



We Control Electrostatic

VITAL ENGINEERING INSTRUMENTS

Plot : B-103 Darshnam Antica Residency, Opp Heavy Water Tank, Danteshwar-390004, Vadodara, GUJARAT

GST : 24DVPPP1558F1ZA

PAN : DVPPP1558F

WEB : www.vitalengginstruments.com

M : 8347269644

OPERATIONAL GUIDE

Advanced Continuous Earth Monitoring System with Resistance Display & HOOTER

GAS GROUP - IIA IIB



MANUFACTURED BY

VITAL ENGINEERING INSTRUMENTS, GUJARAT

vitalengginstruments@gmail.com

+91 8347269644



We Control Electrostatic

VITAL ENGINEERING INSTRUMENTS

Plot : B-103 Darshnam Antica Residency, Opp Heavy Water Tank, Danteshwar-390004, Vadodara, GUJARAT

GST : 24DVPPP1558F1ZA

PAN : DVPPP1558F

WEB : www.vitalengginstruments.com

M : 8347269644

GENERAL OVERVIEW

The loading and unloading of tank trucks, containers, mixers etc containing flammable or combustible products has long been recognized as one of the most serious fire and explosion risks for hazardous industry operations.

A study conducted by the **American Petroleum Institute in 1967**, for example, identified static discharges as being responsible for more than 60 incidents in tank truck loading operations, Mixing Operations, Drum Filling etc..

Since then more stringent preventive standards have been developed and significant advancements have been made in the technology of static electric discharge prevention. Yet accidents traced to static electric discharges still occur, with sometimes tragic results.

The natural presence of static electricity during product transfer operations, combined with its associated ignition hazards, ensure that regulators take static control precautions for tank trucks very seriously. The primary guidelines are detailed in three primary standards: **NFPA 77, API RP 2003** and

WORKING PRINCIPLE

THE System should be used to monitor the earthing of the vehicle, static equipments, once connected it shows the actual earthing status with GREEN & RED Indication

GREEN INDICATION – HEALTHY EARTH - Loading / Unloading Process should Start or it gets automatically started through relay contacts

RED INDICATION – UNHEALTHY EARTH Loading / Unloading Process should stop or it gets automatically stopped through relay contacts & Hooter gets activated.



We Control Electrostatic

VITAL ENGINEERING INSTRUMENTS

Plot : B-103 Darshnam Antica Residency, Opp Heavy Water Tank, Danteshwar-390004, Vadodara, GUJARAT

GST : 24DVPPP1558F1ZA

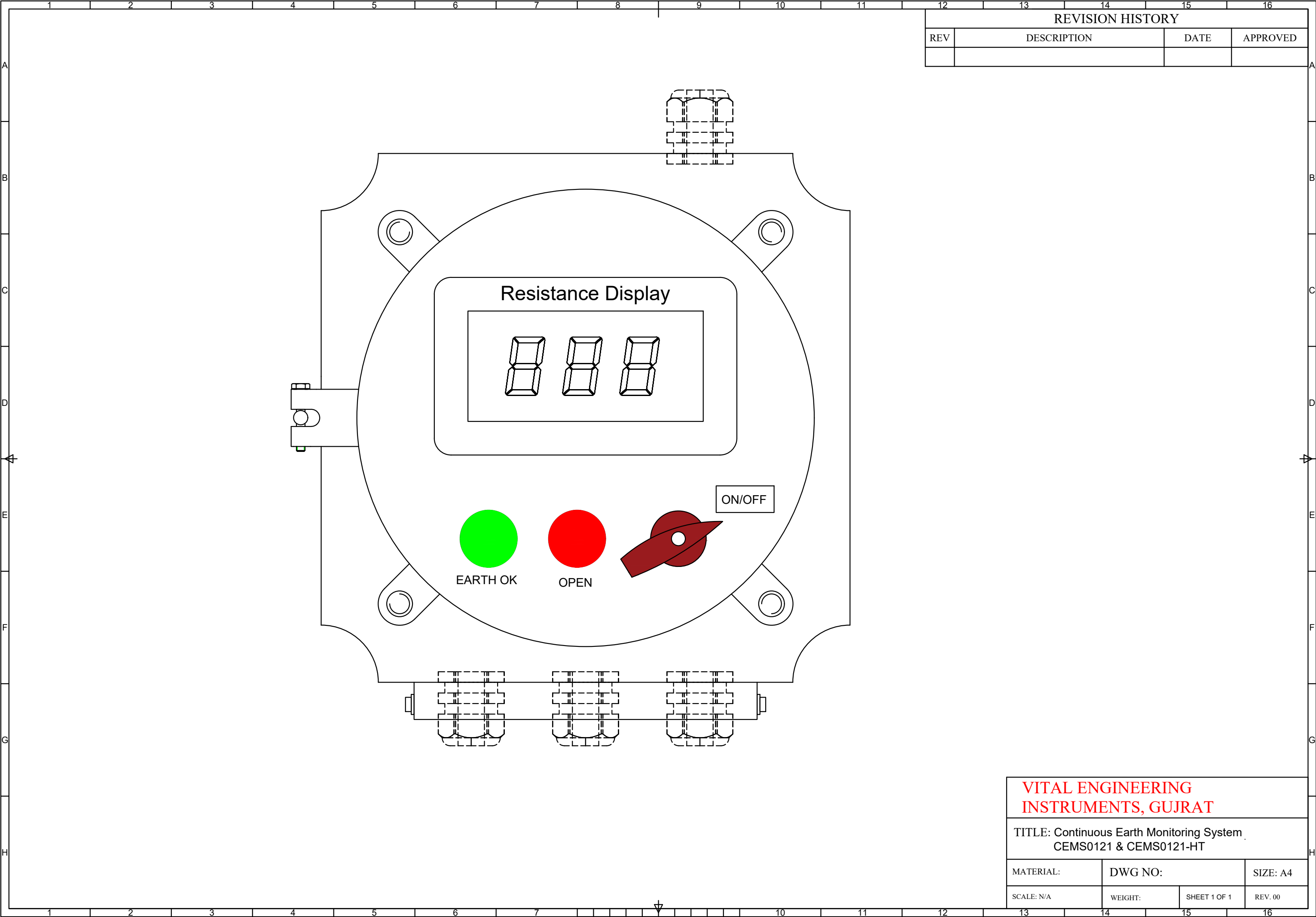
PAN : DVPPP1558F

WEB : www.vitalengginstruments.com

M : 8347269644

TECHNICAL SPECIFICATION

Inputs	:	1: True Earth Point at Loading area 2: Probe from Body of Earthed Tanker
Resistance Bandwidth	:	Range 4,6,8,10 Ohms
Protection	:	Intrinsically Safe
Output	:	Control Relay
Contacts	:	Two Relay Change over NO & NC Contacts (Potential Free)
Contact Action	:	Relay Contacts to Change over when Equipment body is at Same potential as identified TRUE EARTH (Properly Earthed)
Indication	:	GREEN LED = Healthy Earth, RED LED = Unhealthy earth
Hooter	:	ON DURING EARTH FAULT OR OPEN CONDITION (Optional)
Relay Operation	:	GREEN LED = Relay NC State, RED LED = Relay NO State
Power Supply	:	230 V AC Input
Circuit Protection	:	Fuses (Internal Protection of the Circuit)
Certification	:	CIMFR – FLP & Intrinsic Safe Circuit
Equipment marking	:	Ex D, Zone 1, 2 IIA IIB IP66
Ingress Protection	:	IP 66
<ul style="list-style-type: none">- SS304 Clamp & 1 nos. of PU Anti-Static Spiral Cable for the Safe Connection to the Equipment Body- PCB Mounted in Hazardous area Certified FLP Enclosure		

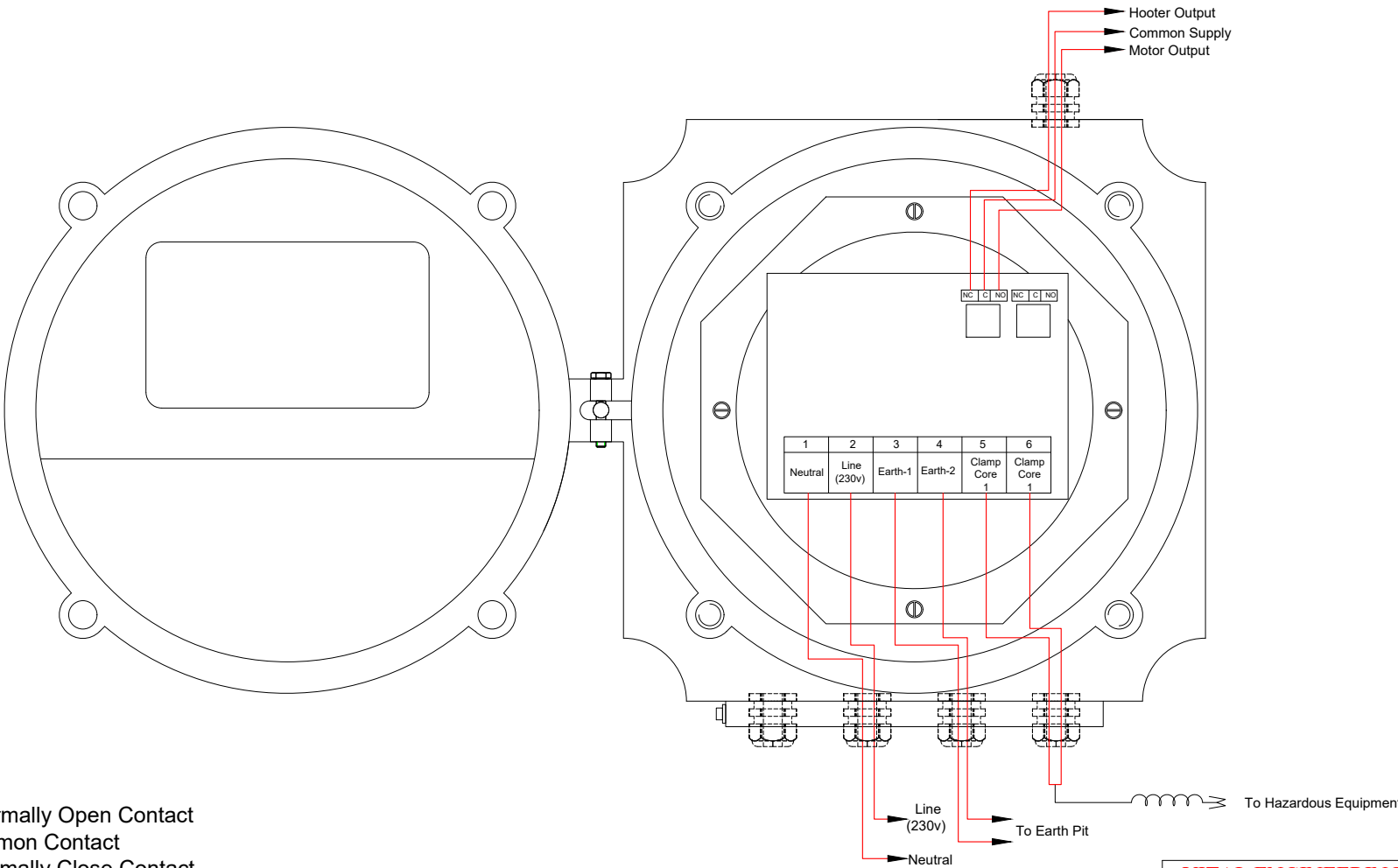


REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

VITAL ENGINEERING INSTRUMENTS, GUJRAT			
TITLE: Continuous Earth Monitoring System CEMS0121 & CEMS0121-HT			
MATERIAL:	DWG NO:		SIZE: A4
SCALE: N/A	WEIGHT:	SHEET 1 OF 1	REV. 00

Connection -1

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



NO : Normally Open Contact
C : Common Contact
NC : Normally Close Contact

VITAL ENGINEERING INSTRUMENTS, GUJRAT			
TITLE: Continuous Earth Monitoring System CEMS0121 & CEMS0121-HT			
MATERIAL:	DWG NO:	SIZE: A4	
SCALE: N/A	WEIGHT:	SHEET 1 OF 1	REV. 00