ultīum® EMG

Wireless Surface EMG with Internal IMU

- Versatile SmartLead™ Options
- Data Recovery with Lossless Technology
- Lifetime Battery Replacement

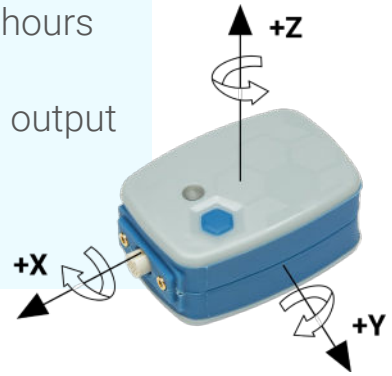
NORAXON®

Noraxon's Ultium EMG sensor system is a multi-modal device that delivers high-fidelity data and flexible measurement options.

The Ultium® EMG Sensor System

Hardware Features

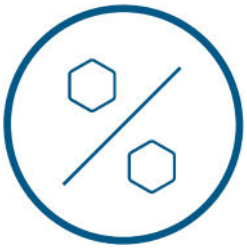
- Up to 4,000 Hz EMG sampling rate
- 24-bit internal sampling resolution
- ± 24,000 µV EMG input range
- Baseline noise <1 µV
- Shielded cables for minimal artifact
- Software controlled digital filtering
- Enhanced radio frequency communication
- Integrated IMU (16-bit resolution)
- Lossless technology with wireless or post-hoc data recovery
- Internal memory for up to 8 hours of data logging
- Up to 32 channels of analog output
- Mobile device compatibility



Integrated Movement Technology

Noraxon EMG allows users to integrate with various other recording devices to fit unique applications such as:

Symmetry & Coordination Tests



Average Activation Patterns

EMG Amplitude Analysis

Pelvic Floor Therapy

Biofeedback Training

Gait Analysis

Isokinetic Testing

Fatigue Analysis

The myoMUSCLE™ software module features an easy-to-use toolset for handling kinesiological data to enable detailed insight for performance enhancement, injury prevention, and neuromuscular biofeedback.

Versatile Smartleads

The patented SmartLeads enable our system to convert the EMG device into a highly adaptable sensor capable of collecting diverse kinesiological data.

ACCELEROMETER
Detect accelerations up to 400 g.

ANALOG
Wirelessly capture analog signals.

BIOMONITOR
Capture ECG, heart rate, and respiration.

FINEWIRE
Capture intramuscular activity.

FLEXIFORCE
Measure force between two surfaces.

FOOTSWITCH FSR
Detect foot contact events.

GONIOMETER
Measure 2D angles.

HAND DYNAMOMETER
Measure isometric grip force.

LINEAR FORCE
Measure push and pull forces.

ULTIUM INSOLE
Assess plantar pressure distribution.

All-in-One Biomechanics Software

Seamlessly collect and combine a variety of data within a unified software platform.

- Comprehensive signal processing tools
- Customizable analysis reports
- Multi-device synchronization
- Multiple data export formats
- HTTP streaming functionality

Digital Device Integration

QUALISYS · VICON · MOTION ANALYSIS · CSMi · BIODEX · BTE

TECHNICAL DATA

POWER AND SYNCHRONIZATION

Sensor

- Li-Polymer battery
- 8-hour operational runtime
- 3-hour charge time

Receiver

- Power and data transfer by USB
- Sensor charging by 5V PSU
- Accepts 2-5 V TTL sync input

DATA TRANSMISSION AND OUTPUT

- 2.4 GHz wireless and Bluetooth Low Energy
- 30 m wireless transmission range
- 16-bit analog output with adjustable gain
- Fixed 300 ms analog output latency

DATA ACQUISITION

- Selectable sample rate at 2000 or 4000 Hz
- Selectable high-pass cutoff at 5/10/20 Hz
- Selectable low-pass cutoff at 500/1000/1500 Hz
- No notch (50/60 Hz) filters
- ± 24,000 µV input range
- 24-bit ADC with dynamic resolution
    - 0.3 µV resolution for 0 - 5,000 µV
    - 1.1 µV resolution for 5,001 - 24,000 µV

EMG SIGNAL QUALITY

- < 1 µV RMS baseline noise
- > 100 dB CMRR

INTEGRATED IMU

- 16-bit resolution
- 200 Hz sample rate (2000 Hz EMG)
- 400 Hz sample rate (No EMG selected)
- ± 16 g accelerometer
- ± 2000 degrees/second gyroscope
- ± 4800 µT magnetometer

DATA RECOVERY

- 250 MB onboard memory (up to 16 hours of storage)
- High-speed data transfer via sensor dock

SIZE AND WEIGHT

Sensor

- 37x 24.5 x 16.5 mm (LxWxH)
- 14 g

Receiver

- 174 x 92 x 169 mm (LxWxH)
- 545 g

Charger

- 261 x 36 x 29 mm (LxWxH)
- 185 g

Scan to learn more

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www.noraxon.com

CERTIFICATIONS

CE 2797 FDA ISO