Energize
We energize the future

ENERGIZE Substations

Prefabricated & Compact Transformer Substations

We energize the future

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About ENERGIZE

ENERGIZE is a company that is a pioneer and leader in the field of building turnkey solar photovoltaic power plants in Serbia.

Since our founding in 2012, we have achieved:

- **90+ MWp** of installed photovoltaic power plants
- **40+ MWh** of storage solutions
- **250,000+** photovoltaic modules
- **1,500+** inverter units
- **60,000+** battery blocks
- **500,000+** low-voltage equipment units
- **300+** production process protection systems
- **200+** solar LED lighting locations
- **150+** functional facilities

We treat every investment as our own, evaluating each project using the Total Cost of Ownership (TCO) principle as a mandatory part of the assessment, with an operational horizon of 30+ years.

We provide our clients with the highest quality equipment and services, specialized engineering expertise, and the best warranty coverage available on the market.

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Contents

Substations are a critical part of modern power distribution systems, ensuring safe, reliable, and efficient energy delivery. Designed for a wide range of industrial, commercial, and infrastructure applications, our solutions combine high performance, durability, and compliance with the highest quality standards.

The Substation Range

Energize supplies and integrates the full family of prefabricated and compact transformer substations for power distribution, renewable connection and industry. Three product lines cover the field, from monoblock concrete kiosks to walk-in compact substations and engineered e-houses, each delivered with our engineering, installation and commissioning.

SMK Series

Monoblock concrete kiosks
Up to 40.5 kV · 1600 kVa

SMK-D - Distribution (MV)
SMK-T - Transformer (MV-TR-LV)

Sizes 2.55 / 5.85 / 7.5 m
IEC 62271-202 · IP23D

SPK Series

Prefabricated Concrete Substations
Up To 40.5 kV · 2500 kVa

SPK-D - Distribution (MV)
SPK-T - Transformer (MV-TR-LV)

Multi-Section, Up To 30 m
Up to 3150 A · 40 kA

SCK Series - E-House

Compact Substations & E-Houses
Walk-In, Fully Equipped

SCK-1 - Steel Sheet
SCK-2 - Sandwich Panel
SCK-3 - Container

MV / TR / LV / Battery Rooms

All ratings are indicative maxima from the type-tested product range. Final rements.

SMK Series

Monoblock Concrete Compact Substations

SMK series monoblock concrete transformer and distribution kiosks are manufactured up to a 40.5 kV voltage level and 1600 kVa transformer power. They are produced to type tests from internationally accredited laboratories, in accordance with IEC 62271-202.

The monoblock body is delivered as a single cast unit for fast, reliable transport and commissioning, with high strength and long service life from C35 concrete. Two configurations are available:

- SMK-D - Monoblock Concrete Distribution Kiosk (MV)
- SMK-T - Monoblockconcrete Transformer Kiosk(MV-TR-LV)

Product Advantages

Fits every type of MV switchgear & fits every type of LV panel

Custom doors & Ventilation

Special project applications

Easy, reliable commissioning & Safe, simple operation

IP23D protection class

C35

C35 concrete, long life

Application Areas
Power Distribution & Transmission
Compensation Facilities
Renewable Power
Cement Plants
Automotive Industry
I Ron & Steel Industry
Rolling Mills
Mining Plants

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Techical Data

Rated Values	
Rated Voltage (Ur)	Up To 40.5 kV
Rated Current (Ir)	Up To 1250 A
Short-Circuit Current (Ik)	Up To 25 kA
Frequency (Fr)	50 /60 Hz
Internal Arc (IAC)	AB
Protection Class	IP23D
Compressive Strength	C35

Standards
IEC 62271 -202 · IEC 62271 -200 · IEC 60529 · IEC 60068-2-11 · IEC 60076-1 · IEC 61442 · IEC 61439-1

Service Conditions	
Altitude	1000 m
Ambient Temperature	- 5 + 50˚C
Ambient Pollution	High
Max. Solar Radiation	1000 W/m²
Earthquake Endurance	0.5 G (Horizontal & Vertical)

Dimensions	
SMK 2.55 - Outside (W×D×H)	2550 × 2300 × 2950 mm
SMK 2.55 - Inside	2350 × 2100 × 2720 mm
SMK 5.85 - Outside	5850 × 2300 × 2950 mm
SMK 5.85 - Inside	5650 × 2100 × 2720 mm
SMK 7.5 - Outside	7500 × 2300 × 2950 mm
SMK 7.5 - Inside	7300 × 2100 × 2720 mm

Manufactured in two types - SMK-D (Distribution, MV) and SMK-T (Transformer, MV-TR-LV). Conformable to every type of MV Switchgear and LV panel.

SPK Series

Prefabricated Concrete Compact Substations

SPK series prefabricated concrete transformer and distribution substations are manufactured up to 2500 kVa transformer power, to type tests from internationally accredited laboratories and IEC 62271-202.

Where SMK is a single monoblock, SPK is assembled from prefabricated concrete sections, statically calculated up to 30,000 mm in length - the medium-voltage switchgear room starts at 4000 mm and grows in 2000 mm steps. This makes SPK The choice for larger distribution, generation and renewable-connection substations.

- SPK-D - Prefabricated Concrete Distribution Kiosk (MV)
- SPK-T - Prefabricated Concrete Transformer Kiosk (MV-TR-LV)

Product Advantages

Fits every type of MV switchgear & fits every type of LV panel

Custom doors & Ventilation

Special project solution

C35

C35 concrete, long life

Easy transport & commissioning

IP23D protection class

Modular, up to 30m

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Techical Data

Rated Values	
Rated Voltage (Ur)	Up To 40.5 kV
Rated Current (Ir)	Up To 3150 A
Short-Circuit Current (Ik)	Up To 40 kA
Frequency (Fr)	50 /60 Hz
Internal Arc (IAC)	AB
Class (CL)	10
Protection Class	IP23D
Compressive Strength	C35

Standards
IEC 62271 -202 · IEC 62271 -200 · IEC 60529 · IEC 60068-2-11 · IEC 60076-1 · IEC 61442 · IEC 61439-1

Service Conditions	
Altitude	1000 m
Ambient Temperature	- 5 + 50 C °
Ambient Pollution	High
Max. Solar Radiation	1000 W/m²
Earthquake Endurance	0.5 G (Horizontal & Vertical)

Dimensions	
PB5 - Outside Depth	4090 mm
PB5 - Inside (D×H)	3800 X 3655 mm
PB6 - Outside Depth	< 5290 mm
PB6 - Inside (D×H)	< 5000 X 3655 mm
Length	To Project (statically calc. up to 30,000 mm)
MV Switchgear Room	From 4000 mm, +2000mm Steps

Outer length and section count are engineered to the project; Depth follows the PB5 / PB6 model and the switchgear it houses.

SCK Series - E - House

Compact Substations & E-Houses

SCK series are walk-in compact substations for power distribution and engineered e-houses for oil & gas applications, built to zone 2 hazardous-area classification, IEC 62271-202, with dedicated operating and safety systems. Three construction materials suit the application:

- SCK-1 - Steel Sheet
- SCK-2 - Sandwich Panel
- SCK-3 - Container

Each unit offers a segregated design - Separate MV switchgear, LV Switchgear, Transformer, emergency-supply and battery rooms — And ships fully equipped with HVAC, fiire and smoke detection, fire extinguishing, communication, internal and external lighting, earthing and floor insulation. SCK Can be delivered skid-mounted or mobile on a semi-trailer, up to IP54.

Application Areas

Rolling Plant	Emergency & Backup Power
Oil Pipeline	Mining Operation
Industry	Transportation
Shipyards	Infrastructure

Standards & Finish

IEC 62271 -202 · 62271 -205 · 62271 -200 · 62271 -100 · 62271 -1 · 60076-1 · 61439-1

Colour: RAL9003(SCK-1steel) · RAL9002(SCK-2sandwich) · RAL9003(SCK-3 08 Container)

Design & Structure

Build

Base - NPU Or NPI Profiles Sized To Foor Load, Hot-Dip Galvanised.

Frame - 5 Mm St-37 Steel, Hot-Dip Galvanised For Long Service.

Wall & Roof - Pre-Painted Corrugated Steel Lining, With Provision For Fush-Mounted Sockets, Switches, Fre Detectors And Lighting.

Doors - Open To 120° Outside, Designed Against 20 J Mechanical Shock, With Rain Channel.

Wall & Roof Thickness

SCK-1 Total Wall & Roof	43 mm
Rock/Glass Wool	40 mm · ext 2 mm · int 1 mm
SCK-2 Total Wall & Roof	40 mm
Rock/Glass Wool	38.9 mm · ext 0.6 mm · int 0.5 mm
SCK-3 Total Wall & Roof	52.4 mm
Rock/Glass Wool	50 mm · ext 1.2 mm · int 1.2 mm

Equipment & Safety

HVAC for stable temperature & humidity, ducted to all rooms

Fire & smoke detection with extinguishing system

Isolated earthing busbar; separate earthing of doors, base, walls, roof

Non-Fammable A1 rubber floor, 50 KV insulation level

Internal, external & emergency L Ighting (ATEX option, zone 2)

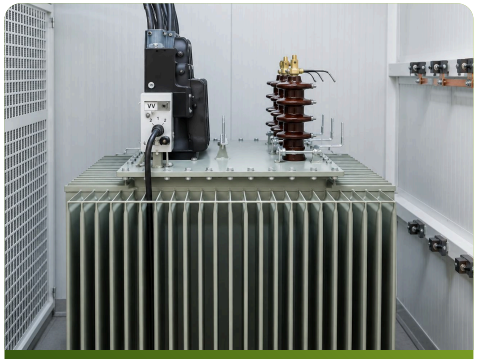
Skid-Type or mobile on semi-trailer, up to IP54

Electrical Rooms

SCK delivers a segregated layout: Each function sits in its own room, dimensioned to the equipment it houses, ready for integration on site.

MV SWITCHGEAR ROOM

Metal-enclosed, metal-clad, primary & secondary gas-insulated switchgear (GIS, RMU). Sized to equipment.



TRANSFORMER ROOM

Dry-type or oil-type transformer. Room sized to transformer power and cooling.

LV SWITCHGEAR ROOM

MCC, AC/DC distribution, metering, compensation, HVAC, Fre-Control, UPS and SCADA-RTU panels.

BATTERY ROOM

Ni-Cd batteries and dcbreakers. zone 2 hazardous-area classification available on request.

Integrated System

HVAC, ducted to all rooms	Emergency exit armatures
Fire & smoke detection	Isolated earthing
Fire extinguishing system	A1 non-flammable floor, 50 kV
Communication system	Socket outlets throughout
Internal & external lighting	

ENERGIZE Substations

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