Sonda ALFA

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Alfa (Alpha in English) is a robot that was designed with two main proposes: meteorological and explore unknown zones. It has its own processor to operate by remote control and for collect data. It's necessary install the Alfa application and synchronizes the phone. If it's needed to know information about the working area obtained by the sensors onboard of the device, user only has to type the robot IP address in a device with a web navigator and will have access to the entire database from the sensors. It can obtain temperature, humidity, rain drops, radiation, GPS location, and streaming video from an HD camera integrated. The chassis was built with lightweight aluminum and the body box (provides protection for the battery, processor and the rest of components) was built in strong stainless steel. To give strength and speed, it's equipped with four DC engines with 10 N/m of torque and two batteries (12V) and 14A (both combined has 336W of total power and gives four hours of autonomy). To reduce the depending from an AC battery charger, Alfa includes a solar panel. To give a safe driving and precise control, device has an All Wheel Drive transmission and an independent suspension. The robot doesn't have any steering mechanism. It rotates on his axis and by this way it can rotate 360° around a point without describe a curve. Alfa is a low cost robot (USD 1,200) with numerous potential uses. It employs an open hardware platform called as 'Arduino' that uses 'C' language, which means that any person with a limited knowledge of PC use can reprogram the processor and give other function to it. Arduino processor has a huge list of compatible accessories, all of them, easy to locate and buy on international online markets, transforming it in a versatile tool.