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 chassis.

Scope: **SAU250 Encapsulated Chassis** – see list of part numbers in Annex A

Trademark	Schneider Electric
Enclosure type	N/A
Chassis type	SAU250 Encapsulated Chassis
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	Severity A	Report #30V-19-0467-TRP-10550312-2 issued on 24/03/2020 (PZC-781)	Test performed on chassis mounting plate
10.2.3.1	Thermal Stability	N/A	N/A	Responsibility of assembly manufacturers
10.2.3.2	Resistance to abnormal heat and fire	Pass	Report #60405147 001 issued on 27/08/2020 (PZC-792) Report #50153987 001 issued on 27/06/2020 (PZC-790)	Test performed on conductor supports, insulating material and T-off boots
10.2.4	Resistance to UV radiation	N/A	N/A	Responsibility of assembly manufacturers
10.2.5	Lifting	N/A	N/A	Responsibility of assembly manufacturers
10.2.6	Mechanical impact	N/A	N/A	Responsibility of assembly manufacturers
10.2.7	Marking	N/A	N/A	Responsibility of assembly manufacturers
10.3	Degree of protection of enclosures	N/A	N/A	Responsibility of assembly manufacturers
10.4	Clearances and Creepage	Pass Clearance - 7.37mm Creepage - 10.00mm	Report #NYL003 - SAU250 Chassis Range issued on 26/10/2020 (PZC-798)	SAU250 chassis (18mm and 27mm)
10.5.2	Effective continuity between the exposed conductive parts of assembly and protective circuit	N/A	N/A	Responsibility of assembly manufacturers

Rev.	Date	Initials	Comments
1.1	24/6/21	SL	UPDT Annex A
1.2	19/8/21	SL	UPDT CL8.101
E	18/6/24	AM	Full update

10.5.3	Short circuit withstand strength of the protective circuit	N/A	N/A	Responsibility of assembly manufacturers
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 #19301109 004 issued on 08/07/2014 (PZC-803)	Test performed on SAU250 chassis 36 Pole with INS250 and iC60 MCB.
10.9.3	Impulse withstand voltage	U_{imp} = 6kV	Report #19301109 004 issued on 08/07/2014 (PZC-803)	Test performed on SAU250 chassis 36pole with INS250 and iC60 MCB.
10.10	Temperature rise limits	I_{nA} = **250A** (INS250) Loading factor of outgoing circuit = **0.6** (Acti9 iC60 MCB and RCBO range up to 50A)	Report #SCHN 13122023.1 issued on 16/01/2024 Full assembly test	Assembly size (WxHxD): 580 x **1200** x 200 mm Enclosure type: ME IP66 Incoming circuit: INS250 Chassis: SAU250 36 Pole (18mm) Outgoing circuits: 7 x iC60H 3P 50A RCBO, 1 x iC60H 3P 50A MCB
		I_{nA} = **250A** (INS250) Loading factor of outgoing circuit = **0.7** (Acti9 iC60 MCB and RCBO range up to 50A)	Report #SCHN 13122023 issued on 16/01/2024 Full assembly test	Assembly size (WxHxD): 580 x **1200** x 200 mm Enclosure type: ME IP66 Incoming circuit: **INS250 w/ 150mm (20x5mm) links to chassis** Chassis: SAU250 36 Pole (18mm) Outgoing circuits: 6 x iC60H 3P 50A RCBO, 1 x iC60H 3P 50A MCB
		I_{nA} = **250A** (INS250) Loading factor of outgoing circuit = **0.48** (Acti9 iC60 MCB range up to 63A)	Report #60412250 001 issued on 16/12/2020 (PZC-817) Full assembly test	Assembly size (WxHxD): 580 x **1000** x 200 Enclosure type: MB IP42 Incoming circuit: INS250 Chassis: SAU250 24 Pole (18mm) Outgoing circuits: 8x iC60N 3P 63A
		I_{nA} = **200A** (NSX250) Loading factor of outgoing circuit = **0.4** (Acti9 iC60 MCB range up to 63A)	Report #60412250 016 issued on 07/01/2021 (PZC-823) Full assembly test	Assembly size (WxHxD): 580 x **1000** x 200 Enclosure type: ME IP66 Incoming circuit: NSX250F TM250D Chassis: SAU240 24 Pole (18mm) Outgoing circuits: 8x iC60N 63A

Rev.	Date	Initials	Comments
1.1	24/6/21	SL	UPDT Annex A
1.2	19/8/21	SL	UPDT CL8.101
E	18/6/24	AM	Full update

		I_{nA} = **240A** (INS250) Loading factor of outgoing circuit = **0.64** (Acti9 C120 MCB range up to 125A)	Report #60412250 003 issued on 16/12/2020 (PZC-819) Full assembly test	Assembly size (WxHxD): 580 x **1000** x 200 Enclosure type: ME IP66 Incoming circuit: INS250 Chassis: SAU250 18 Pole **(27mm)** Outgoing circuits: 3x C120N 125A
		I_{nA} = **160A** (NSX250) Loading factor of outgoing circuit = **0.64** (Acti9 C120 MCB range up to 125A)	Report #60412250 004 issued on 16/12/2020 (PZC-820) Full assembly test	Assembly size (WxHxD): 580 x **1000** x 200 Enclosure type: ME IP66 Incoming circuit: NSX250F TM250D Chassis: SAU250 18 Pole **(27mm)** Outgoing circuits: 2x C120N 125A
10.11	Short circuit withstand strength	I_{cw} = 25kA for 0.1s	Report #60412250 013 issued on 07/01/2021 (PZC-822)	Test in accordance with 10.11.5.3.1 a) and 10.11.5.3.3
10.12	EMC	N/A	N/A	Responsibility of assembly manufacturers
10.13	Mechanical operation	N/A	N/A	Responsibility of assembly manufacturers

Design Verification Guidelines to AS/NZS 61439.2:2016

Clause	Description	Performance	Test report	Reference design details
8.101	Form of Separation	2b and 4ah	Report #AU217GSI 001 issued on 02/08/2021 (PZC-1196)	Achievable with Schneider INS250, NSX100-250 or CVS100-250 main incoming devices with appropriate line and load side terminal shrouds and Acti9 iC60 outgoing devices.

Subject to correct installation, maintenance and use conforming to their intended purposes in line 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.

ANNEX A: List of part numbers

Reference	Description
SAU25042273	Chassis 250A, 3Ph, 27mm, 42pole, TF
SAU25048273	Chassis 250A, 3Ph, hybrid, 48pole, TF
SAU25072273	Chassis 250A, 3Ph, 27mm, 72pole, TF
SAU25042273DF	Chassis 250A, 3Ph, 27mm, 42pole, DF
SAU25060273DF	Chassis 250A, 3Ph, 27mm, 60pole, DF
SAU25072273DF	Chassis 250A, 3Ph, 27mm, 72pole, DF
SAU250H603DF	Chassis 250A, 3Ph, hybrid, 60pole, DF
SAU250H963DF	Chassis 250A, 3Ph, hybrid, 96pole, DF
SAU3DC16182	Chassis 250A, 2pole, DC 18mm, 16pole, TF
SAU3DC32182	Chassis 250A, 2pole, DC 18mm, 32pole, TF
SAU3DC40182	Chassis 250A, 2pole, DC 18mm, 40pole, TF
SAU3DC12182DF	Chassis 250A, 2pole, DC 18mm, 12pole, DF
SAU3DC16182DF	Chassis 250A, 2pole, DC 18mm, 16pole, DF
SAU3DC20182DF	Chassis 250A, 2pole, DC 18mm, 20pole, DF
SAU3DC32182DF	Chassis 250A, 2pole, DC 18mm, 32pole, DF
SAU3DC36182DF	Chassis 250A, 2pole, DC 18mm, 36pole, DF
SAU3DC40182DF	Chassis 250A, 2pole, DC 18mm, 40pole, DF
SAU3DC60182DF	Chassis 250A, 2pole, DC 18mm, 60pole, DF
SAU3DC72182DF	Chassis 250A, 2pole, DC 18mm, 72pole, DF
SAU2500841NDF	Chassis 250A, 3Ph+N, 18mm, 8pole, DF
SAU2500843NDF	Chassis 250A, 3Ph+N, 18mm, 8pole, DF
SAU2505643NDF	Chassis 250A, 3Ph+N, 18mm, 56pole, DF
SAU2506443NDF	Chassis 250A, 3Ph+N, 18mm, 64pole, DF
SAU2507243NDF	Chassis 250A, 3Ph+N, 18mm, 72pole, DF
SAU2500843N	Chassis 250A, 3Ph+N, 18mm, 8pole, TF
SAU2501643N	Chassis 250A, 3Ph+N, 18mm, 16pole, TF
SAU2502443N	Chassis 250A, 3Ph+N, 18mm, 24pole, TF
SAU2504043N	Chassis 250A, 3Ph+N, 18mm, 40pole, TF
SAU2505643N	Chassis 250A, 3Ph+N, 18mm, 56pole, TF
SAU2506443N	Chassis 250A, 3Ph+N, 18mm, 64pole, TF
SAU2507243N	Chassis 250A, 3Ph+N, 18mm, 72pole, TF
SAU2500841N	Chassis 250A, 3Ph+N, 18mm, 8pole, TF
SAU250108183	Chassis 250A, 3Ph, 18mm, 108pole, TF
SAU250108183DF	Chassis 250A, 3Ph, 18mm, 108pole, DF
SAU25012183	Chassis 250A, 3Ph, 18mm, 12pole, TF
SAU25012183DF	Chassis 250A, 3Ph, 18mm, 12pole, DF
SAU25012273	Chassis 250A, 3Ph, 27mm, 12pole, TF
SAU25012273DF	Chassis 250A, 3Ph, 27mm, 12pole, DF
SAU2501641N	Chassis 250A, 3Ph+N, 18mm, 16pole, TF
SAU2501641NDF	Chassis 250A, 3Ph+N, 18mm, 16pole, DF

SAU2501643NDF	Chassis 250A, 3Ph+N, 18mm, 16pole, DF
SAU25018183	Chassis 250A, 3Ph, 18mm, 18pole, TF
SAU25018183DF	Chassis 250A, 3Ph, 18mm, 18pole, DF
SAU25018273	Chassis 250A, 3Ph, 27mm, 18pole, TF
SAU25018273DF	Chassis 250A, 3Ph, 27mm, 18pole, DF
SAU25024183	Chassis 250A, 3Ph, 18mm, 24pole, TF
SAU25024183DF	Chassis 250A, 3Ph, 18mm, 24pole, DF
SAU25024273	Chassis 250A, 3Ph, 27mm, 24pole, TF
SAU25024273DF	Chassis 250A, 3Ph, 27mm, 24pole, DF
SAU2502441N	Chassis 250A, 3Ph+N, 18mm, 24pole, TF
SAU2502441NDF	Chassis 250A, 3Ph+N, 18mm, 24pole, DF
SAU25030183	Chassis 250A, 3Ph, 18mm, 30pole, TF
SAU25030183DF	Chassis 250A, 3Ph, 18mm, 30pole, DF
SAU25030273	Chassis 250A, 3Ph, 27mm, 30pole, TF
SAU25030273DF	Chassis 250A, 3Ph, 27mm, 30pole, DF
SAU2503241N	Chassis 250A, 3Ph+N, 18mm, 32pole, TF
SAU2503241NDF	Chassis 250A, 3Ph+N, 18mm, 32pole, DF
SAU2503243N	Chassis 250A, 3Ph+N, 18mm, 32pole, TF
SAU25036183	Chassis 250A, 3Ph, 18mm, 36pole, TF
SAU25036183DF	Chassis 250A, 3Ph, 18mm, 36pole, DF
SAU25036273	Chassis 250A, 3Ph, 27mm, 36pole, TF
SAU25036273DF	Chassis 250A, 3Ph, 27mm, 36pole, DF
SAU2504041N	Chassis 250A, 3Ph+N, 18mm, 40pole, TF
SAU2504041NDF	Chassis 250A, 3Ph+N, 18mm, 40pole, DF
SAU2504043NDF	Chassis 250A, 3Ph+N, 18mm, 40pole, DF
SAU25042183	Chassis 250A, 3Ph, 18mm, 42pole, TF
SAU25042183DF	Chassis 250A, 3Ph, 18mm, 42pole, DF
SAU25048183	Chassis 250A, 3Ph, 18mm, 48pole, TF
SAU25048183DF	Chassis 250A, 3Ph, 18mm, 48pole, DF
SAU2504841N	Chassis 250A, 3Ph+N, 18mm, 48pole, TF
SAU2504841NDF	Chassis 250A, 3Ph+N, 18mm, 48pole, DF
SAU2504843NDF	Chassis 250A, 3Ph+N, 18mm, 48pole, DF
SAU2505641N	Chassis 250A, 3Ph+N, 18mm, 56pole, TF
SAU2505641NDF	Chassis 250A, 3Ph+N, 18mm, 56pole, DF
SAU25060183	Chassis 250A, 3Ph, 18mm, 60pole, TF
SAU25060183DF	Chassis 250A, 3Ph, 18mm, 60pole, DF
SAU2506441N	Chassis 250A, 3Ph+N, 18mm, 64pole, TF
SAU2506441NDF	Chassis 250A, 3Ph+N, 18mm, 64pole, DF
SAU25072183	Chassis 250A, 3Ph, 18mm, 72pole, TF
SAU25072183DF	Chassis 250A, 3Ph, 18mm, 72pole, DF
SAU2507241N	Chassis 250A, 3Ph+N, 18mm, 72pole, TF
SAU2507241NDF	Chassis 250A, 3Ph+N, 18mm, 72pole, DF
SAU25084183	Chassis 250A, 3Ph, 18mm, 84pole, TF
SAU25084183DF	Chassis 250A, 3Ph, 18mm, 84pole, DF

SAU25096183	Chassis 250A, 3Ph, 18mm, 96pole, TF
SAU25096183DF	Chassis 250A, 3Ph, 18mm, 96pole, DF
SAU250H123	Chassis 250A, 3Ph, hybrid, 12pole, TF
SAU250H183	Chassis 250A, 3Ph, hybrid, 18pole, TF
SAU250H243	Chassis 250A, 3Ph, hybrid, 24pole, TF
SAU250H303	Chassis 250A, 3Ph, hybrid, 30pole, TF
SAU250H363	Chassis 250A, 3Ph, hybrid, 36pole, TF
SAU250H423	Chassis 250A, 3Ph, hybrid, 42pole, TF
SAU250H483	Chassis 250A, 3Ph, hybrid, 48pole, TF
SAU250H483DF	Chassis 250A, 3Ph, hybrid, 48pole, DF
SAU250H603	Chassis 250A, 3Ph, hybrid, 60pole, TF
SAU250H723	Chassis 250A, 3Ph, hybrid, 72pole, TF
SAU250H843	Chassis 250A, 3Ph, hybrid, 84pole, TF
SAU250H843DF	Chassis 250A, 3Ph, hybrid, 84pole, DF
SAU250H963	Chassis 250A, 3Ph, hybrid, 96pole, TF
SAU3DC12182	Chassis 250A, 2pole, 18mm, 12pole, TF
SAU3DC12182DF	Chassis 250A, 2pole, 18mm, 12pole, DF
SAU3DC16182	Chassis 250A, 2pole, 18mm, 16pole, TF
SAU3DC16182DF	Chassis 250A, 2pole, 18mm, 16pole, DF
SAU3DC20182	Chassis 250A, 2pole, 18mm, 20pole, TF
SAU3DC24182	Chassis 250A, 2pole, 18mm, 24pole, TF
SAU3DC24182DF	Chassis 250A, 2pole, 18mm, 24pole, DF
SAU3DC32182DF	Chassis 250A, 2pole, 18mm, 32pole, DF
SAU3DC36182	Chassis 250A, 2pole, 18mm, 36pole, TF
SAU3DC36182DF	Chassis 250A, 2pole, 18mm, 36pole, DF
SAU3DC40182	Chassis 250A, 2pole, 18mm, 40pole, TF
SAU3DC40182DF	Chassis 250A, 2pole, 18mm, 40pole, DF
SAU3DC48182	Chassis 250A, 2pole, 18mm, 48pole, TF
SAU3DC48182DF	Chassis 250A, 2pole, 18mm, 48pole, DF
SAU3DC60182	Chassis 250A, 2pole, 18mm, 60pole, TF
SAU3DC60182DF	Chassis 250A, 2pole, 18mm, 60pole, DF
SAU3DC72182	Chassis 250A, 2pole, 18mm, 72pole, TF
SAU3DC72182DF	Chassis 250A, 2pole, 18mm, 72pole, DF