

CABLE FAULT LOCATOR SURGE GENERATOR SG-2000M3

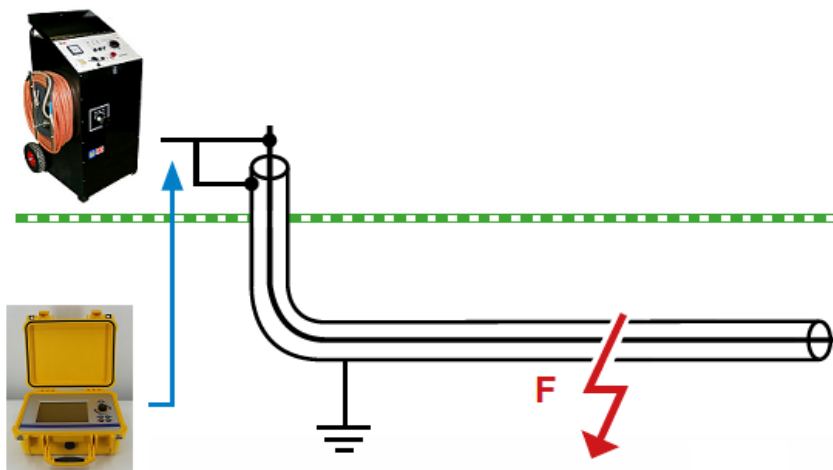


**The surge generator SG-2000M3 offers
2000 Joules at 0 – 5/10/20 KV DC**

- **Used for pre-location and pinpointing of high and low resistive faults in high voltage cable systems**

Surge Generator SG-2000M3

A surge generator is used to inject a high voltage DC surge into the faulty cable. By supplying a sufficiently high voltage to the faulty cable, the open-circuit fault will break down creating a high-current arc. This high current arc makes a characteristic thumping sound at the exact location of the fault. To find the location of cable fault using the thumping method, a thumper is set to thump repeatedly and then walking along the cable route to hear the thumping sound. The higher the dc voltage applied, the louder will be the resulting thump.



Surge Generator Fault Prelocation Principle

To deliver the full joules of energy possible to a fault, the capacitors within a thumper must be charged to the maximum voltage. With the wrong thumper, this often results in thumping a cable at an excessive voltage, causing significant damage to insulation and accessories. Since the applied voltage is a square function ($\frac{1}{2} CV^2$), if the thumper is at $\frac{2}{3}$ voltage, only 45% of the joules are delivered to the fault. At half voltage only 25% energy is delivered, making the fault hard to hear. Either fault locating takes far longer than necessary or the crew gets impatient and turns the voltage all the way up to get the loudest bang. The fault is found but more are made. This practice can and should be avoided.

The SG-2000M3 is a controlled energy fault locator and fault locating in primary cable systems. It is designed to provide constant energy at each of three different selectable output voltages. This controlled energy feature provides full energy at each output voltage tap, allowing the user to thump at a lower voltage with a higher energy while minimizing further cable damage. The measure of a good thumper is not the maximum voltage it can discharge, but the minimum voltage still capable of delivering the full energy.



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Technical Specifications:

Input:	230±23 V, 50 Hz
Maximum Power Consumption:	1500 VA
Output Surge Voltage:	0-5/10/20kV
Surge Energy:	2000J at full output on all output taps
Discharge Rate:	3 – 15 sec
Storage Capacitance:	4x40 µF
Duty:	Up to 1 hour
TDR Interface:	Arc Reflection Method, Current Impulse Method
Dimensions:	520x610x640 mm
Weight:	120 kg

Features:

- Single piece Surge Generator to support Fault Location on power cables
- Constant energy at each output voltage setting
- Adjustable thump (impulse) repetition rate, from 3 to 15 seconds
- Simplified Controls for minimal operator training
- Zero Start high voltage interlock
- Single pulse or continuous discharge modes

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