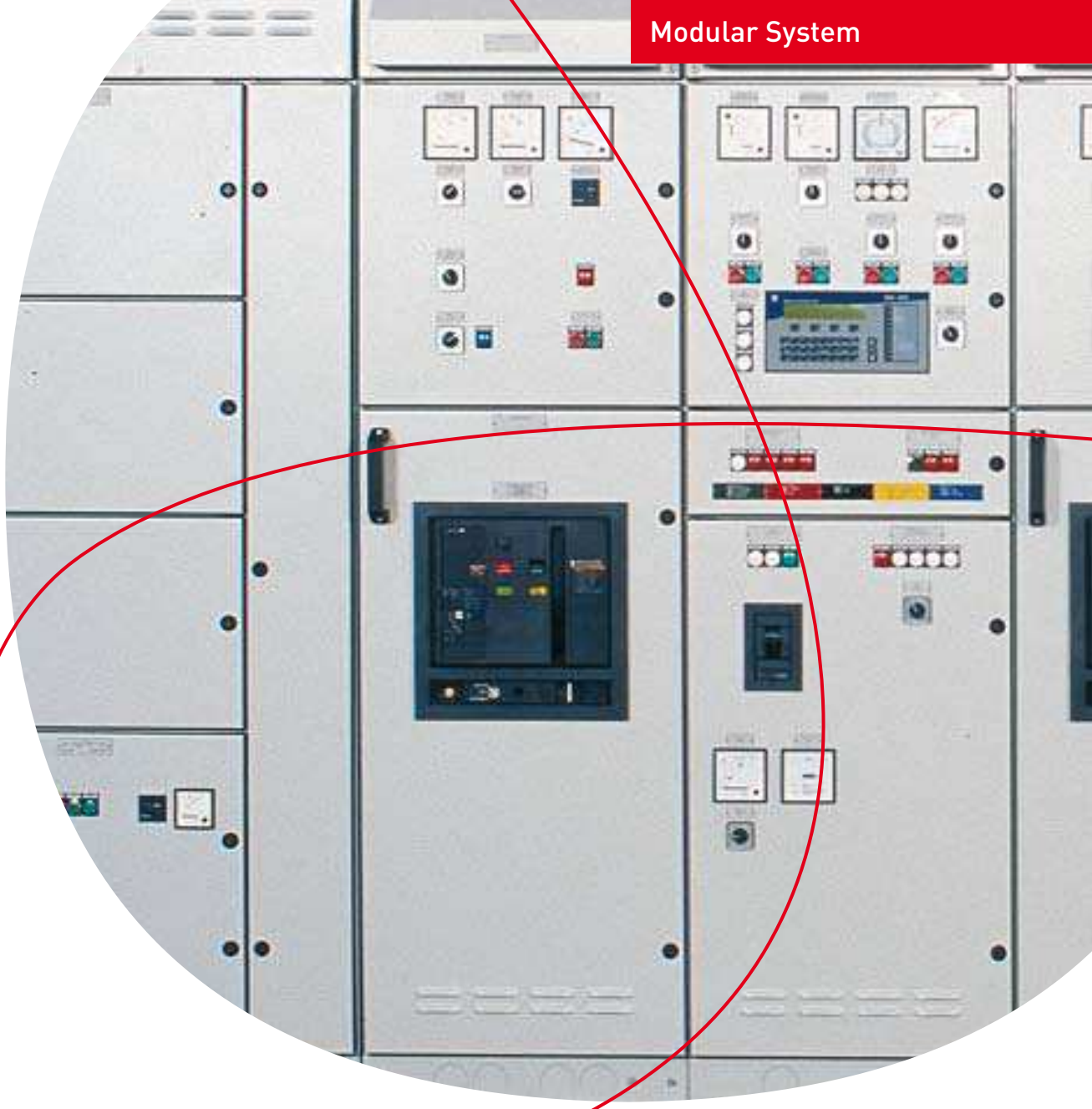


The modular system

The CUBIC modular system is based on a concept of standard modules for the construction of electrical panels. Using a relatively few standard parts it is possible to construct a bespoke enclosure from a range of standard components.

The versatility of the modular system makes it easy and quick to assemble and install electrical panels as well as to extend and/or modify existing panels - including older enclosures.

CUBIC

The Modular System's high degree of freedom is used worldwide

The CUBIC modular system provides numerous possibilities for construction of type-tested panels.

With the modular system, the choice of electrical components is completely up to you. The versatility regarding width, height and depth means that the panel can be designed to suit its place of installation, and ensures simultaneously that the panel can be modified or extended.

The system is fully documented and is supplied as flat-pack worldwide to panel builders, who construct and offer complete panel systems. All panel builders have gone through extensive training/education to ensure a high and uniform quality level all over the world on panel systems enclosed with the CUBIC modular system.

The Modular System

The modular system can be used in many situations, where electrical switchboards are a necessity to secure the operation of electrical equipment.

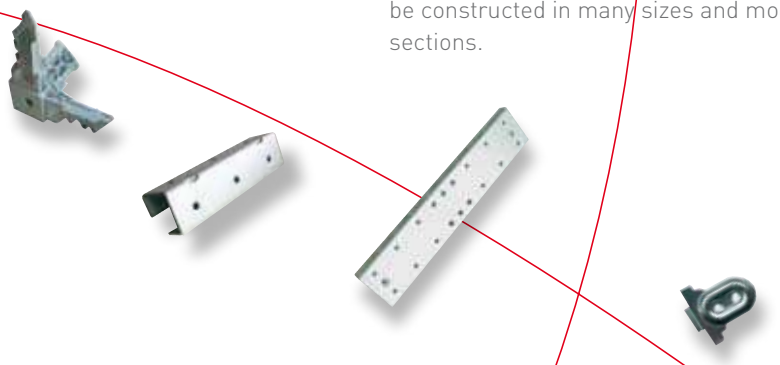
- Main and distribution boards
- MCC panels
- Marine panels
- Draw-out panels (Multi Drawer)
- Distribution boards
- Control panels
- Desks
- 19" Racks

Basic components and installation parts

The main module of the CUBIC modular system is 192 mm, which is remarkable for being divisible by 12 figures without decimals.

During the construction of a panel, logical main and sub modules are used so that the fitter need not take millimetres into consideration.

All fitting is done by means of only very few tools. The panels are easy to assemble, can be constructed in many sizes and models and can furthermore be divided into suitable sections.



The modular system is supplied in parts. Using a relatively few standard parts, it is possible to build enclosures in bespoke sizes and models.

Type-tested busbar systems

CUBIC's type-tested busbar systems consist of standard components and cover a range up to 8750 Amps.

The systems are tested by KEMA and ASTA according to IEC/EN 60439-1 to a short-circuit level of 120 kA for 1 sec. and a peak withstand current of max. 264 kA. The busbar sections are easily assembled in templates and fitted into the panel. With CUBIC's specially developed assembly bolt, it is not necessary to drill holes or cut threads. The assembly bolt allows for an adjustable connection, exactly where it is needed on the busbar holders. All busbar joints are designated as maintenance-free according to DIN 43671.

The busbar systems are incorporated in the modular system and are described in detail in CUBIC's Instruction Manual, which make them easy to install in the panel.

The photo below shows a FORM 2 protection of the busbars vertically, in top and in front of the joints of the busbar systems.

Separation

With the CUBIC modular system you can choose a separation from FORM 1 to FORM 4, and you are thus ensured optimum personal safety and operational dependability according to EN 60439-1 and the customer's wishes. After installation and commissioning, you can make a visual inspection of and thermograph the busbar joints. All the necessary coverings and protection plates are available as standard parts of the modular system and require no adjustment.

The individual sections are here made in FORM 4, which is particularly suited for maximum safety.

Inserts

CUBIC's standard inserts are available for all kinds of switches on the market.

Type-tested connections are ensured through the use of Cu-flex, CUBIC's patented flexible copper conductors, which easily adapt to the various component makes.

All inserts are constructed with much built-in functionality so that you achieve rational workshop installation and thus increased competitiveness.

Multi Drawer

Multi Drawer can be used where electrical energy is to be distributed with the highest possible personal and operational safety. Typically within the process and other industry, mining, navigation, hospitals, infrastructure etc. where even a short interruption of the power supply may be crucial to human lives and cause huge operational disadvantages and economic losses.

By choosing CUBIC's Multi Drawer solution, you open the doors not only to an optimum combination of user-friendliness, operational safety and economy, but to a number of advantages that satisfy meets the end-users demands for a competitive product, minimum maintenance, reduced downtime and the possibility of rebuilding the panel whilst live.

The Multi Drawer has been designed so that the panel builders can configure and equip the drawer themselves according to the project specifications. The design simultaneously makes it possible to offer the most competitive solution without having to accept a compromise regarding the specified functions.

Plug-in

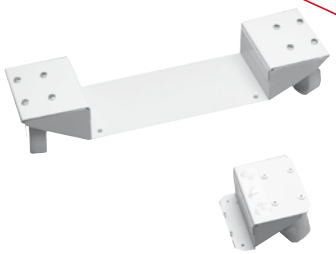
Panels with the plug-in solution maintain the function of a draw-out solution and have the economy of a fixed pattern solution.

Auxiliary tools

To ensure that our products are as user-friendly as possible, we have developed a series of auxiliary tools that guide you through engineering, installation, etc.

Goal-directed development has resulted in the CUBIC modular system being one of the best documented and most tested panel systems on the market today.

The documentation is currently updated and always accessible on the Internet for CUBIC's partners. The on-line documentation comprises all necessary information in connection with design, engineering and construction of panels.



To facilitate the mounting and transportation of CUBIC's products, we have developed a number of physical auxiliary tools, including everything from transport wheels and templates to both assembling and dismantling tools.

CUBIC Galaxy

As an inestimable service to everybody, who works professionally with panels, CUBIC has developed the electronic auxiliary tool: CUBIC Galaxy.

The program consists of a number of sub-programs that provide the user with the possibility of applying the various pieces of information from the switchboard documentation to an overall documentation.

- SPICA
  Construction
- ALCOR
  Calculation
- PROXIMA
  Calculation of power loss and temperatures
- REGULUS
  Historical database with panel calculations

Tests and certificates

CUBIC pays much attention to both personal safety and operational dependability and therefore, we currently carry out tests that are demanded by the market, such as earthquake test, shock test and arcing test.

The CUBIC products are all tested and/or type approved by several of the world's most recognised test laboratories. KEMA and UL take current spot tests from CUBIC's production of the modular system.

Furthermore, CUBIC has been certified according to the norms in DS/EN/ISO 9001.

Technical data

Material:
Electro-galvanized / iron-phosphated steel plate
Colour:
Light grey, RAL 7035, powder lacquered 60-80 µm
Busbar systems:
System 225, 2000 and 7000
Supply systems:
TN-C, TN-S, TN-C-S, TT and IT
Internal separation:
FORM 1, 2a, 2b, 3a, 3b, 4a, 4b and FORM 4, type 1-7
Multi Drawer:
Up to 630 Amps / 220 kW AC3,
I_{cc} up to 120 kA
Electro-magnetic compatibility:
EMC environment 1, 2 and # 1 and 2
Type test:
According to IEC/EN 60439-1
Rated current:
Up to 8750 Amps
Dielectric properties:
3.5 kV
Rated short-time withstand current:
Up to 120 kA
Rated peak withstand current:
Up to 264 kA
Rated voltage, insulation:
1000 V AC
Rated operational voltage:
Up to 1000 V, 50 Hz
Degree of protection:
Up to IP54
Vibration test:
2 G in frequency area 2.5-500 Hz in three directions
Shock test:
30 G in 12.5 ms in six directions
Seismic test:
Earthquake test carried out with biaxial horizontal and vertical multi-frequency movements
Arcing test:
'Type B assembly' according to IEC 61641 as well as to AS/NZS 3439.1
Surface treatment:
Tropical test ISO 6270, class C2 high, according to ISO 12944

CUBIC-Modulsystem A/S
Skjoldborgsgade 21
9700 Broenderslev
Denmark
Tel +45 9882 2400
Fax +45 9882 3530
E-mail: info@cubic.eu
www.cubic.eu

CUBIC

1409 1000 ENG 467