

ABSTRACT

The train is one of the means of land transportation that is often used by people to travel long distance or short distances. For trains with long-distance destinations, of course needed supporting facilities for the convenience of travel during the trip. One of the facilities that is often used by passengers is the toilet, therefore water supplies is needed for toilet purposes. The water filling is carried out at the time of stopping at a particular station, the water filling is carried out manually by an OTC officer (On Train Crew), in this case the author designs and implements a system that changes the method of water filling from manual into automatic, because in this 4.0 digital industry era every company is required to improve the quality of its products and services and one of them is in the field of technology.

The manufacture of automatic air filling systems at the train station uses a proximity sensor to detect the presence of the train rail, then the data will be transmitted via a wireless module, the data used as a trigger for the systems in water fillers and water tank pumps functioning or not . In the water filler the laser receiver module is installed and in the water tank the laser transmitter module is installed to detect the position of the water tank valve, then this data is processed using a microcontroller which will then give the order for the solenoid valve in the water filler to open and begin the water filling process to the water tank. In the water tank a sensor will be installed to measure the height of the water, the installation of this sensor is used as triggers to opening and closing the valve of the water tank and for the laser transmitter module to emit the laser or not. With this implemented system, it is expected to improve water filling system quality on the train at the station.

Keywords: Automatic water filling system, train