Vernier Go Wireless® Heart Rate

(Order Code GW-HR)

The Vernier Go Wireless Heart Rate consists of a pair of wireless hand grips that measure heart rate on a mobile device. It is ideal for continuously monitoring heart rate before, during, and after exercise or while a person is stationary. It connects via Bluetooth® wireless technology to compatible devices.

Note: Vernier products are designed for educational use. Our products are not designed nor are they recommended for any industrial, medical, or commercial process such as life support, patient diagnosis, control of a manufacturing process, or industrial testing of any kind.

What's Included

- Heart Rate Hand Grips
- Polar Transmitter Module (battery included)

Compatible Software and Interfaces

See **www.vernier.com/manuals/gw-hr** for a list of software compatible with Go Wireless Heart Rate.

Getting Started

Ensure that the Polar Transmitter Module is attached to the Heart Rate Hand Grips securely. Locate and record the ID on the side of the Polar Transmitter Module. This is a unique sequence of six numbers and/or letters (e.g., ID:XXXXXX). Have the subject grasp the handles of the Go Wireless Heart Rate to activate the Bluetooth radio in the Polar Transmitter Module. The sensor is now ready for data collection.

Note: Compatible devices for connection via Bluetooth include LabQuest® 2 or newer, Chromebook™, macOS® and Windows® computers, iPadOS™, and iOS and Android™ mobile devices. See **www.vernier.com/manuals/gw-hr** for a list of software compatible with Go Wireless Heart Rate.

Collecting Data with Graphical Analysis

1. Open Graphical Analysis.
2. Tap Create Experiment. Choose Wireless Sensors.
3. Select the Polar HR with the proper ID from the list of available sensors.
4. Tap Collect to begin data collection.

Note: The sensor will disconnect from the device 30 seconds after letting go of the hand-grips. To reconnect to the sensor, tap Connect and select your Polar HR sensor.

Collecting Data with LabQuest App

1. Choose New from the File menu. On the Meter screen, choose Wireless Device Setup ► Go Wireless from the Sensors menu.
2. Select the Polar HR with the proper ID from the list of available sensors. Select OK.
3. The heart rate of the subject will be displayed on the Meter screen.
4. Collect data as desired.

Note: The sensor will disconnect from the device 30 seconds after letting go of the hand-grips. To reconnect to the sensor, navigate to the Meter screen. Tap Offline: Heart Rate and select Go Wireless. Tap Connect and select your Polar HR sensor.

Collecting Data without Bluetooth Wireless Technology

This sensor can also be used with a Vernier interface and a Heart Rate Receiver (HR-REC, not included). Here is the general procedure to follow when using the Go Wireless Heart Rate with a Vernier interface that is not compatible via Bluetooth.

1. Connect the Heart Rate Receiver to the interface.
2. Start the data-collection software.
3. The software will identify the Go Wireless Heart Rate as a Hand-Grip Heart Rate Monitor. A default data-collection file will be opened.
4. You are now ready to collect data.

Note: The subject's heart rate will not be displayed on the Meter screen when using the Heart Rate Receiver with the Heart Rate Hand Grips. Heart rate will be calculated and then graphed during data collection after a short delay.

Specifications

Polar Transmitter Module

Battery type	CR 2025
Battery lifetime	200 hrs
Operating temperature	–10 to 50ºC
Radios	Bluetooth and 5 kHz RF transmission
Wireless range	*RF Transmission: 80 to 100 cm Bluetooth: 10 m or more unobstructed

* Use of RF Transmission requires Heart Rate Receiver (order code: HR-REC) and an interface (Go! Link®, LabQuest, etc.)

How the Sensor Works

The Go Wireless Heart Rate measures a person's heart rate by registering the small electrical signals carried across the surface of a person's skin each time his or her heart contracts. The Polar Transmitter Module detects each electrical signal from the heart through the electrodes on the hand grips. The heart rate information is then wirelessly transmitted using a Bluetooth radio to supported mobile devices.

Troubleshooting

For troubleshooting and FAQs, see **www.vernier.com/til/3533**

Accessories/Replacements

Item	Order Code
Heart Rate Hand Grips	HR-GRIP
Polar Transmitter Module	HR-TRANS
Exercise Heart Rate Strap	HR-STRAP
Heart Rate Receiver	HR-REC

Disposal

When disposing of this electronic product, do not treat it as household waste. Its disposal is subject to regulations that vary by country and region. This item should be given to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring that this product is disposed of correctly, you help prevent potential negative consequences on human health or on the environment. The recycling of materials will help to conserve natural resources. For more detailed information about recycling this product, contact your local city office or your disposal service.

The symbol, shown here, indicates that this product must not be disposed of in a standard waste container.

Warranty

Warranty information for this product can be found on the Support tab at **www.vernier.com/gw-hr**

General warranty information can be found at **www.vernier.com/warranty**

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

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 interference and

(2) this device must accept any interference received, including interference that may cause undesired operation

RF Exposure Warning

The equipment complies with RF exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

IC Statement

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.

Industry Canada - Class B This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled “Digital Apparatus,” ICES-003 of Industry Canada. 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.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.

RF exposure warning: The equipment complies with RF exposure limits set forth for an uncontrolled environment. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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 interférence radioélectrique, même si cela résulte à un brouillage susceptible d’en compromettre le fonctionnement.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel interférant-brouilleur: “Appareils Numériques,” NMB-003 édictée par industrie Canada. L’utilisation est soumise aux deux conditions suivantes:

(1) cet appareil ne peut causer d’interférences, et

(2) cet appareil doit accepter toutes interférences, y comprises celles susceptibles de provoquer un disfonctionnement du dispositif.

Afin de réduire les interférences radio potentielles pour les autres utilisateurs, le type d’antenne et son gain doivent être choisie de telle façon que l’équivalent de puissance isotrope émis (e.i.r.p) n’est pas plus grand que celui permis pour une communication établie.

Avertissement d’exposition RF: L’équipement est conforme aux limites d’exposition aux RF établies pour un environnement non supervisé. L’antenne (s) utilisée pour ce transmetteur ne doit pas être jumelés ou fonctionner en conjonction avec toute autre antenne ou transmetteur.

Note: This product is a sensitive measurement device. For best results, use the cables that were provided. Keep the device away from electromagnetic noise sources, such as microwaves, monitors, electric motors, and appliances.

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