



Telefire Fire & Gas Detectors Ltd.

TFGC-750

Carbon Monoxide (CO) Detector

Technical Manual



TELEFIRE FIRE & GAS DETECTORS LTD

P.O. Box 7036
Petach-Tikva 49250
Israel

Tel: +972 3 921 1955

Fax: +972 3 921 1816

e-Mail: marketing@telefire.com

Web: www.telefire.com

Revision 1.0
July 2022

Notice and Disclaimer

© COPYRIGHT RESERVED BY TELEFIRE FIRE & GAS DETECTORS LTD.

TELEFIRE FIRE & GAS DETECTORS LTD. (TELEFIRE), ITS SUBSIDIARIES AND AFFILIATES, MAKE BUSINESSWISE REASONABLE EFFORTS TO ENSURE THAT THE INFORMATION IN THIS DOCUMENT IS ACCURATE AND UP TO DATE. TELEFIRE AND/OR ANYONE ACTING ON ITS BEHALF AND/OR ITS EMPLOYEES WILL **NOT** BE LIABLE FOR DAMAGES, CLAIMS, EXPENSES OR OTHER COSTS (INCLUDING AND WITHOUT LIMITATION EXPENSES FOR LEGAL FEES) ARISING FROM AND/OR RELATED TO THE USE OF THIS DOCUMENT OR THE INFORMATION CONTAINED IN OR RELATING TO IT. THIS LIMITATION OF LIABILITY APPLIES TO ALL DAMAGES OF ANY KIND, INCLUDING (WITHOUT LIMITATION) COMPENSATION, DIRECT AND/OR INDIRECT DAMAGES EXEMPLARY, PUNITIVE AND CONSEQUENTIAL DAMAGES, LOSS OF ANY SOFTWARE OR DATA, REVENUE OR PROFITS, OR ANY LOSS OR DAMAGE TO PROPERTY AND ANY CLAIMS OF THIRD PARTIES. TELEFIRE RESERVES THE RIGHT TO CHANGE THIS DOCUMENT AND OTHER DOCUMENTS MENTIONED FROM TIME TO TIME WITHOUT PRIOR NOTICE AND IN ITS SOLE DISCRETION. IT IS CLARIFIED THAT THE INTELLECTUAL PROPERTY RIGHTS FOR THIS DOCUMENT AND FOR THE PROPRIETARY TECHNOLOGY IN GENERAL BELONG TO TELEFIRE, INCLUDING COPYRIGHTS, TRADEMARK RIGHTS, INDUSTRIAL DESIGN RIGHTS AND PATENT RIGHTS. TELEFIRE DOES NOT LICENSE, ASSIGNS OR OTHERWISE GRANTS ANY OTHER INTEREST IN THE COPYRIGHTS OF THIS DOCUMENT, THE TRADEMARKS OF TELEFIRE, ANY OTHER TRADEMARK USED IN THIS DOCUMENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS USED OR REFERENCED HERE, UNLESS TELEFIRE GRANTS IT IN AN EXPLICIT AND WRITTEN PERMISSION AGREEMENT. THIS DOCUMENT MAY RELATE TO OTHER DOCUMENTS, INCLUDING DOCUMENTS SUBJECT TO THE RIGHTS OF THIRD PARTIES. NOTHING IN THIS DOCUMENT CONSTITUTES THE GRANTING OF ANY LICENSE, ANY ASSIGNMENT AND/OR ANY OTHER INTEREST IN THE COPYRIGHTS OR OTHER INTELLECTUAL PROPERTY RIGHTS OF ANY OTHER DOCUMENT OF ANY KIND BY TELEFIRE.

i

Note

The intent and meaning of the term “**Trouble**” are as used in **NFPA 72** guideline and **UL** standard.

i

Note

Do not attempt to install, operate, maintain or inspect this product until you have read through this instruction manual and appended documents carefully and can use the equipment correctly. Do not use this product until you have a full knowledge of the equipment, safety information and instructions.

© 2009 – 2022 ALL RIGHTS RESERVED – TELEFIRE FIRE & GAS DETECTORS LTD.

1 Introduction

Telefire's TFGC-750 CO Detector is an advanced detector that offers the following advantages:

- It is considered “green” (environment friendly) as it does not contain radioactive materials.
- The TFGC-750 contains a powerful microprocessor that performs initial signal processing locally. The final processing and decision making is performed by the control panel.
- The TFGC-750's microprocessor offers a high level of noise immunity and interactively performs with the control panel temperature compensation in order to overcome environmental changes. The microprocessor also performs self-test for the CO sensor, thus ensuring steady and solid functionality.
- Soft-set address – the detector's address is programmed into its memory without the use of mechanical switches or moving parts.
- Can be tested directly with a test magnet or remotely from the control panel.

The sensitivity of the detector can be adjusted from the control panel within the range of 50-400ppm (see section 3.2.2 for further details). Please refer to the appropriate control panel manual for details.

The detector contains an alarm LED that has 360° visibility. This LED flashes during normal operation and is latched on during an alarm.

2 Compatibility

2.1 Control Panels

The TFGC-750 is compatible with Telefire's 7000 Analog Addressable Control Panels family.

2.2 Bases

The TFGC-750 is compatible with Telefire's TFB-180 Standard Detector Base.



Warning

Do not connect these detectors to control panels made by manufacturers other than Telefire.

3 Installation

Planning of quantity and location of detectors shall be done according to the local codes and regulations and in accordance to the planning consultant's requirements.

3.1 Pre-Installation Planning

3.1.1 Capacity Planning

Ensure that the total number of initiating devices (detectors, switches, call point, etc.) does not exceed the maximum allowed per detection zone, floor area, or other limitations as specified by the applicable standards and regulations. Ensure that the Control Panel has an available address for each detector.

3.1.2 Cabling Planning

The detector is connected to the control panel via a TFB-180 standard detector base via a two-wire connection (the control panel's SLC loop). The detector has an output for

activating a TFL-1AN Auxiliary Signaling Indicator for Analog Addressable Detectors. It is recommended that you use a twisted pair cable for SLC connection. Please look at the technical manuals of the TFB-180 and TFL-1AN for additional details about connecting the SLC cables and TFL-1AN to the base.

*i***Note**

Notify the operator or the security personnel that the system will be temporary disconnected before adding detectors to the control panel.

3.2 Installation

3.2.1 Address Programming

Assign the TFGC-750 address in the range of 1 – 127 prior to installation either by using the PROG-4000 Analog Addressable Detector and Accessory Programmer or directly from the Control Panel built-in programmer. Please refer to the PROG-4000 manual or Control Panel manual for additional details.

3.2.2 Control Panel Configuration

Configure the detector as “**Gas Detector**” with Mode “CO” in the Control Panel.

The TFGC-750 can be used in 2 operation modes:

1. Accumulation mode – this mode allows to accumulate CO level readings over long time periods. The following table describes the alarm time (in minutes) for each sensitivity level:

Sensitivity	75ppm	150ppm	400ppm
1	67	14	6
2	81	17	7
3	94	19	8
4	107	22	9
5	121	25	10
6	134	27	11
7	147	30	12

2. Level mode – this mode activates a CO alarm in the panel within up to 10 seconds from detection.

Available sensitivity levels: 50ppm, 100ppm, 150ppm, 200ppm, 250ppm, 300ppm, 400ppm

Please refer to the Control Panel technical manual for a detailed description of programming and configuration.

3.2.3 Location

Consider standard guidelines and local codes when installing the TFGC-750.

For remote signaling use only Telefire's TFL-1NA Auxiliary Signaling Indicator for Analog Addressable Detectors.

3.2.4 Connecting to the SLC Line

Connect the SLC to the detector's base. Refer to the TFB-180 technical manual for wiring diagrams.

All wiring must conform to applicable local codes, ordinances and regulations.

**Note**

Measure the wiring to ensure there are no shorts before connecting the wiring to the control panel.

Connecting or adding detectors to the control panel shall be done when all power to the control power (AC and batteries) is disconnected.

3.3 Post-Installation – Field Test

Perform a field test (also known as "Walk Test") to ensure that all detectors function properly. Please see the control panel's manual for a detailed explanation on how to perform a field test.

Testing is automatic other than the activation of the detector that is done manually by putting a magnet next to the detector's test point. See section 4.1.1 for a detailed explanation on how to perform the test.

Ensure that the detector functions properly and is included in the necessary activation matrices.

3.4 Documentation

Mark the detector's address on the label.

4 Maintenance

The control panel monitors the CO detectors continuously. Any abnormal condition in the detector will cause a trouble signal to be displayed on the control panel.

After 10 years from first installation date, the panel will display a "Maintenance" message.

4.1 Periodic Testing

Fire alarm and CO detection systems should be checked periodically. Please refer to relevant standards and local regulation to determine service frequency.

Use the control panel's Walk Test mode to perform automatic reset. Please refer to the control panel's manual for additional details on how to perform Walk Test.

4.1.1 Test Procedure – Locally

1. Apply a magnet to the side of the detector next to the LED for 3 – 5 seconds. This activates an internal testing circuit that simulates presence of smoke in the detector, tests the sensing mechanism and the detector's electronic circuit.

**Warning**

Do not apply naked flame to the detector!

2. The analog value representing the CO level will be transmitted to the control panel for evaluation. The control panel will transmit a signal to the detector to turn on its LED. During the test the detector's values may be observed at the control panel. Please refer to the Control Panel manual for additional information.
3. Once the detector is in alarm mode, it keeps the alarm condition until reset by the control panel. If the control panel is in "Walk Test" mode, it will reset the alarm after

a few seconds. Please refer to the Control Panel manual for instructions on how to conduct a walk test.

4.1.2 Test Procedure – From the Control Panel

It is also possible to test the detector using the Control Panel “Monitor” option menu. Please refer to the Control Panel manual for instructions on how to use and interpret the monitor screen.

5 Indications and Troubleshooting

The detector includes an indicating LED that flashes with every access from the control panel and is turned solid on during alarm.

A detailed message will also be displayed on the control panel and remote annunciators. Please see the control panel’s manual for a detailed explanation of alarm, fault, and maintenance alarm indication.

6 Specification

Diameter	101 mm including base
Height (including base and LED).....	52 mm
Weight	approx. 100 gr.
Operating Temperature Range	0°C – +50°C (32°F – 122°F)
Relative Humidity Range	10% – 93% non-condensing
Sensitivity Range (set at control panel)	50-400ppm
Operating Voltage	
(supplied by control panel via SLC).....	19 – 22 VDC, Modulated
Maximum Current Consumption:	
Quiescence mode	250µA
Alarm mode (without Auxiliary Indicators)	2.6mA
Alarm mode (3 Auxiliary Indicators)	35mA

Local Indication Local red LED (light-emitting diode) and an auxiliary indicator output. Use only Telefire’s TFL-1AN Auxiliary Indicator for Analog Addressable Conventional Detectors. Connect up to 5 auxiliary indicators to each detector.

Only devices approved by TELEFIRE are allowed to be connected

TELEFIRE reserves the right to modify product specifications without prior notice

7 Certification

Telefire’s TFGC-750 Addressable CO Detector has the following approvals:

- EN 54-26 Listed