









Smart Impact Monitor (SIM) User Manual



SIM-P for Individual Athletes

www.triaxtec.com

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Disclaimers, precautionary information and warnings

The SIM-P Monitor is not a medical device. It is an impact level monitor only. It is designed to measure and report the magnitude of acceleration resulting from impacts to the human head, expressed in units of G-Force or g's (the acceleration of gravity at the earth's surface). Severe head impacts can cause serious physical injury or concussion, but the data reported by the SIM-P cannot by itself diagnose this. SIM-P impact data cannot substitute for medical advice, or for the timely examination of a qualified doctor, healthcare professional or athletic trainer.

Sports involving contact expose players to serious personal injuries including brain damage, paralysis or death.

The human tolerance for sudden intense acceleration to the head and body varies according to many factors. Whether an athlete will sustain a concussion or other head injury from any given impact suffered

on the playing field can depend upon the precise location of the physical contact, the angle of the blow, the instantaneous posture of the body at the moment of impact, the athlete's physical condition, and even the athlete's injury history. The SIM-P cannot evaluate all of these factors. In the event that you should receive a serious head impact such that you feel impaired in any way, then, regardless of the reading reported by your SIM-P monitor, the most prudent practice would be to immediately remove yourself from play and seek medical attention from a qualified service provider.

Symptoms of concussion or other injury to the head may appear even though a measured impact falls below the SIM-programmed threshold levels. *Remember, regardless of whether the SIM-P reports a head impact, an athlete can receive a concussion or other head injury at any time during sports-related physical contact.

Symptoms of concussion or other head injury may include headache, nausea, dizziness, unstable vision, disorientation, confusion, or simply a individual's sense that he "does not feel right" or that something is physically wrong. If you should experience any of these symptoms after suffering a head impact, do not return to play until after you have received consent from a trained medical professional. *It is important to remember that sudden intense contact to the head in any sport may produce a concussion or other head injuries which no helmet system can currently prevent and no impact sensing device can currently predict or diagnose.*

For more information, visit our website at www.triaxtec.com.

WARNING: READ YOUR MANUAL! Read and understand the contents of the SIM-P User Manual. It is critical to follow these instructions regarding the use and maintenance of the device. You are responsible for ensuring that the device is functioning properly before and during use. Failure to follow the User Manual instructions may cause the device to fail to perform as designed, which could result in failure to alert you to substantial or cumulative impacts.

* The SIM-P device uses a g-force measurement to gauge severity of impact. Our recommended threshold levels have been derived from peer to peer approved research reports. For more information on the research studies that SIM-P references, please contact info@triaxtec.com.



Triax Skullcap



Triax Headband

Note: For updated colors and sizes visit TriaxTec.com.

SIM-P Overview

Thank you for purchasing the Triax Technologies Smart Impact Monitor, or SIM-P.

While the long-term effects of head impacts are still being studied, it may be critically important to measure, record and report these events as they happen, and store results for later analysis.

The Triax Technologies SIM-P is a lightweight, highly sensitive impact sensing and reporting device, intended for using during sports and related activities where there is a possibility of head impact injury.

The SIM-P module may be comfortably worn during sports activities using either a headband or skullcap style holder. It will record all impacts and accelerations greater than a pre-programmed set-point. All measurements are transmitted in real time to the Triax app via Bluetooth connection.

The SIM-P is completely self-contained and battery powered. The battery lasts about 9 hours.

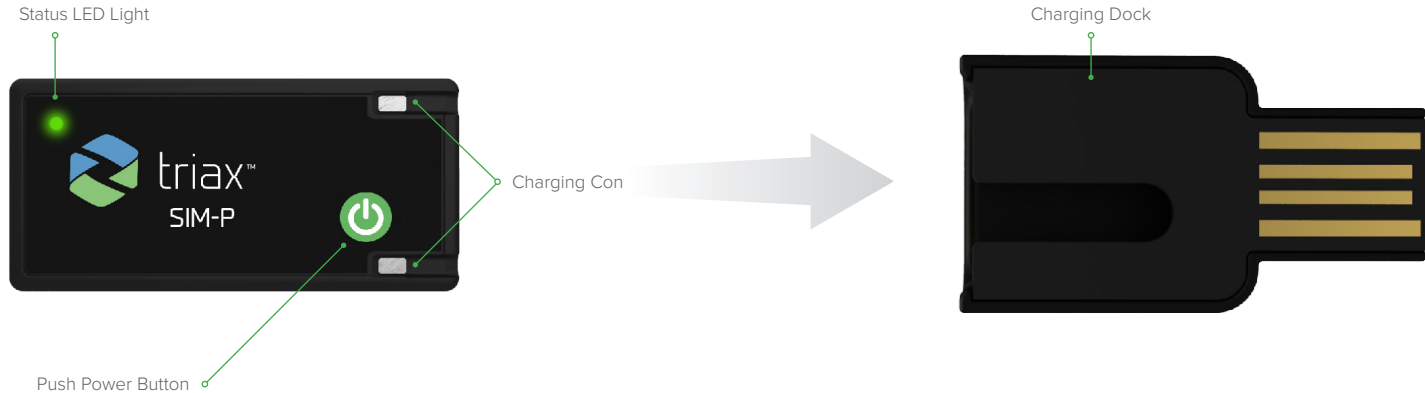
Stay tuned for new product features and updates on TriaxTec.com.



Getting started...

Carefully unpack your SIM-P, headband/skullcap, and optional charging dock.

The SIM-P is an environmentally sealed device, designed to be sweat and impact resistant. There is a single LED status indicator (capable of red/green/amber indications), and a single pushbutton.



Turn on & syncing your SIM-P

Prior to its first use, the SIM-P should be charged for a minimum of 2 hours (using only the Triax-supplied charging dock). The SIM-P must be paired to a mobile device before it will record impact events.






Press the button and hold it down until the LED indicator illuminates.



The LED indicator will show the current battery status. Release the button as soon as the LED indicator illuminates.

Note: Once the SIM-P is turned on, it will automatically attempt to communicate with the Triax mobile app. The LED will periodically flash briefly (colors as noted below) indicating wireless communications activity. If the button is pressed during normal operation it will rapidly flash yellow/amber to indicate a button-press.



	LED indication	Status
	Solid Green	SIM-P is successfully synched with the Triax app. SIM-P Will flash once every 10 seconds with the battery state when it is synched.
	Flashing Amber to Red	SIM-P power button is being held down and is attempting turn off. It will flash amber and then flash red once it has been successfully turned off.
	Flashing Red	SIM-P is searching for the Triax app and attempting to synch. SIM-P Will flash once every 10 seconds with the battery state when it is synched.

Preparing your SIM-P

After you have turned on your SIM-P, carefully insert the SIM-P into the pocket designed into the headband (or skullcap), as shown:

Important handling notes:

The SIM-P is sealed against moisture and perspiration that would be present during typical use. It is NOT designed to withstand a trip through a typical washing-machine or clothes-dryer cycle, and these activities will invalidate the warranty.



Do not clean or soak the SIM in rubbing alcohol, as this may lead to damaging the SIM and voiding your warranty.



Wearing your SIM-P

The headband (or skullcap) must be worn correctly to ensure accurate and consistent impact measurements. It should be worn so that the enclosed SIM-P sensor module is positioned at the back of the head and at the base of the skull, as shown below. For proper wear, the green on the Triax logo should be toward the ground and the blue on the logo should be toward the sky.

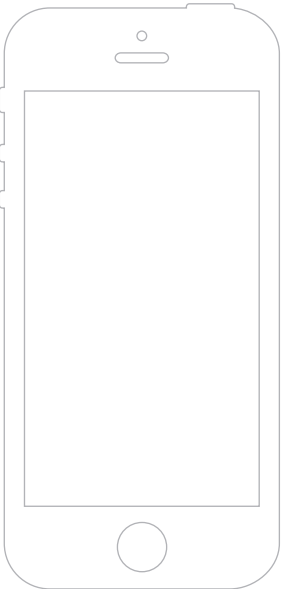


Pairing to the Triax mobile application

Download the Triax app on your compatible mobile device. Once the SIM-P is powered on and Bluetooth is enabled on your compatible mobile device, open the Triax app. The first time you turn on the SIM-P, an orange light will blink to show that it is in pairing mode. The app will automatically attempt to establish a connection between the Triax mobile app and your SIM-P device. The app will list all SIM-P devices within a 35 foot range and allow you to select which SIM-P device is yours to pair.



Maximum Operating Range:
35 Feet (10 meters)



Triax App

Turning off your SIM-P



Press and hold the button.



The LED indicator will rapidly flash yellow/amber.



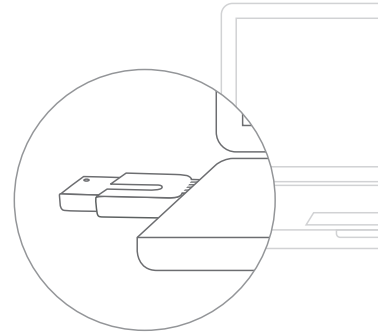
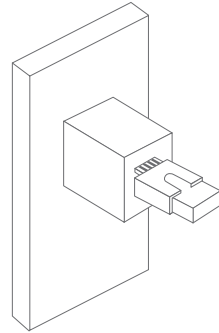
Continue to hold the button until the LED indicator turns red.



Release the button and the SIM will then turn off.

Charging your SIM-P




The SIM-P must be charged using only the Triax-supplied charging USB and dock:



To charge your SIM-P, first insert the SIM into the USB adaptor. Then, either plug the USB adaptor into a powered USB port, or plug the USB adaptor into the Triax supplied wall plug. Note that the SIM-P will only fit into the USB adaptor one way, with the charging contacts facing downward into the charging dock.

Charging your SIM-P (Continued)




When Charging

LED indication	Status
 Flashing Green	Battery is fully charged and ready to use.
 Flashing Amber	Battery is charging.
 Flashing Red	Battery is dead, charge now.

Note: Once the SIM-P is fully charged (LED is flashing green) simply remove it from the charger. It will automatically enter the off state.

Note: The SIM-P does not need to be turned off before charging. The SIM-P will not transmit to the base monitoring station while charging.

When in use

LED indication	Battery Status
 Flashing Green	More than 35% charged (approx. 3–9 hours)
 Flashing Amber	Between 15 - 35% charged (approx. 1.5–3 hours)
 Flashing Red	Less than 15% charged (less than 90 mins)

Note: It is safe to leave the SIM-P charging indefinitely. This will not overcharge or harm the internal battery.

Available accessories

The following items are available from TriaxTec.com. Visit our website for a full list of colors, styles and products.

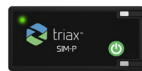
Note: For updated colors and sizes visit TriaxTec.com.



0001
SIM-P headband



0011
SIM-P skullcap, black



1010
SIM-P (single unit, no accessories)



1020
SIM-P USB adapter



1020
SIM-P USB power adapter

Troubleshooting

Symptoms	Possible Cause	Possible Resolution
SIM-P does not power on.	Battery may be completely dead, or possibly damaged.	Charge the SIM-P with the supplied charging materials for at least 1 hour. If the SIM-P does not then power-on, visit the Support section of triaxtec.com or contact support@triaxtec.com
	Push-button may be damaged internally, or moisture may have entered the SIM-P.	Contact support@triaxtec.com
SIM-P does not communicate with the Triax mobile app.	Battery may need charging.	Charge the SIM-P in the supplied USB adaptor for at least 1 hour. If the SIM-P does not then power-on, contact your Triax dealer for help.
	SIM-P may not be properly registered with the Triax mobile app.	Confirm your SIM-P has been properly paired with the Triax mobile app. This task only takes a few moments.

SIM-P does not seem to charge completely, or at all.	Improper insertion of the SIM-P into the charging dock.	Remove the SIM-P and ensure you have it oriented correctly. The charging contacts must face downwards into the dock.
	SIM-P charging contacts are dirty.	Visually inspect the SIM-Ps charging contact. If necessary, gently clean with a toothbrush. Do not try to clean the SIM-P with alcohol. If there is visible corrosion, contact Support@triaxtec.com for help.
	USB adaptor contacts are dirty.	Visually inspect the USB adaptor's contact. If necessary, gently clean with a cotton-swab, or gently remove any foreign objects. If there is visible corrosion, contact Support@triaxtec.com for help.

Note: The SIM-P is a sealed device with no user-serviceable parts inside.

Product Returns & Customer Service

Triax has a 30 day satisfaction-guaranteed return policy. If you are dissatisfied with your purchase for any reason, you may receive a full refund within 30 days of the date of purchase.

To return your purchase, please include a copy of your receipt along with your order number. Please ensure that all parts of the product are included in the original packaging and that the device is in good physical condition. We will not accept returns on products that have been mishandled or damaged.

Please visit www.triaxtec.com for the return address.

Safety Information

Servicing: Unless otherwise stated in this manual, there are no user-serviceable parts inside your device. Refer all servicing to qualified service technicians.

Adapters: Use of chargers and power-adapters other than those provided by Triax Technologies, Inc., may result in fire, electric shock, or personal injury.

Disposal: Dispose of your SIM-P according to local regulations for products containing Lithium Polymer batteries.v

Product warranty

The Triax SIM-P and related power-adapters are warranted against defects in quality or workmanship for a period of 1 year from the date of purchase.

FCC / IC Compliance Information

FCC ID: 2AGHISIM-P

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

IC: 21358-SIM-P

This device complies with Industry Canada licence-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 n' doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Product specifications

Smart Impact Monitor (SIM-P)

Wireless operating range	Typically up to 35ft (approx. 10m), depending on environmental factors.
Size	Body: Width: 0.62" (15.7mm) Length: 1.28" (32.5mm) Height: 0.33" (8.5mm)
Weight	0.2 oz (5.7 grams)
Enclosure Material	Black polyamide thermoplastic
Battery	Internal Lithium Polymer cell. (Not user serviceable)
Charging Voltage	5VDC @ 100mA maximum. Use approved chargers only. Charge time 2 hours.
Run-time	Approximately 9 hours between charges.

USB adapter

Input Voltage	USB-1.1, 2.0, 5VDC @ 100mA maximum
Power source	USB-mini-B, cable to host USB port, or from Triax-supplied AC/DC adapter (100-240VAC, 50.50Hz, output rated at 5V@600mA)

Wall Plug

Input Voltage	USB-1.1, 2.0, 3.0 compliant, 5VDC @ 500mA maximum
Power source	Use Triax-supplied AC/DC adapter only (100-240VAC, 50/60Hz, output rated at 5V@4A)

Headband (all colors)

Size	One size fits most
Material	30% cotton, 70% Lycra
Care Instructions	Machine wash with cold water preferred to retain elastic qualities. Hang to dry. Do not machine-dry.

Skullcap (all colors)

Size	One size fits most
Material	30% cotton, 70% Lycra
Care Instructions	Machine wash cold water preferred to retain elastic qualities. Hang to dry. Do not machine-dry.

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