The PCS Softstarter Controller is Sprecher + Schuh’s solid-state controller 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 programable, 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
### Modes of Operation (Standard)

#### Soft Start

<table>
<thead>
<tr>
<th>Percent Voltage</th>
<th>Initial Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Start</td>
</tr>
<tr>
<td></td>
<td>Run</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Percent Voltage</th>
<th>Kickstart (when selected)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Start</td>
</tr>
<tr>
<td></td>
<td>Run</td>
</tr>
</tbody>
</table>

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 adjustable from 0.5 to 1.5 seconds. This allows the motor to develop additional torque for starting high inertia loads.

#### Current Limit Starting

<table>
<thead>
<tr>
<th>Full Load Amps</th>
<th>Start Time (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>450%</td>
<td></td>
</tr>
<tr>
<td>150%</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Percent Voltage</th>
<th>Initial Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>Start</td>
</tr>
<tr>
<td></td>
<td>Run</td>
</tr>
<tr>
<td></td>
<td>Stop</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Rated Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>With 100...240V AC Control Voltage</th>
<th>With 24V AC/DC Control Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>kW 50 Hz</td>
<td>Hp 60Hz</td>
</tr>
<tr>
<td>200/208</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>0.5</td>
<td>PCS-003-600V</td>
<td>457.58</td>
</tr>
<tr>
<td>3.9</td>
<td>0.75...2</td>
<td>PCS-009-600V</td>
<td>493.10</td>
</tr>
<tr>
<td>5.3...16</td>
<td>1.5...3</td>
<td>PCS-016-600V</td>
<td>603.05</td>
</tr>
<tr>
<td>6.3...19</td>
<td>1.5...3</td>
<td>PCS-019-600V</td>
<td>651.90</td>
</tr>
<tr>
<td>9.2...25</td>
<td>3...7.5</td>
<td>PCS-025-600V</td>
<td>670.72</td>
</tr>
<tr>
<td>10...30</td>
<td>3...7.5</td>
<td>PCS-030-600V</td>
<td>818.41</td>
</tr>
<tr>
<td>12.3...37</td>
<td>5...10</td>
<td>PCS-037-600V</td>
<td>1,012.84</td>
</tr>
<tr>
<td>14.3...43</td>
<td>5...10</td>
<td>PCS-043-600V</td>
<td>1,365.95</td>
</tr>
<tr>
<td>20...60</td>
<td>7.5...15</td>
<td>PCS-060-600V</td>
<td>1,787.90</td>
</tr>
<tr>
<td>28.3...85</td>
<td>10...25</td>
<td>PCS-065-600V</td>
<td>2,332.07</td>
</tr>
<tr>
<td>27...108</td>
<td>20...30</td>
<td>PCS-108-600V</td>
<td>3,731.33</td>
</tr>
<tr>
<td>34...135</td>
<td>25...40</td>
<td>PCS-135-600V</td>
<td>4,530.92</td>
</tr>
<tr>
<td>67...201</td>
<td>40...60</td>
<td>PCS-201-600V</td>
<td>5,374.92</td>
</tr>
<tr>
<td>84...251</td>
<td>50...75</td>
<td>PCS-251-600V</td>
<td>6,274.53</td>
</tr>
<tr>
<td>106...317</td>
<td>60...100</td>
<td>PCS-317-600V</td>
<td>6,496.55</td>
</tr>
<tr>
<td>120...361</td>
<td>75...125</td>
<td>PCS-361-600V</td>
<td>7,007.40</td>
</tr>
<tr>
<td>160...480</td>
<td>100...150</td>
<td>PCS-480-600V</td>
<td>9,683.81</td>
</tr>
</tbody>
</table>

| 230                 |                       |          |        |                |       |                |       |
| 1.3                 | 0.55                  | PCS-003-600V | 457.58 | PCS-003-600V-024 | 457.58 |
| 3.9                 | 2.2                   | PCS-009-600V | 493.10 | PCS-009-600V-024 | 493.10 |
| 5.3...16            | 1.5...5               | PCS-016-600V | 603.05 | PCS-016-600V-024 | 603.05 |
| 6.3...19            | 2.5                   | PCS-019-600V | 651.90 | PCS-019-600V-024 | 651.90 |
| 9.2...25            | 3...7.5               | PCS-025-600V | 670.72 | PCS-025-600V-024 | 670.72 |
| 10...30             | 5...10                | PCS-030-600V | 818.41 | PCS-030-600V-024 | 818.41 |
| 12.3...37           | 5...10                | PCS-037-600V | 1,012.84 | PCS-037-600V-024 | 1,012.84 |
| 14.3...43           | 5...10                | PCS-043-600V | 1,365.95 | PCS-043-600V-024 | 1,365.95 |
| 20...60             | 7.5...20              | PCS-060-600V | 1,787.90 | PCS-060-600V-024 | 1,787.90 |
| 28.3...85           | 15...30               | PCS-085-600V | 2,332.07 | PCS-085-600V-024 | 2,332.07 |
| 27...108            | 20...40               | PCS-108-600V | 3,731.33 | PCS-108-600V-024 | 3,731.33 |
| 34...135            | 25...50               | PCS-135-600V | 4,530.92 | PCS-135-600V-024 | 4,530.92 |
| 67...201            | 40...75               | PCS-201-600V | 5,374.92 | PCS-201-600V-024 | 5,374.92 |
| 84...251            | 50...100              | PCS-251-600V | 6,274.53 | PCS-251-600V-024 | 6,274.53 |
| 106...317           | 60...125              | PCS-317-600V | 6,496.55 | PCS-317-600V-024 | 6,496.55 |
| 120...361           | 75...150              | PCS-361-600V | 7,007.40 | PCS-361-600V-024 | 7,007.40 |
| 160...480           | 100...200             | PCS-480-600V | 9,683.81 | PCS-480-600V-024 | 9,683.81 |

### Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.

### 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.
- Separate 120V or 240V single phase is required for PCS fan operation.
- Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D20 for terminal lug kits.

### See page D25 for maximum starts per hour.
Open Type - Line Connected Controllers cont.  

<table>
<thead>
<tr>
<th>Rated Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>Starting Duty With 100...240V AC Control Voltage</th>
<th>With 24V AC/DC Control Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>380/400/415/460</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1...3</td>
<td>1.1</td>
<td>PCS-003-600V</td>
<td>457.58</td>
</tr>
<tr>
<td>3...9</td>
<td>4.5</td>
<td>PCS-009-600V</td>
<td>493.10</td>
</tr>
<tr>
<td>5.3...16</td>
<td>7.5</td>
<td>PCS-016-600V</td>
<td>603.05</td>
</tr>
<tr>
<td>6.3...19</td>
<td>7.5</td>
<td>PCS-019-600V</td>
<td>651.90</td>
</tr>
<tr>
<td>9.2...25</td>
<td>11.5</td>
<td>PCS-025-600V</td>
<td>670.72</td>
</tr>
<tr>
<td>10...30</td>
<td>15.5</td>
<td>PCS-030-600V</td>
<td>818.41</td>
</tr>
<tr>
<td>12.3...37</td>
<td>18.5</td>
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<td>1,012.84</td>
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<td>14.3...43</td>
<td>22</td>
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<td>1,365.95</td>
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<tr>
<td>20...60</td>
<td>30</td>
<td>PCS-060-600V</td>
<td>1,787.90</td>
</tr>
<tr>
<td>28.3...85</td>
<td>45</td>
<td>PCS-085-600V</td>
<td>2,332.07</td>
</tr>
<tr>
<td>37...108</td>
<td>55</td>
<td>PCS-108-600V</td>
<td>3,731.33</td>
</tr>
<tr>
<td>500/575</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1...3</td>
<td>1.1</td>
<td>PCS-003-600V</td>
<td>457.58</td>
</tr>
<tr>
<td>3...9</td>
<td>5.5</td>
<td>PCS-009-600V</td>
<td>493.10</td>
</tr>
<tr>
<td>5.3...16</td>
<td>7.5</td>
<td>PCS-016-600V</td>
<td>603.05</td>
</tr>
<tr>
<td>6.3...19</td>
<td>7.5</td>
<td>PCS-019-600V</td>
<td>651.90</td>
</tr>
<tr>
<td>9.2...25</td>
<td>11.5</td>
<td>PCS-025-600V</td>
<td>670.72</td>
</tr>
<tr>
<td>10...30</td>
<td>15.5</td>
<td>PCS-030-600V</td>
<td>818.41</td>
</tr>
<tr>
<td>12.3...37</td>
<td>18.5</td>
<td>PCS-037-600V</td>
<td>1,012.84</td>
</tr>
<tr>
<td>14.3...43</td>
<td>22</td>
<td>PCS-043-600V</td>
<td>1,365.95</td>
</tr>
<tr>
<td>20...60</td>
<td>30</td>
<td>PCS-060-600V</td>
<td>1,787.90</td>
</tr>
<tr>
<td>28.3...85</td>
<td>45</td>
<td>PCS-085-600V</td>
<td>2,332.07</td>
</tr>
<tr>
<td>37...108</td>
<td>55</td>
<td>PCS-108-600V</td>
<td>3,731.33</td>
</tr>
</tbody>
</table>

- Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless of the Overload Function. Contact Sprecher+Schuh technical support for further guidance.

- 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.
  - Separate 120V or 240V single phase is required for PCS fan operation.
  - Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D20 for terminal lug kits.

SSNA2018  
www.sprecherschuh.com/ecatalog - All pricing shown in US dollars - FY20
## Open Type - Delta Connected Controllers

<table>
<thead>
<tr>
<th>Rated Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
<th>With 100...240V AC Control Voltage</th>
<th>With 24V AC/DC Control Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.5...34</td>
<td>0.25...1.1</td>
<td>1</td>
<td>PCS-003-600V</td>
<td>457.58</td>
</tr>
<tr>
<td>51...100</td>
<td>1.1...4</td>
<td>1.5</td>
<td>PCS-009-600V</td>
<td>493.10</td>
</tr>
<tr>
<td>91...182</td>
<td>2.2...7.5</td>
<td>1.5</td>
<td>PCS-016-600V</td>
<td>603.05</td>
</tr>
<tr>
<td>21...64</td>
<td>4...15</td>
<td>1</td>
<td>PCS-025-600V</td>
<td>670.72</td>
</tr>
<tr>
<td>25...74</td>
<td>5...10</td>
<td>1</td>
<td>PCS-030-600V</td>
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</tr>
<tr>
<td>34.6...104</td>
<td>7.5...25</td>
<td>1</td>
<td>PCS-037-600V</td>
<td>1,012.84</td>
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<tr>
<td>100...208</td>
<td>8...25</td>
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<td>173...520</td>
<td>10...35</td>
<td>1</td>
<td>PCS-050-600V</td>
<td>1,787.90</td>
</tr>
</tbody>
</table>

### Motor FLA rating
- Motor FLA rating must fall within the specified current range for the unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.

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### Delta Connected

- Separate 120V or 240V single phase is required for PCS fan operation.
- Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D20 for terminal lug kits.
- 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.
# Softstarter Intelligent Controllers

## Series PCS

### Open Type - Delta Connected Controllers cont. ② ④ ⑤

<table>
<thead>
<tr>
<th>Rated Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
<th>With 100...240V AC Control Voltage</th>
<th>With 24V AC/DC Control Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>kW 50 Hz</td>
<td>Hp 60Hz</td>
<td>Catalog Number</td>
<td>Catalog Number</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Price</td>
<td>Price</td>
</tr>
<tr>
<td>380/400/415/460</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7...5.1</td>
<td>0.55...2.2</td>
<td>0.5...2</td>
<td>PCS-003-600V</td>
<td>457.58</td>
</tr>
<tr>
<td>5.1...16</td>
<td>2.2...7.5</td>
<td>2...7.5</td>
<td>PCS-009-600V</td>
<td>493.10</td>
</tr>
<tr>
<td>9.1...27.6</td>
<td>4...11</td>
<td>5...15</td>
<td>PCS-016-600V</td>
<td>603.05</td>
</tr>
<tr>
<td>10.9...32.8</td>
<td>4...15</td>
<td>5...15</td>
<td>PCS-019-600V</td>
<td>651.90</td>
</tr>
<tr>
<td>14.3...43</td>
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<td>7.5...20</td>
<td>PCS-025-600V</td>
<td>670.72</td>
</tr>
<tr>
<td>17.3...52</td>
<td>7.5...22</td>
<td>7.5...30</td>
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<td>818.41</td>
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<tr>
<td>21...64</td>
<td>7.5...30</td>
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<td>1,012.84</td>
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<tr>
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<td>20...75</td>
<td>PCS-060-600V</td>
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</tr>
<tr>
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<td>22...75</td>
<td>25...100</td>
<td>PCS-085-600V</td>
<td>2,332.07</td>
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<tr>
<td>47...187</td>
<td>90</td>
<td>40...150</td>
<td>PCS-108-600V</td>
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<td>132</td>
<td>50...150</td>
<td>PCS-135-600V</td>
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<tr>
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<tr>
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<td>250...450</td>
<td>PCS-317-600V</td>
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<td>208...625</td>
<td>355</td>
<td>300...500</td>
<td>PCS-361-600V</td>
<td>7,007.40</td>
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<tr>
<td>277...831</td>
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<td>350...700</td>
<td>PCS-480-600V</td>
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- Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher+Schruch technical support for further guidance.
- 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.
- Separate 120V or 240V single phase is required for PCS fan operation.
- Controllers rated 108A and greater are not equipped with the line and load terminal lugs. See page D20 for terminal lug kits.
- 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

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- **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

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

See page D18 if ordering factory installed modifications.

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

Line and load termination are provided as standard.

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

Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.
# Softstarters

## Series PCS

**Softstarter Intelligent Controllers**

### Enclosed Non-Combination Starters - Line Connected

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<th>Starting Duty kW</th>
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**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

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1. Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
2. See page D18 if ordering factory installed modifications.
3. The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
4. Line and load termination are provided as standard.
5. For 380V applications choose softstarter based on FLA, then change the NB code in the catalog number to NG. For example PCS-043-NBDD becomes PCS-043-NGDD, which covers 25 HP @ 380V FLA 37. Price remains the same.
6. For outdoor applications, replace “D” in catalog number with an “R”. All enclosures are Type-12 with a Drip Shield. Example: PCS-085-NBDD becomes PCS-085-NBDR. Price and dimensions remain the same.
7. Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.
Enclosed Combination Circuit Breaker Starters - Line Connected

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| 3                    | 0.37                   | 0.5           | PCS-003-BAD33D    | 1,811.83            | PCS-003-BAD33W    | 1,884.38          |
| 9                    | 0.55                   | 0.75          | PCS-009-BAD34D    | 1,867.79            | PCS-009-BAD34W    | 1,943.46          |
| 9                    | 0.75                   | 1             | PCS-009-BAD35D    | 1,867.79            | PCS-009-BAD35W    | 1,943.46          |
| 9                    | 1.1                    | 1.5           | PCS-009-BAD36D    | 1,867.79            | PCS-009-BAD36W    | 1,943.46          |
| 9                    | 1.5                    | 2             | PCS-009-BAD37D    | 1,867.79            | PCS-009-BAD37W    | 1,943.46          |
| 16                   | 2.2                    | 3             | PCS-016-BAD38D    | 1,999.01            | PCS-016-BAD38W    | 2,037.78          |
| 25                   | 3.7                    | 5             | PCS-025-BAD39D    | 2,140.40            | PCS-025-BAD39W    | 2,226.43          |
| 30                   | 5.5                    | 7.5           | PCS-030-BAD40D    | 2,298.99            | PCS-030-BAD40W    | 2,391.23          |
| 37                   | 7.5                    | 10            | PCS-037-BAD41D    | 2,457.57            | PCS-037-BAD41W    | 2,556.04          |
| 43                   | 11                    | 15            | PCS-043-BAD42D    | 2,661.77            | PCS-043-BAD42W    | 2,767.49          |
| 60                   | 15                    | 20            | PCS-060-BAD43D    | 3,215.26            | PCS-060-BAD43W    | 3,344.82          |
| 85                   | 18.5                   | 25            | PCS-085-BAD44D    | 3,646.45            | PCS-085-BAD44W    | 3,792.60          |
| 108                  | 30                    | 40            | PCS-108-BAD46D    | 6,058.41            | PCS-108-BAD46W    | 6,300.96          |
| 135                  | 37                    | 50            | PCS-135-BAD47D    | 6,997.49            | PCS-135-BAD47W    | 7,277.35          |
| 201                  | 55                    | 75            | PCS-201-BAD49D    | 8,357.40            | PCS-201-BAD49W    | 8,691.16          |
| 251                  | 75                    | 100           | PCS-251-BAD50D    | 9,806.44            | PCS-251-BAD50W    | 10,198.25         |
| 317                  | 90                    | 125           | PCS-317-BAD51D    | 10,712.36           | PCS-317-BAD51W    | 11,140.44         |
| 361                  | 110                   | 150           | PCS-361-BAD52D    | 11,289.69           | PCS-361-BAD52W    | 11,741.62         |
| 480                  | 147                   | 200           | PCS-480-BAD54D    | 14,381.61           | PCS-480-BAD54W    | 14,956.87         |

Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
See page D16 if ordering factory installed modifications.
The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
See page D29 for circuit breaker ratings.
For outdoor applications, replace “D” in catalog number with an “R”. All enclosures are Type-12 with a Drip Shield. Example: PCS-085-BHD43D becomes PCS-085-BHD43R. Price and dimensions remain the same.
Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher + Schuh technical support for further guidance.
For outdoor applications, replace “D” in catalog number with an “R”. All enclosures are Type-12 with a Drip Shield. For example number PCS-085-BBD47D becomes PCS-085-BBD47R. Price and dimensions remain the same.

Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the overload function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.
## Enclosed Combination Fusible Starters - Line Connected

### 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

### Rating Schedule B4

#### 200 V (V AC)

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<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
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<th>Starting Duty</th>
<th>Type 12 [Type 3R] Industrial Dusight</th>
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<td>5,491.45</td>
<td>PCS-108-FAD45W 5,711.18</td>
</tr>
<tr>
<td>135</td>
<td>40</td>
<td>PCS-135-FAD46D</td>
<td>6,420.16</td>
<td>PCS-135-FAD46W 6,677.21</td>
</tr>
<tr>
<td>201</td>
<td>60</td>
<td>PCS-201-FAD48D</td>
<td>7,258.70</td>
<td>PCS-201-FAD48W 7,548.92</td>
</tr>
<tr>
<td>251</td>
<td>75</td>
<td>PCS-251-FAD49D</td>
<td>8,006.02</td>
<td>PCS-251-FAD49W 8,326.31</td>
</tr>
<tr>
<td>317</td>
<td>100</td>
<td>PCS-317-FAD50D</td>
<td>8,832.12</td>
<td>PCS-317-FAD50W 9,185.57</td>
</tr>
<tr>
<td>361</td>
<td>125</td>
<td>PCS-361-FAD51D</td>
<td>10,429.38</td>
<td>PCS-361-FAD51W 10,847.10</td>
</tr>
<tr>
<td>480</td>
<td>150</td>
<td>PCS-480-FAD52D</td>
<td>12,569.78</td>
<td>PCS-480-FAD52W 13,072.49</td>
</tr>
</tbody>
</table>

### Notes:
- Other UL type enclosures available. Contact your Sprecher + Schuh representative for pricing.
- See page D18 if ordering factory installed modifications.
- The nominal current rating for the combination package may differ from the controller, based on the horsepower. Consult your Sprecher + Schuh representative.
- Fuse clip accepts J-Type fuses. Power fuses are not supplied. See page D29 for Fusible Disconnect amp ratings.
- For outdoor applications, replace “D” in catalog number with an “R”. All enclosures are Type-12 with a Drip Shield. Example: PCS-085-FHD43D becomes PCS-085-FHD43R. Price and dimensions remain the same.
- Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless if the Overload Function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.
### Softstarter Intelligent Controllers

#### Series PCS

### Enclosed Combination Fusible Starters - Line Connected

<table>
<thead>
<tr>
<th>Rated Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
<th>Type 12 [Type 3R]</th>
<th>Type 12 Industrial Dustight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
<th>Type 12 [Type 3R]</th>
<th>Type 12 Industrial Dustight</th>
<th>Type 4 Watertight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
<th>Type 12 [Type 3R]</th>
<th>Type 12 Industrial Dustight</th>
<th>Type 12 Industrial Dustight</th>
</tr>
</thead>
<tbody>
<tr>
<td>575</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>460</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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
- For outdoor applications replace “D” in catalog number with an “R”. All enclosures are Type-12 with a Drip Shield. For example number PCS-085-FBD47 becomes PCS-085-FBD47R. **Price and dimensions remain the same.**
- Motor FLA rating must fall within the specified current range for unit to operate properly. Special consideration should be given when using a motor with a potentially high starting current (greater than ten times motor FLA) with the PCS in the “Full Voltage” starting mode. The overload setting must be set to the motor FLA regardless of the Overload Function is “OFF” (disabled). Contact Sprecher+Schuh technical support for further guidance.

### Discount Schedule B4

<table>
<thead>
<tr>
<th>Voltage (V AC)</th>
<th>Current Rating (Amps)</th>
<th>Starting Duty</th>
<th>Type 12 [Type 3R]</th>
<th>Type 12 Industrial Dustight</th>
<th>Type 12 Industrial Dustight</th>
</tr>
</thead>
<tbody>
<tr>
<td>575</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>460</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Other UL type enclosures available. Contact your Sprecher + Schuh representative.

**See page D18 if ordering factory installed modifications.**

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

**Fuse clips accept J-Type fuses. Power fuses are not supplied. See page D29 for Fusible Disconnect amp ratings.**

**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-FGD44D, which covers 25 HP @ 380V FLA 37. **Price remains the same.**
## Options - Factory Modifications

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
<th>Price Adder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pushbuttons</strong> (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>START and STOP pushbuttons for enclosed softstarters</td>
<td>Add suffix &quot;-3&quot;</td>
<td>222.85</td>
</tr>
<tr>
<td><strong>Selector Switch</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two or three position selector switch for enclosed softstarters</td>
<td>Add suffix &quot;-6&quot;</td>
<td>222.85</td>
</tr>
<tr>
<td>&quot;ON-OFF&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;HAND-OFF-AUTO&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Add suffix &quot;-7&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pilot Light ⚫</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red pilot light with “RUN” inscription for enclosed softstarters</td>
<td>Add suffix &quot;-1&quot;</td>
<td>154.44</td>
</tr>
<tr>
<td><strong>Voltmeter (Panelboard)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures all three phases. Includes switch.</td>
<td>Add suffix &quot;-VM3&quot;</td>
<td>2,133.15</td>
</tr>
<tr>
<td><strong>Ammeter (Panelboard)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For monitoring all three phases. Includes switch.</td>
<td>Add suffix &quot;-AM3&quot;</td>
<td>2,133.15</td>
</tr>
<tr>
<td><strong>Elapsed Time Meter</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Measures elapsed motor running time</td>
<td>Add suffix &quot;-ETM&quot;</td>
<td>1,066.57</td>
</tr>
</tbody>
</table>

> When adding Pilot Lights plus other cover controls, add the Pilot Light first. For example, to add a Start-Stop Pushbutton and a Pilot Light, add -13 at the end of the part number, not -31.
### Auxiliary Contact Blocks (1 & 2 Pole)

<table>
<thead>
<tr>
<th>Contact Block</th>
<th>Description</th>
<th>NO</th>
<th>NC</th>
<th>Contact Arrangement</th>
<th>For use with…</th>
<th>Catalog Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>0</td>
<td>23</td>
<td></td>
<td>All PCS &amp; PCEC Controllers</td>
<td>PCS-PA-10</td>
<td>26.85</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0</td>
<td>23</td>
<td></td>
<td></td>
<td>PCS-PA-20</td>
<td>36.08</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td>1</td>
<td>11</td>
<td></td>
<td></td>
<td>PCS-PA-01</td>
<td>26.85</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>1</td>
<td>11</td>
<td></td>
<td></td>
<td>PCS-PA-11</td>
<td>36.08</td>
</tr>
</tbody>
</table>

- For side mounting with sequence terminal designations
- Snap-on design – mounts without tools
- One block per device only

### Accessories

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
<th>For use with…</th>
<th>Catalog Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal PCS Fan</strong></td>
<td>• 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.</td>
<td>PCS-003…037, PCE-032…064-600V</td>
<td>PCV-064</td>
<td>47.16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCS-043…085, PCE-074…147-600V</td>
<td>PCV-147</td>
<td>72.24</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCS-108…135, PCE-234-600V</td>
<td>PCV-234</td>
<td>272.61</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCS-201…251</td>
<td>PFV-0251</td>
<td>363.81</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCS-317…480</td>
<td>PFV-0480</td>
<td>399.06</td>
</tr>
<tr>
<td><strong>Connecting Module</strong></td>
<td>• 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</td>
<td>KT7-25S to PCS-003…025</td>
<td>PCS-25S-CC25</td>
<td>9.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KT7-25H to PCS-003…025</td>
<td>PCS-25H-CD25</td>
<td>9.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KT7-45H to PCS-003…037</td>
<td>PCS-45H-CF45</td>
<td>9.82</td>
</tr>
<tr>
<td><strong>Connecting Module</strong></td>
<td>• 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</td>
<td>CA7-9…23 to PCS-003…019</td>
<td>PCS-23-CI23</td>
<td>9.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CA7-30…37 to PCS-003…037</td>
<td>PCS-37-CI37</td>
<td>9.82</td>
</tr>
<tr>
<td><strong>600V Protective Module</strong></td>
<td>• 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 • Clamping voltage range 705V…1750V, energy rating 290 joules</td>
<td>PCS-003…037-600V, PCE-032…064-600V</td>
<td>PCP-064-600V</td>
<td>70.49</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCS-043…085-600V, PCE-074…147-600V</td>
<td>PCP-147-600V</td>
<td>136.82</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PCS-108…480, PCE-234-600V</td>
<td>PFP-0480-600V</td>
<td>529.66</td>
</tr>
</tbody>
</table>

* One Auxiliary Contact block (one or two pole) may be mounted on the right side of the controller.
IEC Terminal Covers ➊

<table>
<thead>
<tr>
<th>Description</th>
<th>Pkg. Qty</th>
<th>Catalog Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC line or load terminal covers for 108...135A devices. Dead front protection</td>
<td>1</td>
<td>PFT-0135</td>
<td>62.51</td>
</tr>
<tr>
<td>IEC line or load terminal covers for 201...251A devices. Dead front protection</td>
<td>1</td>
<td>PFT-0251</td>
<td>74.74</td>
</tr>
<tr>
<td>IEC line or load terminal covers for 317...480A devices. Dead front protection</td>
<td>1</td>
<td>PFT-0480</td>
<td>82.82</td>
</tr>
</tbody>
</table>

Terminal Lug Kits (108...480 A) ➋

<table>
<thead>
<tr>
<th>Current Rating (A)</th>
<th>Conductor Size</th>
<th>Total No. of Line Controller Terminal Lugs Possible Each Side</th>
<th>Pkg. Qty</th>
<th>Catalog Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>108...135</td>
<td>#6...250 MCM AWG 16 mm²...120 mm²</td>
<td>3</td>
<td>3</td>
<td>PNX-1120</td>
<td>99.09</td>
</tr>
<tr>
<td>201...251</td>
<td>6</td>
<td>6</td>
<td>PNX-1240</td>
<td>150.29</td>
<td></td>
</tr>
<tr>
<td>317...480</td>
<td>#4...500 MCM AWG 25 mm²...240 MM²</td>
<td>6</td>
<td>6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Accessories ➌

<table>
<thead>
<tr>
<th>Accessory</th>
<th>Description</th>
<th>For Use With…</th>
<th>Catalog Number</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remote Reset Solenoid -</td>
<td>For remote resetting of the overload relay</td>
<td>CT7N  ⚫</td>
<td>Replace ⚫ with coil code below</td>
<td>74.42</td>
</tr>
<tr>
<td>External Reset Button -</td>
<td>Used for manually resetting the PCS electronic overload</td>
<td>All PCS Controllers</td>
<td>Use D7 Reset See Section H</td>
<td></td>
</tr>
<tr>
<td>DIN-rail - 2 meter lengths (6’ 6”)</td>
<td>Top Hat, low profile (price per rail) Top Hat, high profile (price per rail)</td>
<td>3F</td>
<td>3AF</td>
<td>See page N30</td>
</tr>
</tbody>
</table>

Marking Systems ➌

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

CMR7 Remote Reset Coil Codes

<table>
<thead>
<tr>
<th></th>
<th>AC Coil Code</th>
<th>Voltage Range</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50 Hz</td>
<td>60 Hz</td>
</tr>
<tr>
<td>24Z</td>
<td>~</td>
<td>~</td>
</tr>
<tr>
<td>120</td>
<td>110V</td>
<td>120V</td>
</tr>
<tr>
<td>240D</td>
<td>220V</td>
<td>230V</td>
</tr>
</tbody>
</table>

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

### For units rated 200…600V AC

<table>
<thead>
<tr>
<th>PCS Rating</th>
<th>Catalog Number</th>
<th>Price</th>
<th>Qty</th>
<th>24V AC/DC Catalog Number</th>
<th>Price</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>108 A</td>
<td>PCS-108</td>
<td>1,295.64</td>
<td>1</td>
<td>PCS-108-024</td>
<td>1,295.64</td>
<td>1</td>
</tr>
<tr>
<td>135 A</td>
<td>PCS-135</td>
<td>1,326.74</td>
<td>1</td>
<td>PCS-135-024</td>
<td>1,326.74</td>
<td>1</td>
</tr>
<tr>
<td>201 A</td>
<td>PCS-201</td>
<td>1,326.74</td>
<td>1</td>
<td>PCS-201-024</td>
<td>1,326.74</td>
<td>1</td>
</tr>
<tr>
<td>251 A</td>
<td>PCS-251</td>
<td>1,326.74</td>
<td>1</td>
<td>PCS-251-024</td>
<td>1,326.74</td>
<td>1</td>
</tr>
<tr>
<td>317 A</td>
<td>PCS-317</td>
<td>1,326.74</td>
<td>1</td>
<td>PCS-317-024</td>
<td>1,326.74</td>
<td>1</td>
</tr>
<tr>
<td>361 A</td>
<td>PCS-361</td>
<td>1,326.74</td>
<td>1</td>
<td>PCS-361-024</td>
<td>1,326.74</td>
<td>1</td>
</tr>
<tr>
<td>480 A</td>
<td>PCS-480</td>
<td>1,326.74</td>
<td>1</td>
<td>PCS-480-024</td>
<td>1,326.74</td>
<td>1</td>
</tr>
</tbody>
</table>

## Power Poles

### For units rated 200…600V AC

<table>
<thead>
<tr>
<th>PCS Rating</th>
<th>Catalog Number</th>
<th>Price</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>108 A</td>
<td>PFL-0108-600V</td>
<td>3,161.36</td>
<td>1</td>
</tr>
<tr>
<td>135 A</td>
<td>PFL-0135-600V</td>
<td>4,032.03</td>
<td>1</td>
</tr>
<tr>
<td>201 A</td>
<td>PFL-0201-600V</td>
<td>2,145.58</td>
<td>1</td>
</tr>
<tr>
<td>251 A</td>
<td>PFL-0251-600V</td>
<td>2,332.15</td>
<td>1</td>
</tr>
<tr>
<td>317 A</td>
<td>PFL-0317-600V</td>
<td>2,694.93</td>
<td>1</td>
</tr>
<tr>
<td>361 A</td>
<td>PFL-0361-600V</td>
<td>2,933.33</td>
<td>1</td>
</tr>
<tr>
<td>480 A</td>
<td>PFL-0480-600V</td>
<td>3,990.57</td>
<td>1</td>
</tr>
</tbody>
</table>

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.

---

1. One piece provided per part number.
2. Part number contains three power poles.
3. Part number contains one power pole.
4. Control Modules and Power Poles are not replaceable for PCS-003…85.
## Technical Information

### Series PCS

#### Standard Features

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

#### Electrical Ratings

<table>
<thead>
<tr>
<th>Power Circuit</th>
<th>Utilization Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Operation Voltage</td>
<td>UL/CSA/NEMA 200...600V AC (+10%, -15%)</td>
</tr>
<tr>
<td>Rated Insulation Voltage</td>
<td>500V— 500V—</td>
</tr>
<tr>
<td>Dielectric Withstand</td>
<td>2200V AC 2500V—</td>
</tr>
<tr>
<td>Repetitive Peak</td>
<td>200...600V AC; 1600V</td>
</tr>
<tr>
<td>Operating Frequency</td>
<td>50/60 Hz 50/60 Hz</td>
</tr>
</tbody>
</table>

#### SCPD Performance

<table>
<thead>
<tr>
<th>SCPD List 1</th>
<th>Type 1 ⚠</th>
<th>Non-Time Delay Fuses (K5)</th>
<th>Thermal Magnetic Circuit Breaker</th>
<th>High Capacity Time Delay Class CC/J/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5 kA</td>
<td>12</td>
<td>5 kA</td>
<td>15</td>
</tr>
<tr>
<td>9</td>
<td>5 kA</td>
<td>30</td>
<td>5 kA</td>
<td>30</td>
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<tr>
<td>16</td>
<td>5 kA</td>
<td>60</td>
<td>5 kA</td>
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<td>19</td>
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<td>25</td>
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<td>100</td>
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<td>30</td>
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<tr>
<td>37</td>
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<td>125</td>
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<td>43</td>
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<td>60</td>
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<td>85</td>
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<td>108</td>
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<td>135</td>
<td>10 kA</td>
<td>500</td>
<td>10 kA</td>
<td>500</td>
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<tr>
<td>201</td>
<td>18 kA</td>
<td>600</td>
<td>18 kA</td>
<td>600</td>
</tr>
<tr>
<td>251</td>
<td>18 kA</td>
<td>700</td>
<td>18 kA</td>
<td>700</td>
</tr>
<tr>
<td>317</td>
<td>30 kA</td>
<td>800</td>
<td>30 kA</td>
<td>800</td>
</tr>
<tr>
<td>361</td>
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<td>1000</td>
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</tr>
<tr>
<td>480</td>
<td>42 kA</td>
<td>1200</td>
<td>42 kA</td>
<td>1200</td>
</tr>
<tr>
<td>51</td>
<td>5 kA</td>
<td>15</td>
<td>5 kA</td>
<td>15</td>
</tr>
<tr>
<td>16</td>
<td>5 kA</td>
<td>60</td>
<td>5 kA</td>
<td>60</td>
</tr>
<tr>
<td>27.6</td>
<td>5 kA</td>
<td>70</td>
<td>5 kA</td>
<td>70</td>
</tr>
<tr>
<td>32.9</td>
<td>5 kA</td>
<td>125</td>
<td>5 kA</td>
<td>125</td>
</tr>
<tr>
<td>43</td>
<td>5 kA</td>
<td>150</td>
<td>5 kA</td>
<td>150</td>
</tr>
<tr>
<td>52</td>
<td>10 kA</td>
<td>200</td>
<td>10 kA</td>
<td>200</td>
</tr>
<tr>
<td>64</td>
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<td>250</td>
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<td>250</td>
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<td>74</td>
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<td>104</td>
<td>10 kA</td>
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</tr>
<tr>
<td>147</td>
<td>10 kA</td>
<td>400</td>
<td>10 kA</td>
<td>400</td>
</tr>
<tr>
<td>187</td>
<td>10 kA</td>
<td>600</td>
<td>10 kA</td>
<td>600</td>
</tr>
<tr>
<td>234</td>
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<td>10 kA</td>
<td>700</td>
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<tr>
<td>348</td>
<td>18 kA</td>
<td>1000</td>
<td>18 kA</td>
<td>1000</td>
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<tr>
<td>435</td>
<td>18 kA</td>
<td>1200</td>
<td>18 kA</td>
<td>1200</td>
</tr>
<tr>
<td>549</td>
<td>30 kA</td>
<td>1600</td>
<td>30 kA</td>
<td>1600</td>
</tr>
<tr>
<td>625</td>
<td>30 kA</td>
<td>1600</td>
<td>30 kA</td>
<td>1600</td>
</tr>
<tr>
<td>831</td>
<td>42 kA</td>
<td>1600</td>
<td>42 kA</td>
<td>1600</td>
</tr>
</tbody>
</table>

2. 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.
## Technical Information
### Series PCS

#### Electrical Ratings

<table>
<thead>
<tr>
<th>Parameter</th>
<th>UL/CSA/NEMA</th>
<th>IEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Operational Voltage (+10%, -15%)</td>
<td>100...240V AC, 24V AC/DC</td>
<td>100...240V AC, 24V AC/DC</td>
</tr>
<tr>
<td>Rated Insulation Voltage</td>
<td>250V</td>
<td>250V-</td>
</tr>
<tr>
<td>Rated Impulse Voltage</td>
<td>2.5 kV</td>
<td>4 kV</td>
</tr>
<tr>
<td>Dielectric Withstand</td>
<td>1500V AC</td>
<td>2000V-</td>
</tr>
<tr>
<td>Overvoltage Category</td>
<td>II</td>
<td>III-</td>
</tr>
<tr>
<td>Operating Frequency</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
</tr>
</tbody>
</table>

### Control Circuit

- 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

### 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

<table>
<thead>
<tr>
<th>Controller Rating (A)</th>
<th>Steady State Heat Dissipation (W)</th>
<th>Overload Current Range (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>11</td>
<td>1.3</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>3.9</td>
</tr>
<tr>
<td>16</td>
<td>14</td>
<td>5.3...16</td>
</tr>
<tr>
<td>19</td>
<td>15</td>
<td>6.3...19</td>
</tr>
<tr>
<td>25</td>
<td>17</td>
<td>9.2...27.7</td>
</tr>
<tr>
<td>30</td>
<td>19</td>
<td>10...30</td>
</tr>
<tr>
<td>37</td>
<td>24</td>
<td>12.3...37</td>
</tr>
<tr>
<td>43</td>
<td>34</td>
<td>14.3...43</td>
</tr>
<tr>
<td>60</td>
<td>50</td>
<td>20...60</td>
</tr>
<tr>
<td>85</td>
<td>82</td>
<td>28.3...85</td>
</tr>
<tr>
<td>108</td>
<td>62</td>
<td>27...108</td>
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<tr>
<td>135</td>
<td>75</td>
<td>34...135</td>
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<tr>
<td>201</td>
<td>129</td>
<td>67...201</td>
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<tr>
<td>251</td>
<td>147</td>
<td>84...251</td>
</tr>
<tr>
<td>317</td>
<td>174</td>
<td>106...317</td>
</tr>
<tr>
<td>361</td>
<td>194</td>
<td>120...361</td>
</tr>
<tr>
<td>480</td>
<td>239</td>
<td>160...480</td>
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</table>

#### Auxiliary Contacts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>UL/CSA/NEMA</th>
<th>IEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Operational Voltage</td>
<td>250V AC/30V DC</td>
<td>250V~/30V DC</td>
</tr>
<tr>
<td>Rated Insulation Voltage</td>
<td>250V</td>
<td>250V~</td>
</tr>
<tr>
<td>Rated Impulse Voltage</td>
<td>2.5 kV</td>
<td>4 kV</td>
</tr>
<tr>
<td>Dielectric Withstand</td>
<td>1500V AC</td>
<td>2000V~</td>
</tr>
<tr>
<td>Overvoltage Category</td>
<td>II</td>
<td>III-</td>
</tr>
<tr>
<td>Operating Frequency</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Utilization Category</td>
<td>D300/D360</td>
<td>AC15</td>
</tr>
</tbody>
</table>

#### Type of Control Circuit

- Electromagnetic relay

#### Number of Contacts

- 1
- Normally Open (N.O.)

#### 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

---

**Discount Schedule B4**

SSNA2018

www.sprecherschuh.com/ecatalog - All pricing shown in US dollars - FY20
### Technical Information

#### Series PCS

#### Electrical Ratings

<table>
<thead>
<tr>
<th>Side-Mount Auxiliary Contacts</th>
<th>UL/CSA/NEMA</th>
<th>IEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Operational Voltage</td>
<td>250V AC/30V DC</td>
<td>250V/30V DC</td>
</tr>
<tr>
<td>Rated Insulation Voltage</td>
<td>250V</td>
<td>250V AC</td>
</tr>
<tr>
<td>Rated Impulse Voltage</td>
<td>2.5 kV</td>
<td>4 kV</td>
</tr>
<tr>
<td>Dielectric Withstand</td>
<td>1500V AC</td>
<td>2000V AC</td>
</tr>
<tr>
<td>Overvoltage Category</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>Operating Frequency</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
</tr>
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</table>

**Series PCS**

<table>
<thead>
<tr>
<th>Type of Control Circuit</th>
<th>Electromagnetic relay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Contacts</td>
<td>1</td>
</tr>
<tr>
<td>Type of Contacts</td>
<td>Normally Open (N.O.)</td>
</tr>
<tr>
<td>Rated Operational Current (max.)</td>
<td>1.5 A @ 120V AC, 0.75A @ 240V AC, 1.17 A @ 24V DC</td>
</tr>
<tr>
<td>Conventional Thermal Current, ( I_{th} )</td>
<td>2.5 A</td>
</tr>
<tr>
<td>Make/Break VA</td>
<td>1800/180V AC, 28V DC (resistive)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Control Circuit</th>
<th>Electromagnetic relay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Contacts</td>
<td>1</td>
</tr>
<tr>
<td>Type of Contacts</td>
<td>Normally Open (N.O.)</td>
</tr>
<tr>
<td>Rated Operational Current (max.)</td>
<td>3 A @ 120V AC, 1.5A @ 240V AC, 1.17 A @ 24V DC</td>
</tr>
<tr>
<td>Conventional Thermal Current, ( I_{th} )</td>
<td>5 A</td>
</tr>
<tr>
<td>Make/Break VA</td>
<td>3600/360 V AC, 28V DC (resistive)</td>
</tr>
</tbody>
</table>

#### 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

- **Resistances 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
- **Resistances to Shock**
  - Operational: 15 G
  - Non-operational: 30 G

#### Load Power Terminals

<table>
<thead>
<tr>
<th>Cable Size Tightening Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>3...37 A</td>
</tr>
<tr>
<td>2.5...25 mm² (14...4 AWG)</td>
</tr>
<tr>
<td>2.3...2.8 N·m (20...25 in-lbs)</td>
</tr>
<tr>
<td>43...85 A</td>
</tr>
<tr>
<td>2.5...95 mm² (14...3/0 AWG)</td>
</tr>
<tr>
<td>11.3...12.4 N·m (100...110 in-lbs)</td>
</tr>
<tr>
<td>108...135 A</td>
</tr>
<tr>
<td>16.9 N·m (150 in-lbs)</td>
</tr>
<tr>
<td>201...251 A</td>
</tr>
<tr>
<td>Two M10 x 1.5 diameter holes per power pole</td>
</tr>
<tr>
<td>317...480 A</td>
</tr>
<tr>
<td>Two M12 x 1.75 diameter holes per power pole</td>
</tr>
<tr>
<td>3...37 A</td>
</tr>
<tr>
<td>2.5...16 mm² (14...6 AWG)</td>
</tr>
<tr>
<td>2.3...2.5 N·m (20...22.5 in-lbs)</td>
</tr>
<tr>
<td>43...85 A</td>
</tr>
<tr>
<td>2.5...50 mm² (14...1 AWG)</td>
</tr>
<tr>
<td>11.3...12.4 N·m (100...110 in-lbs)</td>
</tr>
<tr>
<td>108...135 A</td>
</tr>
<tr>
<td>23 N·m (200 in-lbs)</td>
</tr>
<tr>
<td>201...251 A</td>
</tr>
<tr>
<td>Two M10 x 1.5 diameter holes per power pole</td>
</tr>
<tr>
<td>317...480 A</td>
</tr>
<tr>
<td>Two M12 x 1.75 diameter holes per power pole</td>
</tr>
</tbody>
</table>

#### Control Terminals

<table>
<thead>
<tr>
<th>Cable Size Tightening Torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
</tr>
<tr>
<td>0.2...2.5 mm² (24...14 AWG)</td>
</tr>
<tr>
<td>0.5...0.9 N·m (4.4...8.0 in-lbs)</td>
</tr>
</tbody>
</table>

#### Other

<table>
<thead>
<tr>
<th>UL/CSA/NEMA</th>
<th>IEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted Radio Frequency Emissions</td>
<td>—</td>
</tr>
<tr>
<td>Radiated Emissions</td>
<td>Class A</td>
</tr>
<tr>
<td>Electromagnetic Discharge</td>
<td>4 kV Contact and 8 kV Air Discharge</td>
</tr>
<tr>
<td>Radio Frequency Electromagnetic Field</td>
<td>—</td>
</tr>
<tr>
<td>Fast Transient</td>
<td>—</td>
</tr>
<tr>
<td>Surge Transient</td>
<td>—</td>
</tr>
</tbody>
</table>

- Overvoltage category II, when either control or auxiliary circuit is wired to a SELV or PELV circuit.
Overload Relay Trip Curves

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 (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**
  - Diagram of the two-wire configuration for Line Connected motors.
  - PCS DIP Switch #15 "ON": PCS set for Line Connected Motors
  - PCS DIP Switch #15 "OFF": PCS set for Delta Connected Motors

- **Delta Connected**
  - Diagram of the two-wire configuration for Delta Connected motors.

Three Wire Configuration

- **Line Connected**
  - Diagram of the three-wire configuration for Line Connected motors.

- **Delta Connected**
  - Diagram of the three-wire configuration for Delta Connected motors.

### 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

Delta Connected

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

Delta Connected

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.

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

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

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

![Diagram of a controller enclosure](attachment:image.png)

### Series PCS

#### Softstarters

Visit [www.sprecherschuh.com/ecatalog](http://www.sprecherschuh.com/ecatalog) for pricing and the most up-to-date information.

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#### Discount Schedule B4

All pricing shown in US dollars - FY20

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#### Controller Specifications

<table>
<thead>
<tr>
<th>Controller Rating (A)</th>
<th>Disconnect Rating</th>
<th>B Height</th>
<th>A Width</th>
<th>C Depth</th>
</tr>
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<tbody>
<tr>
<td><strong>Non-Combination Controller</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>30 A/J</td>
<td>356 (14)</td>
<td>305 (12)</td>
<td>152 (6)</td>
</tr>
<tr>
<td>9</td>
<td>30 A/J</td>
<td>356 (14)</td>
<td>305 (12)</td>
<td>152 (6)</td>
</tr>
<tr>
<td>16</td>
<td>30 A/J</td>
<td>356 (14)</td>
<td>305 (12)</td>
<td>152 (6)</td>
</tr>
<tr>
<td>25</td>
<td>30 A/J</td>
<td>356 (14)</td>
<td>305 (12)</td>
<td>152 (6)</td>
</tr>
<tr>
<td>30</td>
<td>30 A/J</td>
<td>356 (14)</td>
<td>305 (12)</td>
<td>152 (6)</td>
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<td>30 A/J</td>
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<tr>
<td>43</td>
<td>406 (16)</td>
<td>356 (14)</td>
<td>203 (8)</td>
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<tr>
<td>60</td>
<td>406 (16)</td>
<td>356 (14)</td>
<td>203 (8)</td>
<td></td>
</tr>
<tr>
<td>85</td>
<td>406 (16)</td>
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<td>203 (8)</td>
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<td>108</td>
<td>762 (30)</td>
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<td>305 (12)</td>
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<td>762 (30)</td>
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<tr>
<td>251</td>
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<td>762 (30)</td>
<td>406 (16)</td>
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<tr>
<td>317</td>
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<td>914 (36)</td>
<td>406 (16)</td>
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<td>361</td>
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<td>480</td>
<td>1524 (60)</td>
<td>914 (36)</td>
<td>406 (16)</td>
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<table>
<thead>
<tr>
<th>Combination Controllers with Fusible Disconnect</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 30 A/J</td>
</tr>
<tr>
<td>9 30 A/J</td>
</tr>
<tr>
<td>16 30 A/J</td>
</tr>
<tr>
<td>25 30 A/J</td>
</tr>
<tr>
<td>30 60 A/J</td>
</tr>
<tr>
<td>37 60 A/J</td>
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<tr>
<td>43 60 A/J</td>
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<tr>
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<tr>
<td>85 100 A/J</td>
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<tr>
<td>85 200 A/J</td>
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<tr>
<td>108 200 A/J</td>
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<tr>
<td>135 200 A/J</td>
</tr>
<tr>
<td>201 400 A/J</td>
</tr>
<tr>
<td>251 400 A/J</td>
</tr>
<tr>
<td>317 600 A/J</td>
</tr>
<tr>
<td>361 600 A/J</td>
</tr>
<tr>
<td>480 600 A/J</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Combination Controllers with Circuit Breaker</th>
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</thead>
<tbody>
<tr>
<td>3 15 A</td>
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<td>9 15 A</td>
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<tr>
<td>16 20 A</td>
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<td>25 30 A</td>
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<tr>
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<tr>
<td>37 50 A</td>
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<tr>
<td>43 80 A</td>
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<tr>
<td>60 100 A</td>
</tr>
<tr>
<td>85 125 A</td>
</tr>
<tr>
<td>108 175 A/175 A Plug</td>
</tr>
<tr>
<td>135 225 A/225 A Plug</td>
</tr>
<tr>
<td>201 300 A/300 A Plug</td>
</tr>
<tr>
<td>251 400 A/400 A Plug</td>
</tr>
<tr>
<td>317 600 A/600 A Plug</td>
</tr>
<tr>
<td>361 600 A/600 A Plug</td>
</tr>
<tr>
<td>480 800 A/800 A Plug</td>
</tr>
</tbody>
</table>

* Dimensions for FHD-44, FAD-45, FBD-48, and FCD-49.

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www.sprecherschuh.com/ecatalog - All pricing shown in US dollars - FY20
Notes

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Discount Schedule B4

www.sprecherschuhs.com/ecatalog - All pricing shown in US dollars - FY20

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