





Dear partners,

For more than three decades, we have built our reputation among the leading players in the electrical energy sector and we continue to do it in our own unique style, guided by passion and professionalism. The high quality of the products and services that we offer represents the guarantee of our commitment towards all our partners

In a constantly changing world, expectations evolve as well. The future calls for a new vision, innovative approaches and bold decisions.

We strive for perfection, yet we understand that the essence lies in evolution, adaptability, and continuous development. By diversifying our activities and portfolio, we aim to meet all the demands and needs of our clients.

The energy solutions we propose and provide cover the entire range of comprehensive services, from feasibility studies and design to the production of electrical equipment, project management and execution, as well as operation and maintenance.

Our production facilities serve as centers where our skilled and qualified personnel transform any project and electrical diagram into high-quality creations customized to meet the unique requirements of our clients. At the same time, we are committed to continuous innovation and aligning our products with the latest efficiency standards.

We invite you to discover us through the pages of this catalogue and if we have stirred your interest, we would be honored to visit us in any of our offices around the country.

EnergoBit Team



Standardized modular transformer station **MOD 110**

MOD110 standardized modular transformer station represents an innovative and efficient solution for electrical energy production and distribution, ensuring operational safety, fast deployment, flexibility, and adherence to the highest quality standards.

Distinguished by its modular design, the MOD110 enable installation and configuration that significantly reduce both time and costs associated with energy projects.

This product can be customized according to the connection method to the national energy system, the number and power of transformers, and the required medium-voltage lines.

As a result, the station can be easily scaled from a basic

line-transformer cell to two lines and two transformers with a rigid busbar and coupling. Furthermore, the medium-voltage setup can be expanded by adding new fully equipped prefabricated modules. This flexibility allows quick adaptation to the project's specific needs, ensuring operational efficiency.

The MOD110 standardized modular transformer station is ideal for use in both electrical energy production systems (especially those utilizing renewable sources) and distribution networks, as well as for large energy consumers, offering a fast and adaptable solution for seamless implementation.

Each module is preconfigured and rigorously tested, ensuring maximum reliability and performance.



MOD110 standardized modular transformer station offers multiple advantages, including:

- **Reduced implementation time:** the modular configuration simplifies the installation process.
- **Reliability:** each component is preconfigured and tested in our own factories.
- **Flexibility:** adaptable solution to meet the specific needs of each project.
- **Prefabricated components:** the modules are fully constructed and tested in EnergoBit's factories.



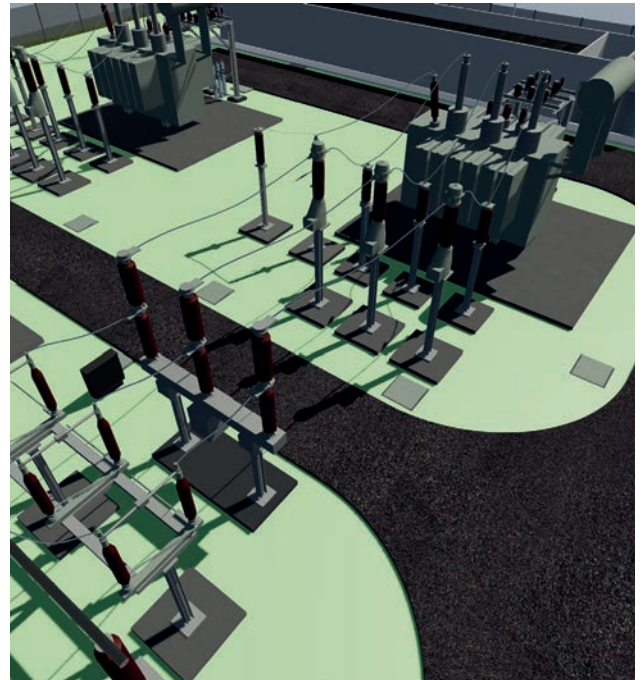
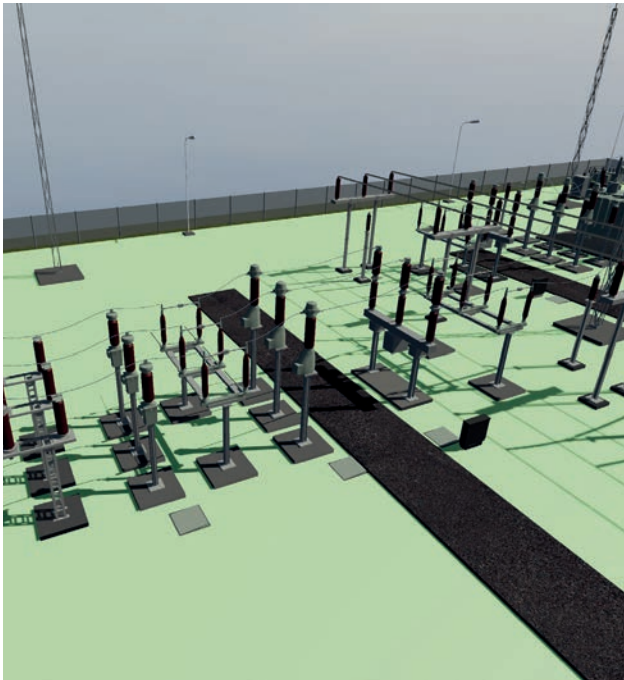
MOD110 is a modular 110 kV/medium voltage transformer station designed to streamline design and execution times by standardizing the proposed solutions.

The station is composed of the following modules:

- 110kV Module
 - 110kV Line Module (LES)
 - 110kV Transformer Module
 - 110kV Coupling Module
- Medium Voltage Module
- Auxiliary Services Module
- Control and Protection Module

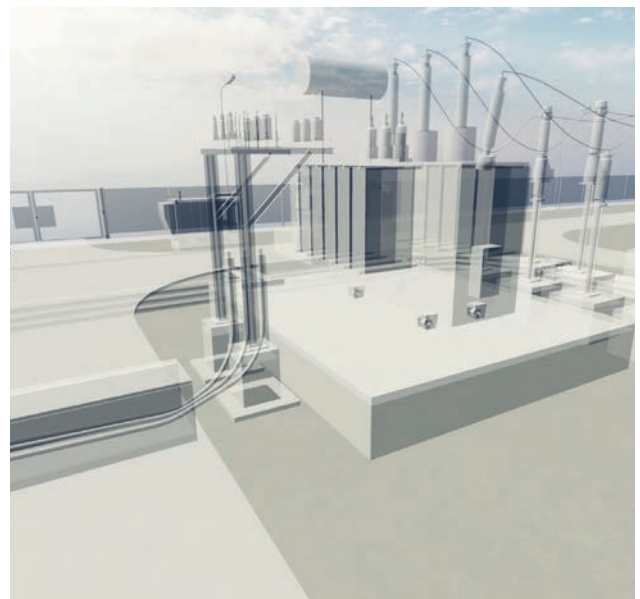
The new product developed incorporates state-of-the-art technologies, including:

- **Energobit production cells:** MOD24MC or MOD36MC.
- **Configurable modular building:** Adaptable to the specific needs of each project.
- **Prefabricated equipment foundations.**
- **Advanced design:** Utilizing specialized software for sizing and 3D modeling of the entire assembly.



General Characteristics:

- **Fast implementation:** due to modularity and prefabricated solutions, the implementation time is significantly reduced.
- **Flexible configuration:** The station can be configured to meet the specific needs of each beneficiary.
- **Detailed presentation of technical solutions:** Comprehensive technical details that ensure transparency and predictability.





The modular medium voltage switchgear cells for primary distribution, MOD36MC range and MOD24MC range, are designed for use in power generation plants, in high voltage stations, and/or supply points or connections in medium voltage electrical distribution networks.

The modular construction allows the medium voltage panel to be configured to meet the specific requirements of the power supply installation.

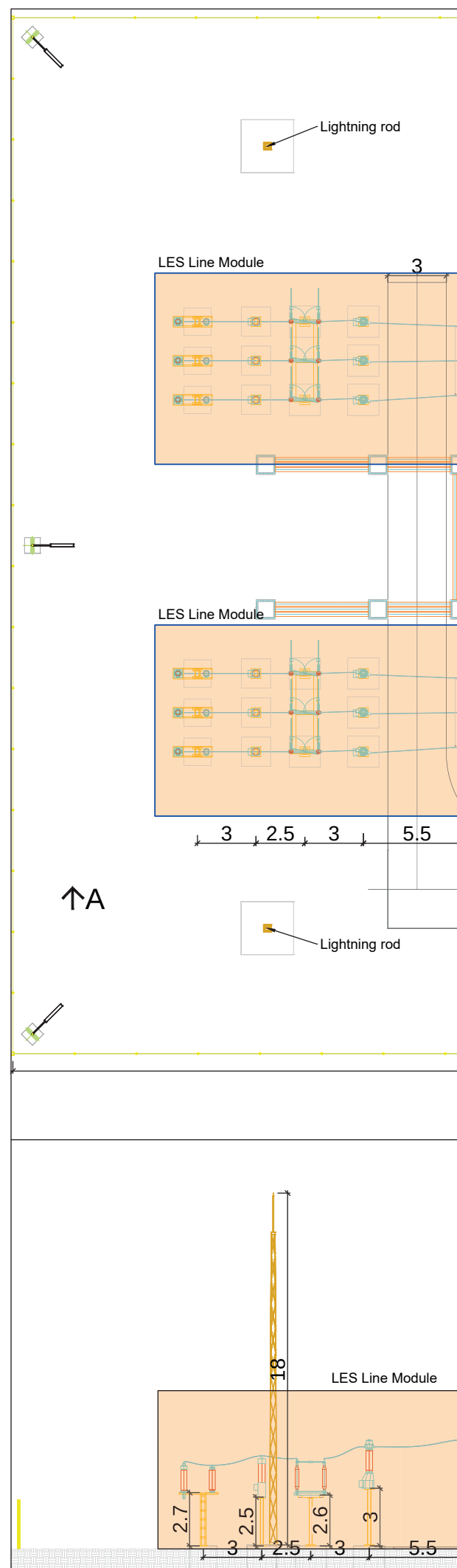
General characteristics of modular switchgear cells:

- Compact design
- Air-insulated
- Metal-clad medium voltage switchgear: A. circuit breaker compartment, B. main bus bar compartment, C. cable connection compartment, D. low voltage compartment
- Medium voltage switchgears equipped with reliable interlocking system to prevent miss operation and to ensure safety.
- Easy operation and low maintenance.



Plan View

Location of standardized modular substation equipment



Prefabricated transformer substations in concrete case, **ROBUST** range

The prefabricated concrete transformer substations ROBUST range are public or industrial distribution substations, used in looped or radial MV networks (up to 20 kV), equipped with power transformers between 16 and 3150 kVA.

These substations can be fully equipped in the factory, with all the medium voltage and low voltage electric equipment, protection relays, active and reactive power metering, tele control, own services circuits.

The substations are built in order to be easy to transport to the site; the commissioning is made in a very short time and with minimum costs. The installation is practically reduced to arranging the field, cables and ground socket connections.

Today EnergoBit offers a comprehensive portfolio of prefabricated transformer substations according to the requirements of energy transmission and distribution companies.

Main characteristics:

- The prefabricated transformer substation is delivered fully equipped from the factory
- Activating the equipment is made from inside or outside according to the chosen configuration
- Protection degree: IP 43, IP45 or IP54
- Case thermal class 10K

The investments made in our manufacturing competence, as well as the skills and creativity of our designers have allowed us to provide you with the ROBUST range, both in standard and optimized variants, but also to use your proposal of customizing the product.

- ROBUST optim
- ROBUST standard
- ROBUST custom



Energobit offer includes:

- **ROBUST 160**
rated power of the transformer between 16kVA and 160kVA, activating the equipments from inside
- **ROBUST 630E/I**
rated power of the transformer between 16kVA and 800kVA, activating the equipments from outside/inside
- **ENEL HOMOLOGATED DG2061 ED1/ED2**
rated power of the transformer up to 630kVA
- **ROBUST 1000E/I**
rated power of the transformer between 1000kVA and 1600kVA, activating the equipments from outside/inside
- **ROBUST 2x630**
rated power of the transformer between 2x630kVA and 2x800kVA, activating the equipments from inside
- **ROBUST OPTIONAL**
rated power of the transformer up to 3150kVA
- **ROBUST OPTIONAL MDP& MCP**
technical container solutions for primary distribution
- **ROBUST MBC**
2,4kVAr modules
- **ROBUST SOLAR**
rated power of the transformer up to 3150kVA



Air Insulated Metal Clad medium voltage switchgear for primary distribution, range **MOD36MC**



General characteristics

- Compact design
- Air-insulated
- Metal-clad medium voltage switchgear: A. circuit breaker compartment, B. main busbar compartment, C. cable connection compartment, D. low voltage compartment.
- Medium voltage switchgears equipped with reliable interlocking system to prevent miss operation and to ensure safety.
- Easy operation and low maintenance.

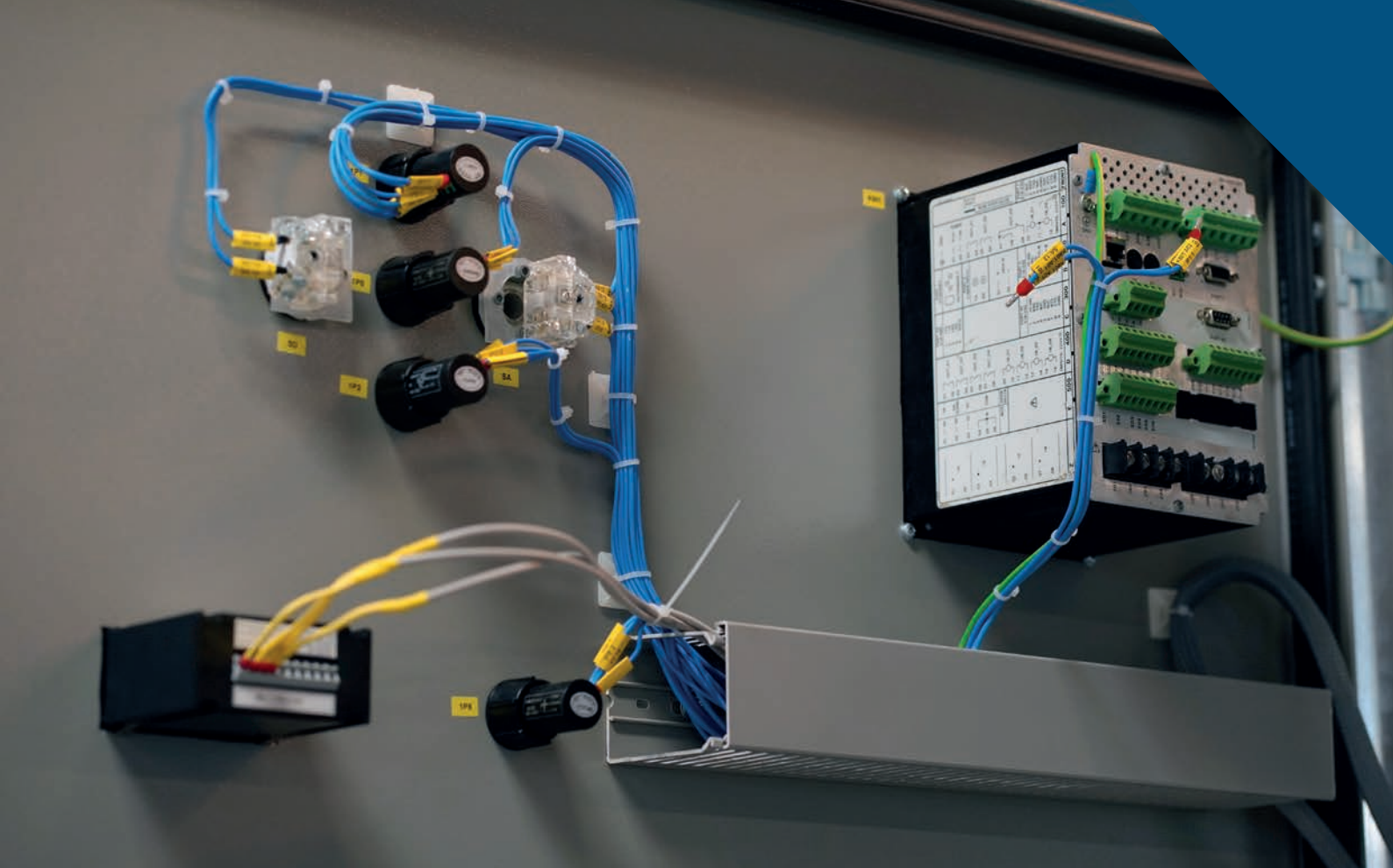
MOD36MC range of modular medium voltage switchgear for primary distribution are designed for use in power generation plants, high voltage electrical substations, and/or supply points or connections in medium voltage electrical distribution networks with a line voltage of 30-33kV, as well as in photovoltaic and wind farms.

The modular construction allows the medium voltage switchgear to be configured according to the specific requirements of the power supply installation.

Reference standards

The switchgear and main components comply with the following Standards:

- SR EN 62271-1/2021
- SR EN CEI 62271-200:2021
- SR EN CEI 62271-102/2019
- SR EN 62271-103/2013
- SR EN IEC 62271-105/2021
- SR EN 60137/2018
- SR EN 61140/2002
- SR EN 62271-100/2009
- SR EN 60068/2002
- SR CEI 60071-1/2020
- SR EN 60071-2/2018
- SR EN 60060-1/2011
- SR EN 60243-1/2013
- SR EN 60529/1995/+A1 :2003
- SR EN ISO 2178:2016



Electrical characteristics

Rated voltage	kV	36
Rated power-frequency withstand voltage 50Hz 1Min (kV r.m.s.)	To earth and between phases kV	70
Rated lightning impulse withstand voltage (peak value)	To earth and between phases kV	170
Rated current main bus bars / Rated current unit	A	630-1250-1600-2000-2500
Rated frequency	Hz	50
Short-time withstand current(3s)	kA	25
Making capacity	kA	63
Peak value	kA	63
Internal Arc Classification	IAC	A (FLR)
Internal arc withstand current	kA, s	25, 1

Mechanical characteristics

Protection degree	-	IP4X
Dimensions	Hight	2250mm
	Width	1200mm
	Depth	2500mm

Air insulated Metal Clad medium voltage switchgear for primary distribution, range **MOD24MC**

Medium voltage switchgear range MOD24MC are designed to be used in power generation stations, electrical substations and suitable to provide protection and control for motors, capacitors and transformers.

Medium voltage switchgear range MOD24MC are also suitable to be used for applications in industry, oil and gas, mining, infrastructure and residential, airports, water treatment plants.

Energobit offers a wide portfolio of medium voltage switchgear tailored to the needs of energy transmission and distribution companies.

General characteristics

- Compact design
- Air-insulated
- Metal-clad medium voltage switchgear: main bus-bar compartment, circuit breaker compartment, cable compartment, low voltage compartment.
- Cable compartment is designed with ample space for ease cable connection.
- Medium voltage switchgears equipped with reliable interlocking system to prevent miss operation and to ensure safety.
- Easy operation and low maintenance.

Reference standards

The switchgear and main components comply with the following Standards:

- SR EN 62271-1/2021
- SR EN CEI 62271-200:2021
- SR EN CEI 62271-102/2019
- SR EN 62271-103/2013
- SR EN IEC 62271-105/2021
- SR EN 60137/2018
- SR EN 61140/2002
- SR EN 62271-100/2009
- SR EN 60068/2002
- SR CEI 60071-1/2020
- SR EN 60071-2/2018
- SR EN 60060-1/2011
- SR EN 60243-1/2013
- SR EN 60529/1995/+A1 :2003
- SR EN ISO 2178:2016





Electrical characteristics

Rated voltage		kV	12	24
Power Frequency With-stand Voltage	Between phases and to earth	kV	28	50
	Across isolating distances	kV	32	60
Rated Lighting Impulse Withstand Voltage	Between phases and to earth	kV	75	125
	Across isolating distances	kV	85	145
Rated current horizontal busbars		A	630 - 2500	
Rated short time withstand current (3s)		kA	16-20-25	
Making capacity		kA	40-50-63	
Frequency		Hz	50	

Mechanical characteristics

Dimensions	Height	2250 mm	
	Width	800mm (for vertical bus bar rated current up to 1250A) 1000mm ((for vertical bus bar rated current 1600A-2500A)	
	Depth	1590 mm	

Air Insulated Metal Clad medium voltage switchgear for secondary distribution range **MOD24DS**

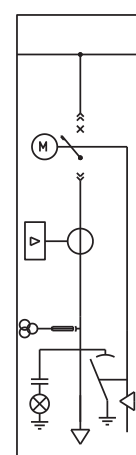
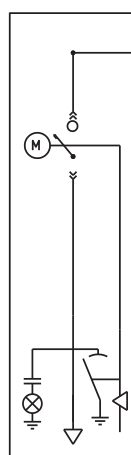
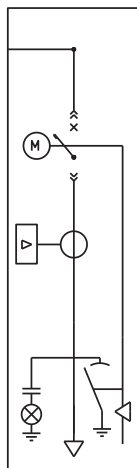
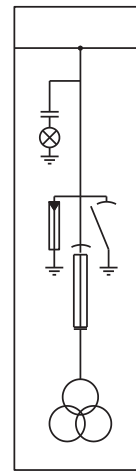
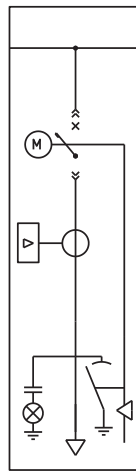
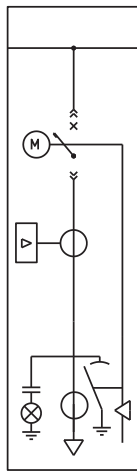
MOD24DS modular cells are designed for use in medium voltage switchboards within MV/LV transformer substations in distribution power systems, as well as in subscriber transformer substations.

The modularity of the MOD24DS range extends to their internal structure, allowing these cells to adapt and evolve in line with the customer's ideas, needs, and requirements.

The MOD24DS medium-voltage switchgear range fully meets the requirements of Regulation no. 573/2024 on fluorinated greenhouse gases. They are equipped with disconnectable circuit breakers that use vacuum as the extinguishing medium and air as the insulating medium, providing an SF6-free solution.

The equipment variants enable the creation of complex configurations tailored to each specific application, offering functionalities such as line protection, transformer protection, metering, coupling, or combined line and metering functions (integrating current and voltage transformers within the same medium-voltage switchgear).

Expanding a medium voltage switchgear previously produced and supplied by EnergoBit is achievable while adhering to F-Gas Regulation 573/2024. The MOD24DS range of modular secondary distribution switchgear is designed to ensure compatibility with the MOD6 range of modular secondary distribution switchgear.





Electrical characteristics

Rated voltage		kV	12	24
Holding voltage at 50 Hz for 1min. (kV ef.)	Insulation	kV	28	50
	Separation	kV	32	60
Lightning impulse withstand voltage 1,2 / 50 ms (kV vârf)	Insulation	kV	75	125
	Separation	kV	85	145
Nominal continuous service current		A	630 - 1250	
Nominal frequency		Hz	50	
Thermal stability current (1s) (short-circuit current withstand)		kA	16-20	
Closing capacity		kA	40	
Internal arc classification		IAC	A (FLR)	
Degree of protection provided by the enclosure	IP3X for the cell housing from outside to inside the cell			
	IP2X from inside the cable compartment to the busbar system			

Air insulated medium voltage switchgear for secondary distribution, **range MOD6**

Modular units range MOD6 have been planned to meet the public and industrial power distribution's requirements.

Modular units MOD6 are used for the MV sections in MV/LV transformer substations, in public distribution systems and MV consumer or distribution substations.

The MOD6 range is made up of standard, modular and compact units, and internal arc resistant. The MOD6 switchgear are air insulated modular units, containing SF6 switch-disconnector or vacuum circuit breaker.

Today EnergoBit offers a comprehensive portfolio of medium voltage switchgear according to the needs of energy transmission and distribution companies.

Complex switchboard configurations can be realized using the standard panels.



MOD6 range unit definitions

- RMb incoming cable-connection unit
- LM switch unit
- TM fuse-switch combination unit
- IMP single-isolation fixed circuit breaker unit
- IMS single-isolation fixed circuit breaker unit
- IMPw single-isolation withdrawable circuit breaker unit
- IMSw single-isolation withdrawable circuit breaker unit
- CS, CD switch unit right or left outgoing line
- RMs/RMd connection unit right or left outgoing line
- MCT current and voltage measurement unit
- MT voltage measurement unit
- SI MV/LV transformer unit for auxiliaries
- LLM cables power supply for main incoming line and standby line



The main characteristic of MOD6 range cells is modularity, which allow us to realize complex and custom solutions. MOD6 range cells represent the most efficient solution possible to be implemented which, in the same time, leaves opened options for future evolution.

Electrical characteristics

Rated voltage	kV	12	24
Power Frequency Withstand Voltage	Between phases and to earth kV	28	50
	Across isolating distances kV	32	60
Rated Lighting Impulse Withstand Voltage	Between phases and to earth kV	75	125
	Across isolating distances kV	85	145
Rated current	A	630 - 800	
Rated current horizontal busbars	A	630 - 1250	
Rated short time withstand current (1s)	kA	16-20	
Making capacity	kA	40	
Frequency	Hz	50	
Protection degree	IP3X -external enclosure of the panel		
	IP2X –internal part of the panel		



LM
switch unit for line



TM
fuse-switch combination unit
for transformer protection



MCT
current and voltage
measurement unit

Oil distribution transformers

range ECO-T

Through investments in production capacities and relying on the know-how and creativity of our engineers, EnergoBit has launched a new range of products: oil-insulated distribution transformers ECO-T.

These are manufactured in the newest and most modern transformers production facility in Romania.

Based on EnergoBit's experience in the production of electrical equipment the new ECO-T oil insulated distribution transformers feature the following advantages:

- Complete range of transformers, standard or custom-made, EnergoBit being the sole domestic producer of amorphous core transformers (ultra-low losses)
- Top quality insured through the most modern production facility with the latest technology
- Short delivery time
- Warranty and post-warranty services

General characteristics:

- Rated voltage: up to 24kV,
- Frequency : 50Hz;
- Suitable for: indoor / outdoor,
- Three phase;
- Hermetically sealed,
- Copper or aluminum windings,
- ONAN

Constructive types:

- Distribution transformers with ultra-low losses (with amorphous cores) A0-Ak;
- Distribution transformers with low losses: A0-Bk;
- Distribution transformers with ultra-low losses (for pole/ground mounting): A0-Ck;
- Normal losses : C0-Ck;
- Special transformers for PV Parks, Wind Farms, Micro Hydro Power Plants





Transformers range

Sn(kVA)	≤25	50	100	160	250	400	630	800	1000	1250	1600	2000	2500
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Oil-immersed distribution transformers - with no-load tap-changer - ground mounting

Load losses Pk (W)	600	750	1250	1750	2350	3250	4500	6000	7600	9500	12000	15000	18500
Empty losses P0 (W)	63	81	130	189	270	387	540	585	693	855	1080	1305	1575

Oil-immersed distribution transformers - with no-load tap-changer - pole-mounted

Load losses Pk (W)	725	875	1475	3102	2750	3250
Empty losses P0 (W)	70	90	145	270	360	387

Oil distribution transformers

range ECO-T (OLTC)

Through investments in production capacities and relying on the expertise and creativity of our engineers, EnergoBit has launched a new range of products: oil-insulated distribution transformers ECO-T with on-load tap-changer (OLTC).

These are manufactured in the newest and most modern transformers production facility in Romania.

Based on EnergoBit's experience in the production of electrical equipment the new ECO-T (OLTC) distribution transformers feature the following advantages:

- Complete range of transformers, standard or custom-made
- Top quality insured through the most modern production facility with the latest technology
- The use of on-load tap changer represent the solution to the following problem – compliance with the voltage band.
- Short delivery time
- Warranty and post-warranty services

General characteristics:

- Rated voltage: up to 24kV;
- Frequency : 50Hz;
- Suitable for: indoor / outdoor;
- The relative humidity of the air: 100%;
- Pollution conditions: pollution degree II, III, IV
- Life time: 30 years.

The on-load tap changer used is part of the ECOTAP® VPD® range manufactured by Maschinenfabrik Reinhausen GmbH.

The on-load tap changer is provided with nine steps, which allows voltage adjustment as follows:

-10; -7,5; -5; -2,5; 0; +2,5; +5; +7,5; +10 %.





Oil distribution transformers range ECO- T (OLTC), TIER2 – according to Commission Regulation (EU) No 548/2014 of 21 May 2014 on implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to small, medium and large power transformers, with on-load tap-changer

Rated Power (kVA)	Maximum load losses P_k (W) (eco-design)	Maximum no-load losses P₀ (W) (eco-design)
≤25	600	63
50	750	84
100	1250	130
160	1750	189
250	2350	270
400	3250	387
630	4600	540
800	6000	585
1000	7600	693
1250	9500	855
1600	12000	1080

Low voltage distribution, **automation** and **protection panels**

Energobit is a full service provider in any power project that it undertakes, from identifying the most appropriate solutions to designing and building the equipment, regardless of its complexity.

The protection and control panels, as well as AC/DC internal services panels come in both a standard version and in optional variants, which may be adjusted to fit the specifications of every project.

The low voltage distribution panels, dedicated to transformer substations and industrial applications represented the outset in the development of Energobit's production units.

We now offer the entire range of low voltage distribution panels and industrial automation panels.

Starting from the standardized variants for low voltage distribution, we designed and built technical solutions for special applications: electricity distribution panels with withdrawable drawers.

The street distribution boxes, distribution boxes for overhead transformer substations, measurement and protection blocks, public lighting switch points, which all compose the DOMINO product range, being both modular and adaptable, complete the Energobit solution for low voltage distribution.

The MCC panels used in various industries, I.E.: plants for food products, beer, wine-alcohol, confections, textile, cement, oxygen etc, are made with last generation components in a very wide range that includes classical solutions (D.O.L., star-delta) or high performance electronic equipment (soft starters, inverters, d.c. converters)

From the very beginning of its manufacturing activity, Energobit sought to provide reactive power compensation solutions.

Currently, our portfolio includes low and medium voltage capacitor banks, fixed or automatic, with a wide range of powers.

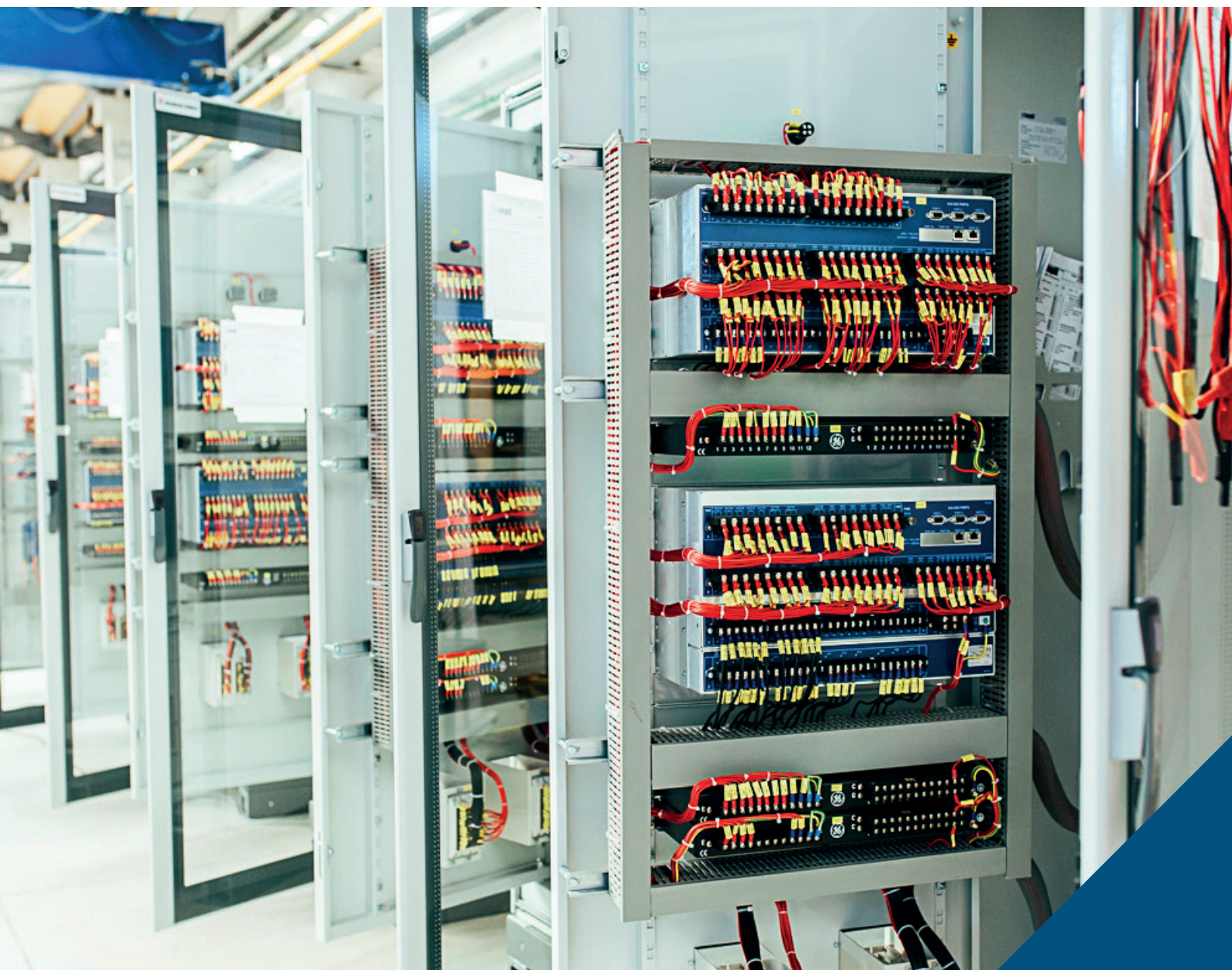
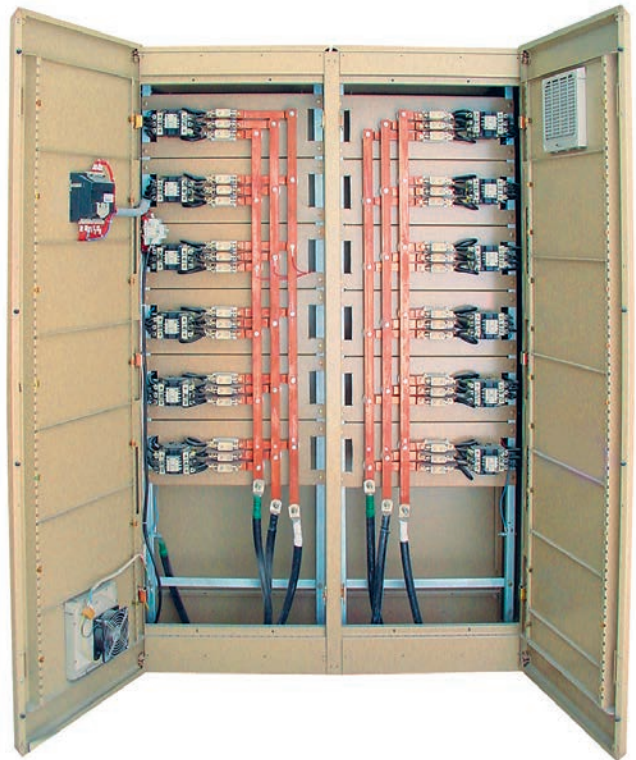
Energobit also offers a complementary service pack, which facilitates the selection and installation of the capacity banks:

- network analysis and measurements
- bank design and sizing
- technical assistance with installation and commissioning.



Energobit offer includes:

- Protection and Control Panels
- AC/ DC internal services Panels
- Low voltage distribution Panels $\leq 6000A$
- Industrial automation panels
- ENEL homologated low voltage distribution panels
- ENEL homologated protection and control panels
- Street distribution boxes, distribution boxes for overhead transformer substations, measurement and protection blocks, public lighting switch points, range DOMINO
- Capacitor banks, fixed or automatic



EnergoBit in figures

10 million

consumers serviced by
our equipment

Over

6 000

transformer
substations produced
and installed

**Over 800 employees
out of which 250
engineers**

Main market segments: power generation,
transmission&distribution, automotive, oil&gas,
fmcg, retail, telecommunications, construction,
real estate, heavy industry, public institutions,
municipalities

Over

80 000

electrical equipment
produced in own factories

30 years

of continuous activity
in production

Over

200

employees in
EnergoBit
factories

Over

15 000

JT and MT switchgears
produced and installed



EnergoBit headquarters in Cluj-Napoca



Modular Station Model



Transformer substations in Jibou factory



Transformer station in Solar Park



Jibou Factory



Jibou Production line



Cluj-Napoca Production line



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