

Pretact® – React in advance. Grid resilience along the entire energy value chain



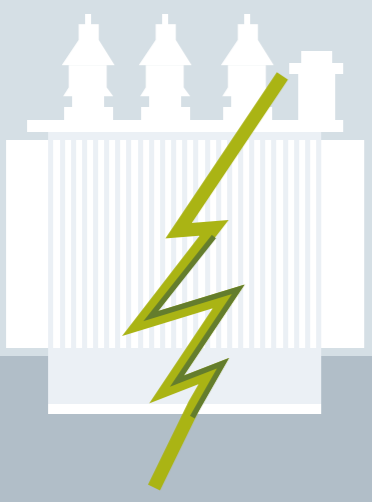
Siemens' distribution transformers are key electrical components and Siemens is a reliable partner for network operators who are facing growing challenges of maintaining a constant voltage and avoiding unpredictable events.



The Siemens Pretact® concept “prevent, protect and react” decreases risks of loss of major power flows as well as grid disturbances and improves overall reliability, resilience and restoration.

Risk factors for grid resilience

Operational issues



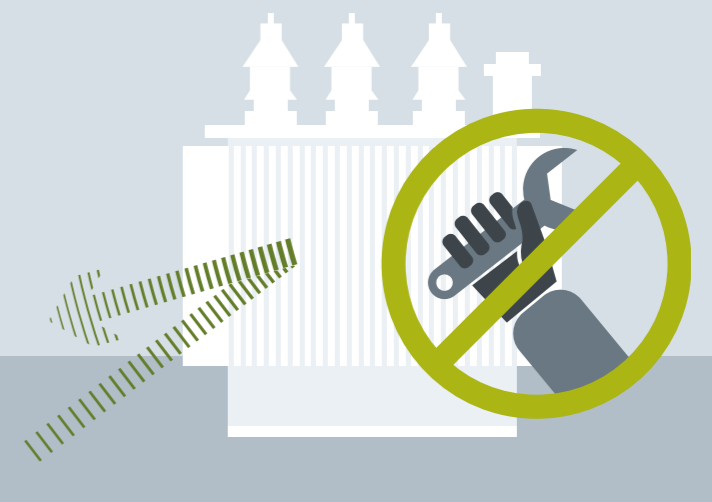
- Network failures
- Incorrect operations
- Aged fleet
- Switching load stress and voltage fluctuations from renewable energy sources

Natural disasters



- Earthquakes
- Hurricanes
- Flooding
- Fire

Other forced outages



- Physical impacts
- Cyber impacts

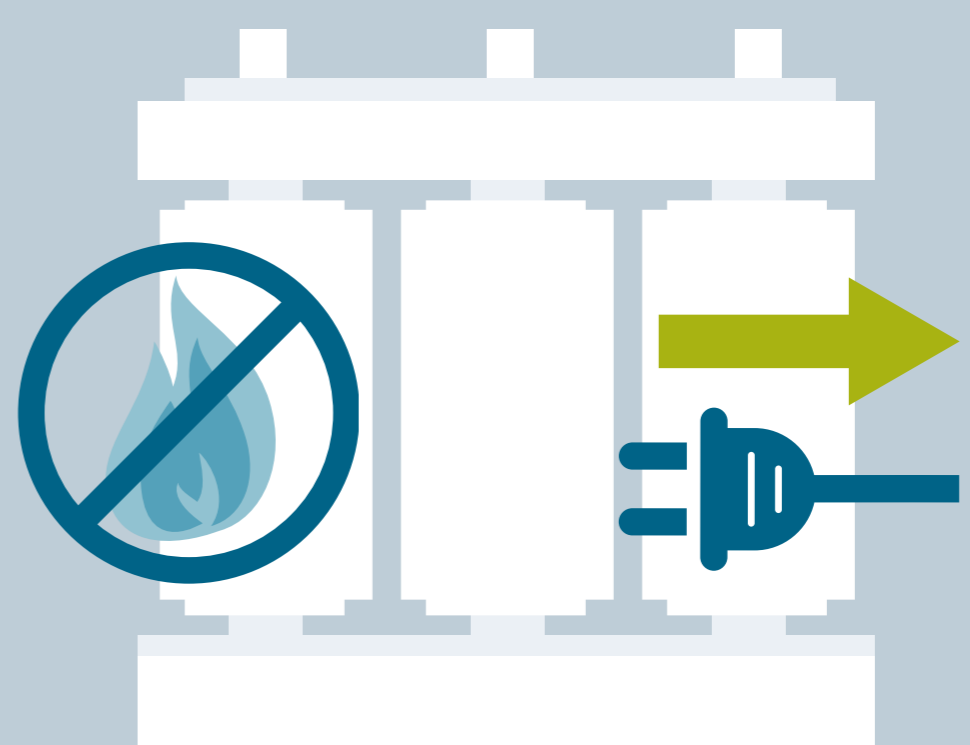
Pretact® – Siemens grid resilience concept for dry type and liquid immersed distribution transformers

Prevent operational risks



- Load Balancing: Intelligent FITformer REG® and voltage regulators with increased switching capacity
- Specific solutions for high duty applications
- Energy & commodity theft prevention
- Maintenance free product

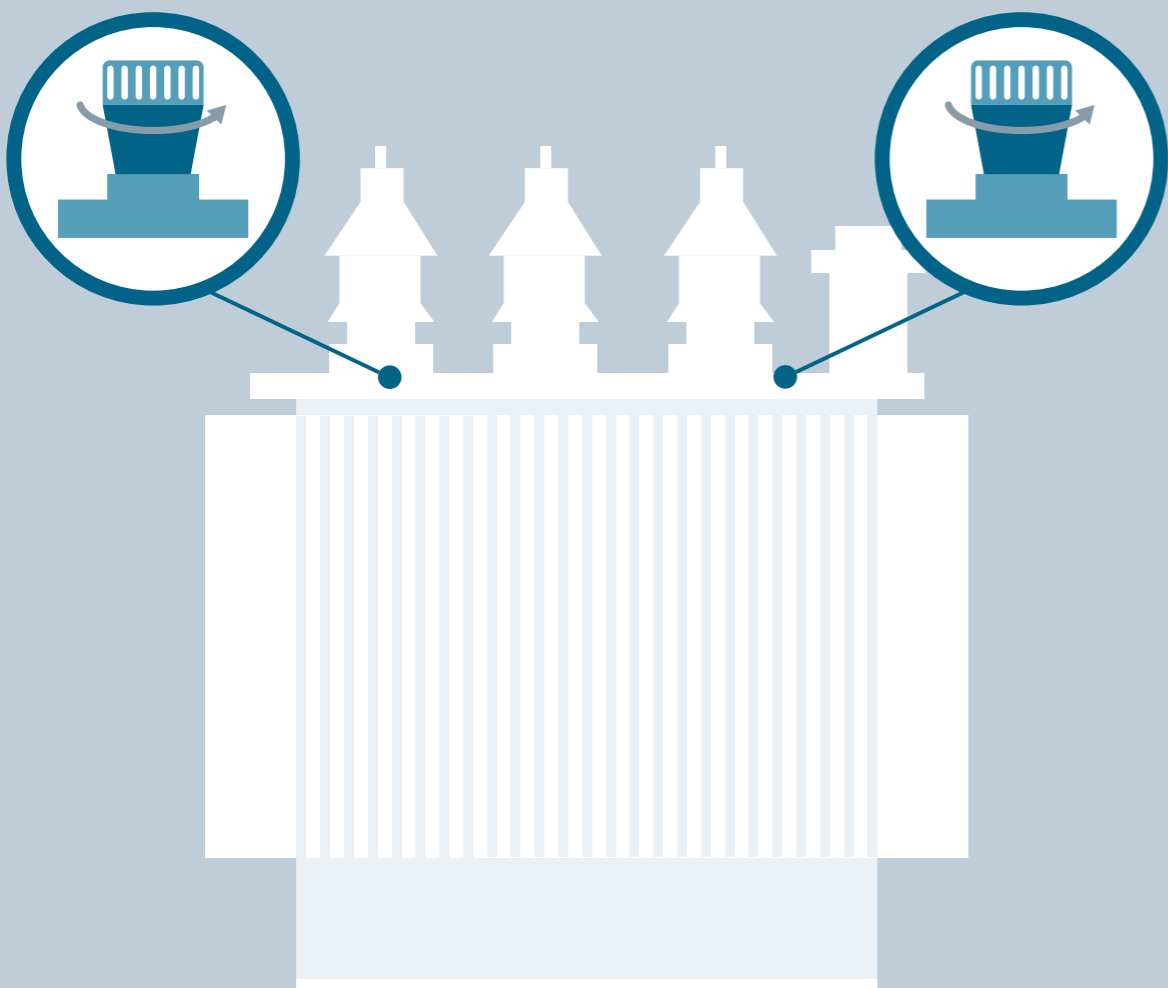
Protect against negative impacts and excessive heat



- Flame resistant and self-extinguishing cast-resin transformers
- Alternative fluids with low flash and fire points for liquid immersed transformers
- Self-protected transformers
- Optional cast-resin transformer housing

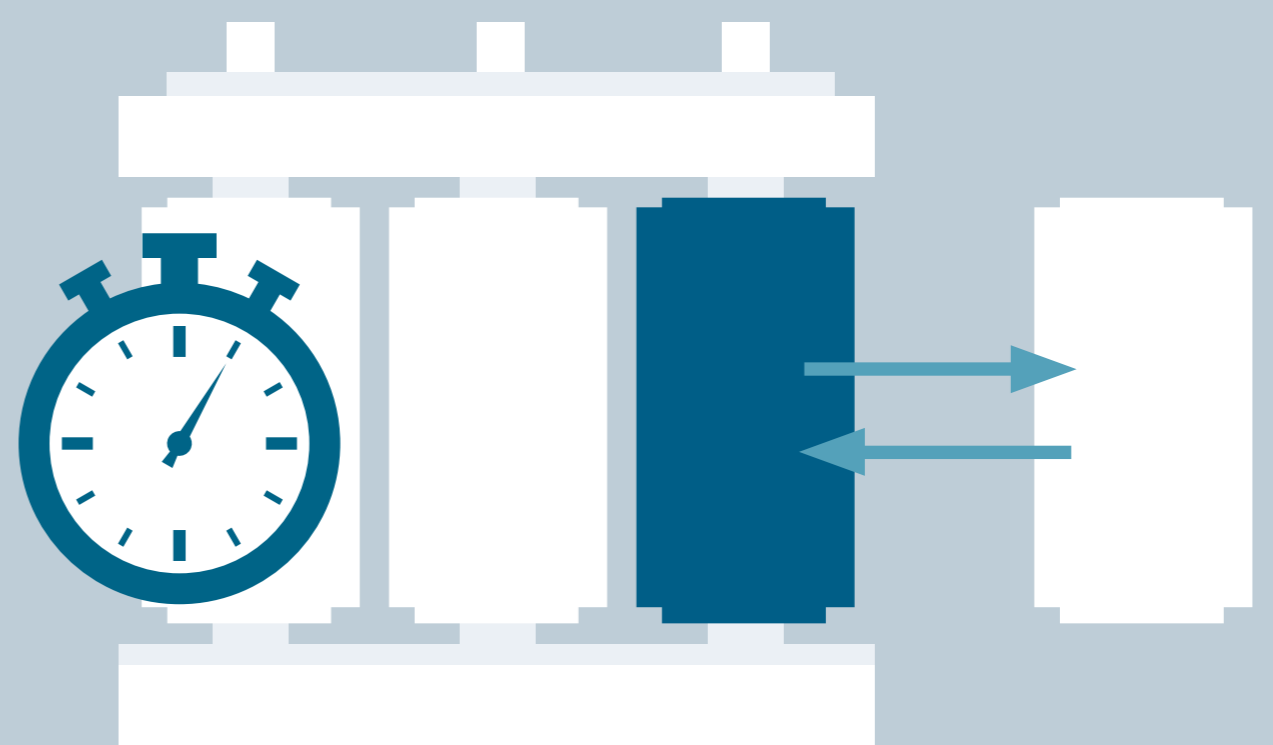
React to emergencies

Versatile



Dual voltage transformer (LiDT)

Rapid installation and replacement



Individual winding exchange for cast-resin transformers, compact designs and plug & play bushings