/ KRAPERSOLUCOES

PRODUCT CATALOG

Low and Medium Voltage Transformers
Vehicle Chargers, and Power Generators

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About Kraper

Our journey is guided by solid values, grounded in respect for our customers, employees, their families, and our entire network of suppliers. Quality, flexibility, agility, and a deep commitment to customer satisfaction are the basis of our operations.

We are focused on developing energy solutions for a wide range of industries, commerce, construction, power generation, and households. Our portfolio includes low and medium voltage transformers, electric vehicle chargers, and portable power generators, all designed to meet diverse needs.

At Kraper, every step of our processes is overseen by highly qualified professionals, who are supported by appropriate equipment and standardized procedures. This approach ensures the quality of our products, meeting all customer expectations.

By proposing products that target environmental, social, and human sustainability, Kraper stands on your side, ready to provide the best 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:

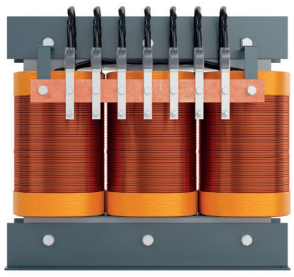
- **Insulation:** Dry-type;
- **Terminals:** Easy-access connection;
- **Insulation voltage:** 1.1 kV;
- **Frequency:** 50 or 60 Hz;
- **Temperature class:** B (130 °C);
- **Temperature rise:** 80 °C;
- **Ambient temperature:** Up to 40 °C;
- **Overvoltage limit:** 5% above specified value;
- **Power:** 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.

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 exposure 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.

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.

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;

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

Grounding Transformers

Illustrative Image

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.

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.

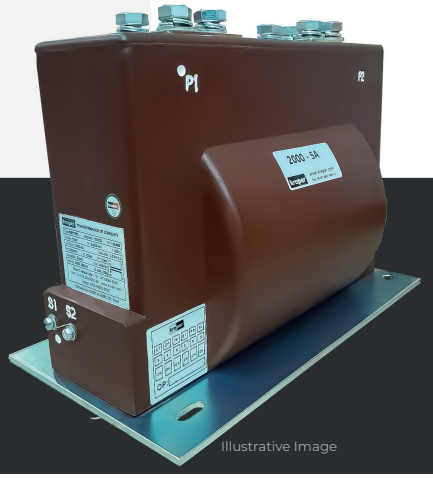
Illustrative Image

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.

Current (CT) and Potential (PT) Transformers:

They are used in measuring instruments to reduce voltage or current to a measurable scale, allowing meters to perform accurate and precise readings in accordance with projects specifications. Available for low and medium voltage applications, with insulation classes of 0.6kV, 15kV, 24.2kV, and protection, or protection only.



Illustrative Image

Current Transformers:

They are mainly used for instrumentation in low and medium voltage applications, reducing current levels for measurement and/or protection. Available in thermoplastic or epoxy window models.

Main Features:
Insulation: Dry-type with high-quality epoxy resin;
Application: Suitable for both indoor and outdoor use;
Insulation class: 0,6kV, 15kV, 24,2kV and 36,2kV;
Primary current: Up to 1250A (at or above 15kV) and up to 4000A (in the 0.6kV class);
Secondary current: 1A or 5A;
Frequency: 60Hz or 50Hz;
Temperature class: A – 105°C;
Temperature rise: 60°C;
Manufacturing standard: Window for wires or bars and/or thermoplastic in the 0.6kV class;
Quality standards: ABNT NBR 6856:2021;
Additional technical details available upon request.

Potential Transformers:

Used in medium voltage electrical measurement systems, potential transformers adjust voltage levels so they can be properly read by measuring instruments.

Main Features:
Insulation: Dry-type with high-quality epoxy resin;
Application: Suitable for both indoor and outdoor use;
Insulation class: 15kV and 24,2kV;
Primary voltage: Up to 24,2kV;
Secondary voltage: 115$\sqrt{3}$ - 110V - 115V - 220V - 230V;
Frequency: 60Hz or 50Hz;
Temperature class: A – 105°C;
Temperature rise: 60°C;
Manufacturing standard: Bushings or Terminals;
Quality standards: ABNT NBR 6855:2021;
Additional technical details 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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NOMADE Power Generator

Designed to support your needs wherever you are, NOMADE generator enables simultaneous charging of DC devices—such as laptops and mobile phones and AC-powered equipment, including tools, appliances, and electric vehicles. Beyond the flexibility of AC and DC charging, the station also offers a sustainable energy option through solar panels, available as an accessory or integrated into a kit. Stay powered and independent, relying on clean, renewable energy to meet your everyday demands.

Main Features:

Illustrative Image

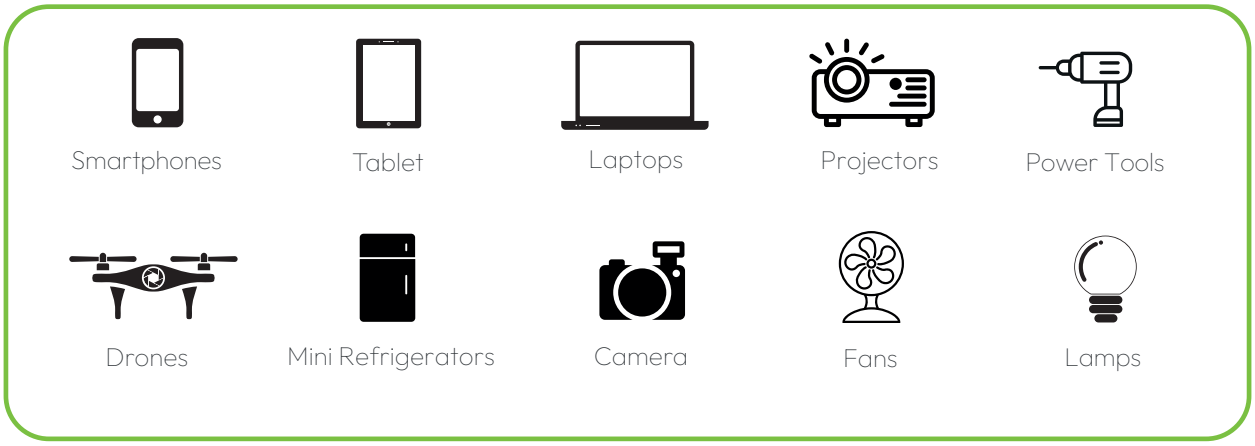
- **Output voltage:** 1x CA 110 or 220V;
- **Input:** 1x DC5525 + 1x AC 110V or 220V;
- **Car lighter socket output:** 1x 13V10A;
- **Type-C output:** 1x (22.5W);
- **USB-A outputs:** 3x QC3.0 18W;
- **Output type:** AC – Brazilian standard;
- **Inverter technology:** Bidirectional;
- **Charging method:** WIRELESS, fast and intelligent (1hr/2hrs);
- **Battery type:** High-capacity LiFePO4 and 18650 NCM;
- **Controller:** Integrated MPPT and BMS;
- **Output interface:** Concealed AC interface for safety;
- **Display:** Real-time color display of charge level;
- **Certifications:** CE \ ROHS \ UN38.3.

Main Features:

Illustrative Image

- **Output voltage:** 2x CA 110 or 220V;
- **Outputs:** 2x DC5525;
- **Car lighter socket output:** 1x 12V18A;
- **Input:** 1x DC5525 + 1x AC 110V or 220V;
- **Type-C outputs:** 2x (22.5W / 100W);
- **USB-A outputs:** 4x QC3.0 18W;
- **Output type:** AC – Brazilian standard;
- **Inverter technology:** Bidirectional;
- **Charging method:** WIRELESS, fast and intelligent (1hr/2hrs);
- **Battery type:** High-capacity LiFePO4;
- **Controller:** Integrated MPPT and BMS;
- **Output interface:** Concealed AC interface for safety;
- **Display:** Real-time color display of charge level;
- **Certifications:** CE \ ROHS \ UN38.3.

Equipamentos Suportados

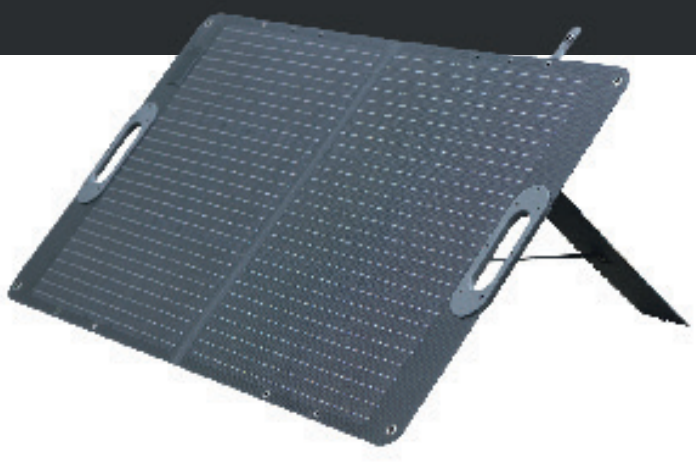


NOMADE Solar Panel

This panel is easy to install and ideal for use in remote locations, where no charging source is available. It reduces operating costs and contributes to environmental preservation. Moreover, its integration with charging stations ensures a reliable and consistent power supply, regardless of grid conditions.

Main Features:

- **Peak power:** 100 or 200W;
- **Cell efficiency:** 20 - 22%;
- **Supply voltage:** 20V± 5%;
- **Current:** 5A for the 100W panel and 11.1A for the 200W panel;
- **Operating temperature range:** -10 to 70°C.



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R. Carlos Oeschler, 545 - Ilha da Figueira | Jaraguá do Sul - SC, 89258-820
(47) 3084 - 8300 | www.kraper.com