



# Power your enterprise with more reliable and efficient energy

Minera power transformers for demanding applications up to 170 kV



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Power transformers  
tailor-made for your grid

**Power transformers**

Minera range

Range overview



# Designed for diverse environments and applications

With voltage insulation rating up to 170 kV, Minera power transformers have been engineered to withstand many critical environments. Ready for all applications up to 100 MVA, the Minera range is a perfect solution for many market sectors from Oil & Gas and Water & Wastewater to power generation and electric utilities.

The range includes:

- Minera MP
- Minera Ex (explosive areas, compliant with ATEX and IECEx)
- Minera R (rectifier applications tackling harmonics)
- Minera E (earthing applications for safer HV substations)



# Custom-built for more efficiency and reliability

Designed to meet a wide variety of technical requirements, Minera power transformers feature full customization options. All elements – from tank and core, to windings and tappings – can be tailored to your exact needs.

Minera power transformers offer:

- Compliance with various international energy efficiency standards, including the EU's Ecodesign
- Reliable performance
- Environmental friendliness



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Innovation At Every Level!

Power transformers

Minera range

Range overview





# Minera power transformers for demanding applications

Power transformers

**Minera range**

Range overview



# Minera MP

Minera MP is an oil-immersed power transformer which – depending on its configuration – can be applied to a wide range of operations, from utilities to industry. Thanks to optimized cost efficiency solutions, it helps you connect power plants to supply systems or link together networks with different voltage levels.



## Technical characteristics

|                         |   |
|-------------------------|---|
| Rated power             | Up to 100 MVA   |
| Rated voltage           | Up to 170 kV  |
| Type of cooling         | Natural air cooling, forced-air cooling (with fans), forced-oil cooling (pumped) or water cooling (oil/water cooler)* or ODWF (synthetic and biodegradable esters) on request |
| Manufacturing standards | IEC, ANSI, BS, GOST, IS, etc.   |
| Tap changer             | Off-circuit or on-load tap changer  |
| Vector groups           | Dy, Yy, Yd as standard, others on request   |
| Dielectric liquid       | Mineral, synthetic or biodegradable oil, according to IEC or ASTM standard (silicon, synthetic ester or vegetable oil on request)   |
| Other                   | Variables specified at order (insulation, losses, temperature rise, short circuit impedance, sound level, termination or accessories)   |

\* depending on application

[Learn more](#)

Power transformers

**Minera range**

Range overview



# Minera Ex: Power transformer for explosive areas (ATEX and IECEx compliant)

The Minera Ex oil-immersed transformer can be installed in explosive atmospheres, particularly around hydrocarbon fluids. Custom-built, it can provide safety solutions for Zone 1 and Zone 2 applications in line with the latest ATEX and IECEx standards. Depending on technical requirements, Minera Ex power transformers feature tailor-made solutions that help prevent ignition.



## Technical characteristics

|                 |   |
|-----------------|---|
| Rated power     | Up to 60 MVA  |
| Rated voltage   | Up to 36 kV   |
| Type of cooling | Natural air cooling (forced-air cooling on request) |

[Learn more](#)

# Minera R: Rectifier power transformer

Rectifier transformers are highly customizable and can feature different output currents and voltage. Minera R transformers operate at the fundamental frequency of an alternating current system and are designed to have one or more output windings connected to the rectifier. Engineered for treating high harmonics with their increased load losses (eddy/stray losses), whilst having very little effect on no-load losses.



## Technical characteristics

|                 |   |
|-----------------|---|
| Rated power     | Up to 80 MVA  |
| Rated voltage   | Various   |
| Type of cooling | Natural air cooling (forced-air cooling on request) |

[Learn more](#)

# Minera E: Earthing power transformer

The Minera E earthing power transformer is a perfect solution to support short-circuit conditions while protecting the network. Designed to safeguard your system against phase-earth fault currents, Minera E complies with international standards, including IEC 60070 Part 6 and relevant IEE and EN/VDE certifications. Like other Minera power transformers, it can be delivered in a number of variants, with optional features including safety detectors, pressure relief devices, oil and winding temperature indicators, marshalling boxes and wheels.



## Technical characteristics

|                 |                                   |
|-----------------|-----------------------------------|
| Rated power     | Up to 15 kA (earth fault current) |
| Rated voltage   | Up to 72 kV                       |
| Type of cooling | Natural air cooling               |

[Learn more](#)[Power transformers](#)[Minera range](#)[Range overview](#)

A photograph of a power transformer substation at sunset. The silhouettes of the metal structures, insulators, and power lines are prominent against the bright, low sun. The scene is captured from a low angle, looking through a chain-link fence.

# The Minera power transformers range overview

Power transformers

Minera range

**Range overview**



# A complete, eco-friendly and efficient solution

Our Minera range combines efficient and reliable performance in even the most hazardous environments with eco-friendliness and the latest digital tools.

## Efficient digital tools

The [mySchneider app](#) provides instant access to continuously updated technical content, including product documentation and environmental information, while QR code identification facilitates quick access to a safe repository of your data.

## Environmental friendliness

With our [Green Premium ecolabel](#), you get a guarantee of compliance with regulations such as RoHS, REACH, POS, and end-of-life instructions. Minera power transformers are also compliant with regional eco-efficiency standards, including environmental legislation in the EU, US, Australia, and India.

All our power transformers can use vegetable oil for [greater sustainability](#)



Power transformers

Minera range

Range overview



# A comprehensive portfolio for diverse applications

Minera power transformers cater to a wide range of segments.

|           | Oil & Gas | Mining, Minerals & Metals | Electric utilities | Renewables | Industry |
|-----------|-----------|---------------------------|--------------------|------------|----------|
| Minera MP | •         | •                         | •                  | •          | •        |
| Minera Ex | •         | •                         |                    |            |          |
| Minera R  |           | •                         | •                  | •          | •        |
| Minera E  | •         | •                         |                    |            |          |

Power transformers

Minera range

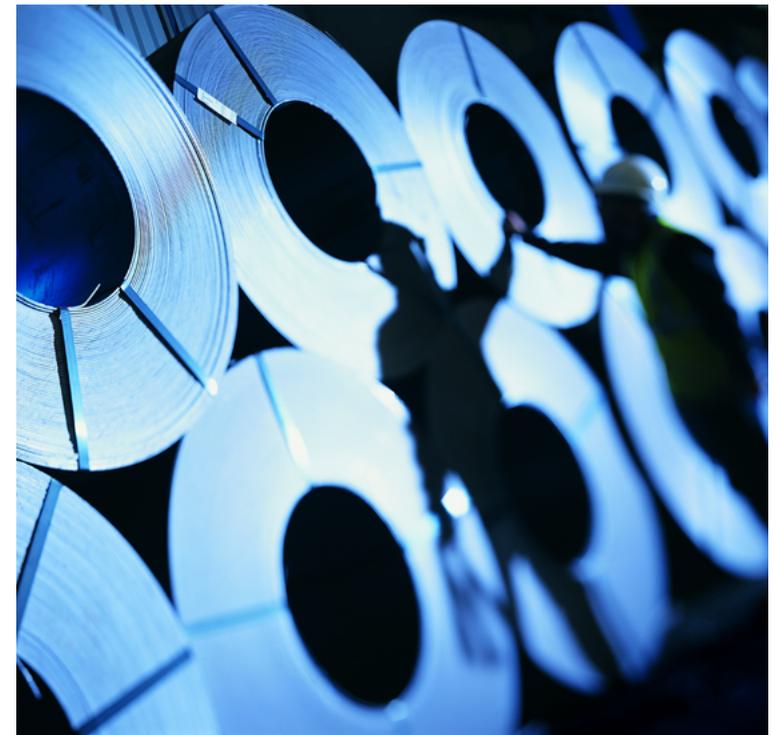
Range overview



# Minera in a nutshell

Minera power transformers offer high-level customization and a wide range of applications. With voltage insulation up to 170 kV and rated power up to 100 MVA, they are suitable for many harsh environments. The whole range is also fully compliant with the latest global and regional eco-efficiency standards.

- Extensive customization options
- Versatility
- Robust construction
- Reliability
- Environmental friendliness



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Find out more about Schneider Electric power transformers, today!

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