

Physical Continued

Mounting	Deployed in SmartPod or suspended from structure via insulator
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Communications

Communication Architecture	EMS integration using PowerLine Gateway™ located at substation
Communication Security Features	Multilevel ISM band wireless protocol optimized for fast telemetry. Protocol uses SHA-256 to ensure cryptographic integrity of all messages while supporting full observability by utility firewalls

Sensor Accuracy

AC Line Current	± 3%
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SmartBypass Models

Model	Mass		Continuous Current Rating (A RMS)	Maximum 2-Hour Emergency Current (A RMS)	Fault Current Rating (kA RMS for 1 s) ³	Peak Fault Current (kA) ⁴	
	lbs	kg				60 Hz	50 Hz
SmartBypass 2000-63	1937	880	2000	2160	63.0	164.0	158.0
SmartBypass 2000-50	1850	840	2000	2160	50.4	131.0	126.0
SmartBypass 2000-38	1763	800	2000	2160	38.0	98.8	95.0
SmartBypass 2000-25	1676	760	2000	2160	25.2	65.0	63.0
SmartBypass 2000-12	1589	720	2000	2160	12.6	32.0	31.5
SmartBypass 4000-63	2287	1040	4000	4320	63.0	164.0	158.0
SmartBypass 4000-50	2200	1000	4000	4320	50.4	131.0	126.0
SmartBypass 4000-38	2113	960	4000	4320	38.0	98.8	95.0
SmartBypass 4000-25	2026	920	4000	4320	25.2	65.0	63.0
SmartBypass 4000-12	1939	880	4000	4320	12.6	32.0	31.5

Notes:

1. In Monitoring Mode, the SmartBypass bypasses the Power Guardian 700 or SmartValve across its terminals so no reactance is injected.
2. In Injection Mode, the SmartBypass allows the Power Guardian 700 or SmartValve across its terminals to inject their reactance in series with the line.
3. Fault current ratings for other durations can be provided upon request.
4. Per IEC 62271-1 and IEEE C37.32, a DC time constant of 45 ms covers the majority of cases and corresponds to a rated peak withstand current equal to 2.5 times the rated short-time withstand current for a rated frequency of 50 Hz and for a rated frequency of 60 Hz it is equal to 2.6 times the rated short-time withstand current.
5. SmartValves are deployed with a variety of methods, including individually mounted on dedicated transmission towers (SmartTowers™) or deployed in SmartPods, which are then mounted on top of insulators in banks (SmartBanks™) or deployed as part of the Smart Wires Mobile Deployment.

About Smart Wires

Based on the San Francisco Bay Area, with offices in the United States, the United Kingdom, Ireland and Australia, Smart Wires is the leader in grid optimization solutions that leverage its patented modular power flow control technology. Smart Wires solutions are quickly deployable, enabling utilities to react quickly and address emergency problems. This flexible technology is also easily re-deployable, providing a robust investment to solve short-duration need windows and hedge against the uncertain nature of their systems' future needs. Driven by a world-class leadership team with extensive experience delivering innovative solutions, Smart Wires partners with utilities around the globe to address the unique challenges of the rapidly evolving electric system. Smart Wires' technology was developed by utilities for utilities, led by a consortium of large U.S. utilities at the National Electric Energy Testing Research and Applications Center (NEETRAC). This core group of utilities, which included Southern Company and Tennessee Valley Authority (TVA), defined the vision for the original modular power flow control solution. PG&E, EirGrid (Ireland), Minnesota Power, Central Hudson, and Western Power (Australia) are some of the other utilities leveraging Smart Wires power flow control solutions.

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Environmental Continued

Maximum Sustained Rain	4.0 in/hr (102 mm/hr)
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Standards

Software and Firmware	IEC 61508 SIL-2 Compliant
Electrical Connections	ANSI C119.4

Intrusion Protection	IEC 60529, IP 54
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