

LOVAG Registered Laboratory 2014

<u>LOVAG CB</u>	<u>Id Code</u>	<u>Name</u>	<u>Address</u>	<u>Observer</u>
APPLUS+ LGAI LABORATORY (SPAIN)	ES 01	LGAI Technological Center S.A.	Campus UAB – Ronda de la Font del Carne, s/n E- 08193 Bellaterra – Barcelona	Joan Fernandez

LOVAG Scheme Scope

Main Standards in the LOVAG Scheme			
	<u>Category</u>	<u>Standards</u>	<u>Description</u>
<input type="checkbox"/>	POW	IEC/EN 60947-1	Low-voltage switchgear and controlgear
<input type="checkbox"/>	POW	IEC/EN 60947-2	Circuit-breakers
<input type="checkbox"/>	POW	IEC/EN 60947-3	Switches, disconnectors, switch-disconnectors and fuse-combination units
<input type="checkbox"/>	POW	IEC/EN 60947-4-1	Electromechanical contactors and motor starters
<input 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 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 type="checkbox"/> High-current tests	<input type="checkbox"/> Short-circuit switching capacity <input type="checkbox"/> AC <input type="checkbox"/> DC <input type="checkbox"/> Overload switching capacity <input type="checkbox"/> AC <input type="checkbox"/> DC <input type="checkbox"/> Making/breaking capacity <input type="checkbox"/> AC <input type="checkbox"/> DC <input type="checkbox"/> Short-time withstand current <input type="checkbox"/> Impulse withstand current <input type="checkbox"/> Arc fault withstand capacity	Voltage : V / Current : kA Voltage : V / Current : kA Voltage : V / Current : A Voltage : V / Current : kA Voltage : V / Current : A Voltage : V / Current : A Current : kA Time : s Current : A Energy : kA ² s
<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 : 10 kV Voltage : 20 kV Current : >0,1 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 : 3000 A / Current : 2 000 A >0,1mΩ
<input type="checkbox"/> Tripping behaviour	<input type="checkbox"/> AC / <input type="checkbox"/> DC max. current	Current : A / Current : A
<input type="checkbox"/> Lifespan	<input type="checkbox"/> Mechanical lifespan <input type="checkbox"/> Electrical durability: <input type="checkbox"/> AC <input type="checkbox"/> DC	Voltage : V Current : A Voltage : V Current : A
<input checked="" type="checkbox"/> Mechanical properties of terminals		
<input checked="" type="checkbox"/> EMC tests		
<input checked="" type="checkbox"/> Climatic tests		
<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)	IP1X to IP6X ; IPX1 to IPX8 IK02 TO IK10

(*) 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.