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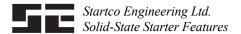
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## **SOLID-STATE STARTER FEATURES**



Startco Solid-State Starters are designed for starting squirrel-cage induction motors in single or parallel operation.

- Each power module is fused on the line side. The I<sup>2</sup>t rating of each fuse protects the power semiconductors under external fault conditions. Blown-fuse switches cause the SCR gate signals to be removed if any fuse blows.
- 2. The thermal capacity of the SE-901 power module assembly and cooling system is sufficient to keep the SCR junction temperature below 125°C for steady-state operation at 1380 A with internal air at 40°C. Heat rise in the SCR enclosure is typically 15°C for operation at 100% rated current. SCR's are protected with heat-sink mounted thermostats.
- 3. The SCR gates are hard fired.
- 4. All power semiconductors have a repetitive blocking voltage of 2 kV.
- 5. Snubber networks are provided to prevent dv/dt triggering.
- 6. Surge suppression is provided to protect the SCR's in the event of loss of control power.
- 7. Controlled starting is switchable between current and tachometer feedback. Tachometer feedback can provide constant acceleration starts.



- 8. In the tachometer-feedback mode, the acceleration ramp is adjustable from 10 to 40 seconds. In the current-feedback mode, the time to advance the output from initial voltage to full voltage is adjustable from 2 to 24 seconds.
- 9. In the current-feedback mode, the current limit is adjustable from 200% to 500% of rated current. If the current limit setting is too low, the unit will trip and provide indication that the setting is too low. Current-limit-hold trip indication is provided.
- 10. Instantaneous overcurrent trip is selectable at 550% or 600% of rated current.

- 11. Multi-function protection for each motor is provided by an MPU-16A Motor Protection Unit or MPS Motor Protection System.
- 12. In parallel-motor configurations, overcurrent and current-limit controls respond to the motor with the highest current.
- 13. An emergency-trip circuit is provided to check operation of electronic circuit boards and SCR modules. If motor current is present 3.5 seconds after a stop signal is received from an input, the starter will trip the motor circuit breaker.
- Phase-loss and phase-reverse protection are provided and indicated.