



Multi Channel Earth Loop Monitoring System



Intrinsic Safe Interface
In Terminal Automation



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Introduction to Static Control for Hazardous Area

Static electricity is the situation where electrical charges build up on the surface of a material. The resulting build-up of static electricity is that objects may be attracted to each other or, even cause a spark to jump from one to the other. The problem of static electricity in hazardous atmosphere is ever present in many sectors of the processing industries. Effective grounding and bonding procedures are always the first step in controlling static, with special techniques being called for to suit individual.

One such application exists with items of process plant incorporating sections, which must be removed periodically for cleaning, product discharge or other purposes.

In these instances, the possibility exists that the removable parts may become isolated conductors if they do not have a sufficiently low resistance path to ground to enable any static generated to safely dissipate. If this happens, high levels of charge may accumulate on the isolated part, posing the risk of energetic static discharges. If this occurs in a hazardous atmosphere there will be a chance of a resulting fire, explosion or dangerous physiological shocks for operators.

The **MULTI CHANNEL EARTH MONITOR** solves these problems by ensuring that all parts of the equipment are connected together and to ground by using a unique Intrinsically Safe Monitoring System. The system provides permissive outputs only when the earth loop resistance of each utilized channel is less than 10 ohms.

MULTI CHANNEL EARTH MONITOR applications include:

- Multipoint of Liquid
- Multipoint of drum / tote loading points
- Liquid / powder mixing and blending
- Powder conveying equipment
- Fluid bed drying
- Container filling and emptying
- Hoppers and dust collectors
- Powder micronizing, pulverising and grinding equipment

Features

For plant and machinery where there are several potentially isolated conductive parts, the **MULTI CHANNEL EARTH MONITOR** provides monitoring and static grounding for up to 4 channels, with individual indication.

The entire monitoring installation of intrinsic safe in nature, allow to install controller in ATEX certified enclosure in hazardous area. EPS 16 ATEX 1019, EPS 15 ATEX 1131X

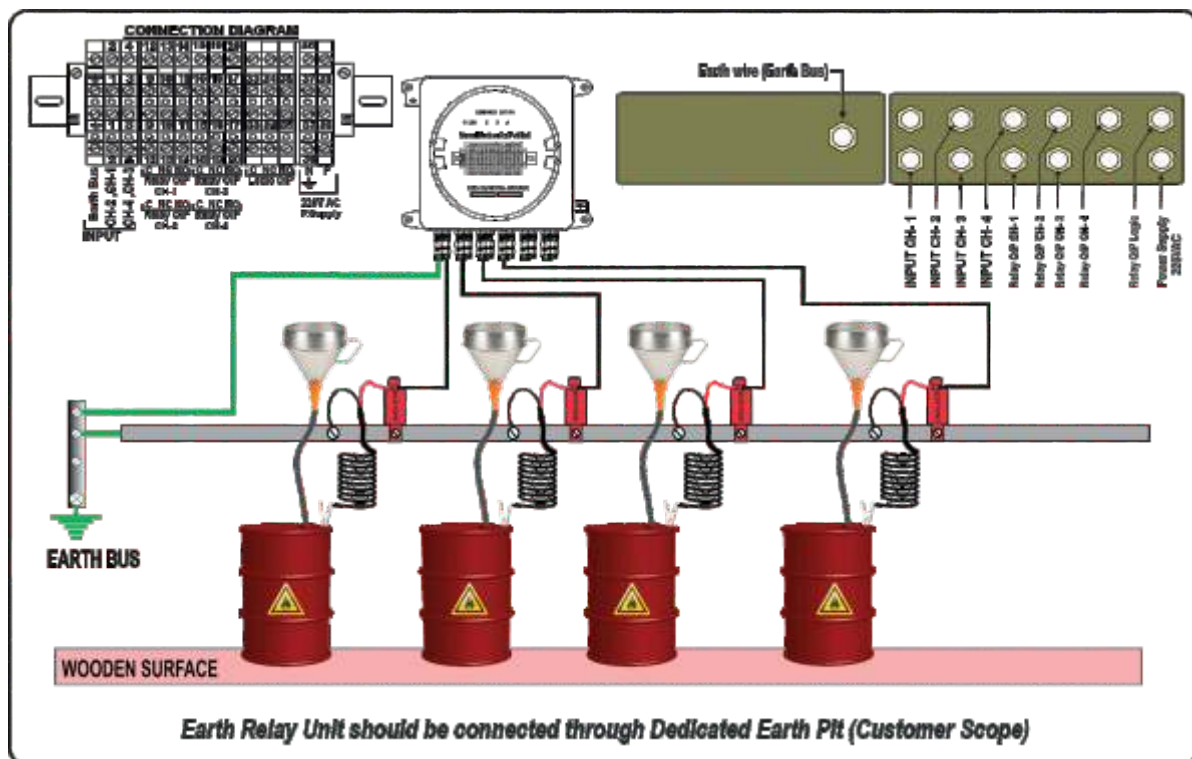
Can be screwed with standard cable.

The mother boards can have up to 4 potentials free relay contact.

Electrostatic Hazard Control & Monitoring in Powder Processing Area

Many organizations handle powder processing area and may have many interconnected metallic parts to it which are disconnected on regular basis as per site requirement.

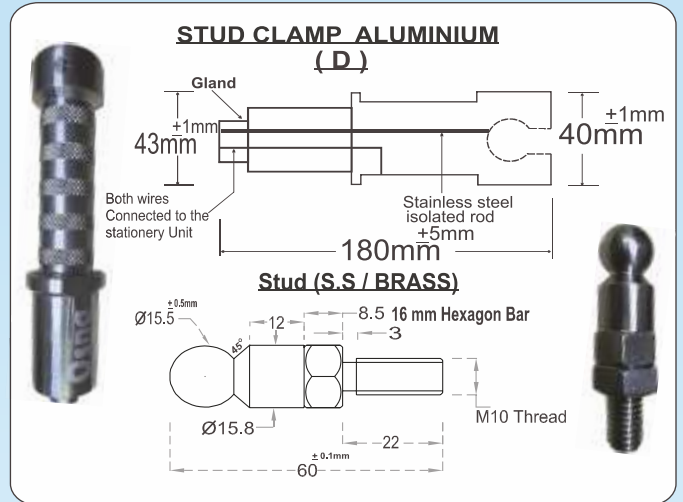
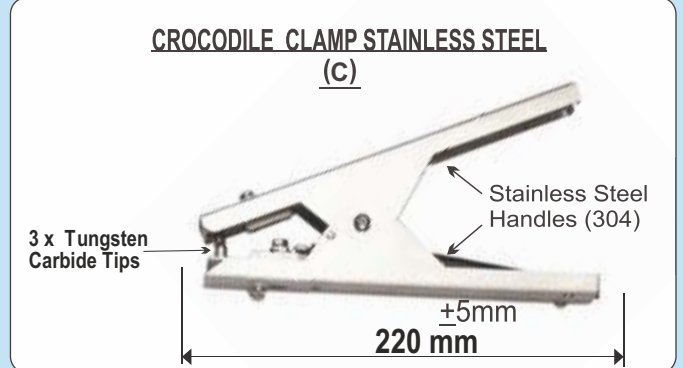
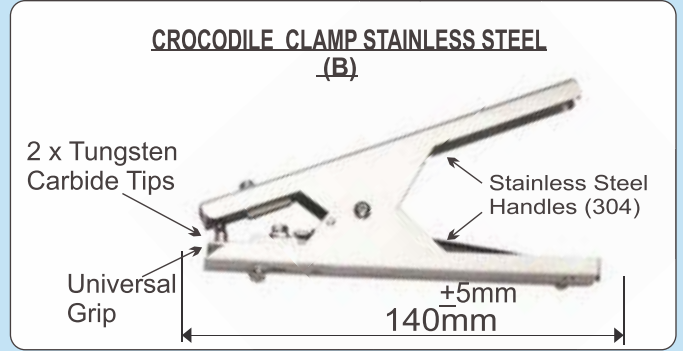
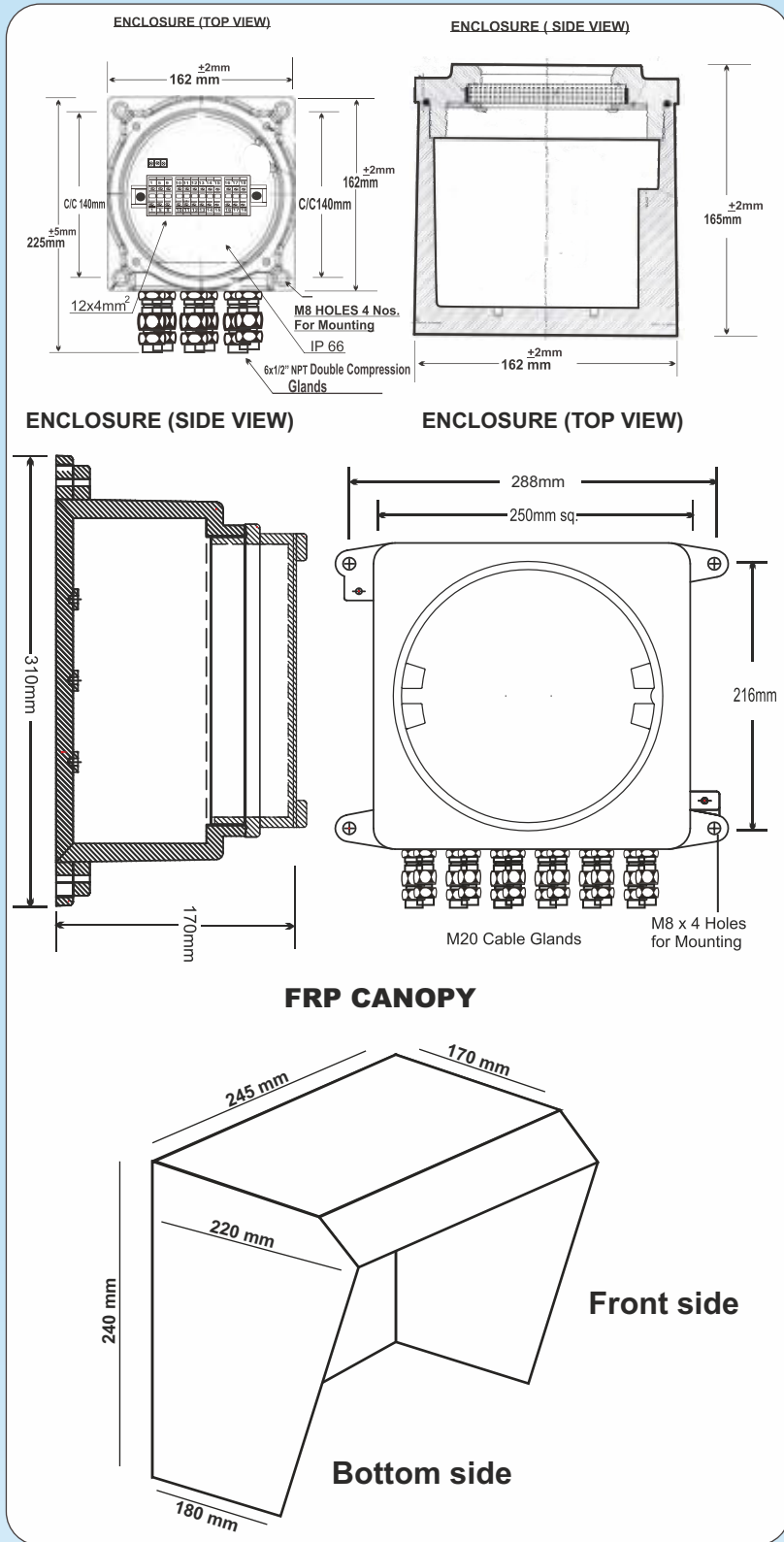
This plant may have insulated gasket between them and can isolate that part from main earth. Even in regular maintenance practice it is time consuming to ensure proper dissipation path. However, many responsible organizations prefer online monitoring system.



Technical Information of WE77/Ex...ERU/OS-Ex-2G (4CH.)

Article No.	MCERU-015B for 220V AC, MCERU-15A for 110V AC
Power Supply	220VAC OR 110 VAC -10%+15%,45-65Hz./ 24VDC + 10%
Current Consumption	approx. 3,5VA
Ripple	≤ 10%
Hazardous Area Section	
Inputs (Intrinsically Safe)	
Nominal data	as per DIN 19234 Equipment
Open circuit voltage	approx. 8 V.DC Nominal
short circuit current	approx. 8 mA
Parameters as per BUREAU VERITAS Certificate as per	BV Certificate No. EPS 16 ATEX 1 019 EN 60079-0 : 2012 , EN 60079-1 : 2014
Values per circuit	
Values when connecting the both circuit	
Output Voltage (max.)	12.87 V
Output Current (max.)	15.86mA
Output power (max.)	64 mW
Permissible circuit values	
Ignition protection class/	IIC (1)G [EX ia Ga] IIB/IIC , IIC (1)G [EX ia Ga] IIB/IIC
Explosion group	II C
Max. External Capacitance	0.8 mF
Max. External Inductance	74μH
Safe Area Section	
Contact rating of relay	250 V / 4 A / Cos f ≥ 0.7
Circuit Response Time	
Relay Energising / De-energising	»€20 ms / » 20 ms
Switching Frequency	Max. 10 Hz.
Enclosure Materiel & Protection	LM-6 (IP-66)
Protection	IIA, IIB, Ex-d Zone 1, Zone 2.
Type of Thread	M20
Enclosure :	
Flameproof Enc.	II 2G Ex d IIC, T6 Gb -20°C ≤ Ta ≤ +55°C Gb
ATEX BV Certificate No.	BV Certificate No. EPS 16 ATEX 1019 EPS 15 ATEX 1131X
Housing Material	Aluminum
Glands:	
Type of Thread	½" NPT Double Compression
Protection class	IIA, IIB, IIC, Ex-d
Ambient Temperature	Max. 55°C
Gross Weight	16kg
Flameproof Enc.	II 2G Ex d IIC, T6 Gb -20°C Ta +55°C Gb

Dimensions of flame proof housings with clamp



**No.4&5, Phase IV, Okhla Industrial Estate
New Delhi-110020.**

Osna Gujarat Mob. +91 9227491013
Osna Hyderabad Mob. 040-66366703
Osna Kolkata Mob. +91 9212714534
Osna Maharashtra Mob. +91 92256 32662
(Goa)

Osna North Mob. +91 9212524406 E-mail: osnanorth@osnaelectronics.net
(Delhi, Punjab, Haryana, Rajasthan, Madhya Pradesh, Uttar Pradesh)

Osna South Mob. +91 8056229764 E-mail: osnachennai@osnaelectronics.net
(Tamilnadu Karnataka Kerala Andhra Telangana Pondicherry)

Tel. 0091-011-41023750-52
Email : osna@osnaelectronics.net

E-mail : osnabaroda@osnaelectronics.net
E-mail : osnahyd@osnaelectronics.net
E-mail : osnaKolkata@osnaelectronics.net
E-mail : osnapune@osnaelectronics.net