

LOVAG Registered Laboratory 2016

<u>2</u>	<u>Id Code</u>	<u>Name</u>	<u>Address</u>	<u>Observer</u>
ASEFA LABORATORY (FRANCE)	F01	Schneider Electric Industries SAS F-Lab Volta	37, quai Paul-Louis Merlin F-38050 Grenoble	Patrick GAUTIER

LOVAG Scheme Scope

Main Standards in the LOVAG Scheme			
	<u>Category</u>	<u>Standards</u>	<u>Description</u>
<input checked="" type="checkbox"/>	POW	IEC/EN 60947-1	Low-voltage switchgear and controlgear
<input checked="" type="checkbox"/>	POW	IEC/EN 60947-2	Circuit-breakers
<input checked="" type="checkbox"/>	POW	IEC/EN 60947-3	Switches, disconnectors, switch-disconnectors and fuse-combination units
<input checked="" type="checkbox"/>	POW	IEC/EN 60947-4-1	Electromechanical contactors and motor starters
<input checked="" type="checkbox"/>	POW	IEC/EN 60947-5-1	Auxiliary Switch
<input checked="" type="checkbox"/>	POW	IEC/EN 60439-1 IEC/EN 61439-1 & IEC/EN 61439-2	Low-voltage switchgear and controlgear assemblies Part 2: Power switchgear and controlgear assemblies
<input checked="" type="checkbox"/>	POW	IEC/EN 61439-1 & IEC/EN 61439-6	Low-voltage switchgear and controlgear assemblies Part 6: Busbar trunking systems (busways)

General Overview of Scope of tests (*)		
<u>Type of tests:</u>	<u>Test description:</u>	<u>Maximum Test limits:</u>
<input checked="" type="checkbox"/> High-current tests	<input checked="" type="checkbox"/> Short-circuit switching capacity <input checked="" type="checkbox"/> AC <input checked="" type="checkbox"/> DC <input checked="" type="checkbox"/> Overload switching capacity <input checked="" type="checkbox"/> AC <input checked="" type="checkbox"/> DC <input checked="" type="checkbox"/> Making/breaking capacity <input checked="" type="checkbox"/> AC <input checked="" type="checkbox"/> DC <input checked="" type="checkbox"/> Short-time withstand current <input checked="" type="checkbox"/> Impulse withstand current <input checked="" type="checkbox"/> Arc fault withstand capacity	Voltage : 2200 V / Current : 350 kA Voltage : 2000 V / Current : 200 kA Voltage : 1000 V / Current : 100 kA Voltage : 1000 V / Current : 100 kA Voltage : 2200 V / Current : 350 kA Voltage : 2000 V / Current : 200 kA Current : 270 kA Time : 3 s Current : 60 kA (8/20 μ sec) Energy : 10 000 MA²s
<input checked="" type="checkbox"/> Insulation tests	<input checked="" type="checkbox"/> High voltage <input checked="" type="checkbox"/> Impulse withstand voltage <input checked="" type="checkbox"/> Minimum Leakage current detection	Voltage : 300 kV Voltage : 800 kV Current : 1 mA
<input checked="" type="checkbox"/> Temperature-rise tests	<input checked="" type="checkbox"/> AC / <input checked="" type="checkbox"/> DC max. current <input checked="" type="checkbox"/> Minimum Impedance measurement	Current : 15 kA / Current : 7500 A 1 μΩ
<input checked="" type="checkbox"/> Tripping behaviour	<input checked="" type="checkbox"/> AC / <input checked="" type="checkbox"/> DC max. current	Current : 15 kA / Current : 7500 A
<input checked="" type="checkbox"/> Lifespan	<input checked="" type="checkbox"/> Mechanical lifespan <input checked="" type="checkbox"/> Electrical durability: <input checked="" type="checkbox"/> AC <input checked="" type="checkbox"/> DC	Voltage : 760 V Current : 8000 A Voltage : 1000 V Current : 2000A
<input checked="" type="checkbox"/> Mechanical properties of terminals		
<input checked="" type="checkbox"/> EMC tests		
<input checked="" type="checkbox"/> Climatic tests		Climatic +55°C at 93% HR Thermostatic -70°C to +130°C
<input checked="" type="checkbox"/> Vibration and shock tests		
<input checked="" type="checkbox"/> Degree of protection tests	<input checked="" type="checkbox"/> IP-code (water and solid bodies) <input checked="" type="checkbox"/> IK-code (impact resistance of enclosures)	IP 11 to 56 IK 07 to 10

(*) The provided technical information are not contractual and could be different, according to the relevant test specifications of a specific product standard.

For more technical specifications or details, please refer to laboratory documentations or website.

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Scope of standards and performances reachable on COFRAC website under accreditation number 1-0140

Cofrac is the French Accreditation Body which belongs to ILAC