

PHGA-1

ECS Protector Handheld Gas Analyzer



Features

ECS Protector Handheld Gas Analyzer (U.S. Patents No. 9,144,700 and 9,186,533)

- One touch calibration
- Small, convenient, and portable
- 24 month warranty
- Compatible with all ECS products

General Description

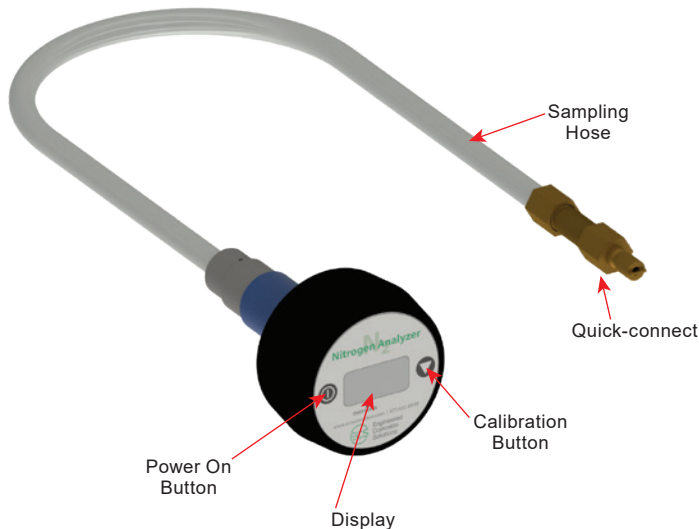
The ECS Protector Handheld Gas Analyzer (PHGA-1) provides the concentration of nitrogen gas when connected to an ECS product with a gas sample port. The handheld analyzer can be used to verify nitrogen concentration inside a fire sprinkler system or at the outlet of an ECS AdvancedIQ Nitrogen Generator System. The PHGA provides the end user with a simple, cost effective method of gas concentration monitoring.

Operation

Nitrogen purity level in the fire sprinkler system can be checked by inserting the ECS Protector Handheld Gas Analyzer into the nitrogen sampling port in the equipment.

Specifications

Sensor Type	Galvanic Cell w/ temperature compensation
Measured Range	0.0% to 99.9% nitrogen
Response Time	<15 seconds for 90% step change
Accuracy	±1.0% of full scale at constant operating temperature, relative humidity and pressure
Temperature	Operating: 59°F - 104°F (15°C - 40°C) Storage: 5°F - 122°F (-15°C - 50°C)
Operating Pressure	Atmospheric pressure to 3 psig
Sample Connection	ECS compatible brass quick connect
Expected Life	2 years
Battery Life	Approximately 1850 hours
Power	Internal, non-replaceable, Lithium battery
Auto-Off	80 second time-out
Environmental	Housing equivalent to NEMA 1; not waterproof
Weight	2.1 oz (60 grams)



Operational Information

Nitrogen purity level in the fire sprinkler system can be checked by inserting the ECS Protector Handheld Gas Analyzer (PHGA-1) into the nitrogen sampling port in the equipment.

1. Power On the PHGA-1 by depressing the power on button.
2. Calibrate the PHGA-1 by depressing and holding the calibration button for three (3) seconds until “CAL” is displayed.
NOTES: To calibrate analyzer, unscrew sampling hose from analyzer and move back and forth until reading is displayed.
 - a. PHGA-1 must be recalibrated if nitrogen percentage displayed is above 80.1% or below 78.1% when reading normal atmosphere, not connected to the nitrogen generator cabinet/vent.
 - b. Recommended to recalibrate analyzer daily when in use.
3. Once the PHGA-1 is calibrated, insert the quick disconnect of the sampling hose into the sampling port in the nitrogen generator cabinet/vent.
NOTES:
 - a. Nitrogen generator must be operating in “nitrogen production mode” to sample nitrogen in cabinet.
 - b. Vent must be open to sprinkler system pressure to sample nitrogen in sprinkler system.
4. Allow 1 minute for the PHGA-1 to stabilize, verify and document reading on PHGA-1 (nitrogen level should be approximately 98%). If nitrogen level from generator is below 96%, contact ECS.

Factors Influencing Accurate Readings

1. Elevation changes will affect the accuracy of the nitrogen purity readings. The deviation of the nitrogen purity can be approximately 1% per 250 feet of elevation.
 - a. Calibration of the instrument should be performed when elevation at which the product used changes more than 500 feet above sea level.
2. Temperature affects the accuracy of the nitrogen purity readings. The gas analyzer will hold calibration and correctly read nitrogen purity $\pm 3\%$ when thermal equilibrium within the operating temperature range. The device must be thermally stable when calibrated and allowed to thermally stabilize after experiencing temperature changes before readings are accurate.
 - a. For best results, perform the calibration procedure at a temperature close to the temperature where analysis will occur.
 - b. Allow adequate time for the sensor to equilibrate to a new ambient temperature.

CAUTION: “CAL Err St” may result from a sensor that has not reached thermal equilibrium.

