

NOJA POWER[®]

LV MCC

**LOW VOLTAGE SWITCHGEAR
MOTOR CONTROL CENTRE
PRODUCT GUIDE**

380/415/690 Volt AC
50/65/80/100 kA



CONSTRUCTION

Continuous "poured in place" gasket on doors providing IP ratings up to IP55

Arc fault hinged vent for dissipation of ionised gases

Large full width gland plates in roof

Uniquely hinged and bevelled door allowing doors to open 165 degrees

Quarter turn locks

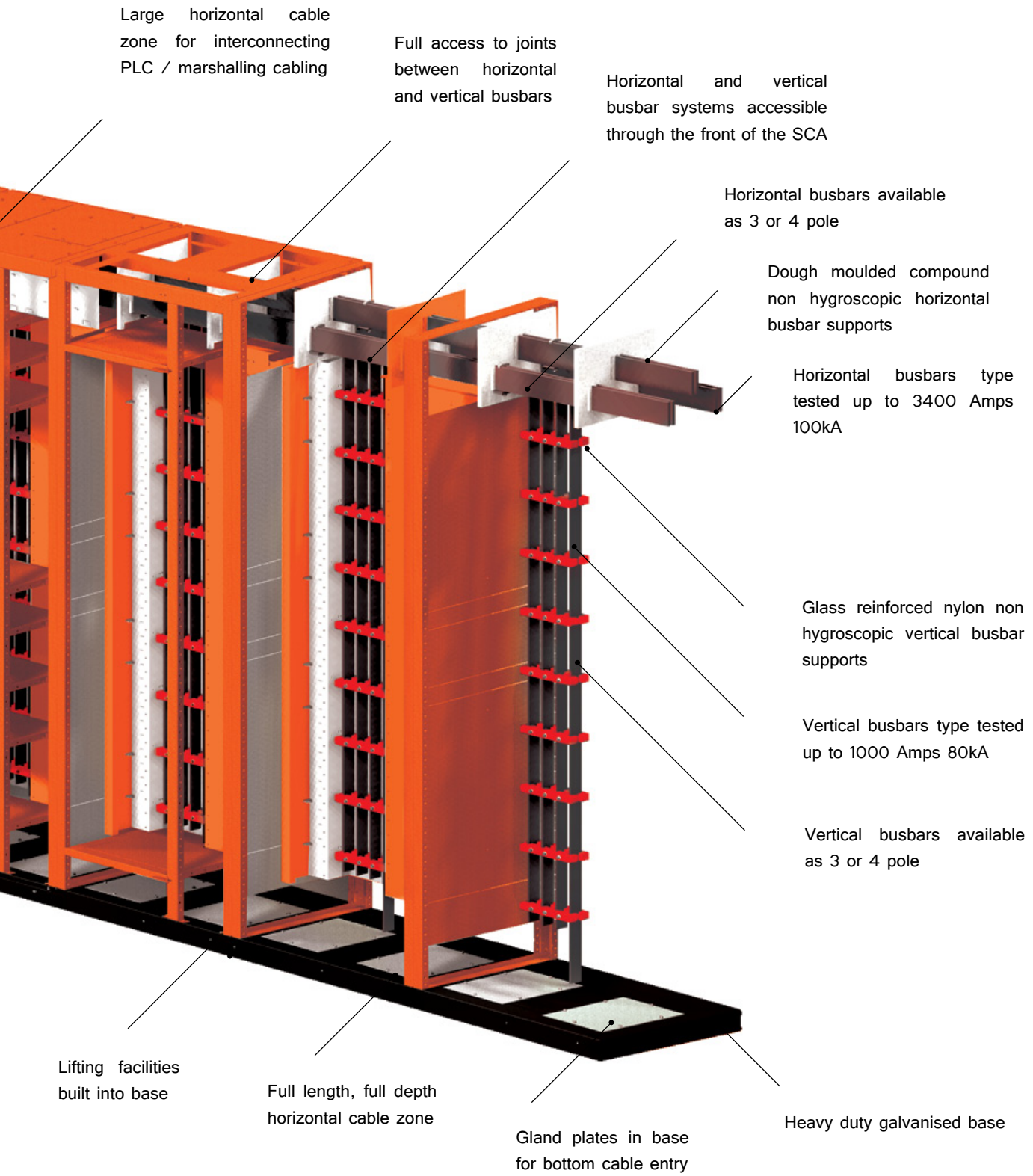
Doors double returned on four sides to maintain rigidity

Generous vertical cable zones 300mm or 400mm wide

Demountable / withdrawable power modules

Form 3b or Form 4 separation

- Modular Construction
- NATA certified up to IP55 Ingress Protection Rating
- 2mm Zincanneal steel construction
- Designed to ensure maximum operator safety under all conditions
- Inbuilt arc fault chimneys included as standard - AS3439.1 Appendix EE
- Operating Voltage Ratings of 380/415/690VAC - AS3439.1
- Operating Current Ratings up to 4000Amp
- Fault Current Ratings up to 100kA



BUSBAR RATINGS AND CONFIGURATION

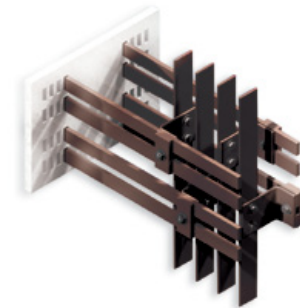
Horizontal Busbars

Withstand Current	Rating							Incomer Only
	700Amp	1250Amp	1400Amp	2000Amp	2500Amp	3200Amp	3400Amp	
50kA 1sec	•							
65kA 1sec			•				•	•
65kA 3sec		•			•	•		
80kA 1sec		•		•	•	•		
Busbar Arrangement	1x30x10mm	1x80x10mm	2x30x10mm	2x80x10mm	3x80x10mm	3x100x10mm	4x80x10mm	4x100x10mm

Vertical Busbars

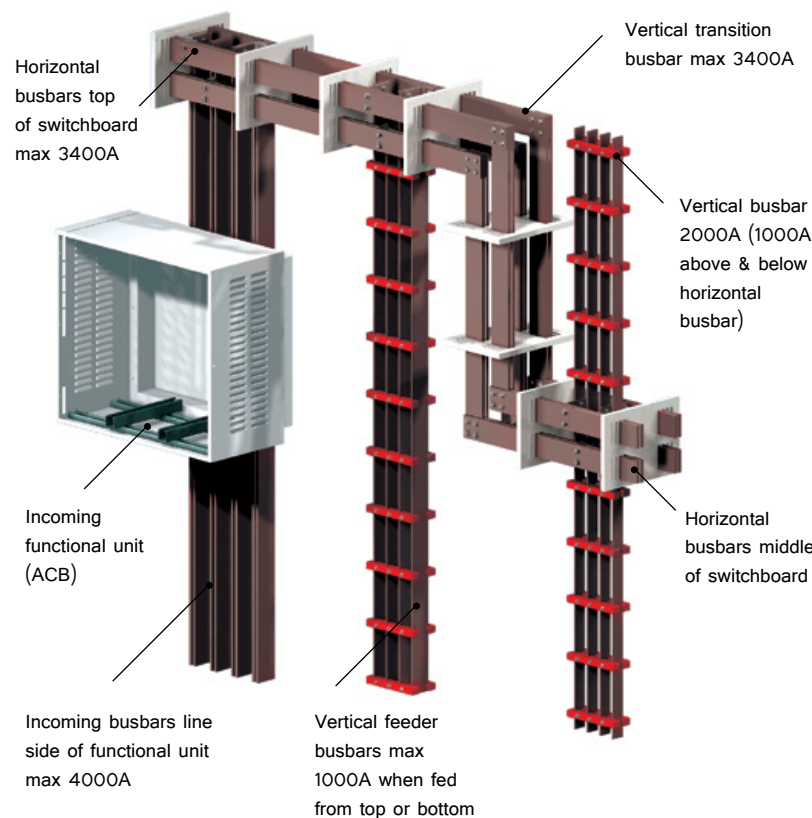
Withstand Current	Rating			
	700Amp	1250Amp	1400Amp	2000Amp
50kA 1sec	•			
50kA 3sec				•
65kA 1/2 sec	•			
65kA 1sec		•	•	
80kA 1sec				•
Busbar Arrangement	1x40x6.3mm	1x50x6.3mm	1x63x6.3mm	1x80x6.3mm

Typical Busbar Details

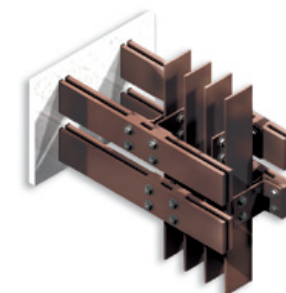


4 pole busbar system
30 x 10mm copper busbar

Typical Busbar Installation



3 pole busbar system
80 x 10mm copper busbar



4 pole busbar system
80 x 10mm copper busbar

PROTECTION

- NOJA Power’s LV MCCs meet the highest standards required for fixed, demountable or fully withdrawable MCCs or switchboards.
- NOJA Power’s LV MCC is the only standardised range of low voltage switchboards and MCC’s on the Australian market which fully complies with AS 3439.1 1993.
- The LV MCCs are fully ASTA certified to comply with BS EN 60439.1 and IEC 439.1 standards.
- NOJA Power’s construction of low voltage switchboards and MCC’s is quality assured. NOJA Power maintains an ISO 9001 quality assurance accreditation for the research and development, design, manufacture, testing, installation and commissioning of – Low and Medium Voltage Switchgear and associated microprocessor based controls.
- NOJA Power’s comprehensive range of ASTA type test certificates includes all seven type tests defined in clause 8.2 under one certificate. These tests include:
 - Type tests summary
 - Verification of temperature rise limits
 - Verification of dielectric properties
 - Verification of short circuit withstand strength
 - Verification of continuity of protective circuit
 - Verification of clearances and creepage distances
 - Verification of mechanical operation
 - Verification of degree of ingress protection
- NOJA Power’s low voltage switchboards and MCC’s also include additional test certificates and reports to prove the ability to withstand the effects of internal arcing faults.
- Manufactured using the B&R Signature System.

Test	Description	Rating	Certificate No.
Fault Rating	Horizontal Phase Busbars	100kA 1 second	100725C
		80kA 1 second	13582
		65kA 3 second	13582
		65kA 1 second	13582 & 100944
		50kA 3 second	13582 & 100944
	Vertical Phase Busbars	80kA 1 second	13582
		65kA 1 second	13582 & 100944
		50kA 1 second	13582 & 100944
		50kA 3 second	14907
	Horizontal Neutral Busbar	50kA 3 second	100944
		40kA 1 second	13582 & 100944
	Vertical Neutral Busbar	50kA 1 second	100944
		30kA 1 second	100944
	Earth Busbar	30kA 1 second	100944
	Starters 4 - 185kW (415V)	65kA	13582
		50kA	100944
Starters 4 - 400kW (690V)	80kA	101539	
MCCB's 63 - 800A	65kA	13582	
	50kA	100944	
ACB's	80kA 1 second	101595	
	65kA	13582	
	65kA 1 second	13582	
Arc Fault Containment	Starters fuse protected	65kA 415V	100782
	Starters MCCB protected	65kA 415V	100601
	MCCB's	65kA 415V	100782
	Starters fuse protected	50kA 415V	7019.H
	Starters MCCB protected	50kA 415V	7019.H
	MCCB's	25kA 575V	
Temperature Rise Testing	Starters fuse protected	4-185kW	13582 & 100944
	Starters MCCB protected	4-185kW	13582 & 100944
	MCCB's	63-800A	13582 & 100944
	ACB's	1200-4000A	13582
5000A		101539	
Impulse Withstand Voltage	Starters & MCCB's (415V)	6kV	100944
	Starters & MCCB's (690V)	8kV	101539
	Busbar System	16kV	100944
Operating Voltage		380-690V	
Insulating Voltage		690V	13582
		1000V	100944
Form of Segregation		Form 4	13582 & 100944
Verification of the effectiveness of protective circuit			100944
Verification of clearance and creepage distances			100944
Verification of the effective connection between exposed conductive parts of the assembly and the protective circuit			100944
Verification of dielectric properties after short circuit tests			13582 & 100944
Degree of protection		Ip43	7048.1.D
		Ip55	7048.2.D

ARC FAULT CONTAINMENT

- NOJA Power's LV MCCs form 3b and form 4 range of low voltage switchgear and control gear assemblies have been extensively type tested by Testing and Certification Australia to comply with the requirements of AS3439.1 Appendix EE.
- This is your guarantee of operator safety in the unlikely event of an internal arcing fault occurring during operation.
- The standard NOJA Power MCC product incorporates modules that are vented in the left hand side to allow ionised gases to expand during arcing. The module is also used to create a chimney to funnel ionised gases through a hinged cover in the roof of the switchgear and control assembly.
- A wide variety of internal arcing fault type tests on fuse protected circuits, MCCB protected circuits as well as Motor Starters have been conducted by Testing and Certification Australia, and prove the integrity of the NOJA Power MCC enclosure system under the most extreme fault conditions.

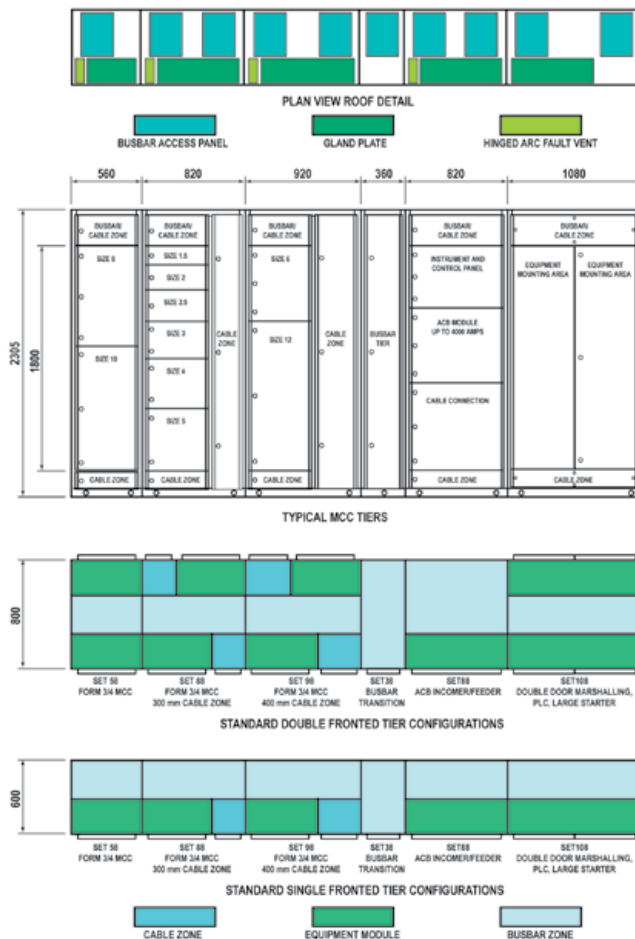


Arc Fault Venting Chimney

TECHNICAL ILLUSTRATION



Withdrawable Motor Control Centre Components



CELL CONFIGURATIONS

Vertical Busbars

Rating								
Power (kW)	0-11	15-22	30-37	45-55	75-90	110-132	160-185	220-300
Module Size	1.5*	2*	3*	4	6	8	12	18

Star Delta Starters

Rating								
Power (kW)	0-11	15-22	30-37	45-55	75-90	110-132	160-185	220-300
Module Size	3	3	4	6	8	8	12	18

Auto Transformer Starters

Rating								
Power (kW)	0-11	15-22	30-37	45-55	75-90	110-132	160-185	220-300
Module Size	6	6	6	9	12	12	18	18

MCCB Feeders

Rating					
Current (A)	0-125	160-250	250-400	630	800
Module Size	1.5*	2*	3*	4*	8

Combined Fuse Switch Feeders

Rating								
Current (A)	63	100	160	200	250	315	400	630
Module Size	1.5*	2.5**	3**	3**	4**	6	6	9

* MCCB mounted horizontally sizes are indicative only and are dependent on final equipment selection

** Based on plug in fuse switches



NOJA POWER[®]

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