

32002181-001 Zero Calibration and Service Kit FOR C7242 CALIBRATION

INSTALLATION INSTRUCTIONS

APPLICATION

The 32002181-001 Zero Calibration and Service Kit provides the necessary equipment to calibrate the C7242 Sensor and Controller. The kit produces a calibration gas, free of carbon dioxide (CO₂), through chemical absorption. Use the kit when calibrating the zero point of any C7242 Sensor. The kit includes a pump bag unit (with internal battery and fuse), plug-in transformer, tubing for sensor connection, and a one-liter container of soda lime pellets.

NOTE: Calibration eliminates altitude-induced sensor error (due to pressure changes).

SPECIFICATIONS

Dimensions (length x depth x height):

7-1/2 in. x 4-1/2 in. x 7-1/2 in. (19 cm x 14 cm x 19 cm)
Tube Length: 122 in. (3.1m).

Pump:

Approximate Flow: 63 cfm (0.5 L/min.)

Power Supply:

Plug-In Transformer:

Primary: 120 Vac.

Secondary: 12 Vdc, 6W.

Current Consumption (not including battery recharge):
150 mA.

Internal Battery:

12V, 3 Ah lead acid.

Absorber:

125 mL soda lime pellets.

Approximately 36 hours (continuous use).

Storage Temperature (Cool Storage Preferable):

+32°F to +104°F (+0°C to +40°C).

Accessories:

32002183-001 STRATEGY Configuration Software.

INSTALLATION

Before Using this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions and on the product to make sure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

Battery

The battery cannot power the device until the included fuse is installed. To install the fuse:

1. Remove the fuse cap from the face of the unit by simultaneously pressing down and turning the cap 1/4 turn counterclockwise.
2. Press the fuse into the cap.
3. Replace the fuse cap into the fuse holder by simultaneously pressing down and turning the cap 1/4 turn clockwise.

For extended battery life, observe and practice the following:

- Never completely discharge the battery.
- Recharge the battery after each day of use.
- Charge for no longer than 48 hours.
- For extended storage periods, store in a cool place.
- Recharge at least once every six months regardless of usage frequency.



Soda Lime Pellets

The Calibration Kit pumps air through the soda lime pellet bottle to create CO₂-free calibration gas. This small plastic bottle in the pump housing is empty when shipped from the factory. Therefore, you must fill it with soda lime pellets for proper device operation.

 WARNING

Risk of Serious Eye Damage, Inhalation Injury, and Skin Burns.

Soda lime pellets cause severe burns.

- 1. Wear eye and face protection, gloves, protective clothing, and a particle mask.
- 2. In case of eye contact, rinse eye immediately with water for at least 15 continuous minutes holding eyelid wide open. Immediately summon an eye specialist.
- 3. In case of skin contact, wash area with plenty of water. Seek immediate medical attention.
- 4. In case of dust inhalation, move to an area with fresh air. Seek immediate medical attention.

IMPORTANT

Read and follow the regulations of the Material Safety Data Sheet for soda lime pellets.

Pellet Installation and Replacement

The pellets are included in a separate one-liter container. Use the following procedure to fill the bottle:

- 1. Disconnect the tube from the kit and set it aside.
- 2. Pull out the plastic bottle through the housing opening.
- 3. Remove the lid from the bottle and set it aside.
- 4. When replacing pellets, carefully empty the bottle.
- 5. Carefully fill the bottle with the pellets from the one-liter container.
- 6. Replace the lid on the bottle.

IMPORTANT

When replacing the bottle lid, ensure that it is sealed tightly. Free circulation of air into the bottle can render the pellets useless in 36 hours.

- 7. Replace the bottle into the housing.
- 8. Replace the tubing.

To purchase additional soda lime pellets, contact a medical equipment supplier or chemical supply house. Refer to Yellow Pages: Hospital Equipment and Supplies, or Medical Equipment and Supplies. Ask for soda lime pellets with indicator.

Transportation and Disposal of Soda Lime Pellets

IMPORTANT

Transportation (air, ground and marine) and disposal of soda lime pellets is regulated. Consult your local authorities and carrier before transporting or disposing of Soda Lime for information regarding compliance with applicable requirements.

IMPORTANT

Do not dispose in water or sewer systems.

NOTE: Refer to the Material Data Safety Sheet (MSDS) enclosed with the kit for more details. Keep the MSDS with the calibration kit for further reference.

OPERATION

Calibrate the C7242 using internal algorithms or a PC with the appropriate software. This document gives instructions for using the algorithms. For PC-based calibration instructions, see form 62-0149. To calibrate the C7242 manually, switch the device into Service Mode.

NOTE: While using the kit, pockets of air can develop in the soda lime pellets. To maximize CO₂ absorption, shake the entire kit before each use. This settles the soda lime pellets and eliminates the air pockets.

Service Mode

Service Mode allows you to make device modifications using the pushbuttons. The LED provide important information when in Service Mode, see Table 1.

IMPORTANT

Only qualified service technicians should use the pushbuttons with the device in the Service Mode.

NOTES:

- In Service Mode, the yellow LED remains lit and the red LED intermittently flashes.
- The number of consecutive red LED flashes indicates the operation the menu currently offers.
- The device automatically exits Service Mode after completion of the selected operation. Toggling beyond the final menu option also reverts the device to Operation Mode.
- Service Mode disables the PC connection.

Table 1. C7242 Service Mode LED Signals.

LED Color	Meaning	Details
Green	OK	Flashes after each successful measurement cycle.
Yellow	Maintenance	On continuously with device in Service Mode. Flashes during menu procedure execution.
Red	Menu Indicator	Signals the action that is ready for execution. (The LCD provides more complete information.)

Service Operations

The C7242 has seven service operations. This document deals only with the second (zero calibration of enabled channels) operation. For details regarding the other service operations, see form 63-2546.

C7242 Zero Calibration

This operation calibrates the CO₂ sensor by re-establishing the zero level. Use the following procedure:

1. Prior to executing this operation, flush the sample cell with zero gas.
 - a. Remove any obstruction from sensor service kit tubing connection.
 - b. Connect the service kit tubing, see Fig. 1.
 - c. Turn on the pump.
 - d. Allow the pump to run continuously until the sensor stabilizes (at least one minute).

2. Press and hold both the plus and minus buttons for at least five seconds.
3. When the red and yellow LED light, release both buttons.
4. Press and release the plus button, then wait for the device to indicate the current operation.
5. Repeat step 4 until the device indicates operation two (by displaying *OP-2* or repeating two consecutive flashes of the red LED).

NOTE: If you cycle past operation two, repeat step 4 until the device returns to Operation Mode, then return to step 2.

6. With the device indicating operation two, press the minus button to execute zero calibration.

All LED remain lit until the operation is complete.

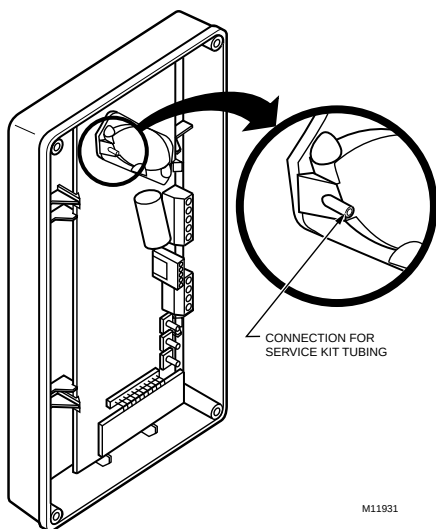
CHECKOUT

When the calibration is complete, verify that the sensor operates as described in the sensor instructions.

To test the soda lime pellet CO₂ absorption ability:

1. Blow a short breath into the service kit air intake (tube coupling).
2. If the sensor indicates an increased CO₂ level, replace the pellets.

NOTE: Replace the pellets when blue discoloration appears.



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Fig. 1. Service kit tubing connection.

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