



## OVERVIEW

Electrical Equipment Operating in the Oil and Gas Production, Plant, Pipeline, and Transportation Industries are frequently required to be certified for operation in Class I Division 1 or Class I Division 2 Hazardous Areas.

## Classes, Divisions, and Zones

Classes(I,II,III) specify the category of Hazards (Class I – are combustible gases and liquids, Class II is combustible dusts, and Class III are combustible fibers).

Divisions (1,2) specify the likelihood of occurrence. Division 1 areas are areas where gas, vapor or liquid is always present in normal operation. Div 1 areas include such as vents near the wellhead, inside process buildings. Division 2 areas specifies areas that would have presence of Hazardous material only under abnormal situations. Unclassified areas are areas neither classified Div 1 or Div 2. Unclassified areas are also termed general areas. Unclassified areas are areas where no hazards normal exist under normal operating conditions.

When the zone rating systems is used; Zone 0,1 subdivides Division 1 into 2 further degrees of protection rating; and Zone 0 is equivalent to Division 2.

## Class I Division 2

Class I Div 1 certification is necessary for equipment installed in the process area. Class I Division 1 certification requires equipment to be Explosion Proof or Intrinsically Safe. CThis rating is typical used for Instrumentation or Actuators that must be installed in the process area.

Control and Communications equipment such as PLC (s), RTU (s), HMI (s), and Modems are frequently installed in Class I Div 2 areas in the Oil and Gas industries. This equipment can be installed close enough to the process for making it efficient for the operation and maintenance personnel while requiring less demanding certification. Class I Div 2 Wiring Methods allows the most cost effective installation since cabling, conduit, and tubing lengths can be minimized; the equipment is relatively inexpensive compared to Class I Div 1 Area Wiring and Equipment.

Equipment not hazardous area certified for cannot be installed in Hazardous areas.











## SatSCADA Equipment and Packages – Class I Division 2 Certified

SatSCADA SAT1xx Satellite Terminals, SatSCADA Accessories, and Packages are Certified for Operation in Class I Division 2. SAT1xx Accessories include the SCADALink RIO900 900 Mhz Wireless Modem & RIO 100 I/O Controller and I/O Modules; and the PSC-24 24VDC Power Supplies. The RIO I/O Control and I/O Modules can be used to provide additional remote I/O to the SAT1xx Terminals via RS232 or RS485 interface when the onboard I/O is not sufficient.

For common Oil and Gas Applications complete Class I Div 2 Certified SatSCADA Solar Powered RTU and Communication Packages are available.

The SatSCADA family include a complete End to End Wireless Connectivity (Satellite, Cellular, and Radio) Solution.

SAT1xx Terminals			
SAT100	SAT110	SAT120	SAT130
			
Satellite Modem, RTU with RS232 , RS485, and 4 AI/ DI/DO	Battery Powered Satellite-based Alarm Callout	Dual Mode Satellite & Cellular Modem/RTU	Wireless Industrial M2M/IoT Modem & Gateway for Mobile and Fixed Applications

Accessories			
TB1	RIO	I/O Modules	PSC24 Power Supplies
			
I/O, and Communication Port Termination Boards	Unlicensed 900 MHz Modem	IO Expansion for DI, DO, AI, AO	24VDC Power for Instrumentation

SAT Packages			
SAT100 Solar Powered RTU	SAT110 Battery Powered Satellite RTU	SAT120 Dual Mode Sat/Cell Solar Powered RTU	SAT130 Sat/Cell RTU with PoE Splitter
