



EARTH PATH TESTER

The earth path tester is designed to test the integrity of the earth from source to equipment bonding point.



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Earth Path Tester

The Earth Path Tester (EPT) is a device used on motors, predominantly found in the mining and water utilities sectors. It is a test unit that allows the user to monitor the integrity of the earth from the source to the equipment bonding point ensuring the protection of expensive equipment and human life from electrocution or flashing.

The unit is permanently installed into equipment where earth bonding and earth fault protection requires regular testing.

It has two functional modes.

Once installed, the EPT continuously monitors for current, or if the touch potential exceeds 25V, at which state a red LED lights up to alert the operator. However, through the installed test button, a fault gets manually induced to test the current.

Why buy an EPT

The Earth Path Tester is designed, manufactured and supported in South Africa to meet the needs of our harsh climate.

The EPT is permanently installed ensuring easy use at any time. Major mining companies have been using the EPT for many decades because of its robustness and reliability.

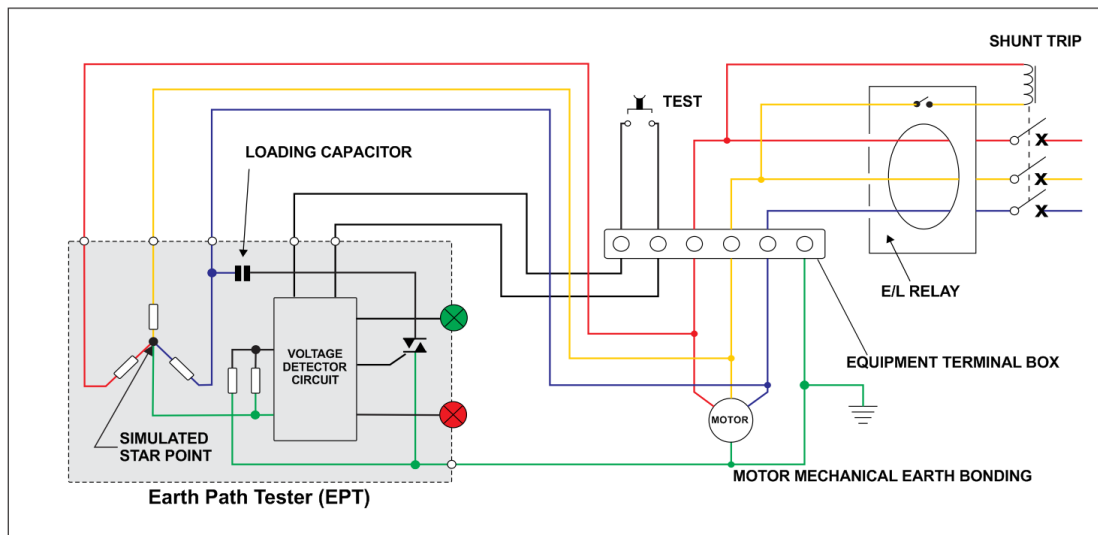
The EPT has contributed substantially to increased safety standards in mines, reducing the risk of injury at work to almost zero.

Variations of the EPT can be manufactured upon customer request. This includes:

- Neutral resistors other than 27 Ohms.
- Applications where earth fault protection relays are used with a higher sensitivity than 300mA.
- No neutral earthing resistor.
- 380 Volt equipment.



Key features and functions



The Earth Path Tester forms a permanent maintenance free installation into equipment to be monitored.

The EPT prevents injection of simulated fault currents when earthing is faulty or touch potential exceeds 25 VAC.

It will trip all earth leakage relays with a maximum sensitivity of 300mA.

The unit can be vertically or horizontally mounted.

The EPT's LED indicators are positioned on the front as well as on top of the relay to allow for ease of status indication.

The EPT derives its power from the equipment supply.

How does the EPT function

The Earth Path Tester is installed in a motor terminal box and must be connected to a test button.

The internal star point is simulated by means of a capacitor-resistor circuit which limits the operating current to approximately 10mA.

The EPT can continuously monitor for voltage above 25V, or at the push of the test button, an electronic switch is engaged for half a cycle measuring the voltage between the equipment earth and a simulated star point. If the voltage exceeds 25V the EPT's Red LED alights and the electronic switch will open, preventing the earth fault current being injected into the system.

For any voltage below 25V, the EPT will pass a current of 300mA through one of the three phases to earth and lights up the Green LED. When the trip is activated it can be assumed that the earth bonding integrity is sound and earth fault protection relay and circuit breaker shunt trip coil are functional.



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