Modbus Gateway Design Using Arm Microprocessor

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Abstract : Integration of various communication protocols into an automation system causes a rise in setup and maintenance cost and make to control network devices in difficulty. The gateway becomes necessary for reducing complexity in network topology. In this study, Modbus RTU/Modbus TCP industrial ethernet gateway design and implementation are presented with ARM embedded system and FreeRTOS real-time operating system. The Modbus gateway can perform communication with Modbus RTU and Modbus TCP devices over itself. Moreover, the gateway can be adjustable with the user-interface application or messaging interface. Conducted experiments and the results are presented in the paper. Eventually, the proposed system is a complete, low-cost, real-time, and user-friendly design for monitoring and setting devices and useful for meeting remote control purposes.
Keywords : gateway, industrial communication, modbus, network

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