

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: SAU400 MCB chassis – see list of part numbers in Annex A

Trademark	Schneider Electric
Board type	N/A
Chassis type	SAU400
Ratings	$U_e = 415\text{Vac}$

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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) – Sev A	Test performed on various enclosure sheet metals and metal parts
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 SAU400 t-off caps and chassis insulating material
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 Minimum clearance = 6.75mm Minimum creepage = 9.50mm	Report #NYL003 – SAU400 Chassis Range issued on 26/10/2020 (PZC-799)	SAU400 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
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

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10.9.2	Power-frequency withstand voltage	$U_e = 415V$ $U_i = 500V$	Report #AU21G8HP 001 issued on 15/04/2021 (PZC-946)	Test performed on SAU400 chassis 12 Pole with C120 and iC60
10.9.3	Impulse withstand voltage	$U_{imp} = 6kV$	Report #AU21G8HP 001 issued on 15/04/2021 (PZC-946)	Test performed on SAU400 chassis 12 Pole with C120 and iC60
10.10	Temperature rise limits	$I_{nA} = 330A$ (INS400) Inc outgoing = 35A (iC60H 63A) Loading factor of outgoing circuits = 0.56	Report #60412250 006 issued on 16/12/2020 (PZC-825) Full assembly test	Assembly size (WxHxD): 580 x 1200 x 210 Enclosure type: ME IP rating: IP66 Incoming circuit: INS400 Outgoing circuits: 9x iC60H 63A + 1 x iC60H 63A spill Chassis: SAU400 42 Pole
10.11	Short circuit withstand strength	$I_{cw} = 25kA$ @0.1s for chassis only Tested according to CL10.11.5.3.1a & CL10.11.5.3.3	Report #60412250 013 issued on 07/01/2021 (PZC-822)	I_{cw} Design Assembly size (WxHxD): 580 x 1000 x 200 Enclosure type: MB IP rating: IP42 Chassis: SAU250 24 Pole Chassis with incoming busbar(18x5mm) with 2 GPO3 supports spaced at 200mm Note: For the purpose of CL10.11, SAU250's results are applicable to SAU400 as SAU250 is the worst case scenario with thinner busbar cross section
		$I_{cc} = 25kA$ Tested according to CL10.11.5.3.1c & CL10.11.5.3.3	Report #19301109 002 issued on 08/07/2014 (PZC-828)	I_{cc} Design Upstream Protection: NSX250B Incoming circuit: INS250 Chassis: SAU250 36 Pole Note: For the purpose of CL10.11, SAU250's results are applicable to SAU400 as SAU250 is the worst case scenario with thinner busbar cross section
		$I_{cu} = 10kA$ and 15kA Tested according to CL10.11.5.3.2	Report #19301109 002 issued on 08/07/2014 (PZC-828)	I_{cu} Design – 10kA Assembly size (WxHxD): 580 x 1200 x 230 Enclosure type: MB IP rating: IP42 Outgoing circuits: iC60H Chassis: SAU250 36 Pole I_{cu} Design – 15kA Assembly size (WxHxD): 580 x 1200 x 230 Enclosure type: MB IP rating: IP42 Incoming circuits: INS250 Outgoing circuits: iC60H Chassis: SAU250 36 Pole I_{cu} Design – 10kA Assembly size (WxHxD): 580 x 1200 x 230

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				Enclosure type: MB IP rating: IP42 Outgoing circuits: iC60N Chassis: SAU250 36 Pole Note: For the purpose of CL10.11, SAU250's results are applicable to SAU400 as SAU250 is the worst case scenario with thinner busbar cross section
10.12	EMC	N/A	N/A	Responsibility of assembly manufacturers
10.13	Mechanical operation	N/A	N/A	Responsibility of assembly manufacturers

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8.101	Form of Separation	2b and 4ah	N/A	2b achieved with incomer directly connected to the chassis (NSX, INS) 4ah achieved with incomer directly connected to the chassis and line side terminal covers on incomer (NSX, INS)
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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.

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ANNEX A: List of part numbers

Reference	Description
SAU40012183	Chassis 3PH 400A 18mm 12P TBF
SAU40018183	Chassis 3PH 400A 18mm 18P TBF
SAU40024183	Chassis 3PH 400A 18mm 24P TBF
SAU40030183	Chassis 3PH 400A 18mm 30P TBF
SAU40036183	Chassis 3PH 400A 18mm 36P TBF
SAU40042183	Chassis 3PH 400A 18mm 42P TBF
SAU40048183	Chassis 3PH 400A 18mm 48P TBF
SAU40060183	Chassis 3PH 400A 18mm 60P TBF
SAU40072183	Chassis 3PH 400A 18mm 72P TBF
SAU40084183	Chassis 3PH 400A 18mm 84P TBF
SAU40096183	Chassis 3PH 400A 18mm 96P TBF
SAU400108183	Chassis 3PH 400A 18mm 108P TBF
SAU40012183DF	Chassis 3PH 400A 18mm 12P DF
SAU40018183DF	Chassis 3PH 400A 18mm 18P DF
SAU40024183DF	Chassis 3PH 400A 18mm 24P DF
SAU40030183DF	Chassis 3PH 400A 18mm 30P DF
SAU40036183DF	Chassis 3PH 400A 18mm 36P DF
SAU40042183DF	Chassis 3PH 400A 18mm 42P DF
SAU40048183DF	Chassis 3PH 400A 18mm 48P DF
SAU40060183DF	Chassis 3PH 400A 18mm 60P DF
SAU40072183DF	Chassis 3PH 400A 18mm 72P DF
SAU40084183DF	Chassis 3PH 400A 18mm 84P DF
SAU40096183DF	Chassis 3PH 400A 18mm 96P DF
SAU400108183DF	Chassis 3PH 400A 18mm 108P DF
SAU40012273	Chassis 3PH 400A 27mm 12P TBF
SAU40018273	Chassis 3PH 400A 27mm 18P TBF
SAU40024273	Chassis 3PH 400A 27mm 24P TBF
SAU40030273	Chassis 3PH 400A 27mm 30P TBF
SAU40036273	Chassis 3PH 400A 27mm 36P TBF
SAU40042273	Chassis 3PH 400A 27mm 42P TBF
SAU40048273	Chassis 3PH 400A 27mm 48P TBF
SAU40060273	Chassis 3PH 400A 27mm 60P TBF
SAU40072273	Chassis 3PH 400A 27mm 72P TBF
SAU40012273DF	Chassis 3PH 400A 27mm 12P DF
SAU40018273DF	Chassis 3PH 400A 27mm 18P DF
SAU40024273DF	Chassis 3PH 400A 27mm 24P DF

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SAU40030273DF	Chassis 3PH 400A 27mm 30P DF
SAU40036273DF	Chassis 3PH 400A 27mm 36P DF
SAU40042273DF	Chassis 3PH 400A 27mm 42P DF
SAU40048273DF	Chassis 3PH 400A 27mm 48P DF
SAU40060273DF	Chassis 3PH 400A 27mm 60P DF
SAU40072273DF	Chassis 3PH 400A 27mm 72P DF
SAU400H123	Chassis 3PH 400A HYB 18/27mm 12P TBF
SAU400H183	Chassis 3PH 400A HYB 18/27mm 18P TBF
SAU400H243	Chassis 3PH 400A HYB 18/27mm 24P TBF
SAU400H303	Chassis 3PH 400A HYB 18/27mm 30P TBF
SAU400H363	Chassis 3PH 400A HYB 18/27mm 36P TBF
SAU400H423	Chassis 3PH 400A HYB 18/27mm 42P TBF
SAU400H483	Chassis 3PH 400A HYB 18/27mm 48P TBF
SAU400H603	Chassis 3PH 400A HYB 18/27mm 60P TBF
SAU400H723	Chassis 3PH 400A HYB 18/27mm 72P TBF
SAU400H843	Chassis 3PH 400A HYB 18/27mm 84P TBF
SAU400H963	Chassis 3PH 400A HYB 18/27mm 96P TBF
SAU400H123DF	Chassis 3PH 400A HYB 18/27mm 12P DF
SAU400H183DF	Chassis 3PH 400A HYB 18/27mm 18P DF
SAU400H243DF	Chassis 3PH 400A HYB 18/27mm 24P DF
SAU400H303DF	Chassis 3PH 400A HYB 18/27mm 30P DF
SAU400H363DF	Chassis 3PH 400A HYB 18/27mm 36P DF
SAU400H423DF	Chassis 3PH 400A HYB 18/27mm 42P DF
SAU400H483DF	Chassis 3PH 400A HYB 18/27mm 48P DF
SAU400H603DF	Chassis 3PH 400A HYB 18/27mm 60P DF
SAU400H723DF	Chassis 3PH 400A HYB 18/27mm 72P DF
SAU400H843DF	Chassis 3PH 400A HYB 18/27mm 84P DF
SAU400H963DF	Chassis 3PH 400A HYB 18/27mm 96P DF

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