

# What do I need to know?

## THE BLAST GAUGE SYSTEM<sup>®</sup>

### THE BASICS

#### 1. DO I NEED SOFTWARE TO USE MY BLAST GAUGES AND WHAT PLATFORMS DOES IT WORK ON?

Software is required to set-up, activate, and scan your gauges. The software is available to download from [blastgauge.com/software](https://blastgauge.com/software). You will need to register and be approved as a user on the website. Once approved, download the newest version of the Blast Gauge System Manager. The application is only supported on Windows 10. Please follow the **Quick Start Guide**, found in your delivery materials or at [blastgauge.com/tutorials/](https://blastgauge.com/tutorials/) to get the Blast Gauge System App for Android™ devices and setup your Blast Gauges.

#### 2. WHAT MOBILE DEVICES SUPPORT MY BLAST GAUGES?

The military version of the gauges (running secure Interrogated Wireless™) require specific tablets that run Android. We recommend the latest Samsung Galaxy Phones or Tablets, although others with similar specifications may work. Contact BlackBox Biometrics to check if your device will work. The law enforcement and research version of the gauges (Commercial Version) work on most modern devices that run Android and have Bluetooth® Low Energy 4.1 or greater. Contact BlackBox Biometrics for specifics.

#### 3. HOW DO I MOUNT MY BLAST GAUGES?



If you are wearing the gauges, they are designed to be attached on the head (e.g. back of the helmet), non-firing shoulder, and chest. The gauges are color coded with letters on the back: H for Head (Orange), S for Shoulder (Gray), C for Chest (Blue).

### THE BATTERY

#### 1. HOW LONG WILL MY BLAST GAUGES LAST BEFORE THE BATTERY RUNS OUT, AND ARE THEY RECHARGEABLE?

Blast Gauges run on high-capacity batteries that are not rechargeable or replaceable. With common military use in training (10% operational tempo and average temperatures), Blast Gauges last up to 3 years. In combat (30% operational tempo and exposure to temperature extremes), Blast Gauges last a year. Battery life is displayed in the apps, which is based on a predictive model using the previous two weeks of usage. When a gauge is low on battery, it will flash all three LEDs when the button is pressed; when a gauge has no remaining battery, there will be no LED response. The gauge's Shelf Life is 5 years at room temperature.

#### 2. ARE THERE ANY POWER SAVING MODES TO EXTEND THE LIFE OF MY BLAST GAUGES?

**Sleep Mode:** Enabled during the set-up process on the Blast Gauge System Manager by choosing "Personnel." This will put the device in a low-power mode after a short period of total inactivity. In Sleep Mode, it will not record any blast events or connect over Bluetooth. Movement of the gauge will automatically return it to active Monitor mode. If you mount gauges on a structure, select "Structure" instead of "Personnel" to disable Sleep Mode.

**Off:** Select this option during setup or press and hold the recessed button until all 3 LED lights turn on in sequence. The gauge will enter an ultra-low power mode and will not record any blast events, connect over Bluetooth or turn back on upon detecting movement. The user must press and hold the recessed button on the gauge until the LEDs light up. The LEDs will light up according to the gauge's status (i.e. solid green, blinking yellow, etc.).

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### BLAST EVENTS

#### 1. HOW MANY BLAST EVENTS WILL MY BLAST GAUGE RECORD AND STORE?

Wireless Blast Gauges hold 500+ full waveform events or more than six thousand summary data events. At activation, the PC app allows you to choose at which level the gauge will save summary or full waveform data. The mobile app allows you to choose which viewing method you prefer by using a quick scan or full data scan. A quick scan will run fast, but only download summary data. A full data scan is slower but will download full waveform data for any events above the full waveform threshold you set at activation.

*For example, at activation a user chooses 4 psi as the full waveform threshold. On the range, the gauge records two blasts: Blast A and Blast B. Blast A is a 3 psi blast, which is below the full waveform threshold, so it is saved as summary data only. Blast B is a 5 psi blast, so the full waveform is saved.*

*The user then scans using "Quick Scan", so the app only displays summary data for both Blast A and Blast B, even though full waveform data exists on the gauge for Blast B. When the user selects "Full Data Scan" and initiates the longer scan, the app displays summary data for the Blast A and full waveform data for Blast B.*

#### 2. WHAT IS THE DIFFERENCE BETWEEN SUMMARY DATA AND FULL WAVEFORM DATA?

Summary data only provides the peak pressure, peak total positive impulse, peak acceleration, and time metrics, while the full waveform data also provides the pressure-time trace and acceleration-time trace.

#### 3. CAN I DISABLE THE BLUETOOTH WIRELESS FEATURE?

Yes. Bluetooth Wireless can be disabled by clicking on the Wireless Symbol under each gauge listed in the Attached Devices column on the Blast Gauge System Manager. Note this does not guarantee complete electromagnetic silence.

#### 4. HOW DO I KNOW IF MY BLAST GAUGE HAS RECORDED A BLAST EVENT?

To avoid giving away the operator's position, the gauge does not display any light notifications until the recessed button is pressed or an operator presses the "Scan" button on the mobile application. To physically inquire the device, use a spare bullet to press the recessed button. Using a ball point pen or other objects may damage the recessed button. The gauge will display a green, yellow, or red LED based on the thresholds selected at gauge activation.



- » **Green:** No significant event detected.
- » **Green flashing:** Summary event detected.
- » **Yellow flashing:** Moderate event was detected.
- » **Red flashing:** Severe event was detected.

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## MISCELLANEOUS

### 1. HOW DO I REPROGRAM OR RESTORE DEFAULT SETTINGS TO THE BLAST GAUGES?

To reprogram the gauges with the latest firmware or restore the gauges to factory setting, press the “Factory Restore” button on the right-hand side of the Blast Gauge System Manager, below “Attached Gauges”. **This erases ALL data on the gauge, but only after saving it automatically to the database.**

### 2. HOW DO I REORDER GAUGES?

Contact BlackBox Biometrics to purchase the latest version of the Blast Gauge System at [blastgauge.com/get-quote](http://blastgauge.com/get-quote).

### 3. IS THE BLAST GAUGE SYSTEM AN APPROVED MEDICAL DEVICE?

No. The Blast Gauge System is not intended to diagnose or treat the blast victim’s injuries. The first responder may use the Blast Gauge System data to characterize the blast overpressure and acceleration the subject sustained during an explosion but will rely on standard diagnostic protocols to drive treatment of the subject’s injuries. A 513g request for information submitted to the U.S. Food & Drug Agency (FDA) resulted in the determination that the Blast Gauge System is not a device as defined per section 201(h) of the Federal Food Drug & Cosmetic (FD&C) Act.

Additionally, a request for determination by Health Canada also resulted in determination that the Blast Gauge System would not be considered a medical device.

### 4. WHAT IS THE PROPER METHOD OF DISPOSING OF THE BLAST GAUGES?

Blast Gauges contain lithium batteries. There are no federal regulations for disposal of lithium batteries. Individual states or localities establish their own guidelines for battery disposal and should be contacted for any disposal guidelines that they may have for a lithium battery housed in the Blast Gauge. Please see our Material Safety Data Sheet (MSDS) for more details.

For more detailed information, contact BlackBox Biometrics.

### 5. HOW DO I DISINFECT MY BLAST GAUGES?

BlackBox Biometrics recommends a thorough wipe down of each gauge using a disinfectant wipe. Please ensure the surface of the gauge remains wet for a minimum of 2 minutes. Avoid submersion in chemical disinfectants, spraying with disinfectant, and the use of overly strong chemicals (such as 70% Isopropyl Alcohol).