

Power^{IT} – Low voltage switchgear MCS

Overall solution for the changing needs of distribution, control and automation





A new modular switchgear system type MCS that includes complete solutions for distribution, control and automation in industry, power plants, buildings and offshore applications all over the world. The Modular Cabinet System offers new versatile possibilities to manufacture switchgear to the specific needs of the customer.

Long experience of ABB companies as a switchgear and panelboard manufacturer has been used during product development of this flexible system.

Special attention has been paid to maintenance, safety, protection and installation. New constructional solutions have resulted in greater space savings and future expansion of the system is now easier than ever.

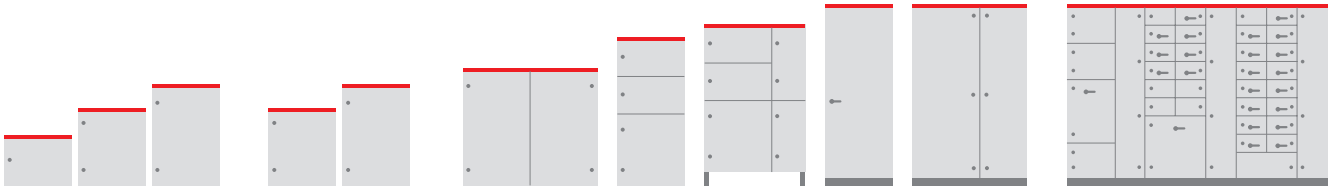
Safety and environmental aspects as well as the product life cycle are essential to the product development, in which ABB has a close cooperation with customers.

As one of the biggest manufacturers of LV apparatus and switchgear ABB has been developing the EU legislation for electrical standards with the aim to maintain a high degree of product safety. The safety provided by the switchgear construction signifies reliable operation and an overall economic price-quality ratio.



As to the environment and energy savings, concrete results are achieved by the environmental management system according to ISO 14001, which covers the whole life cycle of the Modular Cabinet System including certified maintenance.

New applicability, new productivity, new environmentally friendly life cycle.



MCS

Modular Cabinet System

- ABB:n kansainvälisen kojeistoperheen jäsen

As a leading manufacturer of electrotechnical equipment in the world ABB offers its customers an extensive network of services, comprehensive technical support and fast availability of products in more than 120 countries.

The switchgear and its key components comply with the requirements of all significant international standards and regulations and are certified to conformity with the most common ship classifications.

In a class of its own, the unified design of the new product series. Operability is beautiful - proved by the receipt of several design awards granted to our products.

EPT - part of the Modular Cabinet System

The Engineering and Processing Tool is a switchgear design program, which helps to choose effective solutions, improves logistics and service and speeds up deliveries.

The system contains efficient tools for customer oriented design and pricing. It makes possible the consideration of specific features of each application, specific requirements of different countries and classification societies.

EPT produces comprehensive documentation from the offer calculation and component orders to the final documents.

By means of the system, optimal solutions can be found quickly for total projects as well as individual switchgear designs.

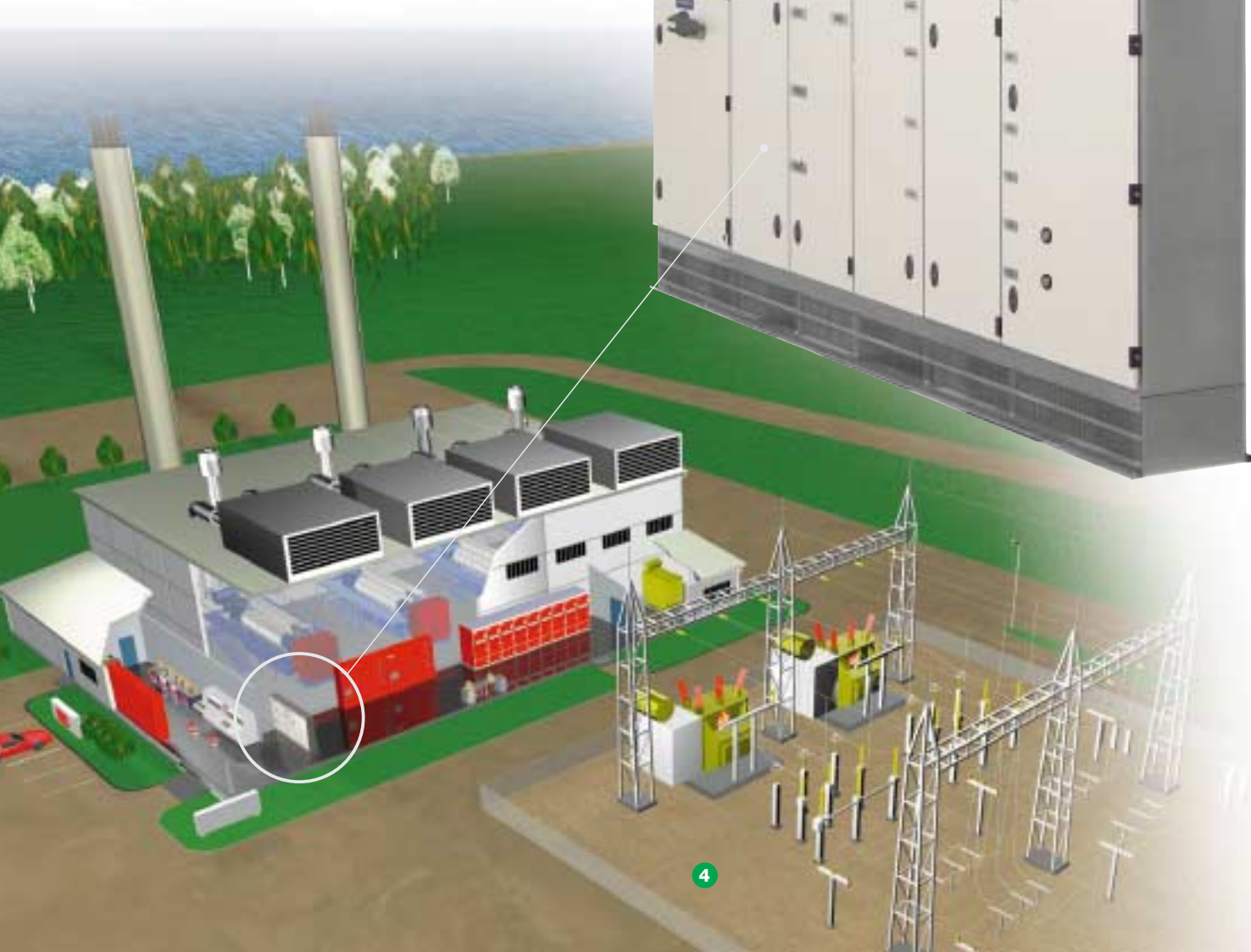


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Building

MCS switchgear is an important newcomer in the LV switchgear family of ABB. It offers a fast solution from a simple distribution and lighting board up to the automation and power distribution for motors. Experience and new efficient solutions increase the safety in use, applicability and economy.

A strong feature of MCS is the efficiency of design and logistics. Optimal solutions for various applications can always be found and MCS can be used i.a. as main and auxiliary boards, control boards and different types of marshalling and apparatus cabinets.





Modular Cabinet System is applicable for lighting, air conditioning, automation, DC- and special boards with the rated voltage up to 690 V and rated current up to 800 A. Due to its robust construction and good corrosion resistance, MCS can be used also in extreme environmental conditions.



OEM / Equipment Manufacturers

Versatile, well designed and comprehensive Modular Cabinet System is an important member of ABB's international switchgear family, enabling further development of high-quality customer oriented solutions locally and world wide.

ABB's experience in projects all over the world is a strength, which helps our customers to find the right solutions for their needs.

Electrification of offshore objects is a part of our everyday activities. Safety and reliability are of great importance, when the operational environment is the whole world.





Flexible and modular MCS is a versatile solution for the changing needs of equipment manufacturers also in very demanding operational conditions.

Consideration of country-specific needs is an essential part of ABB service.

Areas of application are i.a. MCCs, distribution, automation and control boards and terminal boxes.



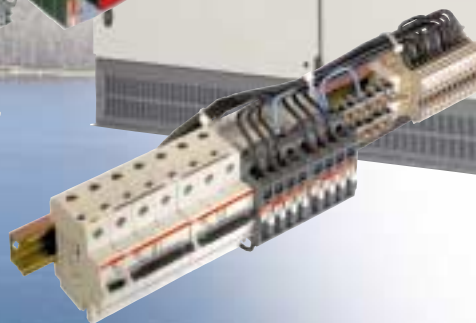
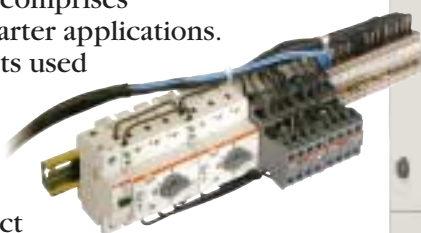
Industry

The Modular Cabinet System has been developed following environmentally friendly principles. All parts are recyclable. Optimized use of materials is a part of sustainable development not compromising high and proven performance characteristics.

With the exception of the heaviest switchgear needs the MCS-system covers most country-specific requirements of all branches of industry.

MCS offers comprehensive solutions for demanding operational conditions in process industry.

The Modular Cabinet System comprises fused and non-fused motor starter applications. ABB's high-quality components used for motor starters ensure a reliable operation in all environmental conditions. Tested standard applications comprise optimal and compact motor starters - centralized, unit or cabinet type.





Light control boards, MCCs, terminal and apparatus boxes for industry and power plants are included in the MCS-program.

During the product development of MCCs special attention has been paid to the mounting of external cables.

MCS-board can be equipped either with separate cable compartments or external cables can be connected in the apparatus cubicle consisting of a separate cabling space.



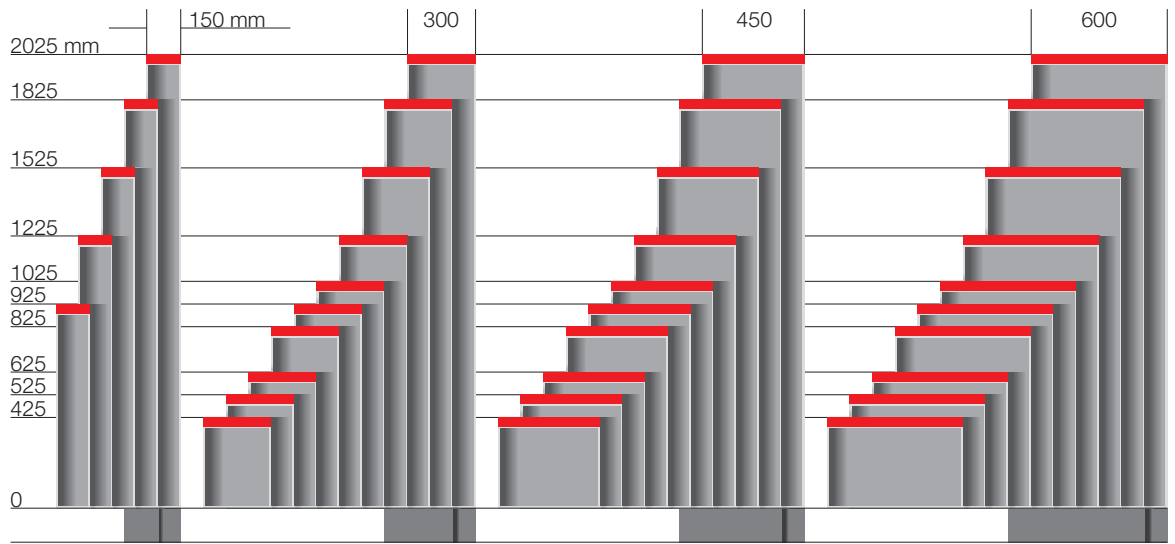
Technical data

Standards	EN 60439-1 EN 60439-3 EN 60439-4 EN 50298 EN 60529 IEC 60092-302 DNV, Lloyd's		
EU Directives	LVD 73/23/EEC 93 / 68 EEC EMCD 89/336/EEC A 92/31 EEC		
Certificates	FI/FIMKO, GOST-R		
Rated insulation voltage	U_i	690 V	
Rated operation voltage	U_e	up to 690 V	
Rated impulse withstand voltage	U_{imp}	8 kV	
Overvoltage category		III	
Degree of pollution		3	
Testvoltage		1 min 2500 V	
Rated frequency	f	0/50/60 Hz	
Rated currents	I_e		
Busbars		up to 800 A	Cu or Al
Rated short-time withstand current	I_{cw}	up to 35 kA	
Conditional short-time withstand current	I_{cf}	up to 50 kA	
Rated peak withstand current	I_{pk}	up to 73.5 kA	2.1 x 35 kA
Short-circuit withstand strength of the protective circuit	$0.6 \times I_{cw}$	up to 21 kA	0.6 x 35 kA
EMC Environment	1 and 2		
Insulation resistance		> 10 M Ω	
Degree of protection		IP20 ... IP54	
Mechanical impact resistance		IK 08	Standard EN 50102
Vibration withstand		5 - 13.2 Hz 13.2 - 100 Hz	Displacement ± 1.0 mm Acceleration ± 0.7 g
Enclosure		Aluzink or hot dip galvanized sheet steel	
Surface treatment			
Pre treatment		Zinkphosphating	1-2 g / m ²
Paint		Electrostatic polyester powder	Thickness 60 μ m
Painting, standard		Doors are painted	Indoor installation
Painting, optional		Outdoor	Exterior parts are painted
Colour		RAL 7035 RAL 7024 RAL 3020	Doors, Frame Hinges, Locks Design profile
Door gaskets		PVC Cellular plastic	
Internal compartments		Form 2 – Form 4	EN 60439-1
Assembly		Fixed mounting	
Vertical sections	Width	150, 300, 450, 600 mm	
	Depth	180, 260 and 400 mm	
	Height	425 mm 2025 mm	
Plinth		150 mm	
Installation		Wall mounted, Floorstanding, Pole mounted	

MCS frame sizes

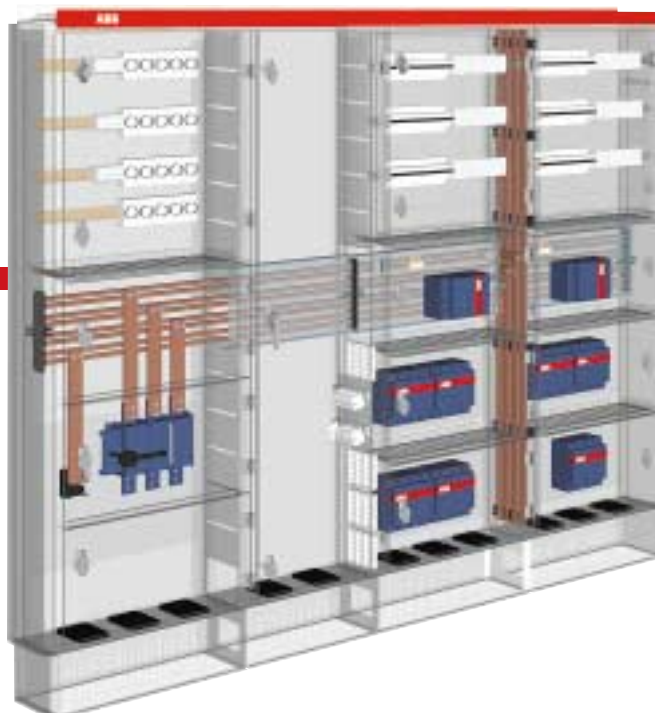
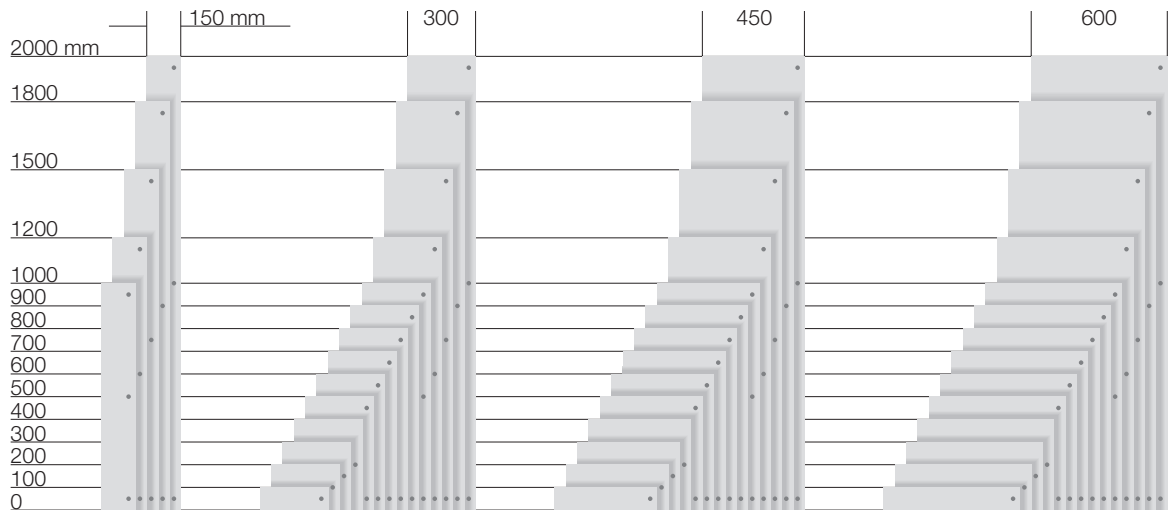
Depths

- 180 mm
- 260 mm
- 400 mm



Plinth increases the total board height 150 mm.

MCS door sizes



MCS

Modular Cabinet System

- A member of ABB's international switchgear family

**Low voltage products and services
– everything from the same company!**

MNS

Modular LV switchgear system – solution for power distribution in industry, power plants, buildings and offshore applications.

INSUM®

Switchgear control and monitoring system.

MDY

Reliable and safe busduct system between the transformer and the switchgear or between the switchgears.

LV switchgear for marine applications

Versatile, well designed and fast – onshore and offshore.

MCR

Compensation and harmonic filters.

MCS

Overall solution for changing needs of power distribution, control and automation.

Standard boards

Näpsä, MCS-boxes, MCS-starters, MCS-area lighting.

District lighting

MCS-switchboards

Enclosed motorstarters

Direct on line, reversible, star/delta.

Boxes

Aluzink- and sheet steel boxes.



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