

Earth Leakage Detector (ELD)

The interlocking circuits in railway signalling are often supplied from a battery in which neither of the poles are connected to earth. In the event of a single fault there is no danger, however, two or more faults occurring at the same time could create a dangerous situation. Therefore, it is vitally important to supervise the battery supply continuously to prevent this from happening.

Cables which run in parallel with AC electrified railways are subjected to induced voltages. If an earth leakage occurs in the cable, these voltages can disturb devices which are connected to both cables. When earth faults occur in both supply and return wires yet another hazardous condition is created.

These faults can be detected reliably with MRD's ELD.



Reliable Earth Leakage Detection

Despite all of the safety built into our electrical rail systems, failures can and do occur.

By providing constant monitoring and instant notifications of threshold breaches, MRD's Earth Leakage Detector (ELD) significantly reduces the likelihood of failure or accidents due to earth leakage faults.

Features

- Monitors AC and DC busbars
- Auto detects busbar voltage
- Fail-safe or non-fail-safe contact operation
- Operation and alarm LEDs
- Manual test and reset buttons
- Adjustable sensitivity and delay
- Displays fault level in KΩ
- Displays fault time
- DIN rail or panel mounting
- RS-485 communications

Benefits

- Compact size
- Remote interrogation via RS-485
- Remote test and reset
- Remove faults before problems occur
- Low cost



ELD

Earth Leakage Detector

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Part Numbers

AC Supply Version	ELDAC/DC-AUTO-110
DC Supply Version	ELDAC/DC-AUTO-12
Q-Style Panel Mount Bracket	ELDAC/DC-AUTO-PMB

Technical Specifications

General Data

Connection Type	4mm screw terminal
Mounting	DIN rail or screw mount
Panel Mounting	Q-Style panel mount bracket
Dimensions (H x W x D)	75 x 100 x 110mm
Weight	0.4kg
BUS/GND Isolation Resistance	>185 K Ω
Operating Temperature	-20 to 60°C
Storage Temperature	-20 to 80°C
Climate Class According to IEC 721	3K5 without condensation

AC Supply Voltage (AC Version)

Supply Voltage	85 - 264V AC
Frequency Range	50 - 60 Hz
Max. Power Consumption	3W

DC Supply Voltage (DC Version)

Supply Voltage	9 - 36V DC
Max. Power Consumption	3W

Monitoring Voltage Range

DC Busbar Voltage	9 - 150V DC
AC Busbar Voltage	0 - 650V AC

Protection Class

Internal Components	IP30
Terminals	IP20
Housing	Self extinguishing polycarbonate
Fault Contact Ratings	0.6A 125V AC 0.6A 110V DC 2.0A 30V DC
Trip Delay Range	Adjustable 2 sec - 10 sec
Trip Point	Adjustable 10 K Ω - 200 K Ω

Approvals & Compliances

Network Rail	Certificate Number PA05/05184
ARTC	Approval Number 08-08-10-078
MTM	Cert. Number 01-1201-0005_F_TA
V Line	Approval Number VLP-134
QR National	Certificate Number C0098
Rail Infrastructure Corporation	Approval Number Q03/0404