HVTI PRIVATE LIMITED
1171, Sector 21, Dundehera Road, Gurgaon – 122016, Haryana, India.
Tel.: +91 999246301, contact@hvti.in, www.hvti.in

DC EARTH FAULT LOCATOR

MODEL: GFL-T + GFL-R

Introducing our advanced **DC Earth Fault Locator** – the ultimate solution for identifying resistive or non-resistive current paths from DC battery distribution systems to building ground without the need to de-energize components or loads. Engineered for substation maintenance engineers and troubleshooting professionals, this robust instrument quickly and accurately detects earth faults in live DC systems, providing early identification of faults even at high resistances (up to 0-100 kΩ/0-400 kΩ). This precision detection capability helps pinpoint issues at the incipient stage, ensuring reliable preventive maintenance and reducing costly downtime.

Innovative Dual-Unit Design

Our DC Earth Fault Locator features a two-part design:

- **Pulser Unit:** Pulsates current through the DC battery – building ground loop, establishing a reliable testing signal.
- **Pulse Detector Unit:** Detects the pulses generated by the Pulser Unit, ensuring precise fault localization by eliminating interference through the use of two current sensing clamps.

Engineered for Harsh Environments

Constructed to withstand the rigors of hostile environments, this instrument is built for durability and long service life. With an *IP-65* rating when the case is closed, it is designed to offer reliable protection against dust and water ingress. It is an excellent tool for both preventive maintenance and troubleshooting of ground faults in a wide range of DC battery systems.

Operational Overview

Figure 1a, below, shows an isolated D.C. battery supplying current to a load through wires. If, for whatever reason, one of the wires became connected to the building ground, the DC Earth Fault Locator can locate the point where this connection has occurred. If the DC Earth Fault Locator is connected as shown in Fig. 1b, below, then a close circuit is established. This closed circuit current flows from the plus (+) battery pole, through the wire shorted to building ground, through the DC Earth Fault Locator building ground lead, then back through the DC Earth Fault Locator +/- battery lead to the negative battery post. Note that the ground detection system battery is the source of the current flow. The DC Earth Fault Locator does not contribute any current.

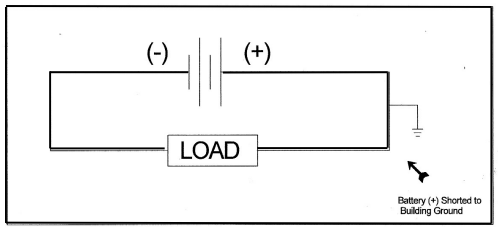

Figure 1a: DC System with ground fault

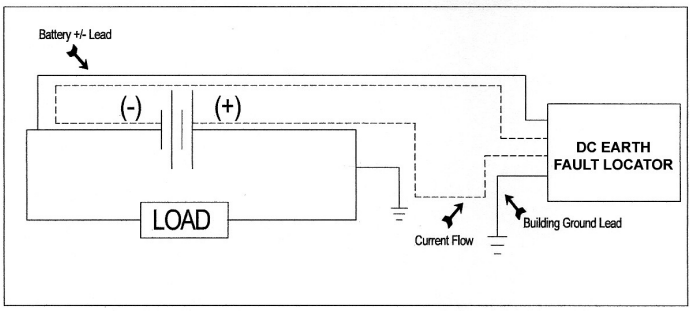

Figure 1b ***Basic Operation: Pulser Connections***

Figure 1b Basic Operation: Transmitter Connections

The DC Earth Fault Locator repeatedly open and closes (pulses) this closed circuit current flow. The DC Earth Fault Locator can then detect and show these pulses on the Detector Unit Meter when the Pulse Detector Current Transformer Probe is clipped over a wire in the current path.

Figure 2 shows if the Detector Probe is clipped over the current path at points A and B, pulses will be detected and shown on the Detector Meter. If the Detector Probe/sensor is clipped over the wire at point C, no pulses will be detected since point C is not in the DC Earth Fault Locator closed circuit current path. This systematic approach of noting where pulses have been detected, then moving down the wire to where pulses are not detected, pinpoints the ground fault location.

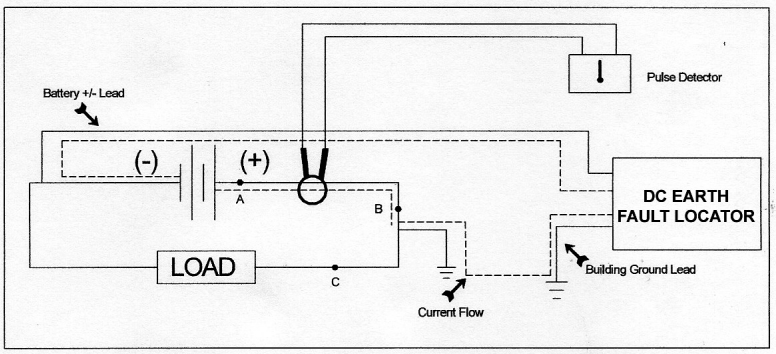

Figure 2 ***Basic Operation: Detector Probe Connections***

Figure 2 Basic Operation: Detector probe/sensor Connections

Complete Package for Immediate Deployment

The DC Earth Fault Locator is shipped as a complete unit, including:

- Pulser Unit
- Pulse Detector Unit
- Two different size current transformer probes for small and larger cables
- External Pulse Indicator Lamp
- Spare Fuses
- Operation Manual
- A rugged Pelican carrying case

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SPECIFICATIONS

TRANSMITTER

FREQUENCY RANGE	:	2 - 8Hz
OUTPUT (IND.)	:	12V RMS
FAULT MAGNITUDE INDICATION	:	PROVIDED (THROUGH LEAKAGE CURRENT MONITORING)
SIGNAL AMPLITUDE ADJUSTMENT	:	0 – 100%
FAULT CURRENT SELECTION	:	0-30 & 0-300mA
FREQUENCY ADJUSTMENT	:	2 TO 8Hz
FAULT SELECTION	:	PROVIDED FOR POSITIVE AND NEGATIVE FAULT
PROTECTION	:	FUSES – 3 NOS. MAINS FUSE BATTERY FUSE GROUND FUSE
POWER SOURCE	:	230V ±10% , 50Hz 1 PHASE AND INBUILT RECHARGEABLE BATTERY 7AH
ALARM AND WARNING INDICATION	:	PROVIDED THROUGH FLASHING LAMP
VOLTAGE SUITABILITY	:	UPTO 300V AC/DC
OPERATING TEMP.	:	0° C TO 50°C

RECEIVER

FREQUENCY RANGE	:	2 - 8Hz
SENSITIVITY	:	0 – 100KΩ (IN 2 SELECTIONS) (OPTIONALLY AVAILABLE 400 KΩ)
ADJUSTMENTS	:	PROVIDED FOR BALANCE AND GAIN ADJUSTMENT
BATTERY TEST	:	PROVIDED
POWER SOURCE	:	BATTERY OPERATED
VOLTAGE SUITABILITY	:	UPTO 300V AC/DC
OPERATING TEMP.	:	0° C TO 50°C

ACCESSORIES

MAINS POWER CORD	:	2 METER LONG
TEST LEADS	:	3 METER LONG
CLAMP / PROBE FOR DETECTION	:	2 NOS. (SMALL & LARGE SIZE)

NB: CONTINUOUS DEVELOPMENT OF THE PRODUCT MAY NECESSITATE CERTAIN CHANGES IN SPECIFICATIONS.