

NEW



# ultium<sup>®</sup>

## MOTION

Portable 3D Motion Capture System



### State of the art sensor design

*Advanced sensor fusion algorithms  
Rotational velocities up to 7000 deg/s  
Accelerations up to 200 g  
400 Hz output rate  
"Lossless" on-board data recovery  
Universal Ultium receiver*

EMG

3D MOTION

SOFTWARE

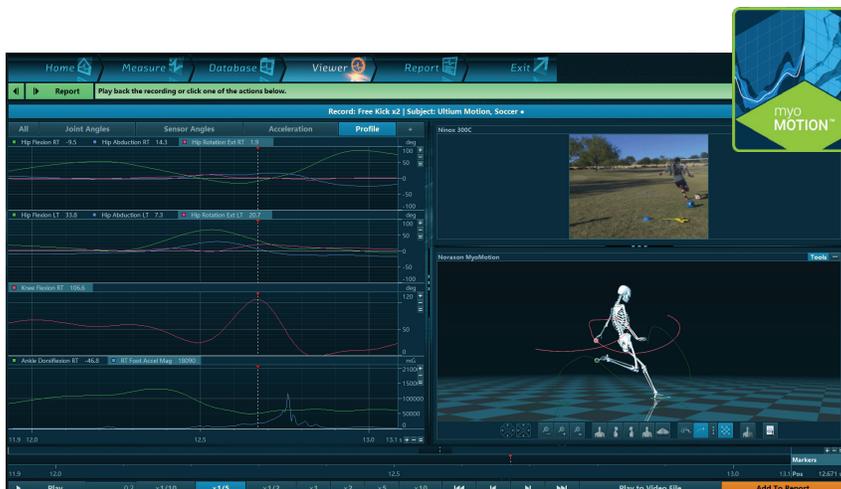
PRESSURE/FORCE

VIDEO ANALYSIS

# ultium<sup>®</sup> MOTION

Wireless IMU sensors allow for lab-quality 3D motion capture in natural environments

Ultium Motion delivers accurate & reliable kinematic data for all types of movement – including high velocity and high impact conditions – while maintaining the advantages of the universal Ultium receiver and multi-device myoRESEARCH software platform.



In myoRESEARCH, you'll have access to:

- Anatomical joint angles
- Orientation angles
- Linear acceleration
- Joint trajectories
- Contact detection
- User-defined angles
- Quaternions
- Raw component data
- Enhanced magnetic rejection
- Customizable reports

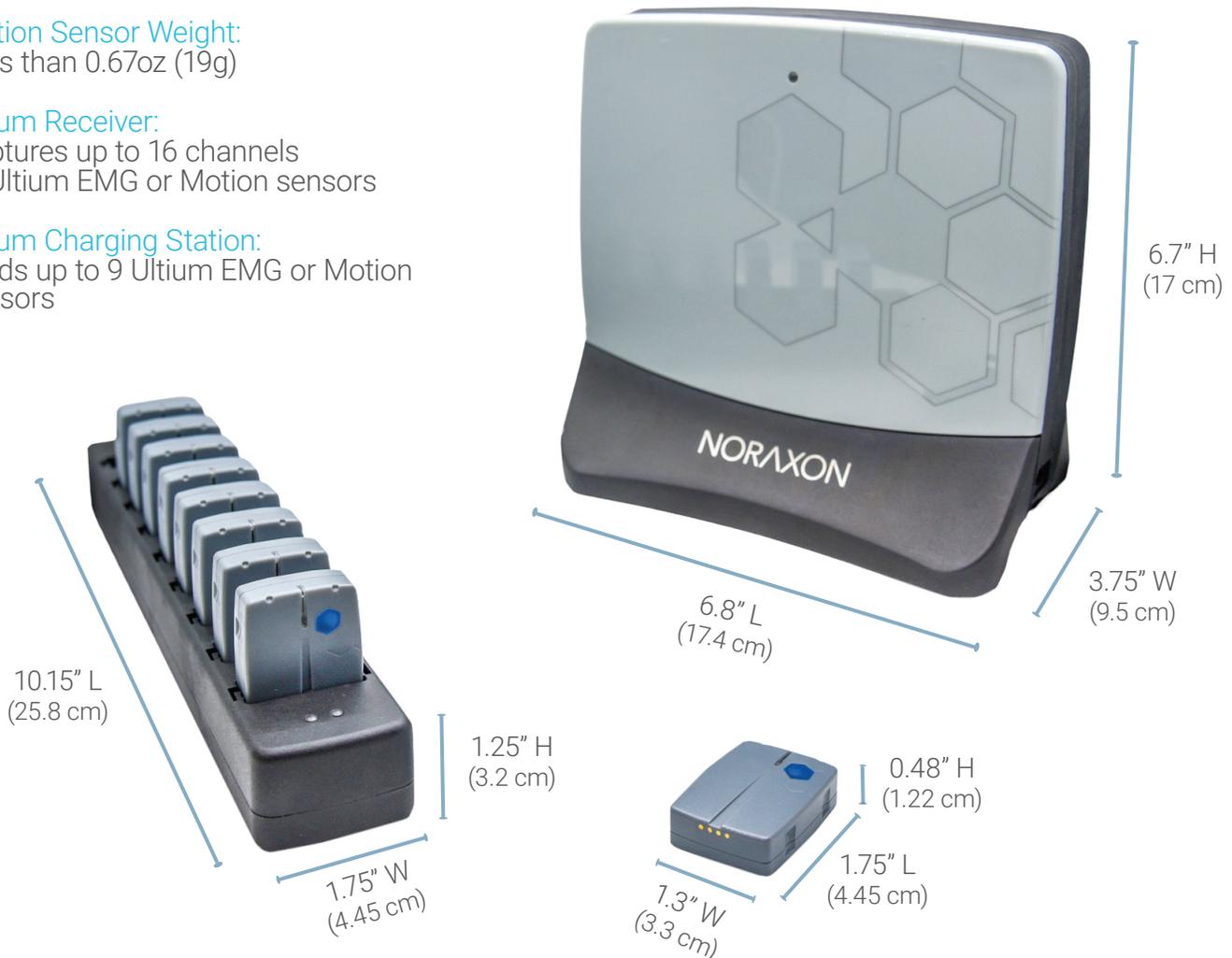
# Technical Specifications



**Motion Sensor Weight:**  
Less than 0.67oz (19g)

**Ultium Receiver:**  
Captures up to 16 channels  
of Ultium EMG or Motion sensors

**Ultium Charging Station:**  
Holds up to 9 Ultium EMG or Motion  
sensors



## Measurement ranges:

- Acceleration: +/- 200 g
- Angular velocity: +/- 7,000 deg/s
- Magnetic field: +/- 16 Gauss

## Static angular accuracy (RMS):

- 0.25 deg (pitch/roll)
- 1.25 deg (course)

## Battery:

- Operational runtime: > 10 hours
- Recharge time: < 4 hours

## Maximum measurement output:

- Ultium system sampling at 4,000 Hz
  - Acceleration: 400 Hz
  - Angular velocity: 400 Hz
  - Magnetic field: 100 Hz
  - Quaternion: 100 Hz
  - Orientation & joint angles: 400 Hz

## Wireless transmission:

- Range: 40m (typical)
- Proprietary 2.4 GHz hopping protocol

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