


ESP SAFETY INC
**Technology of the Future
Protection for Today**


ESP Safety's Model UPES Multi-Channel Controller offers maximum flexibility to users as a standalone, independent control system that can also be interfaced to a PLC or DCS system. This advanced microprocessor-based monitoring system is compatible with all flame-detection and gas-sensor products offered by ESP Safety. Utilizing the analog outputs, 16 of ESP's detectors and sensors can operate in any combination. Utilizing the digital outputs, 480 of ESP's detectors and sensors can operate in any combination.

The UPES can be used at any facility for monitoring and detecting gas concentrations and flame and fire conditions. After being programmed with the desired thresholds, the UPES system will transmit light (LED) and sound alarms as well as signals to responding devices, such as warning systems, automatic sprinkler systems, ventilation systems, and emergency shutdown controls.

The UPES is built on a standardized housing 3Ux19 inches (482x266x132 mm) based on a highway-module concept. The UPES contains the power supply module and the controller module. It has internal rack space capable of holding eight channel cards for up to 16 analog or 480 digital signaling devices. The UPES control panel can display up to three separate alarm levels per signaling device.



UPES

MULTI-CHANNEL CONTROLLER

Applications

- Drilling and production platforms
- Shipping tankers, freighters, and other vessels
- Fuel loading facilities
- Refineries, bulk terminals, and tank farms
- LNG/LPG processing and storage facilities
- Compressor stations and pipeline facilities
- Petrochemical, paint, and fertilizer plants
- Power plants and gas turbine facilities
- Transportation facilities (airports and subways)
- Oil and gas fired boilers / furnaces
- Environmental regulation monitoring

Features and benefits

- Maximum number of data channels: 1-16 analog or 1-480 digital channels offer broad gas-sensor coverage
- Configurable for permanent or periodic indication
- Three (3) programmable alarm relays, providing broad notification capability
- Digital (when connected to an RS-485 interface), analog and relay outputs provide reliable status information across a range of communication formats
- Modular measurement unit (3Ux19") is compatible with industry standard size rack or standalone installation
- Integrated two (2) line LED display for gas concentration
- High maximum lengths of communication line for long-distance notifications: via 4-20 mA analog, up to 3937 feet (1200m); via RS-485, up to 16400 feet (5000m)
- Compatible with PLC and SCADA
- High-level audible alert

CONTACT

www.espsafetyinc.com
info@espsafetyinc.com

CALIFORNIA

555 N. First Street | San Jose, CA 95112
Ph: +1-408-886-9746 | Fx: +1-408-886-9757

TEXAS

4001 W. Sam Houston Parkway N. Ste #150 | Houston, TX 77043
Ph: +1-713-999-1050 | Fx: +1-713-999-1060

Certifications



APPROVED

Class I, Division 1
Groups B, C & D
T4 Ta = -40°F to +167°F
(-40°C to +75°C)
IP66



Ex d IIC T4
-40°F to +185°F
(-40°C to +85°C)
CE Mark for EMC (TUV)
CE Mark for IECEx
IP66



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Electrical Characteristics

Voltage	110V (±10V), 60Hz (±1Hz) Frequency/ 24VDC from 18 to 32 VDC
Outputs	RS-485 Modbus RTU compatible with PLC's, SCADA, & DCS systems 4-20 mA analog output Relays (dry contact) with programmable alarm level One relay for fault condition
Operating Temperature	-40°F to +158°F (-40°C to +70°C)
Humidity	Up to 95%, non-condensing (withstands up to 100% RH for short periods)

Mechanical Characteristics

Height	5.19" (132mm)
Width	19" (483 mm)
Depth	9.3" (266 mm)
Weight	37.47lbs (17.0kg)

Front Panel Indicators

- 3 color LED digital indicators
- 4 alarm LED indicators:
 - Green - Normal
 - One red - Low alarm
 - Two red - Auxiliary alarm
 - Three red - High alarm
 - Yellow - Fault



The network illustrated below, consisting of a UPES Multi-Channel Controller, SGOES and SSS-903 Gas Detectors, has the capacity to monitor potentially hazardous areas in proximity to oil and gas transit stations, gas and oil trunk pipelines, oil and gas storage tank farms, loading racks and similar facilities. When a lower explosive level (LEL) of gas presence (measured as a percent) has reached a preconfigured value, the UPES sounds an audible alert and sends alert signals to the control room monitoring devices while alerting operators. In addition, the UPES can send alert signals to facility level protection systems to initiate responses. These can include activating emergency facility shutdown, and automated ventilation system response.

