

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 CAT9 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.

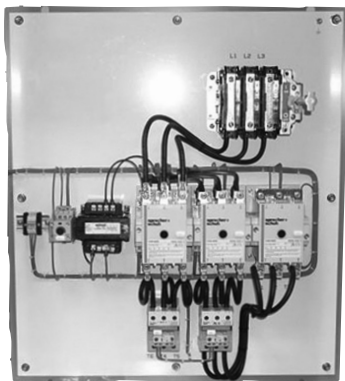
Selective Control permits starting the motor on any desired speed. To increase the speed of a running motor, press the desired speed button. To change to a lower speed, the STOP button must be pressed before selecting a new speed.

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

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Multi-Speed Starters

Two Separate Windings CAZTT7/CAZTT9 & CAZHT7/CAZHT9 ③

Maximum Horsepower Three Phase				Open Type	Type 1 General Purpose	D I M	Type 12 [Type 3R ②] Industrial Dusttight	D I M	Type 4 Watertight	D I M	Type 4X Watertight Corr Resist Non-metallic	D I M
200V	230V	460V	575V	Catalog No.	Catalog No.	①	Catalog No.	①	Catalog No.	①	Catalog No.	①
Constant or Variable Torque - CAZTT ③												
				CAZTT	CAZTT		CAZTT		CAZTT		CAZTT	
2	2	5	7 1/2	7-9-★-◆	7-9-★-◆-G0	M	7-9-★-◆-D0	M	7-9-★-◆-W0	N	7-9-★-◆-C0	U1
3	3	7 1/2	10	7-12-★-◆	7-12-★-◆-G0	M	7-12-★-◆-D0	M	7-12-★-◆-W0	N	7-12-★-◆-C0	U1
5	5	10	15	7-16-★-◆	7-16-★-◆-G0	M	7-16-★-◆-D0	M	7-16-★-◆-W0	N	7-16-★-◆-C0	U1
5	7 1/2	15	15	7-23-★-◆	7-23-★-◆-G0	M	7-23-★-◆-D0	M	7-23-★-◆-W0	N	7-23-★-◆-C0	U1
7 1/2	10	20	25	7-30-★-◆	7-30-★-◆-G0	M	7-30-★-◆-D0	M	7-30-★-◆-W0	O	7-30-★-◆-C0	U1
10	10	25	30	7-37-★-◆	7-37-★-◆-G0	M	7-37-★-◆-D0	M	7-37-★-◆-W0	O	7-37-★-◆-C0	U1
10	15	30	30	7-43-★-◆	7-43-★-◆-G0	M	7-43-★-◆-D0	M	7-43-★-◆-W0	O	7-43-★-◆-C0	U1
15	20	40	40	7-55-★-◆	7-55-★-◆-G0	M	7-55-★-◆-D0	M	7-55-★-◆-W0	O	7-55-★-◆-C0	U1
15	20	40	50	7-60-★-◆	7-60-★-◆-G0	C	7-60-★-◆-D0	O	7-60-★-◆-W0	O	7-60-★-◆-C0	V1
20	25	50	60	7-72-★-◆	7-72-★-◆-G0	C	7-72-★-◆-D0	O	7-72-★-◆-W0	O	7-72-★-◆-C0	V1
25	30	60	60	7-85-★-◆	7-85-★-◆-G0	C	7-85-★-◆-D0	O	7-85-★-◆-W0	O	7-85-★-◆-C0	V1
30	30	75	75	7-97-★-◆	7-97-★-◆-G0	C	7-97-★-◆-D0	O	7-97-★-◆-W0	O	7-97-★-◆-C0	V1
30	40	75	100	9-116-★-◆ ④	9-116-★-◆-G0 ④	E2	9-116-★-◆-D0 ④	R2	9-116-★-◆-W0 ④	R2	9-116-★-◆-C0 ④	W2
40	50	100	125	9-146-★-◆ ④	9-146-★-◆-G0 ④	G	9-146-★-◆-D0 ④	T	9-146-★-◆-W0 ④	T	9-146-★-◆-C0 ④	X1
Constant Horsepower - CAZHT ③												
				CAZHT	CAZHT		CAZHT		CAZHT		CAZHT	
1 1/2	1 1/2	3	5	7-9-★-◆	7-9-★-◆-G0	M	7-9-★-◆-D0	M	7-9-★-◆-W0	N	7-9-★-◆-C0	U1
2	2	5	7 1/2	7-12-★-◆	7-12-★-◆-G0	M	7-12-★-◆-D0	M	7-12-★-◆-W0	N	7-12-★-◆-C0	U1
3	3	7 1/2	10	7-16-★-◆	7-16-★-◆-G0	M	7-16-★-◆-D0	M	7-16-★-◆-W0	N	7-16-★-◆-C0	U1
3	5	10	10	7-23-★-◆	7-23-★-◆-G0	M	7-23-★-◆-D0	M	7-23-★-◆-W0	N	7-23-★-◆-C0	U1
5	7 1/2	15	20	7-30-★-◆	7-30-★-◆-G0	M	7-30-★-◆-D0	M	7-30-★-◆-W0	O	7-30-★-◆-C0	U1
7 1/2	7 1/2	20	25	7-37-★-◆	7-37-★-◆-G0	M	7-37-★-◆-D0	M	7-37-★-◆-W0	O	7-37-★-◆-C0	U1
7 1/2	10	25	25	7-43-★-◆	7-43-★-◆-G0	M	7-43-★-◆-D0	M	7-43-★-◆-W0	O	7-43-★-◆-C0	U1
10	15	30	30	7-55-★-◆	7-55-★-◆-G0	M	7-55-★-◆-D0	M	7-55-★-◆-W0	O	7-55-★-◆-C0	U1
10	15	30	40	7-60-★-◆	7-60-★-◆-G0	C	7-60-★-◆-D0	O	7-60-★-◆-W0	O	7-60-★-◆-C0	V1
15	20	40	50	7-72-★-◆	7-72-★-◆-G0	C	7-72-★-◆-D0	O	7-72-★-◆-W0	O	7-72-★-◆-C0	V1
20	25	50	50	7-85-★-◆	7-85-★-◆-G0	C	7-85-★-◆-D0	O	7-85-★-◆-W0	O	7-85-★-◆-C0	V1
25	25	60	60	7-97-★-◆	7-97-★-◆-G0	C	7-97-★-◆-D0	O	7-97-★-◆-W0	O	7-97-★-◆-C0	V1
~	30	60	75	9-116-★-◆ ④	9-116-★-◆-G0 ④	E2	9-116-★-◆-D0 ④	R2	9-116-★-◆-W0 ④	R2	9-116-★-◆-C0 ④	W2
30	40	75	100	9-146-★-◆ ④	9-146-★-◆-G0 ④	G	9-146-★-◆-D0 ④	T	9-146-★-◆-W0 ④	T	9-146-★-◆-C0 ④	X1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C8:3 and follow the instructions for modifying catalog numbers.

Ordering Instructions

Specify Catalog Number	
Replace (★) with Coil Code	See page C8:3
Replace (◆) with O/L Relay for each speed	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ① Dimensional information starts on page C8:23.
- ② For Type 3R outdoor applications, replace "D" in catalog number with an "R". Dimensions may change. For example number CAZTT7-23-★-◆-D0 becomes CAZTT7-23-★-◆-R0. Price remains the same.
- ③ All standard multispeed starters are wired for selective control. For compelling, progressive or automatic acceleration control, see Factory Modifications.
- ④ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CAZTT9-116-★-◆-G0 becomes CAZTT9-116-EI-★-◆-G0. See price list for price adder.

One Reconnectable Winding CAETT7/CAETT9 & CAEHT7/CAEHT9

Maximum Horsepower Three Phase				Open Type	Type 1 General Purpose	D I M	Type 12 [Type 3R ②] Industrial Dusttight	D I M	Type 4 Watertight	D I M	Type 4X Watertight Corr Resist Non-metallic	D I M
200V	230V	460V	575V	Catalog No.	Catalog No.	①	Catalog No.	①	Catalog No.	①	Catalog No.	①
Constant or Variable Torque - CAETT ③												
				CAETT	CAETT		CAETT		CAETT		CAETT	
2	2	5	7 1/2	7-9-*◆	7-9-*◆-G0	C	7-9-*◆-D0	O	7-9-*◆-W0	O	7-9-*◆-C0	V1
3	3	7 1/2	10	7-12-*◆	7-12-*◆-G0	C	7-12-*◆-D0	O	7-12-*◆-W0	O	7-12-*◆-C0	V1
5	5	10	15	7-16-*◆	7-16-*◆-G0	C	7-16-*◆-D0	O	7-16-*◆-W0	O	7-16-*◆-C0	V1
5	7 1/2	15	15	7-23-*◆	7-23-*◆-G0	C	7-23-*◆-D0	O	7-23-*◆-W0	O	7-23-*◆-C0	V1
7 1/2	10	20	25	7-30-*◆	7-30-*◆-G0	C	7-30-*◆-D0	O	7-30-*◆-W0	O	7-30-*◆-C0	V1
10	10	25	30	7-37-*◆	7-37-*◆-G0	C	7-37-*◆-D0	O	7-37-*◆-W0	O	7-37-*◆-C0	V1
10	15	30	30	7-43-*◆	7-43-*◆-G0	C	7-43-*◆-D0	O	7-43-*◆-W0	O	7-43-*◆-C0	V1
15	20	40	40	7-55-*◆	7-55-*◆-G0	C	7-55-*◆-D0	O	7-55-*◆-W0	O	7-55-*◆-C0	V1
15	20	40	50	7-60-*◆	7-60-*◆-G0	D	7-60-*◆-D0	O	7-60-*◆-W0	O	7-60-*◆-C0	W1
20	25	50	60	7-72-*◆	7-72-*◆-G0	D	7-72-*◆-D0	Q	7-72-*◆-W0	Q	7-72-*◆-C0	W1
25	30	60	60	7-85-*◆	7-85-*◆-G0	D	7-85-*◆-D0	Q	7-85-*◆-W0	Q	7-85-*◆-C0	W1
30	30	75	75	7-97-*◆	7-97-*◆-G0	D	7-97-*◆-D0	Q	7-97-*◆-W0	Q	7-97-*◆-C0	W1
30	40	75	100	9-116-*◆④	9-116-*◆-G0④	G	9-116-*◆-D0④	T	9-116-*◆-W0④	T	9-116-*◆-C0④	A2
40	50	100	125	9-146-*◆④	9-146-*◆-G0④	G	9-146-*◆-D0④	T	9-146-*◆-W0④	T	9-146-*◆-C0④	A2
Constant Horsepower - CAEHT ③												
				CAEHT	CAEHT		CAEHT		CAEHT		CAEHT	
1 1/2	1 1/2	3	5	7-9-*◆	7-9-*◆-G0	C	7-9-*◆-D0	O	7-9-*◆-W0	O	7-9-*◆-C0	V1
2	2	5	7 1/2	7-12-*◆	7-12-*◆-G0	C	7-12-*◆-D0	O	7-12-*◆-W0	O	7-12-*◆-C0	V1
3	3	7 1/2	10	7-16-*◆	7-16-*◆-G0	C	7-16-*◆-D0	O	7-16-*◆-W0	O	7-16-*◆-C0	V1
3	5	10	10	7-23-*◆	7-23-*◆-G0	C	7-23-*◆-D0	O	7-23-*◆-W0	O	7-23-*◆-C0	V1
5	7 1/2	15	20	7-30-*◆	7-30-*◆-G0	C	7-30-*◆-D0	O	7-30-*◆-W0	O	7-30-*◆-C0	V1
7 1/2	7 1/2	20	25	7-37-*◆	7-37-*◆-G0	C	7-37-*◆-D0	O	7-37-*◆-W0	O	7-37-*◆-C0	V1
7 1/2	10	25	25	7-43-*◆	7-43-*◆-G0	C	7-43-*◆-D0	O	7-43-*◆-W0	O	7-43-*◆-C0	V1
10	15	30	30	7-55-*◆	7-55-*◆-G0	C	7-55-*◆-D0	O	7-55-*◆-W0	O	7-55-*◆-C0	V1
10	15	30	40	7-60-*◆	7-60-*◆-G0	D	7-60-*◆-D0	O	7-60-*◆-W0	O	7-60-*◆-C0	W1
15	20	40	50	7-72-*◆	7-72-*◆-G0	D	7-72-*◆-D0	Q	7-72-*◆-W0	Q	7-72-*◆-C0	W1
20	25	50	50	7-85-*◆	7-85-*◆-G0	D	7-85-*◆-D0	Q	7-85-*◆-W0	Q	7-85-*◆-C0	W1
25	25	60	60	7-97-*◆	7-97-*◆-G0	D	7-97-*◆-D0	Q	7-97-*◆-W0	Q	7-97-*◆-C0	W1
~	30	60	75	9-116-*◆④	9-116-*◆-G0④	G	9-116-*◆-D0④	T	9-116-*◆-W0④	T	9-116-*◆-C0④	A2
30	40	75	100	9-146-*◆④	9-146-*◆-G0④	G	9-146-*◆-D0④	T	9-146-*◆-W0④	T	9-146-*◆-C0④	A2

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C8:3 and follow the instructions for modifying catalog numbers.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

① Dimensional information starts on page C8:23.

② For Type 3R outdoor applications, replace "D" in catalog number with an "R". Dimensions may change. For example number CAETT7-23-*◆-D0 becomes CAETT7-23-*◆-R0. Price remains the same.

③ All standard multispeed starters are wired for selective control. For compelling, progressive or automatic acceleration control, see Factory Modifications.

④ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CAEHT9-116-*◆-G0 becomes CAEHT9-116-EI-*◆-G0. See price list for price adder.

Combination Multi-Speed Starter Options Availability

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 7-55	7-60 7-72 7-85 7-97	9-116 (-EI) 9-146 (-EI)
Thermal Magnetic Circuit Breaker	Type 1	✓	✓	✓	✓	✓
	Type 4/4X	✓	✓	✓	✓	✓
	Type 12	✓	✓	✓	✓	✓
Non Fusible Disconnect	Type 1	✓	✓	✓	✓	✓
	Type 4/4X	✓	✓	✓	✓	✓
	Type 12	✓	✓	✓	✓	✓
Fusible Disconnect - 30 Amp	Type 1	✓	✓	~	~	~
	Type 4/4X	✓	✓	~	~	~
	Type 12	✓	✓	~	~	~
Fusible Disconnect - 60 Amp	Type 1	~	~	✓	~	~
	Type 4/4X	~	~	✓	~	~
	Type 12	~	~	✓	~	~
Fusible Disconnect - 100 Amp	Type 1	~	~	~	✓	~
	Type 4/4X	~	~	~	✓	~
	Type 12	~	~	~	✓	~
Fusible Disconnect - 200 Amp	Type 1	~	~	~	✓	✓
	Type 4/4X	~	~	~	✓	✓
	Type 12	~	~	~	✓	✓

❶ Refer to pages C0:4-5 for information on modifying standard multispeed catalog number to combination type. Price adders may apply. Contact Sprecher + Schuh Technical Support.

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 CAT9 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 with starters. See Section B in this catalog for a full description of these excellent motor protection relays.

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%	- Least expensive. - Simple to maintain. - Highest starting torque. - Readily available. - Lowest installation cost.	- 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%	- 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..	- In lower horsepower, is the most expensive design. - Low power factor. - Large physical size. - High installation cost.
Part Winding	100%	65%	42%	- 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.	- 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%	- Suitable for high inertia, long acceleration loads. - High torque efficiency. - Ideal for especially stringent inrush restrictions. - Ideal for frequent starts.	- Requires special motor design. - Low starting torque. - Open transition (closed available). - Complex design.

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Reduced Voltage Starters

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

Maximum H.P.	3 Ø Volts	Without Short Circuit Protection Catalog No.	D I M MCCB Amps ①	With Thermal Magnetic Circuit Breaker (MCCB) Catalog No.	D I M Fuse Clip Amps ③	With Fusible Disconnect ②⑤ Catalog No.	D I M ①
		CAAT		CAAT		CAAT	
10	200	BA7-37-*◆-G0	F 50	BA7-37-*◆-TB50G0	S 60	BA7-37-*◆-JF62G0	S
	230	BB7-37-*◆-G0	F 50	BB7-37-*◆-TB50G0	S 60	BB7-37-*◆-JF62G0	S
15	200	CA7-60-*◆-G0	F 100	CA7-60-*◆-TB100G0	S 100	CA7-60-*◆-JF63G0	S
	230	CB7-43-*◆-G0	F 80	CB7-43-*◆-TB80G0	S 100	CB7-43-*◆-JF63G0	S
20	200	DA7-72-*◆-G0	F 125	DA7-72-*◆-TB125G0	S 100	DA7-72-*◆-JF63G0	S
	230	DB7-60-*◆-G0	F 100	DB7-60-*◆-TB100G0	S 100	DB7-60-*◆-JF63G0	S
25	200	EA7-85-*◆-G0	F 125	EA7-85-*◆-TB125G0	S 200	EA7-85-*◆-JF64G0	S
	230	EB7-72-*◆-G0	F 125	EB7-72-*◆-TB125G0	S 100	EB7-72-*◆-JF63G0	S
	460	EC7-37-*◆-G0	F 50	EC7-37-*◆-TB50G0	S 60	EC7-37-*◆-JF62G0	S
30	200	FA7-97-*◆-G0	F 175	FA7-97-*◆-TB175G0 ⑥	S 200	FA7-97-*◆-JF64G0	I
	230	FB7-85-*◆-G0	F 125	FB7-85-*◆-TB125G0	S 200	FB7-85-*◆-JF64G0	S
	460	FC7-43-*◆-G0	F 70	FC7-43-*◆-TB70G0	S 60	FC7-43-*◆-JF62G0	S
	575	FD7-37-*◆-G0	F 50	FD7-37-*◆-TBH50G0	S 60	FD7-37-*◆-JF62G0	S
40	200	GA9-146-*◆-G0 ⑦	H 225	GA9-146-*◆-TB225G0 ⑦	J 200	GA9-146-*◆-JF64G0 ⑦	J
	230	GB9-116-*◆-G0 ⑦	H 200	GB9-116-*◆-TB200G0 ⑦	J 200	GB9-116-*◆-JF64G0 ⑦	J
	460	GC7-60-*◆-G0	F 100	GC7-60-*◆-TB100G0	S 100	GC7-60-*◆-JF63G0	S
	575	GD7-60-*◆-G0	F 80	GD7-60-*◆-TBH80G0	S 60	GD7-60-*◆-JF62G0	S
50	200	HA9-190-*◆-G0 ⑦	I 300	HA9-190-*◆-TB300G0 ⑦	J 400	HA9-190-*◆-JF65G0 ⑦	K3
	230	HB9-146-*◆-G0 ⑦	I 250	HB9-146-*◆-TB250G0 ⑦	J 200	HB9-146-*◆-JF64G0 ⑦	J
	460	HC7-72-*◆-G0	F 125	HC7-72-*◆-TB125G0	S 100	HC7-72-*◆-JF63G0	S
	575	HD7-60-*◆-G0	F 100	HD7-60-*◆-TBH100G0	S 100	HD7-60-*◆-JF63G0	S
60	200	JA9-205-*◆-G0 ⑦	J 350	JA9-205-*◆-TB350G0 ⑦	J 400	JA9-205-*◆-JF65G0 ⑦	K3
	230	JB9-190-*◆-G0 ⑦	I 300	JB9-190-*◆-TB300G0 ⑦	J 400	JB9-190-*◆-JF65G0 ⑦	K3
	460	JC7-85-*◆-G0	F 125	JC7-85-*◆-TB125G0	S 200	JC7-85-*◆-JF64G0	S
	575	JD7-72-*◆-G0	F 125	JD7-72-*◆-TBH125G0	S 100	JD7-72-*◆-JF63G0	S
75	200	KA9-265-*◆-G0 ⑦	J 400	KA9-265-*◆-TB400G0 ⑦	K2 400	KA9-265-*◆-JF65G0 ⑦	K2
	230	KB9-205-*◆-G0 ⑦	J 350	KB9-205-*◆-TB350G0 ⑦	K2 400	KB9-205-*◆-JF65G0 ⑦	K2
	460	KC7-97-*◆-G0	F 175	KC7-97-*◆-TB175G0 ⑥	S 200	KC7-97-*◆-JF64G0	I
	575	KD7-97-*◆-G0	F 150	KD7-97-*◆-TBH150G0 ⑥	S 200	KD7-97-*◆-JF64G0	I
100	200	LA9-305-*◆-G0 ⑦	J2 500	LA9-305-*◆-TB500G0 ⑦	K2 600	LA9-305-*◆-JF66G0 ⑦	K2
	230	LB9-265-*◆-G0 ⑦	J 450	LB9-265-*◆-TB450G0 ⑦	K2 400	LB9-265-*◆-JF65G0 ⑦	K2
	460	LC9-146-*◆-G0 ⑦	I 225	LC9-146-*◆-TBH225G0 ⑦	J 200	LC9-146-*◆-JF64G0 ⑦	J
	575	LD9-116-*◆-G0 ⑦	H 200	LD9-116-*◆-TBH200G0 ⑦	J 200	LD9-116-*◆-JF64G0 ⑦	J
125	200	MA9-370-*◆-G0 ⑦	J2 700	MA9-370-*◆-TB700G0 ⑦	K2 600	MA9-370-*◆-JF66G0 ⑦	K2
	230	MB9-305-*◆-G0 ⑦	J2 600	MB9-305-*◆-TB600G0 ⑦	K2 600	MB9-305-*◆-JF66G0 ⑦	K2
	460	MC9-190-*◆-G0 ⑦	I 300	MC9-190-*◆-TB300G0 ⑦	J 400	MC9-190-*◆-JF65G0 ⑦	K3
	575	MD9-146-*◆-G0 ⑦	I 225	MD9-146-*◆-TBH225G0 ⑦	J 200	MD9-146-*◆-JF64G0 ⑦	J

Larger Horsepower Continued On Next Page ➡

NOTE: Catalog numbers and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C8:3 and follow the instructions for modifying catalog numbers.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

① Dimensional information starts on page C8:23.

② For Non-fusible Disconnect applications, replace the "JF" characters with "JU". Example: CAATHC7-72-*◆-JF63G0 becomes CAATHC7-72-*◆-JU63G0.

③ Fuse clips sized for use with "J"-type fuses.

④ Other enclosures available. Contact your Sprecher + Schuh Representative.

⑤ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.

⑥ The short circuit and kAIC is relegated to the contactor's 10kA. Contact your Sprecher + Schuh representative for a higher kAIC.

⑦ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". For example: CAATGB9-116-*◆-G0 becomes CAATGB9-116-EI-*◆-G0. See price list for price adder.

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

Maximum H.P.	3 Ø Volts	Without Short Circuit Protection Catalog No.	D I M ①	MCCB Amps	With Thermal Magnetic Circuit Breaker (MCCB) Catalog No.	D I M ①	Fuse Clip Amps ③	With Fusible Disconnect ②⑤ Catalog No.	D I M ①			
		CAAT			CAAT			CAAT				
150	200	NA9-460-EI-✱-◆-G0	J2	800	NA9-460-EI-✱-◆-TB800G0	R/F	800	NA9-460-EI-✱-◆-JF67G0	~			
	230	NB9-370-✱-◆-G0 ⑥	J2	700	NB9-370-✱-◆-TB700G0 ⑥	K2	600	NB9-370-✱-◆-JF66G0 ⑥	K2			
	460	NC9-205-✱-◆-G0 ⑥	I	350	NC9-205-✱-◆-TB350G0 ⑥	J	400	NC9-205-✱-◆-JF65G0 ⑥	K3			
	575	ND9-190-✱-◆-G0 ⑥	I	300	ND9-190-✱-◆-TB300G0 ⑥	J	400	ND9-190-✱-◆-JF65G0 ⑥	K3			
200	230	OB9-460-EI-✱-◆-G0	~	1000	OB9-460-EI-✱-◆-TB1000G0	~	800	OB9-460-EI-✱-◆-JF67G0	~			
	460	OC9-265-✱-◆-G0 ⑥	J	450	OC9-265-✱-◆-TB450G0 ⑥	K2	400	OC9-265-✱-◆-JF65G0 ⑥	K2			
	575	OD9-205-✱-◆-G0 ⑥	J	350	OD9-205-✱-◆-TB450G0 ⑥	K2	400	OD9-205-✱-◆-JF65G0 ⑥	K3			
250	230	PB9-580-EI-✱-◆-G0	~		Refer to Factory	~		Refer to Factory	~			
	460	PC9-305-✱-◆-G0 ⑥	J2	600	PC9-305-✱-◆-TB600G0 ⑥	K2	600	PC9-305-✱-◆-JF66G0 ⑥	K2			
	575	PD9-265-✱-◆-G0 ⑥	J	450	PD9-265-✱-◆-TB450G0 ⑥	K2	400	PD9-265-✱-◆-JF65G0 ⑥	K2			
300	230	QB9-750-EI-✱-◆-G0	~		Refer to Factory	~		Refer to Factory	~			
	460	QC9-370-✱-◆-G0 ⑥	J2	700	QC9-370-✱-◆-TB700G0 ⑥	K2	600	QC9-370-✱-◆-JF66G0 ⑥	K2			
	575	QD9-305-✱-◆-G0 ⑥	J2	600	QD9-305-✱-◆-TB600G0 ⑥	K2	600	QD9-305-✱-◆-JF66G0 ⑥	K2			
350	230	Refer to Factory	~		Refer to Factory	~		Refer to Factory	~			
	460	RC9-400-EI-✱-◆-G0	J2	800	RC9-400-EI-✱-◆-TB800G0	RF	800	RC9-400-EI-✱-◆-JF67G0	~			
	575	RD9-370-✱-◆-G0 ⑥	J2	600	RD9-370-✱-◆-TB600G0 ⑥	K2	600	RD9-370-✱-◆-JF66G0 ⑥	K2			
400	230	Refer to Factory	~		Refer to Factory	~		Refer to Factory	~			
	460	SC9-460-EI-✱-◆-G0	~	1000	SC9-460-EI-✱-◆-TB1000G0	~	800	SC9-460-EI-✱-◆-JF67G0	~			
	575	SD9-400-EI-✱-◆-G0	J2	700	SD9-400-EI-✱-◆-TB700G0	K2	600	SD9-400-EI-✱-◆-JF66G0	~			
450	230	Refer to Factory	~		Refer to Factory	~	Refer to Factory					
	460	TC9-580-EI-✱-◆-G0	~		Refer to Factory	~						
	575	TD9-460-EI-✱-◆-G0	~	800	TD9-460-EI-✱-◆-TB800G0	~						
500	460	UC9-580-EI-✱-◆-G0	~		Refer to Factory	~						
	575	UD9-460-EI-✱-◆-G0	~	900	Refer to Factory	~						
600	460	UC9-750-EI-✱-◆-G0	~		Refer to Factory	~						
	575	UD9-580-EI-✱-◆-G0	~									

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C8:3 and follow the instructions for modifying catalog numbers.

Ordering Instructions

Specify Catalog Number	
Replace (✱) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ① Dimensional information starts on page C8:23.
- ② For Non-fusible Disconnect applications, replace the "JF" characters with "JU".
Example: CAATNC9-205-EI-✱-◆-JF65G0 becomes CAATNC9-205-EI-✱-◆-JU65G0.
- ③ Fuse clips sized for use with "J"-type fuses up to 600A. Power fuses not supplied.
- ④ Other enclosures available. Contact your Sprecher + Schuh Representative.
- ⑤ A Red and Yellow Handle may be selected instead of the standard Gray and Black handle. Change "JF" to "LF" in catalog number.
- ⑥ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". For example: CAATND9-190-✱-◆-G0 becomes CAATND9-190-EI-✱-◆-G0. See price list for price adder.

Part Winding (Two Step)

Maximum Horsepower Three Phase				Type 1 General Purpose	D I M	Type 12 [Type 3R Ⓢ] Industrial Dusttight	D I M	Type 4 Watertight	D I M	Type 4X Watertight Corrosion Resist Non-metallic	D I M
200V	230V	460V	575V	Catalog No.	①	Catalog No.	①	Catalog No.	①	Catalog No.	①
				CAPWT		CAPWT		CAPWT		CAPWT	
10	15	30	30	7-30-*-◆-G0	M	7-30-*-◆-D0	M	7-30-*-◆-W0	M	7-30-*-◆-C0	U1
15	~	40	40	7-37-*-◆-G0	M	7-37-*-◆-D0	M	7-37-*-◆-W0	M	7-37-*-◆-C0	U1
20	20	50	50	7-43-*-◆-G0	M	7-43-*-◆-D0	M	7-43-*-◆-W0	M	7-43-*-◆-C0	U1
25	25	60	60	7-55-*-◆-G0	M	7-55-*-◆-D0	M	7-55-*-◆-W0	M	7-55-*-◆-C0	U1
25	30	60	75	7-60-*-◆-G0	C	7-60-*-◆-D0	O	7-60-*-◆-W0	O	7-60-*-◆-C0	V1
30	40	75	100	7-72-*-◆-G0	C	7-72-*-◆-D0	O	7-72-*-◆-W0	O	7-72-*-◆-C0	V1
40	50	100	125	7-85-*-◆-G0	C	7-85-*-◆-D0	O	7-85-*-◆-W0	O	7-85-*-◆-C0	V1
50	50	100	150	7-97-*-◆-G0	C	7-97-*-◆-D0	O	7-97-*-◆-W0	O	7-97-*-◆-C0	V1
60	60	100	150	9-116-*-◆-G0 Ⓢ	E2	9-116-*-◆-D0 Ⓢ	R2	9-116-*-◆-W0 Ⓢ	R2	9-116-*-◆-C0 Ⓢ	W2
60	75	150	200	9-146-*-◆-G0 Ⓢ	G	9-146-*-◆-D0 Ⓢ	T	9-146-*-◆-W0 Ⓢ	T	9-146-*-◆-C0 Ⓢ	A2
75	75	200	200	9-190-*-◆-G0 Ⓢ	H	9-190-*-◆-D0 Ⓢ	H	9-190-*-◆-W0 Ⓢ	H	9-190-*-◆-C0 Ⓢ	Y1
75	100	200	300	9-205-*-◆-G0 Ⓢ	H	9-205-*-◆-D0 Ⓢ	H	9-205-*-◆-W0 Ⓢ	H	9-205-*-◆-C0 Ⓢ	Y1
100	150	300	350	9-265-*-◆-G0 Ⓢ	J	9-265-*-◆-D0 Ⓢ	J	9-265-*-◆-W0 Ⓢ	J	9-265-*-◆-C0 Ⓢ	Z1
150	200	350	450	9-305-*-◆-G0 Ⓢ	J	9-305-*-◆-D0 Ⓢ	J	9-305-*-◆-W0 Ⓢ	J	9-305-*-◆-C0 Ⓢ	Z1

Larger sizes available. Contact your Sprecher + Schuh representative.

NOTE: Catalog numbers and enclosure dimensions reflect contactors with AC coils. For DC coils, select Coil Code from the DC Coil Code table on page C8:3 and follow the instructions for modifying catalog numbers.

Combination Part Winding Starter Options Availability Ⓢ

Circuit Breaker or Disconnect Switch	Enclosure Type	Price (Add to base Part Winding starter list price)					
		7-30	7-37 7-43 7-55	7-60 7-72 7-85 7-97	9-116 (-EI) 9-146 (-EI)	9-190(-EI) 9-205(-EI) 9-265(-EI)	9-305(-EI)
Thermal Magnetic Circuit Breaker	Type 1	✓	✓	✓	✓	✓	Refer to Factory
	Type 12/3R/4/4X	✓	✓	✓	✓	✓	
Non Fusible Disconnect	Type 1	✓	✓	✓	✓	✓	
	Type 12/3R/4/4X	✓	✓	✓	✓	✓	
Fusible Disconnect - 30 Amp	Type 1	✓	~	~	~	~	
	Type 12/3R/4/4X	✓	~	~	~	~	
Fusible Disconnect - 60 Amp	Type 1	✓	✓	~	~	~	
	Type 12/3R/4/4X	✓	✓	~	~	~	
Fusible Disconnect - 100 Amp	Type 1	~	✓	✓	~	~	
	Type 12/3R/4/4X	~	✓	✓	~	~	
Fusible Disconnect - 200 Amp	Type 1	~	~	✓	✓	~	
	Type 12/3R/4/4X	~	~	✓	✓	~	
Fusible Disconnect - 400 Amp	Type 1	~	~	~	✓	✓	
	Type 12/3R/4/4X	~	~	~	✓	✓	
Fusible Disconnect - 600 Amp	Type 1	~	~	~	~	✓	
	Type 12/3R/4/4X	~	~	~	~	✓	

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C8:3
Multiply Motor FLA by 50%, Replace (◆)	See page C8:5
with O/L Relay	
Factory Modifications available	See pages C8:6-C8:10

- ① Dimensional information starts on page C8:23.
- ② For Type 3R outdoor applications, replace "D" in catalog number with an "R". Price remains the same, dimensions may change. Example: CAPWT7-30-*-◆-D0 becomes CAPWT7-30-*-◆-R0.
- ③ Refer to page C0:4 for information on modifying standard Part Winding catalog number to combination type or contact Sprecher + Schuh Technical Support.
- ④ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". For example: CAATND9-190-*-◆-G0 becomes CAATND9-190-EI-*-◆-G0. See price list for price adder.

Wye Delta (Open Transition, 3-Contactor ☐)

Maximum Horsepower Three Phase				Type 1 General Purpose	D I M	Type 12 [Type 3R ☐] Industrial Dusttight	D I M	Type 4 Watertight	D I M	Type 4X Watertight Corrosion Resistant Non-metallic	D I M
200V	230V	460V	575V	Catalog No.	①	Catalog No.	①	Catalog No.	①	Catalog No.	①
				CAYT		CAYT		CAYT		CAYT	
10	15	30	30	7-30- * - ◆ -G0	C	7-30- * - ◆ -D0	O	7-30- * - ◆ -W0	O	7-30- * - ◆ -C0	V1
15	20	40	40	7-37- * - ◆ -G0	C	7-37- * - ◆ -D0	O	7-37- * - ◆ -W0	O	7-37- * - ◆ -C0	V1
20	25	50	50	7-43- * - ◆ -G0	C	7-43- * - ◆ -D0	O	7-43- * - ◆ -W0	O	7-43- * - ◆ -C0	V1
25	30	60	60	7-55- * - ◆ -G0	C	7-55- * - ◆ -D0	O	7-55- * - ◆ -W0	O	7-55- * - ◆ -C0	V1
30	40	75	75	7-60- * - ◆ -G0	D	7-60- * - ◆ -D0	Q	7-60- * - ◆ -W0	Q	7-60- * - ◆ -C0	W1
40	50	100	100	7-72- * - ◆ -G0	F	7-72- * - ◆ -D0	T	7-72- * - ◆ -W0	T	7-72- * - ◆ -C0	X1
50	60	125	125	7-85- * - ◆ -G0	F	7-85- * - ◆ -D0	T	7-85- * - ◆ -W0	T	7-85- * - ◆ -C0	X1
60	60	150	150	9-116- * - ◆ -G0	G	9-116- * - ◆ -D0	T	9-116- * - ◆ -W0	T	9-116- * - ◆ -C0	A2
75	75	150	200	9-146- * - ◆ -G0	G	9-146- * - ◆ -D0	T	9-146- * - ◆ -W0	T	9-146- * - ◆ -C0	A2
75	100	200	250	9-190- * - ◆ -G0	H	9-190- * - ◆ -D0	H	9-190- * - ◆ -W0	H	9-190- * - ◆ -C0	Y1
100	125	250	300	9-205- * - ◆ -G0	I	9-205- * - ◆ -D0	I	9-205- * - ◆ -W0	J	9-205- * - ◆ -C0	Z1
150	150	350	450	9-265- * - ◆ -G0	J	9-265- * - ◆ -D0	J	9-265- * - ◆ -W0	J	9-265- * - ◆ -C0	Z1
150	200	450	500	9-305- * - ◆ -G0	J	9-305- * - ◆ -D0	J	9-305- * - ◆ -W0	J	9-305- * - ◆ -C0	Z1
200	250	500	600	9-370- * - ◆ -G0	J	9-370- * - ◆ -D0	J	9-370- * - ◆ -W0	J	9-370- * - ◆ -C0	Z1
250	250	600	700	9-400- EI - * - ◆ -G0	~	9-400- EI - * - ◆ -D0	~	9-400- EI - * - ◆ -W0	~	9-400- EI - * - ◆ -C0	~
300	350	700	800	9-460- EI - * - ◆ -G0	~	9-460- EI - * - ◆ -D0	~	9-460- EI - * - ◆ -W0	~	9-460- EI - * - ◆ -C0	~
350	450	800	1000	9-580- EI - * - ◆ -G0	~	9-580- EI - * - ◆ -D0	~	9-580- EI - * - ◆ -W0	~	9-580- EI - * - ◆ -C0	~
450	500	1000	1250	9-750- EI - * - ◆ -G0	~	9-750- EI - * - ◆ -D0	~	9-750- EI - * - ◆ -W0	~	9-750- EI - * - ◆ -C0	~
600	700	1250	1750	9-860- EI - * - ◆ -G0	~	9-860- EI - * - ◆ -D0	~	9-860- EI - * - ◆ -W0	~	9-860- EI - * - ◆ -C0	~
600	700	1500	1750	9-1060- EI - * - ◆ -G0	~	9-1060- EI - * - ◆ -D0	~	9-1060- EI - * - ◆ -W0	~	9-1060- EI - * - ◆ -C0	~

Larger sizes available. Contact your Sprecher + Schuh representative.

Combination Wye Delta Starter Options Availability ☐

Circuit Breaker or Disconnect Switch	Enclosure Type	Price (Add to base Part Winding starter list price)						
		7-30	7-37 7-43 7-55	7-60 7-72 7-85	9-116 (-EI) 9-146 (-EI)	9-190(-EI) 9-205(-EI) 9-265(-EI)	9-305(-EI) 9-370(-EI) 9-400-EI 9-460-EI	9-580-EI 9-750-EI 9-860-EI 9-1060-EI
Thermal Magnetic Circuit Breaker	Type 1	✓	✓	✓	✓	✓	✓	Refer to Factory
	Type 12/3R/4/4X	✓	✓	✓	✓	✓	✓	
Non Fusible Disconnect	Type 1	✓	✓	✓	✓	✓	✓	
	Type 12/3R/4/4X	✓	✓	✓	✓	✓	✓	
Fusible Disconnect - 30 Amp	Type 1	✓	~	~	~	~	~	
	Type 12/3R/4/4X	✓	~	~	~	~	~	
Fusible Disconnect - 60 Amp	Type 1	✓	✓	~	~	~	~	
	Type 12/3R/4/4X	✓	✓	~	~	~	~	
Fusible Disconnect - 100 Amp	Type 1	~	✓	✓	~	~	~	
	Type 12/3R/4/4X	~	✓	✓	~	~	~	
Fusible Disconnect - 200 Amp	Type 1	~	~	✓	✓	~	~	
	Type 12/3R/4/4X	~	~	✓	✓	~	~	
Fusible Disconnect - 400 Amp	Type 1	~	~	~	✓	✓	~	
	Type 12/3R/4/4X	~	~	~	✓	✓	~	
Fusible Disconnect - 600 Amp	Type 1	~	~	~	~	✓	✓	
	Type 12/3R/4/4X	~	~	~	~	✓	✓	

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ① Dimensional information starts on page C8:23.
- ② For Type 3R outdoor applications, replace "D" in catalog number with an "R". Dimensions may change. For example number CAYT7-30-*****-**◆**-D0 becomes CAYT7-30-*****-**◆**-R0. Price remains the same.
- ③ Refer to page C0:4 for information on modifying standard Wye Delta catalog number to combination type or contact Sprecher + Schuh Technical Support. Price changes may apply. Contact Technical Support.
- ④ For closed transition Wye Delta applications, please contact factory.

Pump Controllers

Pump control panels for outdoor irrigation and oil well applications

C6



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 short-circuit requirements from UL and NEC.
- **Heavy duty fusible or non-fusible L11 disconnect switches** provide improved short-circuit protection when used with J fuses.
- **Self-protected Combination Controllers (Type E)** KTA9 models which offer superior fuseless short-circuit protection in a smaller more economical package (See Section F).

Pump panels feature our CA7 and CA9 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) contactors, which comply with all requirements by UL and are labeled with the applicable NEMA (00, 0, 1, 2, or 3) size in our pump panels. Our MCCB models and the L11 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.



Series CAPT7 and CAPT9 with Thermal-Magnetic Circuit Breaker

Maximum Horsepower Three Phase			MCCB Amps	Type 3R Rainproof Metal	D I M	Type 4X Watertight Corrosion Resistant Non-Metallic	D I M
230V	460V	575V		Catalog No.		Catalog No.	
2	5	~	15	CAPT7-9-♦-TB15R0	R2	CAPT7-9-♦-TB15C0	R/F
2	5	5	15	CAPT7-9-♦-TBH15R0	R2	CAPT7-9-♦-TBH15C0	R/F
~	~	7.5	20	CAPT7-9-♦-TBH20R0	R2	CAPT7-9-♦-TBH20C0	R/F
3	7.5	~	20	CAPT7-12-♦-TB20R0	R2	CAPT7-12-♦-TB20C0	R/F
3	7.5	10	20	CAPT7-12-♦-TBH20R0	R2	CAPT7-12-♦-TBH20C0	R/F
5	10	~	30	CAPT7-16-♦-TB30R0	R2	CAPT7-16-♦-TB30C0	R/F
~	~	15	35	CAPT7-23-♦-TBH35R0	R2	CAPT7-23-♦-TBH35C0	R/F
7.5	15	~	40	CAPT7-23-♦-TB40R0	R2	CAPT7-23-♦-TB40C0	R/F
10	20	25 ②	50	CAPT7-30-♦-TB50R0	R2	CAPT7-30-♦-TB50C0	R/F
10	20	25	50	CAPT7-30-♦-TBH50R0	R2	CAPT7-30-♦-TBH50C0	R/F
~	25	30 ②	60	CAPT7-37-♦-TB60R0	R2	CAPT7-37-♦-TB60C0	R/F
~	25	30	60	CAPT7-37-♦-TBH60R0	R2	CAPT7-37-♦-TBH60C0	R/F
~	30	~	70	CAPT7-43-♦-TB70R0	R2	CAPT7-43-♦-TB70C0	R/F
15	~	~	80	CAPT7-43-♦-TB80R0	R2	CAPT7-43-♦-TB80C0	R/F
20	40	40 ②	80	CAPT7-55-♦-TB80R0	R2	CAPT7-55-♦-TB80C0	R/F
20	40	40	80	CAPT7-55-♦-TBH80R0	R2	CAPT7-55-♦-TBH80C0	R/F
~	~	40 ②	80	CAPT7-60-♦-TB80R0	R2	CAPT7-60-♦-TB80C0	R/F
~	~	40	80	CAPT7-60-♦-TBH80R0	R2	CAPT7-60-♦-TBH80C0	R/F
20	40	50 ②	100	CAPT7-60-♦-TB100R0	R2	CAPT7-60-♦-TB100C0	R/F
20	40	50	100	CAPT7-60-♦-TBH100R0	R2	CAPT7-60-♦-TBH100C0	R/F
25	50	60 ②	125	CAPT7-72-♦-TB125R0	R2	CAPT7-72-♦-TB125C0	R/F
25	50	60	125	CAPT7-72-♦-TBH125R0	R2	CAPT7-72-♦-TBH125C0	R/F
30	60	~	125	CAPT7-85-♦-TB125R0	R2	CAPT7-85-♦-TB125C0	R/F
~	~	75 ②③	150	CAPT7-97-♦-TB150R0	R2	CAPT7-97-♦-TB150C0	R/F
~	~	75 ③	150	CAPT7-97-♦-TBH150R0	R2	CAPT7-97-♦-TB150C0	R/F
~	75 ③	~	175	CAPT7-97-♦-TB175R0	R2	CAPT7-97-♦-TB175C0	R/F
~	75	~	175	CAPT9-116-♦-TB175R0 ④	T	CAPT9-116-♦-TB175C0 ④	R/F
40	~	100 ③	200	CAPT9-116-♦-TB200R0 ④	T	CAPT9-116-♦-TB200C0 ④	R/F
~	100	125 ③	225	CAPT9-146-♦-TB225R0 ④	T	CAPT9-146-♦-TB225C0 ④	R/F
50	~	~	250	CAPT9-146-♦-TB250R0 ④	T	CAPT9-146-♦-TB250C0 ④	R/F
60	125	150	300	CAPT9-190-♦-TB300R0 ④	T	CAPT9-190-♦-TB300C0 ④	R/F
75	150	200	350	CAPT9-205-♦-TB350R0 ④	I	CAPT9-205-♦-TB350C0 ④	R/F
~	175	~	400	CAPT9-265-♦-TB400R0 ④	I	CAPT9-265-♦-TB400C0 ④	R/F
100	200	250	450	CAPT9-265-♦-TB450R0 ④	I	CAPT9-265-♦-TB450C0 ④	R/F
~	~	~	500	CAPT9-305-♦-TB500R0 ④	I	CAPT9-305-♦-TB500C0 ④	R/F
125	250	300	600	CAPT9-305-♦-TB600R0 ④	I	CAPT9-305-♦-TB600C0 ④	R/F
~	~	350	600	CAPT9-370-♦-TB600R0 ④	I	CAPT9-370-♦-TB600C0 ④	R/F
150	300	~	700	CAPT9-370-♦-TB700R0 ④	I	CAPT9-370-♦-TB700C0 ④	R/F
150	~	400	700	CAPT9-400-EI-♦-TB700R0	J	CAPT9-400-EI-♦-TB700C0	R/F
~	350	~	800	CAPT9-400-EI-♦-TB800R0	J	CAPT9-400-EI-♦-TB800C0	R/F
~	~	~	800	CAPT9-460-EI-♦-TB800R0	J	CAPT9-460-EI-♦-TB800C0	R/F
200	400	500	1000	CAPT9-460-EI-♦-TB1000R0	J	CAPT9-460-EI-♦-TB1000C0	R/F
~	~	600	1000	CAPT9-580-EI-♦-TB1000R0	R/F	CAPT9-580-EI-♦-TB1000C0	R/F
250	500	~	1200	CAPT9-580-EI-♦-TB1200R0	R/F	CAPT9-580-EI-♦-TB1200C0	R/F

Larger sizes available. Contact your Sprecher + Schuh representative.

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...

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.

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 C8:3 and follow the instructions for modifying Catalog Numbers.

Ordering Instructions

Specify Catalog Number	
Replace (♦) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ① Dimensional information starts on page C8:23.
- ② Applicable to 600Y/347V only.
- ③ The short circuit and kAIC is relegated to the contactor's 10kA. Contact your Sprecher + Schuh representative for a higher kAIC.
- ④ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "EI". Example: CAPT9-116-♦-TB175R0 becomes CAPT9-116-EI-♦-TB175R0. See price list for price adder.

Series CAPT7 and CAPT9 with Fusible Disconnect (J-Type) ②③

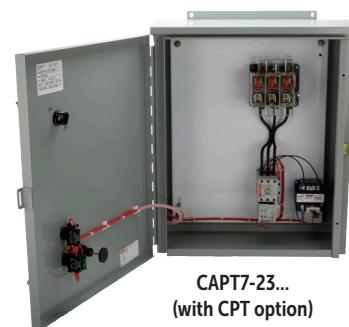
Maximum Horsepower Three Phase			Fuse Clips	Type 3R Rainproof Metal Catalog No.	D I M ①	Type 4X Watertight Corrosion Resistant Non-metallic Catalog No.	D I M ①
230V	460V	575V					
2	5	7.5	30	CAPT7-9-♦-JF61R0	R2	CAPT7-9-♦-JF61C0	R/F
3	7.5	10	30	CAPT7-12-♦-JF61R0	R2	CAPT7-12-♦-JF61C0	R/F
5	10	15	30	CAPT7-16-♦-JF61R0	R2	CAPT7-16-♦-JF61C0	R/F
~	~	~	30	CAPT7-23-♦-JF61R0	R2	CAPT7-23-♦-JF61C0	R/F
7.5	15	15	60	CAPT7-23-♦-JF62R0	R2	CAPT7-23-♦-JF62C0	R/F
10	20	25	60	CAPT7-30-♦-JF62R0	R2	CAPT7-30-♦-JF62C0	R/F
10	25	30	60	CAPT7-37-♦-JF62R0	R2	CAPT7-37-♦-JF62C0	R/F
~	30	30	60	CAPT7-43-♦-JF62R0	R2	CAPT7-43-♦-JF62C0	R/F
15	~	~	100	CAPT7-43-♦-JF63R0	R2	CAPT7-43-♦-JF63C0	R/F
~	~	40	60	CAPT7-55-♦-JF62R0	R2	CAPT7-55-♦-JF62C0	R/F
20	40	~	100	CAPT7-55-♦-JF63R0	R2	CAPT7-55-♦-JF63C0	R/F
~	~	40	60	CAPT7-60-♦-JF62R0	R2	CAPT7-60-♦-JF62C0	R/F
20	40	50	100	CAPT7-60-♦-JF63R0	R2	CAPT7-60-♦-JF63C0	R/F
25	50	60	100	CAPT7-72-♦-JF63R0	R2	CAPT7-72-♦-JF63C0	R/F
~	~	60	100	CAPT7-85-♦-JF63R0	R2	CAPT7-85-♦-JF63C0	R/F
30	60	~	200	CAPT7-85-♦-JF64R0	H	CAPT7-85-♦-JF64C0	R/F
30	75	75	200	CAPT7-97-♦-JF64R0	H	CAPT7-97-♦-JF64C0	R/F
40	75	100	200	CAPT9-116-♦-JF64R0 ④	H	CAPT9-116-♦-JF64C0 ④	R/F
50	100	125	200	CAPT9-146-♦-JF64R0 ④	H	CAPT9-146-♦-JF64C0 ④	R/F
60	125	150	400	CAPT9-190-♦-JF65R0 ④	J	CAPT9-190-♦-JF65C0 ④	R/F
75	150	200	400	CAPT9-205-♦-JF65R0 ④	J	CAPT9-205-♦-JF65C0 ④	R/F
100	200	250	400	CAPT9-265-♦-JF65R0 ④	J	CAPT9-265-♦-JF65C0 ④	R/F
125	250	300	600	CAPT9-305-♦-JF66R0 ④	R/F	CAPT9-305-♦-JF66C0 ④	R/F
150	300	350	600	CAPT9-370-♦-JF66R0 ④	R/F	CAPT9-370-♦-JF66C0 ④	R/F
150	~	400	600	CAPT9-400-EI-♦-JF66R0	R/F	CAPT9-400-EI-♦-JF66C0	R/F
~	350	~	800	CAPT9-400-EI-♦-JF67R0	R/F	CAPT9-400-EI-♦-JF67C0	R/F
200	400	500	800	CAPT9-460-EI-♦-JF67R0	R/F	CAPT9-460-EI-♦-JF67C0	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 C8:3 and follow the instructions for modifying Catalog Numbers.

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)

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 C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ① Dimensional information starts on page C8:23.
- ② Fusible combo starters use the L11 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.
- ④ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CAPT9-116-♦-JF64R0 becomes CAPT9-116-EI-♦-JF64R0. See price list for price adder.

Series CAPTN7 with Thermal-Magnetic Circuit Breaker

NEMA Size	Maximum Horsepower Three Phase			MCCB Amps	Type 3R Rainproof Metal	D I M	Type 4X Watertight Corrosion Resistant Non-Metallic	D I M
	230V	460V	575V		Catalog No.		Catalog No.	
00	1-1/2	2	2 ④	15	CAPTN7-12-*-*♦-TB15R0	R2	CAPTN7-12-*-*♦-TB15C0	R/F
	1-1/2	2	2	15	CAPTN7-12-*-*♦-TBH15R0	R2	CAPTN7-12-*-*♦-TBH15C0	R/F
0	2	5	5 ④	15	CAPTN7-16-*-*♦-TB15R0	R2	CAPTN7-16-*-*♦-TB15C0	R/F
	2	5	5	15	CAPTN7-16-*-*♦-TBH15R0	R2	CAPTN7-16-*-*♦-TBH15C0	R/F
	3	~	~	20	CAPTN7-16-*-*♦-TB20R0	R2	CAPTN7-16-*-*♦-TB20C0	R/F
	3	~	~	20	CAPTN7-16-*-*♦-TBH20R0	R2	CAPTN7-16-*-*♦-TBH20C0	R/F
1	7-1/2	~	~	40	CAPTN7-37-*-*♦-TB40R0	R2	CAPTN7-37-*-*♦-TB40C0	R/F
	~	10	~	30	CAPTN7-37-*-*♦-TB30R0	R2	CAPTN7-37-*-*♦-TB30C0	R/F
	~	~	10 ④	20	CAPTN7-37-*-*♦-TB20R0	R2	CAPTN7-37-*-*♦-TB20C0	R/F
	~	~	10	20	CAPTN7-37-*-*♦-TBH20R0	R2	CAPTN7-37-*-*♦-TBH20C0	R/F
2	~	~	25 ④	50	CAPTN7-43-*-*♦-TB50R0	R2	CAPTN7-43-*-*♦-TB50C0	R/F
	~	~	25	50	CAPTN7-43-*-*♦-TBH50R0	R2	CAPTN7-43-*-*♦-TBH50C0	R/F
	~	25	~	60	CAPTN7-43-*-*♦-TB60R0	R2	CAPTN7-43-*-*♦-TB60C0	R/F
	15	~	~	80	CAPTN7-43-*-*♦-TB80R0	R2	CAPTN7-43-*-*♦-TB80C0	R/F
3	20	40	50 ④	100	CAPTN7-85-*-*♦-TB100R0	R2	CAPTN7-85-*-*♦-TB100C0	R/F
	20	40	50	100	CAPTN7-85-*-*♦-TBH100R0	R2	CAPTN7-85-*-*♦-TBH100C0	R/F
	30	50	~	125	CAPTN7-85-*-*♦-TB125R0	R2	CAPTN7-85-*-*♦-TB125C0	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

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.

Series CAPTN7 with Fusible Disconnect (J-Type) ②③

NEMA Size	Maximum Horsepower Three Phase			Fuse Clips	Type 3R Industrial Dusttight	D I M	Type 4X Watertight Corrosion Resistant Non-Metallic	D I M
	230V	460V	575V		Catalog No.		Catalog No.	
00	1-1/2	2	2	30	CAPTN7-12-*-*♦-JF61R0	R2	CAPTN7-12-*-*♦-JF61C0	R/F
0	3	5	5	30	CAPTN7-16-*-*♦-JF61R0	R2	CAPTN7-16-*-*♦-JF61C0	R/F
1	~	10	10	30	CAPTN7-37-*-*♦-JF61R0	R2	CAPTN7-37-*-*♦-JF61C0	R/F
	7-1/2	~	~	60	CAPTN7-37-*-*♦-JF62R0	R2	CAPTN7-37-*-*♦-JF62C0	R/F
2	~	25	25	60	CAPTN7-43-*-*♦-JF62R0	R2	CAPTN7-43-*-*♦-JF62C0	R/F
	15	~	~	100	CAPTN7-43-*-*♦-JF63R0	R2	CAPTN7-43-*-*♦-JF63C0	R/F
3	~	50	50	100	CAPTN7-85-*-*♦-JF63R0	R2	CAPTN7-85-*-*♦-JF63C0	R/F
	30	~	~	200	CAPTN7-85-*-*♦-JF64R0	H	CAPTN7-85-*-*♦-JF64C0	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 C8:3 and follow the instructions for modifying Catalog Numbers.

① Dimensional information starts on page C8:23.

② Fusible combo starters use the L11 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.

④ Applicable to 600Y/347V only.

Duplex Pump Controllers

C6



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

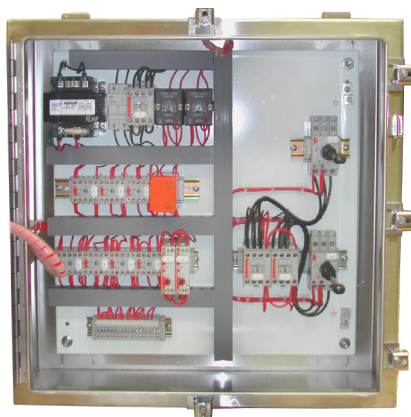
Duplex pump controllers are typically designed for two specific requirements: duplexing and alternation.



available HP sizes of motors. Alternately, we can provide NEMA Sized (CAN7) contactors which comply with all requirements by UL and are labeled with the applicable NEMA (00, 0, 1, 2, or 3) size in our pump panels.

Our MCCB models and the L11 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 KTA9 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.



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.

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 L11 disconnect switches** providing improved short-circuit protection when used with J fuses.
- **Self-protected Combination Controllers (Type E)** KTA9 models which offers superior fuseless short-circuit protection in a smaller more economical package (See page F4:25).

Duplex pump panels feature our CA7 and CA9 line of contactors, which are UL Listed and sized to match all the

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.

Duplex Pump Panel Checklist

Customer Name: _____ Location: _____
 Project Name: _____
 Contact Person: _____ Phone No.: _____
 Email: _____ Date: _____

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 ☐ Circuit breaker ☐ Type E combination controller

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

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:

Series CADPT7 and CADPT9

Maximum Horsepower Three Phase			Type 3R Rainproof (Metal)	D I M	Type 4X Watertight Corrosion Resistant Non-metallic	D I M
230V	460V	575V	Catalog No.		Catalog No.	
2	5	7.5	CADPT-9-♦-R0	R/F	CADPT7-9-♦-C0	R/F
3	7.5	10	CADPT7-12-♦-R0	R/F	CADPT7-12-♦-C0	R/F
5	10	15	CADPT7-16-♦-R0	R/F	CADPT7-16-♦-C0	R/F
7.5	15	15	CADPT7-23-♦-R0	R/F	CADPT7-23-♦-C0	R/F
10	20	25	CADPT7-30-♦-R0	R/F	CADPT7-30-♦-C0	R/F
10	25	30	CADPT7-37-♦-R0	R/F	CADPT7-37-♦-C0	R/F
15	30	30	CADPT7-43-♦-R0	R/F	CADPT7-43-♦-C0	R/F
20	40	40	CADPT7-55-♦-R0	R/F	CADPT7-55-♦-C0	R/F
20	40	50	CADPT7-60-♦-R0	R/F	CADPT7-60-♦-C0	R/F
25	50	60	CADPT7-72-♦-R0	R/F	CADPT7-72-♦-C0	R/F
30	60	60	CADPT7-85-♦-R0	R/F	CADPT7-85-♦-C0	R/F
30	75	75	CADPT7-97-♦-R0	R/F	CADPT7-97-♦-C0	R/F
40	75	100	CADPT9-116-♦-R0 ❶	R/F	CADPT9-116-♦-C0 ❶	R/F
50	100	125	CADPT9-146-♦-R0 ❶	R/F	CADPT9-146-♦-C0 ❶	R/F
60	125	150	CADPT9-190-♦-R0 ❶	R/F	CADPT9-190-♦-C0 ❶	R/F
75	150	200	CADPT9-205-♦-R0 ❶	R/F	CADPT9-205-♦-C0 ❶	R/F
100	200	250	CADPT9-265-♦-R0 ❶	R/F	CADPT9-265-♦-C0 ❶	R/F
125	250	300	CADPT9-305-♦-R0 ❶	R/F	CADPT9-305-♦-C0 ❶	R/F
150	300	350	CADPT9-370-♦-R0 ❶	R/F	CADPT9-370-♦-C0 ❶	R/F
150	350	400	CADPT9-400-EI-♦-R0	R/F	CADPT9-400-EI-♦-C0	R/F
200	400	500	CADPT9-460-EI-♦-R0	R/F	CADPT9-460-EI-♦-C0	R/F
250	500	600	CADPT9-580-EI-♦-R0	R/F	CADPT9-580-EI-♦-C0	R/F
300	600	700	CADPT9-750-EI-♦-R0	R/F	CADPT9-750-EI-♦-C0	R/F
400	800	1000	CADPT9-860-EI-♦-R0	R/F	CADPT9-860-EI-♦-C0	R/F
450	900	1150	CADPT9-1060-EI-♦-R0	R/F	CADPT9-1060-EI-♦-C0	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 C8:18

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.

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 C8:3 and follow the instructions for modifying Catalog Numbers.

Ordering Instructions

Specify Catalog Number	
Replace (♦) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ❶ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CADPT9-116-♦-R0 becomes CADPT9-116-EI-♦-R0. See price list for price adder.

Series CADPT7 and CADPT9 with Thermal-Magnetic Circuit Breaker

Maximum Horsepower Three Phase			MCCB Amps	Type 3R Rainproof (Metal)	D I M	Type 4X Watertight Corrosion Resistant Non-metallic	D I M
230V	460V	575V		Catalog Number		Catalog Number	
2	5	~	15	CADPT7-9- * - ◆ -TB15R0	R/F	CADPT7-9- * - ◆ -TB15C0	R/F
2	5	5	15	CADPT7-9- * - ◆ -TBH15R0	R/F	CADPT7-9- * - ◆ -TBH15C0	R/F
~	~	7.5	20	CADPT7-9- * - ◆ -TBH20R0	R/F	CADPT7-9- * - ◆ -TBH20C0	R/F
3	7.5	~	20	CADPT7-12- * - ◆ -TB20R0	R/F	CADPT7-12- * - ◆ -TB20C0	R/F
3	7.5	10	20	CADPT7-12- * - ◆ -TBH20R0	R/F	CADPT7-12- * - ◆ -TBH20C0	R/F
5	10	~	30	CADPT7-16- * - ◆ -TB30R0	R/F	CADPT7-16- * - ◆ -TB30C0	R/F
~	~	15	35	CADPT7-23- * - ◆ -TBH35R0	R/F	CADPT7-23- * - ◆ -TBH35C0	R/F
7.5	15	~	40	CADPT7-23- * - ◆ -TB40R0	R/F	CADPT7-23- * - ◆ -TB40C0	R/F
10	20	25 ❶	50	CADPT7-30- * - ◆ -TB50R0	R/F	CADPT7-30- * - ◆ -TB50C0	R/F
10	20	25	50	CADPT7-30- * - ◆ -TBH50R0	R/F	CADPT7-30- * - ◆ -TBH50C0	R/F
10	25	30 ❶	50	CADPT7-37- * - ◆ -TB50R0	R/F	CADPT7-37- * - ◆ -TB50C0	R/F
10	25	30	50	CADPT7-37- * - ◆ -TBH50R0	R/F	CADPT7-37- * - ◆ -TBH50C0	R/F
~	30	~	70	CADPT7-43- * - ◆ -TB70R0	R/F	CADPT7-43- * - ◆ -TB70C0	R/F
15	~	~	80	CADPT7-43- * - ◆ -TB80R0	R/F	CADPT7-43- * - ◆ -TB80C0	R/F
20	40	40 ❶	80	CADPT7-55- * - ◆ -TB80R0	R/F	CADPT7-55- * - ◆ -TB80C0	R/F
20	40	40	80	CADPT7-55- * - ◆ -TBH80R0	R/F	CADPT7-55- * - ◆ -TBH80C0	R/F
~	~	40 ❶	80	CADPT7-60- * - ◆ -TB80R0	R/F	CADPT7-60- * - ◆ -TB80C0	R/F
~	~	40	80	CADPT7-60- * - ◆ -TBH80R0	R/F	CADPT7-60- * - ◆ -TBH80C0	R/F
20	40	50 ❶	100	CADPT7-60- * - ◆ -TB100R0	R/F	CADPT7-60- * - ◆ -TB100C0	R/F
20	40	50	100	CADPT7-60- * - ◆ -TBH100R0	R/F	CADPT7-60- * - ◆ -TBH100C0	R/F
25	50	60 ❶	125	CADPT7-72- * - ◆ -TB125R0	R/F	CADPT7-72- * - ◆ -TB125C0	R/F
25	50	60	125	CADPT7-72- * - ◆ -TBH125R0	R/F	CADPT7-72- * - ◆ -TBH125C0	R/F
30	60	~	125	CADPT7-85- * - ◆ -TB125R0	R/F	CADPT7-85- * - ◆ -TB125C0	R/F
~	~	75 ❶❷	150	CADPT7-97- * - ◆ -TB150R0	R/F	CADPT7-97- * - ◆ -TB150C0	R/F
~	~	75 ❷	150	CADPT7-97- * - ◆ -TBH150R0	R/F	CADPT7-97- * - ◆ -TBH150C0	R/F
~	75 ❷	~	175	CADPT7-97- * - ◆ -TB175R0	R/F	CADPT7-97- * - ◆ -TB175C0	R/F
~	75	~	175	CADPT9-116- * - ◆ -TB175R0 ❸	R/F	CADPT9-116- * - ◆ -TB175C0 ❸	R/F
40	~	100 ❷	200	CADPT9-116- * - ◆ -TB200R0 ❸	R/F	CADPT9-116- * - ◆ -TB200C0 ❸	R/F
~	100	125 ❷	225	CADPT9-146- * - ◆ -TB225R0 ❸	R/F	CADPT9-146- * - ◆ -TB225C0 ❸	R/F
50	~	~	250	CADPT9-146- * - ◆ -TB250R0 ❸	R/F	CADPT9-146- * - ◆ -TB250C0 ❸	R/F
60	125	150	300	CADPT9-190- * - ◆ -TB300R0 ❸	R/F	CADPT9-190- * - ◆ -TB300C0 ❸	R/F
75	150	200	350	CADPT9-205- * - ◆ -TB350R0 ❸	R/F	CADPT9-205- * - ◆ -TB350C0 ❸	R/F
~	175	~	400	CADPT9-265- * - ◆ -TB400R0 ❸	R/F	CADPT9-265- * - ◆ -TB400C0 ❸	R/F
100	200	250	450	CADPT9-265- * - ◆ -TB450R0 ❸	R/F	CADPT9-265- * - ◆ -TB450C0 ❸	R/F
~	~	~	500	CADPT9-305- * - ◆ -TB500R0 ❸	R/F	CADPT9-305- * - ◆ -TB500C0 ❸	R/F
125	250	300	600	CADPT9-305- * - ◆ -TB600R0 ❸	R/F	CADPT9-305- * - ◆ -TB600C0 ❸	R/F
~	~	350	600	CADPT9-370- * - ◆ -TB600R0 ❸	R/F	CADPT9-370- * - ◆ -TB600C0 ❸	R/F
150	300	~	700	CADPT9-370- * - ◆ -TB700R0 ❸	R/F	CADPT9-370- * - ◆ -TB700C0 ❸	R/F
150	~	400	700	CADPT9-400-EI- * - ◆ -TB700R0	R/F	CADPT9-400-EI- * - ◆ -TB700C0	R/F
~	350	~	800	CADPT9-400-EI- * - ◆ -TB800R0	R/F	CADPT9-400-EI- * - ◆ -TB800C0	R/F
~	~	~	800	CADPT9-460-EI- * - ◆ -TB800R0	R/F	CADPT9-460-EI- * - ◆ -TB800C0	R/F
200	400	500	1000	CADPT9-460-EI- * - ◆ -TB1000R0	R/F	CADPT9-460-EI- * - ◆ -TB1000C0	R/F
~	~	600	1000	CADPT9-580-EI- * - ◆ -TB1000R0	R/F	CADPT9-580-EI- * - ◆ -TB1000C0	R/F
250	500	~	1200	CADPT9-580-EI- * - ◆ -TB1200R0	R/F	CADPT9-580-EI- * - ◆ -TB1200C0	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 C8:18

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.

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 C8:3 and follow the instructions for modifying Catalog Numbers.

Ordering Instructions

Specify Catalog Number	
Replace (*) with Coil Code	See page C8:3
Replace (◆) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ❶ Applicable to 600Y/347V only.
- ❷ The short circuit and kAIC is relegated to the contactor's 10kA. Contact your Sprecher + Schuh representative for a higher kAIC.
- ❸ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CADPT9-116-*****-**◆**-TB175R0 becomes CADPT9-116-EI-*****-**◆**-TB175R0. See price list for price adder.

Series CADPT7 and CADPT9 with Fusible Disconnect (J-Type) ①②

Maximum Horsepower Three Phase				Fuse clip Amps	Type 3R Rainproof (Metal)	D I M	Type 4X Watertight Corrosion Resistant Non-metallic	D I M
200V	230V	460V	575V		Catalog Number		Catalog Number	
2	2	5	7.5	30	CADPT7-9-♦-JF61R0	R/F	CADPT7-9-♦-JF61C0	R/F
3	3	7.5	10	30	CADPT7-12-♦-JF61R0	R/F	CADPT7-12-♦-JF61C0	R/F
5	5	10	15	30	CADPT7-16-♦-JF61R0	R/F	CADPT7-16-♦-JF61C0	R/F
5	~	~	~	30	CADPT7-23-♦-JF61R0	R/F	CADPT7-23-♦-JF61C0	R/F
~	7.5	15	15	60	CADPT7-23-♦-JF62R0	R/F	CADPT7-23-♦-JF62C0	R/F
7.5	10	20	25	60	CADPT7-30-♦-JF62R0	R/F	CADPT7-30-♦-JF62C0	R/F
10	10	25	30	60	CADPT7-37-♦-JF62R0	R/F	CADPT7-37-♦-JF62C0	R/F
10	~	30	30	60	CADPT7-43-♦-JF62R0	R/F	CADPT7-43-♦-JF62C0	R/F
~	15	~	~	100	CADPT7-43-♦-JF63R0	R/F	CADPT7-43-♦-JF63C0	R/F
~	~	~	40	60	CADPT7-55-♦-JF62R0	R/F	CADPT7-55-♦-JF62C0	R/F
15	20	40	~	100	CADPT7-55-♦-JF63R0	R/F	CADPT7-55-♦-JF63C0	R/F
~	~	~	40	60	CADPT7-60-♦-JF62R0	R/F	CADPT7-60-♦-JF62C0	R/F
15	20	40	50	100	CADPT7-60-♦-JF63R0	R/F	CADPT7-60-♦-JF63C0	R/F
20	25	50	60	100	CADPT7-72-♦-JF63R0	R/F	CADPT7-72-♦-JF63C0	R/F
~	~	~	60	100	CADPT7-85-♦-JF63R0	R/F	CADPT7-85-♦-JF63C0	R/F
25	30	60	~	200	CADPT7-85-♦-JF64R0	R/F	CADPT7-85-♦-JF64C0	R/F
30	30	75	75	200	CADPT7-97-♦-JF64R0	R/F	CADPT7-97-♦-JF64C0	R/F
30	40	75	100	200	CADPT9-116-♦-JF64R0 ③	R/F	CADPT9-116-♦-JF64C0 ③	R/F
40	50	100	125	200	CADPT9-146-♦-JF64R0 ③	R/F	CADPT9-146-♦-JF64C0 ③	R/F
50	60	125	150	400	CADPT9-190-♦-JF65R0 ③	R/F	CADPT9-190-♦-JF65C0 ③	R/F
60	75	150	200	400	CADPT9-205-♦-JF65R0 ③	R/F	CADPT9-205-♦-JF65C0 ③	R/F
75	100	200	250	400	CADPT9-265-♦-JF65R0 ③	R/F	CADPT9-265-♦-JF65C0 ③	R/F
100	125	250	300	600	CADPT9-305-♦-JF66R0 ③	R/F	CADPT9-305-♦-JF66C0 ③	R/F
125	150	300	350	600	CADPT9-370-♦-JF66R0 ③	R/F	CADPT9-370-♦-JF66C0 ③	R/F
125	150	~	400	600	CADPT9-400-EI-♦-JF66R0	R/F	CADPT9-400-EI-♦-JF66C0	R/F
~	~	350	~	800	CADPT9-400-EI-♦-JF67R0	R/F	CADPT9-400-EI-♦-JF67C0	R/F
150	200	400	500	800	CADPT9-460-EI-♦-JF67R0	R/F	CADPT9-460-EI-♦-JF67C0	R/F

Duplex Pump Controller with disconnect switch includes:

- Designed per alternation control diagram shown at bottom of page C8:18

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 C8:3
Replace (♦) with O/L Relay	See page C8:5
Factory Modifications available	See pages C8:6-C8:10

- ① Fusible combo starters use the L11 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.
- ③ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CADPT9-116-♦-JF64R0 becomes CADPT9-116-EI-♦-JF64R0. See price list for price adder.

Type E/F Combination Controllers

An alternative to the
Classic Combination
Starter

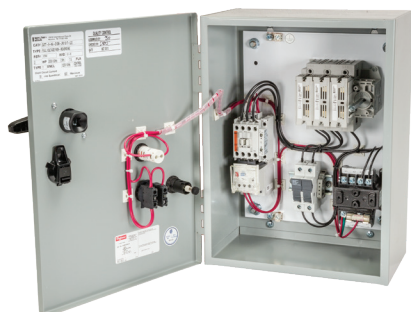


Classic Construction Type C
Thermal Magnetic MCCB
Combination Starter



Construction Type E/F
E-Combo Self-Protected
Motor Controller

C6



Classic Construction Type A
Fusible Combination Starter

The Classic Combo

Classic combination starters in Construction Type A use fusible L11 Disconnect switches. Construction Type C combos use UL489 Molded Case Circuit Breakers. Both are popular choices but Sprecher + Schuh's E-Combo line offers an alternative.

Advanced Alternative

Technology has advanced in the last decades and UL, NEC, and CSA now recognize Self-Protected Combination Motor Controllers as providing a means of thru-the-door disconnect, short circuit protection, and overload protection in a single device (KTA9). Further, when KTA9 is combined with CA7 contactors for remote operation, the resulting assembly is a Construction Type E/F Combination Starter. Less components and a smaller enclosure means a functional equal to the Classic Combo at a reduced price.



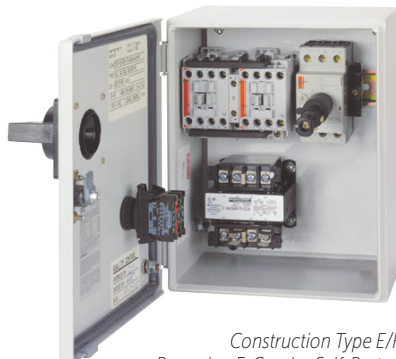
The E-Combo Starter

Sprecher + Schuh's Ecombo and EcomboPlus starters are the compact alternative to larger and higher priced combination starters. E-Combos include:

- KTA9 "Type E/F" Self-protected Motor Controller with 1 N.O. front mount auxiliary contact
- CA7 or CAN7 Contactors (for remote operation)
- Terminal Adaptor for Type E Applications
- Power and Control Wiring
- Type 12/4 enclosure, dual rated - watertight, dusttight
- Gray/Black or Red/Yellow Type 4/4X/12; IP66 handle
- Factory installed pilot device options
- Higher SCCR ratings than MCCB combination versions
- All in a smaller NEMA Type 4/12 enclosure at a more economical price.

For details on these economical combination starter alternatives turn to Catalog Number Selection, page F4:19.

See page F4:19. for
Type E/F
Combination
Starter
Control Panels



Construction Type E/F
Reversing E-Combo Self-Protected Motor
Controller