Vehicle supervision system based on mems geomagnetic sensor

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Abstract: Following the economy of our country rapidly develops in recent years, more and more people possess vehicles of their own, and the number of urban vehicle is increasing fast as well. All of these directly challenge the management of urban traffic and normalization of driving behavior. According to actual request for urban traffic, Vehicle Supervision System Based on MEMS Geomagnetic Sensor, for short VSS-G, is put forward. This system mainly contains two biaxial geomagnetic sensors based on MEMS technology--MMC202xM, which is made by MEMSIC Company, and a microprocessor--AT89C52, and some other parts which are used to display and used as expansion interface. MMC202xM, as a magnetic sensor, is able to catch the fluctuation of geomagnetic field. Making use of this specialty, it can detect whether vehicles pass by or not. In addition, using two geomagnetic sensors connected with a microprocessor, the Vehicle Supervision System Based on MEMS Geomagnetic Sensors can realize more functions, such as taking count of the number of vehicles passing by in a unit time, measuring the speed of each vehicle, judging whether vehicles are over-speed, and checking whether vehicles go against the flow. Moreover, in association with other traffic facilities, for instance, traffic lights and cameras, the system can identify the motion of vehicle and record the vehicle number. Accordingly, the traffic violation records along with other useful traffic monitoring information will be great helpful to some departments, which are in charge of the normalization of driving behavior, management of urban traffic and city planning.

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