

# F35

## Gas-Insulated Substations 72.5 kV, 31.5 kA, 2 500 A

GE makes the most of 50 years of experience in design, material selection, development, engineering, manufacturing and servicing of gas-insulated substations.

GE's F35 GIS meet the challenges of networks up to 72.5 kV for all applications: power generation, transmission, distribution, tertiary and industry.

### High Availability

- Extensive experience and reliability with more than 4,500 bays installed in 67 countries
- Current transformers outside gas
- Pure-spring circuit-breaker drives

### Short Site Works

- Up to 3 bays assembled together, wired, tested and shipped to site
- Simple on-site testing thanks to disconnecting function of voltage transformer and surge arrester

### Operational Safety

- Drives and accessories within easy reach

### Modular and Versatile

- Applicable in wind farms, urban and industrial substations
- High modularity enables complex layouts in a compact arrangement



## Lowest Cost of Land and Civil Works

- Bay volume reduced by
  - 23% compared to previous design
  - 40% compared to 145 kV
- Compact GIS bay width of only 0.68 m

## Smart Grid Features

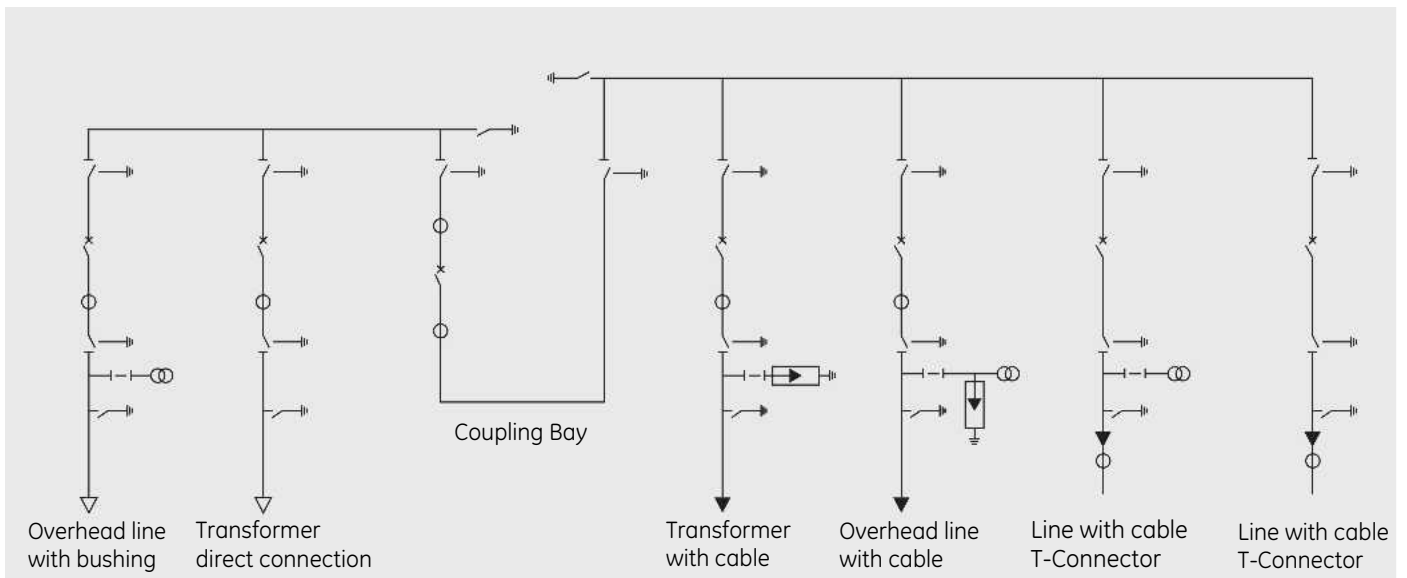
- Full-digital monitoring, control and protection

## Low Environmental Impact

- First-in-class sealing system
- Gas monitoring system BWatch
- Designed for g<sup>3</sup> application



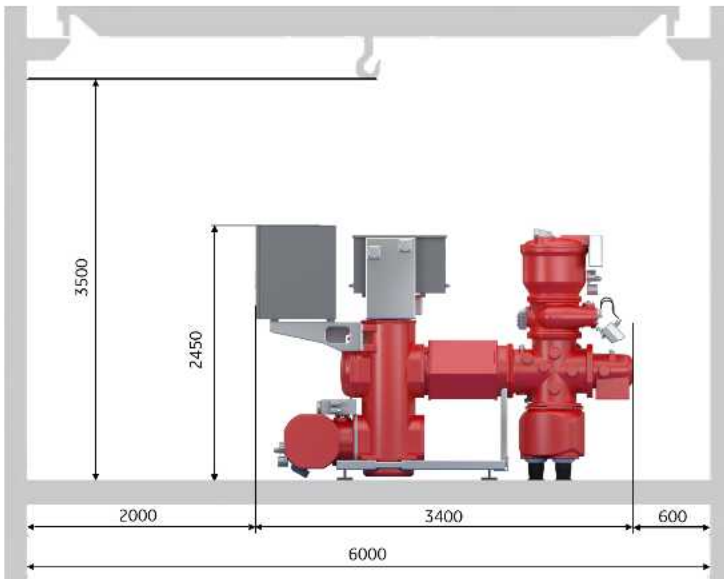
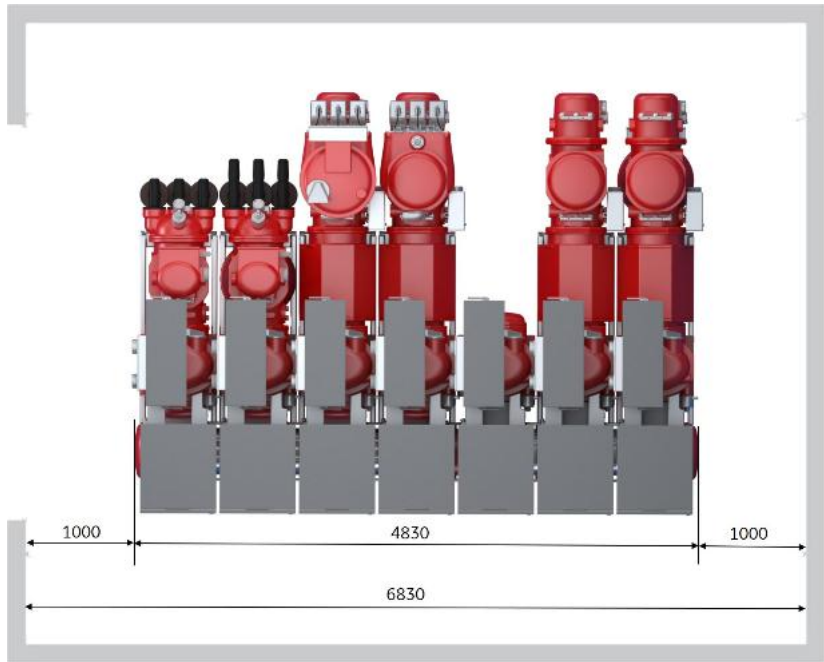
F35 - 72.5 kV, 31.5 kA, 2 500 A - Single busbar diagram



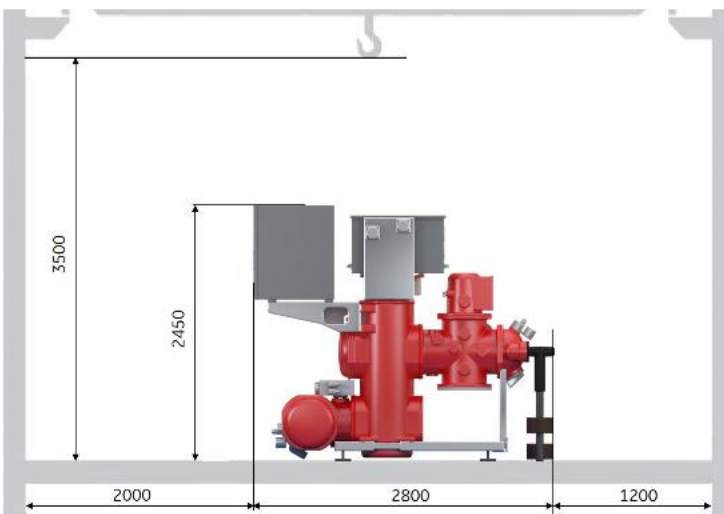
Bay width: 680 mm

Also available:

- Other single-line diagrams
- Stand-alone control cubicles
- Specific layouts



Bay with cable box



Bay with T-connectors

## Ratings

### General

Reference electrotechnical standards		IEC / IEEE
Voltage	kV	72.5
Withstand voltages		
Short-duration power-frequency, phase-to-earth / across isolating distance	kV	140 / 160
Lightning impulse, phase-to-earth / across isolating distance	kVp	325 / 375
Frequency	Hz	50 / 60
Continuous current	A	up to 2500
Short-time withstand current	kA	31.5
Peak withstand current	kAp	85
Duration of short-circuit	s	3
Installation		indoor/ outdoor
Ambient temperature range	°C	down to -30 / up to +55

### Circuit-Breaker

First-pole-to-clear factor		1.5
Short-circuit breaking current	kA	31.5
Short-circuit making current	kAp	85
Operating sequence		O - 0.3 s - CO - 3 min - CO / CO - 15 s - CO
Drive type (three-phase or single-phase)		pure-spring
Breaking time	ms	50
Closing time	ms	70
Mechanical endurance	class	M2
Capacitive switching	class	C2

### Disconnecter and Low-Speed Earthing Switch

Capacitive current switching	A	0.1
Bus-transfer current switching capability	A / V	1600 / 10
Mechanical endurance	class	M2

### Make-Proof Earthing Switch

Making current capability	kAp	85
Switching capability - electromagnetic coupling	A / kV	80 / 2
Switching capability - electrostatic coupling	A / kV	2 / 6
Mechanical endurance	class	M1

Other data available on request.

For more information please contact  
GE  
Grid Solutions

#### Worldwide Contact Center

Web: [www.GEGridSolutions.com/contact](http://www.GEGridSolutions.com/contact)  
Phone: +44 (0) 1785 250 070

## GEGridSolutions.com

IEC is a registered trademark of Commission Electrotechnique Internationale.

GE and the GE monogram are trademarks of General Electric Company.

GE reserves the right to make changes to specifications of products described at any time without notice and without obligation to notify any person of such changes.

F35-72kV-Brochure-EN-2019-04-Grid-GIS-1654. © Copyright 2019, General Electric Company. All Rights Reserved.



Imagination at work