



**Overview of product evaluation according to IEC 61439-2:**

IEC 61439-2 Clause	IEC 61921 Clause	Clause description	Tested ratings	Results
10.2		Strength of material and parts		
10.2.2		Resistance to corrosion	Severity test A: indoor	Pass
10.2.3		Properties of insulating materials		Pass
10.2.3.1		Verification of thermal stability of enclosures		Pass
10.2.3.2		Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Insulating materials retaining current-carrying parts in position: 960 °C Other insulating materials: 650 °C	Pass
10.2.5		Lifting	125 % of the weight of the assembly	Pass
10.2.6		Mechanical impact	IK10	Pass
10.2.7		Marking	Engraved plates	Pass
10.3	7.2.7	Degree of protection of assembly	IP21 (full assembly IP31, except: roof top ventilation IP21)	Pass
10.4	7.2.5	Clearances and creepage distances	Clearances > 5,5 mm Creepage distances > 10 mm	Pass
10.5	7.2.4	Protection against electric shock and integrity of protective circuits		
10.5.2		Effective earth continuity between the exposed conductive parts of the assembly and the protective circuit	$R < 0,1 \text{ Ohms}$	Pass
10.5.3		Short-circuit withstand strength of the protective circuit	PE tested $I_{cc} 30 \text{ kA} / 240 \text{ V}$	Pass
10.6		Incorporation of switching devices and components	The examination of the compliance of components in the assembly, with their relevant product standard, is not part of this project	Pass
10.7		Internal electrical circuits and connections		Pass
10.8		Terminals for external conductors		Pass
10.9	7.2.2	Dielectric properties		
10.9.2		Power-frequency withstand voltage	$U_i = 690 \text{ V}$	Pass
10.9.3		Impulse withstand voltage	$U_{imp} 6 \text{ kV}$ (main circuit)	Pass
10.10	7.2.1	Verification of temperature rise limits at 52 °C ambient temperature	Current level 162,5 kvar config: KM1 section off: 234 A ( $1,12 * I_n$ ) KM1 section on: 254 A ( $1,12 * I_n$ )	Pass
10.11	7.2.3	Short-circuit withstand strength	Main busbar: $I_{cw} 50 \text{ kA} - 1,0 \text{ s}$ Incoming unit: $I_{cc} 50 \text{ kA}$ at 415 V Functional units (MCCBs + contactors): $I_{cc} 50 \text{ kA}$ at 415 V	Pass
10.12		EMC	No test required, environment A	Pass
10.13	7.2.6	Mechanical operation	200 operations	Pass

**Product details:**

	Description
<b>Incoming circuit</b> <sup>1)</sup>	1x MCCB 162,5 kvar config: NSX400N 3 poles, 400 A Manufacturer: Schneider Electric
<b>Capacitor bank stage ratings</b>	1 x 12,5 kvar, 415 V 50 Hz 2 x 25 kvar, 415 V 50 Hz 2 x 50 kvar, 415 V 50 Hz
<b>Capacitor units</b>	3 Phase Delta connected with discharge resistor. Ambient temperature class D (-25... 55 °C), Capacitor 12.5 kvar (18.5 kvar, 525 V): BLRCH185A222B52 Capacitor 25 kvar (34.4 kvar, 525 V): BLRCH344A413B52 Capacitor 50 kvar (68.8 kvar, 525 V) : BLRCH344A413B52 Manufacturer: Schneider Electric
<b>MCCBs</b>	1x NSX100N, TM25D, 3 poles, 25 A 2x NSX100N, TM50D, 3 poles, 50 A 2x NSX100N, TM100D, 3 poles, 100 A Manufacturer: Schneider Electric
<b>Contactors</b>	Contactor-for 12.5 kvar, 230V coil: TeSys LC1E2510U5 Contactor-for 25 kvar, 230V coil: TeSys LC1E40U5 Contactor-for 50 kvar, 230V coil: TeSys LC1E95U5 Manufacturer: Schneider Electric
<b>Detuned reactor</b>	3 phase type, Iron core Electrical insulation class H 12.5 kvar (14%), Network 400 V, 50 Hz Type: LVR14125A40T 25 kvar (14%), Network 400 V, 50 Hz Type: LVR14250A40T 50 kvar (14%), Network 400 V, 50 Hz: Type LVR14500A40T Manufacturer: Schneider Electric
<b>P.F. Controller</b>	Varplus Logic Controller VPL06N (50 to 162,5 kvar) Electronic type Manufacturer: Schneider Electric
<b>Main busbar</b>	2 x 30 x 10 mm Cu per phase
<b>PE bar</b>	2 x 30 x 5 mm Cu
Note:	
1)	bottom connection or top connection

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Applicant : Schneider Electric  
5 Avenue Raymond Chanas  
38320 Eybens  
France

Application Date : 23 November 2018

Order Number : 2232915.00-INC

Product : Low-voltage switchgear and controlgear assembly / Power Factor  
Correction bank

Trade name : Schneider Electric

Type/Model : VarSet 50 – 162,5 kvar Capacitor Bank

Arnhem, 26 November 2018

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Manufacturer/ Production sites: Schneider Electric  
12A, Hosur road  
Attibele Industrial Area  
Neralur Post, Bangalore  
India

Subject : Design verification

Requirements : IEC 61439-1 :2011 / IEC 61439-2:2011, clauses 10.2 - 10.13  
IEC 61921:2003

Remark : -

Conclusion : The product complies with the specified requirements

Tested by : H.G.M. Kormelink



Checked by : H.L. Schendstok



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