



VITAL ENGINEERING INSTRUMENTS

Plot 746/1 OFFICE 2&3 MAKARPURA GIDC, Vadodara, GUJARAT-390010.

GST : 24DVPPP1558F1ZA

PAN : DVPPP1558F

E : vitalengginstruments.com M : 8347269644

OPERATION MANUAL

FLP/WP 20 Channel Continuous Earth Monitoring System With Resistance Display

Model No - (CEMS2021/RM)

20 Channel



FLP/WP FOR PLANT AREA APPLICATIONS



FLP/WP/GMP FOR CLEAN ROOM AREA APPLICATIONS

MANUFACTURED BY
VITAL ENGINEERING INSTRUMENTS, VADODARA, GUJARAT

Working Operating Video Link - <https://www.youtube.com/watch?v=UmOXvZitz8o&t=45s>



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

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 an 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 20 Channel Continuous Earth Monitoring System has to be wall mounted in safe area near to the vicinity of the operator 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.

Working Operating Video Link - <https://www.youtube.com/watch?v=UmOXvZitz8o&t=45s>



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

Cabling Details

From Mains to FLP 20 Channel CEMS - 02 Core Armored Cable 1.5 SQMM

From 20 Channel CEMS SS Junction BOX to Individual Equipments - 1.5 SQMM Single Core Wire

From CEMS SS Junction BOX to Main Earth Pit - 02 Connections – 1.5 to 4 SQMM Single Core Wire

WORKING LOGIC / OPERATIONAL PRINCIPLE / SOP

- The System once powered & connected to 20 potentially hazardous equipments will check each and every equipment in interval of 05 Seconds
- Each Channel Number will be displayed in **RED Seven Segment LCD** and Resistance Display in **Blue Seven Segment LCD**
- The Channel OK LED will be ON **GREEN** if the scanned Channel earthing & resistance value is OK, it will turn off there is OPEN Connectivity or resistance is high above 10 OHMS
- The Earth Fault Registration LED is Provided in the bottom for each Channel, the respective channel having earth fault will be highlighted by a **RED** Indication
- There are **20 RED LEDS** Provided with which any of the Channel having fault will be glown and will continuously stay glow unless and until it is repaired
- During Unhealthy Condition the Hooter sounds up to bring an attention to the nearby operators.

Working Operating Video Link - <https://www.youtube.com/watch?v=UmOXvZitz8o&t=45s>

FOR ANY FURTHER QUERIES, PLZ CONTACT

+91 8347269644 OR sales@vitalengginstruments.com



VITAL ENGINEERING INSTRUMENTS

Plot B103 Darshnam Antica Residency, Opp Heavy Water Tank, Danteshwar-04, Vadodara, GUJARAT.

GST : 24DVPPP1558F1ZA

PAN : DVPPP1558F

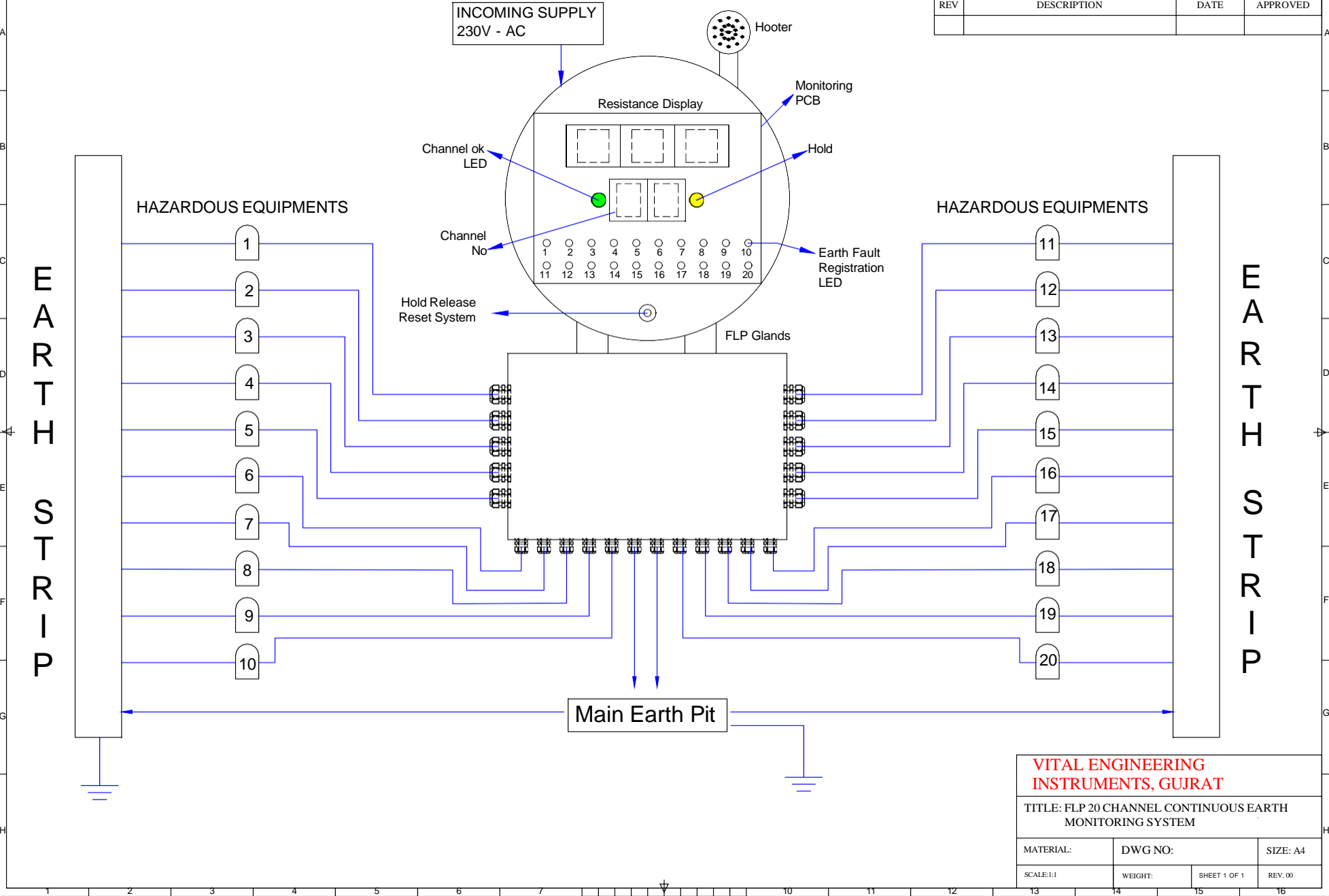
E : vitalengginstruments.com

M : 8347269644

TECHNICAL PARAMETRES

Supply Input Voltage	:	230 V AC (To Main Unit)
Output Voltage	:	5VDC (SMPS Output Supply)
Current Rating	:	10 Milli Amp (Intrinsically Safe)
Power Rating	:	10 Watts SMPS (Input/Output Isolation)
Ingress protection	:	IP65
Temperature range	:	-10 degree to 55 Degree
Control Relay	:	02 NOS Potential Free
Output in/out Monitoring Unit	:	Intrinsically Safe as per IS/IEC 60079:11
Enclosure Material	:	Flame Proof Cast Aluminum Alloy (LM6)
Certification	:	CIMFR, PESO(Optional on request)
Cable Entries	:	PG7 13 MM – 22 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)
Application	:	Tanker Earthing, Drum filling, Reactor Charging, Pharma Equipments, Multiple Equipments, Pipeline Earthing.

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



VITAL ENGINEERING INSTRUMENTS, GUJRAT			
TITLE: FLP 20 CHANNEL CONTINUOUS EARTH MONITORING SYSTEM			
MATERIAL:	DWG NO:	SIZE: A4	
SCALE: 1:1	WEIGHT:	SHEET 1 OF 1	REV. 00

