

Suitcase Impulse Generator



- **Compact design**
- **Noiseless discharge technique**
- **Maintenance-free operation**
- **Simple operation**
- **Rugged construction**

DESCRIPTION

The Suitcase Impulse Generator is designed to locate faults in power cable by the high-voltage impulse method, in which an impulse is transmitted down the cable to cause the fault to arc. The arcing fault is then pinpointed using an appropriate impulse detector. The instrument can also be used to perform modified proof tests.

The Suitcase Impulse Generator is a compact, 41-lb (18.5kg), unit that impulses at 3, 6, 9, 12 or 15 kV (chosen by a selector switch). Its size, 8.5 H x 14.5 D x 17.5 W in. (216 H x 368 D x 445 W mm), makes it easy to carry long distances or into tight locations.

Unlike conventional impulse generators, the Megger Suitcase Impulse Generator incorporates a solid-state circuit generating an impulse that is transmitted to the cable by a pulse transformer. This approach produces noiseless operation because it avoids the use of a mechanical switch or spark gap to produce the impulse.

APPLICATIONS

The Suitcase Impulse Generator is a lightweight and portable fault-locating set that can be carried easily by one person and is effective on cables rated up to 15 kV. A stepped impulse voltage selector enables the operator to choose output levels of 3, 6, 9, 12 or 15 kV.

The primary applications for this unit are situations where the cables are exposed (such as trailing cables in quarries) and ducted cables where an electromagnetic impulse detector can be used at manholes and other access points. On direct-buried cables, an acoustic impulse detector must be used to hear the "thump."

The unit includes an output current meter that indicates successful fault breakdown by deflection on the meter. Absence of a deflection indicates that no fault is present, and that the cable is capable of withstanding the selected proof voltage.

FEATURES AND BENEFITS

The Suitcase Impulse Generator offers benefits that ensure efficient and effective fault locating.

Rugged construction

- Housed in a sturdy fiberglass case designed to withstand the rigors of field operation.

Convenient transport/storage

- Lightweight allows one person to carry unit easily.
- Compact size allows for easy storage and transport in tight locations.
- All cables are stored in the lid of the case.

Repeatable/stable impulse voltages

- Silicon-controlled rectifier (SCR) discharge method assures repeatable impulse voltages.

Noiseless discharge

- SCR provides discharge with no air gap or moving parts.
- Quiet discharge is extremely desirable in confined locations.

Simple operation

- Minimum of instrumentation and controls to reduce operation complexity.

- High-voltage and return lead are combined in one coaxial cable, eliminating the need to unravel the total length of test cable during operation.
- Fixed five-second impulse interval.

Standard safety features

- Zero-start interlock
- High-voltage on lamp
- Automatic cable discharge upon shutdown
- Circuit breakers for overload protection

Step-voltage control

- Allows selected adjustment of output voltage over the impulse range.

Maintenance-free operation

- Quality components and construction ensure ongoing reliable operation.
- SCR discharge method requires no adjustment or calibration.

SPECIFICATIONS

Input Power

Nominal 120 Vac, 2.5 A, 1 ϕ , 50/60 Hz (Cat. No. 651403)
Nominal 240 Vac, 1.3 A, 1 ϕ , 50/60 Hz (Cat. No. 651404)

Output Voltages

3, 6, 9, 12, 15 kV

Impulse Interval

5 seconds, fixed

Environmental

Temperature

Operating: -4 to +122° F (-20 to +50° C)

Storage: -22 to +131° F (-30 to 55° C)

Elevation

7500 ft (2286 m) max
Voltage derates at higher altitudes

Humidity

5 to 95% RH noncondensing

Climate

Operation prohibited in direct rain or snow or in explosive atmosphere.

Dimensions

8.5 H x 14.5 D x 17.5 W in.
(216 H x 368 D x 445 W m)

Cables Supplied

Output

20-ft (6.1-m) permanently connected shielded output cable for coaxial high-voltage and return leads

Input

10-ft (3.0-m) permanently connected input cord

Model	Max. Impulse Voltage	Max. Stored Energy	Equivalent Storage Capacitance	Weight
Suitcase Impulse Generator	15 kV	300 J	2.5 mF	41 lb (18.5 kg)

ORDERING INFORMATION

Item (Qty)	Cat. No.
Suitcase Impulse Generator, 120 Vac	651403
Suitcase Impulse Generator, 240 Vac	651404

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