SIEMENS energy

CAREPOLE

The eco-friendly alternative for more reliable and safer distribution grids

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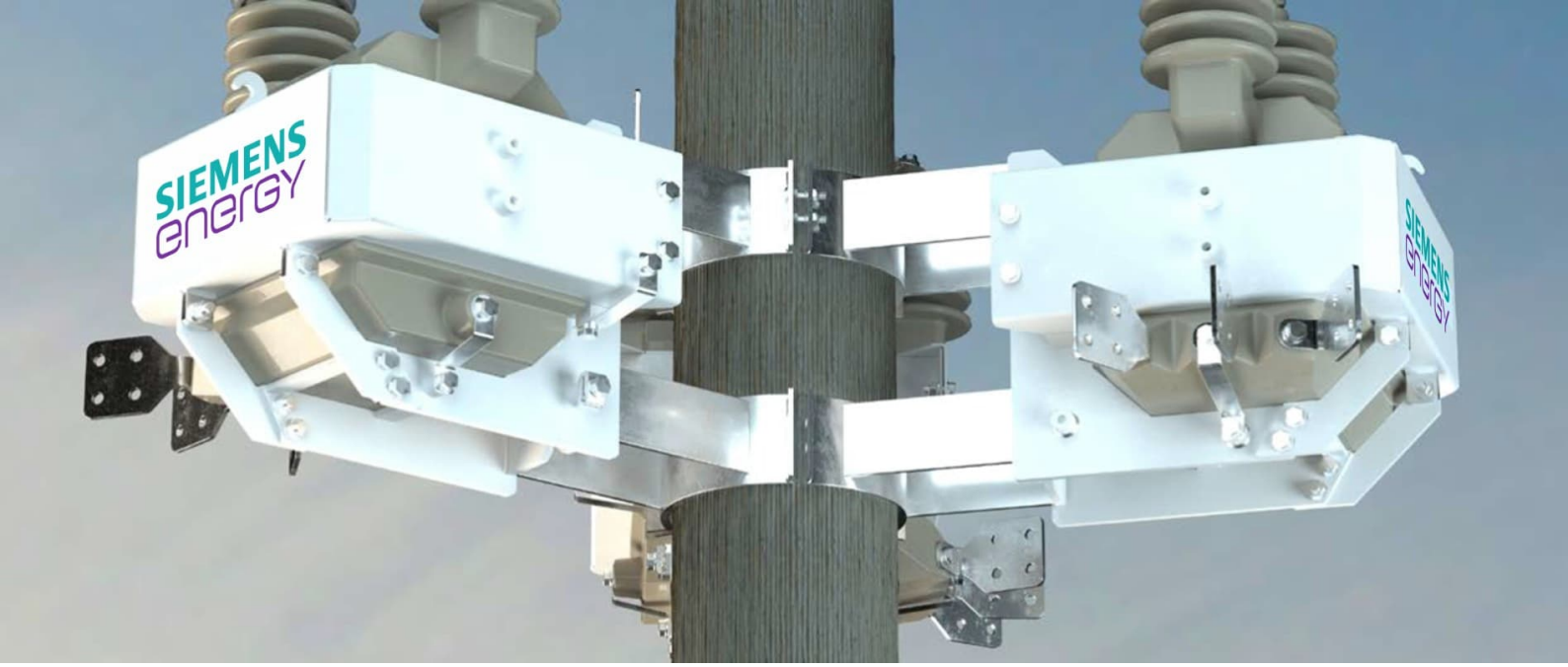


CAREPOLE™

Be ready for the future

The pole-mounted dry-type CAREPOLE offers many benefits which make your power distribution grid safer and more environmentally friendly. Optimally protected by its cast-resin enclosure against harsh environmental and climate conditions, this maintenance-free transformer, with an expected lifetime of 25+ years, ensures reliable operation while reducing total costs of ownership.

Reliable by design: long lifetime, few outages

CAREPOLE has a robust mechanical frame structure and is cast with cycloaliphatic epoxy resin. This ensures high **weather and corrosion resistance**. CAREPOLE is suitable for outdoor applications and withstands environmental hazards. The frame also serves as a lifting and fastening mechanism for the transformer. A special manufacturing process and advanced sealing compound ensure a perfect core protection and **low-noise operation**.

The windings are cast with cycloaliphatic epoxy resin under vacuum, separated from the core. The cast-resin insulation is solid and resists the dielectric loads in the distribution network. It prevents moisture from penetrating the windings and thereby **reduces transformer aging**. CAREPOLE can also withstand higher temperatures than liquid-filled transformers due to the thermal class of the solid insulation. As a result, CAREPOLE units can be **overloaded for longer periods of peak demand.**

The winding insulation surface is in direct contact with the ambient air and has an efficient natural heat exchange, which ensures low aging: **the lifetime of CAREPOLE is 25+ years**. The innovative technical design makes CAREPOLE especially **reliable and robust**.

Easy handling: maintenance-free, easy to install

CAREPOLE units are **maintenance-free.** Servicing is limited to checking the vegetation conditions and wildlife management. This all helps to reduce the total cost of ownership.

I**nstallation and grid connection** could not be easier. Liquid-filled overhead distribution transformers can be directly replaced by CAREPOLE due to identical brackets. CAREPOLE has identical mechanisms for fixing to the pole, and has been specifically developed for urban, rural or coastal outdoor installation. CAREPOLE can be mounted at any angle and, after installation, immediate energizing is possible.

Safe and sustainable: no contamination, less resource consumption

CAREPOLE makes your power distribution grids safer and more environmentally friendly because the units operate **without flammable oil-based insulating fluids**, and therefore require no tank. The cast resin, used as insulation and for the body of the transformer, has excellent electrical and mechanical properties, and is **self-extinguishing**.

The absence of insulating fluids means that CAREPOLE does not pose any risk to water sources or nature reserves caused by oil leaks, tank explosions or fires in the event of a fault. Moreover, thanks to the **high efficiency** of CAREPOLE, CO_2 emissions are minimized and the transformer's long lifetime reduces resource consumption.

Digitally connected: minimized outage times, optimized performance

CAREPOLE is part of the digital Siemens Energy **Sensformer** portfolio: your unit can be ordered as Sensformer.

Operational data is transmitted via a smart and robust IoT gateway, using end-to-end encryption, to a storage and visualization platform. Loading information allows you to make better decisions and **optimize the management of the grid**, resulting in greater flexibility and more economic operation. The temperature status can always be checked, and a life consumption view provides information on the residual lifetime of the transformer.

Information is available any time and anywhere. Thanks to these digital features, failures can be localized and rectified as quickly as possible, or often even avoided by identifying operational irregularities at an early stage. This level of transparency helps to further increase the reliability of your distribution grid.

Your benefits at a glance:

Increased reliabilty

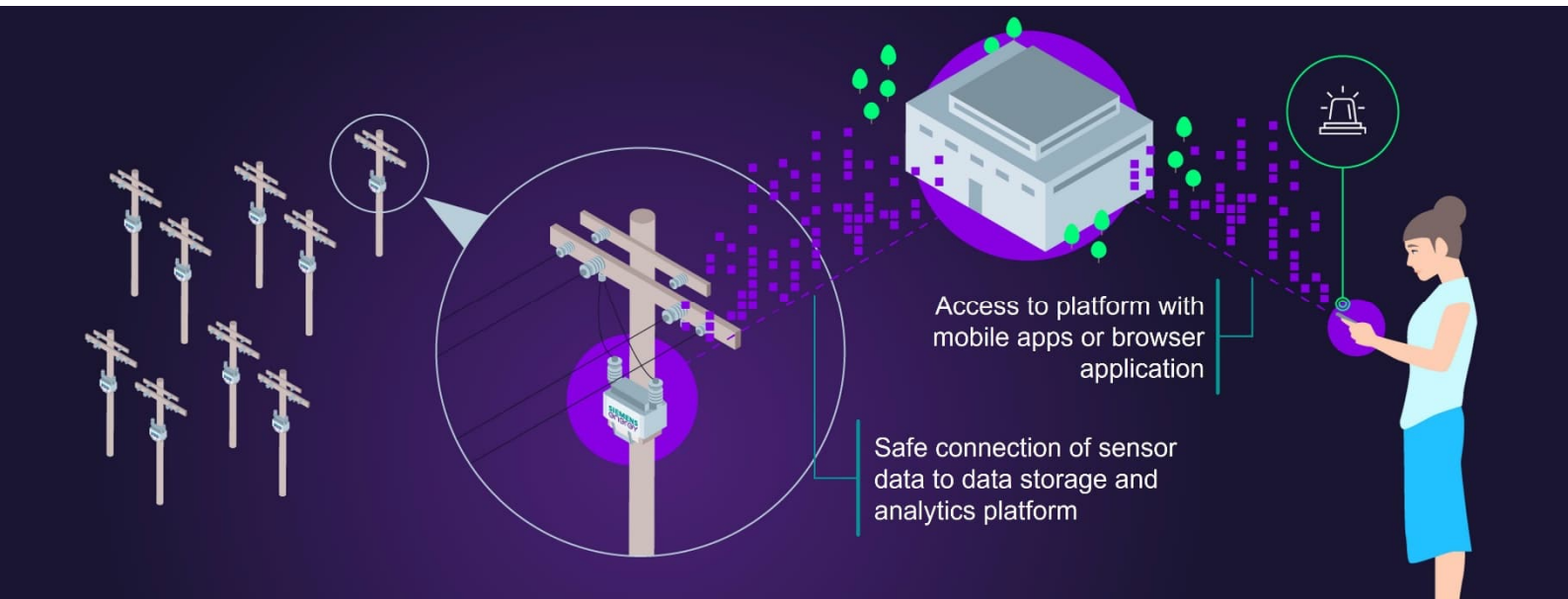
- Long lifetime
- Fewer outages
- High overload capability
- Weatherproof and climate-proof design
- Digital monitoring to improve grid management

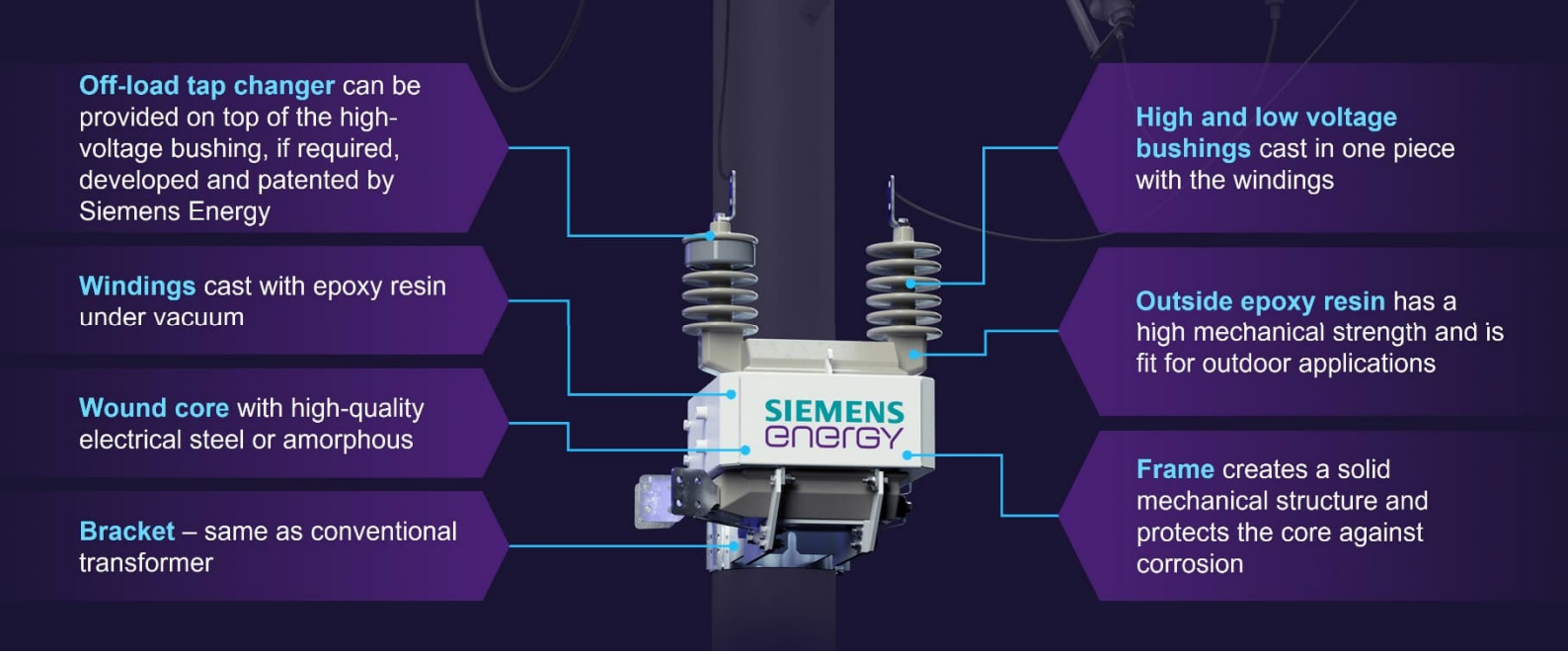
Enhanced safety and environmental friendliness

- Minimized resource consumption and CO_2 emissions
- No water or soil contamination
- High level of fire safety – self-extinguishable
- No explosion risk
- High short-circuit withstand capability

Reduced total cost of ownership

- Long lifetime of 25+ years: no replacement costs
- Maintenance-free units: no maintenance costs
- Small in size: lower storage and installation costs
- Reduction of technical losses (due to amorphous core)
- Energy theft protection due to digital monitoring





Technical details

Ratings

CAREPOLE is available in the **single-phase power range from 10 kVA to 100 kVA**. The transformer offers a maximum voltage capacity of 36 kV, and can be equipped with a tap changer with up to 5 positions, one or two high-voltage bushings and other accessories typical for overhead distribution transformers (e.g. surge arresters).

Accessories

CAREPOLE is equipped with the following accessories:

- Surge arrester (on request)
- Lifting lugs
- Mounting bracket
- Transformer ground connector
- Low-voltage ground (on request)
- Sensors and smart IoT gateway (on request)

Main standards

CAREPOLE transformers meet the product requirements of the following standards:

- IEEE C57.12.01. "Standard for General Requirements for Dry Type Distribution and Power Transformers"
- IEEE C57.12.20. "Standard for Overhead Type Distribution Transformers 500 kVA and Smaller: High Voltage, 34,500 V and Below; Low voltage, 7,970 / 13,800 Y V and Below" (where applicable)
- Efficiency in accordance with the U.S. Department of Energy (DoE)
- Other requirements as dictated by your standards

Published by

Siemens Energy Global GmbH & Co. KG
Transmission
Freyeslebenstr. 1
91058 Erlangen
Germany

For the U.S. published by

Siemens Energy, Inc
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8841 Wadford Drive
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