

Product Approvals for Hazardous Locations

A hazardous location is an area where there is a presence of a flammable or explosive mixture in the atmosphere. Because of this, any electrical instrument used in this areas must be designed to contain or prevent a fire or explosion from occurring. Use this guide to select the product with the appropriate approvals that are required for your hazardous area application.

Intrinsic Safety

Intrinsic Safety method of protection is limiting the energy within the instrument to a level which is below that which may cause an ignition. An Intrinsically safe barrier is used as the interface between the hazardous and non-hazardous area. This is the safest method and is the only method approved for Zone 0 applications where the hazard is continuously present

Explosion Proof / Flame Proof

Explosion/Flameproof is method of protection in which the parts that may ignite in an explosive atmosphere are placed within an enclosure that can withstand the force and pressure developed during an internal explosion. If a fire or explosion occurs, the heat and energy gets redirected to pass through multiple threads or a flame path to reduce the temperature and energy to a safe level.

Non-Incendive

Non-incendive Safety approvals involve limiting the energy that is applied to an instrument to prevent an explosion without the use of a barrier. The user's design must limit the energy to the instrument. This can only be used in division 2 hazardous areas where the hazard is not present in normal conditions but could be present in abnormal operations like the surrounding air.

Increased Safety

Increased safety combines the low power requirements of the non-incendive approval with ingress protection ratings for connectors. NOTE: These types of installations require the use of third-party approved non-incendive field wiring concepts.

Use in Potentially Explosive Atmospheres

ATEX Directive 2014/34/UE is a directive that applies to protective systems against explosions as well as all equipment used in or related to explosive atmospheres, such as electrical and non-electrical equipment, components and safety devices.

Product Category	Model	Intrinsic Safety						Explosion Proof/Flame Proof						Non-Incentive		Increased Safety		Explosive Atmospheres
		FM	UL	CSA	ATEX	IECEX	INMETRO	FM	UL	CSA	ATEX	IECEX	INMETRO	FM	CSA	ATEX	IECEX	ATEX
Pressure Sensors	A2X	●		●					●		●			●	●			
	A4	●		●										●	●			
	E2S	●		●	●	●	●							●	●			
	E2F							●		●	●	●		●	●			
	IXL	●												●				
	K1	●		●										●	●			
	ZX12															●		
Pressure Switches	A-series Exd			Note 1				●	●	●	●	●						
	B7 series			Note 1					●	●	●	●						
	F-series			Note 1					●	●								
	P-series			Note 1					●	●								
Temperature Switches	PT-series			Note 1					●	●								
	T7 series			Note 1					●	●	●	●						
Temperature Sensors	S01	●		●	●	●	●							●		●		
	S10	●		●	●	●	●							●		●		
	S50	●		●	●	●	●	●			●	●	●	●		●		
	S70	●		●	●	●	●	●			●	●	●	●		●		
	S80	●		●	●	●	●	●						●		●		
	S81	●		●	●	●	●	●						●		●		
Pressure Gauges	T5500/T6500																	●
	P5500/P6500																	●
Digital Gauges	2X7X DG	●		●														
	208X DG																	
	308X DG	●		●														
Test Instruments	ATE/IS	●		●	●													
	PTE2/IS	●		●	●													

Note 1 Ashcroft® Pressure and Temperature switches are classified as "simple apparatus" since they do not create nor store energy. They can be used in intrinsically safe circuits without further certification, provided the power source of the circuit is certified Exi and the installation is in accordance with the relevant codes of practice.