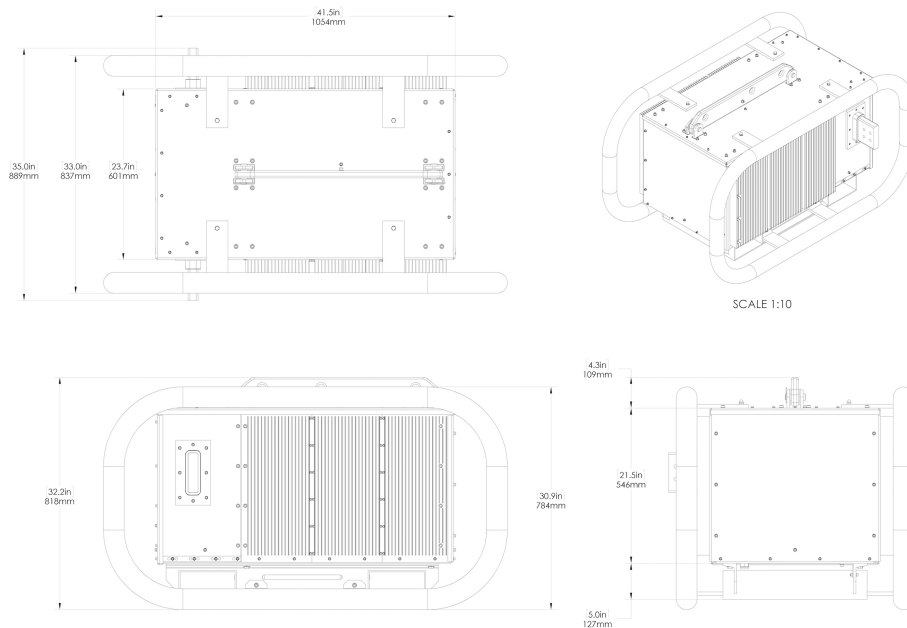


The Power Guardian™ 700 builds upon the proven success of its predecessor, the Power Guardian 390™. The Power Guardian 700 injects a reactance in series with the line to increase the line’s total reactance. The Power Guardian 700 provides a significant increase in reactance, nearly doubling the kVAR rating in an enclosure of similar size and weight to the Power Guardian 390. It achieves this by operating in conjunction with the Smart Wires SmartBypass™. A fleet of deployed units provides a nearly continuous range of reactance from zero up to the collective rating of the fleet, enabling real-time control of power flow. **The Power Guardian 700 enables utilities to get more from their existing grid by:**

- Addressing short-duration and emergency needs with rapidly deployable and easily re-deployable solutions
- Accommodating changes in generation and load by deploying a fleet of units in weeks rather than years
- Routing power away from overloaded transmission facilities and onto facilities with spare capacity to provide reliable delivery of low-cost, low-carbon generation
- Avoiding the use of precious substation space
- Providing high uptime via a modular, redundant solution

The Power Guardian 700 Model ratings are differentiated by their continuous current rating. For example, a Model 700-1300 has a reactive power rating of 700 kVAR and a maximum continuous current of 1300 A RMS. Units provide a corresponding minimum reactance for each current rating per the Table below. The Power Guardian 700 is mounted horizontally and is primarily intended to be installed in SmartBanks™ or SmartTowers™, which collectively provide options to install within the right-of-way, in the substation or in a dedicated parcel.



Technical Specifications

Electrical

| | | | |
|-------------------------------|--------------------------|--------------------------------|-------------------------|
| Maximum Continuous Current | Per Model Table Below | Minimum Reactance in Injection | Per Model Table Below |
| Maximum Emergency Current | Per Model Table below | Operating Frequency Range | 47.5 Hz to 60.6 Hz |
| Maximum Voltage (Corona-Free) | ≤550 kV RMS line-to-line | Fault Current Rating | See Note ⁽¹⁾ |

Physical

Mass 3600 lbs (1633 kg)

Environmental

Operating Ambient Temperature Range -40°F to 122°F (-40°C to 50°C)

Physical (Continued)

| | | | |
|-------------------------|--|-------------------------------------|-----------------------------------|
| Dimensions | See Figure Above | Storage Temperature Range | -40°F to 122°F (-40°C to 50°C) |
| Conductor Size Capacity | Agnostic | Condensing Operating Humidity Range | 5% to 100% |
| Mounting | Suspended from structure via insulator | Maximum Sustained Rain | 4.0 in/hr (102 mm/hr) |

Communications

| | | | |
|---------------------------------|--|------------------------|------------------|
| Communication Architecture | Communicates with the SmartBypass which in turn supports EMS integration via PowerLine Gateway™ located at a substation | Standards | |
| 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 | Electrical Connections | ANSI C119.4 |
| | | Intrusion Protection | IEC 60529, IP 54 |

Power Guardian 700 Models²

| Model | Max Continuous Current ¹ (A RMS) | Min Reactance @ 50 Hz (mΩ) | Min Reactance @ 60 Hz (mΩ) | Max Emergency Current (A RMS) | Max Emergency Current Duration (hours) |
|----------|--|-------------------------------|-------------------------------|----------------------------------|---|
| 700-3200 | 3200 | 54 | 65 | 3840 | 2 |
| 700-2700 | 2700 | 76 | 91 | 3240 | 2 |
| 700-2300 | 2300 | 105 | 126 | 2760 | 2 |
| 700-2000 | 2000 | 139 | 166 | 2400 | 2 |
| 700-1800 | 1800 | 171 | 205 | 2160 | 2 |
| 700-1600 | 1600 | 216 | 260 | 1920 | 2 |
| 700-1300 | 1300 | 328 | 393 | 1560 | 2 |
| 700-1150 | 1150 | 419 | 503 | 1380 | 2 |
| 700-1000 | 1000 | 554 | 665 | 1200 | 2 |
| 700-850 | 850 | 767 | 920 | 1020 | 2 |
| 700-650 | 650 | 1312 | 1574 | 780 | 2 |
| 700-500 | 500 | 2217 | 2660 | 600 | 2 |
| 700-400 | 400 | 3464 | 4156 | 480 | 2 |

Notes:

- Operates in conjunction with a SmartBypass module to provide a fault current rating of up to 63 kA RMS for 30 cycles and 164 kA peak for the first cycle. See the SmartBypass spec sheet for more details.
- Models with different current ratings available upon request. Reactance will depend on current rating.

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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