

## B&R Enclosures IP SWITCHBOARDS

[brenclosures.com.au](http://brenclosures.com.au)

# Monarch IP Advanced

## Outdoor LV Power Switchboard Systems



Designed specifically for outdoor environments, IP Switchboard is an extension of B&R's tried and trusted Monarch IP range. Suitable for applications up to 2260Amp, the IP Switchboards range is IP66 rated and AS/NZS61439 compliant.

This modular, low voltage electrical switchboard building system is the ideal solution for commercial and industrial main switchboards, high rise multi-residential and motor control centres where light and power distribution is required.

The system utilises 2000mm high enclosures in 400, 600, 800mm widths and 600 or 800mm depths mounted on a single piece 75mm HDG channel base.

As a standard arrangement, the system is designed to provide Forms of Separation up to and including 3b, 4a in a range of configurations.

### BUSBAR SYSTEM

The busbar network is designed and tested for a short circuit withstand capacity of 50kA rms/3sec.

The design uses regularly available rectangular radius corner HDHC copper busbar.

The main horizontal busbar 3 pole assembly comprises glass reinforced SMC support blocks designed to accept up to 3 bars – 100 mm x 10 mm per phase.

The main busbar system is designed for joining to distribution busbars by either bolted full-lap or edge clamp connections.

Vertical branch dropper busbar SMC supports are suitable for either 3 or 4 pole arrangements to accept up to 2 bars – 50 x 10mm CU bars per phase rated up to 1500A.

### ACCESSORIES

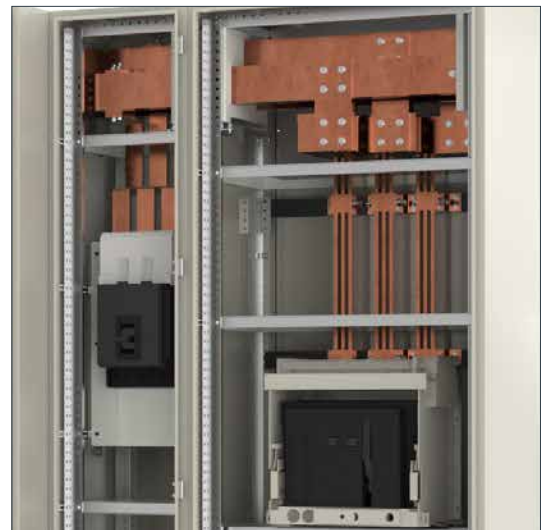
All the standard IP Monarch accessories may be used however a number of specifically designed accessories are required for the busbar systems.

Additional accessories have been designed to support heavy duty busbar systems as well as internal parts i.e. shelves, barriers, separation panels, covers and escutcheons necessary to maintain IP rating.

### COMPLIANCE

The IP Switchboard has been fully verified by tests to AS/NZS 61439.1 Table D1.

- Strength of Material and Parts
- Degree of Protection
- Clearances
- Creepage
- Protective Circuit integrity
- Dielectric Properties
- Temperature Rise Limits
- Short Circuit Withstand
- Mechanical Operation



Busbar Network



Various widths and depth in one system solution.

### Electrical

Rated Insulation Voltage (Ui)	690 V
Rated Operational Voltage (Ue)	415 V
Rated impulse voltage (Uimp)	8 kV
Power Frequency withstand	1890 Vac
Rated Current (InA)	3000A conditional
Rated short time withstand current (Icw)	50 kA/3 s
Form of Separation	3b 4a
Earthing System	TNS
Service Conditions	
Degree of Protection	IP66 (IP43 vented)
Installation environment	Outdoor (shaded)
Ambient Temperature	-25°C to 40°C (≤35°C over 24 hr avge)
Relative Humidity (outdoor)	100% RH non-condensing
Degree of pollution	3
Altitude (installation site)	2000 m max.

### Main Busbar System

Position	Top
Phase configuration	3 pole
Rated current (Inc)	3000A
Rated short time withstand current (Icw)	50 kA/3 s
Bus Support material - horizontal	Glass reinforced SMC
Bus Supports material - vertical	25mm Laminated phenolic sheet (switchboard builder supplied)
Bar Insulation	Air insulated

### Neutral Bar

Neutral capacity	≤ Full size capable
------------------	---------------------

### Vertical Dropper Bars

Phase configuration	3 or 4 pole
Rated current (Inc)	≤ 1500 A
Rated short time withstand current (Icw)	50 kA/3 s
Bus Supports material	DUROSTONE UPM SI
Bar Insulation	Air insulated

### Outgoing Circuits

Connection Types	Fixed, Demountable
Connection (demountable)	Line Power Plug ≤ 400 A
Rated Insulation Voltage (Ui) MCCB	800 V
Rated Current (Inc) MCCBs	≤1000 A
Rated Insulation Voltage (Ui) ACB	1000 V
Rated Current (Inc) ACB	≤ 2800 A

### Structural

Tier configuration	Front Connect
Material: Frame (folded sheet metal)	1.6mm Zinc coated steel
Plinth	75mm HDG M/S channel
Material: Internal accessories	1.6mm zinc coated steel
Door gasket	FIP polyurethane
Paint Coating	Industrial grade polyester powder-coat
Paint Colour	RAL7032 (others available on special request)
Paint Finish	Gloss ripple
Corrosion Resistance	Zinc coated steel

