

EX-PROOF CONTROL PANELS



INTRODUCTION

Ex-proof electrical control panels or electrical control stations are used in hazardous location. The Ex-proof control panel is designed and built to operate in environments where concentrations of flammable gases, vapours, liquids or combustible particles pose risks of ignition and explosion.

Ex-proof control panels are for the supply of lighting circuits or motive power distribution in any type of industrial application. They can be equipped with 'Ex d', 'Ex e' and 'Ex tb' IP66 command and control operators. The 'Ex d' limit switches in aluminium alloy have a wide range of actuators and multiple combinations of contacts allowing to realize the optimal solution for a perfect operation of the system located in a hazardous area. They ensure resistance and reliability with the passing of time. The electronic grounding system for tanks and tankers protects the electrical equipment from electrostatic and atmospheric discharges, while loading and unloading operations of flammable substances.

ADVANTAGES

- Strong safety
- Less power consumption-energy saving
- Long service life-maintenance-free
- Conducive to environmental protection

APPLICATION

- Chemistry Plants
- Paint Plants
- Oil Storage Facility
- Energy Plant
- Harbour and Shipyard
- Oil Filling Plants
- Industrial Areas
- Fuel-Oil Station and Gasoline Storage
- Dry Cleaning Plants
- Spray Finishing Areas
- Aircraft Hangars

TYPES

- Ex-Proof Control stations
- 'Ex d/tb' electronic grounding system
- 'Ex eb/tb' electronic grounding system
- Ex-Proof Grounding clamp
- Ex-Proof Breaker
- Ex-Proof Instrument Housings
- Ex-Proof Rotary Switches
- Ex-Proof Limit Switches



Ex-Proof Control Stations

Ex-proof control panels are made in aluminium alloy, polyester or stainless steel and they are ideal to house electrical equipment as control and signalling devices. They can be in-stalled on board machines or at distance and they are used in chemical, petrochemical and pharmaceutical industries and in any other place where an explosion-proof installation is required.



'Ex d/tb' Electronics Grounding System

They are used to control grounding continuity during thanks loading and unloading operations. Thanks normally arrive electrostatically loaded, and an imperfect earthing might cause fire originated by a spark in presence of gas. The earthing control system is composed of a marine grade copper free aluminium enclosure, as above described, inside fitted with the earthing control electronic circuit SM-2001, which is normally set at 20 ohm, and authorize thanks loading/unloading when resistance is less than 20 ohm.

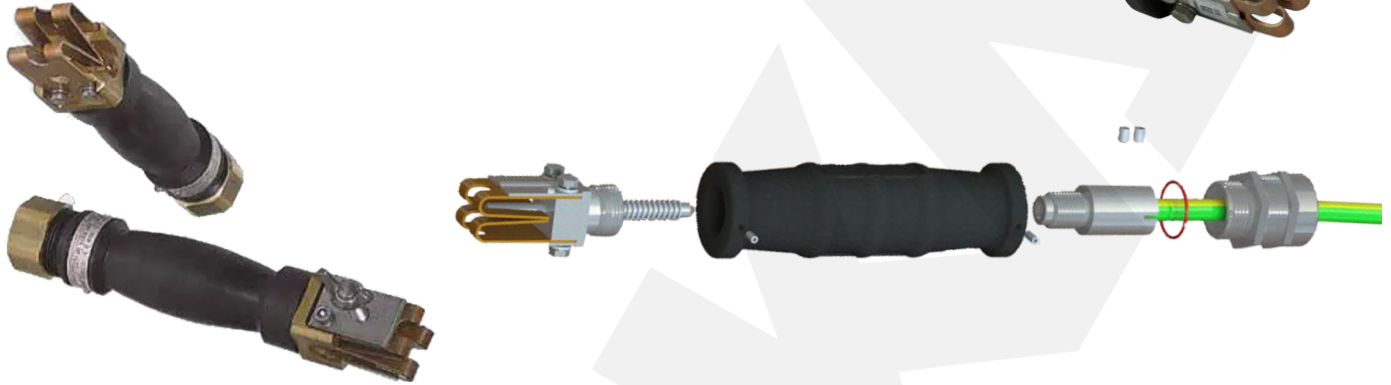
'Ex eb/tb' Electronics Grounding System

'Ex eb/tb' Electronics Grounding(Earthing) System help to prevent fire and explosions in areas with hazardous levels of static electricity when trucks or trains load and unload liquids and dry materials. It can be provided with one or two earthing clamps for the connection to tank trucks or other metallic parts.



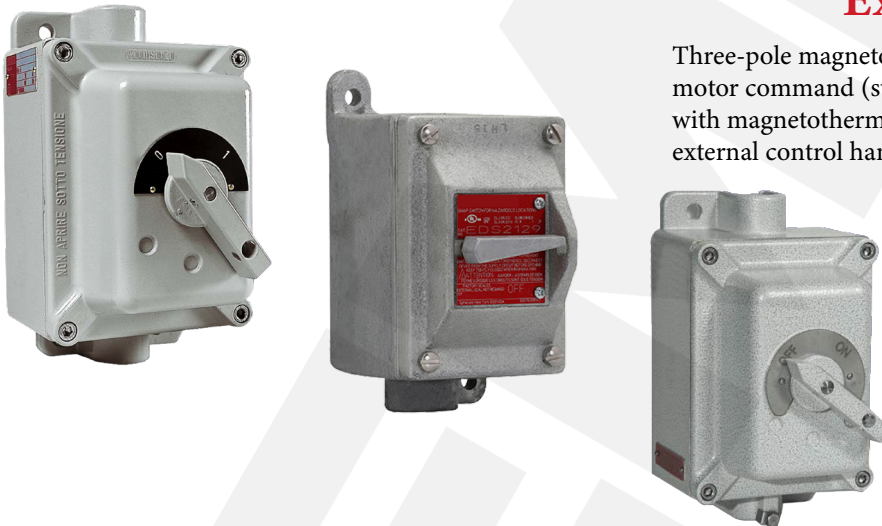
Ex-Proof Grounding Clamp

Grounding (Earthing) clamp is used to connect tankers to earth during loading and unloading operations. Grounding is made inside the body of the clamp in an 'Ex d' chamber only after the clamp has been connected to the local earth installation.



Ex-Proof Breaker

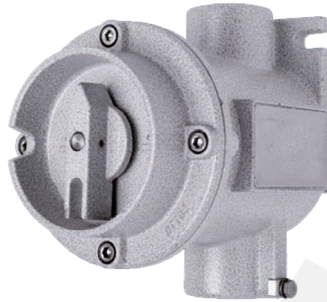
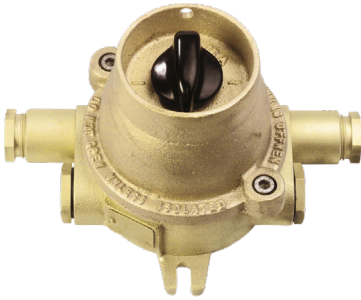
Three-pole magnetothermal breakers are used for three-phase motor command (start-stop) and protection. Circuit breaker with magnetothermal protection that may be adjusted via an external control handle.



Ex-Proof Instrument Housings

Instrument housings are normally used to contain analogical instruments such as ammeters and voltmeters of small and medium size.





Ex-Proof Rotary Switches

Rotary switches are used for branch circuit protection of lighting, equipment and motor circuits in hazardous areas. They provide a disconnect means, short circuit protection and thermal time delay overload protection.



Ex-Proof Limit Switches

Ex-proof limit switches are intended to provide the most typical installation needs. The major benefits of these limit switches in aluminium alloy are their ease of wiring and installation, durability, and long-term dependability. Furthermore, they are equipped with a diverse variety of actuators and contact combinations, allowing them to give the optimum option for the correct operation of a system in a risky zone.

