



VITAL ENGINEERING INSTRUMENTS

Plot B103 Darshnam Antica Residency, Opp Heavy Water Tank, Danteshwar-04, Vadodara, GUJARAT.
GST : 24DVPPP1558F1ZA PAN : DVPPP1558F E : vitalengginstruments.com M : 8347269644

OPERATION MANUAL

10 Channel Continuous Earth Monitoring System With Resistance Display & Interlocks



MANUFACTURED BY

VITAL ENGINEERING INSTRUMENTS, VADODARA, GUJARAT



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Applications

The System can be used to Monitor the Healthy Earthing of following Equipments.....

- Multiple Reactors, Multiple Vessels
- Multiple drum/ tote loading points
- Liquid/ powder mixing and blending
- Multiple Points on Powder conveying equipment
- Container filling and emptying
- Hoppers and dust collectors
- Fluid bed drying Equipments
- Reactor Vessels
- Powder Micro Ionizing, Pulverizing and Many More.....

Overview

The Vast usage of Explosive Solvents, in hazardous areas & applications brings in a lot of risk to mankind working in that atmosphere, The multiple equipments in the plant are connected in grid connection through earth strips and earth strips are connected to mother earth through GI Strips or Copper Plates

While the regular supervision of Earth Pits, Continuity of Plant Equipments to Earth can negate any kind of accident from occurring, however it easier said than done, hence there was a need for a system which can 24*7 measure the equipment to ground resistacne and earth continuity to make environment safe for working for the people.

INSTALLATION

The 10 Channel Continuous Earth Monitoring System has to be wall mounted in hazardous areas near to the plant equipments, so that the operator can easily make out which equipment has lost the connection to the earth or which equipment resistance is shooting up due to problem main earth pit.



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Cabling Details

From Mains to FLP 10 Channel CEMS - 02 Core Armored Cable 1.5 SQMM

From CEMS SS/FLP(OPTIONAL) Junction BOX to Individual Equipments - 1.5 SQMM Single Core Wire

From CEMS SS/FLP(OPTIONAL) Junction BOX to Main Earth Pit - 02 Connections – 1.5 to 4 SQMM Single Core Wire

STANDARDS & CERTIFICATIONS

- ROHS, CIMFR, PESO (Optional)
- Standards Complied : IS/IEC 60079 - 11:2006 & IS/IEC 60079 - 0:2011
- Intrinsically Safe Certified IP 65 Certified

WORKING LOGIC / OPERATIONAL PRINCIPLE

- The System once powered & connected to 10 potentially hazardous equipments will check each and every equipment in interval of 05 Seconds
- Each Channel Number will be displayed with its Earthing Status and Resistance Display
- The Earthing Status May be Healthy / Unhealthy depending upon the result, if it found to be unhealthy the fault registration LED will GLOW indicating Fault
- During unhealthy Condition the hooter sounds up to bring an attention to the near by operators.



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**FOR MORE INFORMATION & DETAILED VIDEO LINK FOR
OPERATION PROCEDURE PLEASE CLICK BELOW LINK**

<https://www.youtube.com/watch?v=46lhAhiWQes>



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TECHNICAL PARAMETRES

Supply Input Voltage	:	230 V AC (To Main Unit)
Output Voltage	:	5VDC
Current Rating	:	20 Milli Amp (Intrinsically Safe)
Power Rating	:	10 Watts SMPS (Input/Output Isolated)
Ingress protection	:	IP65
Temperature range	:	-10 degree to 55 Degree
Control Relay	:	10 NOS Potential Free
Output in/out Monitoring Unit	:	Intrinsically Safe
Enclosure Material	:	Cast Aluminum Alloy (LM6)
Cable Entries	:	M 19 FLP Glands (03 nos)
Monitoring Resistance	:	>10 ohms (Shows Red Indication if resistance goes above 10 ohms)
Resistance Display	:	It will show the Individual Equipment Resistance to Ground in Ohms
Operation	:	(Healthy Earth) Less than 10 Ohms & (Unhealthy Earth) More than 10 ohms
Hooter Interface	:	(Optional – Integrated with System on Request)
Certifications	:	The entire assembly is ROHS, CIMFR & Complying IS/IEC Standards
Application	:	Tanker Earthing, Drum filling, Reactor Charging, Pharma Equipments, Multiple Equipments, Pipeline Earthing.



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