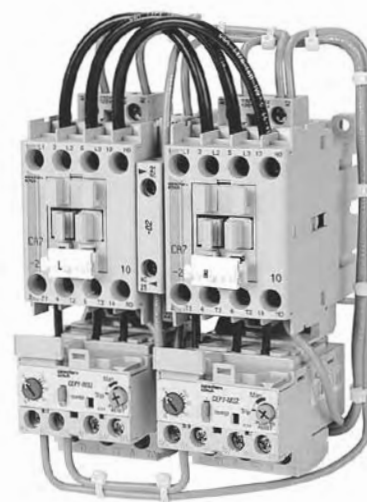
Constant Torque motors deliver the same torque at each speed, and horsepower varies directly with the speed. Typical applications include reciprocating pumps, conveyors, mills and mixers.

Constant Horsepower motors deliver the same horsepower at each speed and the torque varies inversely with the speed. Typical applications include machine tools such as drills, lathes, mills, punch presses and saws.

Variable Torque (variable horsepower) motors deliver a torque that varies directly with the speed and the horsepower varies directly with the square of the speed. Typical applications include centrifugal pumps, fans and blowers.

Control options

The four common forms of control for multispeed starters are known as selective, compelling, progressive and decelerating. Standard multispeed starters are wired for selective control.



The other control options are available as factory modifications.

Selective Control permits starting the motor on any desired speed. To increase the speed of a running motor, press the desired speed button. To change to a lower speed, the STOP button must be pressed before selecting a new speed.

Compelling Control requires that the motor always be started at the lowest speed. To reach higher speeds, the push buttons must be operated in the speed sequence. To change to a lower speed, the STOP button must be pressed before selecting a new speed.

Progressive Control provides automatic, timed acceleration of the motor to the selected speed by energizing the windings progressively from the lowest to the desired speed. To change to a lower speed, the STOP button must be pressed before selecting a new speed.

Decelerating Control provides automatic time delay to a lower speed. This type of control allows the motor to decelerate from a high speed before automatically restarting the motor in a lower speed. Decelerating Control prevents damage to the motor or machine when high inertia loads are switched to a lower speed.

Contact your Sprecher + Schuh representative for more information.



Custom 2-speed, 1-winding combination starter with control transformer and deceleration relay, mounted in a Type-1 enclosure

Two Separate Windings CAZTT7/CAZTT6 & CAZHT7/CAZHT6

Maximum Horsepower Three Phase				Open Type	Type 1 (M1) General Purpose	D I M	M12 (M3) Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corr Resist Non-metallic	D I M					
200V	230V	460V	575V	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price				
Constant or Variable Torque - CAZTT																	
				CAZTT		CAZTT		CAZTT		CAZTT		CAZTT					
2	2	5	7 1/2	7-9-*-◆	584	7-9-*-◆-GO	835	M	7-9-*-◆-DO	877	M	7-9-*-◆-WO	918	N	7-9-*-◆-CO	877	U1
3	3	7 1/2	10	7-12-*-◆	626	7-12-*-◆-GO	877	M	7-12-*-◆-DO	918	M	7-12-*-◆-WO	960	N	7-12-*-◆-CO	918	U1
5	5	10	15	7-16-*-◆	668	7-16-*-◆-GO	918	M	7-16-*-◆-DO	960	M	7-16-*-◆-WO	1002	N	7-16-*-◆-CO	960	U1
5	7 1/2	15	15	7-23-*-◆	751	7-23-*-◆-GO	1002	M	7-23-*-◆-DO	1044	M	7-23-*-◆-WO	1085	N	7-23-*-◆-CO	1044	U1
7 1/2	10	20	25	7-30-*-◆	918	7-30-*-◆-GO	1169	M	7-30-*-◆-DO	1211	M	7-30-*-◆-WO	1236	N	7-30-*-◆-CO	1194	U1
10	10	25	30	7-37-*-◆	1085	7-37-*-◆-GO	1336	M	7-37-*-◆-DO	1378	M	7-37-*-◆-WO	1328	N	7-37-*-◆-CO	1286	U1
10	15	30	30	7-43-*-◆	1252	7-43-*-◆-GO	1586	M	7-43-*-◆-DO	1670	M	7-43-*-◆-WO	1753	N	7-43-*-◆-CO	1712	U1
15	20	40	50	7-60-*-◆	1503	7-60-*-◆-GO	2004	C	7-60-*-◆-DO	2087	O	7-60-*-◆-WO	2129	O	7-60-*-◆-CO	2129	V1
20	25	50	60	7-72-*-◆	1670	7-72-*-◆-GO	2146	C	7-72-*-◆-DO	2229	O	7-72-*-◆-WO	2254	O	7-72-*-◆-CO	2254	V1
25	30	60	60	7-85-*-◆	1837	7-85-*-◆-GO	2313	C	7-85-*-◆-DO	2396	O	7-85-*-◆-WO	2421	O	7-85-*-◆-CO	2421	V1
30	30	75	75	7-97-*-◆	1957	7-97-*-◆-GO	2433	C	7-97-*-◆-DO	2516	O	7-97-*-◆-WO	2541	O	7-97-*-◆-CO	2541	V1
40	40	75	100	6-110-*-◆	3841	6-110-*-◆-GO	4843	E2	6-110-*-◆-DO	5344	R2	6-110-*-◆-WO	5427	R2	6-110-*-◆-CO	5177	W2
40	50	100	125	6-140-*-◆	4676	6-140-*-◆-GO	5511	G	6-140-*-◆-DO	6012	T	6-140-*-◆-WO	6179	T	6-140-*-◆-CO	6930	X1
Constant Horsepower - CAZHT																	
				CAZHT		CAZHT		CAZHT		CAZHT		CAZHT					
1 1/2	1 1/2	3	5	7-9-*-◆	584	7-9-*-◆-GO	835	M	7-9-*-◆-DO	877	M	7-9-*-◆-WO	918	N	7-9-*-◆-CO	877	U1
2	2	5	7 1/2	7-12-*-◆	626	7-12-*-◆-GO	877	M	7-12-*-◆-DO	918	M	7-12-*-◆-WO	960	N	7-12-*-◆-CO	918	U1
3	3	7 1/2	10	7-16-*-◆	668	7-16-*-◆-GO	918	M	7-16-*-◆-DO	960	M	7-16-*-◆-WO	1002	N	7-16-*-◆-CO	960	U1
3	5	10	10	7-23-*-◆	751	7-23-*-◆-GO	1002	M	7-23-*-◆-DO	1044	M	7-23-*-◆-WO	1085	N	7-23-*-◆-CO	1044	U1
5	7 1/2	15	20	7-30-*-◆	918	7-30-*-◆-GO	1169	M	7-30-*-◆-DO	1211	M	7-30-*-◆-WO	1236	N	7-30-*-◆-CO	1194	U1
7 1/2	7 1/2	20	25	7-37-*-◆	1085	7-37-*-◆-GO	1336	M	7-37-*-◆-DO	1378	M	7-37-*-◆-WO	1328	N	7-37-*-◆-CO	1286	U1
7 1/2	10	25	25	7-43-*-◆	1252	7-43-*-◆-GO	1586	M	7-43-*-◆-DO	1670	M	7-43-*-◆-WO	1753	N	7-43-*-◆-CO	1712	U1
10	15	30	40	7-60-*-◆	1503	7-60-*-◆-GO	2004	C	7-60-*-◆-DO	2087	O	7-60-*-◆-WO	2129	O	7-60-*-◆-CO	2129	V1
15	20	40	50	7-72-*-◆	1670	7-72-*-◆-GO	2146	C	7-72-*-◆-DO	2229	O	7-72-*-◆-WO	2254	O	7-72-*-◆-CO	2254	V1
20	25	50	50	7-85-*-◆	1837	7-85-*-◆-GO	2313	C	7-85-*-◆-DO	2396	O	7-85-*-◆-WO	2421	O	7-85-*-◆-CO	2421	V1
25	25	60	60	7-97-*-◆	1957	7-97-*-◆-GO	2433	C	7-97-*-◆-DO	2516	O	7-97-*-◆-WO	2541	O	7-97-*-◆-CO	2541	V1
30	30	60	75	6-110-*-◆	3850	6-110-*-◆-GO	4843	E2	6-110-*-◆-DO	5344	R2	6-110-*-◆-WO	5427	R2	6-110-*-◆-CO	5177	W2
30	40	75	100	6-140-*-◆	4676	6-140-*-◆-GO	5511	G	6-140-*-◆-DO	6012	T	6-140-*-◆-WO	6179	T	6-140-*-◆-CO	6930	X1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Replace (◆) with O/L Relay for each speed	See pages C58-59
Factory Modifications available	See pages C60-63

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAZTT7-23-*-◆-DO becomes CAZTT7-23-*-◆-RO.
- ③ All standard multispeed starters are wired for selective control. For compelling, progressive or automatic acceleration control, see Factory Modifications.

One Reconnectable Winding CAETT7/CAETT6 & CAEHT7/CAEHT6

Maximum Horsepower Three Phase				Open Type	Type 1 (M1) General Purpose	D I M	M12 (M3) Industrial Dusttight	D I M	Type 4 (M4) Watertight	D I M	Type 4X (F4) Watertight Corr Resist Non-metallic	D I M					
200V	230V	460V	575V	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price	Catalog No.	Price				
Constant or Variable Torque - CAETT																	
				CAETT		CAETT		CAETT		CAETT		CAETT					
2	2	5	7 1/2	7-9*-◆	718	7-9*-◆-GO	1111	C	7-9*-◆-DO	1136	O	7-9*-◆-WO	1152	O	7-9*-◆-CO	1319	V1
3	3	7 1/2	10	7-12*-◆	835	7-12*-◆-GO	1227	C	7-12*-◆-DO	1252	O	7-12*-◆-WO	1269	O	7-12*-◆-CO	1436	V1
5	5	10	15	7-16*-◆	902	7-16*-◆-GO	1294	C	7-16*-◆-DO	1319	O	7-16*-◆-WO	1336	O	7-16*-◆-CO	1503	V1
5	7 1/2	15	15	7-23*-◆	952	7-23*-◆-GO	1336	C	7-23*-◆-DO	1361	O	7-23*-◆-WO	1386	O	7-23*-◆-CO	1553	V1
7 1/2	10	20	25	7-30*-◆	1169	7-30*-◆-GO	1561	C	7-30*-◆-DO	1586	O	7-30*-◆-WO	1603	O	7-30*-◆-CO	1770	V1
10	10	25	30	7-37*-◆	1294	7-37*-◆-GO	1670	C	7-37*-◆-DO	1753	O	7-37*-◆-WO	1770	O	7-37*-◆-CO	1937	V1
10	15	30	30	7-43*-◆	1503	7-43*-◆-GO	1920	C	7-43*-◆-DO	2004	O	7-43*-◆-WO	2021	O	7-43*-◆-CO	2188	V1
15	20	40	50	7-60*-◆	1837	7-60*-◆-GO	2338	D	7-60*-◆-DO	2755	O	7-60*-◆-WO	2922	O	7-60*-◆-CO	2755	W1
20	25	50	60	7-72*-◆	2004	7-72*-◆-GO	2505	D	7-72*-◆-DO	2922	Q	7-72*-◆-WO	3089	Q	7-72*-◆-CO	2922	W1
25	30	60	60	7-85*-◆	2171	7-85*-◆-GO	2672	D	7-85*-◆-DO	3089	Q	7-85*-◆-WO	3256	Q	7-85*-◆-CO	3089	W1
30	30	75	75	7-97*-◆	2291	7-97*-◆-GO	2792	D	7-97*-◆-DO	3209	Q	7-97*-◆-WO	3376	Q	7-97*-◆-CO	3209	W1
40	40	75	100	6-110*-◆	4175	6-110*-◆-GO	5845	G	6-110*-◆-DO	6262	T	6-110*-◆-WO	6722	T	6-110*-◆-CO	8183	A2
40	50	100	125	6-140*-◆	5093	6-140*-◆-GO	6513	G	6-140*-◆-DO	6930	T	6-140*-◆-WO	7348	T	6-140*-◆-CO	8809	A2
Constant Horsepower - CAEHT																	
				CAEHT		CAEHT		CAEHT		CAEHT		CAEHT					
1 1/2	1 1/2	3	5	7-9*-◆	718	7-9*-◆-GO	1111	C	7-9*-◆-DO	1136	O	7-9*-◆-WO	1152	O	7-9*-◆-CO	1319	V1
2	2	5	7 1/2	7-12*-◆	835	7-12*-◆-GO	1227	C	7-12*-◆-DO	1252	O	7-12*-◆-WO	1269	O	7-12*-◆-CO	1436	V1
3	3	7 1/2	10	7-16*-◆	902	7-16*-◆-GO	1294	C	7-16*-◆-DO	1319	O	7-16*-◆-WO	1336	O	7-16*-◆-CO	1503	V1
3	5	10	10	7-23*-◆	952	7-23*-◆-GO	1336	C	7-23*-◆-DO	1361	O	7-23*-◆-WO	1386	O	7-23*-◆-CO	1553	V1
5	7 1/2	15	20	7-30*-◆	1169	7-30*-◆-GO	1561	C	7-30*-◆-DO	1586	O	7-30*-◆-WO	1603	O	7-30*-◆-CO	1770	V1
7 1/2	7 1/2	20	25	7-37*-◆	1294	7-37*-◆-GO	1670	C	7-37*-◆-DO	1753	O	7-37*-◆-WO	1770	O	7-37*-◆-CO	1937	V1
7 1/2	10	25	25	7-43*-◆	1503	7-43*-◆-GO	1920	C	7-43*-◆-DO	2004	O	7-43*-◆-WO	2021	O	7-43*-◆-CO	2188	V1
10	15	30	40	7-60*-◆	1837	7-60*-◆-GO	2338	D	7-60*-◆-DO	2755	O	7-60*-◆-WO	2922	O	7-60*-◆-CO	2755	W1
15	20	40	50	7-72*-◆	2004	7-72*-◆-GO	2505	D	7-72*-◆-DO	2922	Q	7-72*-◆-WO	3049	Q	7-72*-◆-CO	2922	W1
20	25	50	50	7-85*-◆	2171	7-85*-◆-GO	2672	D	7-85*-◆-DO	3089	Q	7-85*-◆-WO	3256	Q	7-85*-◆-CO	3089	W1
25	25	60	60	7-97*-◆	2291	7-97*-◆-GO	2792	D	7-97*-◆-DO	3209	Q	7-97*-◆-WO	3376	Q	7-97*-◆-CO	3209	W1
30	30	60	75	6-110*-◆	4175	6-110*-◆-GO	5845	G	6-110*-◆-DO	6262	T	6-110*-◆-WO	6722	T	6-110*-◆-CO	8183	A2
30	40	75	100	6-140*-◆	5093	6-140*-◆-GO	6513	G	6-140*-◆-DO	6930	T	6-140*-◆-WO	7348	T	6-140*-◆-CO	8809	A2

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- Refer to page C81-85 for dimensional information.
- For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change.
Example: CAETT7-23*-◆-DO becomes CAETT7-23*-◆-RO.
- All standard multispeed starters are wired for selective control. For compelling, progressive or automatic acceleration control, see Factory Modifications.

Combination Multi-Speed Starter Adder Chart ❶

Circuit Breaker or Disconnect Switch	Enclosure Type	Price (Add to base multi-speed starter list price)				
		7-9 7-12 7-16	7-23 7-30	7-37 7-43	7-60 7-72 7-85 6-95 (-EI)	6-110 (-EI) 6-140 (-EI)
Thermal Magnetic Circuit Breaker	M1	~	945	1152	1253	2291
	M4/F4	~	1347	1662	2298	3337
	M12 (M3)	~	958	1206	1347	3095
Non Fusible Disconnect	M1	630	630	804	1018	2114
	M4/F4	1032	1032	1313	2064	2506
	M12 (M3)	643	643	858	1112	2265
Fusible Disconnect - 30 Amp	M1	737	737	~	~	~
	M4/F4	1139	1139	~	~	~
	M12 (M3)	750	750	~	~	~
Fusible Disconnect - 60 Amp	M1	~	~	858	~	~
	M4/F4	~	~	1367	~	~
	M12 (M3)	~	~	911	~	~
Fusible Disconnect - 100 Amp	M1	~	~	~	1099	~
	M4/F4	~	~	~	2144	~
	M12 (M3)	~	~	~	1193	~
Fusible Disconnect - 200 Amp	M1	~	~	~	1367	1702
	M4/F4	~	~	~	2412	2747
	M12 (M3)	~	~	~	1461	2506

Reduced Voltage Starters

Controlled starting for low in-rush and smooth operation

Sprecher + Schuh reduced voltage starters are designed for starting squirrel cage induction motors where the starting current of a motor is likely to exceed local power company restrictions, interfere with plant operations or where the load may be damaged by high starting torques.

Starting with the best

All Sprecher + Schuh reduced voltage starters feature our CAT7 and CAT6 line of motor starters. These compact starters offer intermediate sizes to better match specific motor requirements. This equates to generous wiring space and less wasted horsepower capacity. Our advanced CEP7 solid state overload relays are used.

Choosing the right reduced voltage method

Autotransformer Starter – At starting, three autotransformers (one for each phase) are automatically connected in series with the motor. The voltage at the motor is reduced to either 50%, 65% or 80% depending on which voltage tap was selected.

After a timed interval, a contactor connects the motor across-the-line and shorts out the autotransformers. Factory standard autotransformers are rated for “medium duty” as defined by NEMA.

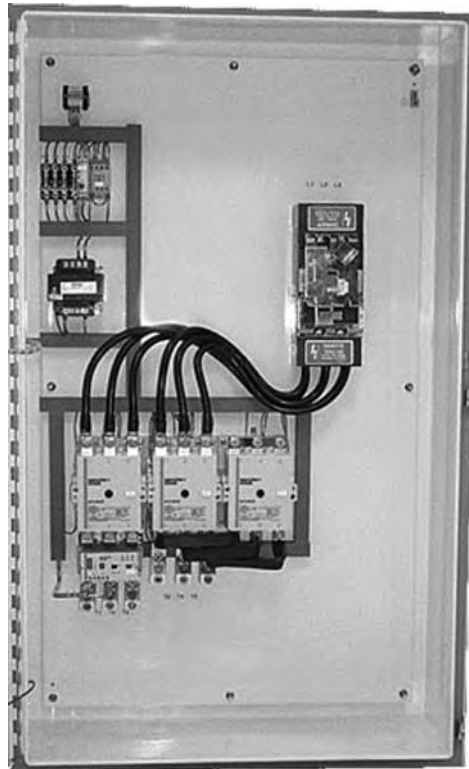
Part Winding Starter – This type of starting requires that the motor winding be in two equal parts, and that at least six terminal leads be provided on the motor. At starting, the controller is arranged to connect one section of the winding to the supply lines. After a timed interval, a second contactor connects the other section of the motor winding to the supply lines, in parallel with the first.

Wye-Delta Starter – This type of starting requires a special wye-delta motor. Both ends of the motor’s three windings are brought out so they are accessible for reconnecting from wye to delta. At starting, the controller connects the motor in the wye configuration. After a timed interval, a second contactor connects the motor in a delta configuration.

The reference chart below compares all three reduced voltage starting methods and contrasts them with across-the-line starting.

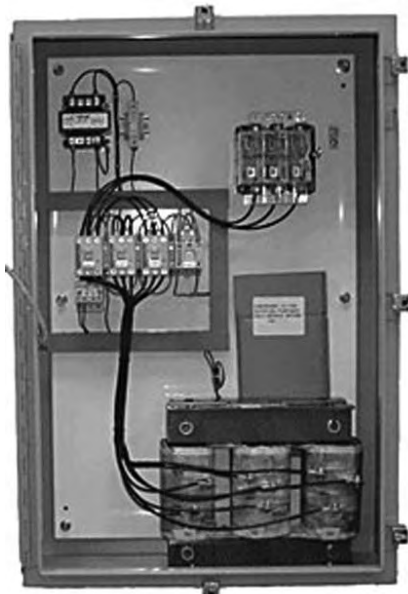
Reduced Voltage Comparison Table

Type of Starter	Starting Characteristics			Advantages	Disadvantages
	Voltage @ Motor	Line Current	Starting Torque		
Across-The-Line	100%	100%	100%	<ul style="list-style-type: none"> Least expensive. Simple to maintain. Highest starting torque. Readily available. Lowest installation cost. 	<ul style="list-style-type: none"> High starting inrush may exceed limits of local utility or electrical system. Starting torque may be too high for the application. Limited to smaller horsepower motors.
Autotransformer	80% 65% 50%	64% 42% 25%	64% 42% 25%	<ul style="list-style-type: none"> Provides highest torque per ampere of line current. Three different taps on transformer permit adjustment of starting voltage. Suitable for long starting periods. Closed transition starting. Uses standard motor.. 	<ul style="list-style-type: none"> In lower horsepower, is the most expensive design. Low power factor. Large physical size. High installation cost.
Part Winding	100%	65%	42%	<ul style="list-style-type: none"> Least expensive of all reduced voltage starters. Closed transition starting. Small physical size. Most dual voltage motors can be used. Simple design. Low installation cost. 	<ul style="list-style-type: none"> Poor torque efficiency Unsuited for high inertia, long starting loads. Motor may not accelerate during start period. Requires special motor design for voltages higher than 230 volts.
Wye-Delta	100%	33%	33%	<ul style="list-style-type: none"> Suitable for high inertia, long acceleration loads. High torque efficiency. Ideal for especially stringent inrush restrictions. Ideal for frequent starts. 	<ul style="list-style-type: none"> Requires special motor design. Low starting torque. Open transition (closed available). Complex design.



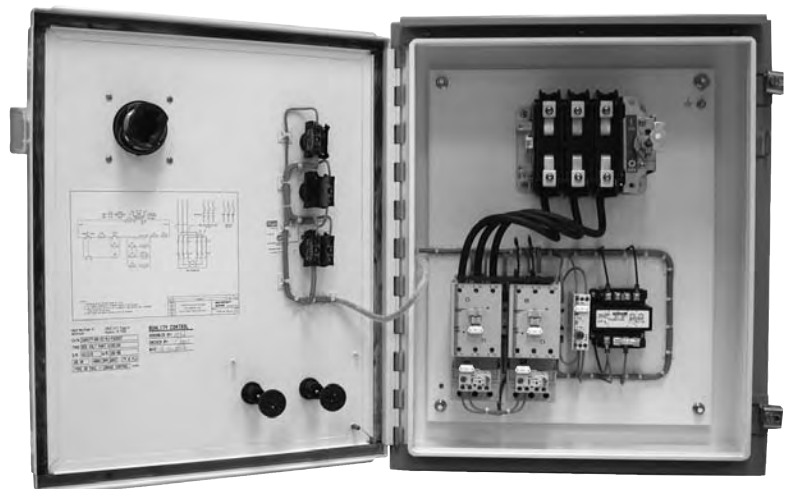
Wye-Delta Starter

This 350HP/480V combination reduced voltage, open transition wye-delta motor starter includes a circuit breaker disconnect, control transformer, and control terminals for customer connection.



Autotransformer Starter

A 150HP/480V reduced voltage auto-transformer starter mounted in a Type-4 enclosure.



Part Winding Combination Starter

with L10 Fusible Disconnect



Starters & Enclosed Prod.

R.VLT

Autotransformer 10 HP to 125 HP (Closed Transition - Type 1 (M1) General Purpose Enclosure) ④

Maximum H.P.	3 Ø Volts	Without Short Circuit Protection				With Thermal Magnetic Circuit Breaker (MCCB)				With Fusible Disconnect ②③			
		Catalog No.	Price	D I M	MCCB Amps	Catalog No.	Price	D I M	Fuse Clip Amps	Catalog No.	Price	D I M	
		CAAT				CAAT				CAAT			
10	200	BA7-37-*◆-GO	7548	F	50	BA7-37-*◆-TB50GO	9705	S	60	BA7-37-*◆-JF62GO	8928	S	
	230	BB7-37-*◆-GO	7548	F	50	BB7-37-*◆-TB50GO	9705	S	60	BB7-37-*◆-JF62GO	8928	S	
15	200	CA7-60-*◆-GO	9400	F	80	CA7-60-*◆-TB80GO	11554	S	100	CA7-60-*◆-JF63GO	9638	S	
	230	CB7-43-*◆-GO	7866	F	70	CB7-43-*◆-TB70GO	10023	S	100	CB7-43-*◆-JF63GO	9283	S	
20	200	DA7-72-*◆-GO	9665	F	100	DA7-72-*◆-TB100GO	11819	S	100	DA7-72-*◆-JF63GO	9903	S	
	230	DB7-60-*◆-GO	9400	F	90	DB7-60-*◆-TB90GO	11554	S	100	DB7-60-*◆-JF63GO	9638	S	
25	200	EA7-85-*◆-GO	10006	F	125	EA7-85-*◆-TB125GO	12161	S	200	EA7-85-*◆-JF64GO	10244	S	
	230	EB7-72-*◆-GO	9665	F	125	EB7-72-*◆-TB125GO	11819	S	100	EB7-72-*◆-JF63GO	9903	S	
	460	EC7-37-*◆-GO	7548	F	60	EC7-37-*◆-TB60GO	9705	S	60	EC7-37-*◆-JF62GO	8928	S	
30	200	FA7-97-*◆-GO	10759	F	150	FA7-97-*◆-TB150GO	12693	S	200	FA7-97-*◆-JF64GO	13460	I	
	230	FB7-85-*◆-GO	10006	F	125	FB7-85-*◆-TB125GO	12161	S	200	FB7-85-*◆-JF64GO	10244	S	
	460	FC7-43-*◆-GO	7866	F	60	FC7-43-*◆-TB60GO	10023	S	60	FC7-43-*◆-JF62GO	9283	S	
	575	FD7-37-*◆-GO	7548	F	50	FD7-37-*◆-TB50GO	9705	S	60	FD7-37-*◆-JF62GO	8928	S	
40	200	GA6-110-*◆-GO	13353	H	200	GA6-110-*◆-TB200GO	17745	J	200	GA6-110-*◆-JF64GO	20646	J	
	230	GB6-110-*◆-GO	13353	H	175	GB6-110-*◆-TB175GO	17745	J	200	GB6-110-*◆-JF64GO	20646	J	
	460	GC7-60-*◆-GO	9400	F	80	GC7-60-*◆-TB80GO	11554	S	100	GC7-60-*◆-JF63GO	9638	S	
	575	GD7-60-*◆-GO	9400	F	70	GD7-60-*◆-TB70GO	11554	S	60	GD7-60-*◆-JF62GO	9638	S	
50	200	HA6-180-*◆-GO	23279	I	225	HA6-180-*◆-TB225GO	28699	J	400	HA6-180-*◆-JF65GO	29718	K3	
	230	HB6-140-*◆-GO	19675	I	200	HB6-140-*◆-TB200GO	22870	J	200	HB6-140-*◆-JF64GO	25772	J	
	460	HC7-72-*◆-GO	9665	F	100	HC7-72-*◆-TB100GO	11819	S	100	HC7-72-*◆-JF63GO	9903	S	
	575	HD7-60-*◆-GO	9400	F	80	HD7-60-*◆-TB80GO	11554	S	100	HD7-60-*◆-JF63GO	9638	S	
60	200	JA6-210-EI-*◆-GO	34120	J	300	JA6-210-EI-*◆-TB300GO	44565	J	400	JA6-210-EI-*◆-JF65GO	41339	K3	
	230	JB6-180-*◆-GO	23279	I	250	JB6-180-*◆-TB250GO	28699	J	400	JB6-180-*◆-JF65GO	29718	K3	
	460	JC7-85-*◆-GO	10006	F	125	JC7-85-*◆-TB125GO	12161	S	200	JC7-85-*◆-JF64GO	10244	S	
	575	JD7-72-*◆-GO	9665	F	100	JD7-72-*◆-TB100GO	11819	S	100	JD7-72-*◆-JF63GO	9903	S	
75	200	KA6-250-EI-*◆-GO	36421	J	350	KA6-250-EI-*◆-TB350GO	46867	K2	400	KA6-250-EI-*◆-JF65GO	42873	K2	
	230	KB6-210-EI-*◆-GO	34120	J	300	KB6-210-EI-*◆-TB300GO	44565	J	400	KB6-210-EI-*◆-JF65GO	41339	K3	
	460	KC7-97-*◆-GO	10759	F	150	KC7-97-*◆-TB150GO	12693	S	200	KC7-97-*◆-JF64GO	13460	I	
	575	KD7-97-*◆-GO	10759	F	125	KD7-97-*◆-TB125GO	12693	S	200	KD7-97-*◆-JF64GO	13460	I	
100	200	LA6-300-EI-*◆-GO	39768	J2	450	LA6-300-EI-*◆-TB450GO	50521	K2	600	LA6-300-EI-*◆-JF66GO	55670	K2	
	230	LB6-250-EI-*◆-GO	36421	J	400	LB6-250-EI-*◆-TB400GO	46867	K2	400	LB6-250-EI-*◆-JF65GO	42873	K2	
	460	LC6-140-*◆-GO	19675	I	200	LC6-140-*◆-TB200GO	22870	J	200	LC6-140-*◆-JF64GO	25772	J	
	575	LD6-110-*◆-GO	13353	H	150	LD6-110-*◆-TB150GO	17145	J	200	LD6-110-*◆-JF64GO	20646	J	
125	200	MA6-420-EI-*◆-GO	46609	J2	600	MA6-420-EI-*◆-TB600GO	62109	K2	600	MA6-420-EI-*◆-JF66GO	62508	K2	
	230	MB6-300-EI-*◆-GO	39768	J2	500	MB6-300-EI-*◆-TB500GO	50521	K2	600	MB6-300-EI-*◆-JF66GO	55670	K2	
	460	MC6-180-*◆-GO	23279	I	250	MC6-180-*◆-TB250GO	28699	J	400	MC6-180-*◆-JF65GO	29718	K3	
	575	MD6-140-*◆-GO	19675	I	200	MD6-140-*◆-TB200GO	22870	J	200	MD6-140-*◆-JF64GO	25772	J	

Larger Horsepower Continued On Next Page →

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For Non-fusible Disconnect applications, replace the "F6" or "F2" characters with "U6". Example: CAATHC7-72-*◆-F63GO becomes CAATHC7-72-*◆-U63GO.
- ③ Fuse clips sized for use with "J"-type fuses.
- ④ Other enclosures available. See Factory Modifications in this section.
- ⑤ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Autotransformer 150 HP to 1000 HP (Closed Transition - Type 1 (M1) General Purpose Enclosure) ④

Maximum H.P.	3 Ø Volts	Without Short Circuit Protection			MCCB Amps	With Thermal Magnetic Circuit Breaker (MCCB)			Fuse Clip Amps	With Fusible Disconnect ②⑤		
		Catalog No.	Price ①	D I M		Catalog No.	Price ①	D I M		Catalog No.	Price ①	D I M
		CAAT				CAAT				CAAT		
150	200	NA6-420-EI-*-◆-GO	46609	J2	700	NA6-420-EI-*-◆-TB700GO	62109	RF	800	NA6-420-EI-*-◆-JF67GO	62508	~
	230	NB6-420-EI-*-◆-GO	46609	J2	600	NB6-420-EI-*-◆-TB600GO	62109	K2	600	NB6-420-EI-*-◆-JF66GO	62508	K2
	460	NC6-180-*-◆-GO	23279	I	300	NC6-180-*-◆-TB300GO	28699	J	400	NC6-180-*-◆-JF65GO	29718	K3
	575	ND6-180-*-◆-GO	23279	I	225	ND6-180-*-◆-TB225GO	28699	J	400	ND6-180-*-◆-JF65GO	29718	K3
200	230	OB6-630-EI-*-◆-GO	R/F	~	800	OB6-630-EI-*-◆-TB800GO	R/F	~	800	OB6-630-EI-*-◆-JF67GO	R/F	~
	460	OC6-250-EI-*-◆-GO	36421	J	400	OC6-250-EI-*-◆-TB400GO	46867	K2	400	OC6-250-EI-*-◆-JF65GO	42873	K2
	575	OD6-210-EI-*-◆-GO	34120	J	300	OD6-210-EI-*-◆-TB300GO	44565	K2	400	OD6-210-EI-*-◆-JF65GO	41339	K3
250	230	PB6-630-EI-*-◆-GO	R/F	~		Refer to Factory				Refer to Factory		
	460	PC6-300-EI-*-◆-GO	39768	J2	500	PC6-300-EI-*-◆-TB500GO	50521	K2	600	PC6-300-EI-*-◆-JF66GO	55670	K2
	575	PD6-250-EI-*-◆-GO	36421	J	400	PD6-250-EI-*-◆-TB400GO	46867	K2	400	PD6-250-EI-*-◆-JF65GO	42873	K2
300	230	QB6-860-EI-*-◆-GO	R/F	~		Refer to Factory				Refer to Factory		
	460	QC6-420-EI-*-◆-GO	46609	J2	600	QC6-420-EI-*-◆-TB600GO	62109	K2	600	QC6-420-EI-*-◆-JF66GO	62508	K2
	575	QD6-300-EI-*-◆-GO	39768	J2	450	QD6-300-EI-*-◆-TB450GO	50521	K2	600	QD6-300-EI-*-◆-JF66GO	55670	K2
350	230	Refer to Factory				Refer to Factory				Refer to Factory		
	460	RC6-420-EI-*-◆-GO	46609	J2	700	RC6-420-EI-*-◆-TB700GO	62109	RF	800	RC6-420-EI-*-◆-JF67GO	62508	~
	575	RD6-420-EI-*-◆-GO	46609	J2	600	RD6-420-EI-*-◆-TB600GO	62109	K2	600	RD6-420-EI-*-◆-JF66GO	62508	K2
400	230	Refer to Factory				Refer to Factory				Refer to Factory		
	460	SC6-630-EI-*-◆-GO	R/F	~	800	SC6-630-EI-*-◆-TB800GO	R/F	~	800	SC6-630-EI-*-◆-JF67GO	R/F	~
	575	SD6-420-EI-*-◆-GO	46609	J2	600	SD6-420-EI-*-◆-TB600GO	62109	K2	600	SD6-420-EI-*-◆-JF66GO	62508	~
450	230	Refer to Factory				Refer to Factory				Refer to Factory		
	460	TC6-630-EI-*-◆-GO	R/F	~		Refer to Factory						
	575	TD6-630-EI-*-◆-GO	R/F	~	700	TD6-630-EI-*-◆-TB700GO	R/F	~				
500	460	UC6-630-EI-*-◆-GO	R/F	~		Refer to Factory						
	575	UD6-630-EI-*-◆-GO	R/F	~	800	UD6-630-EI-*-◆-TB800GO	R/F	~				
600	460	VC6-860-EI-*-◆-GO	R/F	~		Refer to Factory						
	575	VD6-860-EI-*-◆-GO	R/F	~		Refer to Factory						

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Starters & Enclosed Prod. R.VLT

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② For Non-fusible Disconnect applications, replace the "F6" or "F2" characters with "U6". Example: CAATNC6-180-EI-*-◆-F65GO becomes CAATNC6-180-EI-*-◆-U65GO.
- ③ Fuse clips sized for use with "J"-type fuses up to 600A. Power fuses not supplied.
- ④ Other enclosures available. See Factory Modifications in this section.
- ⑤ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Part Winding (Two Step)

Maximum Horsepower Three Phase				Type 1 (M1) General Purpose		D I M	M12 (M3 Ⓣ) Industrial Dusttight		D I M	Type 4 (M4) Watertight		D I M	Type 4X (F4) Watertight Corrosion Resist Non-metallic		D I M
200V	230V	460V	575V	Catalog No.	Price	Ⓢ	Catalog No.	Price	Ⓢ	Catalog No.	Price	Ⓢ	Catalog No.	Price	Ⓢ
				CAPWT			CAPWT			CAPWT			CAPWT		
10	15	30	30	7-30-*-◆-GO	1586	M	7-30-*-◆-DO	1670	M	7-30-*-◆-WO	2046	M	7-30-*-◆-CO	2046	U1
15	~	40	40	7-37-*-◆-GO	1837	M	7-37-*-◆-DO	1920	M	7-37-*-◆-WO	2630	M	7-37-*-◆-CO	2630	U1
20	20	50	50	7-43-*-◆-GO	2129	M	7-43-*-◆-DO	2213	M	7-43-*-◆-WO	3006	M	7-43-*-◆-CO	3006	U1
25	30	60	75	7-60-*-◆-GO	2421	C	7-60-*-◆-DO	2505	O	7-60-*-◆-WO	3332	O	7-60-*-◆-CO	3332	V1
30	40	75	100	7-72-*-◆-GO	2588	C	7-72-*-◆-DO	2672	O	7-72-*-◆-WO	3590	O	7-72-*-◆-CO	3590	V1
40	50	100	125	7-85-*-◆-GO	3340	C	7-85-*-◆-DO	3423	O	7-85-*-◆-WO	4334	O	7-85-*-◆-CO	4334	V1
50	50	100	150	7-97-*-◆-GO	3520	C	7-97-*-◆-DO	3603	O	7-97-*-◆-WO	4514	O	7-97-*-◆-CO	4514	V1
60	60	100	150	6-110-*-◆-GO	5427	E2	6-110-*-◆-DO	7097	R2	6-110-*-◆-WO	8333	R2	6-110-*-◆-CO	8333	W2
~	75	150	200	6-140-*-◆-GO	7932	G	6-140-*-◆-DO	9185	T	6-140-*-◆-WO	12525	T	6-140-*-◆-CO	12525	A2
75	~	200	~	6-180-EI-*-◆-GO	9185	H	6-180-EI-*-◆-DO	10020	H	6-180-EI-*-◆-WO	13351	H	6-180-EI-*-◆-CO	13351	Y1
~	100	~	300	6-210-EI-*-◆-GO	14028	H	6-210-EI-*-◆-DO	14863	H	6-210-EI-*-◆-WO	17535	H	6-210-EI-*-◆-CO	17535	Y1
100	150	300	350	6-250-EI-*-◆-GO	15865	J	6-250-EI-*-◆-DO	16700	J	6-250-EI-*-◆-WO	18787	J	6-250-EI-*-◆-CO	18787	Z1
150	200	350	450	6-300-EI-*-◆-GO	19205	J	6-300-EI-*-◆-DO	20100	J	6-300-EI-*-◆-WO	20374	J	6-300-EI-*-◆-CO	20374	Z1
200	250	500	600	6-420-EI-*-◆-GO	25634	J	6-420-EI-*-◆-DO	26469	J	6-420-EI-*-◆-WO	27972	J	6-420-EI-*-◆-CO	27972	Z1
300	400	750	750Ⓣ	6-630-EI-*-◆-GO	R/F	~	6-630-EI-*-◆-DO	R/F	~	6-630-EI-*-◆-WO	R/F	~	6-630-EI-*-◆-CO	R/F	~

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Combination Part Winding Starter Adder Chart Ⓢ

Circuit Breaker or Disconnect Switch	Enclosure Type	Price (Add to base Part Winding starter list price)								
		7-30	7-37 7-43	7-60 7-72 7-85 7-97	6-110 (-EI) 6-140 (-EI)	6-180(-EI) 6-210-EI 6-250-EI	6-300-EI 6-420-EI	6-630-EI 6-860-EI	5-1200	
Thermal Magnetic Circuit Breaker	M1	1152	1253	2291	4456	6559	Contact factory for pricing.			
	M4/F4,M12/3	1206	1347	3095	5099	7062				
Non Fusible Disconnect	M1	804	1018	1407	2519	5782				
	M4/F4,M12/3	858	1112	2265	2787	6285				
Fusible Disconnect - 30 Amp	M1	911	~	~	~	~				
	M4/F4,M12/3	998	~	~	~	~				
Fusible Disconnect - 60 Amp	M1	1052	1099	~	~	~				
	M4/F4,M12/3	~	1193	~	~	~				
Fusible Disconnect - 100 Amp	M1	~	1400	1702	~	~				
	M4/F4,M12/3	~	1849	2506	~	~				
Fusible Disconnect - 200 Amp	M1	~	~	2425	2760	~				
	M4/F4,M12/3	~	~	2613	3028	~				
Fusible Disconnect - 400 Amp	M1	~	~	~	3705	6492				
	M4/F4,M12/3	~	~	~	3973	6995				
Fusible Disconnect - 600 Amp	M1	~	~	~	~	7256				
	M4/F4,M12/3	~	~	~	~	8261				

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Multiply Motor FLA by 50%,	
Replace (◆) with O/L Relay	See pages C58-59
Factory Modifications available	
	See pages C60-63

Ⓢ Refer to page C81-85 for dimensional information.

Ⓣ For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAPWT7-30-*-◆-DO becomes CAPWT7-30-*-◆-RO.

Ⓤ Refer to pages C2-C3 for information on modifying standard Part Winding catalog number to combination type.

Wye Delta (Open Transition, 3-Contactor ④)

Maximum Horsepower Three Phase				Type 1 (M1) General Purpose		D I M	M12 (M3 ②) Industrial Dusttight		D I M	Type 4 (M4) Watertight		D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic		D I M
200V	230V	460V	575V	Catalog No.	Price	①	Catalog No.	Price	①	Catalog No.	Price	①	Catalog No.	Price	①
				CAYT			CAYT			CAYT			CAYT		
10	15	30	30	7-30-*-◆-GO	1503	C	7-30-*-◆-DO	1545	O	7-30-*-◆-WO	2004	O	7-30-*-◆-CO	2004	V1
15	20	40	40	7-37-*-◆-GO	2213	C	7-37-*-◆-DO	2254	O	7-37-*-◆-WO	2714	O	7-37-*-◆-CO	2672	V1
20	25	50	50	7-43-*-◆-GO	2421	C	7-43-*-◆-DO	2463	O	7-43-*-◆-WO	2922	O	7-43-*-◆-CO	2922	V1
30	40	75	75	7-60-*-◆-GO	2831	D	7-60-*-◆-DO	3173	Q	7-60-*-◆-WO	3632	Q	7-60-*-◆-CO	3173	W1
40	50	100	100	7-72-*-◆-GO	3340	F	7-72-*-◆-DO	4091	T	7-72-*-◆-WO	4592	T	7-72-*-◆-CO	5845	X1
50	60	125	125	7-85-*-◆-GO	3674	F	7-85-*-◆-DO	4425	T	7-85-*-◆-WO	5010	T	7-85-*-◆-CO	6179	X1
60	~	~	150	6-110-*-◆-GO	4592	G	6-110-*-◆-DO	5177	T	6-110-*-◆-WO	6346	T	6-110-*-◆-CO	9443	A2
~	75	175	200	6-140-*-◆-GO	7348	G	6-140-*-◆-DO	7932	T	6-140-*-◆-WO	9101	T	6-140-*-◆-CO	11648	A2
75	100	200	250	6-180-*-◆-GO	9185	H	6-180-*-◆-DO	9686	H	6-180-*-◆-WO	11356	H	6-180-*-◆-CO	13485	Y1
100	125	250	300	6-210-EI-*-◆-GO	13610	I	6-210-EI-*-◆-DO	13777	I	6-210-EI-*-◆-WO	14679	J	6-210-EI-*-◆-CO	16883	Z1
125	175	350	450	6-250-EI-*-◆-GO	15447	J	6-250-EI-*-◆-DO	15614	J	6-250-EI-*-◆-WO	15865	J	6-250-EI-*-◆-CO	17685	Z1
175	200	450	500	6-300-EI-*-◆-GO	16616	J	6-300-EI-*-◆-DO	16783	J	6-300-EI-*-◆-WO	18256	J	6-300-EI-*-◆-CO	18787	Z1
250	250	600	650	6-420-EI-*-◆-GO	22545	J	6-420-EI-*-◆-DO	22712	J	6-420-EI-*-◆-WO	26836	J	6-420-EI-*-◆-CO	24933	Z1
350	450	800	800	6-630-EI-*-◆-GO	R/F	~	6-630-EI-*-◆-DO	R/F	~	6-630-EI-*-◆-WO	R/F	~	6-630-EI-*-◆-CO	R/F	~

Larger sizes available.
Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list Prices.

Combination Wye Delta Starter Adder Chart ④

Circuit Breaker or Disconnect Switch	Enclosure Type	Price (Add to base Part Winding starter list price)								
		7-30	7-37 7-43	7-60 7-72 7-85 6-95 (-EI)	6-110 (-EI) 6-140 (-EI)	6-180(-EI) 6-210-EI 6-250-EI	6-300-EI 6-420-EI	6-630-EI 6-860-EI	5-1200	
Thermal Magnetic Circuit Breaker	M1	1152	1253	2291	4456	6559	9092	Contact factory for pricing.		
	M4/F4,M12/3	1206	1347	3095	5099	7062	9594			
Non Fusible Disconnect	M1	804	1018	1407	2519	5782	6117			
	M4/F4,M12/3	858	1112	2265	2787	6285	6620			
Fusible Disconnect - 30 Amp	M1	858	~	~	~	~	~			
	M4/F4,M12/3	911	~	~	~	~	~			
Fusible Disconnect - 60 Amp	M1	1099	1099	~	~	~	~			
	M4/F4,M12/3	1193	1193	~	~	~	~			
Fusible Disconnect - 100 Amp	M1	~	1702	1702	~	~	~			
	M4/F4,M12/3	~	2506	2506	~	~	~			
Fusible Disconnect - 200 Amp	M1	~	~	2760	2760	~	~			
	M4/F4,M12/3	~	~	3028	3028	~	~			
Fusible Disconnect - 400 Amp	M1	~	~	~	6492	6492	~			
	M4/F4,M12/3	~	~	~	6995	6995	~			
Fusible Disconnect - 600 Amp	M1	~	~	~	~	6827	6827			
	M4/F4,M12/3	~	~	~	~	7162	7162			

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Multiply Motor FLA by 50%, Replace (◆) with O/L Relay	
Factory Modifications available	See pages C58-59 See pages C60-63

- ① Refer to page C81-85 for dimensional information.
- ② For M3 outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAYT7-30-*-◆-DO becomes CAYT7-30-*-◆-RO.
- ③ Refer to pages C2-C3 for information on modifying standard Wye Delta catalog number to combination type.
- ④ For closed transition Wye Delta applications, please contact factory.

Pump Controllers

Pump control panels for outdoor irrigation and oil well applications

Sprecher + Schuh pump control panels are specifically designed to meet Combination starter requirements in demanding outdoor environmental conditions. Typical applications include irrigation and waste water treatment as well as oil well and agricultural applications.

Pump Controllers from Sprecher + Schuh offer through-the-door operators and rugged Type 3R rain-proof metal or Type 4X non-metallic enclosures. These enclosures in some cases are somewhat smaller than previous models but still with adequate room to mount a mechanical timer and other customer supplied controls.

Three models of Pump Controllers

- **Thermal-magnetic circuit breakers (MCCB)** instead of a motor circuit protector (MCP) to comply with new short-circuit requirements from UL and NEC.
- **Heavy duty fusible or non-fusible L10 disconnect switches** providing improved short-circuit protection when used with J fuses.
- **Self-protected Combination Controllers (Type E) KTA7** models which offers superior fuseless short-circuit protection in a smaller more economical package.

Pump panels feature our CA7 and CA6 line of contactors which are UL Listed and sized to match all the available HP sizes of motors. Alternately, we can provide NEMA Sized (CAN7 and CAN6) contactors, which comply with all requirements by UL and are labeled with the applicable NEMA (00, 0, 1, 2, 3, 4 & 5) size in our pump panels. Our MCCB models and the L10 models utilize the CEP7 solid state overload relay providing state-of-the-art overload and single-phase protection. See Section B in this catalog for a full description of these excellent motor protection relays.



Our KTA7 model utilizes the high speed current limiting capabilities providing short-circuit protection, branch-circuit disconnect, and overload protection in one compact device. See Section F in this catalog for application details for these Type E Combos.

Standard or Customized Features

Standard pump controllers are equipped with START pushbutton and H-O-A selector switch. The entire assembly is mounted in an outdoor enclosure with provision for mounting on a pole or a wall and top conduit provisions. Oversized enclosures can be provided for each of the pump controllers to accommodate extra equipment. Our factory modification section lists many of the options that are commonly requested. A customized pump controller quotation including door-in-door (dead-front) models, reduced voltage models and models with customized control diagrams can be provided on demand by contacting your Sprecher + Schuh representative.



Starters & Enclosed Prod.
PUMP

Series CAPT7 and CAPT6 with Thermal-Magnetic Circuit Breaker

Maximum Horsepower Three Phase			MCCB Amps	Type 3R (M3) Rainproof Metal	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-Metallic	D I M
230V	460V	575V		Catalog No.		Price	
				CAPT		CAPT	
2	5	7.5	15	7-9-*◆-TB15RO	1675 R	7-9-*◆-TB15CO	R/F
3	~	~	15	7-12-*◆-TB15RO	1717 R	7-12-*◆-TB15CO	R/F
~	7.5	10	20	7-12-*◆-TB20RO	1717 R	7-12-*◆-TB20CO	R/F
5	10	~	25	7-16-*◆-TB25RO	1759 R	7-16-*◆-TB25CO	R/F
~	~	15	30	7-16-*◆-TB30RO	1759 R	7-16-*◆-TB30CO	R/F
~	~	15	30	7-23-*◆-TB30RO	1801 R	7-23-*◆-TB30CO	R/F
7.5	15	~	35	7-23-*◆-TB35RO	1801 R	7-23-*◆-TB35CO	R/F
~	~	~	40	7-30-*◆-TB40RO	1926 R	7-30-*◆-TB40CO	R/F
10	20	25	50	7-30-*◆-TB50RO	1926 R	7-30-*◆-TB50CO	R/F
10	~	30	50	7-37-*◆-TB50RO	1968 R	7-37-*◆-TB50CO	R/F
~	25	~	60	7-37-*◆-TB60RO	1968 R	7-37-*◆-TB60CO	R/F
~	~	30	50	7-43-*◆-TB50RO	2010 R	7-43-*◆-TB50CO	R/F
~	30	~	60	7-43-*◆-TB60RO	2219 R	7-43-*◆-TB60CO	R/F
15	~	~	70	7-43-*◆-TB70RO	2219 R	7-43-*◆-TB70CO	R/F
~	40	50	80	7-60-*◆-TB80RO	2345 R	7-60-*◆-TB80CO	R/F
20	~	~	90	7-60-*◆-TB90RO	2345 R	7-60-*◆-TB90CO	R/F
~	50	60	100	7-72-*◆-TB100RO	2387 R	7-72-*◆-TB100CO	R/F
25	~	~	125	7-72-*◆-TB125RO	2889 R	7-72-*◆-TB125CO	R/F
~	~	60	100	7-85-*◆-TB100RO	2429 R	7-85-*◆-TB100CO	R/F
30	60	~	125	7-85-*◆-TB125RO	2931 R	7-85-*◆-TB125CO	R/F
30	75	75	125	7-97-*◆-TB125RO	3051 R	7-97-*◆-TB125CO	R/F
~	75	100	150	6-110-*◆-TB150RO	4690 T	6-110-*◆-TB150CO	R/F
40	~	~	175	6-110-*◆-TB175RO	5025 T	6-110-*◆-TB175CO	R/F
~	~	~	200	6-110-*◆-TB200RO	5025 T	6-110-*◆-TB200CO	R/F
50	100	125	200	6-140-*◆-TB200RO	5528 T	6-140-*◆-TB200CO	R/F
~	~	150	225	6-180-*◆-TB225RO	6030 T	6-180-*◆-TB225CO	R/F
60	125	~	250	6-180-*◆-TB250RO	6030 T	6-180-*◆-TB250CO	R/F
~	150	~	300	6-180-*◆-TB300RO	7286 I	6-180-*◆-TB300CO	R/F
75	150	200	300	6-210-EI-*◆-TB300RO	9045 I	6-210-EI-*◆-TB300CO	R/F
~	~	~	350	6-250-EI-*◆-TB350RO	10050 I	6-250-EI-*◆-TB350CO	R/F
100	200	250	400	6-250-EI-*◆-TB400RO	10050 I	6-250-EI-*◆-TB400CO	R/F
~	~	300	450	6-300-EI-*◆-TB450RO	10888 I	6-300-EI-*◆-TB450CO	R/F
125	250	~	500	6-300-EI-*◆-TB500RO	10888 I	6-300-EI-*◆-TB500CO	R/F
~	300	400	600	6-420-EI-*◆-TB600RO	12060 I	6-420-EI-*◆-TB600CO	R/F
175	350	~	700	6-420-EI-*◆-TB700RO	15075 J	6-420-EI-*◆-TB700CO	R/F

Pump Panel with Circuit Breaker includes:

- Contactor (with AC coil)
- Overload relay protection
- Thermal magnetic circuit breaker
- "START" momentary pushbutton
- "H-O-A" selector switch
- At minimum, 6"x10" extra back pan space
- UL type rated enclosure



CAPT7-23...



Starters &
Enclosed Prod.

PUMP

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog Numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying Catalog Numbers and list Prices.

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuits). Contact your Sprecher + Schuh representative for a customized price.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Replace (◆) with O/L Relay	See pages C58-59
Factory Modifications available	See pages C60-63

➊ Refer to page C81-85 for dimensional information.

Series CAPT7 and CAPT6 with Fusible Disconnect (J-Type) ②③

Maximum Horsepower Three Phase			Fuse Clips	Type 3R (M3) Rainproof Metal	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M		
230V	460V	575V						Catalog No.	Price
				CAPT		CAPT			
2	5	7.5	30	7-9-*◆-JF61RO	1549	R	7-9-*◆-JF61CO	R/F	
3	7.5	10	30	7-12-*◆-JF61RO	1591	R	7-12-*◆-JF61CO	R/F	
5	10	15	30	7-16-*◆-JF61RO	1633	R	7-16-*◆-JF61CO	R/F	
~	~	~	30	7-23-*◆-JF61RO	1675	R	7-23-*◆-JF61CO	R/F	
7.5	15	15	60	7-23-*◆-JF62RO	1759	R	7-23-*◆-JF62CO	R/F	
10	20	25	60	7-30-*◆-JF62RO	1884	R	7-30-*◆-JF62CO	R/F	
10	25	30	60	7-37-*◆-JF62RO	1926	R	7-37-*◆-JF62CO	R/F	
~	30	30	60	7-43-*◆-JF62RO	1968	R	7-43-*◆-JF62CO	R/F	
15	~	~	100	7-43-*◆-JF63RO	2554	R	7-43-*◆-JF63CO	R/F	
20	40	50	100	7-60-*◆-JF63RO	2680	R	7-60-*◆-JF63CO	R/F	
25	50	60	100	7-72-*◆-JF63RO	2722	R	7-72-*◆-JF63CO	R/F	
~	~	60	100	7-85-*◆-JF63RO	2764	R	7-85-*◆-JF63CO	R/F	
30	60	~	200	7-85-*◆-JF64RO	3685	H	7-85-*◆-JF64CO	R/F	
30	75	75	200	7-97-*◆-JF64RO	3805	H	7-97-*◆-JF64CO	R/F	
40	75	100	200	6-110-*◆-JF64RO	5193	H	6-110-*◆-JF64CO	R/F	
50	100	125	200	6-140-*◆-JF64RO	5528	H	6-140-*◆-JF64CO	R/F	
60	150	150	400	6-180-*◆-JF65RO	7538	J	6-180-*◆-JF65CO	R/F	
75	150	200	400	6-210-EI-*◆-JF65RO	9045	J	6-210-EI-*◆-JF65CO	R/F	
100	200	250	400	6-250-EI-*◆-JF65RO	10385	J	6-250-EI-*◆-JF65CO	R/F	

Pump Panel with Disconnect Switch includes:

- Contactor (with AC coil)
- Overload relay protection
- J-type fusible disconnect switch (excluding line fuses)
- "START" momentary pushbutton
- "H-O-A" selector switch
- At minimum, 6"x10" extra back pan space
- UL type rated enclosure



CAPT7-23...
(with CPT option)

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog Numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying Catalog Numbers and list Prices.

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuit). Contact your Sprecher + Schuh representative for a customized price.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② Fusible combo starters use the L10 Disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ③ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Series CAPTN7 and CAPTN6 with Thermal-Magnetic Circuit Breaker

NEMA Size	Maximum Horsepower Three Phase			MCCB Amps	Type 3R (M3) Rainproof Metal	Price	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-Metallic	Price	D I M
	230V	460V	575V		Catalog No.			① Catalog No.		
					CAPTAN			CAPTAN		
00	1/2	2	2	15	7-12-*◆-TB15RO	1717	R	7-12-*◆-TB15CO	R/F	
0	3	5	5	15	7-16-*◆-TB15RO	1759	R	7-16-*◆-TB15CO	R/F	
1	7-1/2	~	~	35	7-37-*◆-TB35RO	1968	R	7-37-*◆-TB35CO	R/F	
	~	10	~	25	7-37-*◆-TB25RO	1968	R	7-37-*◆-TB25CO	R/F	
	~	~	10	20	7-37-*◆-TB20RO	1968	R	7-37-*◆-TB20CO	R/F	
2	15	~	~	70	7-43-*◆-TB70RO	2219	R	7-43-*◆-TB70CO	R/F	
	~	25	~	60	7-43-*◆-TB60RO	2219	R	7-43-*◆-TB60CO	R/F	
	~	~	25	50	7-43-*◆-TB50RO	2210	R	7-43-*◆-TB50CO	R/F	
3	30	~	~	125	7-85-*◆-TB125RO	2931	T	7-85-*◆-TB125CO	R/F	
	~	50	~	100	7-85-*◆-TB100RO	2429	T	7-85-*◆-TB100CO	R/F	
	~	~	50	80	7-85-*◆-TB80RO	2387	T	7-85-*◆-TB80CO	R/F	
4	50	100	~	200	6-180-*◆-TB200RO	6030	T	6-180-*◆-TB200CO	R/F	
	~	~	100	150	6-180-*◆-TB150RO	5779	T	6-180-*◆-TB150CO	R/F	
5	100	200	~	400	6-300-EI-*◆-TB400RO	10385	I	6-300-EI-*◆-TB400CO	R/F	
	~	~	200	300	6-300-EI-*◆-TB300RO	10385	I	6-300-EI-*◆-TB300CO	R/F	

Pump Panel with NEMA label includes:

- NEMA labeled contactor (with AC coil)
- Overload relay protection
- Appropriate disconnect means thermal magnetic circuit breaker) or J-type fusible disconnect switch (excluding line fuses)
- "START" momentary push-button
- "H-O-A" selector switch
- At minimum, 6"x10" extra back pan space
- UL type rated enclosure

Series CAPTN7 and CAPTN6 with Fusible Disconnect (J-Type) ②③

NEMA Size	Maximum Horsepower Three Phase			Fuse Clips	Type 3R (M3) Industrial Dusttight	Price	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-Metallic	Price	D I M
	230V	460V	575V		Catalog No.			① Catalog No.		
					CAPTAN			CAPTAN		
00	1-1/2	2	2	30	7-12-*◆-JF61RO	1591	R	7-12-*◆-JF61CO	R/F	
0	3	5	5	30	7-16-*◆-JF61RO	1633	R	7-16-*◆-JF61CO	R/F	
1	7-1/2	~	~	60	7-37-*◆-JF62RO	1926	R	7-37-*◆-JF62CO	R/F	
	~	10	10	30	7-37-*◆-JF61RO	1843	R	7-37-*◆-JF61CO	R/F	
2	15	~	~	100	7-43-*◆-JF63RO	2554	R	7-43-*◆-JF63CO	R/F	
	~	25	25	60	7-43-*◆-JF62RO	1968	R	7-43-*◆-JF62CO	R/F	
3	30	~	~	200	7-85-*◆-JF64RO	3685	H	7-85-*◆-JF64CO	R/F	
	~	50	50	100	7-85-*◆-JF63RO	2764	H	7-85-*◆-JF63CO	R/F	
4	50	100	100	200	6-180-*◆-JF64RO	6365	H	6-180-*◆-JF64CO	R/F	
5	100	200	200	400	6-300-EI-*◆-JF65RO	10720	J	6-300-EI-*◆-JF65CO	R/F	

NOTE: Catalog Numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying Catalog Numbers and list Prices.

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuit). Contact your Sprecher + Schuh representative for a customized price.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

- ① Refer to page C81-85 for dimensional information.
- ② Fusible combo starters use the L10 Disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ③ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Series CXP7 & Type E Combo Pump Panel



Type E Combo Pump Panel includes:

- Contactor (with AC coil)
- Type E Self-protected motor controller
- "Start" Momentary Push Button
- "HOA" Selector Switch
- A minimum of 6" x 10" extra back pan space
- UL Type rated enclosure



CXP7-9...

Max. Horsepower ①②③ Three Phase			Current Adjustment Range (A)	Magnetic Response Current	Type 3R (M3) Rainproof (Metal)	Price	Dimension Code	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	Dimension Code
230V	460V	575V			Catalog Number ④			Catalog Number ④		
KTA7-25S Standard Interrupting Capacity										
~	~	~	0.10...0.16	2.1	CXP7-9-10-*-AS0.16A-A10-RG	1191	0	CXP7-9-10-*-AS0.16A-A10-CG	R/F	
~	~	~	0.16...0.25	3.3	CXP7-9-10-*-AS0.25A-A10-RG	1191	0	CXP7-9-10-*-AS0.25A-A10-CG	R/F	
~	~	~	0.25...0.40	5.2	CXP7-9-10-*-AS0.4A-A10-RG	1191	0	CXP7-9-10-*-AS0.4A-A10-CG	R/F	
~	~	~	0.40...0.63	8.2	CXP7-9-10-*-AS0.63A-A10-RG	1191	0	CXP7-9-10-*-AS0.63A-A10-CG	R/F	
~	~	1/2	0.63...1.0	13	CXP7-9-10-*-AS1.0A-A10-RG	1191	0	CXP7-9-10-*-AS1.0A-A10-CG	R/F	
~	1/2	3/4	1.0...1.6	21	CXP7-9-10-*-AS1.6A-A10-RG	1191	0	CXP7-9-10-*-AS1.6A-A10-CG	R/F	
1/2	1	1-1/2	1.6...2.5	33	CXP7-9-10-*-AS2.5A-A10-RG	1191	0	CXP7-9-10-*-AS2.5A-A10-CG	R/F	
3/4	2	3	2.5...4	52	CXP7-9-10-*-AS4.0A-A10-RG	1191	0	CXP7-9-10-*-AS4.0A-A10-CG	R/F	
1-1/2	3	5	4...6.3	82	CXP7-9-10-*-AS6.3A-A10-RG	1191	0	CXP7-9-10-*-AS6.3A-A10-CG	R/F	
3	5	7-1/2	6.3...10	130	CXP7-12-10-*-AS10A-A10-RG	1236	0	CXP7-12-10-*-AS10A-A10-CG	R/F	
~	10	10	10...16	208	CXP7-16-10-*-AS16A-A10-RG	1305	0	CXP7-16-10-*-AS16A-A10-CG	R/F	
5	~	15	14.5...20	260	CXP7-23-10-*-AS20A-A10-RG	1332	0	CXP7-23-10-*-AS20A-A10-CG	R/F	
KTA7-25H High Interrupting Capacity										
1/2	1	1-1/2	1.6...2.5	33	CXP7-9-10-*-AH2.5A-A10-RG	1270	0	CXP7-9-10-*-AH2.5A-A10-CG	R/F	
3/4	2	3	2.5...4	52	CXP7-9-10-*-AH4.0A-A10-RG	1270	0	CXP7-9-10-*-AH4.0A-A10-CG	R/F	
1-1/2	3	5	4...6.3	82	CXP7-9-10-*-AH6.3A-A10-RG	1270	0	CXP7-9-10-*-AH6.3A-A10-CG	R/F	
3	5	7-1/2	6.3...10	130	CXP7-12-10-*-AH10A-A10-RG	1370	0	CXP7-12-10-*-AH10A-A10-CG	R/F	
~	10	10	10...16	208	CXP7-16-10-*-AH16A-A10-RG	1395	0	CXP7-16-10-*-AH16A-A10-CG	R/F	
5	~	15	14.5...20	260	CXP7-23-10-*-AH20A-A10-RG	1422	0	CXP7-23-10-*-AH20A-A10-CG	R/F	
7-1/2	15	20	18...25	325	CXP7-23-10-*-AH25A-A10-RG	1422	0	CXP7-23-10-*-AH25A-A10-CG	R/F	
KTA7-45H High Interrupting Capacity										
3	5	7-1/2	6.3...10	130	CXP7-30-10-*-AH10A-A10-RG	1601	Q	CXP7-30-10-*-AH10A-A10-CG	R/F	
~	10	10	10...16	208	CXP7-30-10-*-AH16A-A10-RG	1601	Q	CXP7-30-10-*-AH16A-A10-CG	R/F	
5	~	15	14.5...20	260	CXP7-30-10-*-AH20A-A10-RG	1601	Q	CXP7-30-10-*-AH20A-A10-CG	R/F	
7-1/2	20	20	18...25	325	CXP7-30-10-*-AH25A-A10-RG	1601	Q	CXP7-30-10-*-AH25A-A10-CG	R/F	
10	20	25	23...32	416	CXP7-30-10-*-AH32A-A10-RG	1601	Q	CXP7-30-10-*-AH32A-A10-CG	R/F	
10	25	30	32...45	585	CXP7-37-10-*-AH45A-A10-RG	1722	Q	CXP7-37-10-*-AH45A-A10-CG	R/F	
15	25	40	32...45	585	CXP7-43-10-*-AH45A-A10-RG	1757	Q	CXP7-43-10-*-AH45A-A10-CG	R/F	

NOTE: Catalog Numbers, list Prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying Catalog Numbers and list Prices.

R/F - Experience has shown that applications using non-metallic enclosures often require customized pump panels (i.e. Door-in-Door or unique control circuit). Contact your Sprecher + Schuh representative for a customized price.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Factory Modifications available	See pages C60-63

- ① Horsepower ratings shown in the table above are for reference. The final selection of the manual starter 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 FLC = 4.2A; S.F. = 1.0. 4.2A x 0.9 = 3.78A. Select catalog number KTA7-25S-4.0A.
- ② Magnetic trip is fixed at 13x the maximum value of the current adjustment range.
- ③ CXP7 may be applied to single phase loads. See footnote 1 for device selection criteria. To order single phase unit, change "CXP7" in catalog number to "CBX7". Three pole series connection will be provided. Ex: Change CXP7-9-10-*-0.16A-A10-RG to CBX7-9-10-*-0.16A-A10-RG.
- ④ A red and yellow handle may be selected instead of the standard gray and black handle. Change "RG" suffix to "CJ". Ex: Change CXP7-9-10-*-0.16A-A10-RG to CXP7-9-10-*-0.16A-A10-RJ.

Duplex Pump Controllers

Sprecher + Schuh duplex pump control panels are specifically designed to meet multi-starter combination requirements as defined in demanding outdoor environmental conditions.

Duplex pump controllers are typically designed for two specific requirements: duplexing and alternation.

Duplexing provides capacity for above normal demand or system peaking by allowing both motors to run simultaneously. It also provides standby capacity if one unit fails. Typically multiple pressure or float switches are required to provide electrical signals to the controller.

Alternation provides for equal wear on the two machines being controlled by reversing the lead and lag role of the specific motors. Alternation occurs at any time the two motors come to rest.

Duplex Pump Controllers from Sprecher + Schuh offer through-the-door operators and rugged Type 3R rain-proof metal or Type 4X non-metallic enclosures.

Three models of Duplex Controllers

- **Thermal-magnetic circuit breakers (MCCB)** instead of a motor circuit protector (MCP) to comply with new short-circuit requirements from UL and NEC.
- **Heavy duty fusible or non-fusible L10 disconnect switches** providing improved short-circuit protection when used with J fuses.
- **Self-protected Combination Controllers (Type E) KTA7** models which offers superior fuseless short-circuit protection in a smaller more economical package.

Duplex pump panels feature our CA7 and CA6 line of contactors, which are UL Listed and sized to match all the available HP sizes of motors. Alternately, we can provide NEMA Sized (CAN7 and CAN6) contactors which comply with all requirements by UL



and are labeled with the applicable NEMA (00, 0, 1, 2, 3, 4 & 5) size in our pump panels.

Our MCCB models and the L10 models utilize the CEP7 solid state overload relay providing state-of-the-art overload and single-phase protection. See Section B in this catalog for a full description of these excellent motor protection relays.

Our KTA7 model utilizes the high speed current limiting capabilities providing short-circuit protection, branch-circuit disconnect, and overload protection in one compact device. These Type E panels are smaller than classic models and therefore represent an economical solution to duplexing. See Section F in this catalog for application details for these Type E Combos.

Experience has shown us that duplex pump panels often require customization to accommodate unique components and unique control schematic diagrams. In the following pages you will find a catalog number structure showing standard models with standard options to help guide your selection. We have also provided a check list which can be utilized to request a similar model except customized to meet your application by contacting your Sprecher + Schuh representative.



Custom Control Panels

Sprecher + Schuh custom control facility manufactures custom panels for almost any need, including this duplex control panel in a custom Type 4 stainless steel enclosure.

SSMA9000

S
Starters &
Enclosed Prod.
PUMP

Duplex Pump Panel Checklist

Customer Name: _____	Location: _____
Project Name: _____	_____
Contact Person: _____	Phone number: _____
Date: _____	E-mail: _____

Standard catalog number selected from the following pages: _____

with the exceptions noted below

Application Data: Motor HP: _____ Voltage: _____ Phase: _____ FLA _____

Disconnect? Yes No

If yes, type of disconnect: J-Type Fusible Non-Fusible Type E combination controller

Circuit breaker type – If yes for circuit breaker, what type? Thermal Magnetic M.C.P.

Other _____

Starting Method: Across-the-line

Softstarter

Control Transformer: Yes No

If Yes, is there any extra VA capacity required other than what is provided as standard? _____ Extra VA required

Secondary fusing included as standard. Is primary fusing required? Yes No

Options: H-O-A

Pilot Light; Color _____ Function _____

Terminal Points; Qty. _____

Phase Monitor

Hour Meter

Lightning Arrestor

Alternator

Number of float switches 1 2 3

Alarm Circuit Horn Light Type _____ Alarm Silence Button

Other _____ Custom Schematic (Must be attached)

Enclosure: Type 1 Type 12 Type 13 Type 3R Type 4

Type 4X If Type 4X, non-metallic 304 stainless steel 316 stainless steel

Door-in-door (dead front)

Special Features: _____

Starters & Enclosed Prod. PUMP

Series CADPT7 and CADPT6

Maximum Horsepower Three Phase			Type 3R (M3) Rainproof (Metal)	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M
230V	460V	575V	Catalog No.		Price	
			CADPT		CADPT	
2	5	7.5	7-9-*-◆-RO	R/F	7-9-*-◆-CO	R/F
3	7.5	10	7-12-*-◆-RO	R/F	7-12-*-◆-CO	R/F
5	10	15	7-16-*-◆-RO	R/F	7-16-*-◆-CO	R/F
~	~	~	7-23-*-◆-RO	R/F	7-23-*-◆-CO	R/F
7.5	15	15	7-23-*-◆-RO	R/F	7-23-*-◆-CO	R/F
10	20	25	7-30-*-◆-RO	R/F	7-30-*-◆-CO	R/F
10	25	30	7-37-*-◆-RO	R/F	7-37-*-◆-CO	R/F
~	30	30	7-43-*-◆-RO	R/F	7-43-*-◆-CO	R/F
15	~	~	7-43-*-◆-RO	R/F	7-43-*-◆-CO	R/F
20	40	50	7-60-*-◆-RO	R/F	7-60-*-◆-CO	R/F
25	50	60	7-72-*-◆-RO	R/F	7-72-*-◆-CO	R/F
~	~	60	7-85-*-◆-RO	R/F	7-85-*-◆-CO	R/F
30	60	~	7-85-*-◆-RO	R/F	7-85-*-◆-CO	R/F
30	60	75	6-95-*-◆-RO	R/F	6-95-*-◆-CO	R/F
40	75	100	6-110-*-◆-RO	R/F	6-110-*-◆-CO	R/F
50	100	125	6-140-*-◆-RO	R/F	6-140-*-◆-CO	R/F
60	150	150	6-180-*-◆-RO	R/F	6-180-*-◆-CO	R/F
75	150	200	6-210-EI-*-◆-RO	R/F	6-210-EI-*-◆-CO	R/F
100	200	250	6-250-EI-*-◆-RO	R/F	6-250-EI-*-◆-CO	R/F

Duplex Pump Controller includes:

- (2) Contactors (AC coil)
- (2) Overload relay protection
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C75

Note: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

R/F - Experience has shown that applications requiring duplex pump panels often require customization. (i.e.: unique components and control circuits). Contact your Sprecher + Schuh representative for a customized price.

Series CADPT7 and CADPT6 with Thermal-Magnetic Circuit Breaker

Maximum Horsepower Three Phase			MCCB Amps	Type 3R (M3) Rainproof (Metal)	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M
230V	460V	575V		Catalog Number		Price	
				CADPT		CADPT	
2	5	7.5	15	7-9-*◆-TB15R0	R/F	7-9-*◆-TB15C0	R/F
3			15	7-12-*◆-TB15R0	R/F	7-12-*◆-TB15C0	R/F
	7.5	10	20	7-12-*◆-TB20R0	R/F	7-12-*◆-TB20C0	R/F
5	10		25	7-16-*◆-TB25R0	R/F	7-16-*◆-TB25C0	R/F
		15	30	7-16-*◆-TB30R0	R/F	7-16-*◆-TB30C0	R/F
		15	30	7-23-*◆-TB30R0	R/F	7-23-*◆-TB30C0	R/F
7.5	15		35	7-23-*◆-TB35R0	R/F	7-23-*◆-TB35C0	R/F
			40	7-30-*◆-TB40R0	R/F	7-30-*◆-TB40C0	R/F
10	20	25	50	7-30-*◆-TB50R0	R/F	7-30-*◆-TB50C0	R/F
10		30	50	7-37-*◆-TB50R0	R/F	7-37-*◆-TB50C0	R/F
	25		60	7-37-*◆-TB60R0	R/F	7-37-*◆-TB60C0	R/F
		30	50	7-43-*◆-TB50R0	R/F	7-43-*◆-TB50C0	R/F
15	30		60	7-43-*◆-TB60R0	R/F	7-43-*◆-TB60C0	R/F
			70	7-43-*◆-TB70R0	R/F	7-43-*◆-TB70C0	R/F
20	40	50	80	7-60-*◆-TB80R0	R/F	7-60-*◆-TB80C0	R/F
			90	7-60-*◆-TB90R0	R/F	7-60-*◆-TB90C0	R/F
25	50	60	100	7-72-*◆-TB100R0	R/F	7-72-*◆-TB100C0	R/F
			125	7-72-*◆-TB125R0	R/F	7-72-*◆-TB125C0	R/F
30		60	100	7-85-*◆-TB100R0	R/F	7-85-*◆-TB100C0	R/F
	60		125	7-85-*◆-TB125R0	R/F	7-85-*◆-TB125C0	R/F
30	75	75	125	7-97-*◆-TB125R0	R/F	7-97-*◆-TB125C0	R/F
	75	100	150	6-110-*◆-TB150R0	R/F	6-110-*◆-TB150C0	R/F
40			175	6-110-*◆-TB175R0	R/F	6-110-*◆-TB175C0	R/F
			200	6-110-*◆-TB200R0	R/F	6-110-*◆-TB200C0	R/F
50	100	125	200	6-140-*◆-TB200R0	R/F	6-140-*◆-TB200C0	R/F
		150	225	6-180-*◆-TB225R0	R/F	6-180-*◆-TB225C0	R/F
60			250	6-180-*◆-TB250R0	R/F	6-180-*◆-TB250C0	R/F
	150		300	6-180-*◆-TB300R0	R/F	6-180-*◆-TB300C0	R/F
75	150	200	300	6-210-EI-*◆-TB300R0	R/F	6-210-EI-*◆-TB300C0	R/F
			350	6-250-EI-*◆-TB350R0	R/F	6-250-EI-*◆-TB350C0	R/F
100	200	250	400	6-250-EI-*◆-TB400R0	R/F	6-250-EI-*◆-TB400C0	R/F
		300	450	6-300-EI-*◆-TB450R0	R/F	6-300-EI-*◆-TB450C0	R/F
125	250		500	6-300-EI-*◆-TB500R0	R/F	6-300-EI-*◆-TB500C0	R/F
		400	600	6-420-EI-*◆-TB600R0	R/F	6-420-EI-*◆-TB600C0	R/F
175	350		700	6-420-EI-*◆-TB700R0	R/F	6-420-EI-*◆-TB700C0	R/F

Duplex Pump Controller with circuit breaker includes:

- (2) Contactors (AC coil)
- (2) Overload relay protection
- (2) Thermal magnetic circuit breakers
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C75

Note: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Replace (◆) with O/L Relay	See pages C58-59
Factory Modifications available	See pages C60-63

R/F - Experience has shown that applications requiring duplex pump panels often require customization. (i.e.: unique components and control circuits). Contact your Sprecher + Schuh representative for a customized price.

Series CADPT7 and CADPT6 with Fusible Disconnect (J-Type) ①②

Maximum Horsepower Three Phase				Fuse clip Amps	Type 3R (M3) Rainproof (Metal)	D I M	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	D I M
200V	230V	460V	575V		Catalog Number		Price	
					CADPT		CADPT	
2	2	5	7.5	30	7-9-*◆-JF61RO	R/F	7-9-*◆-JF61CO	R/F
3	3	7.5	10	30	7-12-*◆-JF61RO	R/F	7-12-*◆-JF61CO	R/F
5	5	10	15	30	7-16-*◆-JF61RO	R/F	7-16-*◆-JF61CO	R/F
5	~	~	~	30	7-23-*◆-JF61RO	R/F	7-23-*◆-JF61CO	R/F
~	7.5	15	15	60	7-23-*◆-JF62RO	R/F	7-23-*◆-JF62CO	R/F
7.5	10	20	25	60	7-30-*◆-JF62RO	R/F	7-30-*◆-JF62CO	R/F
10	10	25	30	60	7-37-*◆-JF62RO	R/F	7-37-*◆-JF62CO	R/F
10	~	30	30	60	7-43-*◆-JF62RO	R/F	7-43-*◆-JF62CO	R/F
~	15	~	~	100	7-43-*◆-JF63RO	R/F	7-43-*◆-JF63CO	R/F
15	20	40	50	100	7-60-*◆-JF63RO	R/F	7-60-*◆-JF63CO	R/F
20	25	50	60	100	7-72-*◆-JF63RO	R/F	7-72-*◆-JF63CO	R/F
~	~	~	60	100	7-85-*◆-JF63RO	R/F	7-85-*◆-JF63CO	R/F
25	30	60	~	200	7-85-*◆-JF64RO	R/F	7-85-*◆-JF64CO	R/F
30	30	75	75	200	7-97-*◆-JF64RO	R/F	7-97-*◆-JF64CO	R/F
40	40	75	100	200	6-110-*◆-JF64RO	R/F	6-110-*◆-JF64CO	R/F
40	50	100	125	200	6-140-*◆-JF64RO	R/F	6-140-*◆-JF64CO	R/F
50	60	150	150	400	6-180-*◆-JF65RO	R/F	6-180-*◆-JF65CO	R/F
60	75	150	200	400	6-210-EI-*◆-JF65RO	R/F	6-210-EI-*◆-JF65CO	R/F
75	100	200	250	400	6-250-EI-*◆-JF65RO	R/F	6-250-EI-*◆-JF65CO	R/F

Duplex Pump Controller with disconnect switch includes:

- (2) Contactors (AC coil)
- (2) Overload relay protection
- (2) J-type fusible disconnect switch (excluding line fuses)
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C75

Note: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

R/F - Experience has shown that applications requiring duplex pump panels often require customization. (i.e.: unique components and control circuits). Contact your Sprecher + Schuh representative for a customized price.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57 See pages C58-59 See pages C60-63
Replace (◆) with O/L Relay	
Factory Modifications available	

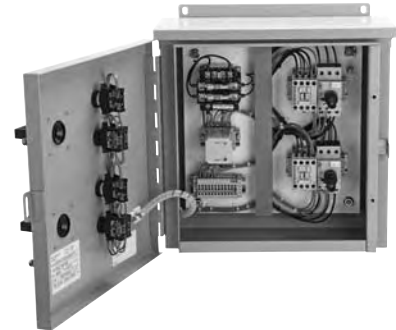
- ① Fusible combo starters use the L10 Disconnect. Fuse clips accept "J" type fuses. Power fuses not supplied.
- ② A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

Series CXDP7 with Type E Combination Controller



Type E Combo Duplex Pump Controller includes:

- (2) Contactors (AC coil)
- (2) Type E self protected motor controllers
- (1) Electronic alternating relay
- (1) UL type rated enclosure
- Designed per alternation control diagram shown at bottom of page C95



Max. Horsepower Three Phase				Current Adjustment Range (A)	Magnetic Response Current	Type 3R (M3) Rainproof (Metal)	Price	Dimension Code	Type 4X (F4) Watertight Corrosion Resistant Non-metallic	Price	Dimension Code
200V	230V	460V	575V			Catalog Number			Catalog Number		
KT A7-25S Standard Interrupting Capacity											
~	~	~	~	0.10...0.16	2.1	CXDP7-9-10-*AS0.16A-A10-RG	R/F		CXDP7-9-10-*AS0.16A-A10-CG	R/F	
~	~	~	~	0.16...0.25	3.3	CXDP7-9-10-*AS0.25A-A10-RG	R/F		CXDP7-9-10-*AS0.25A-A10-CG	R/F	
~	~	~	~	0.25...0.40	5.2	CXDP7-9-10-*AS0.4A-A10-RG	R/F		CXDP7-9-10-*AS0.4A-A10-CG	R/F	
~	~	~	~	0.40...0.63	8.2	CXDP7-9-10-*AS0.63A-A10-RG	R/F		CXDP7-9-10-*AS0.63A-A10-CG	R/F	
~	~	~	1/2	0.63...1.0	13	CXDP7-9-10-*AS1.0A-A10-RG	R/F		CXDP7-9-10-*AS1.0A-A10-CG	R/F	
~	~	1/2	3/4	1.0...1.6	21	CXDP7-9-10-*AS1.6A-A10-RG	R/F		CXDP7-9-10-*AS1.6A-A10-CG	R/F	
1/2	1/2	1	1-1/2	1.6...2.5	33	CXDP7-9-10-*AS2.5A-A10-RG	R/F		CXDP7-9-10-*AS2.5A-A10-CG	R/F	
3/4	3/4	2	3	2.5...4	52	CXDP7-9-10-*AS4.0A-A10-RG	R/F		CXDP7-9-10-*AS4.0A-A10-CG	R/F	
1	1-1/2	3	5	4...6.3	82	CXDP7-9-10-*AS6.3A-A10-RG	R/F		CXDP7-9-10-*AS6.3A-A10-CG	R/F	
2	3	5	7-1/2	6.3...10	130	CXDP7-12-10-*AS10A-A10-RG	R/F		CXDP7-12-10-*AS10A-A10-CG	R/F	
3	~	10	10	10...16	208	CXDP7-16-10-*AS16A-A10-RG	R/F		CXDP7-16-10-*AS16A-A10-CG	R/F	
5	5	~	15	14.5...20	260	CXDP7-23-10-*AS20A-A10-RG	R/F		CXDP7-23-10-*AS20A-A10-CG	R/F	
KT A7-25H High Interrupting Capacity											
1/2	1/2	1	1-1/2	1.6...2.5	33	CXDP7-9-10-*AH2.5A-A10-RG	R/F		CXDP7-9-10-*AH2.5A-A10-CG	R/F	
3/4	3/4	2	3	2.5...4	52	CXDP7-9-10-*AH4.0A-A10-RG	R/F		CXDP7-9-10-*AH4.0A-A10-CG	R/F	
1	1-1/2	3	5	4...6.3	82	CXDP7-9-10-*AH6.3A-A10-RG	R/F		CXDP7-9-10-*AH6.3A-A10-CG	R/F	
2	3	5	7-1/2	6.3...10	130	CXDP7-12-10-*AH10A-A10-RG	R/F		CXDP7-12-10-*AH10A-A10-CG	R/F	
3	~	10	10	10...16	208	CXDP7-16-10-*AH16A-A10-RG	R/F		CXDP7-16-10-*AH16A-A10-CG	R/F	
5	5	~	15	14.5...20	260	CXDP7-23-10-*AH20A-A10-RG	R/F		CXDP7-23-10-*AH20A-A10-CG	R/F	
~	7-1/2	15	20	18...25	325	CXDP7-23-10-*AH25A-A10-RG	R/F		CXDP7-23-10-*AH25A-A10-CG	R/F	
KT A7-45H High Interrupting Capacity											
2	3	5	7-1/2	6.3...10	130	CXDP7-30-10-*AH10A-A10-RG	R/F		CXDP7-30-10-*AH10A-A10-CG	R/F	
3	~	10	10	10...16	208	CXDP7-30-10-*AH16A-A10-RG	R/F		CXDP7-30-10-*AH16A-A10-CG	R/F	
5	5	~	15	14.5...20	260	CXDP7-30-10-*AH20A-A10-RG	R/F		CXDP7-30-10-*AH20A-A10-CG	R/F	
~	7-1/2	20	20	18...25	325	CXDP7-30-10-*AH25A-A10-RG	R/F		CXDP7-30-10-*AH25A-A10-CG	R/F	
7-1/2	10	20	25	23...32	416	CXDP7-30-10-*AH32A-A10-RG	R/F		CXDP7-30-10-*AH32A-A10-CG	R/F	
10	10	25	30	32...45	585	CXDP7-37-10-*AH45A-A10-RG	R/F		CXDP7-37-10-*AH45A-A10-CG	R/F	
10	15	25	40	32...45	585	CXDP7-43-10-*AH45A-A10-RG	R/F		CXDP7-43-10-*AH45A-A10-CG	R/F	

Note: Catalog numbers, list prices and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C57 and follow the instructions for modifying catalog numbers and list prices.

R/F - Experience has shown that applications requiring duplex pump panels often require customization. (i.e.: unique components and control circuits). Contact your Sprecher + Schuh representative for a customized price.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C57
Factory Modifications available	See pages C60-63

Note on Coil Codes: All catalog numbers, list prices and enclosure dimensions in this section reflect contactors with AC coils. If necessary, add the appropriate price adder to the list price for each coil required. Remember that reversing applications require two coils (Price Adder x 2). For DC coils, select Coil Code from the second table. – CA7 contactor catalog numbers must be modified when using DC coils. Example: For CA7-9...CA7-43 contactors, add a “C” to catalog number. Ex: CA7-9... becomes CA7-9C... For CA7-60...97 contactors, add a “D” to catalog number. Ex: CA7-60... becomes CA7-60D...

A.C. Coil Codes & Voltage Ranges ①⑤

A.C. Coil Codes (Replace “*” in cat.# with coil code)	CA7-9 thru CA7-97 CAN7-12...85		CA6-110, CA6-140 CA6-180, CAN6-180		③ CA6-110-EI	③ CA6-140-EI CA6-180-EI CAN6-180-EI	③ CA6-210-EI CA6-250-EI CA6-300-EI CAN6-300-EI CA6-420-EI	③ CA6-630-EI CA6-860-EI	③ CA5-1200
	50 Hz	60 Hz	50 Hz	60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz	50 / 60 Hz
	24			~	24V	24V	24V	~	~
24Z ②	24V	24V	~	~	~	~	~	~	~
120 ②	110V	120V	~	~	110-130V	110-130V	110-130V	110-130V	~
110	~	~	~	~	~	~	~	~	110V
120B	~	~	110V	120V	~	~	~	~	~
208	~	208V	180V	208V	~	~	~	~	~
208W	~	~	~	~	~	~	~	200-220V	~
220W ② ②	~	208-240V	~	~	208-277V	208-277V	208-277V	~	~
240	220V	240V	~	~	~	~	~	~	~
240B	~	~	220-230V	240V	~	~	~	~	220V
240W	~	~	~	~	~	~	~	230-250V	~
277	240V	277V	240V	277V	~	~	~	277V	~
380	380-400V	440V	380-400V	440V	~	~	~	~	380V
440W	~	~	~	~	~	~	~	~	440V
460W	~	~	~	~	380-500V	380-500V	380-500V	~	~
480 ②	440V	480V	415V	480V	~	~	~	440-480V	~
575	~	~	500V	575V	~	~	~	~	~
600 ②	550V	600V	550V	600V	~	~	~	~	~
Price Adder ⑤	~	~	~	~	135	215	~	~	~



Starters & Enclosed Prod.

CODES

D.C. Coil Codes & Voltage Ranges ①⑤

D.C. Coil Codes (Replace “*” in cat.# with coil code)	⑦ CAN7-12C CAN7-16C CA7-9C...30C	⑦ CAN7-37C CAN7-43C CA7-43C	④ CA7-60D, 72D, 85D, CA7-97D CAN7-85D	CA6-110	CA6-140 CA6-180	③ CA6-110-EI	③ CAN6-180-EI CAN6-300-EI CA6-140...300-EI	③ CA6-420-EI	CA6-630-EI ③ CA6-860-EI ③ CA5-1200
	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	
	24D	24VDC ④	24VDC ④	24VDC	24VDC	24VDC	24VDC ③	24VDC ③	~
48D	48VDC	48VDC	48VDC	48VDC	48VDC	48-72VDC	48-72VDC	~	
110D	110VDC	110VDC	110VDC	110VDC	110VDC	~	~	~	
120D	~	~	~	~	~	110-130V	110-130V	110-130V	
125D	125VDC	125VDC	125VDC	125VDC	125VDC	~	~	~	
220D	220VDC	220VDC	220VDC	220VDC	220VDC	200-255VDC	200-255VDC	200-255VDC	
250D	250VDC	250VDC	250VDC	250VDC	250VDC	~	~	~	
Price Adder ⑤	50	100	125	145	360	290	575	1270	~

① Only the most common coils are shown here. Other coil voltages available. Refer to Contactor Renewal Parts in Section A of this catalog, or contact nearest Sprecher+Schuh sales office.

② Wide range coil.

③ “EI” Coils are field convertible to operate with PLC interface.

④ “DD” coils can be ordered which include built-in diode surge suppressor for CA7-9C...43C. “DD” coils are standard for CA7-60D...97D.

⑤ Add appropriate price adder(s) to list price of enclosed contactors and starters. Remember to add price for each coil required. Reversing applications require two coils (Price Adder x 2).

⑥ CA5 coils utilize a special coil pair arrangement with a feeder group. For detailed coil information, please refer to CA5 contactors in Section A.

⑦ Modify CA7 catalog numbers to include either a “C” or a “D” as shown at top of page.

⑧ Customers selecting a 24VDC coil should consider the “EI” functionality of CA6.

CA7 Starters with CEP7 Solid State Overload Relay ①③④ ex

For use with contactor...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
3-Phase / Manual Reset / Class 10				
CA7-9...CA7-23	0.1...0.5	D1AB	CEP7-ED1AB	Standard
	0.2...1.0	D1BB	CEP7-ED1BB	Standard
	1.0...5.0	D1CB	CEP7-ED1CB	Standard
	3.2...16	D1DB	CEP7-ED1DB	Standard
	5.4...27	D1EB	CEP7-ED1EB	Standard
CA7-30...CA7-43	1.0...5.0	D1CD	CEP7-ED1CD	Standard
	3.6...16	D1DD	CEP7-ED1DD	Standard
	5.4...27	D1ED	CEP7-ED1ED	Standard
	9...45	D1FD	CEP7-ED1FD	Standard
3-Phase / Auto or Manual / Adjustable Trip Class 10, 15, 20 & 30				
CA7-9...CA7-23	0.1...0.5	EAB	CEP7-EEAB	+17
	0.2...1.0	EBB	CEP7-EEBB	+17
	1.0...5.0	ECB	CEP7-EECB	+17
	3.2...16	EDB	CEP7-EEDB	+17
	5.4...27	EEB	CEP7-EEEB	+17
CA7-30...CA7-43	1.0...5.0	ECD	CEP7-EECD	+21
	3.2...16	EDD	CEP7-EEDD	+21
	5.4...27	EED	CEP7-EEED	+21
	9...45	efd	CEP7-EEFD	+21
CA7-60...CA7-97	5.4...27	EEE	CEP7-EEEE	Standard
	9...45	EFE	CEP7-EEFE	Standard
	18...90	EGE	CEP7-EEGE	Standard
	60...120	EVE	CEP7-EEVE	Standard

For use with contactor...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
1-Phase / Automatic or Manual Reset / Class 10				
CA7-9...CA7-23	1.0...5.0	EPB	CEP7S-EEPB	Standard
	3.2...16	ERB	CEP7S-EERB	Standard
	5.2...27	ESB	CEP7S-EESB	Standard
CA7-30...CA7-43	9...45	ETD	CEP7S-EETD	Standard
CA7-60...CA7-85	18...90	EUE	CEP7S-EEUE	Standard

Special Notes:

Wye-Delta Starters - First multiply motor full load current by 58%. Then, using this figure, select appropriate Overload Relay Code from tables above.

Part Winding Starters - First multiply motor full load current by 50%. Then, using this figure, select appropriate Overload Relay Code from tables above.

Variable Frequency Drives - CEP7 solid state overload relays cannot be utilized on VFDs or Softstarters with Braking option.

Large Amp CEP7 Solid State Overload Relays, Automatic or Manual Adjustable Trip Class ①②③④

Directly Mounts to Contactor... ②	Adjustment Range (A)	Overload Relay Code (◆)	CT Ratio	Selectable Trip Class (10,15,20 & 30)	
				Catalog Number (of Overload Relay used)	Price Adder
Automatic or Manual Reset for 3-Phase Applications					
CA6-110	55...110	EVF	No CT	CEP7-EEVF	-200
CA6-95...-180	30...150	EHF	150:5	CEP7-EEHF	Standard
	40...200	EJF	200:5	CEP7-EEJF	Standard
CA6-210...-420	40...200	EJG	200:5	CEP7-EEJG	Standard
	60...300	EKG	300:5	CEP7-EEKG	Standard
	100...500	ELG	500:5	CEP7-EELG	Standard
CA6-630...-860	120...600	EMH	600:5	CEP7-EEMH	Standard
	160...800	ENH	800:5	CEP7-EENH	Standard

 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

- ① 3-phase CEP7 units are only designed for 3Ø applications. Single phase CEP7S units are only designed for 1Ø applications.
- ② This reference is not intended to be a guide for selecting contactors. Size overload relays using the full load current of the motor.

- ③ The reset time of a CEP7 set in the automatic mode is approximately 180 seconds.
- ④ CEP7 Overload relays do not work with Variable Frequency Drives or any Sprecher + Schuh Softstarter with braking options.

Intelli-button Reset Kit Factory Modification

The CEP7-ERID Intelli-button plus your choice of side-mounted module can be ordered as a factory modification, installed in any control panel built by Sprecher + Schuh that contains a CEP7-EE_ overload relay. Just add the kit suffix shown below to the end of the starter catalog number. For example, CA7-9-120-EEB-G0 becomes CA7-9-120-EEB-G0-IB2



CEP7-ERID + Side Mount Module...	Add to end of Catalog Number	Kit includes...	Price Adder
Remote Reset Only	-IB1	CEP7-ERID CEP7-ERR	200
Jam and Remote Reset	-IB2	CEP7-ERID CEP7-EJM (B)	210
Thermistor Relay and Remote Reset	-IB3	CEP7-ERID CEP7-EPT	225
Ground Fault and Remote Reset	-IB4	CEP7-ERID CEP7-EGF CEP7-CBCT1 (45A)	260
	-IB5	CEP7-ERID CEP7-EGF CEP7-CBCT2 (90A)	385
	-IB6	CEP7-ERID CEP7-EGF CEP7-CBCT3 (180A)	436
	-IB7	CEP7-ERID CEP7-EGF CEP7-CBCT4 (420A)	497
Ground Fault and Jam and Remote Reset Module	-IB8	CEP7-ERID CEP7-EGJ CEP7-CBCT1 (45A)	295
	-IB9	CEP7-ERID CEP7-EGJ CEP7-CBCT2 (90A)	420
	-IB10	CEP7-ERID CEP7-EGJ CEP7-CBCT3 (180A)	471
	-IB11	CEP7-ERID CEP7-EGJ CEP7-CBCT4 (420A)	532

CA7 Starters with CT7N Bimetallic Overload Relay ①

Directly Mounts to Contactor...	Amp Range	Overload Relay Code (◆)	Catalog Number (of Overload Relay used)	Price Adder
CA7-9... CA7-23 Frame "A"	0.10...0.16	AA16	CT7N-23-A16	+4
	0.16...0.25	AA25	CT7N-23-A25	+4
	0.25...0.40	AA40	CT7N-23-A40	+4
	0.35...0.50	AA50	CT7N-23-A50	+4
	0.45...0.63	AA63	CT7N-23-A63	+4
	0.55...0.80	AA80	CT7N-23-A80	+4
	0.75...1.0	AB10	CT7N-23-B10	+4
	0.90...1.3	AB13	CT7N-23-B13	+4
	1.1...1.6	AB16	CT7N-23-B16	+4
	1.4...2.0	AB20	CT7N-23-B20	+4
	1.8...2.5	AB25	CT7N-23-B25	+4
	2.3...3.2	AB32	CT7N-23-B32	+4
	2.9...4.0	AB40	CT7N-23-B40	+4
	3.5...4.8	AB48	CT7N-23-B48	+4
	4.5...6.3	AB63	CT7N-23-B63	+4
	5.5...7.5	AB75	CT7N-23-B75	+4
	7.2...10	AC10	CT7N-23-C10	+4
9.0...12.5	AC12	CT7N-23-C12	+4	
11.3...16	AC16	CT7N-23-C16	+4	
15...20	AC20	CT7N-23-C20	+4	
17.5...21.5	AC21	CT7N-23-C21	+4	
21...25	AC25	CT7N-23-C25	+4	
CA7-30... CA7-37 Frame "B"	15...20	BC20	CT7N-37-C20	+8
	17.5...21.5	BC21	CT7N-37-C21	+8
	21...25	BC25	CT7N-37-C25	+8
	24.5...30	BC30	CT7N-37-C30	+8
	29...36	BC36	CT7N-37-C36	+8
CA7-43 Frame "C"	33...38	BC38	CT7N-37-C38	+8
	17...25	CC25	CT7N-43-C25	+8
	24.5...36	CC36	CT7N-43-C36	+8
CA7-60... CA7-85 Frame "D"	35...47	CC47	CT7N-43-C47	+8
	35...47	DC47	CT7N-85-C47	+16
	45...60	DC60	CT7N-85-C60	+16
	58...75	DC75	CT7N-85-C75	+16
72...90	DC90	CT7N-85-C90	+16	

Special Notes:

Wye-Delta Starters - First multiply motor full load current by 58%. Then, using this figure, select appropriate Overload Relay Code from tables above.

Part Winding Starters - First multiply motor full load current by 50%. Then, using this figure, select appropriate Overload Relay Code from tables above.

Modifications or Special Feature	Change Last Digit in Catalog Number To:	Add Suffix To Catalog Number	Enclosure Type	Controller Series and Price Addition					
				CA7-9 to 43	CA7-60 to 97	CAG-110(-EI) to CAG-140(-EI)	CAG-180(-EI) to CAG-250-EI	CAG-300-EI to 860-EI	CA5-1200
Pilot Devices In Cover or Flange									
"Start-Stop" Pushbutton	3		M1	84	84	84	84	84	84
"On-Off" Pushbutton	4		M3, M4, F4, M12, M7	193	193	193	193	193	193
Reversing "For-Stop-Rev"- Pushbutton	3		M1	218	218	218	218	218	218
"Up-Stop-Down" Pushbutton	4								
"Open-Stop-Close" Pushbutton	5								
Multi-Speed "High-Stop-Low" Pushbutton	3		M3, M4, F4, M12, M7	352	352	352	352	352	352
"Fast-Stop-Slow" Pushbutton	4								
"Hand-Auto" Selector Switch	5		M1	84	84	84	84	84	84
"Off-On" Selector Switch	6								
"Hand-Off-Auto" Selector Switch	7		M3, M4, F4, M12, M7	193	193	193	193	193	193
Reversing "For-Off-Rev" Selector Switch	6								
"Up-Off-Down" Selector Switch	7								
"Open-Off-Close" Selector Switch	8		All	193	193	193	193	193	193
Multi-Speed "High-Off-Low" Selector Switch	5								
"Fast-Off-Slow" Selector Switch	6								
Pilot Light Only	1		All	134	134	134	134	134	134
Pilot Lights Only (2)	2		All	260	260	260	260	260	260
Pilot light w/ "Start-Stop" Pushbutton	13		M1	218	218	218	218	218	218
Pilot Light w/ "On-Off" Pushbutton	14		M3, M4, F4, M12, M7	327	327	327	327	327	327
Reversing Pilot Lights (2) w/ "For-Stop-Rev" Pushbutton	23		M1	477	477	477	477	477	477
Pilot Lights (2) w/ "Up-Stop-Down" Pushbutton	24								
Pilot Lights (2) w/ "Open-Stop-Close Pushbutton	25								
Multi-Speed Pilot Lights (2) w/ "High-Stop-Low" Pushbutton	23		M3, M4, F4, M12, M7	611	611	611	611	611	611
Pilot Lights (2) w/ "Fast-Stop-Slow" Pushbutton	24								
Pilot Light w/ "Hand-Auto" Selector Switch	15		M1	218	218	218	218	218	352
Pilot Light w/ "Off-On" Selector Switch	16								
Pilot Light w/ "Hand-Off-Auto" Selector Switch	17		M3, M4, F4, M12, M7	352	352	352	352	352	352
Reversing Pilot Lights (2) w/ "For-Off-Rev" Pushbutton	26								
Pilot Lights (2) w/ "Up-Off-Down" Pushbutton	27								
Pilot Lights (2) w/ "Open-Off-Close Pushbutton	28		All	452	452	452	452	452	452
Multi-Speed Pilot Lights (2) w/ "High-Off-Low" Pushbutton	25								
Pilot Lights (2) w/ "Fast-Off-Slow" Pushbutton	26								

This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

- Change base **Catalog Number** according to instructions at top of column 2 or 3. Example: To Add a "Start-Stop" Pushbutton, Control Circuit Transformer (480/120) and RC Link: change **CA7-30-*** to **CA7-30-XC**.

Note: Separate multiple modification suffixes with a hyphen (-).

Pilot Lights may be applied with 24VAC/VDC, 120VAC or 240VAC Control Circuit. Pilot Lights with 380 VAC...575VAC require a control circuit transformer.

Modifications or Special Feature	Change Last Digit in Catalog Number To:	Add Suffix To Catalog Number	Enclosure Type	Controller Series and Price Addition						
				CA7-9 to 43	CA7-60 to 97	CA6-110(-EI) to CA6-140(-EI)	CA6-180(-EI) to CA6-250-EI	CA6-300-EI to 860-EI	CA5-1200	
Control Circuit										
Control Circuit Transformer (with fused primary & secondary)	Primary Volts	Secondary Volts	Replace (*) in catalog # with following codes: ②	M1, M3, M4, F4, M12 Open	320	420	571	320	320	85
Standard Capacity ④	208	120	XA							
	240	120	XB ⑤	M7	353	537	722	353	353	~
	480	120	XC ⑤							
	600	120	XD	M1, M3, M4, F4, M12 Open	504	629	755	504	504	169
	380	110	XG ⑤							
	240	24	XE	M7	537	747	914	537	537	~
	480	24	XF ⑤							
	600	24	XJ ⑤	M1, M3, M4, F4, M12 Open	651	789	931	651	651	420
100 Watt Extra Capacity	208	120	XA1							
	240	120	XB1	M7	537	747	914	537	537	~
	480	120	XC1							
	600	120	XD1	M1, M3, M4, F4, M12 Open	651	789	931	651	651	420
	240	24	XE1							
	480	24	XF1	M1, M3, M4, F4, M12 Open	797	956	1090	797	797	~
	600	24	XJ1							
200 Watt Extra Capacity	208	120	XA2	M1, M3, M4, F4, M12 Open	651	789	931	651	651	420
	240	120	XB2							
	480	120	XC2	M1, M3, M4, F4, M12 Open	651	789	931	651	651	420
	600	120	XD2							
	240	24	XE2	M1, M3, M4, F4, M12 Open	797	956	1090	797	797	~
	480	24	XF2							
300 Watt Extra Capacity	208	120	XA3	M1, M3, M4, F4, M12 Open	797	956	1090	797	797	~
	240	120	XB3							
	480	120	XC3	M1, M3, M4, F4, M12 Open	797	956	1090	797	797	~
	600	120	XD3							
	240	24	XE3	M1, M3, M4, F4, M12 Open	797	956	1090	797	797	~
	480	24	XF3							
Special Voltage Transformer			F/A ①	All, Open	Refer to Factory					
Control Circuit (Other)										
Fused Control Circuit - 1 Fuse			F1 ⑤	All, Open	108	108	108	108	108	108
Fused Control Circuit - 2 Fuses Fused Primary for separate or common control			F2 ⑤	All, Open	108	108	108	108	108	108
Control Circuit Interlock (installed on disconnect or circuit breaker. Specify N.O. or N.C.)			F/A ①	Combo Type M1, M3, M4, F4, M12, M7	176	176	176	176	176	176
Control Circuit Fused Disconnect (inside operated)			F/A ①	All	471	471	471	471	471	471
Control Circuit Breaker (inside operated)			F/A ①	All	754	754	754	754	754	754
Surge Suppressor - RC Link			RC ⑤	All, Open	42	42	84 ③	③	③	~
Surge Suppressor - Varistor			RV ⑤	All, Open	42	42	84 ③	③	③	~
Surge Suppressor - Diode			RD	All, Open	42	42	~	~	~	~
Terminal Blocks (unwired) - price per point.			F/A ①	All, Open	22	22	22	22	22	22

Starters & Enclosed Prod.
MODS

Ordering Instructions

● Change base **Catalog Number** according to instructions at top of column 2 or 3. Example: To Add a "Start-Stop" Pushbutton, Control Circuit Transformer (480/120) and RC Link: change **CA7-30-*** to **CA7-30-XC-◆-G3-RC**.

Note: Separate multiple modification suffixes with a hyphen (-).

- ① Factory assigned.
- ② Coil will be factory selected based on transformer secondary.
- ③ "EI" Coils include built-in surge suppression so adder does not apply. See page A90 for "EI" coil selection.
- ④ See page C67 for detail specifications for Control Circuit Transformer.

Modifications or Special Feature	Change Last Digit in Catalog Number To:	Add Suffix To Catalog Number	Enclosure Type	Controller Series and Price Addition					
				CA7-9 to 43	CA7-60 to 97	CA6-110(-EI) to CA6-140(-EI)	CA6-180(-EI) to CA6-250-EI	CA6-300-EI to 860-EI	CA5-1200
Control Circuit (continued)									
Additional Auxiliary Contacts									
1 N.O.		L10	All, Open	45	45	-	-	-	-
1 N.C.		L01							
1 N.O. & 1 N.C.		L11							
2 N.O.		L20		57	57	75	75	75	503
2 N.C.		L02							
1 N.O. & 2 N.C.		L12							
2 N.O. & N.C.		L21		64	64	-	-	-	-
3 N.O.		L30							
3 N.C.		L03							
1 N.O. & 3 N.C.		L13							
3 N.O. & 3 N.C.		L31		75	75	117	117	117	796
2 N.O. & 2 N.C.		L22							
4 N.O.		L40							
4 N.C.		L04							
5 or more auxiliary contacts				Refer to factory					
Alternate Auxiliary Contact Arrangements									
1 N.C. in lieu of standard 1 N.O. (on CAT7)		LX1		N/C	N/C	-	-	-	-
2 N.C. in lieu of standard 2 N.O. (on CAUT7)		LX2		7	7	-	-	-	-
Meters									
Ammeter - Single Phase		AM1	M1, M12	611	611	611	611	611	611
Voltmeter - Single Phase		VM1	M1, M12	1717	1717	1717	1717	1717	1717
Ammeter - Three Phase (includes switch)		AM3	M1, M12	2513	2513	2513	2513	2513	2513
Voltmeter - Three Phase (includes switch)		VM3	M1, M12	2596	2596	2596	2596	2596	2596
Wattmeter		WM	M1, M12	3536	3536	3536	3536	3536	3536
Elapsed Time Meter		ETM	M1, M12	503	503	503	503	503	503
Enclosures									
Omit M1 Standard Enclosure ● All Reduced Voltage Starters		F/A ①	M1	Refer to factory					
M12 or M3 Autotransformer Starters		Replace the second character from the end of the catalog number with: "D" for M12, "R" for M3, "W" for M4 & "C" for F4	M1	780	1568	1655	2094	2345	3266
M4 or F4 Autotransformer Starters			M1	1600	2680	2680	2680	2680	2680
Space Heater (with N.C. interlock)		HTR	M1, M3, M4M F4 M12	610	610	610	610	610	610
Type 3R Breather and Drain (set of two)		BD	M7	126	126	126	126	126	126
Type 4x Breather		BR	M7	75	75	75	75	75	75
Type 4x Drain		DN	M7	75	75	75	75	75	75
Type 4x Breather and Drain		BR - DN	M7	151	151	151	151	151	151
Service Identification Nameplate		F/A ①	All	34	34	34	34	34	34

Ordering Instructions

- Change base catalog number according to instructions at top of column 2 or 3.
Example: To Add a "Start-Stop" Pushbutton, Control Circuit Transformer (480/120) and RC Link: change **CAT7-30-*** to **CAT7-30-XC-◆-G3-RC**.

① Factory assigned.

Modifications or Special Feature	Change Last Digit in Catalog Number To:	Add Suffix To Catalog Number	Enclosure Type	Controller Series and Price Addition					
				CA7-9 to 43	CA7-60 to 97	CA6-110(-EI) to CA6-140(-EI)	CA6-180(-EI) to CA6-250-EI	CA6-300-EI to 860-EI	CA5-1200
Control Circuit (continued)									
Control Relay Limited to one per controller-8 pole maximum Specify pole arrangement and voltage ⑤		F/A ①	M1, M3, M12, Open	553	553	553	553	553	553
			M4, F4, M7	670	670	670	670	670	670
Timing Relay Limited to one per controller-specify "On" or "Off" delay. Voltage will be same as coil voltage		F/A ①	M1, M3, M12, Open	737	737	737	737	737	737
			M4, F4, M7	963	963	963	963	963	963
② Compelling Relay ⑤		F/A ①	All, Open	578	578	578	578	578	578
② Progressive or Decelerating Relay ⑤		F/A ①	All, Open	1340	1340	1340	1340	1340	1340
③ Omit Automatic Alternator		F/A ①	M1, M3, F4	-503	-503	-503	-503	-503	-503
③ Modify for operation with single pole pilot devices (addition of 2 relays) ⑤		F/A ①	M1, M3, F4	888	888	888	888	888	888
④ Back Spin Timer		F/A ①	M3, F4	670	670	670	670	670	670
④ Timer (delayed start)		F/A ①	M3, F4	670	670	670	670	670	670
④ Program Timer (24 hour)		F/A ①	M3, F4	712	712	712	712	712	712
④ Undervoltage Relay		F/A ①	M3, F4	774	774	774	774	774	774
④ Lockout Relay (For inherently protected motors)		F/A ①	M3, F4	268	268	268	268	268	268
④ Percentage Timer		F/A ①	M3, F4	670	670	670	670	670	670
Miscellaneous									
④ Lighting Arrestor		LA	M3, F4	358	358	358	358	358	358
④ Surge Capacitor		SC	M3, F4	438	438	438	438	438	438
Phase Monitor Relay		F/A ①	All	503	503	503	503	503	503
Omit overload protection from combination starters		F/A ①	All	-84	-135	-420	-569	R/F	R/F
Omit external reset button		F/A ①	All	NC	NC	NC	NC	NC	NC
Mechanical Latch (voltage will be matched to contactor coil)		ML	All	193	193	N/A	N/A	N/A	R/F

MODS Starters & Enclosed Prod.





 This item is available in the **ORANGE EXPRESS** 3-day shipping program. See selection guide for details.

Ordering Instructions

● Change base catalog number according to instructions at top of column 2 or 3.
Example: To Add a "Start-Stop" Pushbutton, Control Circuit Transformer (480/120) and RC Link: change **CAT7-30-***-◆-G0 to **CAT7-30-XC-◆-G3-RC**.
Note: Separate multiple modification suffixes with a hyphen (-).

- ① Factory assigned.
- ② For Multi-speed controllers.
- ③ For Duplex Pump controllers.
- ④ For Pump Panel controllers.
- ⑤ If controller has a Control Circuit Transformer, select and price transformer with additional capacity for relay required.

Pilot Device Kits – All applications (except Kwikstarters and Explosion Proof enclosures) ①

Kits	Description	Contact Blocks included		For Use With Enclosure...	Catalog Number	Price
		NO	NC			
	Multi-Function Pushbutton kit ② START-STOP Non-illuminated, Standard for "A" and "B" Box Kits.	1	1	Type 1, 12, 3R, 4, 4X, 13	SS6-D7P	55
				Type 1, 12, 3R, 4, 13	SS6-D7M	58
	Multi-Function Pushbutton kit ② FORWARD-STOP-REVERSE Non-illuminated, Standard for "A" and "B" Box Kits.	2	3	Type 1, 12, 3R, 4, 4X, 13	SS5-D7P	103
				Type 1, 12, 3R, 4, 13	SS5-D7M	108
	STOP and START ③ Two button pushbutton kit	1	1	Type 1, 12, 3R, 4, 4X, 13	SS1-D7P	64
				Type 1, 12, 3R, 4, 13	SS1-D7M	68
	FORWARD, REVERSE and STOP ④ Three button pushbutton kit	2	3	Type 1, 12, 3R, 4, 4X, 13	SS7-D7P	119
				Type 1, 12, 3R, 4, 13	SS7-D7M	125
	HAND-OFF-AUTO selector switch kit Name plate included.	2	0	Type 1, 12, 3R, 4, 4X, 13	SS2-D7P	54
				Type 1, 12, 3R, 4, 13	SS2-D7M	56
	FWD-OFF-REV selector switch kit Name plate included.	2	0	Type 1, 12, 3R, 4, 4X, 13	SS9-D7P	54
				Type 1, 12, 3R, 4, 13	SS9-D7M	56
	OFF-ON selector switch kit Name plate included.	1	0	Type 1, 12, 3R, 4, 4X, 13	SS4-D7P	41
				Type 1, 12, 3R, 4, 13	SS4-D7M	43
	Monolithic Pilot Light kit LED Lamp and lens cap Does not include nameplate		~	Type 1, 12, 3R, 4, 4X Replace ③ with color choice R = Red G = Green	SS8-D7D-③24V SS8-D7D-③120V SS8-D7D-③240V	37

Starters & Enclosed Prod. MODS

NEMA / UL Type Definitions

For a degree of protection against:	NEMA / UL TYPE									
	Indoor Use			Outdoor Use			Indoor or Outdoor Use			
	1	12	13	3R	3	4	4x	6P	6	
Incidental contact with enclosed equipment	●	●	●	●	●	●	●	●	●	
Falling dirt	●	●	●	●	●	●	●	●	●	
Rust	●	●	●	●	●	●	●	●	●	
Circulating dust, lint, fibers and flyings		●	●		●	●	●	●	●	
Windblown dust					●	●	●	●	●	
Falling liquids and light splashing		●	●		●	●	●	●	●	
Rain (limited water allowed inside)				●	●	●	●	●	●	
Rain (no water allowed inside)					●	●	●	●	●	
Snow and sleet				●	●	●	●	●	●	
Hosedown and splashing water						●	●	●	●	
Occasional prolonged submersion								●	●	
Oil or coolant spraying or splashing			●							
Corrosive agents							●	●		
Occasional temporary submersion								●	●	



Example of pushbutton kits on new "A" Box

- ① Pilot Device Kits do not include control wires. See instruction sheet for installation.
- ② Multi-function START/STOP pushbutton are standard for General Purpose Type 1(M1) dimensions A and B enclosures.
- ③ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.
- ④ Not for "A" or "B" Box

Type 1 (M1) General Purpose Enclosures ❶

Enclosure	Description	For use With . . .	Catalog Number	Price
	<p>Sheet metal enclosure ("A" box) - ❶ - Includes installed Reset Kit</p> <p>CEP7-ERA adapter is required for all CEP7-ED, EE overloads in "A" boxes. CEP7-ERA must be ordered separately from Section B.</p>	<p>CA7-9...43 contactor CAT7-9...23 starter (using CEP7 second generation)</p>	M1-100645/3 ❶	
	<p>Sheet metal enclosure ("B" box) - ❶ - Includes Reset Kit - Includes special offset attachment for resetting CEP7 solid state overload relays (only necessary with CAT7-60...85 starters) ❷</p> <p>CEP7-ERA adapter is required for all CEP7-ED, EE overloads in "B" boxes. CEP7-ERA must be ordered separately from Section B.</p>	<p>Back pan not required CA(T)7-60...85</p> <p>Back pan required CAT7-30...43 (using second generation CEP7)</p> <p>CAU(T)7-9...43 CA(T)7-9...43 w/ CPT</p>	M1-130706-7 ❷	
	<p>"B box" enclosure back pan <i>Required when mounting all contactor/ starter configurations noted here.</i></p> <p>SS3-NB ❸</p>	<p>Back pan required CAT7-30...43 (using second generation CEP7)</p> <p>CAU(T)7-9...43 CA(T)7-9...43 w/ CPT</p>	TI-2.11.1 ❸	



M1 ("A" Box) General Purpose Enclosure Pilot Device Kits

Enclosure	Description	For use With M1 Enclosure . . .	Catalog Number	Price
	<p>START-STOP pushbutton assembly - includes mounting bracket and</p>	<p>M1-100645/3 M1-130706-7 ❷</p>	<p>SS3-NA ❸ SS3-NB ❹</p>	
	<p>HAND-OFF-AUTO selector switch assembly-includes mounting bracket and wiring</p>	<p>M1-100645/3 M1-130706-7</p>	<p>SS2-NA ❸ SS2-NB ❹</p>	
	<p>ON-OFF selector switch assembly - with mounting bracket and wiring</p>	<p>M1-100645/3 M1-130706-7</p>	<p>SS4-NA ❸ SS4-NB ❹</p>	
	<p>Pilot light (neon type) assembly - includes mounting bracket, wiring and resistors for all standard voltages between 115V and 575V</p>	<p>M1-100645/3 M1-130706-7</p>	<p>PL-NA ❸ PL-NB ❹</p>	

❶ Not designed for use with CT7 or CT7K thermal overload relays or CA7-9C...CA7-43C contactors (with DC coils).
 ❷ Special offset attachment (Cat.# TI-12-18) may be purchased separately. List price \$24.

❸ Pilot device kit also for use with all enclosed contactors or starters listed in this catalog with clam shell enclosure dimension "A" (M1-100645/3). These units can not be used with the new A* (M1-1086A) hinged-cover enclosure.
 ❹ "A" and "B" Clam shell enclosures have been replaced with two new hinged cover designs. See pages C65.1, C81 and C83.

Type 1 (M1) General Purpose Enclosures ②③

<p>Enclosure (Box) Kit Includes:</p> <ul style="list-style-type: none"> Hinged cover Backpan pre-drilled for listed arrangements (not tapped) (2) Ground Lugs and Symbol label (2) 22mm knockouts for pilot devices ④ CEP7-ERA Overload Reset Adapter MR3 Reset Kit for Cover (2) 22mm knockouts for Reset ⑤ Dual Conduit knockouts - Top and Bottom "A" Box - (2) 1/2 to 3/4" and (1) 3/4 to 1" "B" Box - (2) 1/2 to 3/4", (1) 1 to 1-1/4", (1) 3/4 to 1" (4) 8-32 x 1/2" screws for mounting controllers "B" Box also includes (2) 10-32 x 3/4" screws Does not include wire 														
											<p>"A" Box Kit</p> <table border="1"> <thead> <tr> <th>Catalog Number</th> <th>Price</th> </tr> </thead> <tbody> <tr> <td>M1-1086-A</td> <td>120</td> </tr> </tbody> </table>			Catalog Number
Catalog Number	Price													
M1-1086-A	120													
Catalog Number	Price													
M1-12106-B	150													
<p>Optional: 35mm DIN Rail Kit with (2) 10-32 x 1/4" screws ②</p>				<p>SF-2 (2 inches long) 8</p>			<p>SF-3 (3 inches long) 10</p>							
<p>Dimensions ⑥</p>				<p>10" x 8" x 6" Type 1 Enclosure</p>			<p>12" x 10" x 6" Type 1 Enclosure</p>							
<p>For use with overload</p>				<p>"A" Box Kit accommodates</p>			<p>"B" Box Kit accommodates</p>							
<p>For use with Controller</p>	CEP7-ED1*	CEP7-EE*	CT7N	Use with No CPT	Use with 50VA CPT ③	Space for 2" DIN Rail ②	Use with No CPT	Use with 50VA CPT	Use with 100VA CPT ④	Space for 3" DIN Rail ②				
<p>Non-reversing Contactors</p>														
CA7-9...43	~	~	~	✓	✓	✓	✓	✓	✓	✓				
CA7-60...85 ⑦	~	~	~	No	No	No	✓	N/A	✓	✓				
<p>Reversing Contactors</p>														
CAU7-9...37	~	~	~	✓	No	✓	✓	✓	✓	✓				
CAU7-43	~	~	~	No	No	No	✓	✓	✓	✓				
CAU7-60...85 ⑦	~	~	~	No	No	No	No	N/A	No	No				
<p>Non-Reversing Starters</p>														
CAT7-9...23	✓	✓	①	✓	✓	✓	✓	✓	✓	✓				
CAT7-30...43	N/A	✓	①	✓	✓	✓	✓	✓	✓	✓				
CAT7-60...85 ⑦	N/A	✓	①	No	No	No	✓	N/A	✓	✓				
<p>Reversing Starters</p>														
CAU7-9...23	✓	✓	①	✓	No	✓	✓	✓	✓	✓				
CAU7-30...37	N/A	✓	①	✓	No	✓	✓	✓	✓	✓				
CAU7-43	N/A	✓	①	No	No	No	✓	✓	✓	✓				
CAU7-60...85 ⑦	N/A	No	No	No	No	No	No	No	No	No				
<p>NEMA Sized Non-reversing Starters</p>														
CATN7-12...16	✓	✓	①	✓	✓	✓	✓	✓	✓	✓				
CATN7-37	N/A	✓	①	✓	✓	✓	✓	✓	✓	✓				
CATN7-43	N/A	✓	①	✓	✓	✓	✓	✓	✓	✓				
CATN7-85	N/A	✓	①	No	No	No	✓	N/A	✓	✓				

① Alternatively CT7N overload relay can be used which will require CT7N-RA3 Reset Adapter (NOT included in the kit).

② 2" DIN rail can accommodate up to (3) V7-W4 TB's or equivalent DIN rail mount timers, relays, etc. Order kit SF-2 separately.
3" DIN rail can accommodate up to (6) V7-W4 TB's or equivalent DIN rail mount timers, relays, etc. Order kit SF-3 separately.

③ Enclosure designed for use with CPT with top mount secondary fuse, plus backpan mounted FH8 Fuseholder with (2) primary fuses. A CPT and the addition of extra terminal blocks or other control relay using the 2" DIN rail space may require a design change.











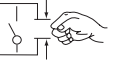
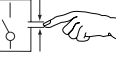
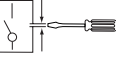
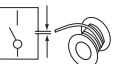


④ This enclosure is designed for use with a D7 multi-function Start/Stop as standard plus a D7D monolithic pilot light to fit the (2) 22mm knockouts provided. Additional pilot device holes will require field drilling and may interfere with the controller or the addition of a CPT or TB's.

⑤ (2) 22mm knockout locations are provide for one reset Kit to be located contingent on the type of controller used. See box Instruction sheet for mounting details of controller and reset kit.

⑥ For enclosure dimensions see page C83

⑦ CA7-97 and CAT7-97 will not fit in "B" Box because of wire bending space requirements. See Selection tables for box sizes and pages C82-85 for dimensions.

IP Ratings Definitions

IP Ratings Definitions The first IP number (left side of chart) is protection against solid objects. The second IP number (across top) is protection against liquids. The chart itself shows degrees of protection according to IEC 529.									
	IP...0	IP...1	IP...2	IP...3	IP...4	IP...5	IP...6	IP...7	IP...8
IP0...  No protection	IP00								
IP1...  Protected against solid objects up to 50mm (accidental touch by hands)	IP10	IP11	IP12						
IP2...  Protected against solid objects up to 12mm (fingers, knuckles)	IP20	IP21	IP22	IP23					
IP3...  Protected against solid objects up to 2.5mm (tools, wires)	IP30	IP31	IP32	IP33	IP34				
IP4...  Protected against solid objects up to 1mm (wires)	IP40	IP41	IP42	IP43	IP44				
IP5...  Protected against dust (limited ingress permitted)	IP50			IP53	IP54	IP55	IP56		
IP6...  Totally protected against dust	IP60					IP65	IP66	IP67	

Contactors (Relay) Coil Data ③

Device ③	Coil Consumption		Coil Consumption				Minimum Recommended Transformer ④
	DC Watts		AC ①				
	Inrush	Sealed	Inrush (pick-up)		Sealed (holding)		
			VA	Watts	VA	Watts	
CA8-9 (CS8)	3	3	35	32	5	1.8	50
CA7-9 (CS7)	6	6	70	50	8	2.6	50
CA7-12	6	6	70	50	8	2.6	50
CA7-16	6	6	70	50	8	2.6	50
CA7-23	9.2	9.2	70	50	9	3	50
CA7-30, CAL7-30	9.2	9.2	80	50	9	3	50
CA7-37	9.2	9.2	80	60	9	3	50
CA7-40	10.1	10.1	130	90	10	3.2	50
CA7-43	10.1	10.1	130	90	10	3.2	50
CA7-60, CAL7-60	200	4.5	200	110	16	4.5	100
CA7-72	200	4.5	200	110	16	4.5	100
CA7-85	200	4.5	200	110	16	4.5	100
CA7-90							
CA7-97	325	5.5	400	240	24	9	100
CA6-95 ⑤	540	8	650	310	50	10	150
CA6-95-EI ⑥	265	6	380	240	13	6	100
CA6-110	540	8	650	310	50	10	150
CA6-110-EI	265	6	380	240	13	6	100
CA6-140	540	8	650	310	50	10	150
CA6-140-EI	265	6	380	240	13	6	100
CA6-180	265	6	650	310	50	10	150
CA6-180-EI	265	6	380	240	13	6	100
CA6-210-EI	265	6	380	240	13	6	100
CA6-250-EI	265	6	380	240	13	6	100
CA6-300-EI	265	6	380	240	13	6	100
CA6-420-EI	340	7	490	270	18	7	150
CA6-630-EI	1980	30	1915	1720	33	30	300
CA6-860-EI	1980	30	1915	1720	33	30	300
CA5-550	700-850	8-10	800-950	700-850	9-11	8-10	200
CA5-700	1300-1550	18-22	1350-1600	1300-1550	21-25	18-22	250
CA5-860	1300-1550	18-22	1350-1600	1300-1500	21-25	18-22	250
CA5-1000	2100	60	2400	2100	70	60	300
CA5-1200	2100	60	2400	2100	70	60	300

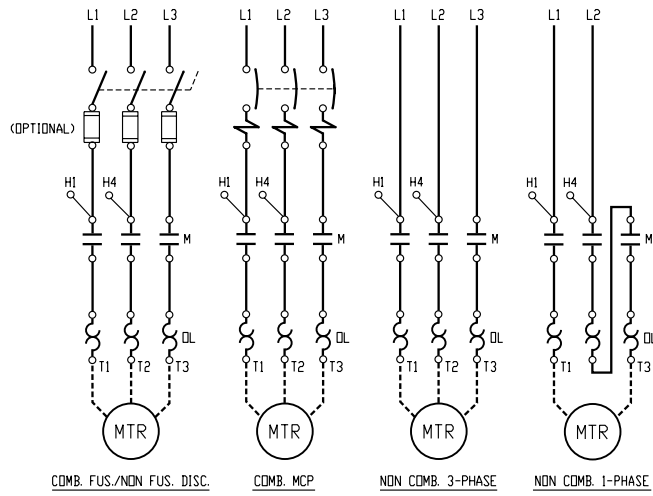
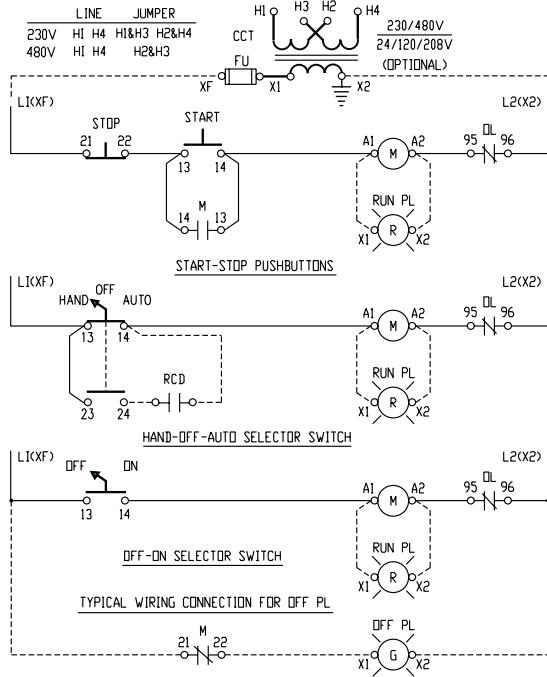
Starters & Enclosed Prod. TECH

Control Circuit Transformer Voltage Specifications

Factory Modification Code ⑤	Factory Wired Connection		Voltage Taps Available	
	Primary	Secondary	Primary	Secondary
XA	208	120	208/230/460	115
XB	240	120	240/480	120
XC	480	120	240/480	120
XD	600	120	575/600	115/120
XE	240	24	240/480	24
XF	480	24	240/480	24
XG	380	110	380/400/415	110/220
XH	Must specify tap	115	208/230/460	115
XJ	600	24	600	12/24
XK	380	24	480/380/277/240/208	24
XL	415	24	480/415/400	24/120
XM	Must specify tap	24/115	208/230/460	24/115

- ① 50Hz, 60Hz or 50/60Hz except CA7 which is 60Hz.
- ② For AC coils.
- ③ "EI" coils are particularly sensitive to the type of control power source provided. Please reference page A120 for details.
- ④ The "VA" values shown are the minimum requirement to energize one contactor. For multiple contactors and/or additional control circuit devices (burden) refer to control circuit transformer manufacturer's selection criteria.
- ⑤ Modification codes in Gray are Special Order. Contact an S+S representative.
- ⑥ CA6-95(-EI) contactors discontinued Fall 2010.

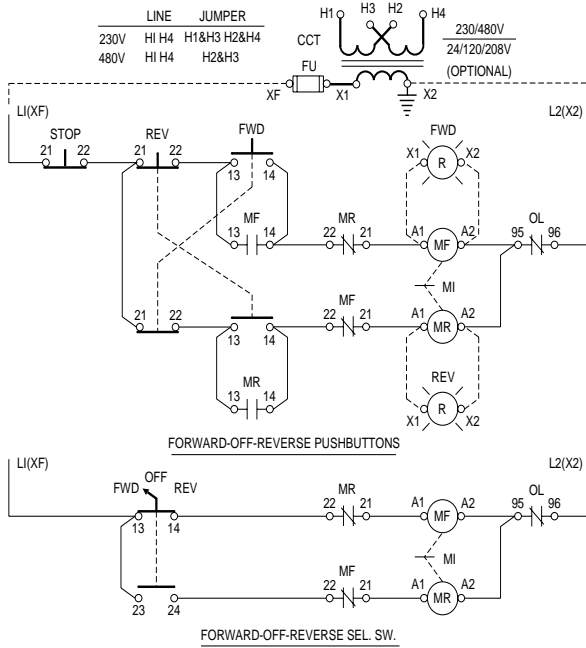
Motor Starters - Non Reversing



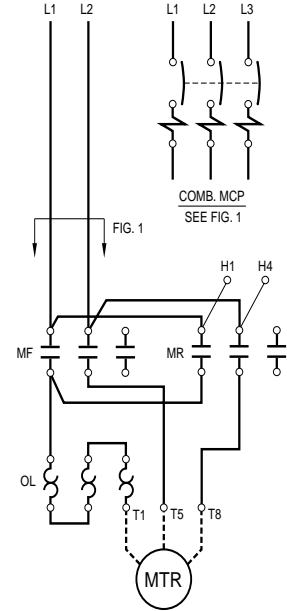
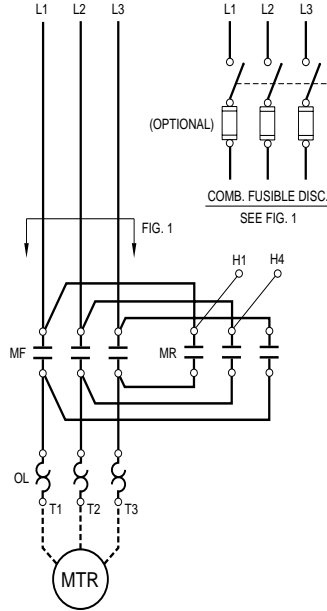
NOTES:

- 1) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER.
- 2) X2 TERMINAL GROUNDED AS STANDARD, REMOVE GROUND IF NOT REQUIRED.

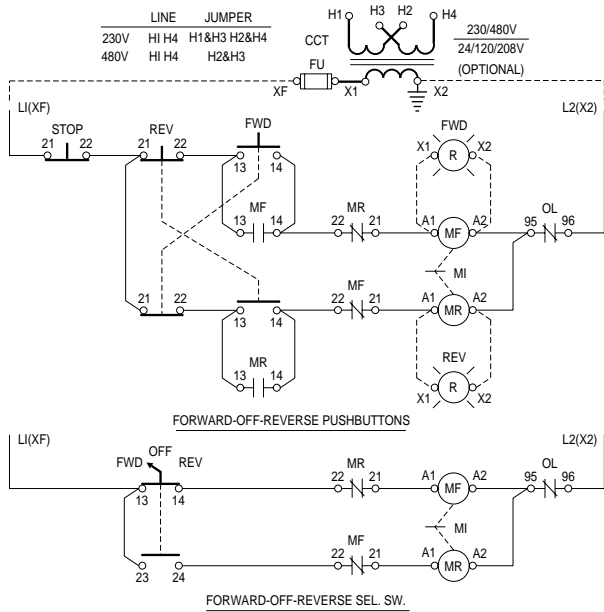
Motor Starters - Reversing (three phase & single phase reconnectable)



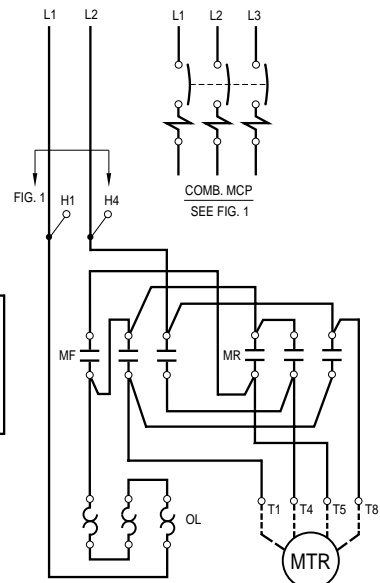
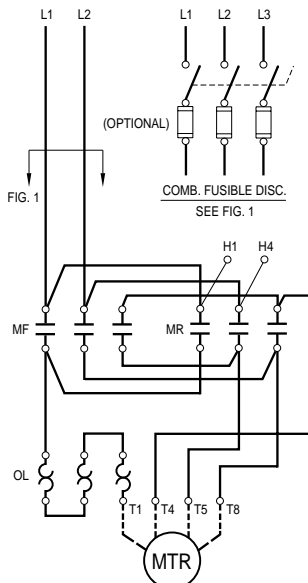
NOTES:
 1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
 2) MI STANDS FOR MECHANICAL INTERLOCK.



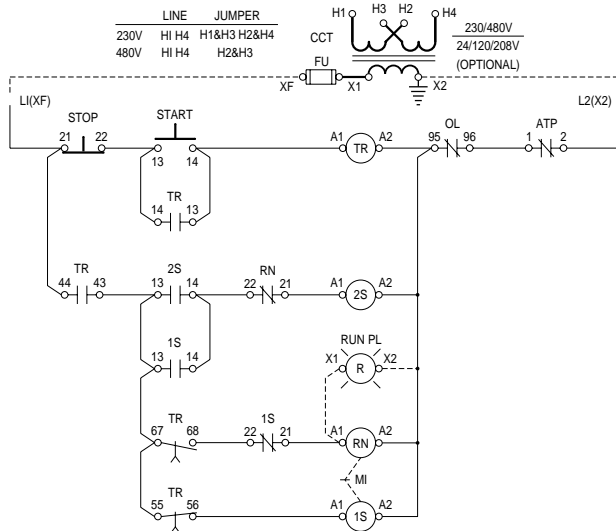
Motor Starters - Reversing (single phase series & parallel winding)



NOTES:
 1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
 2) MI STANDS FOR MECHANICAL INTERLOCK.

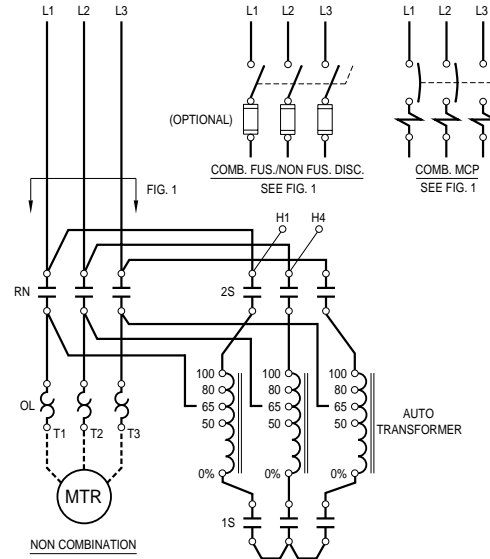


Reduced Voltage Starters - Autotransformer



NOTES:

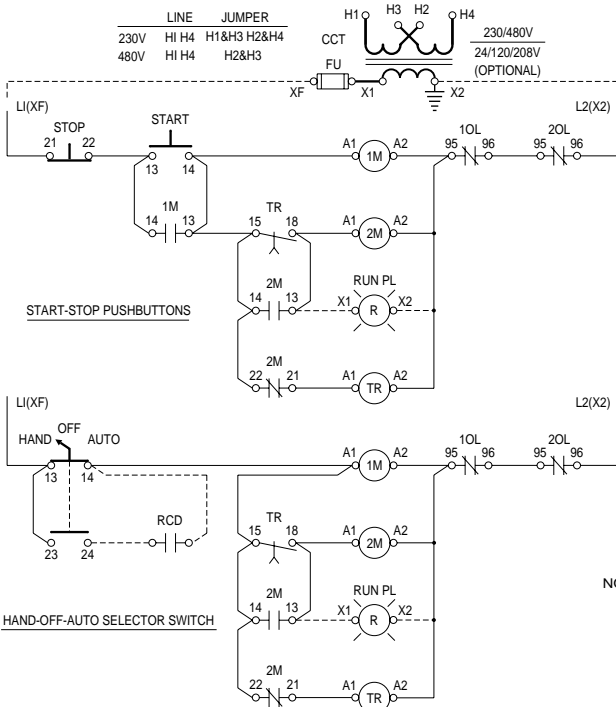
- 1) ATP STANDS FOR AUTOTRANSFORMER THERMAL PROTECTION. (OPTIONAL ADDITION)
- 2) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
- 3) MI STANDS FOR MECHANICAL INTERLOCK.
- 4) RELAY/ON-DELAY PNEUMATIC TIMER TR: CS7-22E+CZE7-30S (0.3...30 SEC)



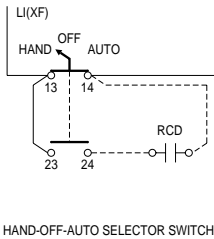
ATTENTION:

ALL STARTERS ARE NORMALLY CONNECTED TO 65% TAP AT THE FACTORY

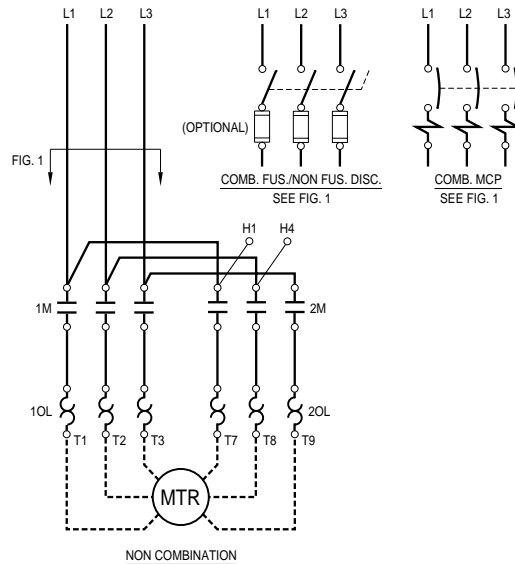
Reduced Voltage Starters - Part Winding



START-STOP PUSHBUTTONS



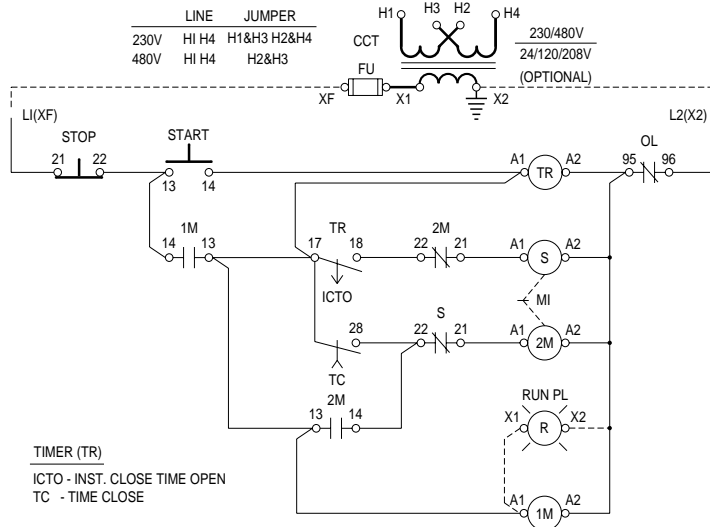
HAND-OFF-AUTO SELECTOR SWITCH



NOTES:

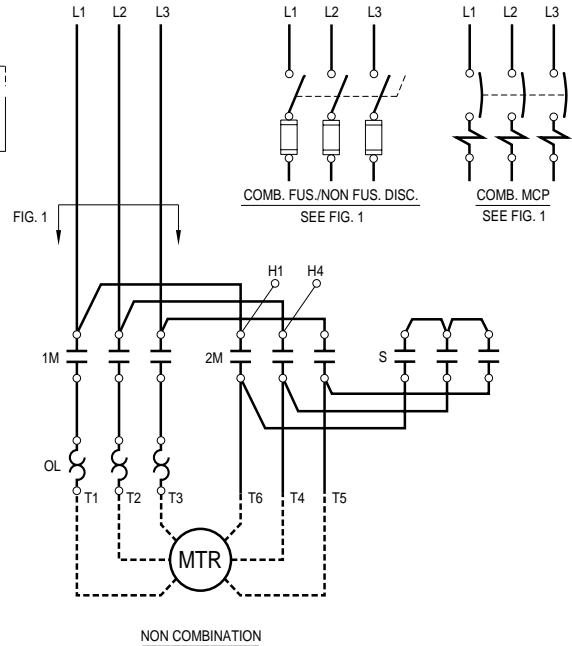
- 1) OVERLOAD RELAY SETTING: MOTOR FLC X 0.5.
- 2) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
- 3) TIME DELAY RELAY TR TO BE SET TO SHORTEST TIME POSSIBLE: MAX. 3 SECONDS.
ON-DELAY TIMING RELAY TR: RZ7-FSA3B*** (0.15...3 SEC)
- 4) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER.

Reduced Voltage Starters - Wye Delta (Open Transition)

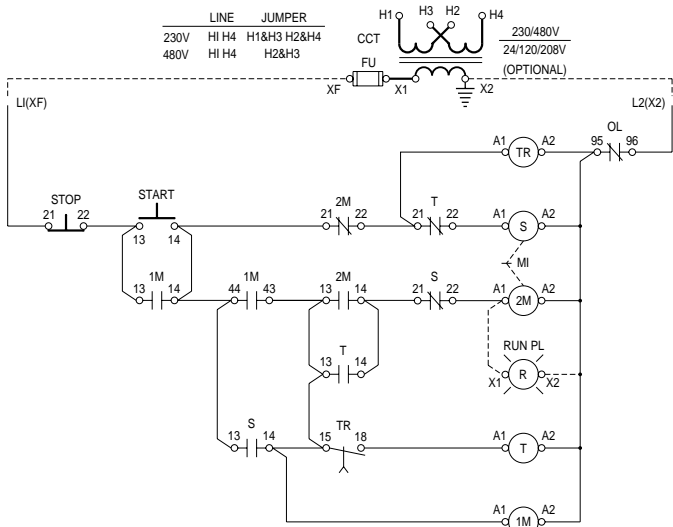


NOTES:

- 1) OVERLOAD RELAY SETTING: MOTOR FLC X 0.58.
- 2) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
- 3) MI STANDS FOR MECHANICAL INTERLOCK.
- 4) WYE DELTA TIMING RELAY TR: RZ7-FSY2D*** (1.5...30 SEC)

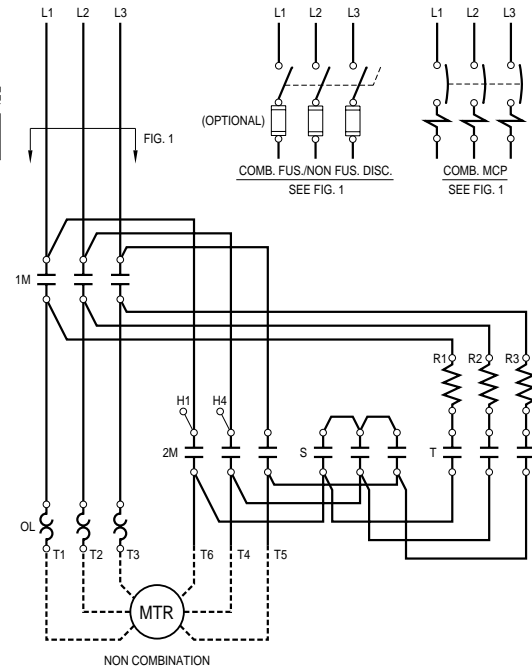


Reduced Voltage Starters - Wye Delta (Closed Transition)

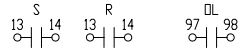
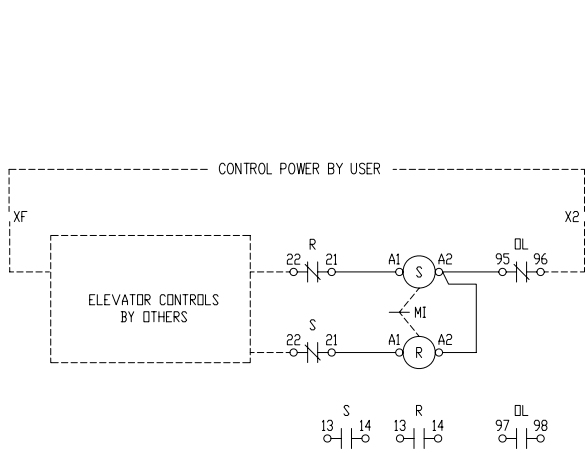


NOTES:

- 1) OVERLOAD RELAY SETTING: MOTOR FLC X 0.58.
- 2) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
- 3) MI STANDS FOR MECHANICAL INTERLOCK.
- 4) ON-DELAY TIMING RELAY TR: RZ7-FSA3D*** (1.5...30 SEC)

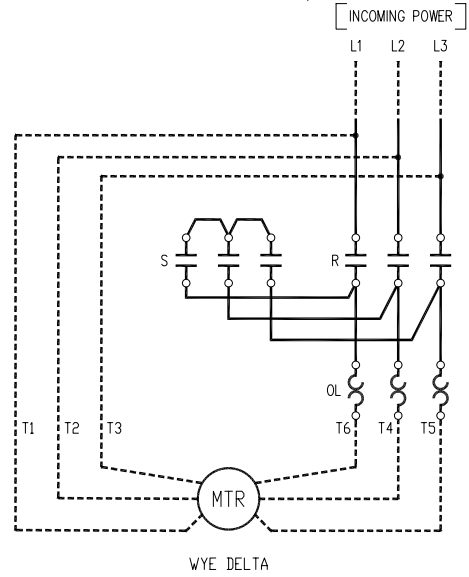


Typical Hydraulic Elevator Two-Contactor Wye-Delta Starter



- NOTES:
- 1). MI: STANDS FOR MECHANICAL INTERLOCK.
 - 2). R: STANDS FOR RUN CONTACTOR.
 - 3). S: STANDS FOR STAR (SHORTING) CONTACTOR.
 - 4). OVERLOAD RELAY SETTING: MOTOR FLC X 0.58.

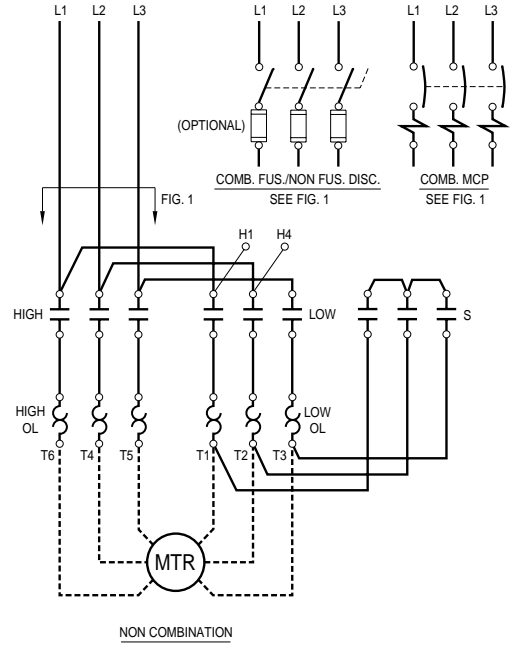
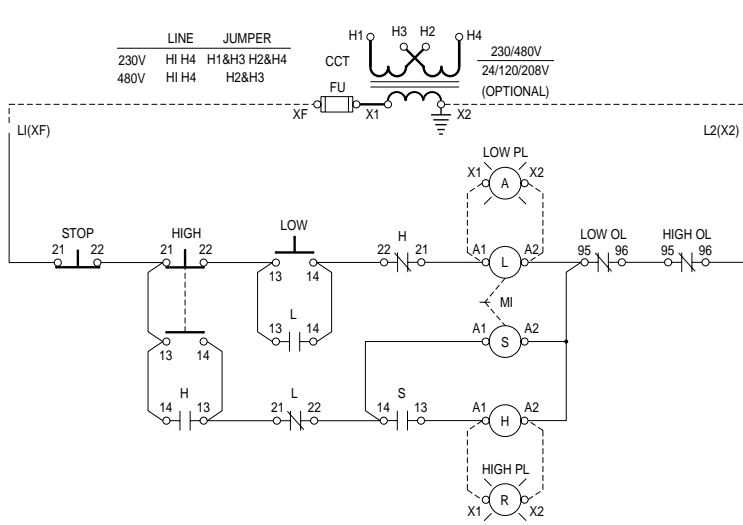
CUSTOMER TO SUPPLY PROPERLY PROTECTED INCOMING POWER AS PER LOCAL CODES. (USE 75°C COPPER WIRE ONLY)



Starters & Enclosed Prod.

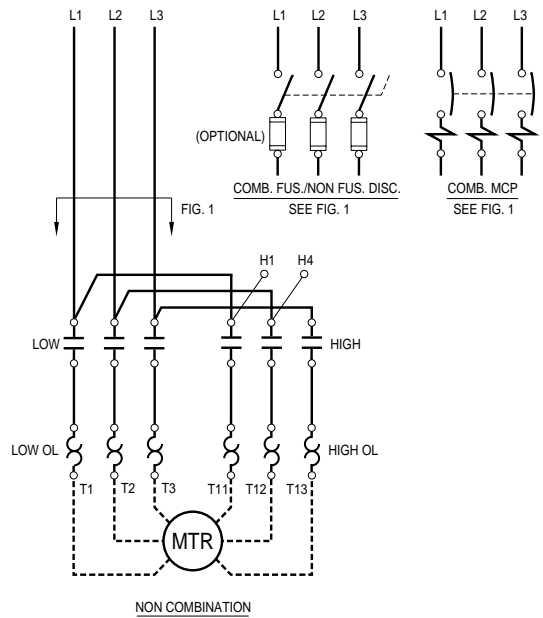
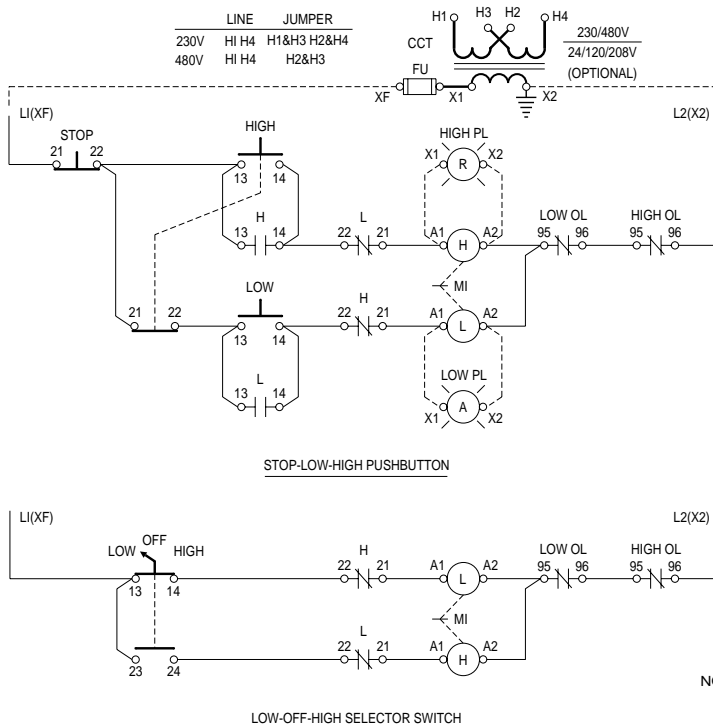
TECH

Multi Speed - One Reconnectable Winding (Selective Control)



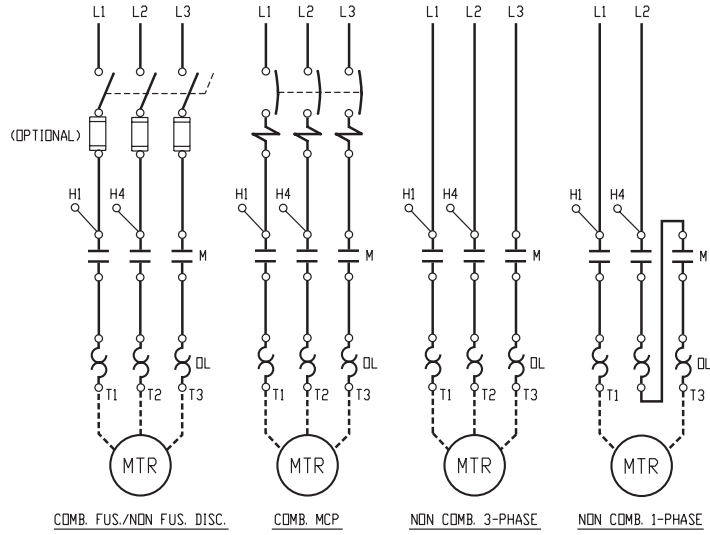
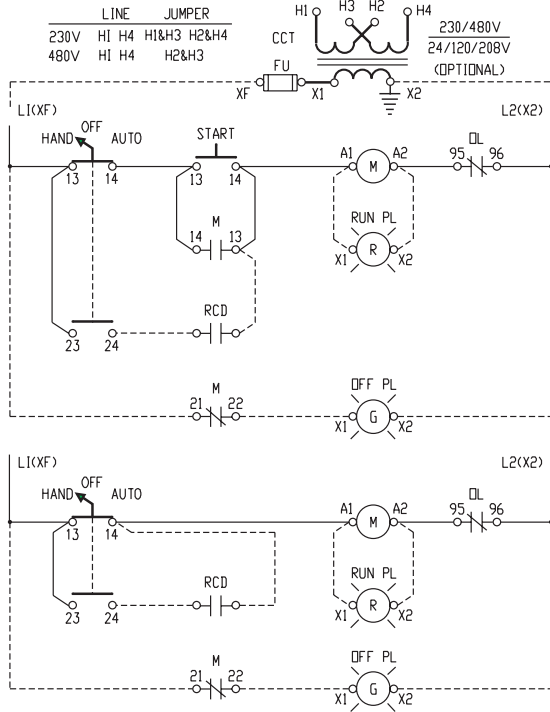
- NOTES:
- 1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
 - 2) MI STANDS FOR MECHANICAL INTERLOCK.

Multi Speed - Two Separate Windings (Selective Control)



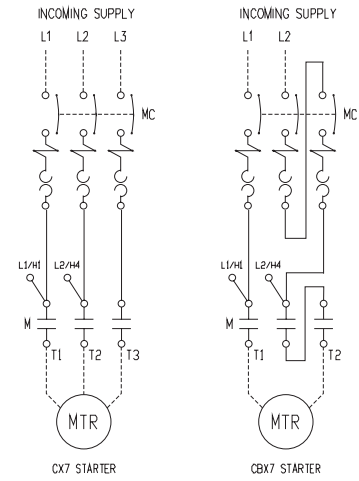
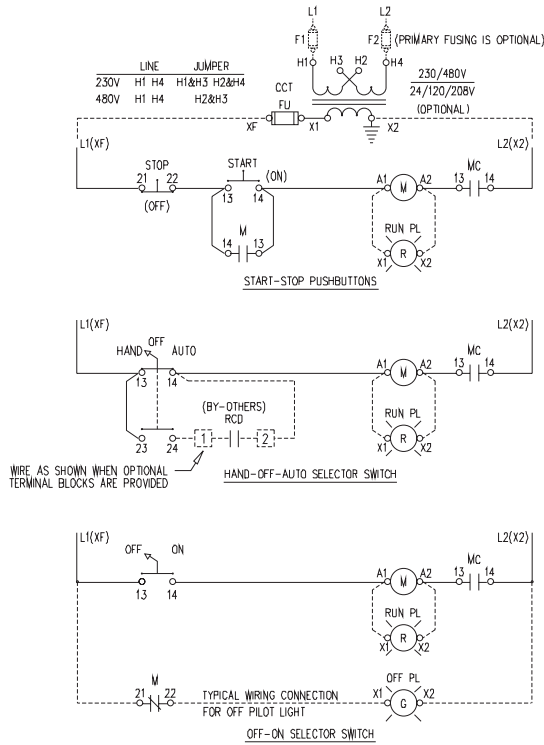
- NOTES:
- 1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.
 - 2) MI STANDS FOR MECHANICAL INTERLOCK.

Classic Pump Control Panels



- NOTES:
 1) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER.
 2) X2 TERMINAL GROUNDED AS STANDARD, REMOVE GROUND IF NOT REQUIRED.

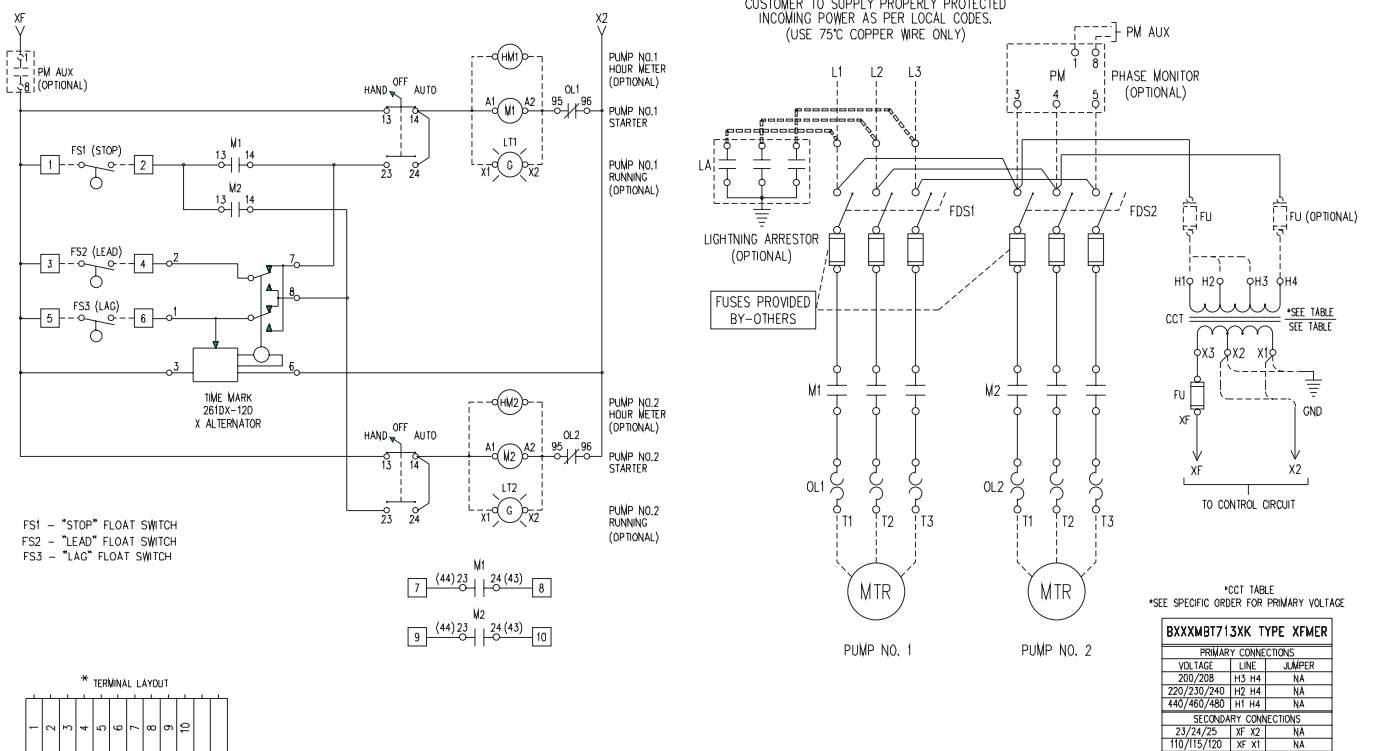
Type E Combination Controller Full Voltage Non-Reversing



- NOTES:
- 1) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER.
 - 2) MC: K17 "TYPE E" MOTOR CONTROLLER.
 - 3) X2 TERMINAL GROUNDED AS STANDARD, REMOVE GROUND IF NOT REQUIRED.

AC Control w/ D7 Series Pilot Devices

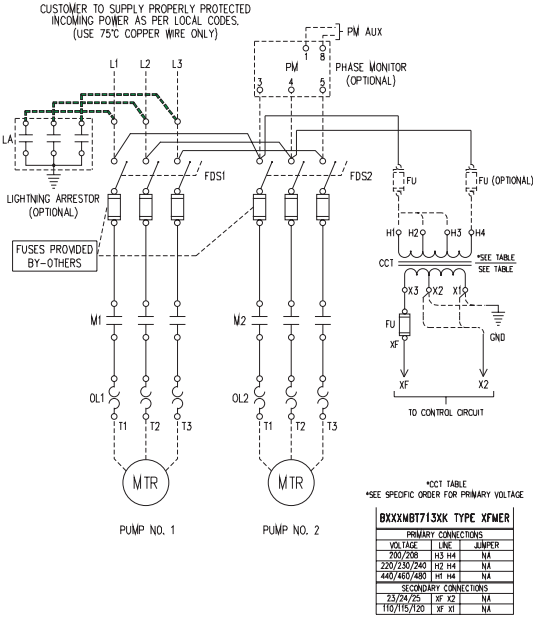
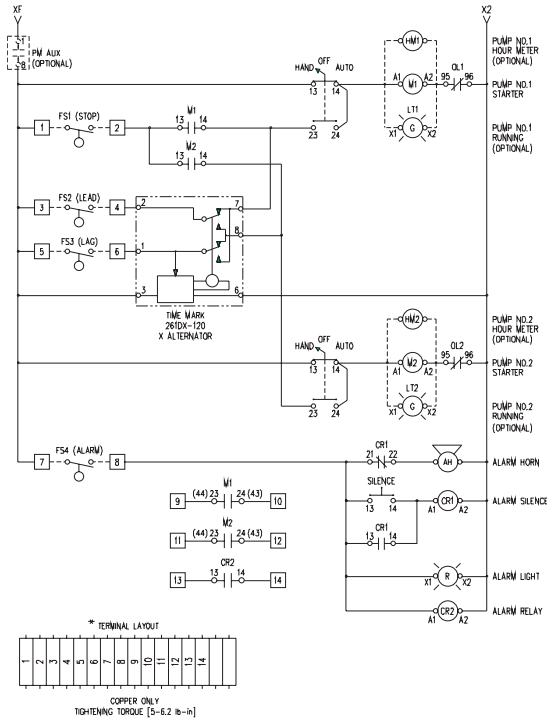
Combination Fusible Switch 3-PH FVNR Duplex Alternating Panel



- NOTE:
- 1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.

W/ H-O-A, Lead, Lag, Stop, 1-Pole float switches

Combination Fusible Switch 3-PH FVNR Duplex Alternating Panel

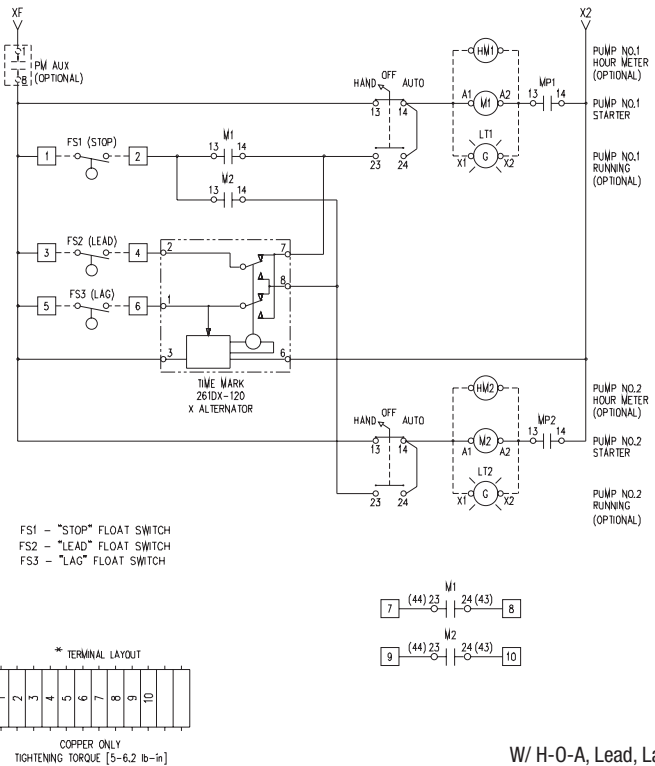


FS1 - "STOP" FLOAT SWITCH
FS2 - "LEAD" FLOAT SWITCH
FS3 - "LAG" FLOAT SWITCH
FS4 - "ALARM" FLOAT SWITCH

NOTE:
1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.

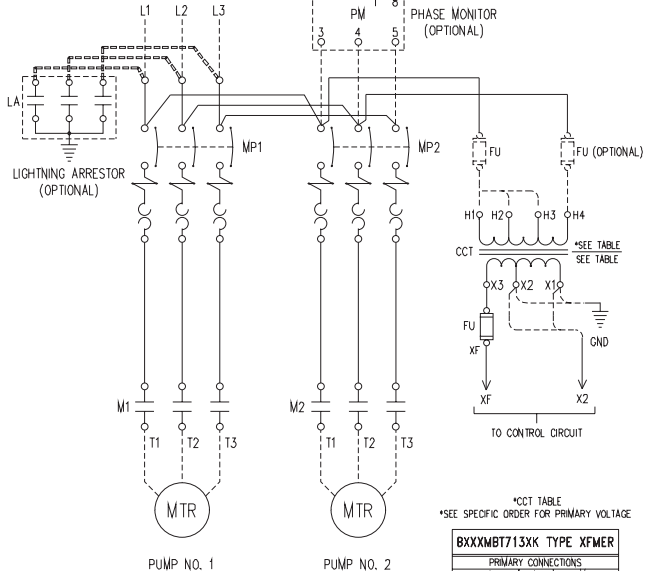
W/ H-O-A, alarm CKT, Lead, Lag, Stop, 1-Pole Float Switches, Alarm Circuit.

KTA7 Type E Combination 3-PH FVNR Duplex Alternating Panel



FS1 - "STOP" FLOAT SWITCH
FS2 - "LEAD" FLOAT SWITCH
FS3 - "LAG" FLOAT SWITCH

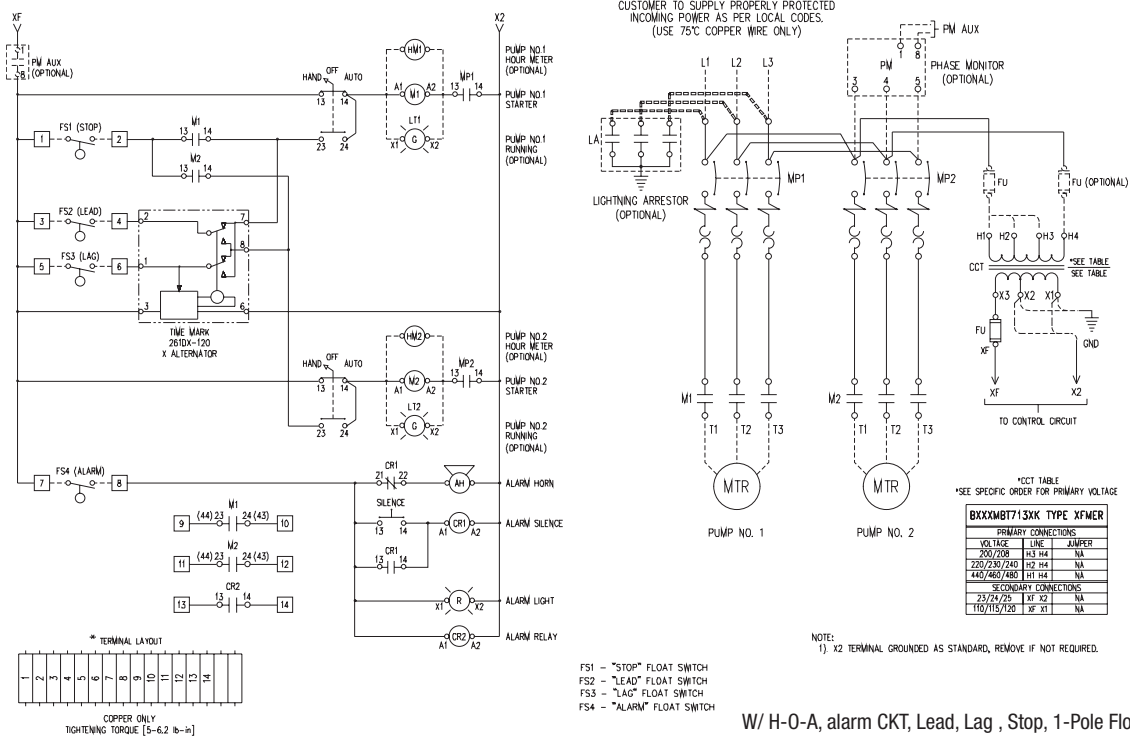
CUSTOMER TO SUPPLY PROPERLY PROTECTED INCOMING POWER AS PER LOCAL CODES. (USE 75°C COPPER WIRE ONLY)



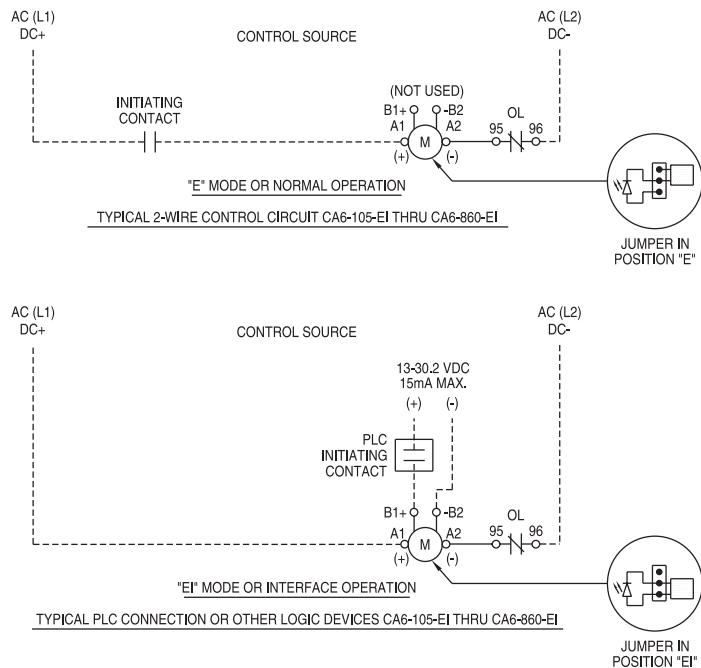
NOTE:
1) X2 TERMINAL GROUNDED AS STANDARD, REMOVE IF NOT REQUIRED.

W/ H-O-A, Lead, Lag, Stop, 1-Pole Float Switches

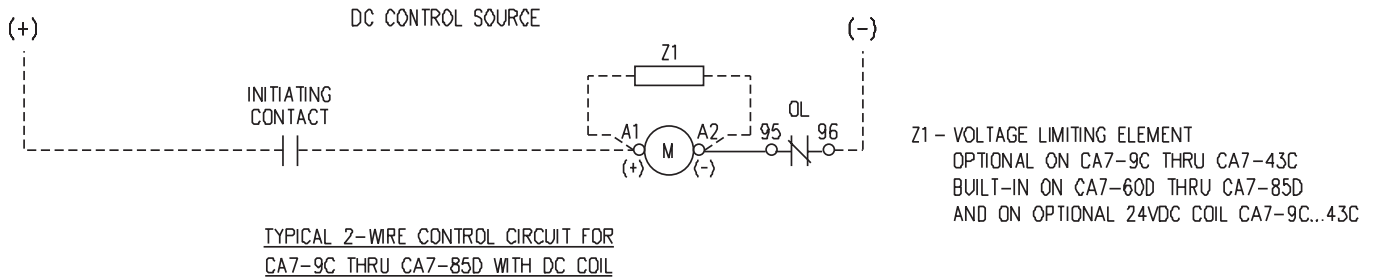
KTA7 Type E Combination 3-PH FVNR Duplex Alternating Panel



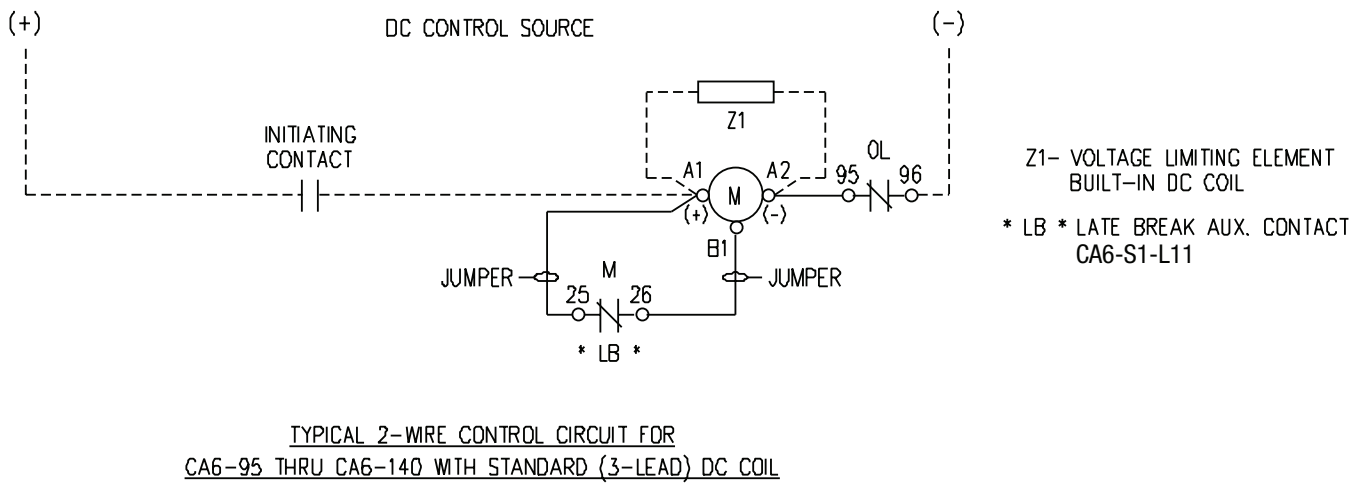
CAT6-95...860-EI Electronic Coil Configuration



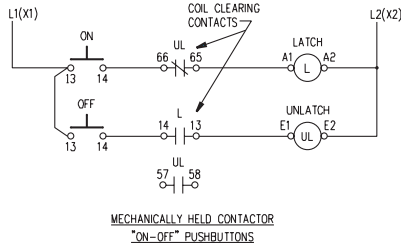
DC Control Configuration for CAT7



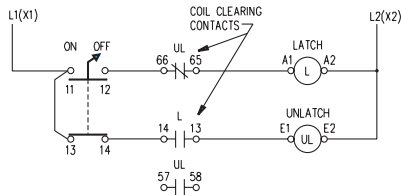
DC Control Configuration for CAT6-95...140



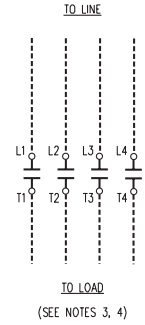
CA7 Contactor with CAV Mechanical Latch A



MECHANICALLY HELD CONTACTOR
"ON-OFF" PUSHBUTTONS



MECHANICALLY HELD CONTACTOR
"ON-OFF" SELECTOR SWITCH

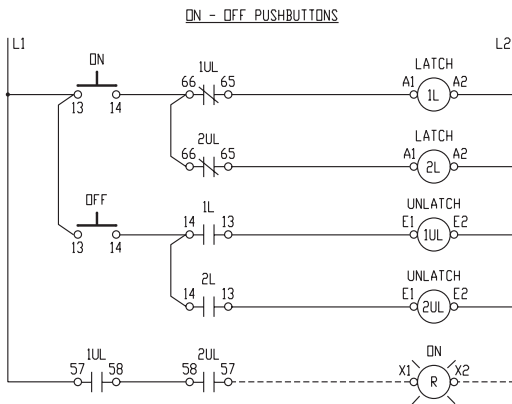


(SEE NOTES 3, 4)

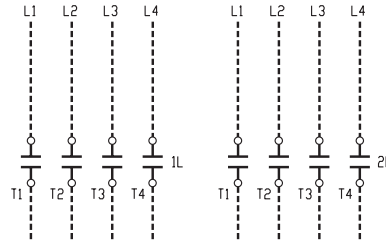
CAV OPERATION:
CAV CONSISTS OF CA7 CONTACTOR "L" WITH CV7-11 MECHANICAL LATCH "UL".
AFTER "L" COIL IS ENERGIZED AND THE CONTACTOR CLOSES, THE MECHANICAL LATCH MECHANICALLY LOCKS THE CONTACTOR IN THE CLOSED POSITION. THE "L" COIL IS THEN DE-ENERGIZED BY THE COIL CLEARING CONTACT "UL" TO REMOVE VOLTAGE.
AFTER THE "UL" COIL IS ENERGIZED, THE MECHANICAL LATCH RELEASES THE CONTACTOR. THE "UL" COIL IS IMMEDIATELY DE-ENERGIZED BY THE COIL CLEARING CONTACT "L" TO REMOVE VOLTAGE. THE CONTACTOR IS NOW OPEN.

- NOTES:**
- 1) "L": CA7 CONTACTOR.
 - 2) "UL": CV7-11 MECHANICAL LATCH. (THE CV7 COIL IS MOMENTARY RATED ONLY)
 - 3) CONNECT CONTROL CIRCUIT DIRECTLY TO LINE (L1) & (L2) OF CONTACTOR IF COIL VOLTAGE IS 208V OR ABOVE.
 - 4) DO NOT CONNECT CONTROL CIRCUIT DIRECTLY TO LINE (L1) & (L2) OF CONTACTOR IF COIL VOLTAGE IS 120V OR LESS. (FACTORY WIRING STANDARD)
 - 5) X1 & X2 INDICATES CONNECTION TO REMOTE CONTROL SOURCE.

CA7 Contactor with CAV Mechanical Latch B



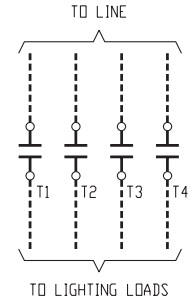
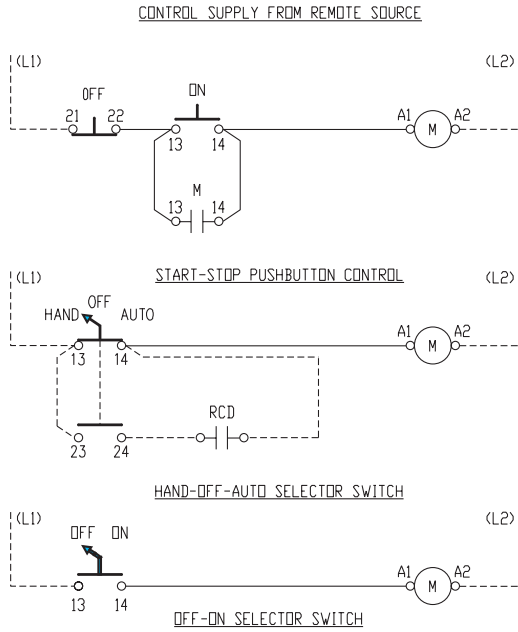
ON - OFF PUSHBUTTONS



CAV OPERATION:
CAV CONSISTS OF CA7 CONTACTOR "L" WITH CV7-11 MECHANICAL LATCH "UL".
AFTER "L" COIL IS ENERGIZED AND THE CONTACTOR CLOSES, THE MECHANICAL LATCH MECHANICALLY LOCKS THE CONTACTOR IN THE CLOSED POSITION. THE "L" COIL IS THEN DE-ENERGIZED BY THE COIL CLEARING CONTACT "UL" TO REMOVE VOLTAGE.
AFTER THE "UL" COIL IS ENERGIZED, THE MECHANICAL LATCH RELEASES THE CONTACTOR. THE "UL" COIL IS IMMEDIATELY DE-ENERGIZED BY THE COIL CLEARING CONTACT "L" TO REMOVE VOLTAGE. THE CONTACTOR IS NOW OPEN.

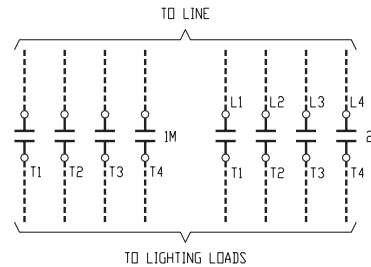
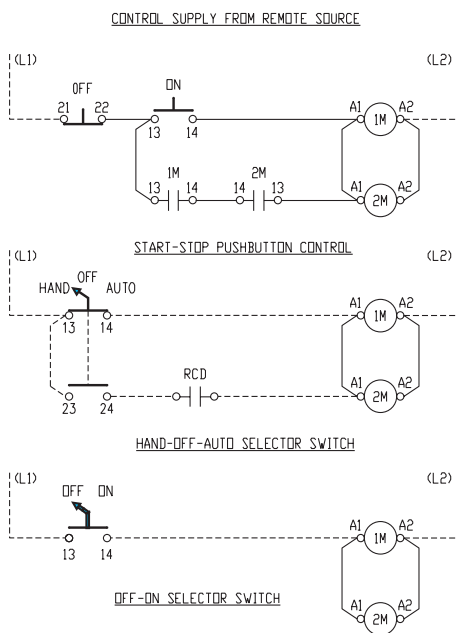
- NOTES:**
- 1) "L": CA7 CONTACTOR.
 - 2) "UL": CV7-11 MECHANICAL LATCH. (THE CV7 COIL IS MOMENTARY RATED ONLY)
 - 3) CONNECT CONTROL CIRCUIT DIRECTLY TO LINE (L1) & (L2) OF CONTACTOR IF COIL VOLTAGE IS 208V OR ABOVE.
 - 4) DO NOT CONNECT CONTROL CIRCUIT DIRECTLY TO LINE (L1) & (L2) OF CONTACTOR IF COIL VOLTAGE IS 120V OR LESS. (FACTORY WIRING STANDARD)
 - 5) X1 & X2 INDICATES CONNECTION TO REMOTE CONTROL SOURCE.

CAL7 Lighting Contactor - 4 Pole



NOTES:
1.) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER.

CAL7 Lighting Contactor - 8 Pole



NOTES:
1.) MI: STANDS FOR MECHANICAL INTERLOCK.
2.) RCD: STANDS FOR REMOTE CONTROL DEVICE BY CUSTOMER.

Enclosure Dimensions

See dimension tables on following pages.

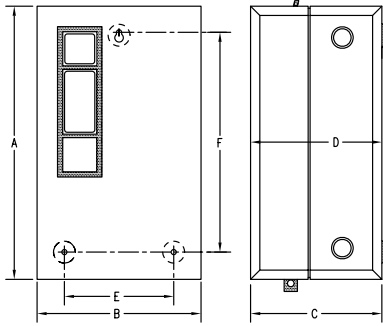


FIGURE NO. 1

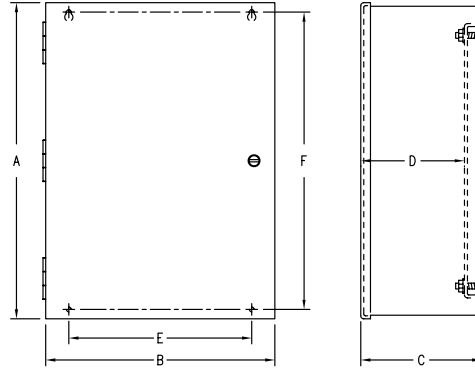


FIGURE NO. 2

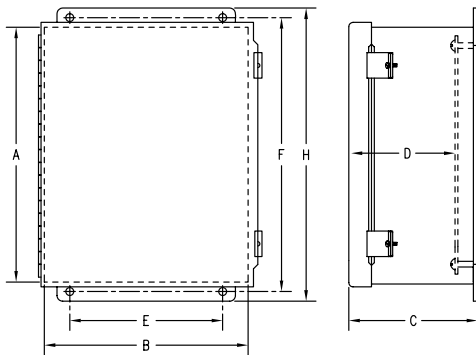


FIGURE NO. 4

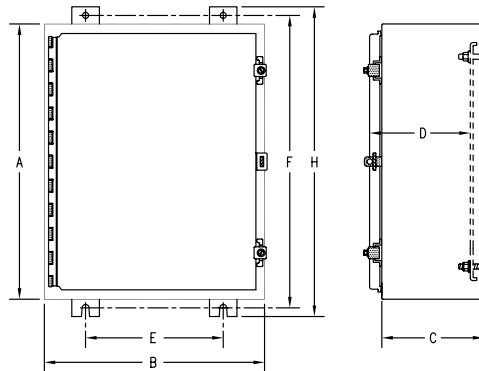


FIGURE NO. 5

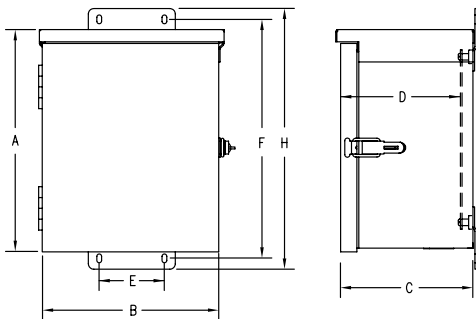


FIGURE NO. 7

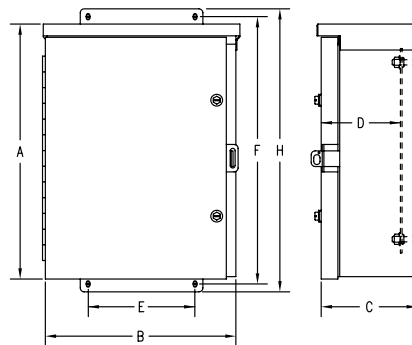


FIGURE NO. 8

Enclosure Dimensions

See dimension tables on following pages.

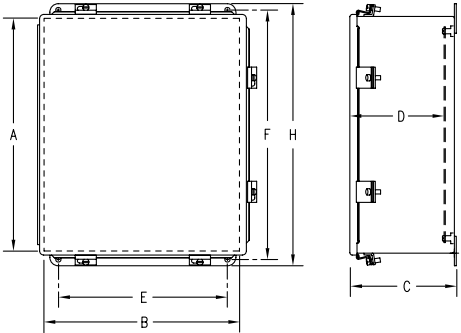


FIGURE NO. 9

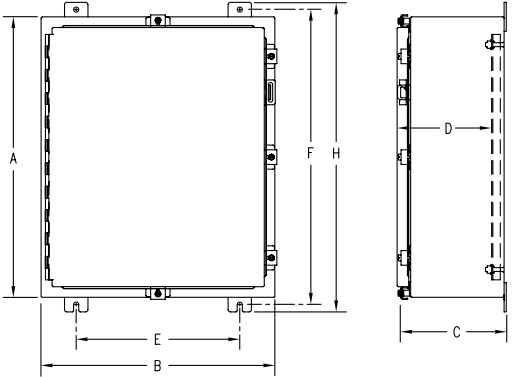


FIGURE NO. 10

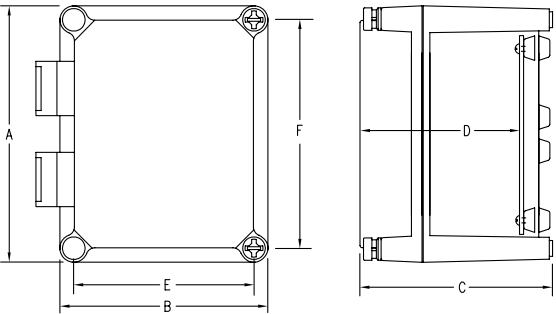


FIGURE NO. 13

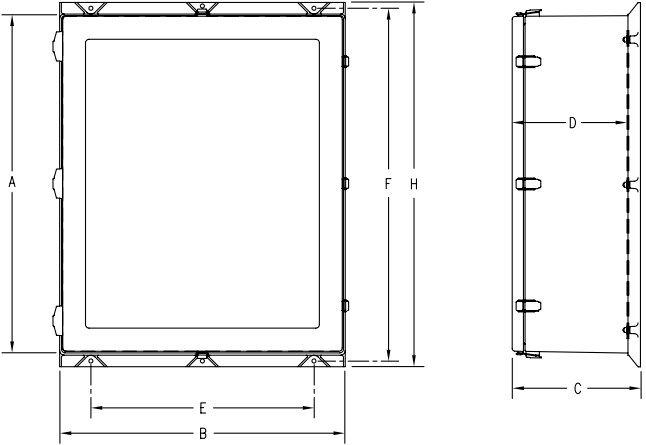


FIGURE NO. 14

Starters & Enclosed Prod.

TECH

Enclosure Dimensions

- Dimensions are in decimal inches
- Dimensions not intended for manufacturing purposes
- For other dimensions, please refer to factory

NEW DESIGN

TYPE 1 (M) ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth		Mtg Centers		Panel Size Sub-Pan		H
		A	B	C	D	E	F				
A (hinge)	2	10	8	6	5.5	7	7	8.25	6.25	N/A	
B (hinge)	2	12	10	6	5.5	9	9	10.25	8.25	N/A	
C	2	16	12	6.62	6	7	13.88	13	10.5	N/A	
D	2	20	16	6.62	6	11	17.88	17	14.5	N/A	
D3	2	20	16	8.62	8	11	17.88	17	14.5	N/A	
E	2	24	20	8.62	8	15	21.88	21	18.5	N/A	
E2	2	24	20	10.62	10	15	21.88	21	18.5	N/A	
F	2	30	24	8.62	8	16.75	27.5	26	22.5	N/A	
G	2	30	24	12.62	12	16.75	27.5	26	22.5	N/A	
H	2	36	30	12.62	12	22.75	33.5	32	28.5	N/A	
I	2	42	30	13.25	12.09	22.76	39.88	39	27	N/A	
J	2	48	36	13.25	12.09	28.76	45.88	45	33	N/A	
J2	(Type 12 Enclosure, See Table Below)										
K2	(Type 12 Enclosure, See Table Below)										
K3	(Type 12 Enclosure, See Table Below)										
M	2	10	8	6	5.5	7	7	8.25	6.25	N/A	
O	2	14	12	6	5.47	10.98	11.02	12.25	10.25	N/A	
S	2	36	24	8.62	8	16.75	33.5	32	22.5	N/A	

TYPE 12 (M12) ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth		Mtg Centers		Panel Size Sub-Pan		H
		A	B	C	D	E	F				
C2	4	16	14	8	8	12	16.75	14.75	12.88	17.5	
H	5	36	30	12	12	24	37.25	33	27	38.5	
I	5	42	30	12	12	24	43.25	39	27	44.5	
J	5	48	36	12	12	30	49.25	45	33	50.5	
J2	5	48	36	16	16	30	49.25	45	33	50.5	
K2	5	60	36	16	16	30	61.25	57	33	62.5	
K3	5	60	36	12	12	30	61.25	57	33	62.5	
L	4	8	6	6	5.53	4	8.75	6.75	4.88	9.5	
M	4	10	8	6	5.53	6	10.75	8.75	6.88	11.5	
O	4	14	12	6	5.53	10	14.75	12.75	10.88	15.50	
Q	5	20	16	8	8	10	21.25	17	13	22.5	
Q2	5	20	16	10	10	10	21.25	17	13	22.5	
R	5	24	20	8	8	14	25.25	21	17	26.5	
R2	5	24	20	10	10	14	25.25	21	17	26.5	
T	5	30	24	10	10	18	31.25	27	21	32.5	
W	5	42	36	12	12	30	43.25	39	33	44.5	

TYPE 3R (M3) ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth		Mtg Centers		Panel Size Sub-Pan		H
		A	B	C	D	E	F				
L	7	10	8	6	5.46	3	11	8.25	6.25	12	
M	7	12	10	6	5.46	3	13	10.25	8.25	14	
O	8	20	16	6	4.98	13	21	17	13	22	
Q	8	20	20	8	6.98	13	21	17	17	22	
R	8	24	20	8	6.98	13	25	21	17	26	
R2	8	24	24	10	8.97	13	25	21	21	26	
T	5	30	24	10	10	18	31.25	27	21	32.5	
H	8	36	30	12	10.97	27	37	33	27	38	
I	8	42	30	12	10.97	27	43	39	27	44	
W	8	42	36	12	10.97	27	43	39	33	44	
J	8	48	36	12	10.97	27	49	45	33	50	

TECH
Starters & Enclosed Prod.

Enclosure Dimensions

- Dimensions are in decimal inches
- Dimensions not intended for manufacturing purposes
- For other dimensions, please refer to factory

TYPE 4 (M4) ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth		Mtg Centers		Panel Size Sub-Pan		H
		A	B	C	D	E	F				
C	10	16	12	6	6	9.5	17.24	13	9	18.5	
H	10	36	30	12	12	24	37.24	33	27	38.5	
J	10	47	36	12	12	30	49.24	45	33	50.5	
M	9	10	8	6	5.53	6	10.75	8.75	6.88	11.5	
N	9	12	10	5	4.53	8	12.75	10.75	8.88	13.5	
O	9	14	12	6	5.53	10	14.75	12.75	10.88	15.5	
Q	10	20	16	8	8	10	21.24	17	13	22.5	
Q2	10	20	16	10	10	10	21.24	17	13	22.5	
R	10	24	20	8	8	14	25.24	21	17	26.5	
R2	10	24	20	10	10	14	25.24	21	17	26.5	
T	10	30	24	10	10	18	31.24	27	21	32.5	

TYPE 4X (F4) NON-METALLIC ENCLOSURE

Encl. ID Dim.	Figure No.	Enclosure Size			Mtg Depth		Mtg Centers		Panel Size Sub-Pan		H
		A	B	C	D	E	F				
S1	13	7.31	5.94	5.11	4.52	5.16	6.54	4.13	5.5	N/A	
U1	13	11.87	7.31	6.88	5.85	6.54	11.10	5.47	8.98	N/A	
V1	13	14.62	11.87	6.88	5.85	11.10	13.86	10	11.73	N/A	
W1	13	23.7	14.62	6.88	5.85	13.78	22.91	12.76	20.78	N/A	
W2	13	23.7	14.62	9.25	8.23	13.78	22.91	12.76	20.78	N/A	
X1	14	30.25	24.63	11.80	10.25	18	31.95	27	21	33.13	
A2	14	36.25	30.63	13.8	12.25	24	37.58	33	27	39.13	
Y1	14	48.25	36.63	13.8	12.25	30	49.58	45	33	50.82	
Z1	14	60.25	36.63	13.8	12.25	30	61.58	57	33	62.82	

Enclosure Dimensions

Dimensions are in decimal inches. Dimensions not intended for manufacturing purposes.

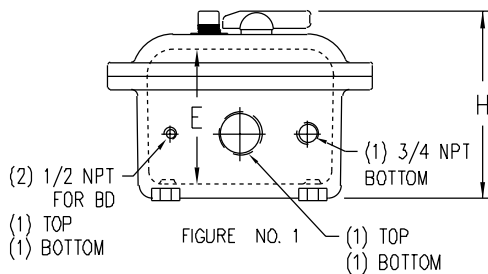
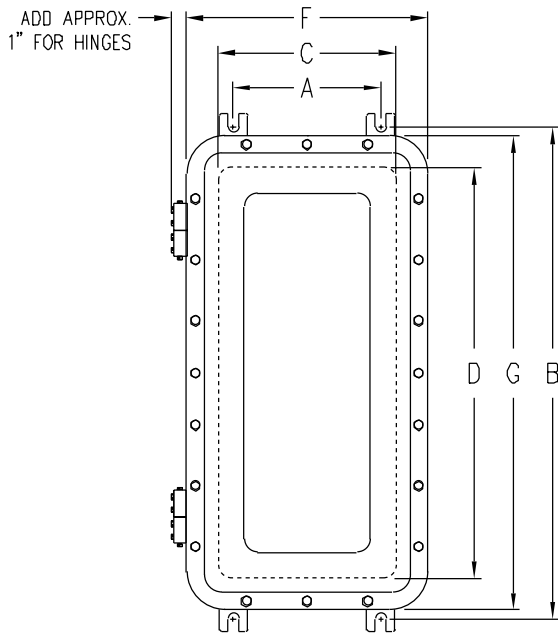


FIGURE NO. 1

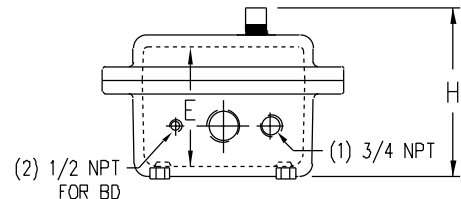
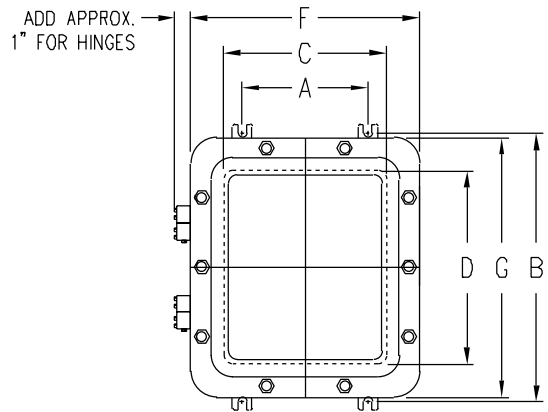


FIGURE NO. 2

TYPE 7/9 (M7) ENCLOSURE

Encl. ID Dim.	Figure No.	Mtg Dims		Inside Dim			Mtg Centers			Panel Size Sub-Pan		Conduit Entry Top & Bot
		A	B	C	D	E	F	G	H			
A7	2	7.25	13.125	9.38	11.13	6.57	13.88	15.5	10.31	10.0	8.25	1.25
B7	1	8.50	27.125	10.75	24.38	7.51	16.00	29.50	11.81	23.25	9.875	2.0
C7	1	9.50	32.875	11.25	29.88	7.95	16.38	35.00	11.87	29.0	10.375	2.5
D7	1	14.0	45.25	16.13	42.00	9.38	20.81	46.75	13.68	41.0	15.125	4.0
E7	1	7.25	17.875	9.50	15.56	6.38	14.25	20.44	10.12	14.75	8.125	1.0
F7	1	8.50	27.125	10.75	24.38	7.51	16.00	29.50	11.81	23.25	9.875	1.5
G7	1	9.50	32.875	11.25	29.88	7.95	16.38	35.00	11.87	29.0	10.375	2.0
H7	1	14.0	45.25	16.13	42.00	9.38	20.81	46.75	13.68	41.0	15.125	4.0