MTi-G

QUICK SETUP: GETTING STARTED WITH YOUR MTi-G

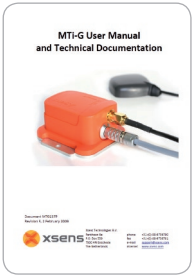
xsens

CONTENT MTi-G DEVELOPMENT KIT

Motion tracker MTi-G

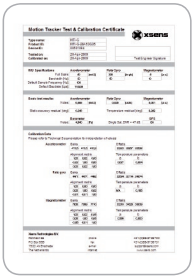
USB-serial data and power cable, 2,5 meters (CA-USB2G)

GPS Antenna



MTi-G User Manual

MT Software Development Kit (SDK)



Calibration certificate

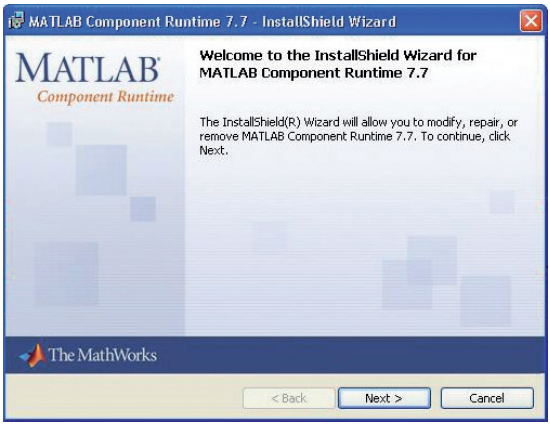
Letter with registration code

xsens

STEP 1. SOFTWARE SETUP

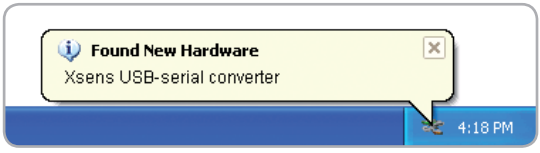
- Insert the CD to run the MT SDK installer (setup.exe) with 'Administrator' or 'Power User' rights if you install on Windows NT/2000/XP/Vista. The required **individual registration number** can be found in the letter accompanying the product.The Installer will install the necessary drivers for the Xsens USB-serial Converter.

- The installer will also include the MATLAB Component Runtime (MCR), which is required for the Xsens Magnetic Field Mapper Software. We advise to install the MCR when indicated. A dialog as shown below will guide you through the process.

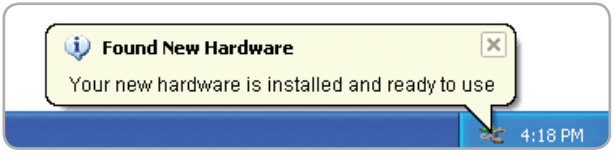


STEP 2. HARDWARE SETUP

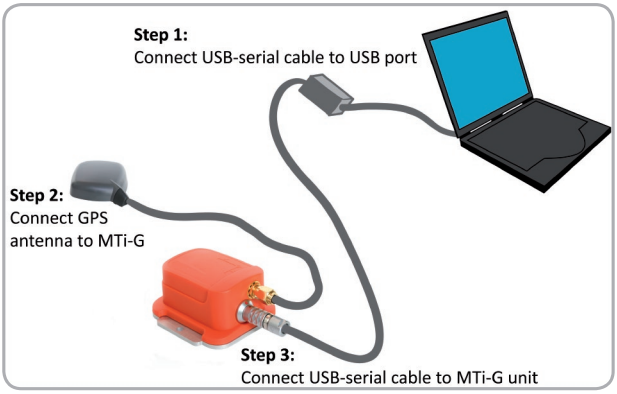
- Connect the USB-serial cable to a free PC USB port (USB 1.1 or higher). Do not connect the MTi-G unit to the serial connector yet.
- After connecting the Xsens USB Converter to the PC, Windows will detect the installed drivers, performed at Step 1. Xsens drivers are WHQL certified and will be installed automatically:



Wait while Windows installs the necessary drivers.

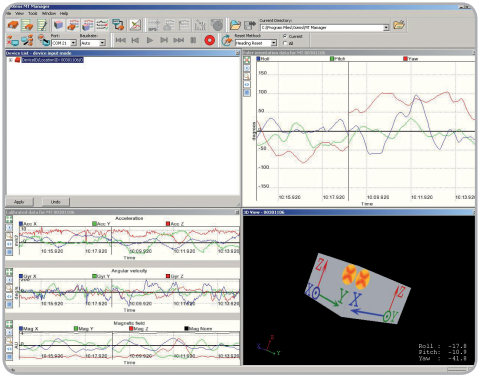


- Connect the GPS antenna to the MTi-G.
- Now the MTi-G can be connected with the USB-serial cable.



STEP 3. FIRST USE

- Make sure the MTi-G is connected to your PC, then start the MT Manager.
- MT Manager is the easiest way to get started with your MTi-G. This user friendly software with familiar Windows user interface enables to view 3D orientation in real-time, view 2D plots or inertial data. With MT Manager it is possible to export logged MT binary data files (.MTB) to ASCII files. Further MT Manager enables full set-up of the device settings and properties.
- The MT Manager will start a configuration wizard upon first use. The configuration wizard can be used for basic settings, such as the output mode and output settings, the baud rate, sample frequency, GPS lever arm (distance from antenna to GPS) and filter scenario.
- The easiest way to check if the MTi-G is running and configured correctly is to view the 3D representation* of the Motion Tracker in the MT Manager.
  - Click the icon
  - Make sure to have the output mode of the MTi-G set to raw data or Orientation data to see a 3D representation of the MT.
  - Output Mode can be modified in the ‘Device List’ window, or open the ‘MT Settings’ Tool .
- When the MTi-G has been set-up to the required settings, use ‘Record’ to start a measurement. The measurement will be logged in the ‘Current Directory’.



*Please make sure your PC's Graphics Card meets the requirements for 3D graphical output (refer to System Requirements in the MT Manager Manual).

STEP 4. INSTALLED DOCUMENTATION

Interface through COM-object API or DLL API

To develop a Windows software application that uses the MTi-G, using the COM-object API (XsensCMT.DLL) can be used, or interface directly with the DLL. Xsens CMT.DLL provides user friendly function calls to obtain data from the sensor or to change settings. The DLL takes care of the hardware communication interfacing and it is an easy way to get (soft) real-time data access.

Using the COM-object API is typically preferred when you want to access the MT's capabilities directly in application software such as MATLAB, LabVIEW, Excel (Visual Basic), etc. (examples included in MT SDK). Both polling and events based methods are supported.

Using the DLL API is typically preferred when you are using programming languages such as C and C++.

Direct low-level communication with the MTi-G

Direct interfacing with the MTi-G (over RS-232) is the natural choice if you are looking for full-control, maximum flexibility and/or have hard real-time performance requirements. The MT's low power embedded DSP performs all the calculations/calibrations. The data can be retrieved from the serial communication interface using the MT binary communication protocol using with streaming (free-running) mode or polling mode.

The process is very user friendly by inclusion of the source code (C++) of the MT Communication protocol C++ class in the MT SDK (CMT.LIB and CMT source code). Example C/C++ application code will facilitate your development platform of choice. The example code is tested on Linux as well.

xsens

SUPPORT

In case you have any questions or support requirements, please visit www.xsens.com; support section or Frequently Asked Questions (FAQ's).

Xsens Technologies B.V.

phone +31 88 97367 00

fax +31 88 97367 01

e-mail info@xsens.com

internet **www.xsens.com**

Xsens Technologies B.V. www.xsens.com MTi-G Quick Setup sheet
June, 2009