



Switchboard Manufacturing | System Integration | HV Industry

Simotrol AS/NZS 61439 Power Distribution/ Motor Control Centre



Simotrol: Power Distribution/Motor Control Centre

Simotrol is a self-supporting industrial rated switchboard system employing a modular tiered design. It's versatility and innovation caters for a range of industrial applications.

Simotrol is AS/NZS 61439 compliant

Independent laboratory verification has fully certified Simotrol as meeting all the requirements of AS/NZS 61439 for low voltage switchgear and control gear assemblies.

Construction

Simotrol is constructed from 2mm folded sheet metal. Equipment, busbar and cabling compartments are fully segregated to form 3b/4a ensuring operator, asset and maintenance safety. The default finish is cream ripple polyester powder coat with white interior. (Alternate colours are available on request).

Evolving standards, technological advances and improvements in the manufacturing and tooling processes are all accommodated, with a focus on ensuring that the switchboard design remains fully backward compatible.

Tiers

Two tier heights are available at 1980mm and 2200mm. Custom heights available on request. Standard depths are 450mm for single sided front access and 750mm double sided (back to back).

The bolted sheet metal fabrication ensures additional tiers can be added without cutting, welding or drilling.

Busbars

Busbar positions are standardised and clamped with verified supports. Horizontal busbars are housed at the top of each tier in a separate busbar compartment. Vertical busbars are located in the busbar compartments of each tier extending from top to bottom. There are 2 bar sizes available; 750 amps and 950 amps. For fixed functional units standard design vertical busbars rated to the application are available.

All busbars are tin plated copper. The plating provides both a superb electrical connection and a high corrosion resistance. Access to busbars (if required) is through removable covers located on top of the cubicle.

The cable ways which are run from top to bottom of each tier have integral cable cleats. Non-ferrous gland plates are fitted top and bottom. All access for cable terminations is from the front.



Modules

Functional unit assemblies (modules) consist of a demountable tray and associated door located in the equipment compartments at the accessible face of the switchboard. Functional unit doors are secured with chrome lift-off hinges and ¼ turn lock(s). For operator safety the door is either interlocked with the handle of the isolating device located within, ensuring the door can only be opened in the off position or where an interlock is not available, by means of tool of entry.

Functional unit assemblies are of standardised interchangeable design within their family range and come in modular height increments of 40mm. For demountable functional units $\leq 400A$, power is distributed from the vertical busbars to each unit through insulated plug contacts. For fixed connection functional units $\geq 630A$, power is distributed via bolted connections easily accessible at the front of the functional unit. Functional units of the same size are interchangeable. For fixed or withdrawable functional ACB units $\leq 2500A$, power is distributed via bolted connections at the rear of the functional units.

Technical Data

SIMOTROL Power Distribution/Motor Control Centre is built to comply with AS/NZS 61439.

Rated operating current

- $I_n \leq 2500A @ 0.8 (RDF)$

Rated operational voltage

- $U_e 415V$

Rated Insulation voltage

- $U_i 800V$
- AS/NZS 61439.1:2016 -10.9.2

Rated impulse voltage

- $U_{imp} 8kV$
- AS/NZS 61439.1:2016 -10.9.3

Short circuit withstand strength

- $I_{cw} 50kA$ for 1 second – $I_{pk} 105kA$
- $I_{cw} 63kA$ for 1 second – $I_{pk} 139kA$
- AS/NZS 61439.1:2016 -10.11

Degree of protection

- $\leq IP54$
- AS/NZS 61439.1:2016 -10.3

Mechanical impact strength

- $IK10$
- AS/NZS 61439.1:2016 -10.2.6

Routine verification

- AS/NZS 61439.1:2016 -11

Compliance Data

General Rules

- AS/NZS 61439.1:2016

Power Switchgear and Control Gear Assemblies

- AS/NZS 61439.2:2016

Australian/New Zealand Electrical Wiring Rules

- AS/NZS3000:2007 + A1 + A2

Environmental Test

- IEC 60068-2-30/11

Fire Hazard Test

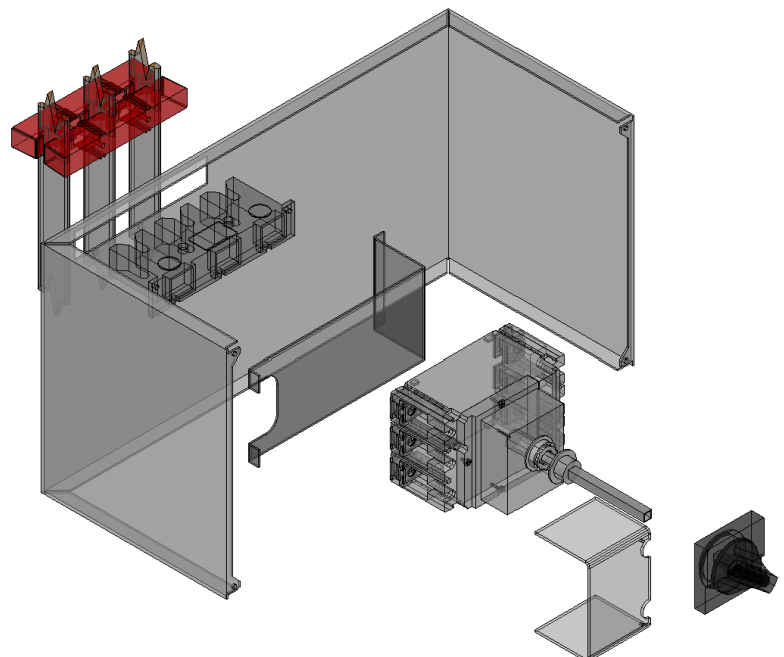
- AS/NZS 60695.2.11:2001 + A1

Degrees of Protection Provided by Enclosures (IK Code)

- BS EN 62262:2002

Degrees of Protection Provided by Enclosures (IP Code)

- AS60529-2004 (2018)





Switchbuild specialises in the manufacturing of switchboards and are certified system integrators for all major process and control providers. This work includes high level electrical services including main switchboards, load distribution, power management/monitoring, load shedding, motor control centres, generator control/pump stations, heating and ventilation, building management (BMU), treatment plants, process control systems, telemetry, automated control and the associated communications networks. Switchbuild has an in-depth working knowledge of electrical installations and the practicalities required to ensure a fit for purpose switchboard offering.

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Switchboards:	Main Switchboards, Power and Load Distribution, Motor Control
Motor Control Centre:	Forms 1, 2, 3 & 4
Distribution Boards:	Mechanical & Electrical Services
HV Generation and Transmission Projects:	Protection, Control, Distribution and Communications Panels
Automation:	Process and Control, BMS
Generator Controls:	Load Lopping, Synchronisation, Automatic Mains Failure
Application Specific:	Custom Design and Build
System Integration:	PLC, SCADA, Telemetry, Networks, Reporting
Engineering:	Design, Estimation, HAZOP, CAD, Project Management, Programming
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