

ESP1820

A Low Cost Automated Fluid Control Device using Smart Phone for Medical Application

The design and implementation of an automated liquid observation and controlling method utilizing an affordable liquid flow sensor and the microcontroller are presented here which has the ability to assist the health care provider to control the saline circulation rate using Matrix keypad or Android phone. The Arduino Mega (2560) platform has been used as controlling unit for providing necessary control along with a 3×4 matrix keypad and Bluetooth module to control the drop per minute manually and by using an android phone. The designed flow sensor will be hooked up to the drip chamber of the saline container to determine the saline flow rate as well as an accurate number of a drop of the saline. The obtained outputs from the sensor are continuously checked with the given command and if any mismatch is found, the microcontroller moves the servo motor to modify the circulation rate to balance with assigned command. The device has been tested after completion of necessary hardware development. The outcome is satisfactory which indicates a possible application in taking care of patient more appropriately.