



SCAN FOR WEBSITE



SMART EARTHING MONITORING SYSTEM

Artificial Intelligence Powered Smart Solution for Grounding Resistance.



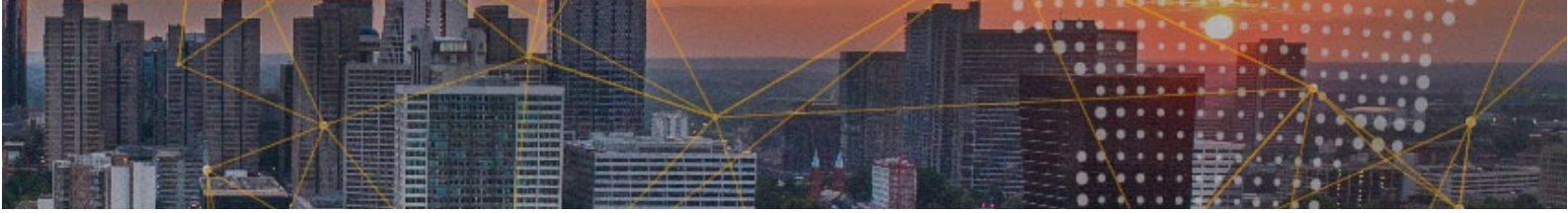
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INTRODUCTION

The **Smart Earth Monitoring System (SEMS)** employs AI and IoT to remotely assess grounding system conditions. It monitors earth resistance and continuity, addressing challenges like moisture and corrosion. SEMS simultaneously tracks multiple grounding systems, sending combined sensor data to a Central Cloudhub for real-time analysis. Online alerts warn users when resistance values exceed set thresholds, ensuring optimal safety. Users can access real-time data via a web portal or mobile app, overcoming challenges associated with fluctuating ground resistance values and record-keeping. SEMS stands as an advanced solution for maintaining reliable and secure grounding systems in various applications.

SMART EARTHING MONITORING SYSTEM



WEB PORTAL AND MOBILE APPLICATION

The real time data obtained from the site locations is processed and sent to a Central Cloudhub. This real-time data it is accessible to the users through the Web Portal and Mobile Application where the user can:



Monitor the **real-time data values**.



Check the alert **insights and warnings**.



Set the resistance range for a particular **site location**.



Check & Print the history records of particular **date and time**.

SEMS

SALIENT FEATURES

- ➡ Remotely monitors the resistance and continuity of the grounding system.
- ➡ Seamless IOT connectivity for the remote monitoring of data.
- ➡ Provides alerts and notifications based on the predefined resistance values.
- ➡ A perfect engineering solution for rocky areas, hilly regions and confined spaces.
- ➡ Includes Cloud-based data storage solutions for efficient handling and processing of huge amounts of real-time data.
- ➡ Multiple grounding systems can be monitored & their values can be accessed from one Central Cloud.
- ➡ Instant access to real-time data through mobile application and web portal.
- ➡ Future proof technology designed to meet ever-changing needs of the modern era.

TECHNICAL SPECIFICATION

POWER SUPPLY	INPUT 24V DC
POWER CONSUMPTION	150mA @ 24V
WORKING TEMPERATURE	-10°C TO 85°C , 20% RH ~ 90%RH
RANGE	0.01 Ω ~ 100 Ω
RESOLUTION	0.001 Ω
MOUNTING	WALL MOUNT DIN RAIL
ACCURACY	$\pm 2\%$ @ $\pm 3^\circ$ at temp (20°C $\pm 5^\circ$ below 70% RH)
ALARM & INDICATION	YES
ALARM SETTING	SYSTEM SOFTWARE BASED
COMMUNICATION MODE	RS485
DEGREE OF PROTECTION	IP65
SENSOR	CLAMP TYPE
RESPONSE TIME	$\leq 50\text{ns}$

KEY BENEFITS OF THE DEVICE



APPLICATIONS

ELECTRICAL SUBSTATION YARDS

SEMS continuously provides real-time grounding status of Railway Signaling Gears essential for maintaining signal integrity, minimizing signal interference, and ensuring safe and efficient train operations.



RAILWAY SIGNALING GEARS

SEMS serves as an effective solution for remotely monitoring the resistance values in Electrical Substation Yards to avoid electrical faults, static charges, and other potentially dangerous conditions to the earth.

OIL AND GAS INDUSTRIES

SEMS helps Oil and Gas Industries for remotely monitoring and observing the robust electrical grounding system which is essential to mitigate electrical hazards, safeguard equipment, and uphold the integrity of essential operations.



SOLAR POWER PLANTS

SEMS continuously provides real-time grounding status of earth values in Solar Power Plants to provide valuable insights into system performance, fault detection, and proactive maintenance, ensuring optimal efficiency and uninterrupted power generation.



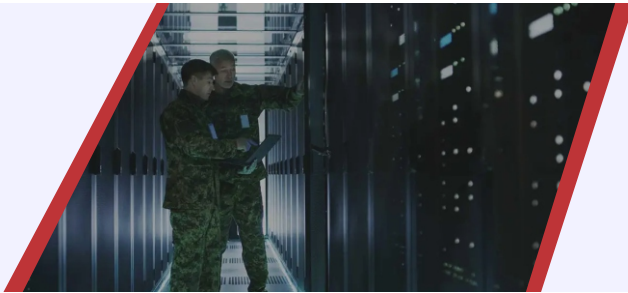
TELECOMMUNICATION INDUSTRIES

Real-time monitoring of earth values in the Telecommunication Industries facilitated by Smart Earth Monitoring Systems (SEMS), empowers proactive fault detection, efficient maintenance, and uninterrupted connectivity, ensuring optimal performance of critical communication infrastructure.



DEFENSE & MILITARY SECTORS

Harnessing the capabilities of Smart earth Monitoring System (SEMS), real-time monitoring of electrical earthing within the Defense & Military Sectors empowers proactive fault identification, fortified safety & maintenance practices reinforcing the resilience and operational readiness of defense infrastructure.



AIRPORTS

By employing Smart Earth Monitoring System (SEMS) for real-time monitoring, Airports can ensure the continuous surveillance of electrical earthing, enabling the swift detection of faults, efficient maintenance, and the provision of a secure and reliable environment essential for optimal airport operations.





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