

TESTING AND MEASURING EQUIPMENT/ALLOWED SUBCONTRACTING
IEC 62271-102:2013, Edition 1.2
High-voltage switchgear and controlgear –
Part 102: Alternating current disconnecter and earthing switches
PROVISIONAL

“R”	Required
“S”	May be subcontracted, see OD 2012
“SPTL”	Specialized Facility, see IECEE 02-2
“W”	Witness testing in the categories “MED” and “MEAS”
“3PPS”	Three Phase Power Supply required

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
6.2.6.1	Power-frequency voltage tests	Power-frequency voltage source Voltage measurement system	R
6.2.6.2	Lightning impulse voltage tests	Impulse voltage source Voltage measurement system	R
6.2.7.1	Power-frequency voltage tests	Power-frequency voltage source Voltage measurement system	R
6.2.7.2	Switching impulse voltage tests	Impulse voltage source Voltage measurement system	R
6.2.7.3	Lightning impulse voltage tests	Impulse voltage source Voltage measurement system	R
6.2.8	Artificial pollution tests	Power-frequency voltage source Voltage measurement system Test chamber with fog spray or steam-fog generator	S
6.2.9	Partial discharge tests	Power-frequency voltage source Voltage measurement system Coupling capacitor Partial discharge test system	R
6.2.10	Tests on auxiliary and control circuits	Withstanding voltage tester	R
6.2.11	Voltage test as condition check	Power-frequency voltage source	R

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
		Voltage measurement system	
6.3	Radio interference voltage (r.i.v.) test	Power-frequency voltage source Voltage measurement system Coupling device R.I.V.-meter	R
6.4	Measurement of the resistance of circuits	Circuit resistance measurement instrument	R
6.5	Temperature-rise tests	Current/voltage source Current measuring system The temperature data acquisition system	R
6.6	Short-time withstand current and peak withstand current tests	Short circuit current generating system Voltage generating system Measurement control system	R or S*
6.7	Verification of the protection	Test-finger, test-rod, test-wire Dust chamber Raining test facility Spring hammer Pendulum hammer	R
6.8	Tightness tests	Leak detector Pressure meter	R
6.9.1	Emission tests	Anechoic chamber EMI Receiver Artificial Mains Network(AMN) Antenna	S
6.9.2	Immunity tests on auxiliary and control circuits	The generator of power voltage dips The generator of lightning surge test The generator of electrical fast transient/burser test The generator of damped oscillatory wave test The generator of static electricity discharges test The generator of power frequency magnetic field test The generator of pulse magnetic field test Shielding Room	S
6.9.3	Additional EMC tests on auxiliary and control circuits	The generator of power voltage dips The generator of lightning surge test	S

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
		The generator of electrical fast transient/burser test The generator of damped oscillatory wave test The generator of static electricity discharges test The generator of power frequency magnetic field test The generator of pulse magnetic field test Shielding Room	
6.101	Test to prove the short-circuit making performance of earthing switches	Short circuit current generating system Voltage generating system Measurement control system	R or S*
6.102	Operating and mechanical endurance tests	Mechanical characteristic testing instrument Dynamometer Static terminal load Mechanical endurance test equipment	R
6.103	Operation under severe ice conditions	Environmental test chamber Mechanical characteristic testing instrument	S
6.104	Operation at the temperature limits	Environmental test chamber Mechanical characteristic testing instrument	S
6.105	Tests to verify the proper functioning of the position indicating device	Dynamometer	R
6.106	Bus-transfer current switching tests	Short circuit current generating system Voltage generating system Measurement control system	R
6.107	Induced current switching tests	Short circuit current generating system Voltage generating system Measurement control system	R
6.108	Bus-charging switching tests	Test duty 1 Power-frequency voltage source and voltage measurement instrument D.c. voltage source and voltage measurement instrument Auxiliary disconnecter Lumped capacitance Section of busbar	R

Clause	Measurement/testing	Testing / measuring equipment / material needed	Subcontracting
		Transient voltage measurement instrument Test duty 2 Power-frequency voltage source and voltage measurement instrument Circuit-breaker parallel capacitor or equivalent capacitor Lumped capacitance Transient voltage measurement instrument Test duty 3 Power-frequency voltage source and voltage measurement instrument Current measurement instrument Lumped capacitance	

Note: in clauses 6.6, 6.101, S* denotes that the measurement/testing which needs short circuit current capacity above 25kA may be subcontracted..