

# TEST CERTIFICATE

Issued to: Schneider Electric  
5 Avenue Raymond Chanas  
38320 Eybens  
France

For the product: Low-voltage Switchgear and Controlgear assembly / Power Factor Correction bank

Trade name: Schneider Electric

Type/Model: VarSet 175 – 300 kvar Capacitor Bank

Ratings: 175 - 300 kVAR at 400V / 182 – 363 kVAR at 440 V,  
 $I_{cw}$  50 kA - 1 s,  
 $U_e$  400 V,  $U_i$  690 V,  $U_{imp}$  6 kV, IP31  
for more details see annex

Manufactured by: 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

Remarks: -

This Test Certificate is granted on account of an examination by DEKRA, the results of which are laid down in report no. 2191708.02-INC, dated 20 December 2016.

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by DEKRA is not the responsibility of DEKRA.

Arnhem, 20 December 2016

Number: 2191708.101

DEKRA Certification B.V.

H.R.M. Barends  
Certification Manager

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**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	IP31	Pass
10.4	7.2.5	Clearances and creepage distances	Clearances > 5,5 mm Creepage distances > 10 mm except for contactors in 25 kVAR circuit (= 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	$U_{imp} 6 \text{ kV}$ (excluding controller and auxiliary circuit)	Pass
10.10	7.2.1	Verification of temperature rise limits at 50 °C ambient temperature	Current level 572 A ( $1,32 * I_n$ )	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 440 V Functional units (fuse links + contactors): $I_{cc} 50 \text{ kA}$ at 440 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>	1x Switch Disconnecter Type: NS800NA 3 poles, 800 A Manufacturer: Schneider Electric
<b>Capacitor bank stage ratings</b>	2 x 25 kVAr, 400 V 50 Hz 1 x 50 kVAr, 400 V 50 Hz 2 x 100 kVAr, 400 V 50 Hz
<b>Capacitor unit</b>	3 Phase Delta connected with discharge resistor. Ambient temperature class D (-25... 55 °C), Capacitor 25 kVAR (33.9 kVAR, 480 V): BLRCH339A407B48 Capacitor 50 kVAR (67.8 kVAR, 480 V) : BLRCH339A407B48 Capacitor 100 kVAR (136 kVAR, 480 V) : BLRCH453A544B48 Manufacturer: Schneider Electric
<b>Fuse links</b>	160A SP Fuse base: Fuse link – 63 A, Type gG 160A SP Fuse base: Fuse link – 125 A, Type gG 250A SP Fuse base: Fuse link – 250 A, Type gG Manufacturer: ETI
<b>Contactors</b>	Contactor-for 25 kVAR, 230V coil: TeSys LC1E40U5 Contactor-for 50 kVAR, 230V coil: TeSys LC1E95U5 Contactor-for 100 kVAR, 230V coil: TeSys LC1E160U5 Manufacturer: Schneider Electric
<b>Detuned reactor</b>	3 phase type, Iron core Electrical insulation class H 25 kVAR (5,67%), Network 400 V, 50 Hz Type: LVR05250A40T 50 kVAR (5,67%), Network 400 V, 50 Hz: Type LVR05500A40T 100 kVAR (5,67%), Network 400 V, 50 Hz: Type LVR05X00A40T Manufacturer: Schneider Electric
<b>P.F. Controller</b>	Type Varplus Logic Controller VPL6N 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

Applicant : Schneider Electric  
5 Avenue Raymond Chanas  
38320 Eybens  
France

Application Date : 4 November 2016

Order Number : 2166446.00-INC

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

Trade name : Schneider Electric

Type/Model : VarSet 175 - 300 kVAR at 400V / 182 – 363 kVAR at 440 V

Arnhem, 20 December 2016

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Manufacturer/ Production sites: Schneider Electric  
12A, Hosur road  
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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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