



HAZARDOUS AREA CLASSIFICATIONS

Hazardous areas are defined as places where flammable gases, dusts and fibers are handled or are potentially present to form an explosive atmosphere. People operating electrical devices in these locations need to know that it can be done safely. There are various agencies that define the environmental conditions and attest to a device's ability to perform safely under those conditions. In the United States the major over-seeing authority is Factory Mutual Research. All ControlAir I/P transducer designs have been rated and approved by Factory Mutual for use in hazardous situations provided certain requirements are met. In Canada the governing agency is CSA, Canadian Standards Approval and ATEX is the new European standard. Please contact the factory for the availability of these standards on any of our products.

INTRINSICALLY SAFE

An intrinsically safe system restricts the energy available in the device or wiring, under normal or abnormal conditions, so that a spark or hot surface can not occur due to any type of electrical fault. **A proper barrier, which is a certified intrinsically safe interface, must also be used.** Only 4-20 mA based transducers qualify for intrinsically safe systems. There is too much energy in any other control signal. This situation applies to any competitors products as well. Factory Mutual has traditionally referred to this as a Class I, Division 1 application and is accompanied by a list of Groups defining the gases and dusts it can be used with. Intrinsic safety applies to the total system, not the individual transducer. Calling an I/P intrinsically safe just means it's capable of being used in an intrinsically safe system. ControlAir 4-20 mA transducers automatically come approved for IS systems; other companies usually offer it as a more expensive option.

NONINCENDIVE

All ControlAir 4-20 mA I/P transducers are FM approved as nonincendive. Factory Mutual refers to this as suitable for Class I, Division 2 applications, specific to various gases and dusts. This signifies that under intended operating conditions, the device isn't capable of igniting the specified gases. This is usually used where flammable liquids and gases are normally contained or controlled by ventilation. Barriers are not required for nonincendive applications.

EXPLOSIONPROOF

An Explosion Proof device is designed with an exceptionally durable enclosure capable of containing an internal explosion. This prevents energy or heat from escaping and igniting flammable gases and dusts. Our T950XP is even approved when being used with natural gas instead of compressed air. If being used with natural gas, then it must be ordered with a tapped exhaust and a conduit seal. The 950XP is one of the few products approved for use with natural gas.

BARRIERS

An intrinsically safe barrier limits the energy (voltage and current) that can pass under fault conditions. ControlAir doesn't provide the barriers required for intrinsically safe installations. The T500 installation manual contains a wiring diagram with various options and manufacturers. Entity requirements are available from ControlAir on all other models, allowing you to obtain the proper barrier from a manufacturer that specializes in them. Competitor's products do not come with them either.