



## Model THGA Handheld Gas Analyzer

### General Description

The TYCO Model THGA Handheld Gas Analyzer provides the concentration of nitrogen gas when connected to a TYCO Nitrogen Generator System with a gas sample port. The Handheld Gas Analyzer is used to verify nitrogen concentration inside a fire sprinkler system or at the outlet of a TYCO Nitrogen Generator. The Handheld Gas Analyzer is a simple, cost effective method of gas concentration monitoring. The Handheld Gas Analyzer is small, convenient, and portable with one touch calibration and is compatible with all TYCO Nitrogen Generators.

The Handheld Gas Analyzer combined with the TYCO Model TGSP Gas Sampling Port forms the TYCO Model TGSK Gas Sampling Kit.

The TYCO Model TGSK Gas Sampling Kit provides the necessary equipment to monitor the nitrogen concentration in a fire sprinkler system that is currently utilizing the TYCO Dry Pipe Nitrogen Inerting (DPNI) technology. A minimum of one kit is recommended for each DPNI project. Multiple kits can be utilized for projects with several dry pipe fire sprinkler systems. The TYCO Model TGSK Gas Sampling Kit consists of essential components for Dry Pipe Nitrogen Inerting, a Handheld Gas Analyzer, a Sampling Port equipped with a quick connect and isolation valve, and industrial brass couplers.

#### NOTICE

*The TYCO Model THGA Handheld Gas Analyzer described herein must be installed and maintained in compliance with this document, in addition to the standards of any other authorities having jurisdiction. Failure to do so may impair the performance of the related devices.*

*The owner is responsible for maintaining their fire protection system and devices in proper operating condition. Contact the installing contractor or product manufacturer with any questions.*

### Technical Data

#### Handheld Gas Analyzer 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 to 104°F (15°C to 40°C)

Storage: 5°F to 122°F (-15°C to 50°C)



##### Operating Pressure

Atmospheric pressure to 3 psig (0,2 bar)

##### Sample Connection

TYCO compatible brass quick connect

##### 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)

#### Gas Sampling Port Specifications

##### Material

All industrial brass components

##### Isolation Capabilities

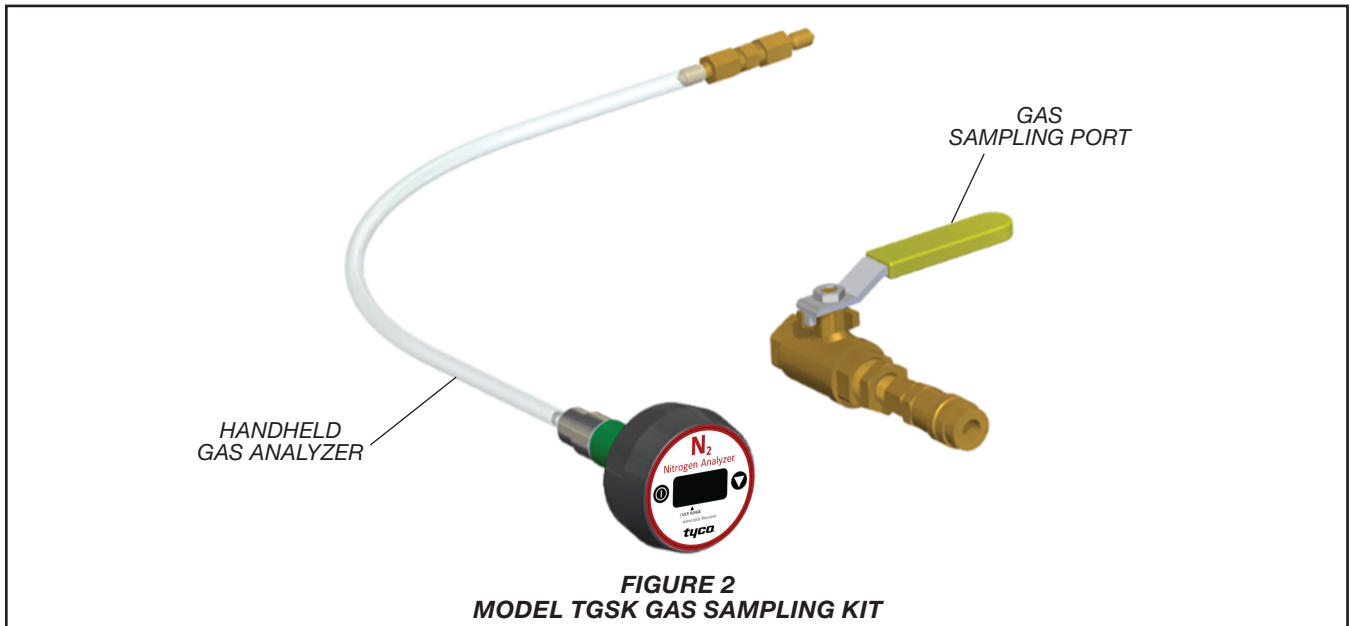
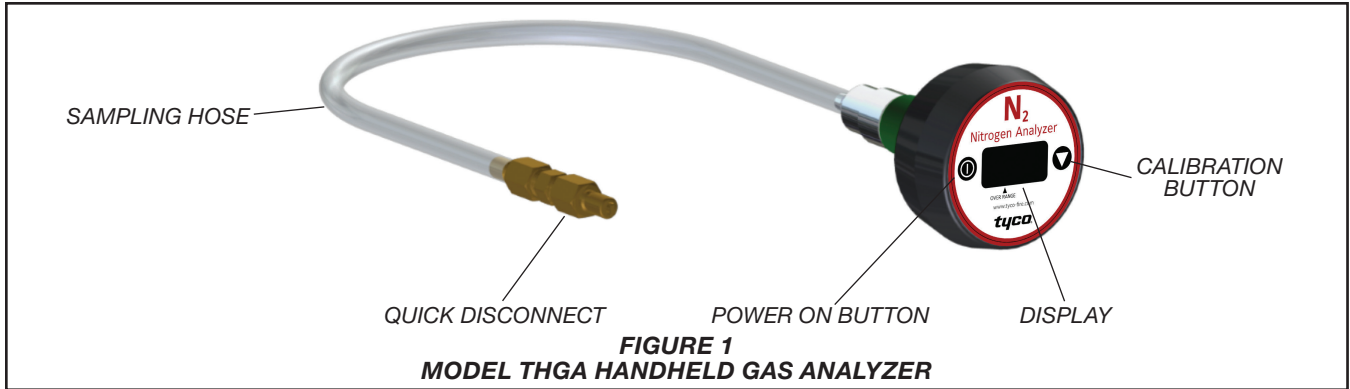
Equipped with ½ in. isolation valve

##### Connection

Equipped with ¼ in. quick connect socket

#### IMPORTANT

Refer to Technical Data Sheet TFP2300 for warnings pertaining to regulatory and health information.



## Operation

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

### NOTICE

Elevation changes will affect the accuracy of the nitrogen purity readings. The deviation of the nitrogen purity can be approximately 1% per 250 ft of elevation. Calibration of the instrument should be performed when elevation at which the product is used changes more than 500 ft.

Temperature effects 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.

For best results, perform the calibration procedure at a temperature close to the temperature where analysis will occur.

Allow adequate time for the sensor to equilibrate to a new ambient temperature. If sensor has not reached thermal equilibrium, an error message "CAL Err St" will appear.

**Step 1.** Power On the Handheld Gas Analyzer by pressing the power on button.

**Step 2.** Calibrate the Handheld Gas Analyzer by pressing and holding the calibration button for three seconds until "CAL" is displayed.

**NOTICE**

*To calibrate the analyzer, unscrew the sampling hose from the analyzer and move back and forth until reading is displayed.*

*The Handheld Gas Analyzer 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.*

*It is recommended to recalibrate the Handheld Gas Analyzer daily when in use.*

**Step 3.** Once the Handheld Gas Analyzer is calibrated, insert the quick disconnect of the sampling hose into the sampling port in the nitrogen generator cabinet/vent.

**NOTICE**

*Nitrogen generator must be operating in nitrogen production mode to sample nitrogen in cabinet.*

*Vent must be open to sprinkler system pressure to sample nitrogen in sprinkler system.*

**Step 4.** Allow one minute for the Handheld Gas Analyzer to stabilize, verify and document reading on Handheld Gas Analyzer (nitrogen level should be approximately 98%). If nitrogen level from generator is below 96%, contact Johnson Controls Technical Services.

## **Ordering Procedure**

Contact your local distributor for availability. When placing an order, indicate the full product name and Part Number (P/N).

**Handheld Gas Analyzer**

Specify: Model THGA Handheld Gas Analyzer, P/N THGA01

**Gas Sampling Port**

Specify: Model TGSP Gas Sampling Port, P/N TGSP01

**Gas Sampling Kit**

Specify: Model TGSK Gas Sampling Kit, P/N TGSK01

