



Osna

Earth Relay Units



Intrinsic Safe Interface For
Flexible Intermediate Bulk Containers
(FIBC)



Providing Solutions Since 1985

Sensors • Process Automation • Factory Automation • Terminal Automation

Earth Relay Unit - OS-Ex-2G /WE77/Ex-ERU(FIBC)

- Flexible Intermediate Bulk Containers (FIBC) is capable of accumulating electrostatic charge during product transfer.
- FIBCs must be tested in as per IEC 61340-4-4* and in accordance with their intended use using in hazardous environments.
- Type C FIBC should be grounded during bag filling and emptying operations.
- The OSNA Earth relay unit gives complete reliability and assurance of a true & correct grounding with max safety in the FIBC while loading & unloading.
- Type ATEX certified mother board (Trip amplifier) Type OS Ex 2 G approve for Zone 1 Zone 2 & IIC & housed in ATEX approved Enclosure for Zone 1 & 2 IIC by BUREAU VERITAS Germany / CIMFR Dhanbad & PESO NAGPUR with marking II 2G Ex d IIC T6 Gb.
- If the resistance through the conductive or static dissipative elements of the Type C bag is less than the required threshold, the ground status LED switch from red to green. The static dissipative performance of the bag is the sole responsibility of the bag manufacturer and the site owner.

Monitoring resistance level:-

- As per IEC Standard the Electrostatic classification of Flexible Intermediate Bulk Containers (FIBC), the resistance through a Type C FIBC bag should be less than 1×10^8 Ohms (100 Meg Ohm).

Continuous Earth Loop Monitoring

The Earth clamps to be connected to the Earth tab (flap) on the bag & the loop is monitored through the Earth Relay Units, once the Loop resistance threshold is below (100 Meg Ohm) the Earth Relay unit will become Green.

The proper earth will be in scope of site owner / responsible to connect on particular bag.



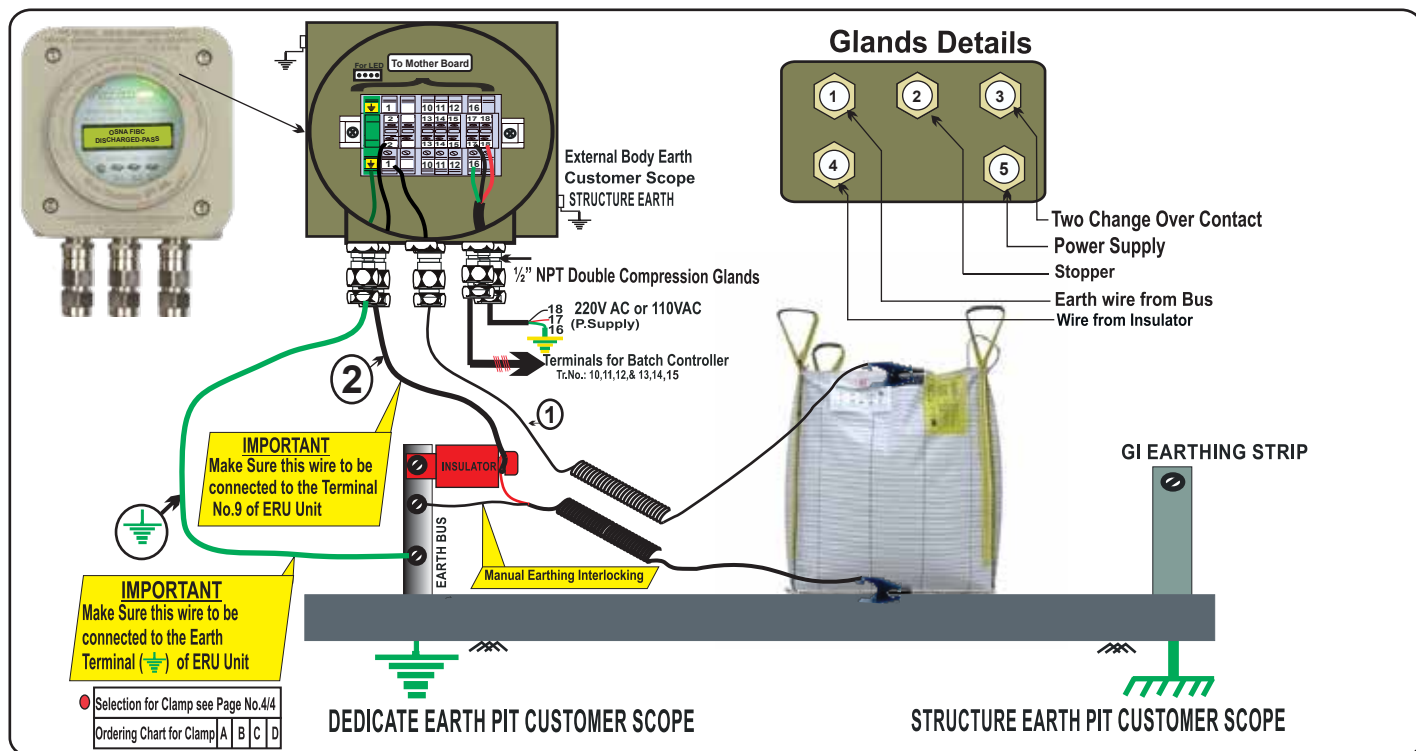
RED-LED (Earth Not ok)



Green LED (Earth ok)



Block Schematic and Typical Connections / G.A, Drawing

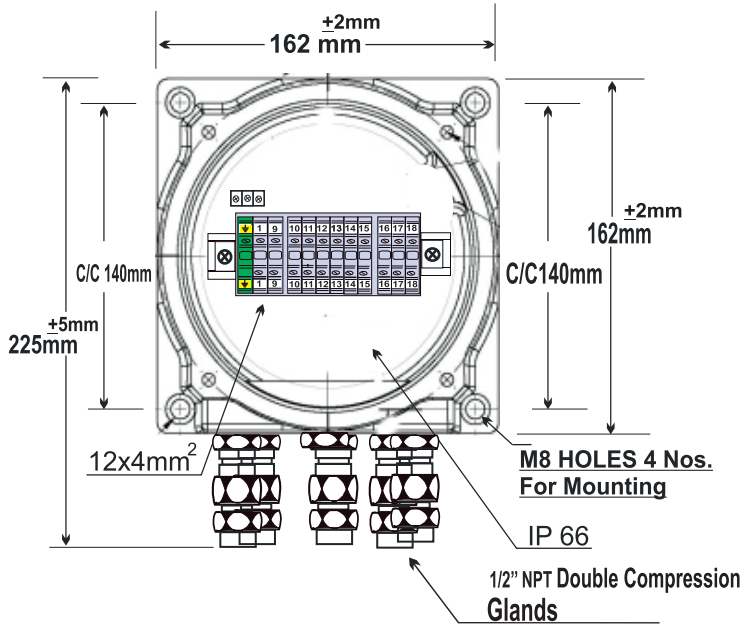


Technical Information of Trip Amplifier - OS-Ex-2G /WE77/Ex-ERU(FIBC)

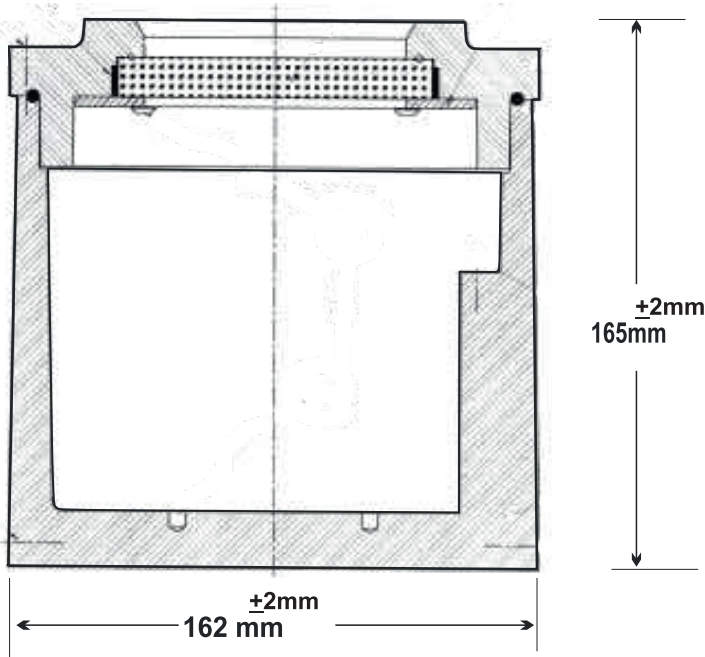
Article No.	ERU-024A (110V AC), ERU-024B (220V AC)
Power Supply	220VAC OR 110 VAC-10%+15%,45-65Hz.
Current Consumption	approx. 3,5VA
Ripple	≤ 10%
Hazardous Area	Mother Board
Parameters as per BUREAU VERITAS Certificate as per	BV Certificate No. EPS 16 ATEX 1019 EN 600079-0 : 2012, EN 600079-1 : 2014
Permissible circuit values Ignition protection class/	IIC (1) G [Ex ia Ga] IIB IIC or II (2) G [Ex ib Gb] IIB/IIC
Protection class	Zone 1 & Zone 2
Safe Area Section	
Trip amplifier circuit	Intrinsically safe
OUT PUT Contact rating	2 Change - Over Contact 250V AC, 5Amp, 30V DC, 2Amp
Contact rating of relay	250 V / 4A / Cos f > 0.7
Technical specification Enclosure	
Type	WE -77 ERU
Certificate Enclosure	EPS 15 ATEX 1 131 X
Protection class	II2G Ex d IIC T6 Gb
Ingress protection	IP 66
Enclosure material	Aluminum LM 6
Cable Entries	Max. 7 No. Size ½ or ¾ Inch NPT
Monitoring Resistance Value	1 x10 ⁸ (100 Mega Ohms) (±10%)
Relay Energising / De-energising	»€20 ms / » 20 ms
Switching Frequency	Max. 10 Hz.
Weight	5 Kg
Ambient Temperature	-25°C to +55°C
Glands:	
Type of Thread	½" NPT Double Compression
Protection class	Zone 1 & Zone 2 IIA, IIB, IIC, Ex-d

Dimensions of flame proof housings with clamp

ENCLOSURE (TOP VIEW)



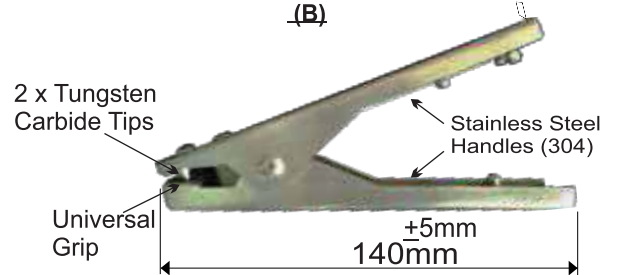
ENCLOSURE (SIDE VIEW)



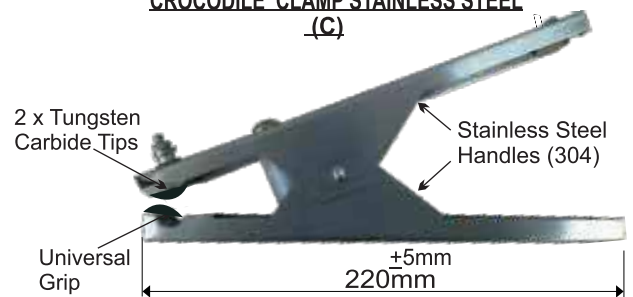
CROCODILE CLAMP ALUMINUM (A)



CROCODILE CLAMP STAINLESS STEEL (B)



CROCODILE CLAMP STAINLESS STEEL (C)



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