Design Verification Guidelines

This document assists assembly manufacturers to carry out their design verification process in accordance with AS/NZS 61439 series when using Schneider Electric's MB/MD enclosure with Schneider Electric's chassis.

Scope: **MB/MD Distribution Board with Isobar chassis**

Trademark	Schneider Electric
Enclosure type	Acti9 MB/MD Distribution Board
Chassis type	Isobar
Ratings	U_e = 415V a.c. / 500V d.c.

Design Verification Guidelines to AS/NZS 61439.1:2016

Clause	Description	Performance	Test report	Reference design details
10.2.2	Resistance to corrosion	MB - Severity A MD - Severity B	Report #30V-19-0467-TRP-10550312-2 issued on 24/03/2020 (PZC-781) – Sev A Report #N-1020-0346-02 issued on 02/02/2021 (PZC-873) – Sev B Report #N-0420-0129 R2 issued on 13/01/2021 (PZC-780) – Sev B	Test performed on enclosure sheet metal and other metal parts.
10.2.3.1	Thermal Stability	N/A	N/A	N/A. Enclosure not made of insulating materials.
10.2.3.2	Resistance to abnormal heat and fire	Pass	Report #AG3309 issued on 22/12/2014 (PZC-1124) Report #AG3725 issued on 22/07/2021 (PZC-1202)	Test performed on chassis conductor supports and insulating material.
10.2.4	Resistance to UV radiation	Pass	Report #21LSR012 issued on 09/04/2021 (PZC-967) Report #0812DULDuralloy_922 issued on 12/08/2021 (PZC-1211)	Test performed on Interpon 610 Bright White, Interpon 610 Storm Grey N42 and Orange X15
10.2.5	Lifting	Pass	Report #61439_PZC-891 issued on 12/03/2021 (PZC-891)	Test performed on MB board (2100mm height) loaded at 163kg
10.2.6	Mechanical impact	N/A	N/A	Mechanical impact rating not declared.
10.2.7	Marking	N/A	N/A	Responsibility of assembly manufacturers

10.3	Degree of protection of enclosures	MB - IP42 MD - IP56	Report #30E-21-0014-TRP-6826176-0 issued on 11/02/2021 (PZC-871) Report #19300832 001 issued on 14/05/2013 (PZC-793)	MB type and MD type
10.4	Clearances and Creepage	Pass Clearance - 5.5mm Creepage - 12.1mm	Report #AG3198 issued on 18/10/2013 (PZC-796)	Isobar chassis
10.5.2	Effective continuity between the exposed conductive parts of assembly and protective circuit	N/A	N/A	Responsibility of assembly manufacturers
10.5.3	Short circuit withstand strength of the protective circuit	Refer 10.11		
10.6	Incorporation of switching devices and components	N/A	N/A	Responsibility of assembly manufacturers
10.7	Internal electrical circuits and connections	N/A	N/A	Responsibility of assembly manufacturers
10.8	Terminals for external conductors	N/A	N/A	Responsibility of assembly manufacturers
10.9.2	Power-frequency withstand voltage	U_i = 500V a.c./d.c.	Report #AG3205 issued on 04/4/2013 (PZC-801)	Test performed on Isobar chassis
10.9.3	Impulse withstand voltage	U_{imp} = 6kV	Report #AG3238 issued on 20/12/2013 (PZC-805)	Test performed on Isobar chassis
10.10	Temperature rise limits	I_{nA} = 210A Loading factor of outgoing circuit = 0.4 (Acti9 iC60 range up to 63A)	Report #60412250 011 issued on 07/01/2021 (PZC-811) Full assembly test	Assembly size (WxHxD): 580 x **1000** x 210 mm Enclosure type: ME IP66 Incoming circuit: **INS250 w/ links to chassis** Chassis: Isobar 24 Pole Outgoing circuits: 8 x iC60H 3P 63A MCB
		I_{nA} = 210A Loading factor of outgoing circuit = 0.6 (Acti9 iC60 range up to 32A)	Report #AU21FPYL 002 issued on 07/02/2022 Full assembly test	Assembly size (WxHxD): 580 x **1000** x 210 mm Enclosure type: ME IP66 Incoming circuit: **INS250 w/ links to chassis** Chassis: Isobar 48 Pole Outgoing circuits: 11 x iC60H 3P 63A MCB
		Provided for verification by *Comparison with a Reference Design*		

10.11	Short circuit withstand strength	I_{cc} = 25kA conditional to upstream NSX100, NSX160 or NSX250 MCCB	N/A	Protected by current-limiting device with peak current cut-off not exceeding 17kA pk.
10.12	EMC	Environment B	N/A	Subject to proper wiring/installation of components. SE components fulfill EMC clause as per their relevant standards and has shared all wiring instructions. Refer Annexure J.10.12
10.13	Mechanical operation	Pass	Report #61439_PZC-890 issued on 10/03/2021 (PZC-890)	Test performed on handles, locks and hinges.

Design Verification Guidelines to AS/NZS 61439.2:2016

8.101	Form of Separation	2bi and 4aih	Report #AU217GSI 001 issued on 02/08/2021 (PZC-1196)	Achievable with Schneider INS250 or NSX100-250 main incoming devices with appropriate line and load side terminal shrouds and Isobar chassis connection kit.

Subject to correct installation, maintenance and use conforming to their intended purposes inline with the supplier's instructions, according to applicable local regulations and standards where they are installed.

This document is not a substitute for assembly manufacturers' design verification for the final completed assembly.