



Using Magnasphere Contacts in Hazardous Locations

Magnasphere's passive, insulated and epoxied contacts* (Including our High Security models series, HS- and HSS-), can be used in hazardous locations by Intrinsically Safe means.

There are at least two ways to meet the requirements of a hazardous location. The common means was habitually satisfied by using "Explosion Proof" devices. The other means is via Intrinsic Safety. *Our packaged (epoxied and insulated) switches are regarded as a Simple Apparatus for Intrinsically Safe schemes. When used in tandem with an Intrinsically Safe Isolator which is designed, rated, and listed for the hazardous location class, the installation will be Intrinsically Safe for that hazardous location.

Intrinsic safety is a more flexible means of fulfilling the requirements of hazardous locations. Basically, the intrinsically safe isolator (often of a DIN rail mount form) controls the energy to downstream wiring and equipment, making an arc impossible. In these schemes, the intrinsically safe device carries the Class/Division or Zone rating for the hazardous location. This allows for using a Simple Apparatus (many of Magnasphere's contacts) to be used in such environments.

Selection of our model series: HSL1.5 (armored cable high security level 1), HSL1.5-800 (conduit-fit high security level 1), HSS-L2S / -L2D (armored cable high security level 2), HSS-L2S-800 / -L2D-800 (conduit-fit high security level 2)

References on Simple Apparatus and Intrinsic Safety:

NFPA 70 – Article 504 Intrinsically Safe Systems

<http://cemarkingmadesimple.blogspot.com/p/simple-apparatus.html>

Please consult ExLoc for selecting and configuring your equipment for intrinsic safety:

Ed Beardshaw

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Other resources:

The following is an excerpt from Stahl support.

"Here is the isolator I recommend for the [Magnasphere] sensor. Because it is rated as a simple apparatus, there is no entity parameter limitation.

The 9170 is our line of Digital input isolators. The 9170/20-10-11s is one of the most common isolators. It is a dual channel, requires 24VDC and has a change over contact.
...

"Barbara Vazquez I.
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Solutions from Pepperl Fuchs:

KFD2-SRA-Ex4-BOM – includes a double channel barrier din rail mounted in a 6x6x5 NEMA4X hinged enclose with dog eared mounts, 2 cable glands for 14AWG wiring

Craig Depies
Durable Controls Inc.
515 E Industrial Ave
Hartland, WI 53029
Office (262)367-4900
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"... Take a look at the following intrinsically safe isolators I had in mind for an application involving dry contacts.

KFD2-SR2-Ex1.W

https://www.pepperl-fuchs.us/usa/en/classid_6.htm?view=productdetails&prodid=26054 [pepperl-fuchs.us]

This is a single channel isolator which accepts inputs from dry contacts and has a relay output.

KFD2-SR2-Ex2.W

https://www.pepperl-fuchs.us/usa/en/classid_6.htm?view=productdetails&prodid=26055 [pepperl-fuchs.us]

This is a dual channel isolator with the same specs as the above but can connect up to 2 devices to this barrier.



KFD2-SRA-Ex4

https://www.pepperl-fuchs.us/usa/en/classid_6.htm?view=productdetails&prodid=35550 [pepperl-fuchs.us]

This is a quad channel isolator with the same principles as the above two but can connect up to 4 devices to this barrier.

...
Marcos Quiros
Application Engineer
Pepperl+Fuchs, Inc."

Magnasphere catalog:
<http://magnasphere.com/index.php?wpdmdl=26483> [magnasphere.com]

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