

Earth-Rite® FIBC



The **Earth-Rite FIBC** system validates and monitors the resistance of Type C FIBC bags ensuring that the conductive elements of the bag are capable of dissipating electrostatic charges in compliance with IEC 61340-4-4 “Standard test methods for specific applications - Electrostatic classification of flexible intermediate bulk containers (FIBC)” and NFPA 77 “Recommended Practice on Static Electricity”.

During the bag filling / emptying process the Earth-Rite FIBC system continuously monitors the resistance of the bag so that if it rises above of 1×10^7 ohms (10 meg-ohm) this dangerous situation can be indicated to operators and the process halted, either manually or via the system’s pair of NO/NC volt free contacts.

When the Earth-Rite FIBC detects that the resistance in the ground loop through the bag, through the plant’s verified earth ground, back to the system is less than 1×10^7 ohms, it energizes the volt free output contacts and three green LEDs continuously pulse informing

operators that the FIBC bag to be protected from static discharges is securely grounded.

When the Earth-Rite FIBC is not in use, or when it detects the resistance in the static dissipative loop is higher than 1×10^7 ohms, a red LED illuminates the indicator panel located inside the static dissipative GRP indicator station.

Newson Gale can also provide FIBC grounding systems that can validate and monitor Type C bags designed with an upper resistance threshold of 1×10^6 ohms (100 meg-ohm).



Earth-Rite FIBC
housed in a static dissipative GRP enclosure



FM / ATEX approved stainless steel monitoring clamp delivers intrinsically safe monitoring signal from the Earth-Rite FIBC to the Type C bag (supplied with system).



FM / ATEX approved stainless steel grounding clamp returns the intrinsically safe monitoring signal from the bag to the Earth-Rite FIBC (recommended).

Europe / International:

IECEX
Ex nA nC [ia] IIC T4 Gc(Ga) (gas & vapour).
Ex tb IIIC T70°C Db (combustible dusts).
Ta = -40°C to +55°C.
IECEX SIR 09.0097
IECEX certifying body: SIRA.

ATEX
Ex II 3(1) G
Ex II 2D
Ex nA nC [ia] IIC T4 Gc(Ga)
Ex tb IIIC T70°C Db
Ta = -40°C to +55°C.
Sira 09ATEX2247
ATEX Notified Body: SIRA.

North America:

NEC 500 / CEC (Class & Division)
Associated Equipment [Ex ia] for use in Class I, Div. 2, Groups A, B, C, D; Class II, Div. 2, Groups E, F, G; Class III, Div. 2,
Providing Intrinsically Safe circuits for Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G; Class III, Div. 1,
When installed per Control Dwg:
ERII-Q-10165 cCSAus
Ta = -25°C to +55°C.
Ta = -13°F to +131°F.
OSHA recognized NRTL: CSA.

NEC 505 & 506 (Class & Zoning)
Class I, Zone 2, (Zone 0), AEx nA[ia] IIC T4 (gas & vapour).
Class II, Zone 21, AEx tD[iaD] 21, T70°C, (combustible dusts).

CEC Section 18 (Class & Zoning)
Class I, Zone 2 (Zone 0) Ex nA[ia] IIC T4 DIP A21, IP66, T70°C

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Leading the way in hazardous area static control

Panel mounted grounding with system interlocks



In limited circumstances electrical contractors may need to provide a static grounding solution as part of a specialized instrumentation/ automation project. To satisfy the requirements of bespoke projects designers are often limited by standard “off-the-shelf” static grounding solutions that cannot be customized to provide a good “fit” for their specific application design requirements. A suitable design trade-off is to specify static grounding relays that can monitor a range of resistance values.

Although installations of this type are limited by not having ground status indication provided at the point of grounding, the normal application for such relays is to monitor the ground status of permanent fixed equipment connections or rotating machinery and using an internal relay to provide outputs to PLCs or customized HMI panels.

Ensuring that a rotating drum or impeller is correctly grounded to 10 ohms can be difficult as it is not always possible to rely on a consistent and smooth connection between the rotating shaft and the chassis of the machine.

Due to the design of bearings, etc. a good method of guaranteeing ground continuity is to use a non-hazardous area mounted ground monitoring relay to test the ground connection to the drum or impeller via a pair of carbon brushes or a slip ring, acting on the shaft.

Such relays may also be used to test the ground connection to key items of fixed plants, such as large storage vessels.

Relays that have a range of resistance settings, like the Earth-Rite OMEGA II are normally mounted on DIN rails inside electrical panels installed in non-hazardous areas.