



# Viper<sup>®</sup>-HV

The World's First High-Voltage Overhead Switchgear Solution

Reliable overcurrent protection on  
sub-transmission lines

**G&W Electric**  
Engineered to order. Built to last.<sup>®</sup>

## G&W Electric Innovating Since 1905

After a century of engineering exceptionally long-lasting electrical distribution and transmission solutions, G&W Electric knows power. And more importantly, we know the power of listening. By taking time to understand your application and asking the right questions, we develop solutions tailored to your needs. Whatever your challenge, you'll experience decades of high performance — and your needs will always be heard.

### VIPER-HV 72.5KV OVERHEAD SWITCHGEAR

The Viper-HV is designed to provide overcurrent protection through fault isolation and automatic restoration for temporary faults on overhead sub-transmission lines. This revolutionary solution provides utilities with functionality right on the sub-transmission lines that was traditionally only available by installing high-cost substations. The Viper-HV switchgear offers ultimate user flexibility by permitting a variety of configurations, including phase-over-phase and crossarm versions to match existing line infrastructure. Built to be a modular, turnkey solution, the Viper-HV switchgear is a highly reliable and cost-efficient way to improve system reliability and grid resiliency.



### FEATURES AND BENEFITS

#### Virtually Maintenance Free

The Viper-HV switchgear requires no oil or gas, which eliminates the need for routine maintenance and improves personnel safety.

#### Increased Reliability

Current carrying is path protected from the environment, and the magnetic actuator is connected to the vacuum bottle, so no gears or motors are impacted by outside elements.

#### Compact 3-in-1 Device

The Viper-HV switchgear incorporates reclosing technology, current transformers, and voltage sensors in a single space-saving design.

#### Automation Ready

Simplifying conversion for any future requirements, the Viper-HV switchgear provides faster fault isolation, restoration and reconfiguration capability.

#### Pole Top Design

Offers more design flexibility and provides additional savings by not having a foundation in a fenced substation and control house.

#### Flexibility

With modular and flexible mounting configurations and different relay options, the Viper-HV switchgear allows customers to adapt to their pole construction and select a relay that best matches their requirements.

#### Operator Safety

The vacuum interrupter and all other energized parts are sealed within field proven solid-dielectric insulation, providing optimum operator safety and additional protection to prevent exposure to the environment and wildlife.

#### Plug-and-Play Installation

The Viper-HV switchgear includes a protection relay in an outdoor control with connectorized control cables on both ends.





## APPLICATIONS

### RECLOSING

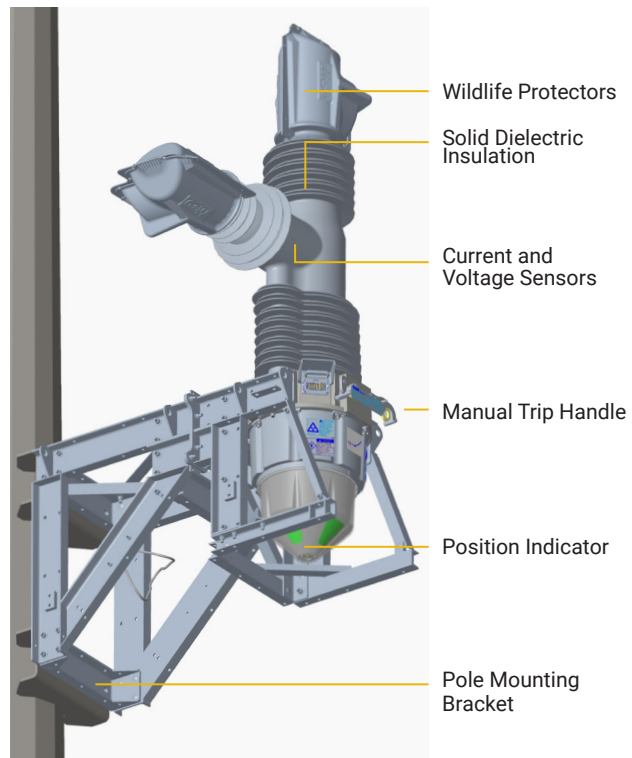
- High-speed clearing of temporary faults
- Radial overcurrent protection

### SECTIONALIZING/SWITCHING

- Load break switching
- Open tie points
- Utility interconnection point

### AUTOMATION PLATFORM

- System reconfiguration
- Automatic transfers
- FDIR/FLISR



## ACCESSORIES AND OPTIONS

### CONTROL

The Viper-HV is provided as an integrated package paired with a state-of-the-art protective relay.

- SEL-651R2, Advanced Recloser Control
- SEL-421, Protection, Automation and Control System
- All are automation-ready with battery backup provision
- Other relay models can be made available



SEL-651R2



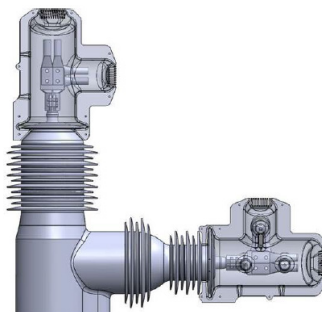
SEL-421

### AC POWERED FROM PT

- Powering for the system is from an external AC supply that can be supplied if needed
- An integrated battery backup system is provided in case of loss of AC

### SITE-READY OPTIONS

- Customer fit wildlife protectors
- Powering transformers
- Isolation switches
- Bypass switches



Wildlife Protectors



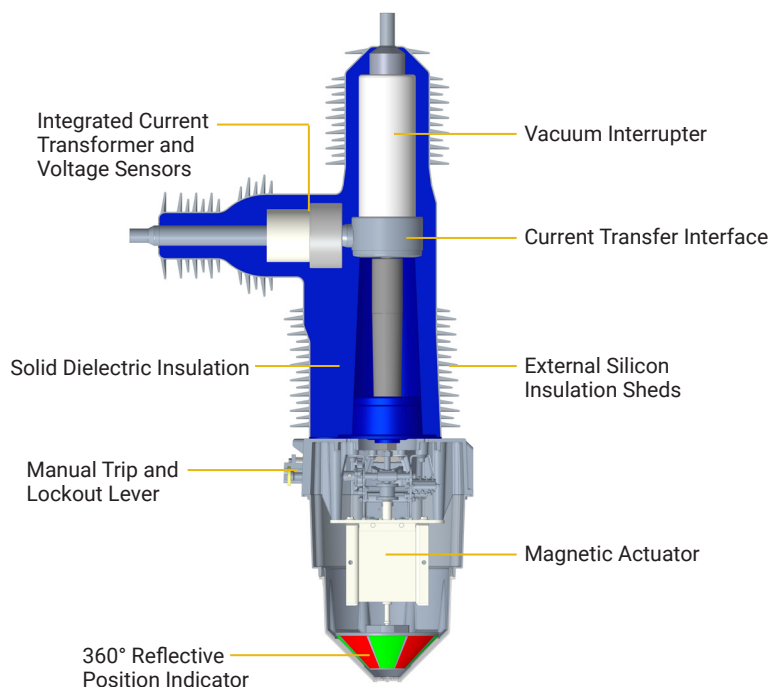
Ritz Power Transformer

### INTEGRATED SENSORS

- (3) 2000:1 MR CTs with various taps ranging from 300:1 up to 2000:1
- (3) 15,000:1 internal voltage sensors

### RATINGS FOR VIPER®-HV

<b>Voltage Class</b>	72.5kV
<b>Continuous Current</b>	1200A & 2000A
<b>Interrupting Current</b>	31.5kA
<b>Short-Circuit Making</b>	80kA pk
<b>Short-Time Withstand</b>	3 seconds
<b>BIL</b>	350kV
<b>Mechanical Endurance</b>	10,000

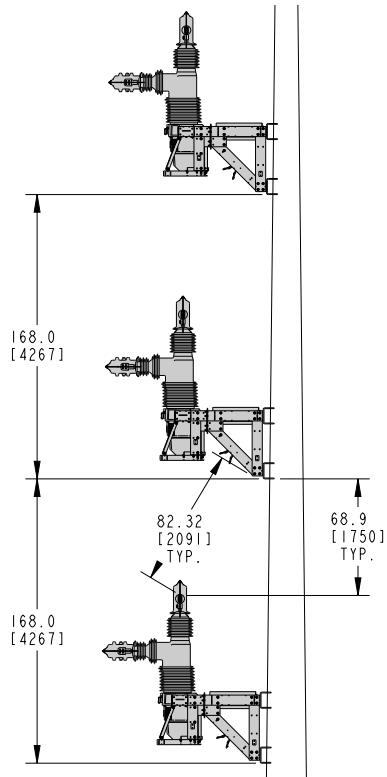




# Configurations

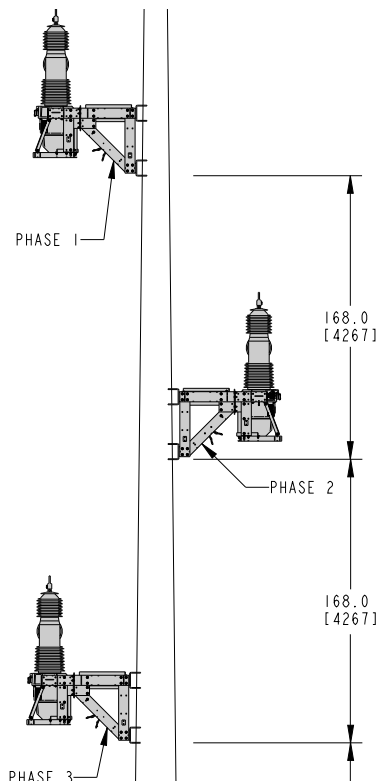
## Phase-Over-Phase

SIDE



## Staggered Phase-Over-Phase

SIDE

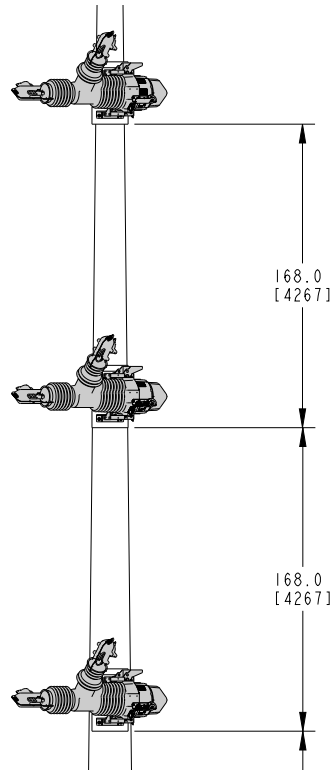


*Renderings are for demonstration purposes only and not an exact application representation.*

# Configurations (continued)

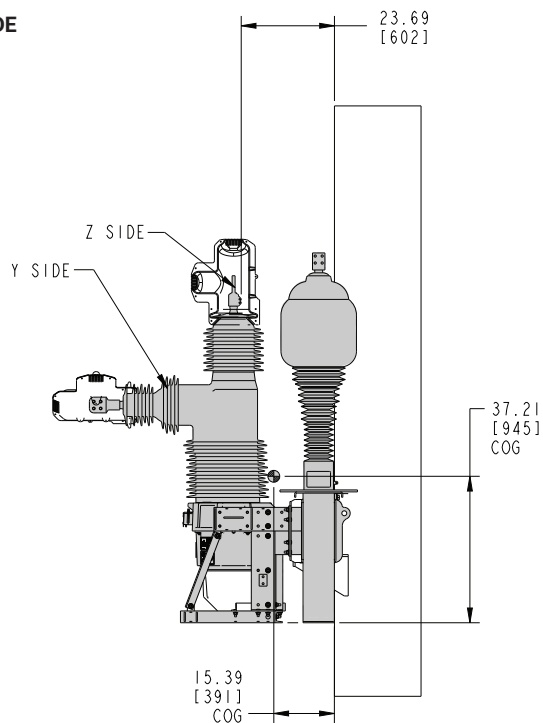
## Horizontal Mounting

SIDE



## Crossarm

SIDE



**The Viper-HV switchgear offers ultimate user flexibility by providing a variety of configurations to match your existing line infrastructure.**

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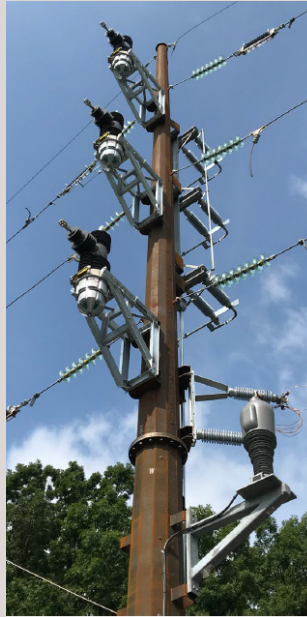
## INSTALLATION SUPPORT

As part of our design process, our engineering team can provide you with 3D modeled layouts to ensure overall footprint and cable entry is compatible with existing site conditions.

## POWER GRID AUTOMATION SOLUTIONS

The G&W Electric LaZer® Distribution Automation System represents the culmination of decades of designing and implementing innovation power automation solutions. With our comprehensive menu of pre-engineered automation solutions — from the most simple automatic transfer schemes to the most complex SCADA/master station configurations — you can rely on us to meet your specific application needs.

G&W Electric's Factory Acceptance Testing and Site Acceptance Testing ensures customers' automation solutions are certified to operate properly and meet all requirements prior to being installed in the field.



## Value-Add Services – Our Personal Touch

At G&W Electric, we strive to deliver complete customer satisfaction by offering the following technical support and services:



### Custom Engineering

Our engineers can tailor our products to meet the needs of any application.



### Custom Programming

Our automation engineers can provide tailored relay programs to meet any specified needs.



### Factory Acceptance Testing

G&W Electric's Factory Acceptance Testing ensures customers' automation solutions are certified to operate properly and meet all requirements prior to being installed in the field.



### 24-Hour Technical Support

Technical support for G&W Electric products is available 24 hours a day, 7 days a week.



### Equipment Training

We can help you learn the ins and outs of your G&W Electric product with equipment training on-site or at G&W Electric facilities.



### Site Acceptance Testing/Commissioning

In addition to in-house Factory Acceptance Testing, our team also performs on-site equipment inspection to ensure your system is operating flawlessly.



### Service and Upgrades

Our factory trained technicians are available 365 days a year to handle your service and upgrade requirements. We provide comprehensive issue resolution, troubleshooting, repairs and field service.

Contact us today

+1.708.388.5010 or [info@gwelectric.com](mailto:info@gwelectric.com)



Since 1905, G&W Electric has been a leading provider of innovative power grid solutions, including the latest in load and fault interrupting switches, reclosers, system protection equipment, power grid automation and transmission and distribution cable terminations, joints and other cable accessories. G&W Electric is headquartered in Bolingbrook, Illinois, U.S.A., with manufacturing facilities and sales support in more than 100 countries, including Canada, Italy, China, Mexico, Brazil, India, UAE and Singapore. We help our customers meet their challenges and gain a competitive edge through a suite of advanced products and technical services.