ABSTRAK

Distribusi air yang dilakukan oleh perusahaan penyedia air minum dibutuhkan pemantauan untuk memastikan ketersediaan air bagi pelanggan. Sistem *monitoring* distribusi air oleh pihak penyedia air minum pada saat ini masih belum sepenuhnya optimal. Proses identifikasi sumber masalah atau pemeriksaan rutin distribusi air dilakukan secara manual menggunakan alat konvensional secara analog. Penerapan konsep *internet of things* pada *monitoring* distribusi air diharapkan dapat membantu pihak penyedia air minum. *Monitoring* Distribusi Air menggunakan sensor aliran air dan tekanan air yang akan dipasang pada dua titik yang berbeda. Data yang berasal dari pembacaan sensor kemudian disinkronisasi dengan layanan *Thinger.io* melalui modul komunikasi *ESP-32*. Setelah dilakukan pengujian, didapatkan hasil bahwa penerapan *internet of things* pada alat *monitoring* distrbusi air dapat mengetahui debit air dan fluktuasi tekanan air melalui *Thinger.io*. Nilai debit air maksimal pada angka 303 liter. Sementara itu, penurunan tekanan air terendah di dapat pada angka 0,30 bar, dan nilai tekanan air tertinggi di dapat pada angka 4,07 bar. Nilai debit air dan tekanan air yang dapat diketahui secara nirkabel diharapkan dapat membantu pemeriksaan rutin oleh pihak penyedia air minum.

Kata kunci: Air, Distribusi, Mikrokontroler, *Monitoring*, *Thinger.io*

ABSTRACT

Water distribution carried out by drinking water supply companies requires monitoring to ensure the availability of water for customers. The monitoring system for water distribution by drinking water providers is currently not fully optimal. The process of identifying the source of the problem or routine inspection of water distribution is carried out manually using conventional analogue tools. The application of the internet of things concept to monitoring water distribution is expected to help drinking water providers. Water Distribution Monitoring uses water flow and water pressure sensors which will be installed at two different points. Data originating from sensor readings is then synchronized with the Thinger.io service via the ESP-32 communication module. After testing, it was found that the application of the internet of things on the water distribution monitoring tool can determine water discharge and fluctuations in water pressure through Thinger.io. The maximum water discharge value is 303 liters. Meanwhile, the lowest water pressure drop was obtained at 0.30 bar, and the highest water pressure value was obtained at 4.07 bar. The value of water discharge and water pressure that can be known wirelessly is expected to help routine inspections by drinking water providers.

Keywords: Water, Distribution, Microcontroller, Monitoring, Thinger.io