

Gas Watcher User's Manual

Version 1.2, February 18, 2016

Notes regarding operation of pushbuttons

1. After the unit is initially turned on, the pushbuttons are disabled for 5 seconds to allow the unit to initialize
2. The pushbuttons are ignored for about 1 second every 30 seconds to allow for the pressure measurement and subsequent transfer of the pressure datum to the RF Code board

When the unit is turned off

Press and hold PB2 for at least one second, and the unit will turn on. Pressing PB1 has no effect when the unit is off.

When the unit is initially turned on – Programming Mode

When the unit is initially turned on, all display segments and icons will be turned on for 5 seconds. These 5 seconds will be called the “turn on delay.” After the turn on delay, the unit will begin normal operation. During the turn on delay, programming mode can be entered by pressing and holding PB1 for at least one second. In programming mode, the unit of measure may be changed, the low pressure threshold may be changed, and the pressure may be zeroed. Note that programming mode can only be entered when the unit is turned on. If the unit is operating normally and the user wants to change the unit of measure or the low pressure threshold, he must turn the unit off and then back on. Also, when in programming mode, the “Service” icon is turned on.

Unit of measurement

When programming mode is first entered, the display will read “unit,” and the icon for the current unit of measure (psi, MPa, or bar) is turned on. The user may change the unit of measure by pressing PB2 momentarily. When done, the user may press PB1 momentarily to program the low pressure threshold.

Low pressure threshold

In this mode, the unit will display the current low pressure threshold, and the “Low Pressure” icon will be turned on. The user may press PB2 momentarily to change the low pressure threshold; the values range from 200 to 500 psi in increments of 50 psi. When user gets to 500 psi, pressing PB2 momentarily takes the low pressure threshold back to 200 psi. When done, the user may press PB1 momentarily to zero the pressure.

Zero pressure

In this mode, the unit will display “ZEro.” The user may press PB2 momentarily to zero the unit. There should be no pressure on the unit when this action is performed. When done programming zero pressure, the user may press PB1 momentarily to start normal operation.

Startup error codes

If the unit detects an internal failure, the LCD will display an error code for 15 seconds and the unit will then turn off. The error codes are:

- E001: PS081 did not initialize properly
- E002: The 32.768 kHz timer is not functioning
- E003: The radio board was not detected
- E004: The pressure bridge has a failure

In the event the unit gets one of these error codes, the unit must be returned to the manufacturer for repair.

When the unit is turned on – Normal Mode

When operating normally, the unit displays the current actual pressure. If the current actual pressure falls below the low pressure threshold, the “Low Pressure” icon will be turned on, and the display will blink. Also, if the battery voltage falls below 2.5V, the “Low Battery” icon will be turned on, and the display will blink.

The user may press and hold PB2 for five seconds to turn the unit off.

The user may press PB1 momentarily to turn on the backlight. The backlight only stays on for three seconds and automatically turns off. While the backlight is on, both buttons are disabled. The backlight is disabled when the battery voltage falls below 2.9V in order to preserve battery life.

The user may press and hold PB1 for at least 3 seconds to display the current low pressure threshold, the serial number, and the firmware revision level. The current low pressure threshold is displayed first; then if the user presses and holds PB1 for at least 3 seconds again, the last four digits of the serial number are displayed. If the user presses and holds PB1 for at least 3 seconds again, the firmware revision level is displayed. Pressing and hold PB1 for at least 3 seconds returns to normal operation. Note that the “Service” icon is turned on when displaying the current low pressure threshold and serial number. If the unit is displaying the current low pressure threshold, the serial number, or the firmware revision level and no pushbuttons are pressed, the unit will return to normal operation after 30 to 60 seconds.

When the pressure goes below 50psi (bottle change)

When the pressure goes below 50psi and then rises above 55psi, the unit will blinkingly display “Chg?” The user must press PB1 for “yes,” or PB2 for “no.” The unit will continue to flash “Chg?” until the user

presses one of the buttons. During this time, the RF Code board will continue to operate but report zero pressure.

If the user presses “yes,” the unit displays “yes” for three seconds, returns to normal operation, and the “change bottle” bit (in the RF Code data stream) will be activated for two minutes.

If the user presses “no,” the unit displays “no” for three seconds and returns to normal operation.

Regulatory Compliance

This device has been tested and found to comply with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by Transducers Direct could void the user’s authority to operate the equipment. FCC ID: 2ACGE-TDWPG.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes : (1) l’appareil ne doit pas produire de brouillage, et (2) l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement. IC: 12056A-TDWPG.