



# xsens

## MTw Awinda & Awinda station

Wireless motion tracker  
& Data receiver

## Specifications MTw™ Awinda™

### MTw Awinda

Highly accurate, small and lightweight 3D human wireless motion tracker. Used in a body area network, these portable and unobtrusive wireless trackers are ideal for developing customized wearable solutions.

**Tracker placement**  
Easy fastening with Velcro straps

**Internal sampling rate**  
1000 Hz

**Latency**  
30 ms

**Buffer time (retransmissions)**  
10 s

**Battery life (continuous use)**  
6 Hours

**Dimensions Tracker**  
47 x 30 x 13 mm  
(1.85 x 1.18 x 0.51 in)

**Weight**  
16 g (0.56 oz.)

**Operating temperature range**  
0°C - 50°C



**Static Accuracy (Roll/Pitch)**  
0.5 deg RMS

**Static Accuracy (Heading)**  
1 deg RMS

**Dynamic Accuracy (Roll/Pitch)**  
0.75 deg RMS

**Dynamic Accuracy (Heading)**  
1.5 deg RMS

### Communication

Range	Awinda station	Awinda dongle
Open space	Up to 50 m (165 ft.)	Up to 20 m (65 ft.)
Office space	Up to 20 m (65 ft.)	Up to 10 m (33 ft.)
Wireless protocol	Xsens patented Awinda protocol	
Receiver	Awinda Station / Awinda Dongle	

### Tracker components

	Angular velocity	Acceleration	Magnetic field
Dimensions	3 axes	3 axes	3 axes
Full scale	± 2000 deg/s	± 160 m/s	± 1.9 Gauss

<sup>1</sup>The patented Awinda protocol ensures highly accurate time synchronized data sampling (within ≤10 μs) in all connected MTw's, which is essential for accurate joint angles.



### Awinda station

The Awinda Station can receive data from up to 20 MTw's simultaneously. Data from multiple MTw's is time-synchronized to within 10μs. Charges up to 6 MTw's simultaneously.

## Specifications Awinda™ station

### Operating temperature range

Ambient	-25°C - 80°C
Specified Performance	0°C - 65°C
Specifications for non-condensing environment. Avoid wet and humid conditions.	

### Power Supply

EU/US/UK power adapters provided

### Communication

Awinda Station

PC Interface: USB

### Physical Properties

Dimensions (without antenna)	148 x 104 x 31.9 mm (5.8 x 4.1 x 1.3 in)
Weight	200g (7 oz.)

### Synchronization with third party devices

4 BNC connectors	- 2 for sync in - 2 for sync out
TTL pulses	0-3.3V levels
Software configurable	

### Wireless update rates

1 MTw	120 Hz
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### Awinda Dongle Specifications (Miniature version of Awinda Station)

Dimensions	20.4 x 45 x 10.6mm (0.8 x 1.8 x 0.4 in)
Weight	8g (0.28 oz.)



<sup>2</sup>Max. number of connected MTw's supported

## ABOUT XSSENS

Xsens is the leading innovator in 3D motion tracking technology and products. Its sensor fusion technologies enable a seamless interaction between the physical and the digital world in applications such as industrial control and stabilization, health, sports and 3D character animation. Clients and partners include Electronic Arts, NBC Universal, Daimler, Autodesk, ABB, Siemens and various other leading institutes and companies throughout the world. Xsens is part of mCube, the provider of the world's smallest MEMS motion sensors, key enablers for the Internet of Moving Things. Xsens has offices in Enschede, Los Angeles, Shanghai and Hong Kong.

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