

# The switchboard that your installation deserves

Schneider  
Electric

Blokset

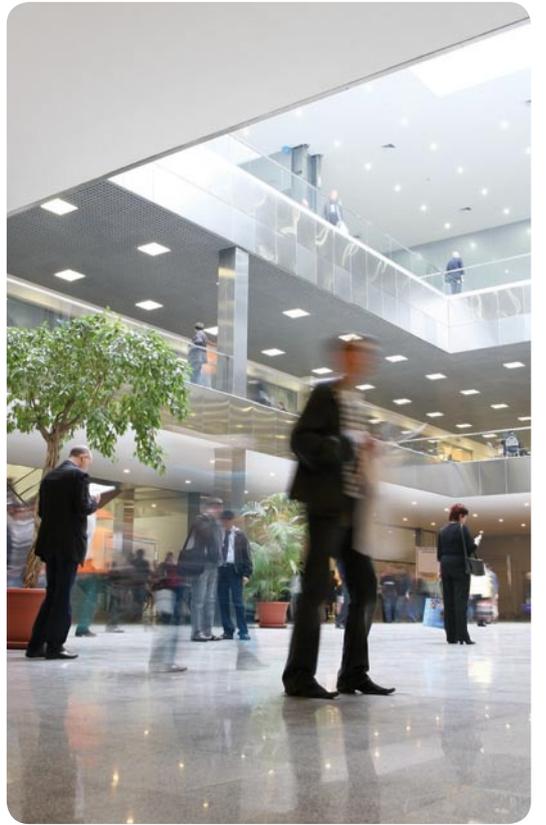
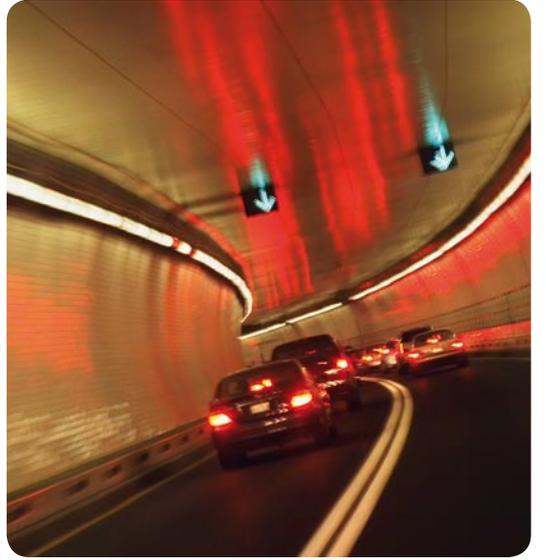
Schneider  
Electric

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**Blokset :**  
Low voltage switchboard for electrical  
distribution and motor control



Schneider  
Electric



# A tried and tested switchboard

Blokset switchboards have long guaranteed the durability and availability of several tens of thousands of installations the world over.

Tried and tested reliability, overall performance and an attractive TCO (Total Cost of Ownership) have caused Blokset to become, the reference switchboard for a large number of panel-builders, industrial site managers and maintenance managers, in a few years.

## Concentrated know-how

Throughout all these years, Blokset technology has never ceased to satisfy end-users in their search for optimized solutions for better, faster and more economic production and panel-builders in their search for equipment that is more reliable and easier to install and maintain.

Today this evolution assumes concrete form with the emergence of a new column dedicated to motor control known as "Mw2".



**Blokset is a modular offer for the production of LV switchboards for electrical distribution up to 6 300A and for motor control up to 250 kW**



# Your installations evolve, our solutions too

In a constantly changing industrial and economic world, you need to be able to upgrade your installations at all times to remain competitive.

Only electrical installations made up of modular switchboards are able to meet the challenges you face.

## Simply modular and open-ended

> The modularity of the Blokset functional switchboards means you can modify or upgrade them with ease to adapt to your changing processes and thus increase performance. The withdrawable drawers let you make these upgrades while the equipment is energised, without cutting switchboard supply and in a completely safe environment.

> The switchboard is designed with free slots to add new functions or extra motor feeders, even at the last minute.



With Blokset, you are  
completely free  
to add new feeders  
to your motors



## New Mw2 column: Compact and economic

The Mw2 column satisfies the motor control needs of exacting processes. The new withdrawable drawers with their integrated front face require no tools to handle them. Tests and maintenance operations are simpler and quicker.

Column compactness means that more equipment and functions can be concentrated into the same space, thus reducing the total number of columns. With the new Mw2 column, you optimize the cost of your installations.

### An innovative solution...

- With an Mw2 column of the same size, you can now install more motor feeders.
- The Mw2 column allows a combination of functions, for example motor and distribution incomers and feeders.
- It adapts to all electrical room configurations.
- A pre-studied solution, it incorporates all tried and tested Schneider Electric products for all motor applications

### ... rugged and reliable...

- Production of new withdrawable drawers with a greater useful volume was made possible thanks to:
  - Schneider Electric's know-how in the design of LV equipment in very small volumes,



- use of last generation Schneider Electric products,

- perfect electrical and mechanical consistency and the electromagnetic compatibility of all components.

- Drawers have a real test position that is automatically accessible by simple displacement, thus guaranteeing upstream and downstream insulation of power for maximum operator safety.

### ... and secured

- All devices can be locked to avoid incorrect operations.
- Drawers can be plugged out with power on, without stopping the switchboard and without any risk to the operator.
- The switchgear position mechanical indicators on the front face are 100% reliable.



**Blokset: a clever balance of innovation and experience to offer you an extremely reliable multi-potential switchboard**

# Step up on safety...

Safety is a major issue not only to guarantee installation durability but also and for operators and maintenance personnel working on a switchboard.

## Nothing left to chance

- > The Blokset LV switchboards incorporate the best safety and protection systems, preventing on-load operation to guarantee safer operation and maintenance.
- > Live parts are protected by screens guaranteeing an IP20 degree of protection.
- > The withdrawable drawers have 3 positions: connected, disconnected and safe testing.
- > The operator interfaces for switchboard functional unit configuration and setting are directly accessible on the front face.



## Internal arc

Blokset technology reduces arcing hazards thanks to 3 levels of confinement:

- at the functional unit (AS3439-1),
- at the column (IEC 61641),
- at the switchboard.

## Tested switchboards

Blokset is a totally tested switchboard as per standard IEC 61439-2, thus guaranteeing electrical installation and operation safety. All tests are certified by ASEFA and LOVAG.

## Tests conducted

- Temperature rise limits
- Dielectric properties
- Short-circuit withstand
- Protection circuit efficiency
- Clearance and creepage distance
- Mechanical operation
- Degree of protection
- Internal arcing withstand
- Hoisting, etc.

# ... And continuity of supply

At all times you must be able to rely on electrical energy availability to guarantee continuity of supply of your production site.

Blokset offers an extremely high level of reliability even in the most difficult conditions.

## Increased resistance to harsh environments

### For installations in seismic zones

> As an option, Blokset benefits from a reinforced framework to guarantee increased resistance to earthquakes (IEC 68.3.3).

### For installations in corrosive environments

> As standard, Blokset proposes a variety of protection levels (IP31, IP42 up to IP54) to satisfy the needs of applications such as cement works, iron and steel industry, etc.

> For applications such as water, paper mills and refineries, conductive parts such as busbars and clamps receive a specific anti-corrosion surface treatment (tin, nickel, etc.).

> "Anti-corrosive" Blokset limits short-circuit risks due to damaged copper and coatings, thus extending your equipment life time.

## Minimise downtimes

### Be informed to anticipate

> The overall reliability of a Blokset solution minimises maintenance. Thanks to communicating devices, you dispose of all the necessary information available on switchboard operation allowing you to schedule maintenance to suit your production loads.

The possibility to work on functional units in complete safety with the switchboard energised increases the continuity of supply of your installations.

## Schneider Electric inside

- All the components of a Blokset switchboard are designed and produced by Schneider Electric.
- The guarantee of investing in equipment that is perfectly optimized, combining a high level of performance with tried and tested reliability
- The certainty of rapid return on investment.

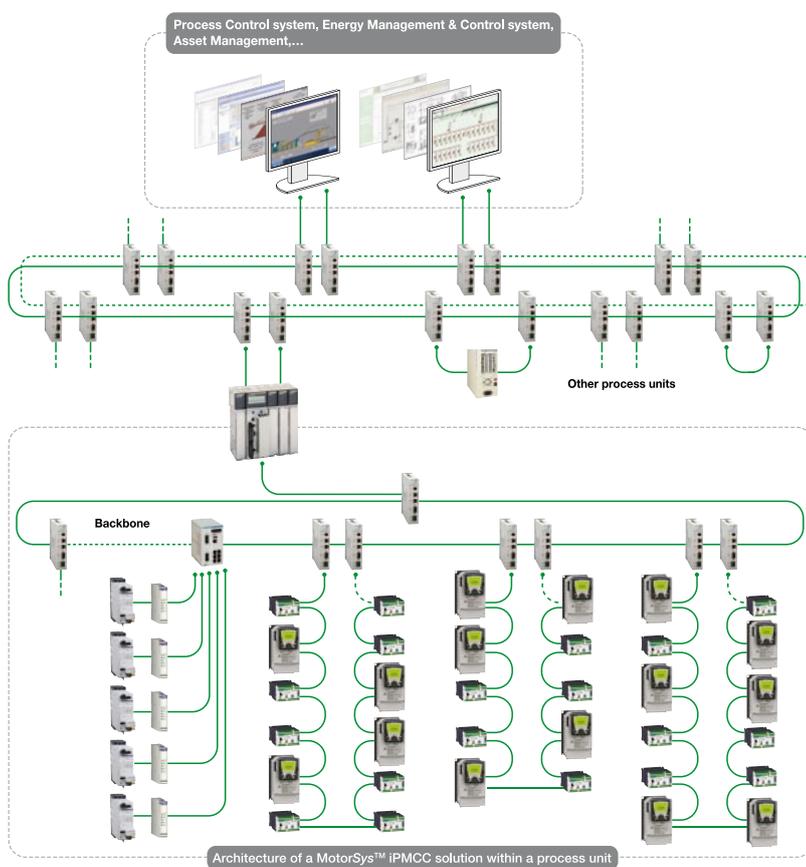


## Thermal monitoring

Designed for Schneider Electric LV equipment, this system continuously monitors temperature rises by means of probes fitted at the centre of sensitive areas, such as busbars and drawer contacts. The thermal monitoring system reduces the likelihood of failure and decreases maintenance time.

# Blokset MotorSys™ iPMCC: more intelligence in your switchboard

MotorSys™ iPMCC is Blokset's most advanced solution. Its architecture is open to the main industrial communication protocols. It can be easily and safely incorporated into the existing infrastructure of your sites.



## Access information in real time

Essential to optimize control and monitoring of your process, make the right decisions at the right time, ensure traceability of production.

- > With Blokset MotorSys™ iPMCC, all this information is available locally or remotely:
  - motor operating status and time monitoring (alarms and tripping),
  - parameter monitoring and management: statuses, measurements, diagnostics, histories,
  - energy consumption.

Example of process level Ethernet communication architecture with Blokset MotorSys™ iPMCC

## Optimize motor performance

> The Blokset MotorSys™ iPMCC solutions ensure monitoring and protection of motors in accordance with standard IEC/EN 60947-7-1.

They incorporate communicating electronic protection relays using motor protection models of unequalled accuracy.

> Motor and protection device configuration is accessible at all times, thus letting you quickly adjust their operation to your production rates



Save up to 15%  
on your electricity  
consumption

# Increase your energy efficiency...



Electrical energy accounts for a large part of your global production cost. Blokset allows you to reduce the energy consumption of your equipment while also enhancing its performance.

## Make energy savings

The Blokset solutions have an immediate and measurable impact on your electrical energy consumption.

> They include progressive starters and variable speed drives adapting motor operation to the loads required for a reduction in consumption peaks of 50% or more.

> They can be combined with capacitors to manage reactive power compensation and thermal withstand control, thus eliminating reactive power costs and extending the life time of the devices connected to the network.

> Measurements, particularly for useful energy consumption, help define and monitor motor load profiles and consumption, thus enhancing the performance of an energy efficiency plan.

# ... And protect the environment

Better use of the planet's energy resources is one of the areas in which we can reduce our carbon footprint.

Designing and producing "eco compatible" products is another. This is Schneider Electric's approach.

## Eco design and eco production

> Right from the start of product design, we take into account the materials required for its production and use those that have least impact on the environment both in their origin and in their production.

At each stage of product development, we have access to global assessment of its impact, thus letting us optimize choice of materials.

## End of life treatment

> Choice of materials is also dictated by the ease with which they can be recycled. At end of life, all Schneider Electric product components and their packaging can be recycled.

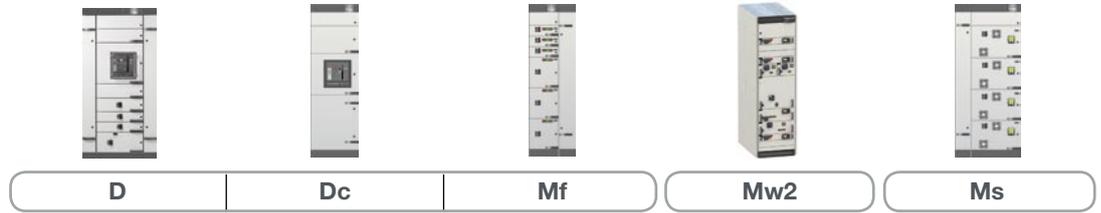
## No hazardous substances

> Our product design takes account of the various international recommendations and in particular those of the RoHS European directive. Blokset does not contain any hazardous substances.



# Offer overview

Its broad choice of columns allows Blokset to satisfy all your requirements and the performance needs of your applications, even in harsh environments.



Application					
Distribution (PCC)	■	■			
Motor (MCC)			■	■	■
Fonction					
Incoming cubicle	■				
Distribution cubicle	■	■	■	■	■
Type					
Disconnectable	■				
Withdrawable	■			■	
Fixed	■	■	■		■

# Schneider Electric “Best in class” products



## Power circuit protection and control

### > Masterpact, Compact NS and Compact NSX

A range of circuit-breakers for LV AC protection, control and disconnection of circuits and loads.



## Energy consumption and quality metering

### > PowerLogic PM 800

A range designed for management of your energy: metering, quality, availability.



## Motor motion control

### > Altivar 31, 61, 71 and Altistart 48

A range of variable speed drives and progressive starters for very simple variable speed control, offering a wide choice of installation powers, applications and protection.



## Motor protection and control

### > TeSys T, TeSys U and TeSys D

A broad range of relays, controllers and motor management systems covering all your needs, from the simplest to the most advanced.



## Process automation

### > Quantum, Premium and M340

A range of programmable logic controllers for process control, including communication, diagnostic and data storage functions.

# Technical data

## General data

Applications	Distribution Motor control Reactive power correction
Reference standards	IEC 61439-1 & 2 IEC 60439-1 IEC 60529 IEC 61641
Climatic resistance - damp heat withstand - dry heat withstand - low temperatures - salt spray	IEC 60068-2-30 IEC 60068-2-2 IEC 60068-21 IEC 60068-2-11
Installation	Indoor

## Mechanical data

Cable inlet	Top/bottom
Access	Front/rear
Degree of protection (IP)	20/31/42/54
Form	1/2b/3b/4
Withdrawability	FFF/WWW
Dimensions: Height Width Extension Depth	2200 600/700/800/900/1000/1200 200/400 400/600/1000
Average weight	650 Kg
Panel coating	Polymerised epoxy/polyester powder (SPO3) > 50 µ
Framework	Galvanised
Panel colour	RAL9002 (light grey) / RAL7016 (graphite grey)

## Electrical data

Rated insulation voltage (Ui)	1000 V AC
Voltage rating (Ue)	690 V AC
Rated frequency (F)	50/60 Hz
Rated impact withstand frequency (Uimp)	12 kV
Auxiliary circuit rated voltage	230 V AC max.
Surge category	IV
Degree of pollution	3
Rated current (In)	6300 A
Horizontal busbar rating	SJB-4000 A/DJB-6300 A
Vertical busbar rating	Up to 3200 A
Horizontal busbar: Rated 1s short-term current (Icw) Rated peak current	30/50/85/100 kA 63/105/187/220 kA
Vertical busbar: Rated 1s short-term current (Icw) Rated peak current	30/50/85 kA 63/105/178 kA
Rated conditional short-circuit current (Isc)	100 kA
Internal arc protection IEC 61641	85 kA 0.3 s
Earthing system	TT-IT-TNS-TNC
Power incoming and outgoing limits	Up to 6300 A
Motor control feeder limits	Up to 250 kW 400 V

# Associated proximity services

Throughout the world, our local partners are available to listen to your needs

They propose a comprehensive and unique Blokset support service offer for enhanced reliability of your equipment:

- > Validated tools and architectures.
- > Proximity services for the installed base: component availability, assistance and troubleshooting.
- > Advice and guidance for maintenance and renovation.
- > Customised vocational training, on site or in one of our fifty training centres.

## Services with high added value

You can rely on the Schneider Electric services to help you increase your performance throughout your installation life cycle.

Over and beyond the services associated with the Blokset offer, Schneider Electric proposes comprehensive services in the sectors of auditing and consulting (engineering expertise, installation audits, energy audits, global energy efficiency solutions, etc.), and solution engineering (project management and implementation, site modernisation, customer projects either customised or for critical applications, process simulation, energy management, etc.).

### The Blokset panel-builder network guarantees you optimum proximity service

- > These partners, selected for their expertise, are trained and regularly audited by Schneider Electric to guarantee top quality equipment.
- > The Blokset offer is also available in Schneider Electric's regional equipment units.

Partner licenced  
by



 **Make the most of your energy**

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