

# G4 6DOF WIRELESS ELECTROMAGNETIC TRACKER

## WIRELESS VERSATILITY

G4™ is the compact, tetherless tracker that allows for uninhibited movement. Harnessing the powerful performance of A/C electromagnetics, G4 delivers high-quality, real-time 6DOF data without the post analysis complications of hybrid technologies.



## HOW IT WORKS

Sensor data calculations are transmitted directly to the PC via Radio Frequency (RF) links, providing a seamless stream of drift-free data. Sensors within the tracking range provide full position and orientation data.

## EXPAND & EVOLVE

Each G4 hub can track up to three sensors, with an update rate of 120Hz each. Track additional objects or people by increasing the number of hubs; expand the tracking range by adding additional sources.

## FEATURES

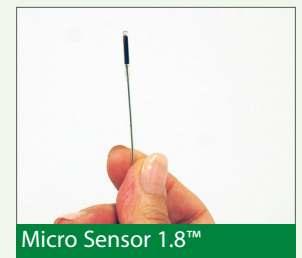
- ✓ Wireless RF Communication
- ✓ Set Up & Track in Minutes
- ✓ No Line-of-Sight Occlusions
- ✓ 10+ Hours of Battery Life
- ✓ Scalable
- ✓ Zero Drift
- ✓ Compact Size
- ✓ Ultra-Portable

## APPLICATIONS

G4 paves the way for cutting-edge solutions and advancement in the areas of training and simulation, rehabilitation, physical therapy, biomechanics, sports analysis, and virtual or augmented reality.

*(left) Lightweight and portable G4 Hub*

## OPTIONS



Micro Sensor 1.8™



Micro Sensor 1.8™ Extra Flex



PowerTRAK 360™

3D pointing device for 3D mouse applications



# COMPONENTS

The standard G4 system includes an SEU (System Electronics Unit), or hub, one standard sensor, one source and one RF/USB module. You can easily expand the system's capability by adding hardware components.

## SYSTEM ELECTRONICS UNIT

Embedded hardware and software computes the position and orientation of each sensor and wirelessly transmits data.

WEIGHT: 4 oz (114 g)

DIMENSIONS: 4.2 in (10.6 cm) x 0.75 in (1.9 cm) x 2.6 in (6.6 cm)

## STANDARD SENSOR

A small lightweight cube, the sensor's position and orientation is precisely measured as it is moved.

WEIGHT: 0.32 oz (9.1 g)

DIMENSIONS: .9 in (2.29 cm) x 1.1 in (2.82 cm) x .6 in (1.52 cm)

## SOURCE

The source generates the magnetic field in which the sensor is tracked.

WEIGHT: 1.60 lb (726 g)

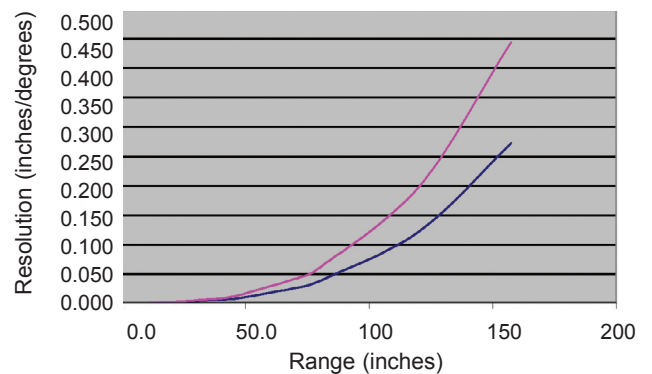
DIMENSIONS: 4.07 in (10.34 cm) x 4.05 in (10.29 cm) x 4.07 in (10.34 cm)

Dimensions and weight are approximate. Dimensional drawings available upon request.

# SPECIFICATIONS

|                       |  |
|-----------------------|--|
| UPDATE RATE           | 120Hz per sensor, simultaneous sampling  |
| INTERFACE             | Proprietary RF link; 2.4 GHz frequency-hopping architecture ; USB  |
| LATENCY               | Less than 10 milliseconds in optimal RF communications conditions  |
| STATIC ACCURACY       | 1 meter (3.3 ft): 0.50 degrees RMS - 0.08 inches/.20 cm RMS<br>2 meter (6.5 ft): 0.75 degrees RMS - 0.25 inches/.64 cm RMS<br>3 meter (9.8 ft): 1.00 degrees RMS - 0.50 inches/1.27 cm RMS   |
| SOFTWARE TOOLS        | PiMgr GUI for Microsoft Windows®<br>Setup and Configuration Utilities for Microsoft Windows® and Linux®<br>PDI SDK for Microsoft Windows®<br>C Programming APIs for Microsoft Windows® and Linux®  |
| SYNC INPUT            | Up to 8 discrete digital inputs for event triggers   |
| OPERATING TEMPERATURE | 10°C to 40°C at a relative humidity of 10% to 95%, noncondensing   |
| POWER REQUIREMENTS    | Source: 5 volt, 1 amp/hub: 5 volt, 500 ma/RF dongle: 5 volt, 30 ma<br>Internal battery, rechargeable via USB or included power supply  |
| REGULATORY            | FCC Part 15, Class B    EN61326-1: 2013 Emissions<br>EN61326-1: 2013 Immunity,<br>Basic Environment<br><br>2.4 GHz Radio Approval:<br>FCC Part 15            EN 301489-1 V1.9.2 2011 Emissions<br>IC RSS 210            EN 301489-3 V1.6.1 2011 Immunity,<br>Basic Environment |

# RANGE VS RESOLUTION (WITH RX2)



— ORIENTATION    — POSITION

| Range (inches) | Position Resolution (inches) | Orientation Resolution (degrees) |
|----------------|------------------------------|----------------------------------|
| 12.0           | 0.0003                       | 0.0008                           |
| 24.0           | 0.0010                       | 0.0020                           |
| 48.0           | 0.0080                       | 0.013                            |
| 96.0           | 0.0610                       | 0.100                            |

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\*Large metallic objects, such as desks or cabinets, located near the source or sensor, may adversely affect the performance of the system.

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