

# Step & Touch Testing Kit

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## Step & Touch Testing Kit

- Optional Step and Touch testing kit for STS 5000 and STS 4000
- The kit is made of: STLG - line and grid module, STSG - safety grounding module, Ground grid test accessories
- The option allows performing the measurement of: soil resistivity, ground grid resistance, step and touch tests
- STSG protects the operator against possible high voltage spikes

### The step and touch testing kit is made of:

- STLG - line and grid module
- STSG - safety grounding module
- Ground grid accessories kit

### STLG Line and grid module



The option allows performing both the measurement of: soil resistivity, ground grid resistance, step and touch tests, and of: overhead lines zero sequence and mutual coupling coefficients. This option applies to STS 5000 and 4000 models.

STLG is a high power transformer, which increases the output current. A high current switch allows selecting the desired current range. A voltage meter displays the generated voltage. The option takes its power from the EXT. BOOSTER connector of STS. Output current and voltage are metered and sent back to STS measuring inputs; a third output allows STS to know the selected range.

Device characteristics are the followings:

- Input: from STS 5000, via the booster connector
- Output current ranges: 11, 22, 35, 55, 105 A AC
- Output power: 1800 VA steady; 5200 VA peak for 10 s
- High current range selector switch
- Analogue output voltage meter. Meter range: 600 V AC

All necessary connection cables are included in the option. Current clamp provided: 400 A range.

### STSG Safety grounding module

During tests, STLG is connected to the overhead line to connect to the remote ground. The purpose of the STSG optional device is to protect the operator against possible high voltage spikes.

STSG incorporates three voltage suppressors and one high current switch, to connect three lines in parallel. This option applies to STS 5000 and 4000 models, in conjunction with STLG.

Option characteristics:

- Nominal AC spark-over voltage: 1000 V rms
- Impulse spark-over voltage: 2000 V peak
- Short-circuit proof with 25 kAeff / 100 ms; 36 kAeff / 75 ms
- Connection via three cylindrical ball studs 16, 20 or 25 mm diameter. The ball diameter must be specified at order
- Metal aluminum box with handle
- Weight: 9.1 kg
- Dimensions: 41 x 21 x 13.5 cm
- Grounding cable, included: 95sq.mm, 2m



### Ground grid test accessories kit

This option applies to STS 5000 and 4000 models. The option is the kit of connection cables, auxiliary spikes and other accessories that allows connecting STS or STLG to the testing devices and performing all types of tests. The kit includes:

- Four earth spikes for the soil resistivity test and for the earth resistance test
- Two auxiliary earth spikes, for tests in small sites
- Three cables, wound on cable reels, 200 m long
- One mains synchronizer device, to synchronize the STS generation to the mains
- Two test probes for the step and touch test
- One voltage meter, digital, type true RMS, for the earth resistance and step and touch tests
- One resistor box for the step and touch test



Ground grid test accessories kit

### Step and Touch voltages

The step and touch voltages test is performed applying current between the ground grid and the auxiliary ground spikes and measuring the step or touch voltage with the test probes. With the STLG option, the current generation is performed using an overhead line to connect to the remote ground. Thanks to the STLG option, higher test currents can be achieved. Input parameters are: substation fault current, fault clearance time, parallel resistance on the test probes. Other selections are: output voltage range, test current, test frequency. Last, the operator selects the measurement mode: manual or on STS and the reference standard. The display shows the following data: test current, location description, location coordinates, measured voltage, voltage in case of actual fault.



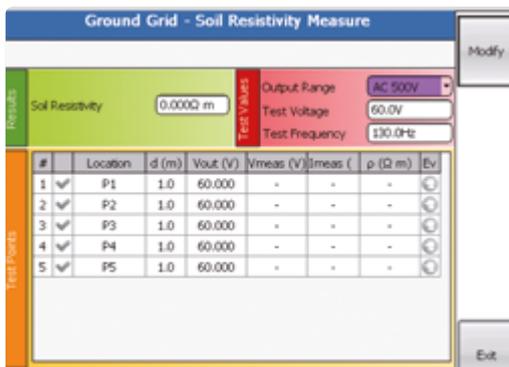
## The Test

### Ground resistivity and resistance

#### Soil resistivity

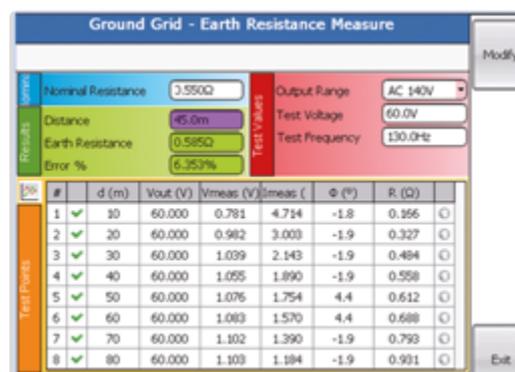
The test of soil resistivity is performed applying AC voltage to the current spikes and measuring the injected current and the voltage across the voltage spikes. For the resistivity test, input parameters are: voltage range, test current, test frequency.

The display shows: location, probes distance, output voltage, voltage between probes, output current, corresponding resistivity, evaluation.



### Ground grid resistance

The test of ground grid resistance is performed applying current between the ground grid and the auxiliary ground spikes. With the STLG option the test is performed using an overhead line to connect to the remote ground. For the resistance test, input parameters are: output voltage range, test current, test frequency. The display shows: test probe distance, output voltage, test probe voltage, output current, phase shift, earth resistance, evaluation.



## Ordering Information

CODE	MODULE
81175	Step & Touch testing kit: <ul style="list-style-type: none"><li>. STLG Line &amp; ground grid module (100 A booster)</li><li>. Cables set for ST-LG</li><li>. Heavy duty plastic transport case for ST-LG</li><li>. STSG Safety grounding module</li><li>. Heavy duty plastic transport case for ST-SG</li><li>. Ground grid test accessories kit.</li></ul>
72175	Stud 20 mm
73175	Stud 25 mm
74175	Stud 16 mm

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