

## K-3838 Ground Fault Locator



Bad insulation or grounding in the power system is a very big hazard and it can be very costly to repair upon power break-off. Therefore, it will be very significant to fast pinpoint and elimination of grounding faults. It is also required by DIN VDE 0100-410 (VDE 0100-410): 2007-06 chapter 411.6.3.1 and IEC 60364-4-41 chapter 413.1.5.4.

Kongter's K-3838 is the updated version of fault locator developed to fast detect, trace and pinpoint virtual grounding faults on DC systems where electrical cables have breakage and current lost to ground. It will save you from long time unnecessary troubleshooting and helps to increase the stability of your electrical equipments. This device is widely used in different DC systems including power utilities, locomotive, telecom and etc.

### Features 1. Safe to use

For ground fault tracing, the device uses as low current as microamperes measurement signal and DC current clamp with high resolution. It has no interference to the tested systems.

### 2. High reliable designing

It adopts main system of 32-bit micro-processor. Hardware designing strictly follows EMC standard to ensure reliability of itself and its tested systems.

### 3. Precise measurement

It adopts high accurate current clamp for signal tracing and precise ADC for voltage sampling. This ensures the accurate measurement of voltage and resistance.

### 4. User-friendly interface

It has LCD display with vivid information indicating grounding status, waveform, insulation leveling, insulation resistance, leakage current, and direction of ground fault and so on. This user-friendly interface makes it easy and effective to use onsite.

### 5. Intelligent measurement function

- Signal analyzer can automatically identify system voltage leveling.
- When insulation resistance has any change, signal analyzer could quickly indicate the changes.
- Distance will not affect the signal detection once the signal analyzer and detector are synchronized.
- During fault location, current clamp could either clamp on single cable or multiple cables for faster and more effective signal tracing.
- Signal detector will indicate the direction of ground fault on screen once it detects any insulation problem.
- Complete measurement and trouble-shooting function
- Signal detector and analyzer have wireless communication. Complete measurement and info displaying function could handle different types of insulation problem in DC system.
- Signal analyzer has different working modes like amplitude adjustment, frequency adjustment and waveform view which are suitable for different complicated applications.

### Application

- Railway and Transit: signal, communication, and locomotive electric equipment
- Power Utility: DC system with faulty grounding

- Industrial Facilities: electric safety equipment for general power distribution applications
- Telecommunication: electronic equipment with faulty grounding

## Functions

- Measures voltage between DC system and ground ranging from 0 to 300V.
- Measures grounding resistance up to 999K $\Omega$  for both busbars and each branch circuit
- It detects and measures AC voltage which interrupts in DC system. Detection range is from 0 to 288V.
- It performs the function as accurate current meter with resolution up to 0.01mA.
- Arrow indication effectively helps users trace the signal and pinpoint the ground fault.
- Waveform display for tested circuit, indicating insulation status and current changes in tested circuit, it help users fast and effectively locate the point with grounding fault.
- It tests and displays distributed capacitance in the system in real time.
- Fast signal positioning for the point of ground fault for both negative and positive busbars with the help of waveform and signal direction.
- Signal analyzer has different working modes like amplitude adjustment, frequency adjustment and waveform view which are very helpful for signal fault location in high resistance grounding.
- The analyzing function of signal frequency spectrum effectively helps extract the testing signal amplitude which makes measurement more accurate.

## Technical Specification

### Signal analyzer specification:

- Operation environment
  - Working power: DC40V-300V
  - Temperature: -20 $^{\circ}$ C—55 $^{\circ}$ C
  - Humidity:0—90%
- DC voltage measurement
  - Measurement range:0-300V
  - Resolution: 0.1V|Accuracy: 0.2%
- AC voltage measurement
  - Measurement range: 0-300V
  - Resolution: 0.1V
  - Accuracy: 0.5%
- Insulation resistance measurement
  - Measurement range: 0-999.9K $\Omega$
  - Resolution: 0.1K $\Omega$
  - Accuracy:  $\leq\pm 5\%$
- Measurement Bridge:
  - Adjustment range: 0mA, 0.25mA, 0.5mA, 1mA & 2mA
  - Frequency range: 0.125Hz, 0.25Hz, 0.5Hz & 1.0Hz
- Grounding detection range: up to 200K $\Omega$
- Distributed capacitance measurement
  - Measurement range: 0-999 $\mu$ F
- Measurement waveform: square wave & sine wave
- Working mode: compulsory signal & automatic signal
- Display: 320x240 pixels TFT
- Power supply: powered by tested circuit
- Weight and dimension: 0.448kg, 200\*145\*75mm



Signal Analyzer



Signal Detector

### Signal detector specification

- Grounding resistance measurement
  - Measurement range:0-500K $\Omega$
  - Resolution: 0.1K $\Omega$

## Technical Specification

- Accuracy:  $\leq \pm 10\%$
- Frequency spectrum analysis
  - Number of channel: 1
  - Frequency range: 0.125-12.5Hz
  - Resolution: 0.125Hz
- Display period of current waveform: 8s
- Measuring range for feeder: 0~2A
- Current measurement range: -100~+100mA
- Current resolution: 0.01mA
- Display: 320x240 pixel TFT
- Clamp jaw size:  $\Phi 30\text{mm}$ ,  $\Phi 40\text{mm}$  and  $\Phi 10\text{mm}$  (optional)
- Power supply: 5V by 4 pieces of AA standard battery
- Weight and dimension: 0.303kg, 200\*\*100\*33mm

## Wireless communication specification:

- Speed: 2Mbps
- Multi-frequency: 125 frequency points, suitable for multiple points communication and frequency hopping communication
- Very small size: built-in 2.4GHz antenna with dimension of 15x29mm
- Low power consumption: in answer mode communication, quick data transmission and starting time will effectively lower power consumption.

## Kit Includes

- K-3838 Signal Analyzer
- K-3838 Signal Detector
- Qty. (1) Signal Testing Leads with clips
- Qty. (1) AC Current clamp with cable
- Qty. (1) DC Current clamp with cable
- Qty. (4) Batteries
- Battery Charger
- Carrying Case



$\Phi 40\text{mm}$  clamp



$\Phi 30\text{mm}$  clamp



$\Phi 8\text{mm}$  clamp (optional)

**Kongter Test & Measurement Co., Limited**

#405, Bldg 62, Songpingshan, Langshan Rd., Shenzhen China

TEL: +86-755-2691 6832 Web: [www.kongter.com](http://www.kongter.com) Email: [sales@kongter.com](mailto:sales@kongter.com)