

### Features and Benefits

- Run bypass mode greatly reduces internal heating created by the power dissipation across the SCRs. The bypass relay directly connects the motor to the line and improves system efficiency by reducing internal power losses
- Less heat minimizes enclosure size and cooling requirements, and maximizes the life of all devices in the enclosure
- LED displays device status and provides fault indication
- Variable ramp times and voltage control (torque control) settings provide unlimited starting configurations, allowing for maximum application flexibility
- Soft stop control suits applications where an abrupt stop of the load is not acceptable. Soft acceleration and deceleration reduces wear on belts, gears, chains, clutches, shafts, and bearings
- Minimizes the peak inrush current's stress on the power system. Peak starting torque can be managed to diminish mechanical system wear and damage.
- 24 Vac/Vdc control voltage enhances personnel and equipment safety. 110/230 Vac control voltage is also available
- Auxiliary relays indicate status of the soft start controllers
  - The TOR relay is active until motor stop command is received and/or the soft start controller detects a fault condition
  - RUN relay is active during the start ramp, bypass, and stop ramp

### Single-Phase Applications

All DS7 frame sizes can be configured for single-phase operation at 200–480 Vac main voltages in accordance to the single-phase application note AP039006EN.

### Standards and Certifications

- IEC 60947-4-2
- EN 60947-4-2
- UL® listed
- CSA certified
- CE marked
- C-Tick



### Instructional Leaflets

- Instruction Leaflet IL03901001E

### Protective Features

- Mains connection—The mains connection is monitored for a phase loss and/or undervoltage during ramp up
- Motor connection—The motor connection is monitored for an open condition during the ramp
- SCR faults—SCR performance is monitored during the ramp cycle for proper operation
- Heat sink over/under temperature—High ambient temperatures, extended ramp times, and high duty cycle conditions may cause the DS7 to exceed its thermal rating. When temperature goes under  $-5^{\circ}\text{C}$  ( $-40^{\circ}\text{C}$  for low temperature units), unit will trip as well. The DS7 is equipped with sensors that monitor the temperature of the device as well. The soft starter will trip in over/under temperature conditions, preventing device failure
- Warning is indicated for an over temperature condition for the next start
- Bypass relay
  - The DS7 can detect if the bypass relay fails to close after the ramp start or opens while the motor is running
  - The DS7 will also detect a condition whereas the bypass relay is closed when the RUN command is given
  - The DS7 will trip on a bypass dropout fault if either of these conditions occur

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## Reduced Voltage Motor Starters

### Solid-State Controllers

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#### Catalog Number Selection

##### DS7 Soft Start Controllers

