

Series PCEC Softstarter Intelligent Controller

Increases motor life & reduces downtime

Eliminates routine maintenance

Replaces traditional Wye-Delta installations

Easy installation and setup

Sprecher + Schuh's PCEC Softstarters are designed to simplify installation, set-up, and typical operation of motors that drive hydraulic elevators and escalators. This solid state starter solution is designed to operate 3 phase induction motors and can be connected to a 6 or 12 lead Wye-Delta or standard 3 or 9 lead solution. Through the use of LINE or INSIDE-THE-DELTA control, the solid state Digital DIP Switches can provide ultimate control of the motor.

Starting/Stopping Modes
• Current Limit
• Soft Start
• Soft Stop
• Coast-to-Rest
• 0.75 second Delayed Stop
• Delta or Line Compatible

Fault Diagnostics
• Overload Condition
• Over Temperature - SCR
• Phase Reversal
• Phase Loss/Open Load
• Phase Imbalance
• Shorted SCR



Digital DIP Switches

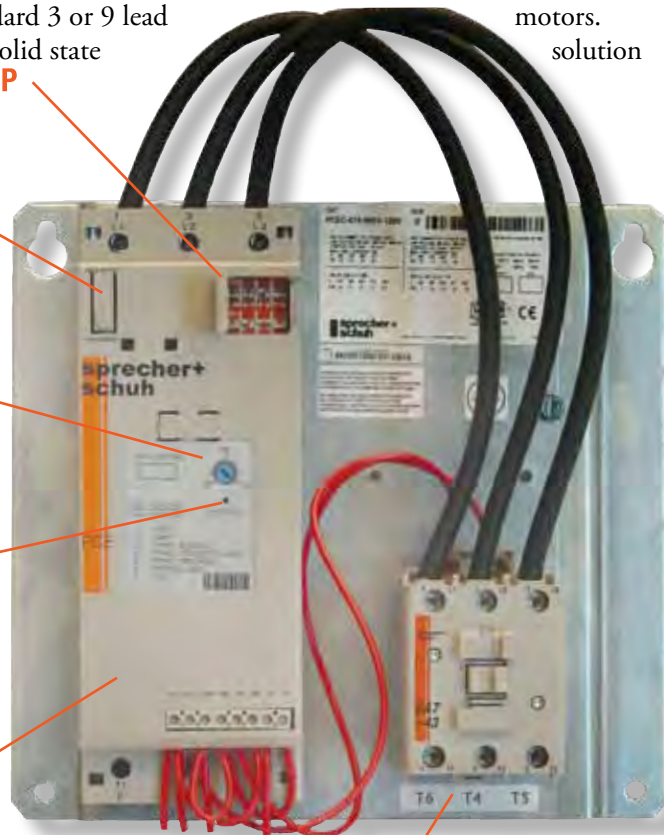
Overload Reset
Manual or Automatic

Overload Relay Dial Setting
Class 10, 15, 20, OFF

LED Fault Indicator

PCE Controller

Fault Contactor



Microprocessor Controller

- Precise starting current limit adjustments
- Smooth, stepless ramp to full speed
- Built-in electronic overload; select from class 10, 15, 20 or OFF manual or automatic trip
- Built-in SCR bypass contactors on all three phases minimize heat, allowing compact size and longer SCR life

LED fault diagnostic display

- Indicates operating status and fault conditions

Wired inside the delta

- Fits new and existing 6-wire installations
- Can be rewired and set for LINE connected 3-wire motors

Current-limiting

- Reduced high current surges & voltage drops
- Reduced mechanical stress
- Less maintenance equals less downtime

Standard fault contactor

- Isolates motor windings during fault condition

Flexible design

- Matches many wye-delta panels for easy replacement
- 2-wire control interface
- "Up to speed" contact for easy integration
- Optional side mounted auxiliary contacts
- Field-replaceable components

Series PCEC Features

PCEC Base Controller Operation

The base controller is a standard product that uses advanced motor control and simple diagnostics. The controller consists of a main micro processor, current sensing, built in adjustable overload, solid state power modules, and electromechanical bypass contacts. Simple dip switch configuration provides for a variety of control modes. The default configuration uses built in current sensing to limit current to the motor during starting. The controller then changes to the run mode by transitioning to internal bypass contactors and changing the state of the aux contact. The internal bypass contactor provides decreased heating during run and removes the SCR's from the circuit.

PCEC Fault Contactor Operation

The fault contactor is controlled through the fault contact of the controller. When control power is applied to the controller, the fault contact closes and applies control power to the coil. The fault contact will open, removing power from the fault contactor and disabling the motor during any of the following events:

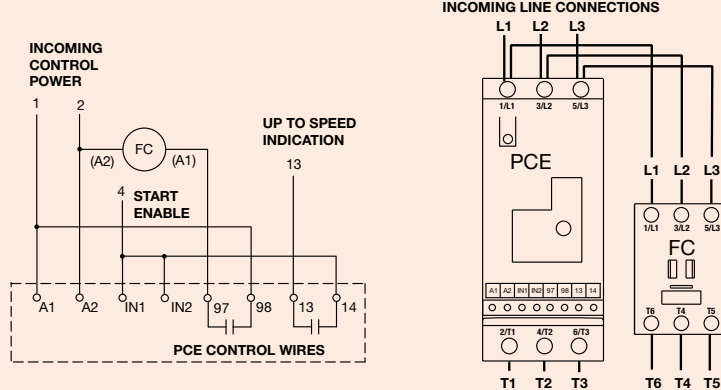
- ✓ Power is removed from the controller
- ✓ The motor has developed a problem including overloading due to mechanical or electrical reasons, ground faults, or motor short circuits.
- ✓ If the starter would detect an internal problem such as a shorted SCR or Overtemp condition

PCEC Controller Panel

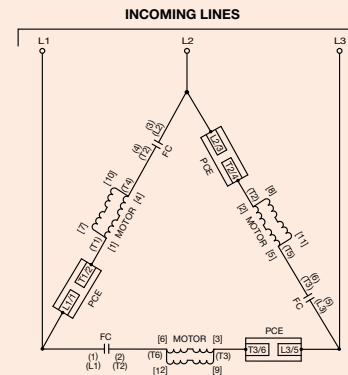
DELTA Connected - 6 Wire					Line Connected - 3 Wire					With 120V AC 50/60Hz Control Voltage
Maximum Horsepower				Overload Range	Maximum Horsepower				Overload Range	
200V	240V	480V	575V		200V	240V	480V	575V		
10	10	20	30	10.9...32.9	5	5	10	15	6.3...19	PCEC-032-600V-120V
15	15	30	40	17...51	7.5	10	20	25	10...30	PCEC-051-600V-120V
20	20	40	60	21.3...64	10	10	25	30	12.3...37	PCEC-064-600V-120V
20	25	50	60	24.7...74	10	15	30	40	14.3...43	PCEC-074-600V-120V
30	40	75	100	34.7...104	15	20	40	50	20...60	PCEC-104-600V-120V
40	50	100	150	49...147	25	30	60	75	28.3...85	PCEC-147-600V-120V
75	75	150	200	59...234	40	50	100	125	34...135	PCEC-234-600V-120V

Also available in 230V Control Voltage. The PCEC Hydraulic Elevator duty rating is 80 starts per hour at 50% duty cycle (160 calls per hour). Starts per hour are based on when the motor starts, the motor only runs on "up" calls.

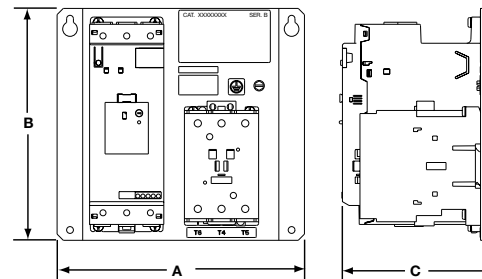
PCEC Control & Power Circuit



Delta Connected Line Diagram



Controller Size	Units	A (Width)	B (Height)	C (Depth)	Approx. Weight
32/51/64	mm	178	144	115.7	4 lbs (2 kg)
	in	7.01	5.67	4.56	
74/104/147	mm	240	225	147.9	14 lbs (6 kg)
	in	9.45	8.86	5.82	
234	mm	362	515	216.4	51 lbs (23 kg)
	in	14.25	20.28	8.52	



For detailed technical information concerning this product, please consult your Sprecher + Schuh representative for accompanying publications.