

New times, new ideas..
Think simple, think innovative..
Think unique!

a modular multi-function system

A multi-function range
type D: distribution
switchboards up to
6300 A.

Type Dc: power factor
correction column.

Type MF: fixed-type
motor-control centres up
to 6300A.

Type MW: withdrawable type
motor-control
centres up to 6300 A.

Type MS: variable speed
drives and starters
column.

Type C: cubicles up to
630 A.
A modular system
standardised
components.

Fast manufacturing,
easy modifications.
Functional design
Rationalized,

Dimensions and layout
inside the switchboard.
reduced footprint.
easy power and
auxiliary connections.
easy installation
upgrading at a controlled



Description

The basic frame of MALCOpower 2000 switchboard column is an assembly of prefabricated elements. These elements are available in a number of sizes and may be assembled to form columns with different volumes.

Each column is made up of four distinct zones for:

- 1 busbars.
- 2 switchgear components.
- 3 cable connections.
- 4 Auxiliaries

3 depths and 3 widths

The range may be used to build switchboards of various depths and widths by combining basic frames and extensions.

Basic frames are available in three depths:

- 400 mm.
- 600 mm.
- 1000 mm.

formed by combining two frames, one 400 mm and the other 600 mm deep.

Basic frames are available in three widths:

- 700 mm.
- 900 mm (Mw type).
- 1200 mm (for Masterpact MT40b, MT50 and MT63).

The width of a 700 mm column may be increased by adding one or two extensions (200 mm or 400 mm).



a high-dependability system for trouble-free operation of your installation

System is designed to provide a high level of reliability and safety, thus reinforcing the protection of life and property.

Offers all the essential guarantees:

compliance with international standards, notably IEC 60439-1, IEC 60529 and IEC 60947.

Compliance with local standards, thus meeting local legal and technical requirements.

A system implementing tested Schneider switchgear components to ensure optimum operation.

Internal equipment

The switchgear components contained in the columns are installed on mounting plates. The combination of a mounting plate with switchgear components is called a functional unit.

Functional units are defined by standard IEC 60439-1 as a part of a low-voltage switchgear and controlgear assembly comprising all the electrical and mechanical elements that contribute to the fulfilment of the same function. The height of a functional unit is defined by the number of 50 mm modules it occupies.

A column may contain 40 modules, each 50 mm high.

Selection and layout of the electrical switchgear components are subject to a rigorous method designed to enable switchboard definition without risk of error.

mounting of Legrand DPX circuit breakers:

DPX circuit breakers are mounted on horizontal plates and are available in two versions:

fixed,
withdrawable.

mounting of other switchgear components:

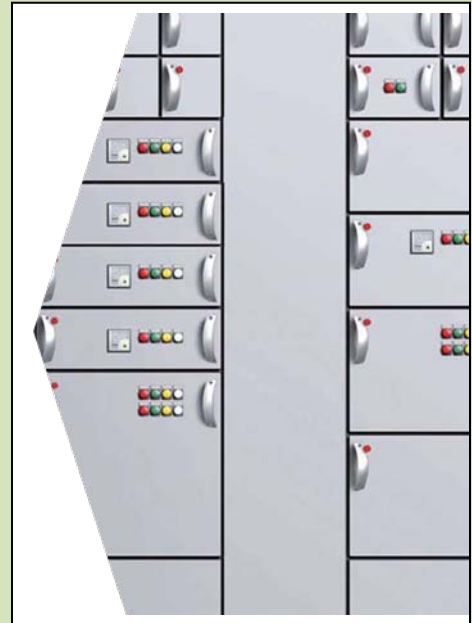
Circuit breakers, contactors, thermal relays, variable-speed drives and starters are installed on vertical mounting plates.

The circuit breakers for vertical mounting plates are available in three versions:

fixed,
disconnectable,
withdrawable.

All circuit breakers may be installed with their controls:

behind the door,
on the door.



Safety

Drawers are built in compliance with international standard IEC 60439-1 which regulates the drawer extraction and locking system.

The connection mechanism is designed to allow the drawer to be set to any of the four positions presented below. The degree of protection of the switchboard is

Maintained in all positions (connected, test, disconnected and drawer removed).

This is made possible by the door that can remain closed in these four positions.



Columns for power factor correction type Dc

The equipment for automatic compensation of reactive energy is installed in columns 700 mm wide, containing:
fixed set of busbars.
functional mounting plates equipped with Dry Type capacitors and contactors for capacitor control.



Reactive energy regulator.

The above equipment may be integrated in a distribution switchboard or remain separate.

Panorama of switchgear components

Air Circuit Breakers

From 800 to 4000 A with 4 breaking capacities:

50, 65 And 100 kA 2 versions: fixed and draw-out with electronic protection unit MP4 supplied.

Moulded Case Circuit Breakers

Protect and control circuits up to 250A

MCCBs from 16 to 1600 A

2 versions: fixed and plug-in with 3 installation methods: on rail, plate or XL-part 400 and 250 row distribution block.

Mounting under modular faceplate whatever distribution solutions are used.

Auxiliaries that are common to the entire range mounted on front panel.



Forms

For the protection of life and property, standard IEC 60439-1 defines different means, referred to as forms, of dividing switchboard sections into separate compartments.

This separation is achieved by barriers or partitions.

Form 1:

No separation

Form 2b:

Separation of busbars from the functional units. Terminals for external conductors separated from busbars.

Form 3b:

Separation of busbars from the functional units and separation of all functional units from one another. Separation of the terminals for external conductors from the functional units, but not from each other. Terminals for external conductors separated from busbars.

Form 4:

Separation of busbars from the functional units and separation of all functional units from one another, including the terminals for external conductors which are an integral part of the functional unit. Terminals for external conductors not in the same compartment as the associated functional unit, but in individual, separate, enclosed protected spaces or

Layout of the columns

Modular design makes it possible to match the switchboard layout to the configuration of the electrical room.

Columns may be positioned side-by-side or back-to-back:

Depending on the space available in the room, back-to-back installation means the total length of the switchboard can be cut in two.

access to connection zones is possible through the front or the back of each column:

If the connection terminals are located inside a side compartment, access is through the front, making it possible to position the switchboard against a wall.

If the connection terminals are located behind switchgear components, access is through the back of the column.

Incoming or outgoing cables may enter through the top or the bottom of columns:

If the columns are installed on a false floor or



Technical Data:

Material:

Electro-galvanized / iron-phosphated steel plates

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,
Icc 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 4000 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

Manufactured by:

MALCO ENGINEERING

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