

Explosion-proof Starters

Safe and reliable starting in hazardous applications

ISO9001, UL508 & UL1203 (NNNY) Certified Panel Shop
Including ATEX Solutions



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

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

NEMA: Type 4/4X, 7BCD, 9EFG

NEC: Class I, Div. 1 Groups B, C, D
Class II, Div. 1 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 Type 3, 3R, 4 & 4X. Optional ATEX certification is available in Class I, Zone 1, AExd I1B, Exd I1B+H2, IEXEx.

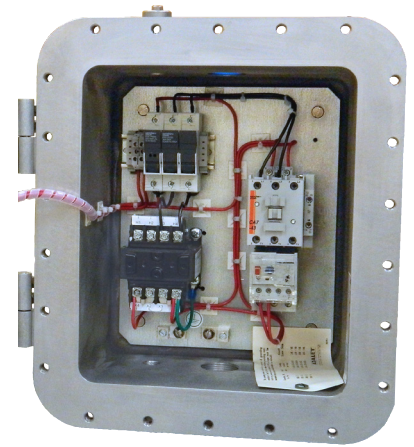
NEMA Type 4, 4X, 7, & 9 protection

NEMA Type 7 enclosures are designed to provide protection against an internal explosion when operated in a hazardous gas environment. NEMA 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. Inclusive with the selection of these explosion proof starters is a gasket inserted into the flange of the enclosure. This included gasket also gives the enclosures a NEMA Type 4 watertight and NEMA Type 4X corrosion resistance approval.

Starting with the best

At the heart of all explosion-proof starters is Sprecher + Schuh's CAT7 and CAT9 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 standard. 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.

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Explosion-Proof Starters

Series CAT7 & CAT9

Maximum Horsepower Three Phase				Without Short Circuit Protection	DIM	MCCB Amps	With Thermal Magnetic Circuit Breaker (MCCB)	DIM	With Non Fusible Disconnect	Price	DIM
200V	230V	460V	575V								
2	2	5	5	CAT7-30-*◆-E0	A7	15	CAT7-30-*◆-TB15E0	E7			
2	2	5	5	CAT7-30-*◆-E0	A7	15	CAT7-30-*◆-TBH15E0	E7			
3	3	7.5	10	CAT7-30-*◆-E0	A7	20	CAT7-30-*◆-TB20E0	E7			
3	3	7.5	10	CAT7-30-*◆-E0	A7	20	CAT7-30-*◆-TBH20E0	E7			
~	5	10	~	CAT7-30-*◆-E0	A7	30	CAT7-30-*◆-TB30E0	E7			
5	~	~	15	CAT7-30-*◆-E0	A7	35	CAT7-30-*◆-TB35E0	E7			
5	~	~	15	CAT7-30-*◆-E0	A7	35	CAT7-30-*◆-TBH35E0	E7			
~	7.5	15	20	CAT7-30-*◆-E0	A7	40	CAT7-30-*◆-TB40E0	E7			
~	7.5	15	20	CAT7-30-*◆-E0	A7	40	CAT7-30-*◆-TBH40E0	E7			
7.5	10	20	25	CAT7-30-*◆-E0	A7	50	CAT7-30-*◆-TB50E0	E7			
7.5	~	20	25	CAT7-30-*◆-E0	A7	50	CAT7-30-*◆-TBH50E0	E7			
10	10	25	30	CAT7-37-*◆-E0	A7	50	CAT7-37-*◆-TB50E0	E7			
10	10	~	30	CAT7-37-*◆-E0	A7	50	CAT7-37-*◆-TBH50E0	E7			
~	~	30	~	CAT7-43-*◆-E0	A7	70	CAT7-43-*◆-TB70E0	E7			
~	15	~	~	CAT7-43-*◆-E0	A7	80	CAT7-43-*◆-TB80E0	E7			
15	20	40	40	CAT7-55-*◆-E0	A7	80	CAT7-55-*◆-TB80E0	E7			
15	20	40	40	CAT7-55-*◆-E0	A7	80	CAT7-55-*◆-TBH80E0	E7			
~	~	~	40	CAT7-60-*◆-E0	A7	80	CAT7-60-*◆-TB80E0	F7			
~	~	~	40	CAT7-60-*◆-E0	A7	80	CAT7-60-*◆-TBH80E0	F7			
15	20	40	50	CAT7-60-*◆-E0	A7	100	CAT7-60-*◆-TB100E0	F7			
15	20	40	50	CAT7-60-*◆-E0	A7	100	CAT7-60-*◆-TBH100E0	F7			
20	25	50	60	CAT7-72-*◆-E0	A7	125	CAT7-72-*◆-TB125E0	F7			
20	25	50	60	CAT7-72-*◆-E0	A7	125	CAT7-72-*◆-TBH125E0	F7			
25	30	60	~	CAT7-85-*◆-E0	A7	125	CAT7-85-*◆-TB125E0	F7			
~	~	~	75	CAT7-97-*◆-E0	A7	150	CAT7-97-*◆-TB150E0	F7			
~	~	~	75	CAT7-97-*◆-E0	A7	150	CAT7-97-*◆-TBH150E0	F7			
30	~	75	~	CAT7-97-*◆-E0	A7	175	CAT7-97-*◆-TB175E0	F7			
30	~	75	~	CAT9-116-*◆-E0	B7	175	CAT9-116-*◆-TB175E0	G7			
~	40	~	100	CAT9-116-*◆-E0	B7	200	CAT9-116-*◆-TB200E0	G7			
40	~	100	125	CAT9-146-*◆-E0	B7	225	CAT9-146-*◆-TB225E0	G7			
~	50	~	~	CAT9-146-*◆-E0	B7	250	CAT9-146-*◆-TB250E0	G7			
50	60	125	150	CAT9-190-*◆-E0	C7	300	CAT9-190-*◆-TB300E0	H7			
60	75	150	200	CAT9-205-*◆-E0	C7	350	CAT9-205-*◆-TB350E0	H7			
75	~	175	~	CAT9-265-*◆-E0	D7	400	CAT9-265-*◆-TB400E0	H7			
~	100	200	250	CAT9-265-*◆-E0	D7	450	CAT9-265-*◆-TB450E0	H7			
100	~	~	~	CAT9-305-*◆-E0	D7	500	CAT9-305-*◆-TB500E0	H7			
~	125	250	300	CAT9-305-*◆-E0	D7	600	CAT9-305-*◆-TB600E0	H7			
~	~	~	350	CAT9-370-*◆-E0	D7	600	CAT9-370-*◆-TB600E0	H7			
125	150	300	~	CAT9-370-*◆-E0	D7	700	CAT9-370-*◆-TB700E0	H7			
125	150	~	400	CAT9-400-EI-*◆-E0	D7	700	CAT9-400-EI-*◆-TB700E0	H7			
~	~	350	~	CAT9-400-EI-*◆-E0	D7	800	CAT9-400-EI-*◆-TB800E0	H7			
150	~	~	~	CAT9-460-EI-*◆-E0	D7	800	CAT9-460-EI-*◆-TB800E0	H7			
~	200	400	500	CAT9-460-EI-*◆-E0	D7	1000	CAT9-460-EI-*◆-TB1000E0	H7			
200	~	~	600	CAT9-580-EI-*◆-E0	R/F	1000	CAT9-580-EI-*◆-TB1000E0	R/F			
~	250	500	~	CAT9-580-EI-*◆-E0	R/F	1200	CAT9-580-EI-*◆-TB1200E0	R/F			

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

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.

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

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 Enclosures have gaskets for outdoor use (Type 4).
- ③ Applicable to 600Y/347V only.
- ④ The short circuit and kAIC is relegated to the contactor's 10kA. Contact your Sprecher + Schuh representative for a higher kAIC.
- ⑤ CAT9-116...CAT9-370 starters are available with "EI" option for PLC interface. Change catalog number to include "-EI". Example: CAT9-116-*◆-TB175E0 becomes CAT9-116-EI-*◆-TB175E0. See page C8:3 for price adder.

Pilot Device Kits – NEMA Type 4/4X/7/9 Applications (For use with Explosion Proof Enclosures)

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

❶ Legend Plates are anodized aluminum with engraved letters on black background (XNP).

❷ STOP has red background. START has green background.

❸ One of the NPSM hole locations on the A7 dimensional enclosure could create the need for a short pilot light. Refer to factory for details.

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

Multispeed Starters

Versatile starters for any multispeed motor or application

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Multi-Speed Starters



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.

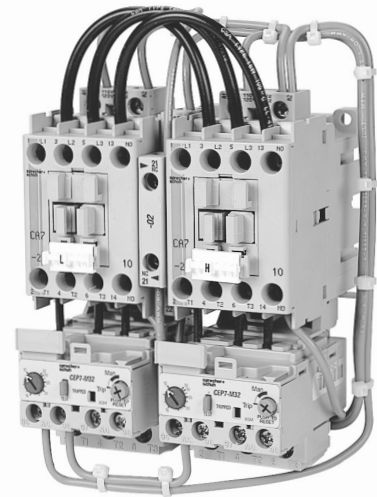
Constant Torque motors deliver the same torque at each speed, and horsepower varies directly with the speed. Typical applications include reciprocating pumps, conveyors, mills and mixers.

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.

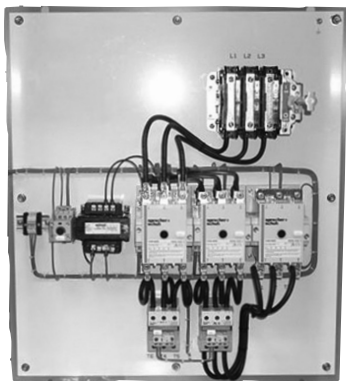
Selective Control permits starting the motor on any desired speed. To increase the speed of a running motor, press the desired speed button. To change to a lower speed, the STOP button must be pressed before selecting a new speed.

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

Two Separate Windings CAZTT7/CAZTT9 & CAZHT7/CAZHT9

Maximum Horsepower Three Phase				Open Type	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 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									
				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-*◆-G0④	E2 9-116-*◆-D0④	R2 9-116-*◆-W0④	R2 9-116-*◆-C0④	W2
40	50	100	125	9-146-*◆④	9-146-*◆-G0④	G 9-146-*◆-D0④	T 9-146-*◆-W0④	T 9-146-*◆-C0④	X1
Constant Horsepower - CAZHT									
				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-*◆-G0④	E2 9-116-*◆-D0④	R2 9-116-*◆-W0④	R2 9-116-*◆-C0④	W2
30	40	75	100	9-146-*◆④	9-146-*◆-G0④	G 9-146-*◆-D0④	T 9-146-*◆-W0④	T 9-146-*◆-C0④	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 page C8:3 for price adder.

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Multi-Speed Starters

One Reconnectable Winding CAETT7/CAETT9 & CAEHT7/CAEHT9 ③

Maximum Horsepower Three Phase				Open Type Catalog No.	Type 1 General Purpose Catalog No.	D I M ①	Type 12 [Type 3R ②] Industrial Dusttight Catalog No.	D I M ①	Type 4 Watertight Catalog No.	D I M ①	Type 4X Watertight Corr Resist Non-metallic Catalog No.	D I M ①
200V	230V	460V	575V									
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 page C8:3 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	~	~	~	✓	✓

1 Refer to pages C4-C5 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

C5

Reduced Voltage Starters



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%	<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.

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

Maximum H.P.	3 Ø Volts	Without Short Circuit Protection	D I M	MCCB Amps	With Thermal Magnetic Circuit Breaker (MCCB)	D I M	Fuse Clip Amps	With Fusible Disconnect ②⑤	D I M
		Catalog No.			①			Catalog No.	
		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 page C8:3 for price adder.

C5

Reduced Voltage Starters

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

Maximum H.P.	3 Ø Volts	Without Short Circuit Protection	D I M	MCCB Amps	With Thermal Magnetic Circuit Breaker (MCCB)	D I M	Fuse Clip Amps	With Fusible Disconnect ②⑤	D I M
		Catalog No.			Catalog No.			Catalog No.	
		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	~		Refer to Factory	~			

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

- 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 page C8:3 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.	Ⓛ	Catalog No.	Ⓛ	Catalog No.	Ⓛ	Catalog No.	Ⓛ
				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 page C8:3 for price adder.

C5
Reduced Voltage Starters

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	7-60 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
Multiply Motor FLA by 58%, 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.