

# GL 310 S, GL 311 S, GL 312 S

Live Tank Circuit Breakers from 100 kV to 145 kV

The Right Choice for Temperatures down to -30 °C

Three-pole and single pole operated mechanism live tank circuit breakers for outdoor installation are designed for temperatures down to -30°C and feature the latest technologies in interrupting chambers and spring-operated mechanisms.

## Safety

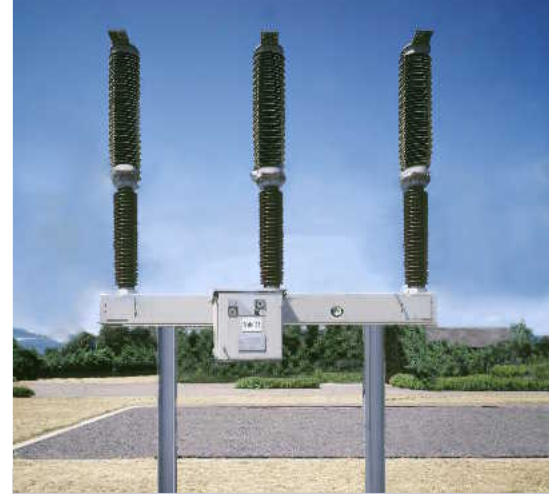
- Pressure relief device prevents from injuries and damages in case of over-pressure within the circuit breaker
- Support frame design ensures personnel cannot be injured by cinematic moving parts
- Dedicated tools are designed to assemble and disassemble circuit breaker parts in safe condition

## Easy Installation and Light Maintenance

- Preset and pre-filled at factory before shipping - no adjustments necessary during installation and commissioning
- Long maintenance intervals
- Easy access to desiccant bags and simple inspections
- Two-stage transducer densimeters are within easy reach, on the front side of the circuit breaker, for periodic/regular check

## Quality and Testing

GE's live tank circuit breakers meet the latest versions of national and international standards, such as IEC 62271-100. The entire development and production procedures are fully compliant with the latest ISO 9001, ISO 14001 and OHSAS 18001 quality standards.



## High Performance

Live tank circuit breakers ensure a high level of reliability every day. Even under extreme conditions and climates or in highly active seismic areas customers can count on live tank circuit breakers made by GE.

## Key Benefits

- High reliability even in cold areas down to -30 °C
- Single-motion technology
- SF<sub>6</sub> volume reduced by 15% compared to previous version while optimizing the internal volume
- Lower environmental impact : CO<sub>2</sub> equivalence of gas mass reduced by 29 tons
- Quick and easy installation and commissioning
- Quality and testing according to latest versions of national and international standards



## Components

- Interrupter chamber with self-blast system and reliable single-motion technology
- Reliable spring-operated mechanism with position indicator clearly visible from outside
- Pressure relief system for passive protection of substation and personnel
- Field-proven, temperature-compensated density monitor with two-stage transducer and three-color dial
- Easy access to the SF<sub>6</sub> filling connection (DIL0 type)
- SF<sub>6</sub> non-return (check) valve on each pole column
- Opening and closing spring in drive
- Steel support frame design prevents corrosion issues and provides high safety for employees and high protection against environmental ingress (e.g. ice)
- Optimum designed cinematic between mechanism and interrupting chamber to increase mechanical energy efficiency and mechanical moving parts reliability

## Ratings

Breaker Type	GL 310/311/312 S
Rated voltage	100 kV to 145 kV
Rated frequency	50 Hz
Rated normal current	3150 A
Rated short-circuit breaking current	40 kA
Rated short-circuit making current	100 kA
Rated duration of short-circuit	3 s
First Pole to clear factor	1.3 / 1.5
Opening time	27-37 ms
Breaking time	50-60 ms
Closing time	≤70 ms
Average ambient temperature**	-30 °C up to +40 °C
Design altitude*	1000 m.a.s.l.
Pollution level**	25 mm/kV

\* Standard values according to IEC. Higher design altitudes available on request

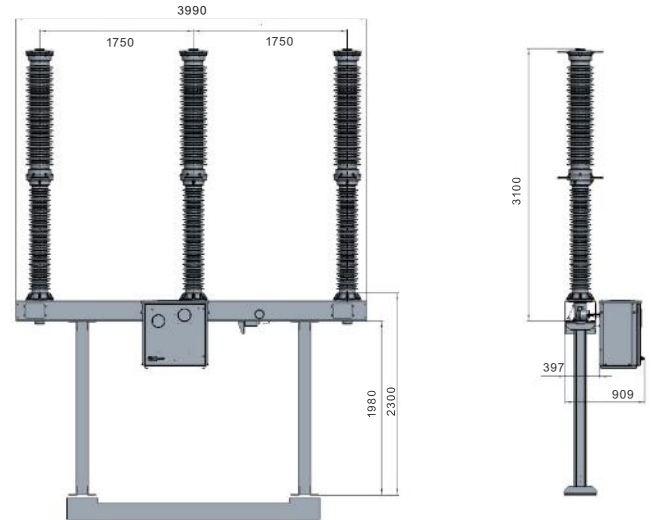
\*\* Other pollution and temperature levels available on request

For more information, please contact  
GE

### Worldwide Contact Center

Web: [www.GEGridSolutions.com/contact](http://www.GEGridSolutions.com/contact)  
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## Dimensions



(dimensions in mm)

## Technical Characteristics

- **Spring-operated mechanism / degree of protection:**  
FK 3-1 / IP 55
- **Rated operating sequence:**  
O-0.3s-CO-3min-CO resp. CO-15s-CO
- **Rated supply voltage:**  
From 24 V up to 250 V dc/ac

## Product Options

On request:

- **More phase center distances**
- **CBWatch monitoring system**
- **Composite insulators**

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Imagination at work