



DC GROUND FAULT LOCATOR

MODEL :GFL-T + GFL-R

The DC Earth Fault Locator is used for locating resistive or non-resistive current paths from D.C. battery distribution systems to building ground, without de-energizing components or loads in the system. The DC Earth Fault Locator has been engineered to withstand the rigors of a hostile environment and to provide a long service life. The instrument consists of two basic functional parts, which are:

- A) The Pulser Unit, used to pulsate current through the D.C. battery – DC Earth Fault Locator – Building ground loop; and
- B) The Pulse Detector Unit, used to detect pulses generated by the Pulser Unit in the D.C. battery – DC Earth Fault Locator – building ground loop.

The DC Earth Fault Locator is shipped as a complete unit and includes the Pulser Unit, the Pulse Detector Unit, Pulse Detector Current Transformer Probe, External Pulse Indicator Lamp, spare fuses, operation manual, and Carrying case.

I. 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.

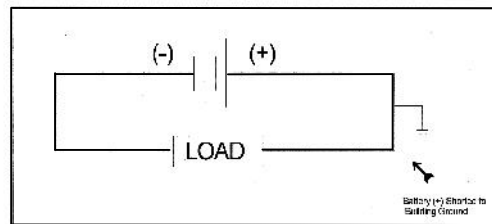


Figure 1a : DC System with ground fault

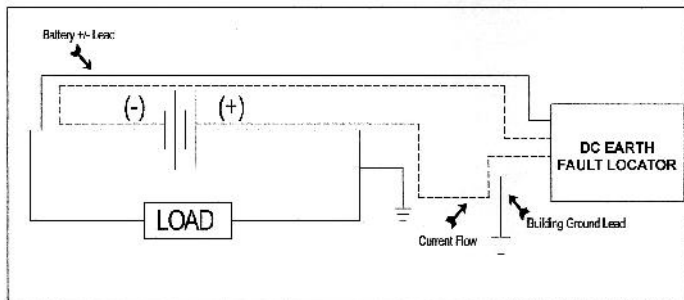


Figure 1b Basic Operation : Transmitter Connections

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.



TECHNOLOGY PRODUCTS

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.

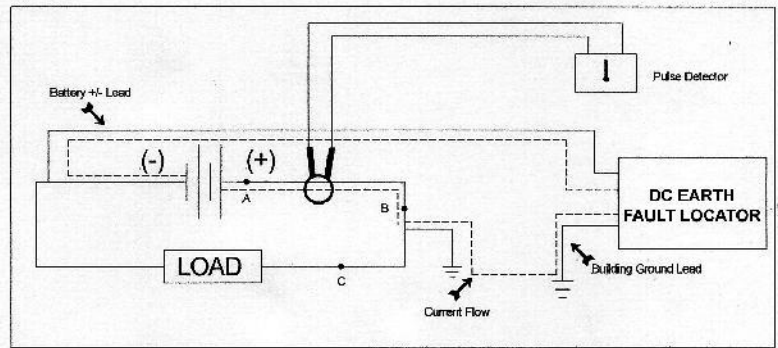


Figure 2 Basic Operation : Detector probe/sensor Connections



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TECHNOLOGY PRODUCTS

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 – 400K Ω
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.

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