

## Superior Overcurrent Coordination for S&C Vista® Underground Distribution Switchgear in a Control That’s Simple and Economical to Use

The Vista Overcurrent Control 2.0 is the perfect match for Vista Underground Distribution Switchgear. It provides superior overcurrent protection without the complexity of many other relays or controls. Control programming is simple and intuitive, making it easy to select and customize time-current characteristic (TCC) curves.

Self-powered by current transformers internal to the switchgear, the Vista Overcurrent Control 2.0 does not use batteries or any other auxiliary power source for operation. As such, it eliminates any maintenance typically required for battery-based systems. No routine maintenance is required, for low, predictable operations-and-maintenance costs.

### Expansive Protective Setting Options, Customizable TCCs

The Vista Overcurrent Control 2.0 features innovative TCC curves that provide excellent coordination with upstream protective devices and downstream power fuses and current-limiting fuses. The TCC curves can be customized into hundreds of different curves using two definite-time delay settings as well as additional settings, including low-current cutoff, a time-adder, and reset time for select curve families. The Vista Overcurrent Control 2.0 provides minimum trip

currents down to 14 amperes on switchgear models rated 600 amperes continuous.

The control includes time-overcurrent relay curves that conform to IEEE C37.112-1996—IEEE Standard Inverse-Time Characteristic Equations for Overcurrent Relays, as well as “E,” “K,” and “T” curve families. The control also provides special “coordinating”-speed TCC curves. Existing pad-mounted switchgear with fuses only coordinate with upstream relays and downstream current-limiting fuses through 5,000 or 6,000 amperes, even though underground distribution systems often see higher fault currents. The “coordinating”-speed TCC curves provide complete coordination with both upstream circuit-breaker relays and downstream current-limiting fuses.

“Coordinating”-speed tap curves are used in conjunction with fault interrupters feeding subloop taps, and they have been specifically designed to optimize coordination with load-side weak link/backup current-limiting fuse combinations and source-side relays with low time-dial settings. As such, the curves are faster than “E” and “K” speed power fuse TCC curves. “Coordinating”-speed main curves are used in conjunction with fault interrupters on main feeders and have longer minimum response times and different shapes to coordinate with tap-interrupter curves.

The screenshot shows the S&C Electric Company logo and the title 'S&C ELECTRIC COMPANY Excellence Through Innovation'. The main interface is titled 'Interrupter 1' and displays 'Time Overcurrent Phase Protection' settings. The settings are organized into columns for Phase A, Phase B, and Phase C. Key settings include: Protection Element (Enabled), Curve Family (Vista Speed), Inverse Segment (E), Ampere Rating (200E), Minimum-Trip Current (483), Time Multiplier (1.00), Time Adder (N/A), Low-Current Cutoff (Disabled), and Definite-Time Phase Protection Element #1 and #2. The interface uses drop-down menus and fields for selection and input.

Figure 1. Programming software is stored in the control and is accessed using a PC browser. Protective settings are easily selected through drop-down menus and fields.





**Figure 2. Connect your PC to the Vista Overcurrent Control 2.0 via a USB port accessible outside the control enclosure.**

The control also includes ground-overcurrent curves to coordinate with source-side breakers or reclosers with ground-trip settings. Negative sequence and sensitive earth fault-protection settings provide even broader protection capabilities.

#### **Easy to Program, Easy to Use**

Programming and access are simple and straightforward. Simply connect your PC to the control via the control's USB port. See Figure 2. All programming software is stored in the control itself; only a driver is needed to connect your PC to the control. Programming is completed via a browser-based user interface, and selections are made using drop-down menus and fields to enter values.

The Vista Overcurrent Control 2.0 also features a variety of event logs to provide users more information about system conditions. The Trip Event Log records up to 64 events per control, with information on which element initiated the **Trip** operation and the current recorded on each phase and ground when the **Trip** operation was initiated. See Figure 3 on page 3.

Diagnostic Event Logs and self-test reports provide information on the status of the control itself, alerting users to potential issues that could affect operation of the control.

EVENT LOGS														
Trip Event Log														
Event				Fault Status					Phase Current					
Event Number	Event Cause	Event Type	Faulted Interrupter	A	B	C	Q	G	A	B	C	Q	G	
10014	BPHASE TRIP	TOC	Interrupter 1	X	X				1782	1798	49	597	918	
10013	APHASE TRIP	TOC	Interrupter 2	X					55	63	43	5	663	
10012	BPHASE PICKUP	TOC	Interrupter 1	X	X				1782	1668	35	618	958	
10011	APHASE PICKUP	TOC	Interrupter 2	X					55	65	51	0	670	
10010	APHASE TRIP	TOC	Interrupter 1	X					1823	51	47	607	971	
10009	APHASE PICKUP	TOC	Interrupter 1	X					1823	51	47	607	971	
10008	APHASE PICK RST	TOC	Interrupter 2						0	0	0	0	0	
10007	APHASE PICK RST	TOC	Interrupter 1						2	3	3	0	61	
10006	APHASE TRIP	TOC	Interrupter 1	X					58	53	52	0	954	
10005	BPHASE PICK RST	TOC	Interrupter 2	X					1855	53	47	595	673	
10004	CPHASE PICK RST	TOC	Interrupter 2	X	X				1770	1842	48	1168	671	
10003	APHASE PICKUP	TOC	Interrupter 1	X					54	57	51	0	942	
10002	APHASE PICK RST	TOC	Interrupter 1						0	24	24	0	0	
10001	CPHASE PICK RST	TOC	Interrupter 1	X					25	24	24	278	826	
10000	BPHASE PICK RST	TOC	Interrupter 1	X		X			61	72	1772	587	948	
9999	BPHASE TRIP	TOC	Interrupter 2	X	X	X			465	1768	1768	1318	496	
9998	BPHASE PICKUP	TOC	Interrupter 2	X	X	X			463	1727	1727	838	490	
9997	CPHASE TRIP	TOC	Interrupter 2	X		X			486	476	1809	837	490	
9996	CPHASE PICK RST	TOC	Interrupter 2						0	0	0	0	0	

Figure 3. Trip event logs capture up to 64 events before the log begins to overwrite the oldest events.

**Simplified Access for Field Technicians While Preventing Tinkering by Unqualified Personnel**

Unlike controls that use knobs and dials, protection and control settings can only be modified via a PC through password-protected programming software. These features prevent unauthorized personnel from modifying the settings.

The Vista Overcurrent Control also provides field technicians with ready access to control information without gaining access to the protective and control settings. A **View** function, accessible from the Log-in screen, serves as a valuable tool for troubleshooting by providing full information about the control, including which settings are enabled, load-current data, and all event logs. See Figure 4 on page 4.

Contact S&C today to learn more about the benefits of the Vista Overcurrent Control 2.0.

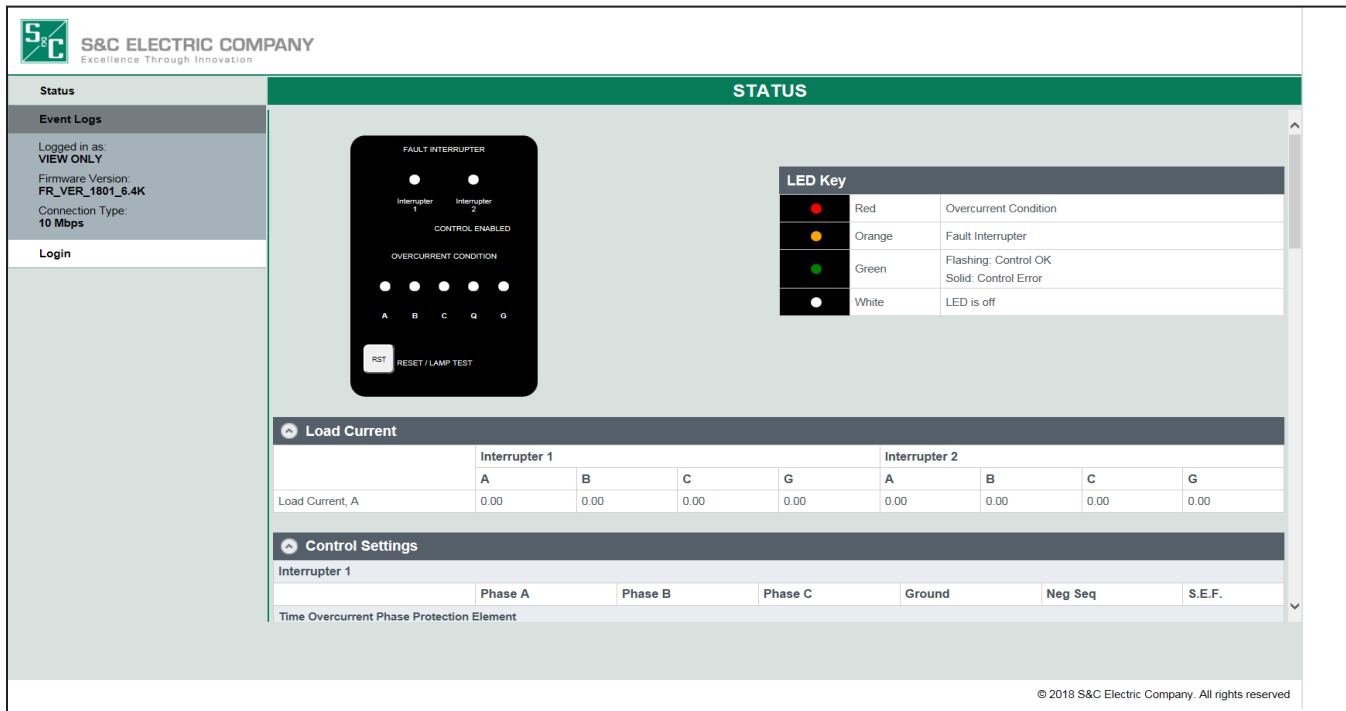


Figure 4. The View mode provides field technicians with access to complete information about the control without providing access to sensitive programming pages.