

Military Ammunition Depot Monitoring System with ADAM-6000 & GCL

Application: Facility Monitoring System
Location: Taiwan

Project Introduction:

A military institute in Taiwan wanted to monitor their ammunition depot against illegal access or break-ins. When the window or door of the ammunition depot is opened, an alarm will be activated and a message will be sent to the server (a computer) in the central control room. While traditionally the job of a PLC, this customer chose to apply the ADAM-6000 series with new GCL functionality, saving them money and allowing more employees to customize the Logic programming software.



System Requirements:

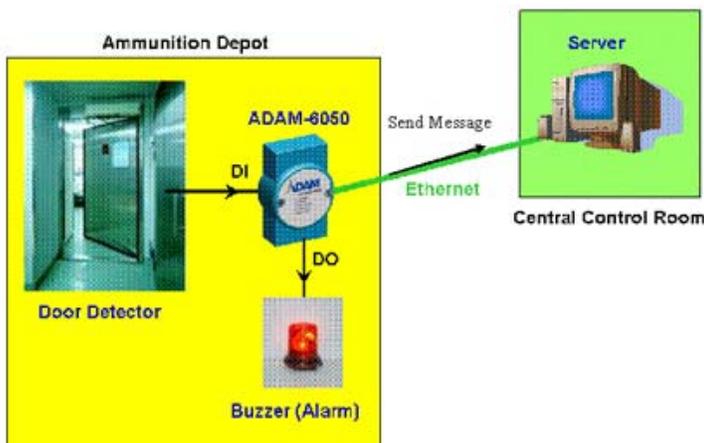
The following requirements were needed to complete this system:

1. One Remote I/O device to receive signals.
2. All data can be transferred to the server via Ethernet, so an Ethernet I/O device is also needed.
3. The customer didn't want to write programs on the server to control the Ethernet I/O device, so the Ethernet I/O device should have the ability to operate as a standalone module.
4. The customer also wanted the Ethernet I/O device to be able to actively send messages to the server when an event occurs (illegal break-in), so that the server doesn't need to periodically poll the status of the Ethernet I/O device.

Project Implementation:

ADAM-6050 18-ch Isolated DI/O Module with GCL Firmware Update

System Diagram:



System Description:

There are alarm detectors installed in the doors & windows of the ammunition depot which will generate digital output signal when the door (window) is opened. Since this is an ammunition depot, every entrance should be monitored and notified. [ADAM-6050](#) modules are located near the door (window) detectors and connect to the detectors. The GCL utility is running on the [ADAM-6050](#) and will continuously check if the value of the digital inputs from the detectors has changed. In the event of a change, it will automatically generate digital output signal to activate the alarm (power the buzzer). At the same time, [ADAM-6050](#) modules will also send predefined message through Internet or Intranet to the remote server in the central control room. Then the guard in the central control room can take related action.

Conclusion:

Advantech's [ADAM-6000](#) with GCL solution is perfect for this application. Not only is this a very simple system, but only one [ADAM-6050](#) module is needed. The developer can build the system in a very short time, and they don't need to write a detailed program on the server to read DI or DO status on the module. They only needed to complete the program in the graphical configuration environment, which actually took them less than 10 minutes to complete.