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.
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.
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.
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 worldwide.

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.
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  
| Certificates | EMCD 89/336/EEC A 92/31 EEC  
|            | FI/FIMKO, GOST-R  |
| Rated insulation voltage | \( U_i \) 690 V  
| Rated operation voltage | \( U_o \) up to 690 V  
| Rated impulse withstand voltage | \( U_{imp} \) 8 kV  
| Overvoltage category | III  
| Degree of pollution | 3  
| Test voltage | 1 min 2500 V  
| Rated frequency | \( f \) 0/50/60 Hz  
| Rated currents | \( I_s \)  
| Busbars | up to 800 A Cu or Al  
| Rated short-time withstand current | \( I_{cw} \) up to 35 kA  
| Conditional short-time withstand current | \( I_{ct} \) 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 x \( I_{cw} \) up to 21 kA 0.6 x 35 kA  
| EMC Environment | 1 and 2  
| Insulation resistance | > 10 MΩ  
| Degree of protection | IP20 ... IP54  
| Mechanical impact resistance | IK 08 Standard EN 50102  
| Vibration withstand | 5 - 13.2 Hz Displacement ± 1.0 mm  
| | 13.2 - 100 Hz Acceleration ± 0.7 g  
| Enclosure | Aluzink or hot dip galvanized sheet steel  
| Surface treatment |  
| Pre treatment | Zinkphosphating 1-2 g / m²  
| Paint | Electrostatic polyester powder Thickness 60 µm  
| Painting, standard | Doors are painted Indoor installation  
| Painting, optional | Outdoor Exterior parts are painted  
| Colour | RAL 7035 Doors, Frame  
| | RAL 7024 Hinges, Locks  
| | RAL 3020 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  

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**MCS frame sizes**

**Depths**
- 180 mm
- 260 mm
- 400 mm

Plinth increases the total board height 150 mm.

**MCS door sizes**

![Diagram of MCS door sizes]
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.

ABB Control Oy
Low Voltage Systems

**VAASA**
P.O.Box 600, FIN-65101 VAASA
Tel. +358 10 22 4000
Fax +358 10 22 41054

**PAIMIO**
P.O.Box 62, FIN-21531 PAIMIO
Tel. +358 10 22 3011
Fax +358 10 22 35618

www.abb.com