

High Voltage Products | Gas-insulated switchgear

## EconiQ™ GIS ELK-04, 145 kV

Eco-efficient modular solution for reliable energy supply

### Product information

EconiQ ELK-04, 145 kV is the most robust SF<sub>6</sub>-free gas-insulated switchgear (GIS). It combines a low carbon footprint, superior reliability and low lifecycle costs in a flexible product layout.

EconiQ ELK-04, 145 kV is a sustainable and eco-efficient product proven to significantly reduce the CO<sub>2</sub> equivalent (CO<sub>2</sub> eq) emissions during the complete lifecycle of the product, compared to the SF<sub>6</sub> solution.

EconiQ ELK-04, 145 kV is based on the well-known modular design of ELK-04 with the largest installed base of any sub-transmission GIS worldwide. It offers easy operation at high-performance ratings and broad flexibility for optimizing substation layouts. It is the most robust and reliable eco-efficient GIS solution on the market to fulfil the rigorous high-voltage engineering requirements. It uses a proven gas-circuit breaker technology, which has been utilized for decades in the transmission systems.

EconiQ ELK-04, 145 kV is using a gas-mixture of Fluoronitriles (C<sub>4</sub>-FN), Carbon dioxide (CO<sub>2</sub>) and Oxygen (O<sub>2</sub>). This mixture essentially eliminates the CO<sub>2</sub> equivalent emissions of the insulation medium compared to SF<sub>6</sub> gas.

EconiQ is Hitachi Energy's eco-efficient portfolio for sustainability where products, services and solutions are proven to deliver exceptional environmental performance.

### Benefits of the eco-efficient technology

- Future proof to environmental regulations
- No risk of accidental leakage of SF<sub>6</sub>
- Transparent environmental performance, thanks to the detailed product life cycle assessment

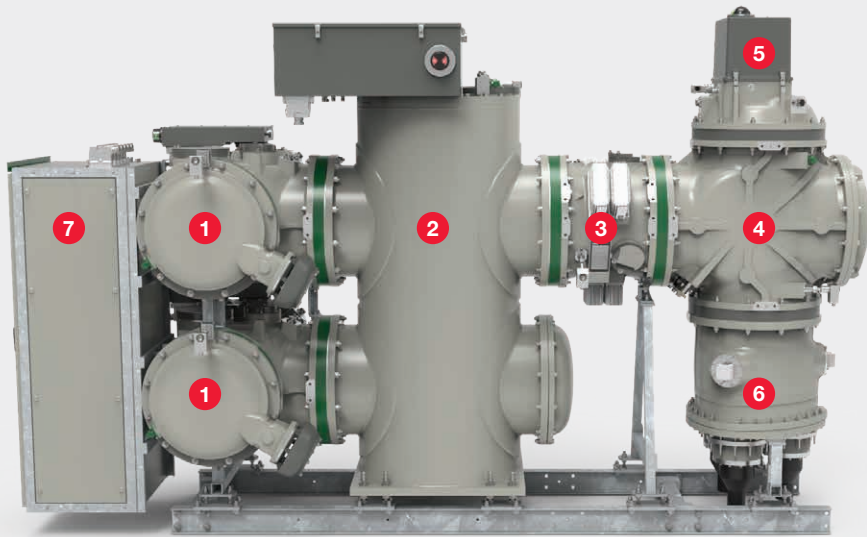


### Ease of gas handling

- A standard eco-efficient insulation gas for high-voltage equipment will enable the industry to adopt a standardized eco-efficient gas approach from sub-transmission to ultrahigh voltage
- Standard service concept and auxiliary equipment

### Superior quality and robustness

- Most reliable eco-efficient GIS solution on the market
- Exceptional engineering design
- Using a well-proven gas circuit breaker technology
- Softer switching characteristic of gas circuit breakers with low stress to neighbouring equipment
- Based on the ELK-04 product family with the largest installed base of any sub-transmission GIS
- Earthquake resistant up to ground acceleration of 1g



## EconiQ ELK-04, 145 kV double busbar bay

1. Disconnect and earthing switch (busbar)
2. Circuit-breaker
3. Low power instrument transformer
4. Disconnect and earthing switch (feeder)
5. Make-proof earthing switch
6. Cable exit
7. Local control cubicle (LCC)

### Performance data – EconiQ ELK-04, 145 kV

Rated voltage	kV	145
Rated short-duration power-frequency withstand voltage	kV	275
Rated short-duration power-frequency withstand voltage across isolating distance	kV	315
Rated lightning impulse withstand voltage	kV	650
Rated lightning impulse withstand voltage across isolating distance	kV	750
Rated normal current	A	3150
Rated short-time withstand current	kA	40
Rated peak withstand current	kA	108
Rated operating sequence		O-CO

**Product-ID: 1HGD008100M0052**

The data are not limiting values. Additional data on request.

**Hitachi Energy**  
High Voltage Products  
Gas-insulated switchgear  
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