

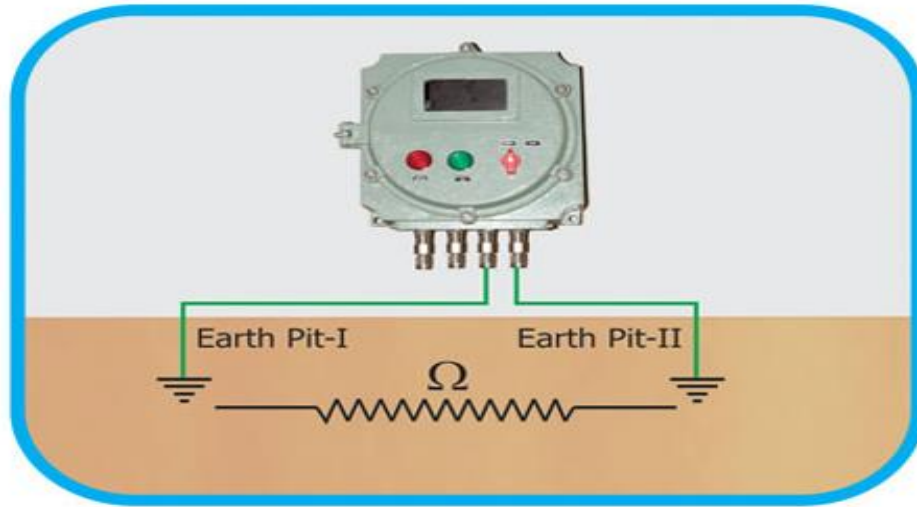


We Control Electrostatic

VITAL ENGINEERING INSTRUMENTS

Tower A, FF 117, Infinity Arcade, Near Pratapnagar Bridge, Pincode-390004, Vadodara, GUJARAT
GST : 24DVPPP1558F1ZA PAN : DVPPP1558F WEB : vitalengginstruments.com M : 8347269644

CONTINUOUS EARTH PIT MONITORING SYSTEM WITH RESISTANCE DISPLAY



Introduction

The traditional method of measuring earth pit resistance by wenner method by disconnecting the earth pit connection from the earth grid and measuring the individual pit resistance by a meter can be replaced with the earth pit resistance and monitoring system, ECR-2. With ECR-2, there is saving in time and efforts in searching for most suitable places to position the probes for 3-point or 4-point measurement, especially for highly resistive soils. The added benefits of continuous monitoring and relay output for unhealthy condition (open or high resistance) can be also used for process application.

ECR-2 provides an advanced earth pit resistance measurement and monitoring system. It is provided with display for indicating measured resistance value, red indication lamp for open earth loop resistance value and green indication lamp for healthy condition of earth loop resistance value i.e. less than the set value (typically 10 ohms). Also, the output relay is provided for alarm/ annunciation. ECR-2 is provided with flame proof enclosure for installation in hazardous areas with flammable atmosphere.

Principle of Operation

ECR-2 is connected between two earth pits or in series connection with one earth pit and grid connection of the earth pit. ECR-2 applies voltage across the two earth pits/ earth pit to grid connection and the current flow is measured. The resistance is internally calculated from the applied voltage and current flowing through the earth pits. LED display unit on ECR-2 reads the measured value of resistance. The device continuously measures resistance and increase in resistance beyond the set value, (typically 10 ohms) would initiate the relay output which can be used for interlocking, alarm or annunciation.

Features

- Continuous monitoring of earth pit resistance
- Displays the resistance value of earth pit
- Uses intrinsically safe relay circuit, housed in flame proof/ weather proof enclosure
- ATEX and CE certified



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Technical specification

Rated voltage	:	230VAC or 110VAC – 10%+15%, 45-65Hz, 24VAC (optional)
Inputs	:	1) Process earth pit connection at loading/ unloading area 2) Reference earth connection
Range	:	Earth pit resistance setting from 0 to 20 Ohms, adjustable at site through display
Ignition protection class	:	Ex IIC 2 GD d e ia T6
Temperature class	:	T6 (85 deg.C)
Cable entries	:	Three or four, Suitable for 19mm Gland
Relay output rating	:	Two Change over 250V/ 5A (Resistive load)
Weight	:	7.5kg (Approx.) without clamp

General Flame Proof Enclosure Specifications:

- Type of Protection : CIMFR / CCOE for Intrinsic safety (Ex-i)
- Flame proof (Explosion proof) : Ex-d
- Area Classification : Zone 1 & 2
- Gas Groups : IIA/IIB, T6
- IP Protection : IP 65/ IP 66
- Apparatus Standard : For Ex-d- IS/IEC 60079-1: 2007, IS/ IEC 60529-1: 2001 (IP-66)
- Material : Cast Aluminum Alloy LM – 6
- Temperature Class : T6 (85 deg.C)