NOVA-TS
Triple-Single Recloser System

COOPER POWER SERIES

Coordinated, dependable and precise automation

Standardize on the triple-single recloser that provides real benefits and real value. Eaton's Cooper Power series NOVA™-TS triple-single recloser system allows multi-mode configuration for coordinated, dependable and precise automation.

Application versatility, automatic overcurrent protection

The NOVA-TS triple-single recloser system is comprised of the following:

- Three single-phase NOVA-TS reclosers, each with:
  - Manual trip lever
  - Mechanical contact position indicator
- Form 6-TS recloser control
- One compatible, common junction box, which includes:
  - Three interconnecting cables (user-specified length)
  - One receptacle to provide easy access to the Form 6-TS control cable
- Control cable (user-specified length)

The NOVA-TS recloser has three modes of operation:

- **Three-phase trip, three-phase lockout (MODE A)** All three phases simultaneously trip on an overcurrent, reclose and sequence together.
- **Single-phase trip, three-phase lockout (MODE B)** Each individual phase will sense line current and only the phase corresponding to the faulted phase will trip. If any one phase sequences to lockout, the other two phases also lock out, eliminating permanent single-phasing of three-phase loads.
- **Single-phase trip, single-phase lockout (MODE C)** Each individual phase trips and sequences to lockout independently of each other. This is primarily for residential loads and/or where single-phasing of three-phase loads is protected by other means.

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Form 6-TS control operation

One Form 6-TS control for three reclosers, easily configured using ProView™ interface software provides:

- Flexible coordination
- Advanced event recorder/data profiler analysis tools
- Voltage, current and harmonic metering

Additionally, the front panel allows the user to manually open and close any phase independently without menu navigation.

Proven reliability

- Automation to improve substation performance
- Light-weight design well-suited for retrofit or new applications

Enhanced protection with dynamic phase tripping

A configurable option for MODE C operation is available to trip and lockout all three phases in the event of a phase-to-phase or three-phase fault. Normal operations occur per the programmed sequence for a single phase-to-ground fault; however, if a phase-to-phase fault occurs, the control will trip and lock out all three reclosers when any one phase sequences to lockout. This avoids any multiphase energization from one phase.

Internal voltage sensing

Using a high-voltage resistor within each interrupter module with source-side connections, the sensing option and control support a magnitude accuracy of 2% or better and a phase degree accuracy of ±1.5°.

Modernize substation applications

- Cost-effective solution for your protection, metering and communication applications
- Automation features of the Form 6-TS control will improve your substation performance
- Add the remote operation, status and analog metering functions to your automation system through standard industry protocols for real-time system analysis and optimization
- Light weight of recloser system may allow for retrofit of existing structure without the expense of foundations or other structural changes

Effective NOVA-TS recloser application

Multiple fault scenarios were analyzed to provide proper system coordination for both phase and ground faults.

- Phase-to-ground, phase-to-phase and three-phase faults, along with multiple faults on different phases, were studied to verify the correct sequencing of each recloser with proper time-current curves
  - Load-side fuse protection is maintained even if two faults occur on different phases prior to resetting the control
- Should problems occur, utility operators would discover great benefits in repairs made on an individual phase basis
- Replacement of individual phase devices brings lower inventory economics and shorter system restoration and bypass intervals

For Eaton's Cooper Power series Switchgear Support Group, call 1-800-497-5953 or visit: **Eaton.com/cooperpowerseries**

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