



# Boost your grid efficiency to meet the growing energy demand

Minera oil-type distribution transformers



[schneider-electric.com/transformers](https://schneider-electric.com/transformers)

Life Is On

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Electric

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- > 'Click and buy': Standard oil-type distribution transformers
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# Greater efficiency for your distribution network

**Greater efficiency  
for your grid**

Standard oil  
transformers

Customized oil  
transformers

Oil transformers  
in summary



# Master the challenges of the new energy world

By 2050, energy consumption will go up by 50 percent\*. The growing energy demand is putting a strain on energy grids that need to withstand heavier loads while also adapting to greater digitization, decarbonization, and decentralization needs. To succeed in this new energy world and satisfy the growing electricity demand, electric utilities need to maximize grid efficiency.

Schneider Electric is committed to developing innovative products, solutions, and services to help utilities meet these challenging demands and succeed in an increasingly competitive environment.

[> Discover EcoStruxure™:  
Innovation At Every Level](#)

\* Compared to 2009 levels

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# Minera oil-type distribution transformers for future-ready grids

Schneider Electric oil-type distribution transformers are engineered for highest efficiency and long service life to support the evolution of power networks into smart, future-ready grids.

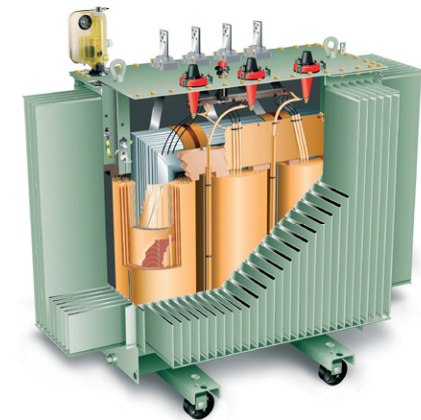
With more than 80 years of experience in transformer manufacturing and over two million oil-type transformers installed worldwide, Schneider provides proven solutions that benefit both operators and end users.

Available in two options: standard (for fast delivery) and fully customized, our transformers fit a wide range of applications, including transmission and distribution networks, renewable energy generation, and small industries (textile, automotive, pharmaceutical).



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# The value added to your transformer

Schneider Electric's oil-type transformers are engineered to the requirements of the necessary regulatory frameworks. They provide greater flexibility for future adjustments and innovative digital functionalities to improve asset management and make life simpler.

- **Green Premium ecolabel** confirms compliance with regulations such as RoHS, REACH, POS, and provides end-of-life instructions.
- **EcoDesign** compliance ensures the required level of efficiency.
- **QR codes**, placed on every transformer, enable access to product information, and documents.
- **BIM (Building Information Model)** enables easy integration of our standard transformers into your project.
- **Safe repository** is a cloud storage platform where you can keep all documents related to your transformer for quick and easy access.



All our oil-type transformers can use **vegetable oil as dielectric**

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# ‘Click and buy’: Standard oil-type transformers

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# Meet the versatile Minera range of oil-type distribution transformers

Minera oil-type distribution transformers are designed for greater versatility and flexibility and fit both standard and specific applications. Compliant with the latest regulations and requirements, they provide high quality and reliability as well as shortened delivery time. The range also boasts minimum maintenance requirements and improved recycling capacity. On request, the transformers can be adapted to specific performance demands.

The Minera transformers are available:

- As hermetically sealed or breathing types
- For indoor applications in buildings, industrial plants, and compact distribution substations
- For outdoor applications: ground, pad, or pole mounted
- In a low noise level option for urban or residential areas

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# Get your transformer in a few clicks

For common applications, you can easily order\* a Minera oil-type transformer as a standardized product. Available through mySchneider in selected countries, the transformer can be chosen and purchased in just a few clicks. A simplified commissioning process for standard transformers greatly reduces the delivery time.

## Technical characteristics of a standard transformer

Rated power	Up to 3.15 MVA
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling or forced air cooling

[> Learn more](#)  
about the  
ground-mounted  
transformers

[> Learn more](#)  
about  
pole-mounted  
transformers

\*Dependent on location and transformer models, contact us for more information

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# Customized oil-type distribution transformers

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# Find a perfect transformer for your application

Schneider Electric offers a wide range of oil-type distribution transformers designed to address specific grid challenges:

- **Minera** standard transformers for fast delivery
- **Minera SGrid** for a smart, future-ready grid
- **Minera HE+** for ultra-high efficiency
- **Minera PV** for photovoltaic systems
- **Siltrim** for wind farms
- **Minera Ex** for explosive areas
- **Minera R** for harmonics mitigation
- **Minera E** for greater power supply reliability (earthing applications)



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# Minera SGrid: Smart capabilities for a future-ready grid

Minera SGrid is a regulated distribution transformer designed to answer the challenges of voltage regulation. An innovative solution, based on field-proven components, the Minera SGrid minimizes the risk of voltage fluctuation across the grid. The results are greater network reliability and more peace of mind for the operators. The Minera SGrid is compliant with key regulations and has minimum maintenance requirements.



## Technical characteristics

Rated power	Up to 1,000 kVA
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling

[Learn more](#)

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# Minera HE+ : Ultra-high efficiency for energy savings

Minera HE+ are amorphous-core transformers that provide outstanding energy efficiency. The transformers of this type reduce both load and no-load losses, which optimizes the total cost of ownership. Thanks to an amorphous metal core, the Minera HE+ transformers consume 70–80 percent less energy than transformers with a conventional silicone steel core.



## Technical characteristics

Rated power	Up to 1,000 kVA
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling (others on request)

[Learn more](#)

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# Minera PV: Smooth integration of solar energy

Minera PV transformers are a perfect choice for grid-connected photovoltaic systems. Each transformer is manufactured according to specific requirements, regarding voltage, power, losses, sound levels, and more. The three-phase Minera PV transformers allow for the connection of multiple inverters, reducing the installation costs without compromising transformer functions.



## Technical characteristics

Rated power	Up to 1,600 kVA
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling or forced air cooling

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# Siltrim: High capabilities in a compact size

Siltrim transformers provide high efficiency and reliability in a compact form that is perfect for renewable energy applications, especially wind farms. Siltrim's outstanding performance level (high efficiency, low temperature rise, fire resistance) is obtained by applying an excellent fire-resistant and heat-dissipating dielectric liquid. The transformers have been tested for an extremely high overvoltage level and are equipped with a pressure-relief device as an added safety measure against explosion.



## Technical characteristics

Rated power	Up to 3.3 MVA
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling

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# Minera Ex: Robustness in harsh environments

Minera Ex transformers are explosion-proof and can be installed in potentially explosive atmospheres, particularly around hydrocarbon fluids. The transformers can be adapted to provide safety solutions for Zone 1 and Zone 2 applications in line with the latest ATEX and IECEx standards.



## Technical characteristics

Rated power	Up to 3.15 MVA
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling (forced air cooling on request)

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# Minera R: Longer life of your transformer

Minera R rectifier transformers are designed to mitigate the risk of harmonics responsible for reduced transformer life and lower power quality. The Minera R transformers operate at the fundamental frequency of an alternating current system and can have one or more output windings connected to the rectifier.



## Technical characteristics

Rated power	Up to 3.15 MVA
Rated voltage	Various
Type of cooling	Natural air cooling, forced air cooling (others on request)

[Learn more](#)

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# Minera E: Greater reliability of power supply

Minera E earthing transformers are engineered to protect your network against phase-earth fault currents for the given fault time duration. The transformers prevent overstressing of power grid insulation caused by voltage rise, improving the continuity of power supply. Minera E is compliant with international standards, including IEC 60070 Part 6 and relevant IEE and EN/VDE certifications.



## Technical characteristics

Rated power	Up to 15 kA (earth fault current)
Rated voltage	Up to 36 kV
Type of cooling	Natural air cooling

[Learn more](#)

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# Oil-type distribution transformers in summary

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# A comprehensive portfolio for diverse applications

Our oil-type distribution transformers can be applied to a wide scope of segments.

	Oil & Gas	Mining, Minerals & Metals	Industry	Utilities	Power Generation	Buildings	Renewable Energy
Minera	•	•	•	•	•		•
Minera SGrid			•	•		•	
Minera HE+			•	•		•	
Minera PV							•
Siltrim	•						•
Minera Ex	•	•					
Minera R		•	•		•		•
Minera E	•	•	•			•	

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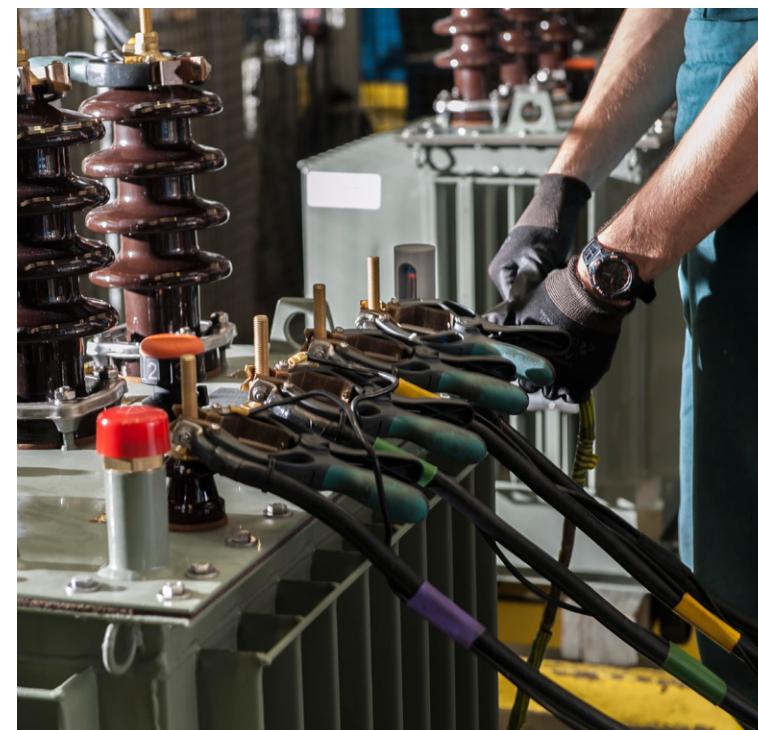
**Oil transformers in summary**



# Oil-type distribution transformers in a nutshell

Oil-type transformers deliver highly efficient performance in diverse applications. They can be flexibly adjusted to different requirements and specific segments. For standardized applications, the transformers are available in a short delivery time. With robust construction and high reliability, the oil-type transformers are a perfect choice for grid modernization and can help you tackle the challenges of the new energy world.

- High quality and reliability
- Robust construction
- Versatility
- Low maintenance
- Easy recycling



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