



Special Use Solid State Overloads, Class 958

Features

- Hermetically Sealed Compressor Motor Applications
- Phase Loss Protection—Trips Within 3 Seconds
- ±2% Repeat Trip Accuracy
- Manual Reset or Self-Reset
- “Must Hold Amps” Adjustment Dial
- Wide Adjustment Range
- Self-Powered Overload
- Heaterless Design
- Rated 50/60Hz
- -22°F to 159°F (-30°C to 70°C)
- Output Contact Rated NEMA A600, P600 (10 Amps 600VAC Max, 5 Amps 600VDC Max)
- Self-Reset Output Contact Rated NEMA B300, P150 (5 Amps, 300VAC Max, 5 Amps, 150VDC Max)
- UL Listed File #E22655
- CSA Certified File #LR6535

Application

Class 958 ESP100 special use solid state overload relays are self powered requiring no separate source to power the circuit board. They provide excellent protection of hermetically sealed compressors and artificially cooled motors which require ambient insensitivity and quick trip response times. Combined

with a series lockout relay, they can provide unsurpassed protection for hermetically sealed compressor motors in air conditioning applications. The combination of high trip speed, current adjustment, and ease of installation makes it suitable for these applications. The trip curves have been custom tailored to provide proper overload protection on such loads without nuisance tripping. The self-reset overload option is ideal for cranes, hoists, and other applications where the controls are mounted in a remote location that may be difficult to access. The NC overload contact opens for a short duration (50–75 msec) on an overload or phase loss condition. The unit provided can be applied in one of three ways:

1. Three wire control circuit using Size 0–4 contactor. The self-reset overload can be retrofitted and applied in a three wire control application as a remote reset overload without additional components or wiring.
2. PLC—(assuming initiating starter coil via PLC) Timers and counters can be used to determine time between restarts and maximum number of restarts.
3. Use NC overload contact to drop out a control relay. See wiring diagrams on page 490.

Features

The overload provides phase loss protection for the motor by tripping in three seconds upon complete loss of one phase of a three phase motor branch circuit.

The heaterless construction of these overloads minimizes energy costs and the costs of cabinet ventilation or cooling. While thermal overloads require a heater selection based on a relatively wide range, these overloads have many clicks covering the same ampere range (see **Figure 1** below).

Each overload has a 4:1 or 2:1 current adjustment range with the adjustment dial reading out must hold amps. Must trip amps are 112% of the must hold setting. In addition to the markings on the dial there are audible clicks which allow for extremely fine tuning.

