



# SEL-551C Relay Guideform Specification

The microprocessor-based relay shall provide a combination of functions including protection, monitoring, control, and automation. Relay self-checking functions shall be included. Specific operational and functional requirements are as follows:

**Phase Fault Overcurrent Protection.** The relay shall incorporate phase and negative-sequence overcurrent elements for detection of phase faults. For added security, the relay shall provide torque-control capability (internal and external).

**Adaptive Phase Overcurrent Elements.** The relay shall incorporate adaptive phase overcurrent elements that perform reliably in the presence of current transformer saturation, dc offset, and off-frequency harmonics.

**Ground Fault Overcurrent Protection.** The relay shall incorporate residual ground and neutral ground overcurrent elements for detection of ground faults. For added security, the relay shall provide torque-control capability (internal and external).

**Autoreclosing Control.** The relay shall incorporate a four-shot recloser. It shall include four independently set open time intervals, an independently set reset time from reclose cycle, and an independently set reset time from lockout.

**Event Reporting and Sequential Events Recorder (SER).** The relay shall be capable of automatically recording disturbance events of 15 cycles with ser-defined triggering. Events shall be stored in nonvolatile memory. The relay shall include an SER that stores the latest 455 entries.

**Status and Trip Target LEDs.** The relay shall include 8 status and trip target LEDs.

**Overload and Unbalance Alarms.** The relay shall include user-settable demand current thresholds for phase, negative-sequence, neutral, and residual demand measurements.

**Automation.** The relay shall include 8 local control elements, 8 remote control elements, 8 latch control switches, and 8 display messages in conjunction with a local display panel included in the relay. The relay shall have the capability to display custom messages.

**Relay Logic.** The relay shall include programmable logic functions for a wide range of user-configurable protection, monitoring, and control schemes.

**Communication.** The relay shall include one optional front EIA-232 serial port and one rear independent EIA-232 serial port or one isolated EIA-485 serial port for external communications.

**Modbus<sup>®</sup> RTU Communications Protocol.** The relay shall incorporate Modbus RTU communications protocol capability.

**IRIG-B.** The relay shall include an interface port for a demodulated IRIG-B time synchronization input signal.

**PC Software.** The relay shall include compatibility with a PC software program for use in programming control settings and logic functions and retrieving event data. The PC software shall be included but not required to use the relay.

**Auxiliary Inputs/Outputs.** The relay shall include six programmable otoiolated inputs and three programmable output contacts.

