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Laboratoire d'essai homologué ASEFA / ASEFA Approved Test laboratory

Sous la référence / under reference : F01

Dossier ASEFA / ASEFA File n° : 42093

## RAPPORT D'ESSAI / TEST REPORT N° 201508429

**Délivré à / Issued to :** Schneider Electric Industries SAS  
35, rue Joseph Monier  
92506 Rueil-Malmaison Cedex

**Produit essayé / Product tested :** Ensemble d'appareillage à basse tension / Low voltage switchgear  
and controlgear assembly

Référence(s) / Reference(s) :

Selon Dossier d'identification / According to Identification File: "Dossier d'identification VarSet Au\_V2.docx" – 3 juillet 2015

Marque commerciale / Trademark : SCHNEIDER ELECTRIC

Fabricant / Manufacturer : SCHNEIDER ELECTRIC SA

Site de fabrication / Place of manufacture : Schneider-Electric factories

### Essais réalisés / Tests performed

**Document(s) de référence / Reference document(s) :** CEI / IEC 61439-1 (ed. 2.0, 2011-08), CEI / IEC 61439-2  
(ed. 2.0, 2011-08) and CEI / IEC61921 (ed 1, (04-2003)

#### Essais réalisés / Tests performed :

- § 10.2 Résistance des matériaux et des parties / Strength of material and parts
- § 10.3 Degré de protection / Degree of protection
- § 10.4 Distances d'isolement et lignes de fuite / Clearances and creepage distances
- § 10.5 Protection contre les chocs électriques et intégrité des circuits de protection
- § 10.9 Propriétés diélectriques / Dielectric properties
- § 10.10 Vérification de l'échauffement / Verification of temperature rise
- § 10.11 Tenue aux courts-circuits / Short-circuit withstand strength
- § 10.13 Fonctionnement mécanique / Mechanical operation

**Caractéristiques évaluées / Assessed characteristics :** see page 5

Date(s) de réception du(des) produit(s) essayé(s) / Date(s) of receipt of tested product(s) : 16/12/2015

Date(s) de réalisation des essais / Date(s) of performance of tests : 04/01/2016 au / to 25/02/2016

### Ce rapport d'essai comporte /

**This test report consists of :** 107 page(s) et / and dont / including 3 annexe(s) / appendix(ces)

**Date d'émission / Date of issue :** 04/03/2016

### Le Responsable Technique / The Technical Manager,

**Nom / Name :** M. GUILLOTIN (F01)

**Signature :**



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**Essais réalisés / Tests performed :**

- §10.2 Résistance des matériaux et des parties / Strength of material and parts
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- §10.5 Protection contre les chocs électriques et intégrité des circuits de protection / Protection against electrical shock and integrity of protective circuits
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## HISTORY OF THE CERTIFICATION

Due to similarities of constructional arrangement, the clauses 10.2.2, 10.2.3.2, 10.2.5, 10.3 and 10.13 are partly or fully covered by ASEFA Certificates No. 077-11BT (TR 201100331\_004), 044a-11BT (TR 201100331\_004), 007-12BT (TR 201103025\_001), 008-12BT (TR 201103025\_001) and 001-13BT (TR 201203077\_001).

Detailed information including the samples references tested in this report, is given in the table "SAMPLES UNDER TESTS"

The previous ASEFA test reports appended in this report are listed in the following table:

## THE SAMPLES UNDER TESTS

SAMPLE	Sequence or Test	Ratings
<b>Identification N°.</b>		<b>Specific rating</b>
See report 201100331_004	10.2.2	Resistance to corrosion
See report 201100331_004	10.2.3.2	Verification of resistance of insulating material to normal heat
See report 201100331_004	10.2.5	Lifting
See report 201100331_004 & 201103025_001	10.3	Refer to Certificate of conformity No 030-11BT
See report 201100331_004	10.13	Mechanical operation
201508429-C1	10.2.6 – 10.4 – 10.5.2 – 10.9.2 – 10.10 – 10.11	Distances d'isolement et lignes de fuites / Clearances and creepage distances Protection contre les chocs électriques et intégrité des circuits de protection / Protection against electrical shock and integrity of protective circuits Propriétés diélectriques / Dielectric properties
201508429-C2		Vérification de l'échauffement / Verification of temperature rise Tenue aux courts-circuits / Short-circuit withstand strength
201508429-C3	10.11	Tenue aux courts-circuits / Short-circuit withstand strength

**DESCRIPTION AND CHARACTERISTICS OF THE APPARATUS**

**Characteristics according to clause 5**

**ASSEMBLY CHARACTERISTICS**

Rated voltage  $U_e$   
 -main circuit : 415 V  
 -auxiliary circuit : 240 V

Rated impulse withstand voltage  $U_{imp}$   
 - main circuit : 6 kV  
 - auxiliary circuit : 4 kV

Rated current of the assembly  $I_{nA}$  : / A  
 Rated conditional short-circuit  $I_{cc}$  : 150 kA

Type of current :  a.c.  
 :  d.c.

Rated frequency (if a.c.) : 50 Hz

Rated diversity factor : 1,19

**Circuit characteristics:**

Sample : 201508429-C1

Circuit	Main	Functional Units				
		QF1	QF2	QF3	QF4	QF5
Rated operational voltage $U_e/V$	415	415	415	415	415	415
Rated insulation voltage $U_i/V$	690	690	690	690	690	690
Rated current $I_{nc}/A$						
Rated diversity factor	1,19					
Rated short-time withstand current $I_{cw}/kA-t/s$	/	/	/	/	/	/
Rated peak withstand current $I_{pk}/kA$	/	/	/	/	/	/
Rated conditional short-circuit current $I_{cc}/kA$	150	50	50	25	25	50

Sample : 201508429-C2

Circuit	Main	Functional Units				
		QF1	QF2	QF3	QF4	QF5
Rated operational voltage $U_e/V$	415	415	415	415	415	415
Rated insulation voltage $U_i/V$	690	690	690	690	690	690
Rated current $I_{nc}/A$						
Rated diversity factor	1,19					
Rated short-time withstand current $I_{cw}/kA-t/s$	/	/	/	/	/	/
Rated peak withstand current $I_{pk}/kA$	/	/	/	/	/	/
Rated conditional short-circuit current $I_{cc}/kA$	150	/	/	/	/	50

Circuit		Functional Units				
		QF6	QF7	QF8	QF9	QF10
Rated operational voltage $U_e/V$						
Rated insulation voltage $U_i/V$						
Rated current $I_{nc}/A$						
Rated diversity factor						
Rated short-time withstand current $I_{cw}/kA-t/s$	/	/	/	/	/	
Rated peak withstand current $I_{pk}/kA$	/	/	/	/	/	
Rated conditional short-circuit current $I_{cc}/kA$	25	/	/	/	/	

Sample : 201508429-C3

Circuit	Main	Functional Units			
		M1	M2	M3	M4
Rated operational voltage Ue/V	415	415	415	415	415
Rated insulation voltage Ui/V	690	690	690	690	690
Rated current Inc/A					
Rated diversity factor	1,19				
Rated short-time withstand current Icw/kA-t/s	/	/	/	/	/
Rated peak withstand current Ipk/kA	/	/	/	/	/
Rated conditional short-circuit current Icc/kA	150	25	25	50	50

Description and thermal characteristics of the built-in components and switching devices

Reference N°	Description	Ambient temperature limits (°C)	Temperature rise limits on the terminals (K)(*)	Note
C1	VARSET 250 kVar	40°C	/	/
C2	VARSET 500 kVar	40°C	/	/
C3	VARSET 200 kVar	40°C	/	/

(\*) To be reported only if the limits are >70 K

Description and thermal characteristics of the insulating materials

Reference N°	Description	Temperature limits (°C)	Note
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/
/	/	/	/

**Other characteristics**

a) Additional requirements (1)	:	N/A
b) Pollution degree	:	3 (IIIa)
c) Type of earthing system	:	Protected conductor
d) Indoor and/or outdoor installation	:	Indoor
e) Stationary or movable	:	Stationary
f) Degree of protection	:	IP31 / IP54
g) Intended for use by skilled or ordinary persons	:	Skilled
h) Environment A or B (EMC) (2)	:	A
i) Special service conditions	:	Uninterrupted
j) External design	:	Metal enclosure
k) Mechanical impact protection	:	IK8 / IK10
l) Fixed, removable or withdrawable parts	:	Fixed
m) The nature of short-circuit protective device(s)	:	Circuit-breaker
m(3) Form of internal separation	:	2
n) Measures for protection against electric shock	:	Metal enclosure and protective conductor
n(3) Types of electrical connections of functional units	:	Busbars and conductors

**Note :**

(1) for the functional units having characteristics different from those of the ASSEMBLY  
/

(2) condition a) and b) of J 9.4.2 clause are met                      Passed (yes/no)No tested

(3) required by IEC 61439-2 ed. 2.0

**PRODUCT PRESENTATION**

Sample : 201508429-C2



PART NUMBER: VS500NSW662087930	
DATE OF MANUFACTURE: AUGUST 2015	
CONTACT 1300 369 233	
RATED SUPPLY VOLTAGE	415 V
CONTROLLER SUPPLY VOLTAGE	415 V
RATED SUPPLY FREQUENCY	50 Hz
DETUNED FREQUENCY	190 Hz
MAXIMUM CONTINUOUS CURRENT	828 A
MAXIMUM REACTIVE POWER	500kVar
NUMBER OF PHYSICAL STEPS	10
NUMBER OF ELECTRICAL STEPS	10

**Dimensions 500 kvar**

**Height** : 2000 mm  
**Width** : 1450 mm  
**Depth** : 600 mm  
**Weight** : 720 kg

Instructions for                    installation                    : /  
    operation                        : /  
    maintenance                    : /



**PRODUCT PRESENTATION**

Sample : 201508429-C1



PART NUMBER: VS250NSW662087920	
DATE OF MANUFACTURE: AUGUST 2015	
CONTACT 1300 369 233	
RATED SUPPLY VOLTAGE	415 V
CONTROLLER SUPPLY VOLTAGE	415 V
RATED SUPPLY FREQUENCY	50 Hz
DETUNED FREQUENCY	190 Hz
MAXIMUM CONTINUOUS CURRENT	414 A
MAXIMUM REACTIVE POWER	250kVAr
NUMBER OF PHYSICAL STEPS	5
NUMBER OF ELECTRICAL STEPS	5

**Dimensions 250 kvar**

**Height** : 2000 mm  
**Width** : 800 mm  
**Depth** : 600 mm  
**Weight** : 450 kg

Instructions for installation : /  
 operation : /  
 maintenance : /

**PRODUCT PRESENTATION**

Sample : 201508429-C3



PART NUMBER: VS200NSW662087910	
DATE OF MANUFACTURE: AUGUST 2015	
CONTACT 1300 369 233	
RATED SUPPLY VOLTAGE	415 V
CONTROLLER SUPPLY VOLTAGE	415 V
RATED SUPPLY FREQUENCY	50 Hz
DETUNED FREQUENCY	190 Hz
MAXIMUM CONTINUOUS CURRENT	232 A
MAXIMUM REACTIVE POWER	200kVAr
NUMBER OF PHYSICAL STEPS	5
NUMBER OF ELECTRICAL STEPS	8

**Dimensions 200 kvar**

**Height** : 2000 mm  
**Width** : 800 mm  
**Depth** : 600 mm  
**Weight** : 430 kg

Instructions for installation : /  
 operation : /  
 maintenance : /