



ESP SAFETY INC

Technology of the Future
Protection for Today

ESP Safety's model SSS-903 field control unit performs as an integrated control terminal and display for ESP Safety's gas detector product line. The SSS-903 can operate as a stand-alone display for a variety of our gas detectors which can be remotely located up to 500 feet away. A sensor head can also be attached directly to the display housing to produce a unified detector/display unit.

Key Features

- Vivid 2.7" (diagonal) 128x64 pixel resolution, OLED screen simultaneously display a wide range of data including gas concentrations, alarm levels, faults and operational modes
- Analog 4-20 current loop with HART, Digital RS-485 Modbus RTU, and 4 relays are standard data communication channels of the SSS-903
- Non-intrusive, onsite detector calibration via HART Field Communicator or Magnetic Wand
- Operating Temp Range of -40°F to +167°F (-40°C to +75°C)
- Configurable to control & monitor up to two detectors
- SIL-2 certification by independent 3rd party agency NRTL
- 316 Stainless Steel construction, Explosion-Proof Housing, Class1, Division 1



**SSS-903
GAS DETECTOR**

Applications

- Offshore platforms
- Shipping tankers, freighters, and other vessels
- LNG/LPG processing & storage facilities
- Oil & gas refineries
- Petrochemical plants
- Gas & electric utilities

Features and benefits

- Tri-color status LED indicates operational mode, fault, and gas presence.
- 4 indicators: 3 warning & alarm level LEDs, and 1 calibration LED
- 128 x 64 pixel OLED display providing continuous graphical indication of trending data for Peak Reading and Time-Weighted Average (TWA) of gas concentration
- Remote sensor option allows the user to either connect the SSS-903 up to 500 feet away or install the unit at the site of the potential hazard
- Robust construction and heated optics withstand harsh environments
- Plug-in, pre-calibrated (field replaceable) gas sensors
- Enhanced temperature range
- 5 year warranty

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Electrical Characteristics

- Voltage** 18 to 32 VDC
- Power** <2 W, standby <5 W, during alarm
- Outputs**
 - 1) Analog 4-20 mA current loop
 - 2) Digital RS-485, Modbus RTU
 - 3) Relays, 3 Alarm & 1 Fault

Technical Specifications

- Humidity** 0 to 100% relative humidity, non condensing
- Operating Temperature** -40°F to +167°F (-40°C to +75°C)
- Storage temperature** -76°F to +185°F (-60°C to +85°C)
- Ingress Protection** IP 66
- SIL Rating** SIL 2

Mechanical Characteristics

- Material** 316 Stainless Steel
- Conduit Connection** 2 Conduit Entrances 3/4" NPT
- Dimensions** 10.7" x 5.9" x 4.8" **(SSS-903 + PGU)
- Weight** 12.12 lbs (5.5 kg)
- Housing Warranty** 5 years

Certifications



Ex d IIC T4
-40°F to +167°F
(-40°C to +75°C)
IP66



Ex d IIC T4
-40°F to +185°F
(-40°C to +75°C)
IP66

Sensor's Type	Gas	Gas Formula	Detected Component Measuring Range	Accuracy	Response Time
Plug-in universal gas sensors optic infrared PGU-IR	Methane	CH4	(0-100) % LEL	± 3% LEL to 50% LEL ± 5% LEL from 51% to 100% LEL	T20 <5 seconds T90 <25 seconds
	Propane	C3H8			
	Ethylene	C2H8			
	Hexane	C6H14			
	Butane	C4H10			
	Isobutane	I-C4P10			
	Ethanol	C2H5OH			
	Cyclopentane	C5H10			
	Propylene	C3H6			
	Methanol	CH3OH			
	Gasoline Vapor	*			
Diesel Vapor	*				
JP4 Vapor	*				
Plug-in universal gas sensors photoionized PGU-P	Carbon Dioxide	CO2	(0-2) % vol. (0-5) % vol. (0-3000) ppm	± 5% full scale	T20 <5 seconds T90 <25 seconds
	Isobutylene	C4H8	(0-20) ppm (0-200) ppm (0-2000) ppm	± 2% full scale	T50 <9 seconds T90 <25 seconds
	Benzene	C6H6	(0-100) ppm (0-1000) ppm (0-10000) ppm		
	Ethylene	C2H4	(0-20) ppm (0-2000) ppm		
PGU-P	Methyl mercaptan	CH3SH	(0-100) ppm Other ranges per request	± 2% full scale	T90 <25 seconds
All gases with ionization potential <10.6 eV					
Plug-in universal gas sensors electrochemical PGU-E	Oxygen	O2	(0-30) % vol.	± 2% full scale	T90 <11 seconds
	Carbon monoxide	CO	(0-100) ppm (0-500) ppm (0-10000) ppm	± 2% full scale	T20 <10 seconds T90 <25 seconds
	Hydrogen sulfide	H2S	(0-20) ppm (0-50) ppm (0-100) ppm	± 2% full scale	T20 <10 seconds T50 <12 seconds T90 <25 seconds
	Nitrogen dioxide	NO2	(0-20) ppm	± 2% full scale	T50 <12 seconds T90 <25 seconds
	Sulfur dioxide	SO2	(0-20) ppm (0-100) ppm	± 2% full scale	T50 <12 seconds T90 <25 seconds
	Ammonia	NH3	(0-100) ppm	± 2% full scale	T90 <90 seconds
	Chlorine	C12	(0-20) ppm	± 2% full scale	T90 <25 seconds
	Hydrogen chloride	HCl	(0-30) ppm	± 2% full scale	T50 <30 seconds T90 <90 seconds
	Hydrogen fluoride	HF	(0-10) ppm	± 2% full scale	T50 <30 seconds T90 <90 seconds
	Formaldehyde	CH2O	(0-10) ppm	± 2% full scale	T50 <20 seconds
	Vinyl acetate	C4H6O2	(0-100) ppm	± 2% full scale	T90 <90 seconds
	Methanol	CH3OH	(0-100) ppm	± 2% full scale	T90 <90 seconds
Plug-in gas universal gas sensors catalytic PGU-C	Hydrogen	H2	(0-4) % vol. (100% LEL) (0-100) ppm (0-1) %	± 2% full scale	T50 <40 seconds T90 <60 seconds

GAS DETECTOR

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