PCS Controllers

DIN-rail mounted softstarters up to 85A. Larger softstarter frame sizes up to 480A (400HP @480V)

The PCS Softstarter Controller is a Sprecher + Schuh's solid-state controllers with rich features at an economical price. This softstarter is specifically designed to start 3-phase motors (up to 400HP@460V / 500HP@575V), but is very compact, easy to use and DIN-rail mountable for models up to 85A. Four standard starting modes are available with the PCS Controller:

- Soft Start
- Soft Start with Selectable Kick-Start
- Current Limit Starting
- Soft Start with Soft Stop

All PCS Softstarters are designed to control either a standard 3-phase squirrel-cage induction motor or a wye-delta motor (700HP @ 460V/900HP @ 575V Y-D).

For use anywhere

PCS Softstarters come in three different frame sizes. The smallest frame is from 3A...37A, the middle size is from 43A...85A and the largest frame size is 108A...480A. These units are available from 200V...600V - 50/60 Hz. This assures the devices can be used anywhere in the world.

Many convenient features

Easy Set-up – Digital rotary switches are quickly and easily set to the exact value. LED indication of all faults is standard.

Built-in Overload Protection – PCS Softstarters are equipped with electronic overload protection, accomplished with the use of current transformers on each of the three phases. Protection is programmable, providing total flexibility. Overload trip class selection includes OFF, 10, 15 or 20 seconds. In addition, either manual or automatic trip reset may be selected. Trip rating is 120% of dial setting.

Bypass Contactor – PCS controllers are equipped with a bypass contactor on each phase. Once the motor is up to speed, the load is removed from the SCRs, increasing their life and reducing heat.

Over Temperature Protection – The Softstarter monitors SCR temperature by means of internal thermistors. When the power poles maximum rated temperature is reached, the microcomputer switches off the PCS, a TEMP fault is indicated via LED, and the 97/98 fault contact closes.

Phase Reversal Protection – When enabled via a DIP-switch, 3-phase input power will be verified before starting. If input power phasing is detected to be incorrect, the start will be aborted and a fault indicated.

Phase Loss / Open Load – The PCS will not attempt to start if there is a single phase condition on the line. This protects from motor burnout during single phase starting.

Phase Imbalance – The unit monitors for imbalance between phase currents. To prevent motor damage, the unit will trip if the difference between the minimum phase current and the maximum phase current exceeds 65% for 3 seconds, and a fault will be indicated.

Shorted SCR – Prior to every start and during starting, the unit will check all SCRs for shorts and unit load connections to the motor. If there is a shorted SCR in the PCS and/or open load, the start will be aborted and a shorted SCR or open load fault will be indicated. This prevents damage from phase imbalance.

Push to Test – The unit with control wiring can be tested for fault conditions by using the Push to Test function. Hold down the Reset button for 7 seconds to activate the fault Aux (97, 98) and shut down the PCS. To clear, either push the Reset button or cycle control power to the device.

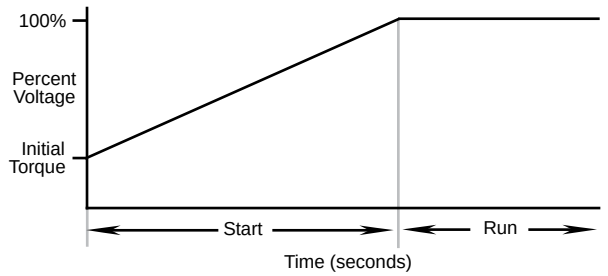
LED Description (Number of Flashes)

1. Overload
2. Overtemperature
3. Phase Reversal
4. Phase Loss/Open Load
5. Phase Imbalance
6. Shorted SCR
7. Test

Sprecher + Schuh DIN-rail mounted Controllers can be direct connected to CA7 contactors to provide isolation or to KT7 Motor Circuit Controllers for branch circuit protection (for models up to 37A)

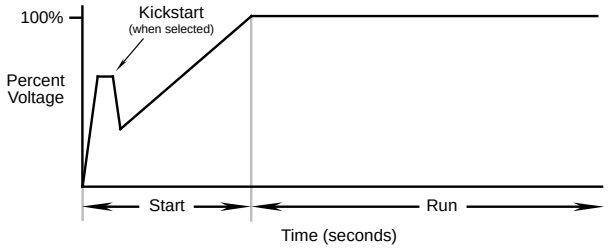
Modes of Operation (Standard)

Soft Start



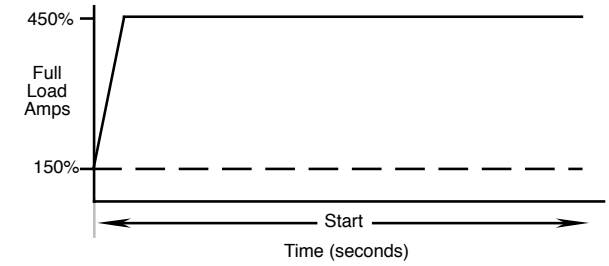
This method has the most general application. The motor is raised from an initial torque value to full voltage. Initial torque is adjustable to 15%, 25%, 35% or 65% locked rotor torque. The motor voltage is gradually increased during the acceleration ramp time, which can be adjusted from 2, 5, 10, 15, 20, 25 or 30 seconds.

Soft Start with Selectable Kickstart



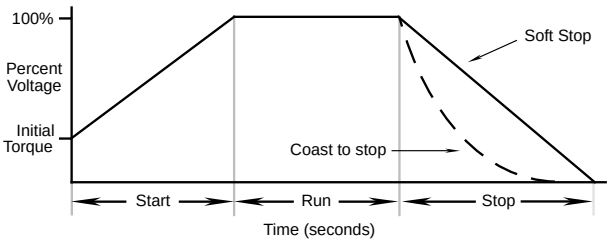
During the Soft Start phase, an initial kickstart or boost can be provided. This supplies a current pulse of 450% of full load current and is adjusted from 0.5 to 1.5 seconds. This allows the motor to develop additional torque for starting high inertia loads.

Current Limit Starting



This starting mode is used when it is desired to limit the maximum starting current (inrush). It can be adjusted for 150%, 250%, 350% or 450% of full load amps. Start times are selectable from 2, 5, 10, 15, 20, 25 or 30 seconds. If the motor is not up to speed after the selected time elapses, the controller transitions to full voltage.

Soft Stop

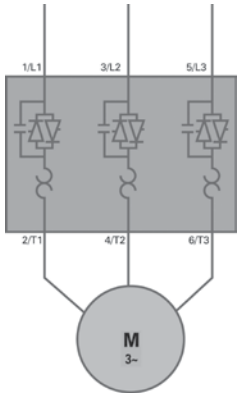


Soft Stop can be used for applications requiring an extended coast-to-rest, such as frictional type loads that tend to stop suddenly when voltage is removed from the motor. When enabled, the voltage ramp down time is equal to one, two or three times the start time selected. The load stops when the motor voltage drops to a point where the load torque is greater than the motor torque.

Open Type - Line Connected Controllers ❷❸❺

Rated Voltage (V AC)	Current Rating (Amps) ❶	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	With 100...240V AC Control Voltage Catalog Number	Price	With 24V AC/DC Control Voltage Catalog Number	Price
200/208	1...3	~	0.5	PCS-003-600V	656	PCS-003-600V-024	656
	3...9	~	0.75...2	PCS-009-600V	710	PCS-009-600V-024	710
	5.3...16	~	1.5...3	PCS-016-600V	872	PCS-016-600V-024	872
	6.3...19	~	1.5...5	PCS-019-600V	934	PCS-019-600V-024	934
	9.2...25	~	3...7.5	PCS-025-600V	965	PCS-025-600V-024	965
	10...30	~	3...7.5	PCS-030-600V	1175	PCS-030-600V-024	1175
	12.3...37	~	5...10	PCS-037-600V	1463	PCS-037-600V-024	1463
	14.3...43	~	5...10	PCS-043-600V	1956	PCS-043-600V-024	1956
	20...60	~	7.5...15	PCS-060-600V	2593	PCS-060-600V-024	2593
	28.3...85	~	10...25	PCS-085-600V	3376	PCS-085-600V-024	3376
	27...108	~	20...30	PCS-108-600V	5346	PCS-108-600V-024 ❹	5346
	34...135	~	25...40	PCS-135-600V	6476	PCS-135-600V-024 ❹	6476
	67...201	~	40...60	PCS-201-600V	7736	PCS-201-600V-024 ❹	7736
	84...251	~	50...75	PCS-251-600V	9011	PCS-251-600V-024 ❹	9011
	106...317	~	60...100	PCS-317-600V	9344	PCS-317-600V-024 ❹	9344
	120...361	~	75...125	PCS-361-600V	9909	PCS-361-600V-024 ❹	9909
	160...480	~	100...150	PCS-480-600V	13937	PCS-480-600V-024 ❹	13937
230	1...3	0.55	0.5	PCS-003-600V	656	PCS-003-600V-024	656
	3...9	2.2	0.75...2	PCS-009-600V	710	PCS-009-600V-024	710
	5.3...16	4	1.5...5	PCS-016-600V	872	PCS-016-600V-024	872
	6.3...19	4	2...5	PCS-019-600V	934	PCS-019-600V-024	934
	9.2...25	5.5	3...7.5	PCS-025-600V	965	PCS-025-600V-024	965
	10...30	7.5	5...10	PCS-030-600V	1175	PCS-030-600V-024	1175
	12.3...37	7.5	5...10	PCS-037-600V	1463	PCS-037-600V-024	1463
	14.3...43	11	5...15	PCS-043-600V	1956	PCS-043-600V-024	1956
	20...60	15	7.5...20	PCS-060-600V	2593	PCS-060-600V-024	2593
	28.3...85	22	15...30	PCS-085-600V	3376	PCS-085-600V-024	3376
	27...108	30	20...40	PCS-108-600V	5346	PCS-108-600V-024 ❹	5346
	34...135	37	25...50	PCS-135-600V	6476	PCS-135-600V-024 ❹	6476
	67...201	55	40...75	PCS-201-600V	7736	PCS-201-600V-024 ❹	7736
	84...251	75	50...100	PCS-251-600V	9011	PCS-251-600V-024 ❹	9011
	106...317	90	60...125	PCS-317-600V	9344	PCS-317-600V-024 ❹	9344
	120...361	110	75...150	PCS-361-600V	9909	PCS-361-600V-024 ❹	9909
	160...480	132	100...200	PCS-480-600V	13937	PCS-480-600V-024 ❹	13937

Line Connected



❶ Motor FLA rating must fall within the specified current range for unit to operate properly. The overload setting must be set to the motor FLA regardless if the Overload Function is "OFF" disabled.

❷ See page D23 for maximum starts per hour.

❸ Prior to the initial start of the motor at the final installation location:

– The bypass relays on the main circuit may be in an undefined switching state due to handling during shipping. Before connecting the main power source, apply the control voltage to set the bypass relays to a defined switching state. If this step is not performed, inadvertent operation of the motor may occur.

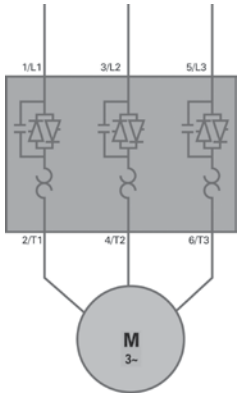
❹ Separate 120V or 240V single phase is required for PCS fan operation.

❺ Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D18 for terminal lug kits.

Open Type - Line Connected Controllers cont. ❷❸❺

Rated Voltage (V AC)	Current Rating (Amps) ❶	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	With 100...240V AC Control Voltage Catalog Number	Price	With 24V AC/DC Control Voltage Catalog Number	Price
380/400/415/460	1...3	1.1	0.5...1.5	PCS-003-600V	656	PCS-003-600V-024	656
	3...9	4	1.5...5	PCS-009-600V	710	PCS-009-600V-024	710
	5.3...16	7.5	5...10	PCS-016-600V	872	PCS-016-600V-024	872
	6.3...19	7.5	5...10	PCS-019-600V	934	PCS-019-600V-024	934
	9.2...25	11	7.5...15	PCS-025-600V	965	PCS-025-600V-024	965
	10...30	15	7.5...20	PCS-030-600V	1175	PCS-030-600V-024	1175
	12.3...37	18.5	10...25	PCS-037-600V	1463	PCS-037-600V-024	1463
	14.3...43	22	10...30	PCS-043-600V	1956	PCS-043-600V-024	1956
	20...60	30	15...40	PCS-060-600V	2593	PCS-060-600V-024	2593
	28.3...85	45	25...60	PCS-085-600V	3376	PCS-085-600V-024	3376
	27...108	55	50...75	PCS-108-600V	5346	PCS-108-600V-024 ❹	5346
	34...135	75	60...100	PCS-135-600V	6476	PCS-135-600V-024 ❹	6476
	67...201	95...110	75...150	PCS-201-600V	7736	PCS-201-600V-024 ❹	7736
	84...251	95...132	100...200	PCS-251-600V	9011	PCS-251-600V-024 ❹	9011
	106...317	95...160	125...250	PCS-317-600V	9344	PCS-317-600V-024 ❹	9344
	120...361	110...200	250...300	PCS-361-600V	9909	PCS-361-600V-024 ❹	9909
	160...480	160...250	300...400	PCS-480-600V	13937	PCS-480-600V-024 ❹	13937
500/575	1...3	1.5	0.75...2	PCS-003-600V	656	PCS-003-600V-024	656
	3...9	5.5	3...7.5	PCS-009-600V	710	PCS-009-600V-024	710
	5.3...16	7.5	5...10	PCS-016-600V	872	PCS-016-600V-024	872
	6.3...19	11	7.5...15	PCS-019-600V	934	PCS-019-600V-024	934
	9.2...25	15	7.5...20	PCS-025-600V	965	PCS-025-600V-024	965
	10...30	18.5	10...25	PCS-030-600V	1175	PCS-030-600V-024	1175
	12.3...37	22	15...30	PCS-037-600V	1463	PCS-037-600V-024	1463
	14.3...43	22	15...40	PCS-043-600V	1956	PCS-043-600V-024	1956
	20...60	37	20...50	PCS-060-600V	2593	PCS-060-600V-024	2593
	28.3...85	55	30...75	PCS-085-600V	3376	PCS-085-600V-024	3376
	27...108	75	60...100	PCS-108-600V	5346	PCS-108-600V-024 ❹	5346
	34...135	90	75...125	PCS-135-600V	6476	PCS-135-600V-024 ❹	6476
	67...201	75...132	100...200	PCS-201-600V	7736	PCS-201-600V-024 ❹	7736
	84...251	90...160	125...250	PCS-251-600V	9011	PCS-251-600V-024 ❹	9011
	106...317	100...200	200...300	PCS-317-600V	9344	PCS-317-600V-024 ❹	9344
	120...361	132...250	200...350	PCS-361-600V	9909	PCS-361-600V-024 ❹	9909
	160...480	200...315	250...500	PCS-480-600V	13937	PCS-480-600V-024 ❹	13937

Line Connected

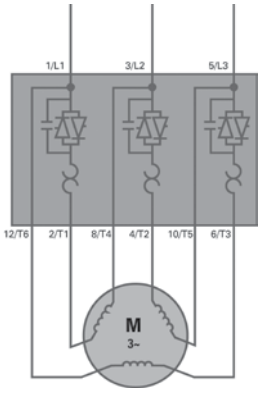


❶ Motor FLA rating must fall within the specified current range for unit to operate properly. The overload setting must be set to the motor FLA regardless if the Overload Function is "OFF" disabled.
❷ See page D23 for maximum starts per hour.
❸ Prior to the initial start of the motor at the final installation location:
– The bypass relays on the main circuit may be in an undefined switching state due to handling during shipping. Before connecting the main power source, apply the control voltage to set the bypass relays to a defined switching state. If this step is not performed, inadvertent operation of the motor may occur.
❹ Separate 120V or 240V single phase is required for PCS fan operation.
❺ Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D18 for terminal lug kits.

Open Type - Delta Connected Controllers ❷❹❺

Rated Voltage (V AC)	Current Rating (Amps) ❶	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	With 100...240V AC Control Voltage Catalog Number	Price	With 24V AC/DC Control Voltage Catalog Number	Price
200/208	1.7...5.1	~	1	PCS-003-600V	656	PCS-003-600V-024	656
	5.1...16	~	1.5...3	PCS-009-600V	710	PCS-009-600V-024	710
	9.1...27.6	~	3...7.5	PCS-016-600V	872	PCS-016-600V-024	872
	10.9...32.8	~	3...10	PCS-019-600V	934	PCS-019-600V-024	934
	14.3...43	~	3...10	PCS-025-600V	965	PCS-025-600V-024	965
	17.3...52	~	5...10	PCS-030-600V	1175	PCS-030-600V-024	1175
	21...64	~	7.5...20	PCS-037-600V	1463	PCS-037-600V-024	1463
	25...74	~	7.5...20	PCS-043-600V	1956	PCS-043-600V-024	1956
	34.6...104	~	15...30	PCS-060-600V	2593	PCS-060-600V-024	2593
	50....147	~	15...40	PCS-085-600V	3376	PCS-085-600V-024	3376
	47...187	~	20...60	PCS-108-600V	5346	PCS-108-600V-024 ❸	5346
	59...234	~	20...75	PCS-135-600V	6476	PCS-135-600V-024 ❸	6476
	116...348	~	75...100	PCS-201-600V	7736	PCS-201-600V-024 ❸	7736
	145...435	~	100...150	PCS-251-600V	9011	PCS-251-600V-024 ❸	9011
	183...549	~	100...200	PCS-317-600V	9344	PCS-317-600V-024 ❸	9344
	208...625	~	125...200	PCS-361-600V	9909	PCS-361-600V-024 ❸	9909
	277...831	~	200...300	PCS-480-600V	13937	PCS-480-600V-024 ❸	13937
230	1.7...5.1	0.25...1.1	1	PCS-003-600V	656	PCS-003-600V-024	656
	5.1...16	1.1...4	1...5	PCS-009-600V	710	PCS-009-600V-024	710
	9.1...27.6	2.2...7.5	3...10	PCS-016-600V	872	PCS-016-600V-024	872
	10.9...32.8	2.2...7.5	3...10	PCS-019-600V	934	PCS-019-600V-024	934
	14.3...43	4...11	3...15	PCS-025-600V	965	PCS-025-600V-024	965
	17.3...52	4...15	5...15	PCS-030-600V	1175	PCS-030-600V-024	1175
	21...64	5.5...18.5	7.5...20	PCS-037-600V	1463	PCS-037-600V-024	1463
	25...74	5.5...22	7.5...25	PCS-043-600V	1956	PCS-043-600V-024	1956
	34.6...104	7.5...30	15...40	PCS-060-600V	2593	PCS-060-600V-024	2593
	50...147	15...45	20...50	PCS-085-600V	3376	PCS-085-600V-024	3376
	47...187	55	20...60	PCS-108-600V	5346	PCS-108-600V-024 ❸	5346
	59...234	75	25...75	PCS-135-600V	6476	PCS-135-600V-024 ❸	6476
	116...348	110	75...125	PCS-201-600V	7736	PCS-201-600V-024 ❸	7736
	145...435	132	100...150	PCS-251-600V	9011	PCS-251-600V-024 ❸	9011
	183...549	160	125...200	PCS-317-600V	9344	PCS-317-600V-024 ❸	9344
	208...625	200	150...250	PCS-361-600V	9909	PCS-361-600V-024 ❸	9909
	277...831	250	200...300	PCS-480-600V	13937	PCS-480-600V-024 ❸	13937

Delta Connected



All PCS Models are Wye-Delta compatible

❶ Motor FLA rating must fall within the specified current range for unit to operate properly. The overload setting must be set to the motor FLA regardless if the Overload Function is "OFF" disabled.

❷ Prior to the initial start of the motor at the final installation location:

– The bypass relays on the main circuit may be in an undefined switching state due to handling during shipping. Before connecting the main power source, apply the control voltage to set the bypass relays to a defined switching state. If this step is not performed, inadvertent operation of the motor may occur.

❸ Separate 120V or 240V single phase is required for PCS fan operation.

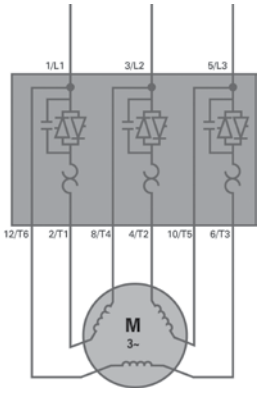
❹ Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D18 for terminal lug kits.

❺ It is recommended that an isolation contactor be added to the circuit to provide galvanic isolation of the motor and final electromechanical removal of power.

Open Type - Delta Connected Controllers cont. ❷❹❺

Rated Voltage (V AC)	Current Rating (Amps) ❶	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	With 100...240V AC Control Voltage Catalog Number	Price	With 24V AC/DC Control Voltage Catalog Number	Price
380/400/415/460	1.7...5.1	0.55...2.2	0.5...2	PCS-003-600V	656	PCS-003-600V-024	656
	5.1...16	2.2...7.5	2...7.5	PCS-009-600V	710	PCS-009-600V-024	710
	9.1...27.6	4...11	5...15	PCS-016-600V	872	PCS-016-600V-024	872
	10.9...32.8	4...15	5...15	PCS-019-600V	934	PCS-019-600V-024	934
	14.3...43	5.5...22	7.5...20	PCS-025-600V	965	PCS-025-600V-024	965
	17.3...52	7.5...22	7.5...30	PCS-030-600V	1175	PCS-030-600V-024	1175
	21...64	7.5...30	10...30	PCS-037-600V	1463	PCS-037-600V-024	1463
	25...74	11...37	10...40	PCS-043-600V	1956	PCS-043-600V-024	1956
	34.6...104	15...55	20...60	PCS-060-600V	2593	PCS-060-600V-024	2593
	50...147	22...75	25...75	PCS-085-600V	3376	PCS-085-600V-024	3376
	47...187	90	40...150	PCS-108-600V	5346	PCS-108-600V-024 ❸	5346
	59...234	132	50...150	PCS-135-600V	6476	PCS-135-600V-024 ❸	6476
	116...348	160	150...250	PCS-201-600V	7736	PCS-201-600V-024 ❸	7736
	145...435	250	200...350	PCS-251-600V	9011	PCS-251-600V-024 ❸	9011
	183...549	315	250...450	PCS-317-600V	9344	PCS-317-600V-024 ❸	9344
	208...625	355	300...500	PCS-361-600V	9909	PCS-361-600V-024 ❸	9909
	277...831	450	350...700	PCS-480-600V	13937	PCS-480-600V-024 ❸	13937
500/575	1.7...5.1	0.75...3	1...3	PCS-003-600V	656	PCS-003-600V-024	656
	5.1...16	3...7.5	3...10	PCS-009-600V	710	PCS-009-600V-024	710
	9.1...27.6	5.5...15	7.5...25	PCS-016-600V	872	PCS-016-600V-024	872
	10.9...32.8	5.5...22	7.5...30	PCS-019-600V	934	PCS-019-600V-024	934
	14.3...43	7.5...22	10...40	PCS-025-600V	965	PCS-025-600V-024	965
	17.3...52	11...30	15...50	PCS-030-600V	1175	PCS-030-600V-024	1175
	21...64	11...37	15...60	PCS-037-600V	1463	PCS-037-600V-024	1463
	25...74	15...45	20...60	PCS-043-600V	1956	PCS-043-600V-024	1956
	84.6...104	22...55	30...100	PCS-060-600V	2593	PCS-060-600V-024	2593
	50...147	30...90	40...150	PCS-085-600V	3376	PCS-085-600V-024	3376
	47...187	132	50...150	PCS-108-600V	5346	PCS-108-600V-024 ❸	5346
	59...234	160	60...200	PCS-135-600V	6476	PCS-135-600V-024 ❸	6476
	116...348	250	250...300	PCS-201-600V	7736	PCS-201-600V-024 ❸	7736
	145...435	315	250...400	PCS-251-600V	9011	PCS-251-600V-024 ❸	9011
	183...549	400	300...500	PCS-317-600V	9344	PCS-317-600V-024 ❸	9344
	208...625	450	350...600	PCS-361-600V	9909	PCS-361-600V-024 ❸	9909
	277...831	560	400...900	PCS-480-600V	13937	PCS-480-600V-024 ❸	13937

Delta Connected



All PCS Models are Wye-Delta compatible

❶ Motor FLA rating must fall within the specified current range for unit to operate properly. The overload setting must be set to the motor FLA regardless if the Overload Function is "OFF" disabled.

❷ Prior to the initial start of the motor at the final installation location:

– The bypass relays on the main circuit may be in an undefined switching state due to handling during shipping. Before connecting the main power source, apply the control voltage to set the bypass relays to a defined switching state. If this step is not performed, inadvertent operation of the motor may occur.

❸ Separate 120V or 240V single phase is required for PCS fan operation.

❹ Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D18 for terminal lug kits.

❺ It is recommended that an isolation contactor be added to the circuit to provide galvanic isolation of the motor and final electromechanical removal of power.

Enclosed Non-Combination Starters - Line Connected ❶❷❹

Rated Voltage (V AC)	Current Rating (Amps) ❸	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	Type 12 [Type 3R ❺] Industrial Dustight Catalog Number	Price	Type 4 Watertight Catalog Number	Price
200/208	1...3	~	0.5	PCS-003-NHDD	1666	PCS-003-NHDW	1733
	3...9	~	0.75...2	PCS-009-NHDD	1710	PCS-009-NHDW	1778
	5.3...16	~	1.5...3	PCS-016-NHDD	1796	PCS-016-NHDW	1868
	6.3...19	~	1.5...5	PCS-019-NHDD	1854	PCS-019-NHDW	1929
	9.2...25	~	3...7.5	PCS-025-NHDD	1854	PCS-025-NHDW	1929
	10...30	~	3...7.5	PCS-030-NHDD	1985	PCS-030-NHDW	2064
	12.3...37	~	5...10	PCS-037-NHDD	2159	PCS-037-NHDW	2245
	14.3...43	~	5...10	PCS-043-NHDD	2506	PCS-043-NHDW	2607
	20...60	~	7.5...15	PCS-060-NHDD	2898	PCS-060-NHDW	3013
	28.3...85	~	10...25	PCS-085-NHDD	3800	PCS-085-NHDW	3952
	27...108	~	20...30	PCS-108-NHDD	5900	PCS-108-NHDW	6136
	34...135	~	25...40	PCS-135-NHDD	7000	PCS-135-NHDW	7280
	67...201	~	40...60	PCS-201-NHDD	8300	PCS-201-NHDW	8632
	84...251	~	50...75	PCS-251-NHDD	9800	PCS-251-NHDW	10192
	106...317	~	60...100	PCS-317-NHDD	10532	PCS-317-NHDW	10954
	120...361	~	75...125	PCS-361-NHDD	11300	PCS-361-NHDW	11752
	160...480	~	100...150	PCS-480-NHDD	15502	PCS-480-NHDW	16122
230	1...3	0.55	0.5	PCS-003-NADD	1666	PCS-003-NADW	1733
	3...9	2.2	0.75...2	PCS-009-NADD	1710	PCS-009-NADW	1778
	5.3...16	4	1.5...5	PCS-016-NADD	1796	PCS-016-NADW	1868
	6.3...19	4	2...5	PCS-019-NADD	1854	PCS-019-NADW	1929
	9.2…25	5.5	3...7.5	PCS-025-NADD	1854	PCS-025-NADW	1929
	10...30	7.5	5...10	PCS-030-NADD	1985	PCS-030-NADW	2064
	12.3...37	7.5	5...10	PCS-037-NADD	2159	PCS-037-NADW	2245
	14.3...43	11	5...15	PCS-043-NADD	2506	PCS-043-NADW	2607
	20...60	15	7.5...20	PCS-060-NADD	2898	PCS-060-NADW	3013
	28.3...85	22	15...30	PCS-085-NADD	3800	PCS-085-NADW	3952
	27...108	30	20...40	PCS-108-NADD	5900	PCS-108-NADW	6136
	34...135	37	25...50	PCS-135-NADD	7000	PCS-135-NADW	7280
	67...201	55	40...75	PCS-201-NADD	8300	PCS-201-NADW	8632
	84...251	75	50...100	PCS-251-NADD	9800	PCS-251-NADW	10192
	106...317	90	60...125	PCS-317-NADD	10532	PCS-317-NADW	10954
	120...361	110	75...150	PCS-361-NADD	11300	PCS-361-NADW	11752
	160...480	132	100...200	PCS-480-NADD	15502	PCS-480-NADW	16122

Non-Combination PCS Softstarters include:

- A 120V control power transformer with fused primary and secondary
- PCS built-in electronic motor overload protection
- PCS built-in SCR bypass/ run contactor
- Available in UL Type 12 or 4 Enclosures
- Terminal blocks for remote control devices

❶ Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
❷ Include suffix and price adder from page D16 if ordering factory installed modifications.
❸ The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
❹ Line and load termination are provided as standard.
❺ For outdoor applications, replace "D" in catalog number with an "R". All enclosures are Type-12 with a Drip Shield. Example: PCS-085-NHD**D** becomes PCS-085-NHD**R**. Price and dimensions remain the same.

Enclosed Non-Combination Starters - Line Connected ❶❷❹

Rated Voltage (V AC)	Current Rating (Amps) ❸	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	Type 12 [Type 3R ❻] Industrial Dustight Catalog Number	Price	Type 4 Watertight Catalog Number	Price
460 ❺	1...3	1.1	0.5...1.5	PCS-003-NBDD	1666	PCS-003-NBDW	1733
	3...9	4	1.5...5	PCS-009-NBDD	1710	PCS-009-NBDW	1778
	5.3...16	7.5	5...10	PCS-016-NBDD	1796	PCS-016-NBDW	1868
	6.3...19	7.5	5...10	PCS-019-NBDD	1854	PCS-019-NBDW	1929
	9.2...25	11	7.5...15	PCS-025-NBDD	1854	PCS-025-NBDW	1929
	10...30	15	7.5...20	PCS-030-NBDD	1985	PCS-030-NBDW	2064
	12.3...37	18.5	10...25	PCS-037-NBDD	2159	PCS-037-NBDW	2245
	14.3...43	22	10...30	PCS-043-NBDD	2506	PCS-043-NBDW	2607
	20...60	30	15...40	PCS-060-NBDD	2898	PCS-060-NBDW	3013
	28.3...85	45	25...60	PCS-085-NBDD	3800	PCS-085-NBDW	3952
	27...108	55	50...75	PCS-108-NBDD	5900	PCS-108-NBDW	6136
	34...135	75	60...100	PCS-135-NBDD	7000	PCS-135-NBDW	7280
	67...201	95...110	75...150	PCS-201-NBDD	8300	PCS-201-NBDW	8632
	84...251	95...132	100...200	PCS-251-NBDD	9800	PCS-251-NBDW	10192
	106...317	95...160	125...250	PCS-317-NBDD	10532	PCS-317-NBDW	10954
	120...361	110...200	250...300	PCS-361-NBDD	11300	PCS-361-NBDW	11752
	160...480	160...250	300...400	PCS-480-NBDD	15502	PCS-480-NBDW	16122
500/575	1...3	1.5	0.75...2	PCS-003-NCDD	1985	PCS-003-NCDW	2064
	3...9	5.5	3...7.5	PCS-009-NCDD	2028	PCS-009-NCDW	2109
	5.3...16	7.5	5...10	PCS-016-NCDD	2144	PCS-016-NCDW	2230
	6.3...19	11	7.5...15	PCS-019-NCDD	2115	PCS-019-NCDW	2200
	9.2…25	15	7.5...20	PCS-025-NCDD	2115	PCS-025-NCDW	2200
	10...30	18.5	10...25	PCS-030-NCDD	2376	PCS-030-NCDW	2471
	12.3...37	22	15...30	PCS-037-NCDD	2608	PCS-037-NCDW	2712
	14.3...43	22	15...40	PCS-043-NCDD	2984	PCS-043-NCDW	3104
	20...60	37	20...50	PCS-060-NCDD	3491	PCS-060-NCDW	3631
	28.3...85	55	30...75	PCS-085-NCDD	4143	PCS-085-NCDW	4309
	27...108	75	60..100	PCS-108-NCDD	6000	PCS-108-NCDW	6240
	34...135	90	75...125	PCS-135-NCDD	7200	PCS-135-NCDW	7488
	67...201	75...132	100...200	PCS-201-NCDD	8548	PCS-201-NCDW	8890
	84...251	90...160	125...250	PCS-251-NCDD	10141	PCS-251-NCDW	10547
	106...317	100...200	200...300	PCS-317-NCDD	11373	PCS-317-NCDW	11828
	120...361	132...250	200...350	PCS-361-NCDD	12546	PCS-361-NCDW	13048
	160...480	200...315	250...500	PCS-480-NCDD	17095	PCS-480-NCDW	17779

Non-Combination PCS Softstarters include:

- A 120V control power transformer with fused primary and secondary
- PCS built-in electronic motor overload protection
- PCS built-in SCR bypass/run contactor
- Available in UL Type 12 or 4 Enclosures
- Terminal blocks for remote control devices

❶ Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
❷ Include suffix and price adder from page D16 if ordering factory installed modifications.
❸ The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
❹ Line and load termination are provided as standard.
❺ For 380V applications choose softstarter based on FLA, then change the NB code in the catalog number to NG. Example PCS-043-N**B**DD becomes PCS-043-N**G**DD, which covers 25 HP @ 380V FLA 37. Price remains the same.
❻ For outdoor applications, replace "D" in catalog number with an "R". All enclosures are Type-12 with a Drip Shield. Example: PCS-085-NBD**D** becomes PCS-085-NBD**R**. Price and dimensions remain the same.

Enclosed Combination Circuit Breaker Starters - Line Connected ❶❷❹

Rated Voltage (V AC)	Current Rating (Amps) ❸	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	Type 12 [Type 3R ❺] Industrial Dustight Catalog Number	Price	Type 4 Watertight Catalog Number	Price
200	3	—	0.5	PCS-003-BHD33D	2318	PCS-003-BHD33W	2411
	9	—	0.75	PCS-009-BHD34D	2390	PCS-009-BHD34W	2486
	9	—	1	PCS-009-BHD35D	2390	PCS-009-BHD35W	2486
	9	—	1.5	PCS-009-BHD36D	2390	PCS-009-BHD36W	2486
	16	—	2	PCS-016-BHD37D	2506	PCS-016-BHD37W	2607
	16	—	3	PCS-016-BHD38D	2506	PCS-016-BHD38W	2848
	25	—	5	PCS-025-BHD39D	2738	PCS-025-BHD39W	3059
	37	—	7.5	PCS-037-BHD40D	3144	PCS-037-BHD40W	3270
	43	—	10	PCS-043-BHD41D	3405	PCS-043-BHD41W	3541
	60	—	15	PCS-060-BHD42D	4114	PCS-060-BHD42W	4279
	85	—	20	PCS-085-BHD43D	4665	PCS-085-BHD43W	4852
	85	—	25	PCS-085-BHD44D	4665	PCS-085-BHD44W	4852
	108	—	30	PCS-108-BHD45D	7751	PCS-108-BHD45W	8061
	135	—	40	PCS-135-BHD46D	8953	PCS-135-BHD46W	9311
	201	—	60	PCS-201-BHD48D	10692	PCS-201-BHD48W	11119
	251	—	75	PCS-251-BHD49D	12546	PCS-251-BHD49W	13048
	317	—	100	PCS-317-BHD50D	13705	PCS-317-BHD50W	14253
	361	—	125	PCS-361-BHD51D	14444	PCS-361-BHD51W	15022
	480	—	150	PCS-480-BHD52D	18399	PCS-480-BHD52W	19135
230	3	0.37	0.5	PCS-003-BAD33D	2318	PCS-003-BAD33W	2411
	9	0.55	0.75	PCS-009-BAD34D	2390	PCS-009-BAD34W	2486
	9	0.75	1	PCS-009-BAD35D	2390	PCS-009-BAD35W	2486
	9	1.1	1.5	PCS-009-BAD36D	2390	PCS-009-BAD36W	2486
	9	1.5	2	PCS-009-BAD37D	2390	PCS-009-BAD37W	2486
	16	2.2	3	PCS-016-BAD38D	2506	PCS-016-BAD38W	2607
	25	3.7	5	PCS-025-BAD39D	2738	PCS-025-BAD39W	2848
	30	5.5	7.5	PCS-030-BAD40D	2941	PCS-030-BAD40W	3059
	37	7.5	10	PCS-037-BAD41D	3144	PCS-037-BAD41W	3270
	43	11	15	PCS-043-BAD42D	3405	PCS-043-BAD42W	3541
	60	15	20	PCS-060-BAD43D	4114	PCS-060-BAD43W	4279
	85	18.5	25	PCS-085-BAD44D	4665	PCS-085-BAD44W	4852
	85	22	30	PCS-085-BAD45D	4665	PCS-085-BAD45W	4852
	108	30	40	PCS-108-BAD46D	7751	PCS-108-BAD46W	8061
	135	37	50	PCS-135-BAD47D	8953	PCS-135-BAD47W	9311
	201	55	75	PCS-201-BAD49D	10692	PCS-201-BAD49W	11119
	251	75	100	PCS-251-BAD50D	12546	PCS-251-BAD50W	13048
	317	90	125	PCS-317-BAD51D	13705	PCS-317-BAD51W	14253
	361	110	150	PCS-361-BAD52D	14444	PCS-361-BAD52W	15022
	480	147	200	PCS-480-BAD54D	18399	PCS-480-BAD54W	19135

Combination Circuit Breaker PCS Softstarters include:

- A thermal magnetic circuit breaker with external operating handle
- A 120V control power transformer with fused primary and secondary
- PCS built-in electronic motor overload protection
- PCS built-in SCR bypass/run contactor
- Available in UL Type 12 or 4 Enclosures
- Terminal blocks for remote control devices

❶ Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
❷ Include suffix and price adder from page D16 if ordering factory installed modifications.
❸ The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
❹ See page D27 for circuit breaker ratings.
❺ For outdoor applications, replace "D" in catalog number with an "R". All enclosures are Type-12 with a Drip Shield. Example: PCS-085-BHD43**D** becomes PCS-085-BHD43**R**. Price and dimensions remain the same.

Enclosed Combination Circuit Breaker Starters - Line Connected ❶❷❹

Rated Voltage (V AC)	Current Rating (Amps) ❸	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	Type 12 [Type 3R ❻] Industrial Dustight Catalog Number	Price	Type 4 Watertight Catalog Number	Price
460 ❺	3	0.37	0.5	PCS-003-BBD33D	2318	PCS-003-BBD33W	2411
	3	0.55	0.75	PCS-003-BBD34D	2318	PCS-003-BBD34W	2411
	3	0.75	1	PCS-003-BBD35D	2318	PCS-003-BBD35W	2411
	9	1.1	1.5	PCS-009-BBD36D	2390	PCS-009-BBD36W	2486
	9	1.5	2	PCS-009-BBD37D	2390	PCS-009-BBD37W	2486
	9	2.2	3	PCS-009-BBD38D	2390	PCS-009-BBD38W	2486
	16	3.7	5	PCS-016-BBD39D	2506	PCS-016-BBD39W	2607
	16	5.5	7.5	PCS-016-BBD40D	2506	PCS-016-BBD40W	2607
	25	7.5	10	PCS-025-BBD41D	2738	PCS-025-BBD41W	2848
	30	11	15	PCS-030-BBD42D	2941	PCS-030-BBD42W	3059
	37	15	20	PCS-037-BBD43D	3144	PCS-037-BBD43W	3270
	43	18.5	25	PCS-043-BBD44D	3405	PCS-043-BBD44W	3541
	43	22	30	PCS-043-BBD45D	3405	PCS-043-BBD45W	3541
	60	30	40	PCS-060-BBD46D	4114	PCS-060-BBD46W	4279
	85	37	50	PCS-085-BBD47D	4665	PCS-085-BBD47W	4852
	85	45	60	PCS-085-BBD48D	4665	PCS-085-BBD48W	4852
	108	55	75	PCS-108-BBD49D	7751	PCS-108-BBD49W	8061
	135	75	100	PCS-135-BBD50D	8953	PCS-135-BBD50W	9311
	201	110	150	PCS-201-BBD52D	10692	PCS-201-BBD52W	11119
	251	132	200	PCS-251-BBD54D	12546	PCS-251-BBD54W	13048
	317	160	250	PCS-317-BBD56D	13705	PCS-317-BBD56W	14253
	361	200	300	PCS-361-BBD57D	14444	PCS-361-BBD57W	15022
	480	250	400	PCS-480-BBD59D	18399	PCS-480-BBD59W	19135
575	3	0.55	0.75	PCS-003-BCD34D	2796	PCS-003-BCD34W	2908
	3	0.75	1	PCS-003-BCD35D	2796	PCS-003-BCD35W	2908
	9	1.1	1.5	PCS-009-BCD36D	2883	PCS-009-BCD36W	2998
	9	1.5	2	PCS-009-BCD37D	2883	PCS-009-BCD37W	2998
	9	2.2	3	PCS-009-BCD38D	2883	PCS-009-BCD38W	2998
	9	3.7	5	PCS-009-BCD39D	2883	PCS-009-BCD39W	2998
	16	5.5	7.5	PCS-016-BCD40D	2984	PCS-016-BCD40W	3104
	16	7.5	10	PCS-016-BCD41D	2984	PCS-016-BCD41W	3104
	25	11	15	PCS-025-BCD42D	3274	PCS-025-BCD42W	3405
	30	15	20	PCS-030-BCD43D	3535	PCS-030-BCD43W	3676
	37	18.5	25	PCS-037-BCD44D	3781	PCS-037-BCD44W	3932
	43	22	30	PCS-043-BCD45D	4085	PCS-043-BCD45W	4249
	43	30	40	PCS-043-BCD46D	4085	PCS-043-BCD46W	4249
	60	37	50	PCS-060-BCD47D	4955	PCS-060-BCD47W	5153
	85	45	60	PCS-085-BCD48D	5592	PCS-085-BCD48W	5816
	85	55	75	PCS-085-BCD49D	5592	PCS-085-BCD49W	5816
	108	75	100	PCS-108-BCD50D	8910	PCS-108-BCD50W	9266
	135	90	125	PCS-135-BCD51D	10301	PCS-135-BCD51W	10713
	201	132	200	PCS-201-BCD54D	11590	PCS-201-BCD54W	12054
	251	160	250	PCS-251-BCD56D	13517	PCS-251-BCD56W	14058
	317	200	300	PCS-317-BCD57D	14777	PCS-317-BCD57W	15368
	361	250	350	PCS-361-BCD58D	15502	PCS-361-BCD58W	16122
	480	315	500	PCS-480-BCD61D	19558	PCS-480-BCD61W	20340

Combination Circuit Breaker PCS Softstarters include:

- A thermal magnetic circuit breaker with external operating handle
- A 120V control power transformer with fused primary and secondary
- PCS built-in electronic motor overload protection
- PCS built-in SCR bypass/run contactor
- Available in UL Type 12 or 4 Enclosures
- Terminal blocks for remote control devices

❶ Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
❷ Include suffix and price adder from page D16 if ordering factory installed modifications.
❸ The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
❹ See page D27 for circuit breaker ratings.
❺ For 380V applications choose softstarter based on FLA, then change the BB code in the catalog number to BG. Example PCS-043-BBD44D becomes PCS-043-B**G**D44D, which covers 25 HP @ 380V FLA 37. Price remains the same.
❻ For outdoor applications, replace "D" in catalog number with an "R". All enclosures are Type-12 with a Drip Shield. Example: PCS-085-BBD47**D** becomes PCS-085-BBD47**R**. Price and dimensions remain the same.

Enclosed Combination Fusible Starters - Line Connected ❶❷❹

Rated Voltage (V AC)	Current Rating (Amps) ❸	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	Type 12 [Type 3R ❺] Industrial Dustight Catalog Number	Price	Type 4 Watertight Catalog Number	Price
200	3	—	0.5	PCS-003-FHD33D	2014	PCS-003-FHD33W	2094
	9	—	0.75	PCS-009-FHD34D	2043	PCS-009-FHD34W	2124
	9	—	1	PCS-009-FHD35D	2043	PCS-009-FHD35W	2124
	9	—	1.5	PCS-009-FHD36D	2043	PCS-009-FHD36W	2124
	16	—	2	PCS-016-FHD37D	2130	PCS-016-FHD37W	2215
	16	—	3	PCS-016-FHD38D	2130	PCS-016-FHD38W	2215
	25	—	5	PCS-025-FHD39D	2246	PCS-025-FHD39W	2335
	37	—	7.5	PCS-037-FHD40D	2564	PCS-037-FHD40W	2667
	43	—	10	PCS-043-FHD41D	2955	PCS-043-FHD41W	3074
	60	—	15	PCS-060-FHD42D	3694	PCS-060-FHD42W	3842
	85	—	20	PCS-085-FHD43D	4375	PCS-085-FHD43W	4550
	85	—	25	PCS-085-FHD44D	5372	PCS-085-FHD44W	5547
	108	—	30	PCS-108-FHD45D	7026	PCS-108-FHD45W	7307
	135	—	40	PCS-135-FHD46D	8214	PCS-135-FHD46W	8543
	201	—	60	PCS-201-FHD48D	9286	PCS-201-FHD48W	9658
	251	—	75	PCS-251-FHD49D	10243	PCS-251-FHD49W	10652
	317	—	100	PCS-317-FHD50D	11300	PCS-317-FHD50W	11752
	361	—	125	PCS-361-FHD51D	13343	PCS-361-FHD51W	13877
	480	—	150	PCS-480-FHD52D	16081	PCS-480-FHD52W	16724
230	3	0.37	0.5	PCS-003-FAD33D	2014	PCS-003-FAD33W	2094
	9	0.55	0.75	PCS-009-FAD34D	2043	PCS-009-FAD34W	2124
	9	0.75	1	PCS-009-FAD35D	2043	PCS-009-FAD35W	2124
	9	1.1	1.5	PCS-009-FAD36D	2043	PCS-009-FAD36W	2124
	9	1.5	2	PCS-009-FAD37D	2043	PCS-009-FAD37W	2124
	16	2.2	3	PCS-016-FAD38D	2130	PCS-016-FAD38W	2215
	25	3.7	5	PCS-025-FAD39D	2246	PCS-025-FAD39W	2335
	30	5.5	7.5	PCS-030-FAD40D	2361	PCS-030-FAD40W	2456
	37	7.5	10	PCS-037-FAD41D	2564	PCS-037-FAD41W	2667
	43	11	15	PCS-043-FAD42D	2955	PCS-043-FAD42W	3074
	60	15	20	PCS-060-FAD43D	3694	PCS-060-FAD43W	3842
	85	18.5	25	PCS-085-FAD44D	4375	PCS-085-FAD44W	4550
	85	22	30	PCS-085-FAD45D	5372	PCS-085-FAD45W	5547
	108	30	40	PCS-108-FAD46D	7026	PCS-108-FAD46W	7307
	135	37	50	PCS-135-FAD47D	8214	PCS-135-FAD47W	8543
	201	55	75	PCS-201-FAD49D	9286	PCS-201-FAD49W	9658
	251	75	100	PCS-251-FAD50D	10243	PCS-251-FAD50W	10652
	317	90	125	PCS-317-FAD51D	11300	PCS-317-FAD51W	11752
	361	110	150	PCS-361-FAD52D	13343	PCS-361-FAD52W	13877
	480	147	200	PCS-480-FAD54D	16081	PCS-480-FAD54W	16724

Combination Fusible PCS Softstarters include:

- A fused switch with external operating handle
- A 120V control power transformer with fused primary and secondary
- PCS built-in electronic motor overload protection
- PCS built-in SCR bypass/ run contactor
- Available in UL Type 12 or 4 Enclosures
- Terminal blocks for remote control devices

❶ Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
❷ Include suffix and price adder from page D16 if ordering factory installed modifications.
❸ The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
❹ Fuse clip accepts J-Type fuses. Power fuses are not supplied. See page D27 for Fusible Disconnect amp ratings.
❺ For outdoor applications, replace "D" in catalog number with an "R". All enclosures are Type-12 with a Drip Shield. Example: PCS-085-FHD43**D** becomes PCS-085-FHD43**R**. Price and dimensions remain the same.

Enclosed Combination Fusible Starters - Line Connected ❶❷❹

Rated Voltage (V AC)	Current Rating (Amps) ❸	Starting Duty kW 50 Hz	Starting Duty Hp 60Hz	Type 12 [Type 3R ❻] Industrial Dustight Catalog Number	Price	Type 4 Watertight Catalog Number	Price
460 ❺	3	0.37	0.5	PCS-003-FBD33D	2014	PCS-003-FBD33W	2094
	3	0.55	0.75	PCS-003-FBD34D	2014	PCS-003-FBD34W	2094
	3	0.75	1	PCS-003-FBD35D	2014	PCS-003-FBD35W	2094
	9	1.1	1.5	PCS-009-FBD36D	2043	PCS-009-FBD36W	2124
	9	1.5	2	PCS-009-FBD37D	2043	PCS-009-FBD37W	2124
	9	2.2	3	PCS-009-FBD38D	2043	PCS-009-FBD38W	2124
	16	3.7	5	PCS-016-FBD39D	2130	PCS-016-FBD39W	2215
	16	5.5	7.5	PCS-016-FBD40D	2130	PCS-016-FBD40W	2215
	25	7.5	10	PCS-025-FBD41D	2246	PCS-025-FBD41W	2335
	30	11	15	PCS-030-FBD42D	2361	PCS-030-FBD42W	2456
	37	15	20	PCS-037-FBD43D	2564	PCS-037-FBD43W	2667
	43	18.5	25	PCS-043-FBD44D	2955	PCS-043-FBD44W	3074
	43	22	30	PCS-043-FBD45D	2955	PCS-043-FBD45W	3074
	60	30	40	PCS-060-FBD46D	3694	PCS-060-FBD46W	3842
	85	37	50	PCS-085-FBD47D	4375	PCS-085-FBD47W	4550
	85	45	60	PCS-085-FBD48D	5372	PCS-085-FBD48W	5547
	108	55	75	PCS-108-FBD49D	7026	PCS-108-FBD49W	7307
	135	75	100	PCS-135-FBD50D	8214	PCS-135-FBD50W	8543
	201	110	150	PCS-201-FBD52D	9286	PCS-201-FBD52W	9658
	251	132	200	PCS-251-FBD54D	10243	PCS-251-FBD54W	10652
	317	160	250	PCS-317-FBD56D	11300	PCS-317-FBD56W	11752
	361	200	300	PCS-361-FBD57D	13343	PCS-361-FBD57W	13877
	480	250	400	PCS-480-FBD59D	16081	PCS-480-FBD59W	16724
575	3	0.55	0.75	PCS-003-FCD34D	2405	PCS-003-FCD34W	2501
	3	0.75	1	PCS-003-FCD35D	2405	PCS-003-FCD35W	2501
	9	1.1	1.5	PCS-009-FCD36D	2434	PCS-009-FCD36W	2531
	9	1.5	2	PCS-009-FCD37D	2434	PCS-009-FCD37W	2531
	9	2.2	3	PCS-009-FCD38D	2434	PCS-009-FCD38W	2531
	9	3.7	5	PCS-009-FCD39D	2434	PCS-009-FCD39W	2531
	16	5.5	7.5	PCS-016-FCD40D	2579	PCS-016-FCD40W	2682
	16	7.5	10	PCS-016-FCD41D	2579	PCS-016-FCD41W	2682
	25	11	15	PCS-025-FCD42D	2637	PCS-025-FCD42W	2742
	30	15	20	PCS-030-FCD43D	2854	PCS-030-FCD43W	2968
	37	18.5	25	PCS-037-FCD44D	3071	PCS-037-FCD44W	3194
	43	22	30	PCS-043-FCD45D	3564	PCS-043-FCD45W	3706
	43	30	40	PCS-043-FCD46D	3564	PCS-043-FCD46W	3706
	60	37	50	PCS-060-FCD47D	4404	PCS-060-FCD47W	4580
	85	45	60	PCS-085-FCD48D	5259	PCS-085-FCD48W	5469
	85	55	75	PCS-085-FCD49D	6256	PCS-085-FCD49W	6466
	108	75	100	PCS-108-FCD50D	8070	PCS-108-FCD50W	8392
	135	90	125	PCS-135-FCD51D	9489	PCS-135-FCD51W	9869
	201	132	200	PCS-201-FCD54D	10214	PCS-201-FCD54W	10622
	251	160	250	PCS-251-FCD56D	12141	PCS-251-FCD56W	12626
	317	200	300	PCS-317-FCD57D	13966	PCS-317-FCD57W	14525
	361	250	350	PCS-361-FCD58D	15212	PCS-361-FCD58W	15820
	480	315	500	PCS-480-FCD61D	17240	PCS-480-FCD61W	17930

Combination Fusible PCS Softstarters include:

- A fused switch with external operating handle
- A 120V control power transformer with fused primary and secondary
- PCS built-in electronic motor overload protection
- PCS built-in SCR bypass/ run contactor
- Available in UL Type 12 or 4 Enclosures
- Terminal blocks for remote control devices

❶ Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.

❷ Include suffix and price adder from page D16 if ordering factory installed modifications.

❸ The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.

❹ Fuse clips accept J-Type fuses. Power fuses are not supplied. See page D27 for Fusible Disconnect amp ratings.

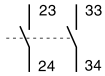
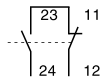
❺ For 380V applications choose softstarter based on FLA, then change the FB code in the catalog number to FG.
Example PCS-043-FBD44D becomes PCS-043-F**G**D44D, which covers 25 HP @ 380V FLA 37. Price remains the same.

❻ For outdoor applications,replace "D" in catalog number with an "R". All enclosures are Type-12 with a Drip Shield. Example: PCS-085-FBD47**D** becomes PCS-085-FBD47**R**. Price and dimensions remain the same.

Options - Factory Modifications

Description	Catalog Number	Price Adder
Pushbuttons (2) START and STOP pushbuttons for enclosed softstarters	Add suffix "**-3**"	**120**
Selector Switch Two or three position selector switch for enclosed softstarters "ON-OFF" "HAND-OFF-AUTO"	 Add suffix "**-6**" Add suffix "**-7**"	 **120** **120**
Pilot Light Red pilot light with "RUN" inscription for enclosed softstarters	Add suffix "**-1**"	**188**
Voltmeter (Panelboard) Measures all three phases. Includes switch.	Add suffix "**-VM3**"	**2729**
Ammeter (Panelboard) For monitoring all three phases. Includes switch.	Add suffix "**-AM3**"	**2729**
Elapsed Time Meter Measures elapsed motor running time	Add suffix "**-ETM**"	**1365**

Auxiliary Contact Blocks (1 & 2 Pole) ❶

Contact Block	Description	NO	NC	Contact Arrangement	For use with…	Catalog Number	Price
	• For side mounting with sequence terminal designations • Snap-on design – mounts without tools • One block per device only	1	0		All PCS & PCEC Controllers	**PCS-PA-10**	**30.75**
		2	0			**PCS-PA-20**	**40.50**
		0	1			**PCS-PA-01**	**30.75**
		1	1			**PCS-PA-11**	**40.50**

Accessories

Accessory	Description	For use with…	Catalog Number	Price
 **PCV-064**	**Internal PCS Fan** • Attaches directly to PCS Controller • Recommended for enclosed PCS-003...37A Controllers • Fan is included as standard on PCS-043…480A devices • For PCS-108...480A units, separate 120V or 240V single phase is required for fan operation.	PCS-003…037	**PCV-064**	**53**
		PCS-043...085	**PCV-147**	**134**
		PCS-108...135	**PCV-234**	**365**
		PCS-201..251	**PFV-0251**	**444**
		PCS-317...480	**PFV-0480**	**488**
	**Connecting Module** • For direct connection of PCS Controller to KT7 Motor Circuit Controller • Motor Circuit Controller and PCS Controller must each be mounted • See Section F for KT7 Mounting Modules	KT7-25S to PCS-003…025	**PCS-25S-CC25**	**11**
		KT7-25H to PCS-003…025	**PCS-25H-CD25**	**11**
		KT7-45H to PCS-003…037	**PCS-45H-CF45**	**11**
	**Connecting Module** • For direct connection of PCS Controller to CA7 contactor • CA7 Contactor and PCS Controller must each be mounted • See Section F for KT7 Mounting Modules	CA7-9…23 to PCS-003…019	**PCS-23-CI23**	**11**
		CA7-30…37 to PCS-003…037	**PCS-37-CI37**	**11**
	**600V Protective Module** • Protects power components from transient voltage spikes and shunts noise energy away from the controller electronics • PCS (3 Lead) Line Connected Applications: Protective modules may be installed on the line and/or load side • PCS (6 Lead) Delta Connected Applications: Protective modules must be installed on the line side only	PCS-003...037-600V PCS-043...085-600V	**PCP-064-600V** **PCP-147-600V**	**80** **154**
		PCS-108...480	**PFP-0480-600V**	**535**

❶ One Auxiliary Contact block (one or two pole) may be mounted on the right side of the controller.

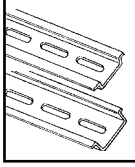
IEC Terminal Covers ❶

Description	Pkg. Qty.	Catalog Number	Price
IEC line or load terminal covers for 108...135A devices. Dead front protection	1	PFT-0135	69
IEC line or load terminal covers for 201...251A devices. Dead front protection		PFT-0251	80
IEC line or load terminal covers for 317...480A devices. Dead front protection		PFT-0480	88

Terminal Lug Kits (108...480 A) ❷

Current Rating (A)	Conductor Size	Total No. of Line Controller Terminal Lugs Possible Each Side		Pkg. Qty.	Catalog Number	Price
		Line Side	Load Side			
108...135	#6...250 MCM AWG 16 mm^2...120mm^2	3	3	3	PNX-1120	113
201...251		6	6			
317...480	#4...500 MCM AWG 25 mm^2...240MM^2	6	6		PNX-1240	167

Accessories

Accessory	Description	For Use With...	Catalog Number	Price
	**Remote Reset -** • For remote resetting of the PCS electronic overload • Attached directly to the PCS controller	All PCS Controllers	**CMR7-✱** *Replace ✱ with coil code below*	78
	**External Reset Button -** Used for manually resetting the PCS electronic overload	All PCS Controllers	**Use D7 Reset** **See Section H**	~
	**DIN-rail -** 2 meter lengths (6' 6") Top Hat, low profile (price per rail) Top Hat, high profile (price per rail)		**3F** **3AF**	See page A54

Marking Systems

Component	Description	Pkg. Qty.	Catalog Number	Price Each
	Label Sheet – 1 sheet with 105 self-adhesive paper labels each, 6 x 17mm	1	**CA7-FMS**	See page A54
	**Marking Tag Sheet -** 1 sheet with 160 perforated paper labels each, 6 x 17mm. To be used with transparent cover.	1	**CA7-FMP**	
	Transparent Cover - To be used with Marking Tag Sheets.	100 ❸	**CA7-FMC**	
	Tag Carrier - For marking with Series V7 Clip-on Tags.	100 ❸	**CA7-FMA2**	

CMR7 Remote Reset Coil Codes

AC Coil Code	Voltage Range		
	50 Hz	60 Hz	50 / 60 Hz
24Z	~	~	24V
120	110V	120V	
240	220V	230V	

DC Coil Code	Voltage
24D	24VDC
48D	48VDC
115D	115VDC

❶ PCS-108...480A units include one terminal cover as standard.
❷ Line and Load terminals are provided as standard on enclosed PCS models. 5...85 A PCS units have box lugs standard. No additional lugs are required.
❸ Minimum order quantity is one package of 100. Price each x 100 = total price.

Control Modules

PCS Rating	For units rated 200...600V AC ❹					
	100...240V AC Catalog Number	Price	Qty	24V AC/DC Catalog Number	Price	Qty
108 A	**PCS-108**	**1825**	1	**PCS-108-024**	**1825**	1
135 A	**PCS-135**		1	**PCS-135-024**		1
201 A	**PCS-201**		1	**PCS-201-024**		1
251 A	**PCS-251**		1	**PCS-251-024**		1
317 A	**PCS-317**		1	**PCS-317-024**		1
361 A	**PCS-361**		1	**PCS-361-024**		1
480 A	**PCS-480**		1	**PCS-480-024**		1

Power Poles ❶

PCS Rating	For units rated 200…600V AC ❹		
	200…600V AC Catalog Number	Price	Qty
108 A	**PFL-0108-600V ❷**	**3535**	1
135 A	**PFL-0135-600V ❷**	**4998**	1
201 A	**PFL-0201-600V ❸**	**3028**	1
251 A	**PFL-0251-600V ❸**	**3709**	1
317 A	**PFL-0317-600V ❸**	**4042**	1
361 A	**PFL-0361-600V ❸**	**4375**	1
480 A	**PFL-0480-600V ❸**	**6722**	1

Each power pole contains two SCR's and one bypass contactor power pole. The PCS requires three power poles. For example: the replacement power pole for a PCS-0108-600V is PFL-0108-600V

❶ One piece provided per part number.
❷ Part number contains three power poles.
❸ Part number contains one power pole.
❹ Control Modules and Power Poles are not replaceable for PCS-003…85.

Standard Features	
Selectable Start Times	2, 5, 10, 15, 20, 25, or 30 s
Selectable Initial Torque	15%, 25%, 35%, and 65% of locked rotor torque
Selectable Current Limit	150%, 250%, 350%, and 450% of full load current
Selectable Kick Start - 450% FLA	0, 0.5, 1.0, or 1.5 s
Selectable Soft Stop	Off, 100%, 200%, or 300% of the start time setting when wired

Electrical Ratings

			UL/CSA/NEMA	IEC
Power Circuit	Rated Operation Voltage		200...600V AC (+10%, -15%)	500V~ — 500V~
	Rated Insulation Voltage		600V AC	500V~
	Dielectric Withstand		2200V AC	2500V~
	Repetitive Peak		200...600V AC: 1600V	500V~: 1600V
	Operating Frequency		50/60 Hz	50/60 Hz
	Utilization Category	1...37 A	—	AC-53b: 3.5-15:3585
		43...60 A	—	AC-53b: 4.5-30:1770
		85 A	—	AC-53b: 4.5-30:3570
		108 A	—	AC-53b: 4.5-30:1770
		135 A	—	AC-53b: 3.5-30: 1770
		201...251 A	—	AC-53b: 3.5-30: 1770
		317...480 A	—	AC-53b: 3.5-30: 1770
	Number of Poles		Equipment designed for 3-phase only	
	Rated Impulse Voltage		6 kV	
	DV/DT Protection		1000V/µs	
	Overvoltage Category		III	

			Type 1 ❷					
	SCPD Performance		Non-Time Delay Fuses (K5)		Thermal Magnetic Circuit Breaker		High Capacity Time Delay Class CC/J/L	
	SCPD List ❶		Max. Standard Available Fault	Max. Standard Fuse (A)	Max. Standard Available Fault	Max. Circuit Breaker (A)	Max. Standard Available Fault	Max. Circuit Breaker (A)
Short Circuit Protection	Line Device Operational Current Rating (A)	3	5 kA	12	5 kA	15	70 kA	6
		9	5 kA	30	5 kA	30	70 kA	15
		16	5 kA	60	5 kA	60	70 kA	30
		19	5 kA	70	5 kA	70	70 kA	40
		25	5 kA	100	5 kA	100	70 kA	50
		30	10 kA	110	10 kA	110	70 kA	60
		37	10 kA	125	10 kA	125	70 kA	60
		43	10 kA	150	10 kA	150	70 kA	90
		60	10 kA	225	10 kA	225	70 kA	125
		85	10 kA	300	10 kA	300	70 kA	175
		108	10 kA	400	10 kA	300	70 kA	200
		135	10 kA	500	10 kA	400	70 kA	225
		201	18 kA	600	18 kA	600	70 kA	350
		251	18 kA	700	18 kA	700	70 kA	400
		317	30 kA	800	30 kA	800	69 kA	500
		361	30 kA	1000	30 kA	1000	69 kA	600
		480	42 kA	1200	42 kA	1200	69 kA	800
	Delta Device Operational Current Rating (A)	5.1	5 kA	15	5 kA	15	70 kA	10
		16	5 kA	60	5 kA	60	70 kA	30
		27.6	5 kA	70	5 kA	70	70 kA	60
		32.8	5 kA	125	5 kA	125	70 kA	70
		43	5 kA	150	5 kA	150	70 kA	90
		52	10 kA	200	10 kA	200	70 kA	100
		64	10 kA	250	10 kA	250	70 kA	100
		74	10 kA	250	10 kA	250	70 kA	150
		104	10 kA	400	10 kA	300	70 kA	225
		147	10 kA	400	10 kA	400	70 kA	300
		187	10 kA	600	10 kA	500	70 kA	400
		234	10 kA	700	10 kA	700	70 kA	400
		348	18 kA	1000	18 kA	1000	70 kA	600
		435	18 kA	1200	18 kA	1200	69 kA	800
		549	30 kA	1600	30 kA	1600	69 kA	1000
		625	30 kA	1600	30 kA	1600	69 kA	1200
		831	42 kA	1600	30 kA	1600	69 kA	1600
		831	42 kA	1600	42 kA	1200	69 kA	1600

❶ Consult local codes for proper sizing of short circuit protection.

❷ Type 1 performance/protection indicates that, under a short-circuit condition, the fused or circuit breaker-protected starter shall cause no danger to persons or installation but may not be suitable for further service without repair or replacement.

Electrical Ratings				
			UL/CSA/NEMA	IEC
Control Circuit	Rated Operational Voltage (+10%, -15%)		100...240V AC, 24V AC/DC	100...240V AC, 24V AC/DC
	Rated Insulation Voltage		250V	250V-
	Rated Impulse Voltage		2.5 kV	4 kV
	Dielectric Withstand		1500V AC	2000V-
	Overvoltage Category		II	III ❶
	Operating Frequency		50/60 Hz	50/60 Hz
	Input on state voltage minimum, during start (IN1, IN2)		85V AC, 19.2V DC / 19.2V AC	
	Input on state current (IN1, IN2)		9.8 mA @120V AC/19.6 mA @ 240V AC, 7.3 mA @ 24V AC/DC	
	Input off state voltage maximum (IN1, IN2)		40V AC, 17V DC / 12V AC	
	Input off state current @ input off state voltage (IN1, IN2)		<10 mA, <12 mA	
	Control Power with Fan, during start	3...37 A	215 mA @ 120V AC / 180 mA @ 240V AC, 800 mA @ 24V DC / 660 mA @ 24V AC	
		43...85 A	200 mA @120V AC / 100 mA @240V AC, 700 mA @ 24V AC/DC	
			Fan Power	**Control Power**
		108...135 A	20 VA	200 mA @120V AC / 120 mA @ 240V AC, 600 mA @24V AC/DC
		201...251 A	40 VA	
		317...480 A	60 VA	
	Control Power without Fan, during start	3...37 A	205 mA @120V AC / 145 mA @240V AC, 705 mA @ 24V DC / 580 mA @24V AC	
Steady State Heat Dissipation and Overload Current Range		Controller Rating (A)	Steady State Heat Dissipation (W)	Overload Current Range (A)
		3	11	1..3
		9	12	3..9
		16	14	5.3...16
		19	15	6.3...19
		25	17	9.2...27.7
		30	19	10...30
		37	24	12.3...37
		43	34	14.3...43
		60	50	20...60
		85	82	28.3...85
		108	62	27...108
		135	75	34...135
		201	129	67...201
		251	147	84...251
		317	174	106...317
		361	194	120...361
		480	239	160...480

Auxiliary Contacts				
			UL/CSA/NEMA	IEC
Rated Operational Voltage			250V AC/30V DC	250V~/30V DC
Rated Insulation Voltage			250V	250V~
Rated Impulse Voltage			2.5 kV	4 kV
Dielectric Withstand			1500V AC	2000V~
Overvoltage Category			II	III ❶
Operating Frequency			50/60 Hz	50/60 Hz
Utilization Category			D300/D300	AC15
TB-97, -98 (OVLD/Fault)		Type of Control Circuit	Electromagnetic relay	
		Number of Contacts	1	
		Type of Contacts	Normally Open (N.O.)	
		Type of Current	AC/DC	
		Rated Operational Current (max.)	0.6 A @ 120V ~ and 0.3 A @ 240V-	
		Conventional Thermal Current I_{th}	1 A	
		Make/Break VA	432/72	
TB-13, -14 (Normal/Up-to-Speed)		Type of Control Circuit	Electromagnetic relay	
		Number of Contacts	1	
		Type of Contacts	Normally Open (N.O.)	
		Type of Current	AC/DC	
		Rated Operational Current (max.)	0.6 A @ 120V ~ and 0.3 A @ 240V-	
		Conventional Thermal Current I_{th}	1 A	
		Make/Break VA	432/72	

❶ Overvoltage category II, when either control or auxiliary circuit is wired to a SELV or PELV circuit.

Electrical Ratings			
Side-Mount Auxiliary Contacts			
		UL/CSA/NEMA	**IEC**
Rated Operational Voltage		250V AC/30V DC	250V/30V DC
Rated Insulation Voltage		250V	250V AC
Rated Impulse Voltage		2.5 kV	4 kV
Dielectric Withstand		1500V AC	2000V AC
Overvoltage Category		II	III❶
Operating Frequency		50/60 Hz	50/60 Hz
TB-23, -24 (Normal/Up-to-Speed) TB-33, -34 (Normal/Up-to-Speed)	Utilization Category	C300/R150	AC-15/DC-13
	Type of Control Circuit	Electromagnetic relay	
	Number of Contacts	1	
	Type of Contacts	Normally Open (N.O.)	
	Type of Current	AC/DC	
	Rated Operational Current (max.)	1.5 A @ 120V AC, 0.75A @ 240V AC, 1.17 A @ 24V DC	
	Conventional Thermal Current I_{th}	2.5 A	
	Make/Break VA	1800/180V AC, 28V DC (resistive)	
TB-11, 12 (Normal/Up-to-Speed)	Type of Control Circuit	B300/R300	AC-15/DC-13
	Type of Control Circuit	Electromagnetic relay	
	Number of Contacts	1	
	Type of Contacts	Normally Open (N.O.)	
	Type of Current	AC/DC	
	Rated Operational Current (max.)	3 A @ 120V AC, 1.5A @ 240V AC, 1.17 A @ 24V DC	
	Conventional Thermal Current I_{th}	5 A	
	Make/Break VA	3600/360 V AC, 28V DC (resistive)	

Environmental	
Operating Temperature Rating	-5...50 °C (23...122 °F) (open) -5...40 °C (23...104 °F) (enclosed)
Storage and Transportation Temperature Range	-25...85 °C (-13...185 °F)
Altitude	2000 m (6560 ft)
Humidity	5.95% (non-condensing)
Pollution Degree	2
Type of Protection	IP2X

Mechanical Ratings			
Resistance to Vibration	Operational		1.0 G Peak, 0.15 mm (0.006 in.) displacement
	Non-operational		2.5 G Peak, 0.38 mm (0.015 in.) displacement
Resistance to Shock	Operational		15 G
	Non-operational		30 G
Line Power Terminals	Cable Size Tightening Torque	3...37 A	2.5...25 mm2 (14...4 AWG) 2.3...2.8 N•m (20...25 in-lbs)
		43...85 A	2.5...95 mm2 (14...3/0 AWG) 11.3...12.4 N•m (100...110 in-lbs)
		108...135 A	23 N•m (200 in-lbs)
		201...251 A	Two M10 x 1.5 diameter holes per power pole
		317...480 A	Two M12 x 1.75 diameter holes per power pole
Load Power Terminals	Cable Size Tightening Torque	3...37 A	2.5...16 mm2 (14...6 AWG) 2.3...2.5 N•m (20...22.5 in-lbs)
		43...85 A	2.5...50 mm2 (14...1 AWG) 11.3...12.4 N•m (100...110 in-lbs)
		108...135 A	23 N•m (200 in-lbs)
		201...251 A	Two M10 x 1.5 diameter holes per power pole
		317...480 A	Two M12 x 1.75 diameter holes per power pole
Control Terminals	Cable Size Tightening Torque	All	0.2...2.5 mm2 (24...14 AWG) 0.5...0.9 N•m (4.4...8.0 in-lbs)

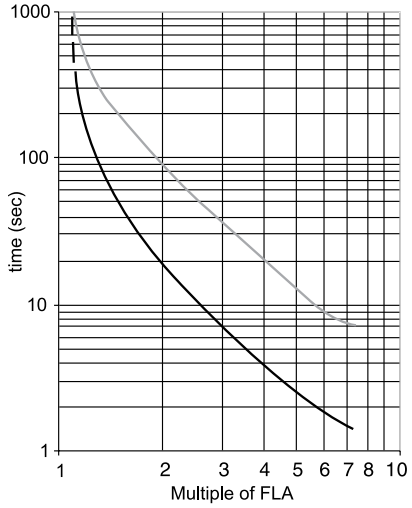
Other			
		UL/CSA/NEMA	**IEC**
EMC Emissions Levels	Conducted Radio Frequency Emissions	—	Class A
	Radiated Emissions	—	Class A
EMC Immunity Levels	Electrostatic Discharge	4 kV Contact and 8 kV Air Discharge	8 kV Air Discharge
	Radio Frequency Electromagnetic Field	—	Per EN/IEC 60947-4-2
	Fast Transient	—	Per EN/IEC 60947-4-2
	Surge Transient	—	Per EN/IEC 60947-4-2

❶ Overvoltage category II, when either control or auxiliary circuit is wired to a SELV or PELV circuit.

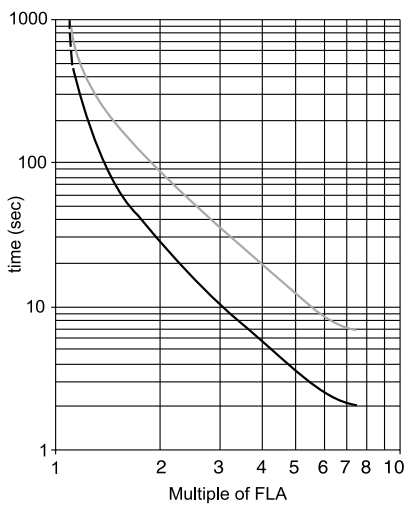
Overload Relay Trip Curves

Hot Cold

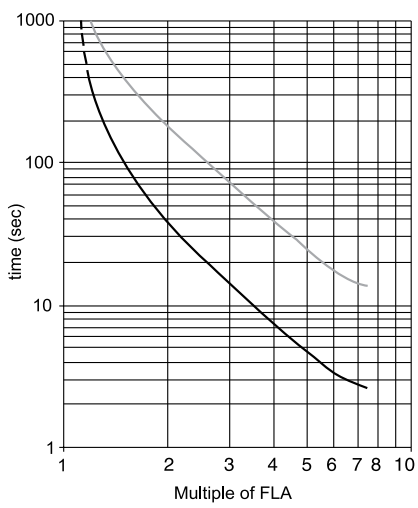
Trip Class 10



Trip Class 15

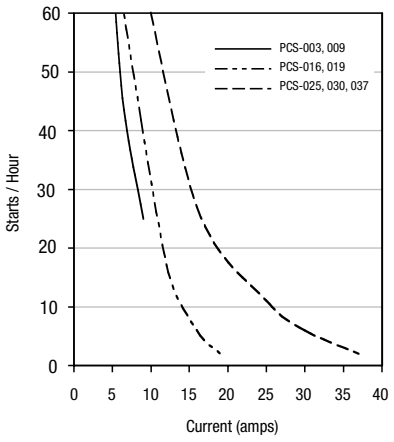


Trip Class 20

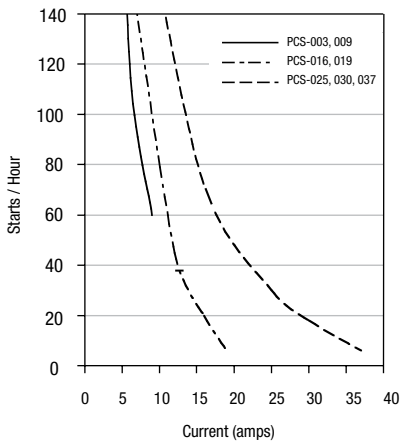


Starts per Hour Curves

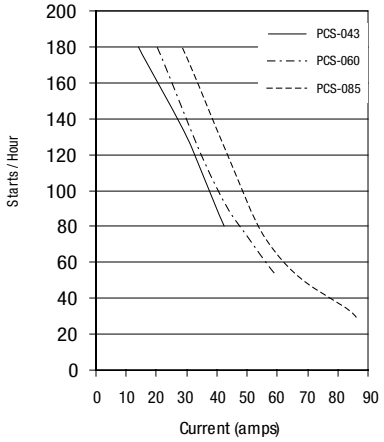
PCS Controller - Starts per hour
40C, 100% duty cycle, 10 sec., 350%, no fan



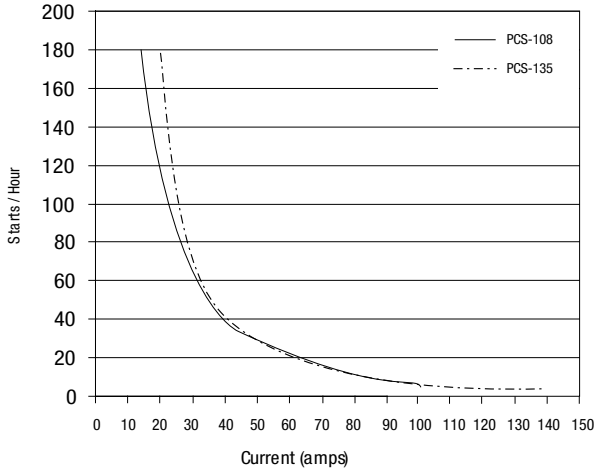
PCS Controller - Starts per hour
40C, 100% duty cycle, 10 sec., 350%, with fan



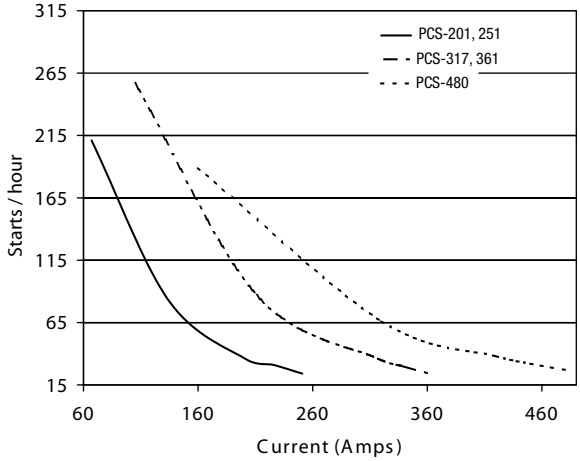
PCS Controller - Starts per hour
40C,100% Duty Cycle, 20sec, 350% (with standard fan)



PCS Controller Starts per hour (108-135A)
40C, 100% Duty Cycle, 20 sec, 350% (with standard fan)

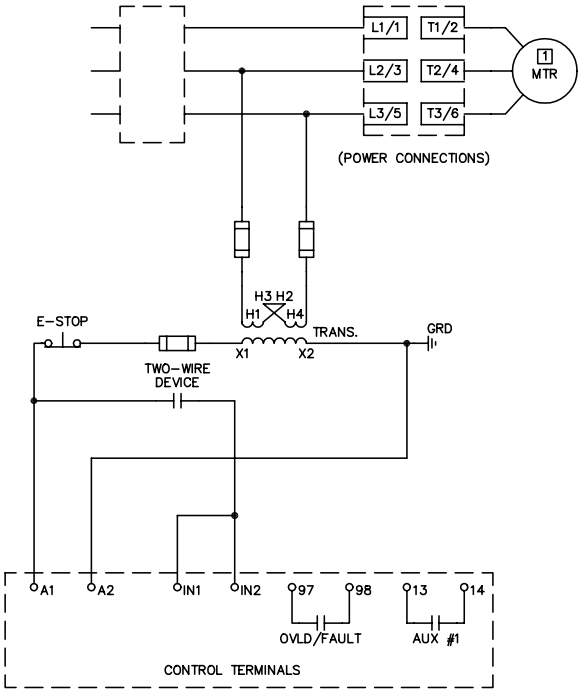


PCS Controller Starts per hour (201…480 A)
40C, 100% Duty Cycle, 20 sec, 350% (with standard fan)

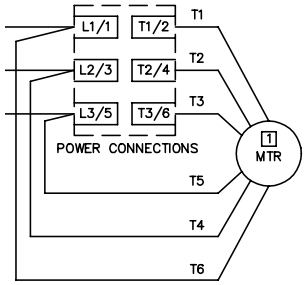


Two Wire Configuration

Line Connected ❶



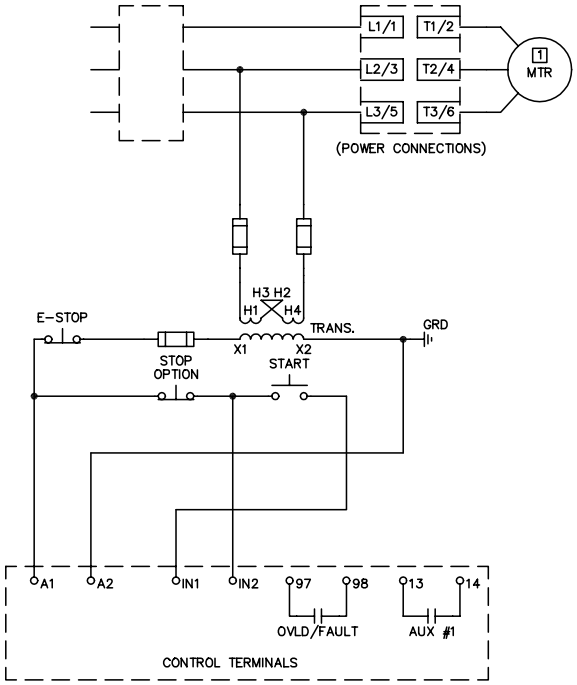
Delta Connected ❶



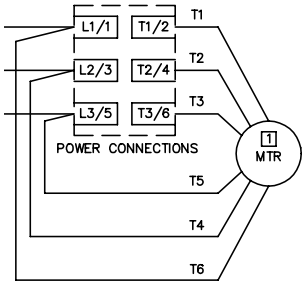
❶ Line or Delta Connected selection are determined by the customer.
- PCS DIP Switch #15 "**ON**": PCS set for Line Connected Motors
- PCS DIP Switch #15 "**OFF**": PCS set for Delta Connected Motors

Three Wire Configuration

Line Connected ❶



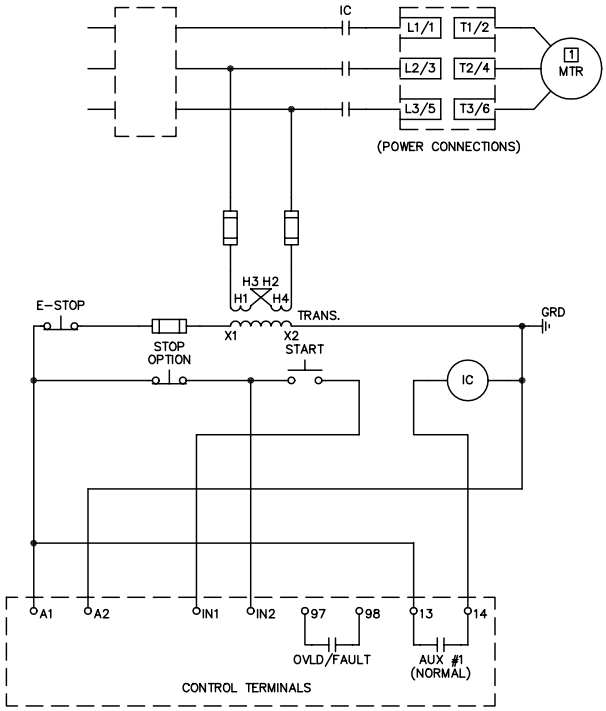
Delta Connected ❶



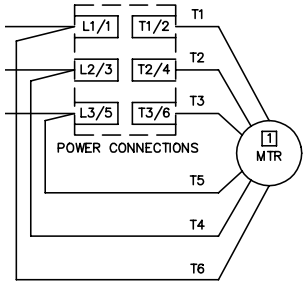
❶ Line or Delta Connected selection are determined by the customer.
- PCS DIP Switch #15 "**ON**": PCS set for Line Connected Motors
- PCS DIP Switch #15 "**OFF**": PCS set for Delta Connected Motors

Isolation Contactor Configuration

Line Connected ❶



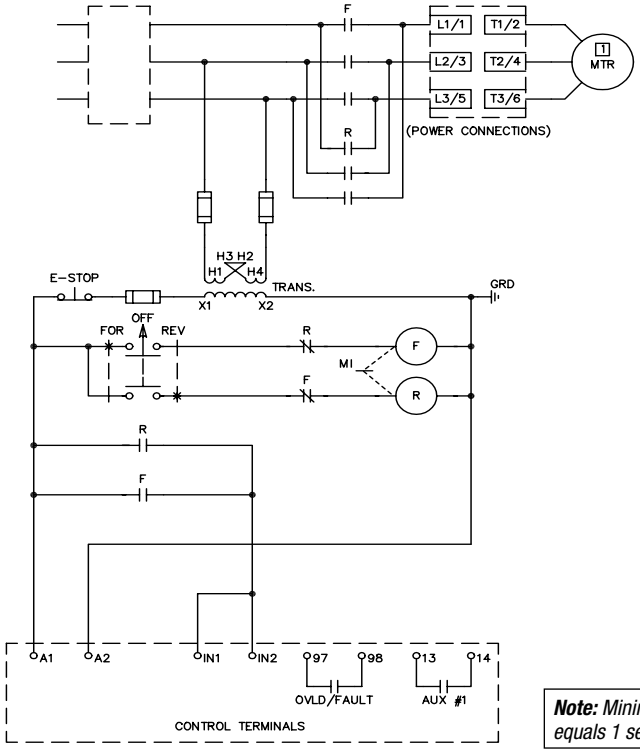
Delta Connected ❶



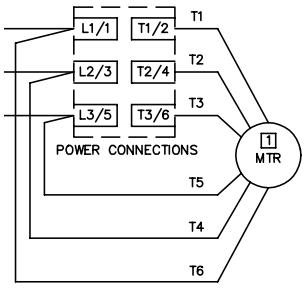
❶ Line or Delta Connected selection are determined by the customer.
- PCS DIP Switch #15 "**ON**": PCS set for Line Connected Motors
- PCS DIP Switch #15 "**OFF**": PCS set for Delta Connected Motors

Reversing Configuration

Line Connected ❶



Delta Connected ❶

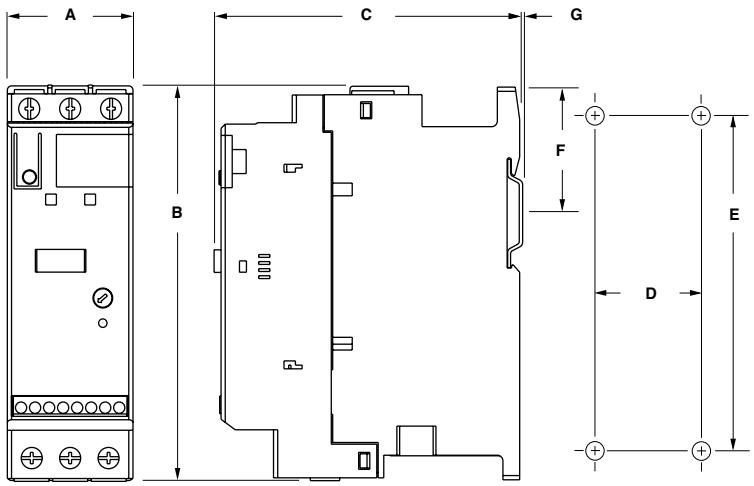


❶ Line or Delta Connected selection are determined by the customer.
- PCS DIP Switch #15 "**ON**": PCS set for Line Connected Motors
- PCS DIP Switch #15 "**OFF**": PCS set for Delta Connected Motors

Note: *Minimum off time equals 1 second*

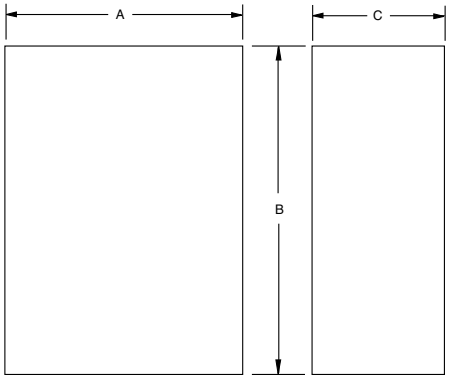
PCS Softstarter Controller

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



Controller	A	B	C	D	E	F	G	Mounting Hole Size	Weight (kg (lbs)
3…37A	44.8 (1-49/64)	139.7 (5-1/2)	100 (4-21/64)	35 (1-3/8)	132 (5-13/64)	46.4 (1-13/16)	2 (1/16)	4.6 (0.18)	0.86 (1.9)
43…85A	72 (2-26/32)	206 (8-1/8)	130 (5-1/8)	55 (2-5/32)	198 (7-25/32)	102 (4)	2 (1/16)	5.3 (0.21)	2.25 (5.0)
108...135A	196.4 (7.74)	443.7 (17.47)	205.2 (8.08)	166.6 (6.56)	367 (14.45)	~	~	7.5 (0.295)	15 (33)
201...251	225 (8.86)	560 (22.05)	265.3 (10.45)	150 (5.91)	504.1 (19.85)	~	~	11.5 (0.45)	30.4 (67)
317...480	290 (11.42)	600 (23.62)	298 (11.73)	200 (7.87)	539 (21.23)	~	~	11.5 (0.45)	45.8 (101)

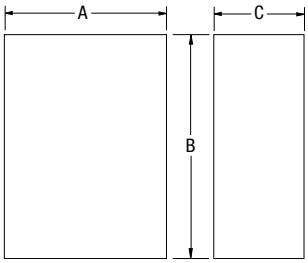
Minimum Enclosure Size



Controller	Height B	Width A	Depth C	Fan Requirements
3…37 A	305 (12)	224 (9)	152 (6)	none
43…85 A	406 (16)	305 (12)	203 (8)	none
108...135 A	762 (30)	610 (24)	305 (12)	none
201...251 A	965 (38)	762 (30)	356 (14)	none
317...480 A	1295 (51)	914 (36)	356 (14)	none

Enclosed Type Line-Connected Controllers

IMPORTANT NOTE:
Factory installed options may affect enclosure size requirements. Exact dimensions can be obtained after order entry. Consult your local Sprecher + Schuh representative.



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

Controller Rating (A)	Disconnect Rating	IP65 (Type 4/12)		
		B Height	A Width	C Depth
Non-Combination Controller				
3	—	356 (14)	305 (12)	152 (6)
9	—	356 (14)	305 (12)	152 (6)
16	—	356 (14)	305 (12)	152 (6)
25	—	356 (14)	305 (12)	152 (6)
30	—	356 (14)	305 (12)	152 (6)
37	—	356 (14)	305 (12)	152 (6)
43	—	406 (16)	356 (14)	203 (8)
60	—	406 (16)	356 (14)	203 (8)
85	—	406 (16)	356 (14)	203 (8)
108	—	762 (30)	610 (24)	305 (12)
135	—	762 (30)	610 (24)	305 (12)
201	—	914 (36)	762 (30)	406 (16)
251	—	914 (36)	762 (30)	406 (16)
317	—	1524 (60)	914 (36)	406 (16)
361	—	1524 (60)	914 (36)	406 (16)
480	—	1524 (60)	914 (36)	406 (16)
Combination Controllers with Fusible Disconnect				
3	30 A/J	508 (20)	406 (16)	203 (8)
9	30 A/J	508 (20)	406 (16)	203 (8)
16	30 A/J	508 (20)	406 (16)	203 (8)
25	30 A/J	508 (20)	406 (16)	203 (8)
30	60 A/J	508 (20)	406 (16)	203 (8)
37	60 A/J	508 (20)	406 (16)	203 (8)
43	60 A/J	610 (24)	508 (20)	203 (8)
60	100 A/J	610 (24)	508 (20)	254 (10)
85 ❶	100 A/J	610 (24)	508 (20)	254 (10)
85 ❷	200 A/J	762 (30)	610 (24)	305 (12)
108	200 A/J	914 (36)	762 (30)	406 (16)
135	200 A/J	914 (36)	762 (30)	406 (16)
201	400 A/J	1219 (48)	914 (36)	406 (16)
251	400 A/J	1219 (48)	914 (36)	406 (16)
317	600 A/J	1524 (60)	914 (36)	406 (16)
361	600 A/J	1524 (60)	914 (36)	406 (16)
480	600 A/J	1524 (60)	914 (36)	406 (16)
Combination Controllers with Circuit Breaker				
3	15 A	508 (20)	406 (16)	203 (8)
9	15 A	508 (20)	406 (16)	203 (8)
16	20 A	508 (20)	406 (16)	203 (8)
25	30 A	508 (20)	406 (16)	203 (8)
30	40 A	508 (20)	406 (16)	203 (8)
37	50 A	508 (20)	406 (16)	203 (8)
43	80 A	610 (24)	508 (20)	203 (8)
60	100 A	610 (24)	508 (20)	254 (10)
85	125 A	610 (24)	508 (20)	254 (10)
108	175 A/175 A Plug	914 (36)	762 (30)	406 (16)
135	225 A/225 A Plug	914 (36)	762 (30)	406 (16)
201	300 A/300 A Plug	1219 (48)	914 (36)	406 (16)
251	400 A/400 A Plug	1219 (48)	914 (36)	406 (16)
317	600 A/600 A Plug	1524 (60)	914 (36)	406 (16)
361	600 A/600 A Plug	1524 (60)	914 (36)	406 (16)
480	800 A/800 A Plug	1524 (60)	914 (36)	406 (16)

❶ Dimensions for FHD-43, FAD-44, FBD-47, and FCD-48.
❷ Dimensions for FHD-44, FAD-45, FBD-48, and FCD-49.

Notes