PRODUCT CATALOG

Low and Medium Voltage Transformers
Vehicle Chargers, and Power Generators

KRP
POWER SYSTEMS

About KRP

KRP Power Systems is an international energy solutions brand supported by a Brazilian industrial operation with extensive experience in energy systems and electrical infrastructure.

With a solid foundation in engineering, quality, and reliability, KRP develops solutions for a wide range of sectors, including power generation, infrastructure, commercial applications, and renewable energy projects.

Our portfolio includes low and medium voltage transformers, electric vehicle charging solutions, and portable power systems, all designed to meet high technical standards and diverse market demands.

Every stage of our manufacturing process is carried out by highly qualified professionals using advanced equipment, rigorous quality control, and standardized procedures that ensure consistent performance and reliability.

At KRP, we bring together Brazilian industrial expertise and a global perspective to deliver reliable, efficient, and future-ready energy solutions.

MISSION

To provide innovation and **reliable energy solutions that drive sustainable growth.**

VISION

To be a leader in **innovation and reliability in energy solutions.**

VALUES

Respect
Social Responsability
Ethics and Transparency
Commitment
Sustainability

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Single Phase Transformer

Single-phase transformers adapt voltages in single-phase circuits and are used in powering machinery, equipment, installations, photovoltaic inverters, control circuits, residential systems, coolers, swimming pools, food warmers, and more

Control Power Line – KMI

Illustrative Image

Designed to support control panel systems for a variety of applications.

Connector: Terminal block

Dual Voltage Line – KMB

Illustrative Image

Suitable for a wide range of everyday uses, primarily in residential and commercial settings.

Connector: Male and female plug

Rural Line (Coolers) – KMR

Illustrative Image

Developed to adapt the voltage of rural electrical systems (254V) to standard 220V equipment levels.

Connector: Ceramic terminal block (Sindal)

Food Warmer Line – KME

Illustrative Image

Designed for products such as refrigerated showcases and food warmers.

Connector: Cable

Swimming Pool Line – KMP

Illustrative Image

Designed to supply power systems for underwater lamps and reflectors.

Connector: Ceramic terminal block (Sindal)

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Main features of single-phase transformers:

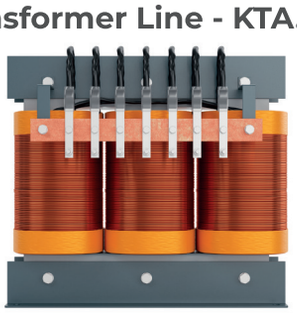
- **Insulation:** Dry-type;
- **Terminals:** Easy-access connection;
- **Insulation voltage:** 1.1 kV;
- **Frequency:** 50 or 60 Hz;
- **Temperature class:** B (130 °C);
- **Temperature rise:** 80 °C;
- **Ambient temperature:** Up to 40 °C;
- **Overvoltage limit:** 5% above specified value;
- **Power:** Up to 5 kVA (one coil); above 5 kVA (two coils);
- **Quality standards:** Identified with serial number and individually tested.

Note: Kraper also customizes the manufacturing of single-phase transformers according to required specifications.

Three-Phase Transformer

Low-voltage three-phase transformers and autotransformers are essential components in industrial and commercial electrical systems. They are used across a wide range of sectors, including manufacturing, construction, and oil and gas. Their primary function is to regulate voltage levels in accordance with specific project requirements.

Autotransformer Line - KTA



Illustrative Image

Suitable for industrial applications, especially in scenarios where a compact design is required. It provides an excellent cost-benefit ratio when electrical isolation between the primary and secondary circuits is not necessary.

Isolation Transformer Line - KTI

Illustrative Image

Designed for industrial applications, providing effective electrical isolation between primary and secondary circuits. They are typically used to protect sensitive equipment.

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Main features of three-phase transformers:

- **Power rating:** Up to 1000 kVA (upon request);
- **Voltages:** Standard primary and secondary voltages, or as required by the application;
- **Insulation:** Dry-type;
- **Degree of protection:** Open type - IP00; with metal enclosure - IP23, IP54, or IP65;
- **Standard connection:** Primary and secondary in star configuration with accessible neutral;
- **Insulation voltage:** 1,1 kV;
- **Frequency:** 50 or 60 Hz;
- **Temperature class:** F - 155 °C;
- **Temperature rise:** 100 °C;
- **Ambient temperature:** Up to 40 °C;
- **Overvoltage limit:** 5% above the specified value;
- **Quality standards:** Product identified with serial number and individually tested.

Note: Kraper also customizes the manufacturing of three-phase transformers according to required specifications.

Degree of Protection

The degree of protection is a classification indicating the level of safeguarding provided by an electrical device against the intrusion of solid foreign objects (such as dust and debris) and the ingress of water.

IP23 Transformers

Illustrative Image

Suitable for use in indoor and sheltered environments. Provides protection against water droplets falling at a maximum angle of 15° and against solid objects with a diameter greater than 12.5 mm.

IP54 Transformers

Illustrative Image

Designed for use in outdoor environments where expo sure to harsh weather conditions, including rain and dust, may occur.

IP65 Transformers

Illustrative Image

Developed for use in outdoor environments, it offers complete protection against the ingress of solid objects such as dust and water jets from any direction.

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Solar Line

To meet the demands of photovoltaic systems, Kraper offers a line of transformers specifically engineered for this application. These transformers are optimized for the solar load cycle, featuring low no-load losses during non-generation periods. With compact dimensions, Kraper's Solar Line delivers an economical and reliable solution for both single-phase and three-phase applications, suitable for a wide range of installations—whether sheltered or exposed to outdoor conditions.

Single-Phase Solar Line – KMS

Illustrative Image

Designed to optimize the efficiency and reliability of single-phase photovoltaic systems in residential and commercial applications.

Three-Phase Solar Line – KTAS and KTIS

Illustrative Image

Developed to reduce unnecessary energy consumption in photovoltaic systems where voltage adjustment is required for grid connection. Available as an autotransformer (KTAS) or an isolating transformer (KTIS).

Main Features of the Solar Line:

- **Power:** Up to 200 kVA;
- **Voltage:** 220/380V;
- **Frequency:** 60 Hz;
- **Voltage class:** 1,1kV;
- **Standard connection:** Primary and secondary in star configuration with accessible neutral;
- **Insulation material temperature class :** Class F (155°C);
- **Conductor material:** Aluminum;
- **Degree of protection:** IP00, IP23, and IP54.

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Motor Starting Autotransformer

These autotransformers models are used for motor starting with compensator switches.

Illustrative Image

Main Features:

- **Standard voltages:** 380V (may vary according to requirements);
- **Taps:** 65% and 80% of the rated voltage;
- **Starts per hour:** 5 and 10 at equal intervals;
- **Start duration:** 15s or 45s;
- **Insulation:** Dry-type;
- **Degree of protection:** IP00 (sheltered use);
- **Insulation voltage:** 1,1 kV;
- **Temperature class:** F - 155 °C;
- **Temperature rise:** 100 °C;
- Equipped with bi-metallic thermal protection on coils;
- Other design parameters can be considered as required by the application.

Reactances

Illustrative Image

Suitable for both input and output applications. Commonly used as harmonic filters in capacitor banks, converters, rectifiers and other systems.

Main Features:

- **Insulation:** Dry-type;
- **Degree of protection:** IP00;
- **Insulation class:** 1,1 kV;
- **Frequency:** 60 Hz;
- **Temperature class:** F - 155 °C;
- **Temperature rise:** 100 °C.

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Medium Voltage Transformers

Dry-type medium-voltage transformers are essential for managing electrical energy, enabling the necessary voltage adjustments within power systems. They are designed to step voltage up or down between medium and low levels.

Illustrative Image

Markets · Agriculture · Industry · Airports · Hydroelectric Plants

Wind Energy · Solar Plants · Mining · Malls · Buildings

Main Features:

- **Power:** Up to 20,000 kVA;
- **Insulation:** Dry-type with high-quality epoxy resin;
- **Cooling mode:** AN and ANAN (Air Natural) or ANAF (Air Forced);
- **Voltage class:** 15 kV, 24.2 kV, and 36.2 kV;
- **Standard connection:** Primary delta and secondary star configuration with accessible neutral;
- **Maximum ambient temperature:** 40 °C;
- **Insulating material temperature class:** F (155 °C);
- **Maximum altitude:** 1000 meters above sea level (higher altitudes available upon request);
- **Conductor material:** Aluminum;
- **Degree of protection:** IP00, IP21, IP23, or IP54;
- **Quality standards:** ABNT NBR 5356:11/ IEC 60076:11;
- **Other technical features available upon request.**

Accessories:

- Bidirectional adjustable wheels;
- Lifting lugs;
- Grounding connection terminals;
- Temperature monitoring relays;
- Identification plate and warning labels;

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Degree of Protection

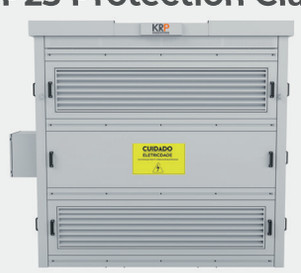
Kraper offers protection enclosures for medium voltage transformers in IP21, IP23, and IP54 ratings, designed to safeguard equipment from adverse environmental conditions. Each protection class provides specific levels of defense, ensuring the durability and operational efficiency of transformers across a variety of settings.

IP21 Protection Class

Illustrative Image

This level of protection shields against solid objects larger than 12.5 mm in diameter and vertical water droplets. While basic, it is suitable for indoor environments with minimal exposure to liquids and dust.

IP23 Protection Class



Illustrative Image

Offers protection against solid objects larger than 12.5 mm in diameter, as well as water droplets falling at angles up to 60 degrees. This rating is ideal for environments that experience moderate exposure to water and dust.

IP54 Protection Class

Illustrative Image

Provides a higher level of protection, preventing dust ingress and offering resistance against water jets from all directions. IP54 is particularly valuable in harsh industrial settings or for outdoor installations where both dust and moisture are prevalent.

- **Modern, practical, and safe design**
- **Thermal efficiency**
- **Safety labels**
- **Easy-to-access manual**

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Grounding Transformers

Grounding transformers are used to provide a neutral grounding connection in a three-phase system. They are designed to operate for a specified duration (2s/10s), allowing the protection system to operate properly.

Illustrative Image

Main Features:

Insulation: Dry-type with high-quality epoxy resin;
Degree of protection: IP00, IP21, IP23, and IP54;
Insulation class: 7.2kV, 15kV, 24.2kV, and 36.2kV;
Frequency: 60Hz or 50Hz;
Temperature class: F – 155°C;
Temperature rise: 100°C;
Vector groups: YNd1 or Zig-zag;
Quality standards: ABNT NBR 5356-6 and IEC 60076-6.

Additional technical details available upon request.

Illustrative Image

Grounding Reactors

Grounding reactors are air-core devices designed to reduce short-circuit levels in the system. They are connected in series with the power system or neutral and ground of the installation. Kraper grounding reactors can be supplied with an insulating pedestal to facilitate installation.

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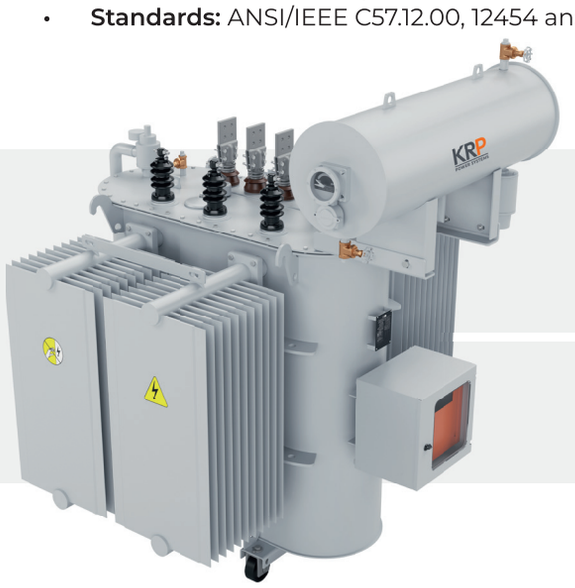
Oil Power Transformer

Illustrative image

Designed in accordance with ANSI/IEEE C57.12.00, 12454 and IEC60076 standards, they guarantee a safe, agile and suitable installation for each application. Robust and efficient, KRP industrial transformers have better thermal dissipation and reliable performance in electrical distribution.

- **Construction:** Sealed or conservator
- **Cooling:** Immersed in mineral or vegetable insulating oil
- **Power:** Up to 40.000kVA
- **Voltage class:** Up to 145 kV
- **Frequency:** 50 Hz or 60 Hz
- **Standard connection:** Primary delta and secondary star with accessible neutral
- **Thermal class of insulating materials:** A (105°C) or E (120 °C)
- **Conductor material:** Aluminum or Copper
- **Installation:** Indoor or outdoor application
- **Painting:** Munsell gray N6.5
- **Maximum ambient temperature:** 40 °C
- **Installation altitude:** Up to 1000 m.a.s.l.
- **Standards:** ANSI/IEEE C57.12.00, 12454 and IEC60076



Wind Energy

Hydroelectric Plants

Industry

Mining

ROUTINE TESTS

- Transformation ratio
- Applied voltage
- Induced voltage
- Ohmic resistance of the windings
- Insulation resistance
- Angular displacement
- No-load losses
- Excitation current
- Load losses
- Impedance
- Tightness
- Verification of insulating oil characteristics

TYPE TESTS

- Temperature Rise
- Lightning Impulse
- Noise Level

KRP POWER SYSTEMS

Pad-mounted Transformer

Illustrative image

Adaptable to different environments, they offer enhanced security, minimizing unauthorized access and accidental damages. Designed compact and robust, they are ideal for installation at ground level, in residential, industrial or commercial areas with high reliability.

- **Construction:** Pad-mounted
- **Heat sink:** Elliptical or finned radiators
- **Cooling:** Immersed in mineral or vegetable insulating oil
- **Power:** Up to 40.000 kVA
- **Voltage class:** Up to **36** kV
- **Frequency:** 50 Hz or 60 Hz
- **Standard connection:** Primary delta and secondary star with accessible neutral
- **Thermal class of insulating materials:** A (105°C) or E (120 °C)
- **Conductor material:** Aluminum or copper
- **Installation:** Indoor or outdoor
- **Painting:** Munsell green 2.5G 3/4
- **Maximum ambient temperature:** 40 °C
- **Installation altitude:** Up to 1000 m.a.s.l
- **Standards:** ANSI/IEEE C57.12.00 and IEC 60076

Markets
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Malls
Buildings

ROUTINE TESTS

- Transformation ratio
- Applied voltage
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- Angular displacement
- No-load losses
- Excitation current
- Load losses
- Impedance
- Tightness
- Verification of insulating oil characteristics

TYPE TESTS

- Temperature Rise
- Lightning Impulse
- Noise Level

KRP
POWER SYSTEMS

Illustrative image

Oil Distribution Transformer

Compact, light and highly efficient, they are ideal for distributing safe and reliable electricity in urban and rural areas. Designed according to ANSI/IEEE C57.12.00 and IEC60076 standards, guaranteeing quality, durability and superior performance in several applications.

- **Construction:** Sealed
- **Heat Sink:** Elliptical radiator
- **Power:** Up to 300kVA
- **Voltage class:** Up to **36** kV
- **Frequency:** 50 Hz or 60 Hz
- **Standard connection:** Primary delta and secondary star with accessible neutral
- **Thermal class of insulating materials:** A (105°C) or E (120 °C)
- **Conductor material:** Aluminum or copper
- **Installation:** Pole-mounted or plataform
- **Painting:** Munsell gray N6.5
- **Maximum ambient temperature:** 40 °C
- **Installation altitude:** Up to 1000 m.a.s.l
- **Standards:** ANSI/IEEE C57.12.00 and IEC60076

ROUTINE TESTS

- Transformation ratio
- Applied voltage
- Induced voltage
- Ohmic resistance of the windings
- Insulation resistance
- Angular displacement
- No-load losses
- Excitation current
- Load losses
- Impedance
- Polarity
- Tightness
- Verification of insulating oil characteristics

TYPE TESTS

- Temperature Rise
- Lightning Impulse
- Noise Level

Optionals

Industrial Oil Transformer:

Pressure relay
Bushings CT
Projects for installation above 1000 m.a.s.l.
Painting for aggressive environments
Adaptation to international standards
Compliance with energy company standards.

Buchholz relay
Gas collection device
Magnetic level indicator
Oil thermometer
Coil thermometer
Pressure relief valve

Oil Distribution Transformer:

Projects for installation above 1000 m.a.s.l.
Annular or radial construction
BT circuit breaker
AT circuit breaker

Painting for aggressive environments
Adaptation to international standards
Compliance with energy company standards

Other technical characteristics available upon request.

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EVOLBOX AC EV Charger

Kraper charging stations are developed to deliver features that cover a different users requirements. With Plug & Play capability, mobile app integration, and support for card-based payments, Kraper EV Chargers provide the flexibility and convenience for a seamless charging experience.

Illustrative Image

Application and Installation

Kraper charging stations are suitable for a wide range of applications, from private garages to commercial parking areas. Projects and businesses that require EV charging solutions will benefit from Kraper's complete range of products, which includes units for pedestal or wall-mounted installation — with payment app integration (Parking Wall) or without it (Basic Wall).

Illustrative Image

EVOLBOX Basic and Parking Wall

- **Power:** 7.2kW (Single-phase) or 22kW (Three-phase);
- **Input voltage:** 220Vac (Single-phase) and 380Vac (Three-phase);
- **Frequency:** 50/60Hz;
- **Maximum output current:** 32A;
- **Charging connector:** Type 2;
- **Degree of protection:** IP66;
- **Certifications:** CE/FCC/CSA/RoHS/ETL;
- **Installation altitude:** ≤ 2000 meters;
- **Cable length:** 5 meters.

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EVOLBOX DC EV Charger

The EVOLBOX Fast delivers an efficient and high-speed charging experience for users seeking convenience and performance in their daily routines. Featuring advanced data processing, an intelligent dispatch strategy, superior heat dissipation and low noise levels, this station fully meets the high-power charging requirements of vehicles equipped with globally standardized DC interfaces.

Illustrative Image

EVOLBOX FAST STATION

- **Power:** 60 kW to 240 kW (Other power ratings available upon request);
- **Installation:** Floor-mounted fixed charging station;
- **Input voltage:** 380Vac;
- **Frequency:** 50/60Hz;
- **Power supply:** Three-phase;
- **Output voltage:** 150V~1000Vdc;
- **Charging connector:** CSS2 type;
- **Maximum output current:** 250A;
- **Configuration:** 1 or 2 plugs (Additional configurations available upon request);
- **Cable length:** 5 meters;
- **Degree of protection:** IP55;
- **Installation altitude:** ≤ 2000 meters;
- **Dimensional:** 2000x800x800mm (H x W x D);
- **Weight:** Approximately 350Kg.

Illustrative Image

EVOLBOX FAST WALL

- **Power ratings:** 20kW, 30kW and 40kW;
- **Installation:** Wall-mounted;
- **Input voltage:** 380Vac;
- **Frequency:** 50/60Hz;
- **Power supply:** Three-phase;
- **Output voltage:** 150V~1000Vdc;
- **Charging connector:** CCS2 type;
- **Maximum output current:** 250A;
- **Configuration:** 1 plug;
- **Cable length:** 5 meters;
- **Degree of protection:** IP55;
- **Installation altitude:** ≤ 2000 meters;
- **Dimensions:** 850x450x250mm (H x W x D);
- **Weight:** Approximately 65Kg.

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