



एन. एस. आई. सी. **MSSIC** ISO 9001 : 2008 NATIONAL SMALL INDUSTRIES CORPORATION LIMITED

(AN ISO 9001 - 2008 Certified Company)

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# **Technical Specifications of Continuous Earth Monitoring System 20 Channels**

A Key function of equipment earthing is to provide a controlled method to prevent the buildup of static Electricity, thus reducing the risk of electro static discharge in potentially hazardous environments. The Electrical resistance from the equipment to earth should be 10 ohms maximum, As for IS 7689 .This electrical resistance values are to be maintained continuously.

The System CEMS-0313 monitors resistance value to Earth and any fault will be indicated by RED LED and audio signal. The system monitors every equipment one after another with an interval of 5 seconds. The system draws the attention of the personnel to take remedial action should fault arise in equipment earthing.

CEMS 0313 has provision to monitor 20 no's of equipments, and comes in flameproof enclosure. Equipment to earth loop is measured by intrinsically safe voltage & current and this precision source has micro controller based switching.

Continuous Earth Monitoring System is designed to Monitor Earthing of Pharma product process equipment, one after other for 5 seconds. Once installed the system scanning the earthing of 1 to 20 equipment all the 24 hrs. There is no daily operation of the system. In the event of equipment earthing fault (resistance more than 10 OHMS), the system detects it and indicates the equipment number in Red color along with Audio Signal. At the same time, the faulty equipment number is registered in 1 to 20 Red Led array.











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### The CEMS-0313, system consists of 2 units.

- 1) Safe Area Unit: Located in switch gear room/safe area.
  - Power Input: 230 volts AC at less than 7 watts. L. T Transformer: windings for Primary and Secondary
- 2) A) Composite unit: FLP + Juntion Box for Hazardous area installation
  - Power Input: 14 Volts A.C at 200 mA

#### B) Intrinsically Safe Earth loop Check Connections.

- ➢ Voltage: 0.6 volts DC
- Current: 20 m.A Max D.C

#### **C) Operational Push buttons**

- ➢ Reset Switch
- ➢ Hold Switch
- Release Switch

## **D) Operational Visual Indications:**

1 to 20 Equipment scanning two digits LED display Green Loop check OK for the equipment connected. Red Earth Loop resistance greater than 10 ohms also the number is registered in 1 to 20, 5m LED array. Buzzer bips for 5 seconds along with digital display in Red.