

LPC2132-Based Ethernet Data Acquisition and Control System

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Today, data acquisition and control equipment such as DDC, data acquisition adaptor or PLC are widely used in industrial field. Most equipment of such type work alone, without networking capability. Some of them can connect to a PC via field bus, such as CAN-bus, CC-link, RS-485 or even RS-232. System may meet performance bottleneck where lots of data need to be exchanged between terminals and server. Limited by the physical specifications of such classic field bus technologies, system topologies can hardly be chosen if you want to make a large scale project.

There are many solutions that have come out in market these days which includes mainly protocol converters, like RS232 to ethernet, RS485 to Ethernet converter etc. But they often makes the whole system complicated. So why not make a control system solely based on ethernet? Ethernet can not only meets the high data rate complications but also the ease of installation and large area coverage.

This project is a sample solution for introduce Ethernet into field control applications. With this solution, remote monitoring and control can be easily achieved. Designed for industrial applications, this LPC2132 microcontroller-based project is a dependable data acquisition system. The system features eight digital inputs, four analog inputs, two analog outputs, and a two-channel input counter. Additionally, it includes two channels for relay output, which can be used to control other devices. Data is transmitted to the host PC via Ethernet.

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