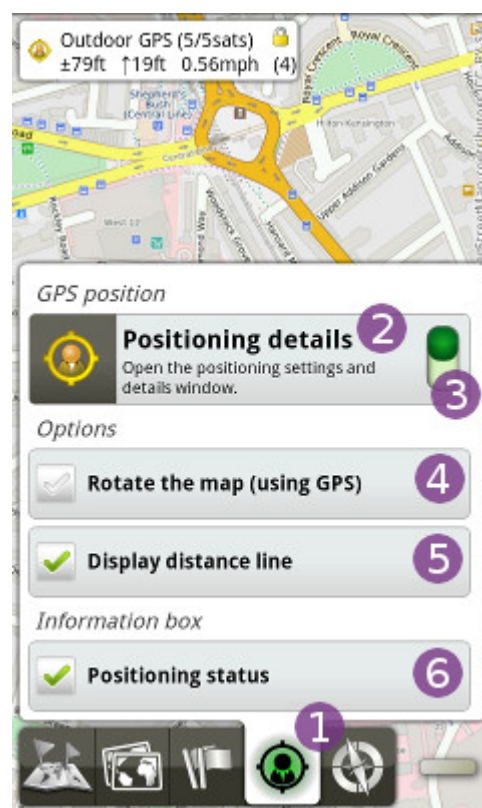


GPS position

The GPS position allows you to display your real location on the map.

Most devices now have a GPS chip which is used to compute this location. GPS provides a precise location while not using any cellular network. However, it must have a clear access to the sky, meaning that it cannot be used indoor.



i If your device doesn't have a GPS chip, or if this one is turned off in the Android settings, the network location (much less precise) may be used.

To turn on the GPS positioning and display your real location on the map, you can either:

- Long-press the “**GPS position**” menu button **1**;
- Open the sub-menu and click on the “**Positioning details**” toggle button **3**.

i The GPS may require up to few minutes to retrieve your precise location after being turned on.

The sub-menu

Click on the “**GPS position**” menu button **1** to display the sub-menu, containing the following items:

- The “**Positioning details**” button **2** opens the positioning details panel;
- The “**Positioning details**” toggle **3** activates or deactivates the positioning;

- The **“Rotate the map (using GPS)”** check-box **4** activates or deactivates the map rotation to make it match your current GPS orientation (you must be moving);
- The **“Display distance line”** check-box **5** activates or deactivates the drawing of a line from the map center to your current location including its distance (see **7** below);
- The **“Positioning status”** check-box **6** activates or deactivates the display of a box on the map giving the most important positioning information (see **8** below).

The menu icon

The **“GPS position”** menu button **1** icon and color let you know the current state:



When the icon is white, the GPS positioning is turned off. Long-press the button to turn it on.

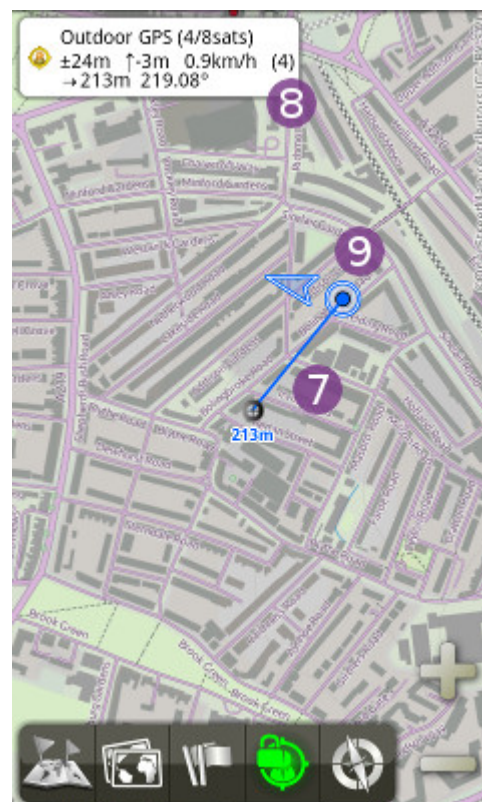


When the icon is green, the GPS positioning is turned on and the current location is displayed at the map center (or being retrieved). Long-press the button to turn it off.



When the icon is green with a lock key, the GPS positioning is turned on and the current location is currently not displayed at the map center (you're looking somewhere else on the map). Click on the button to center the map on the current location.

The on-map positioning




When turned on, the GPS will try to compute your location based on the information retrieved from


GPS satellites.

If the “**Positioning status**” option is checked, an information box ⑧ lets you know how much satellites have been found yet. In this case, **4/8sats** means that **8** satellites have been found in the sky, and **4** are being used to compute the current location. If satellites are being used, then the current location has not been found yet.

If your current location has been found, this one is displayed in blue on the map ⑨. A circle indicates the area of precision (your real location is somewhere inside the circle, usually but not necessarily at the center). An arrow indicates your direction (while moving), and the information box ⑧ gives you the following information:

- The current location accuracy, its elevation, speed, and fix number;
- The distance and bearing to the map center (if different).

 In some cases, while retrieving the current location, the application can display an older one. In this case, this old location is displayed in red.

 When the application is sent in the background (or when another one is started over), the positioning is temporarily deactivated to save the battery. This default behavior can be deactivated in the application settings.

Elevations management

The elevation of a point is the difference between the altitude of this point and a reference surface of altitude 0 (also called “sea level”).


However, depending on what is considered to be the surface of reference, elevations can be quite different. This surface depends on the representation of the Earth, which has been shaped in many ways over the last centuries.

Many countries have used their own measure systems, defining representations that best match the surfaces of their own territories, and most of them are still used on paper maps. Unfortunately, as soon as used outside of their defined areas, these systems become inaccurate and useless.

The GPS, working worldwide, had to choose a system defining a shape that match the entire Earth. A particular oblate spheroid, called **WGS84** has been chosen as shape, because it provides a good overall approximation while remaining simple.

Based on this choice, GPS's “WGS84” elevations are a good approximation at the Earth scale, but compared to per-country systems elevations, we can have discrepancies up to 50m.

To reduce these discrepancies and provide more precise elevations, the application convert all GPS elevations towards another system using a more precise shape of the Earth, called **Geoid. However, some slight discrepancies can still be found.**

 You can find a detailed article of the shape of the Earth on [Wikipedia](https://en.wikipedia.org/wiki/Geoid).

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