AS/NZS 61439
Statement of Compliance
Bowen Series

B&R Enclosures Pty Ltd, 51 Stradbroke Street, Heathwood, QLD 4110, declare that our Bowen Series, used in outdoor or isolated locations to protect electronic equipment; comply with the requirements of AS/NZS 3000:2018 and with associated relevant parts of AS/NZS 61439 Part 1 as applicable when assembled in accordance with manufacturer's instructions. Generally, these enclosures are used in applications where rated current does not exceed 125A or a 10kA fault rating and therefore only need to comply with AS/NZS 3000 however many key performance requirements of AS/NZS 61439 are compliant by design.

These products are manufactured in conformity with following relevant Standards:

AS/NZS 3000:2018	Electrical installations (known as the Wiring Rules)
AS/NZS 61439.1:2016	Low-voltage switchgear and control gear assemblies' General rules (IEC 61439-1, Ed. 2.0 (2011), MOD)
AS/NZS 60529	Degrees of protection provided by enclosures (IP Code)

Our products are manufactured within our manufacturing plants to best practice of Quality, Safety and Environmental standards demonstrated through accreditation to:

ISO 9001:2015	Quality management system
ISO 14001:2015	Environmental management system
ISO 45001:2018	Occupational health & safety management system

Barry Walker
B&R Enclosures - Product Manager

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Certified System Quality ISO 9001 SAI GLOBAL
Certified System OHS ISO 45001 SAI GLOBAL
Certified System Environment ISO 14001 SAI GLOBAL

The purpose of this document is to assist Installation Assemblers to prepare documentation for Design Verification of switchboards while using B&R supplied enclosures and accessories. This document does not in itself imply complete AS/NZS 61439 compliance.

AS/NZS 61439 Annex D Table D.1

Bowen Series Design Verification

		Characteristic to be verified	Clauses	Status/by	Compliance
1		Strength of material and parts	10.2		
	1a	Resistance to corrosion	10.2.2	Compliant	The Bowen Series of enclosures are made from Stainless Steel and as such do not have any corrosion effects as measured by the Standard thereby exceeding the comparative testing done. Plus, ES report; 103687.
	1b	Thermal stability	10.2.3.1	N/A	This clause refers mainly to plastic enclosures.
	1c	Resistance to abnormal heat & fire due to internal electric effects.	10.2.3.2	Compliant	All insulating materials supplied have been tested to 960ºC glow-wire Standard. Plus, ES report; 103863
	1d	Resistance to ultra-violet (UV) radiation	10.2.4	N/A	UV ratings refer mainly to plastic enclosures. Bowen enclosures are stainless steel and have zero UV degradation.
	1e	Lifting	10.2.5	Compliant	Lifting is verified by test, if required. Bowen enclosures are provided with lifting lugs rated to one tonne.
	1f	Mechanical impact	10.2.6	Compliant	IK10; Metal enclosure systems have been tested to exceed IK10 (20 Joules).
	1g	Marking	10.2.7	Assembler	Markings must be verified by test. Tests are performed by rubbing with water and petroleum spirits; generally done by the Switchboard Builder (Assembler).
2		Degree of Protection	10.3	Compliant	IP66; Ingress Protection (IP) rating needs to be verified by test or by assessment. SIMTARS report; NE99/0034
3		Clearances	10.4	Assembler	Clearance and creepage can only be verified by test. Switchboard Builders (Assembler) must maintain compliance by ensuring correct clearance and creepage distances are maintained at >8mm (U_{imp}=8kV) and >16mm (U_i=1kV) respectively.
4		Creepage distances	10.4	Assembler	
5		Protection against electric shock and integrity of protective circuits:	10.5		
	5a	Effective continuity between the exposed conductive parts of the ASSEMBLY and the protective circuit.	10.5.2	TBD	Equipotential protective earth bonding points are required to be verified by test to less than 0.1ohm. Similar enclosure designs have been tested by Plus ES report; 103687
	5b	Short-circuit withstand strength of the protective circuit	10.5.3	Exempt	The Bowen Series are generally understood to be fitted with equipment making the switchboard not exceed 10kA prospective short-circuit withstand rating (I_{cp}).
6		Incorporation of switching devices and components		Assembler	Points 6, 7 and 8 are largely the responsibility of the Switchboard builder (Assembler). It is a requirement that the Assembler follow guidance from the original manufacturer. The advice of original manufacturers such as B&R and switchgear manufacturers, needs to be adhered to. Switchboard Builders need to be aware of the Standard's requirements for these verification points and incorporate these into complete design verification documentation.
7		Internal electrical circuits and connections		Assembler	
8		Terminals for external conductors		Assembler	
9		Dielectric properties:	10.9		
	9a	Power-frequency withstand voltage	10.9.2	TBD	The Bowen Series of enclosures are provided as a basic empty enclosure and as such dielectric property verification has not been possible as internal configurations are not known. Dielectric properties need to be verified by Impulse withstand testing or by assessment.
	9b	Impulse withstand voltage	10.9.3		
10		Temperature-rise limits	10.1	Designer or Assembler	Temperature-rise can be determined by test or by comparison or by calculation. Temperature rise methods provided in AS/NZS 60890 can be used for switchboards not exceeding 1600A rating. The Bowen Series of enclosures are rated not to exceed 1600A and therefore AS/NZS 60890 should be used by the Designer.
11		Short-circuit withstand strength	10.11	Exempt	The Bowen Series are generally understood to be fitted with equipment making the switchboard not exceed 10kA prospective short-circuit withstand rating (I_{cp}).
12		Electromagnetic compatibility (EMC)	10.12	Assembler	Equipment installed in switchboards shall comply with the immunity requirements of the relevant product or generic EMC standard. The Switchboard builder (assembler) shall obtain from the device and or component manufacturer the specific performance criteria of the equipment based on the acceptance criteria given in the relevant standard.
13		Mechanical operation	10.13	Assembler	This verification testing need NOT be done on devices already been type tested according to their relevant product standard. Only if their mechanical operation has been modified does the assembly need to be retested by cycling it 200 times.

Notes

1. Switchboard Builders are also recommended to study other requirements of the Standard which are not listed here such as parts of section 8 for Constructional Requirements (check clauses 8.4 and 8.5)
2. AUSGRID, Plus ES and SIMTARS are the trademarks of independent NATA certified external laboratories

Definitions

TBD	Either the Assembler needs to conduct these tests or B&R needs to be asked for advice.
Exempt	Switchboards that having a rated short-time withstand current (Icw) or rated conditional short-circuit current (Icc) not exceeding 10kARMS or; Switchboards protected by upstream current-limiting devices with a let-through current not exceeding 17kA with the maximum allowable prospective short-circuit current (Icp) at the terminals of the incoming circuit of the switchboard.

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