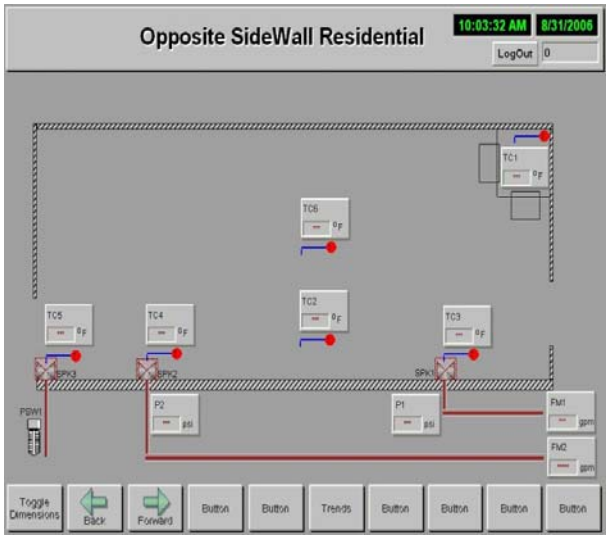


Burn Test in Fire Lab

Industry: **Fire Safety**
Product: **Network Solutions**
MW100

Introduction

A leading manufacturer of fire protection and safety equipment runs multiple tests in a simulated environment to determine if their products will perform to specifications. The existing test procedure was a manual process that required data and reports to be completed by an operator using a combination of a notepad and a spreadsheet. The customer was looking for a solution that could automatically collect test data, issue reports and allow for remote control of certain aspects of the system.



Application

Burn tests are used to judge the efficiency and performance of fire safety equipment in a simulated environment. A burn test consists of several phases:

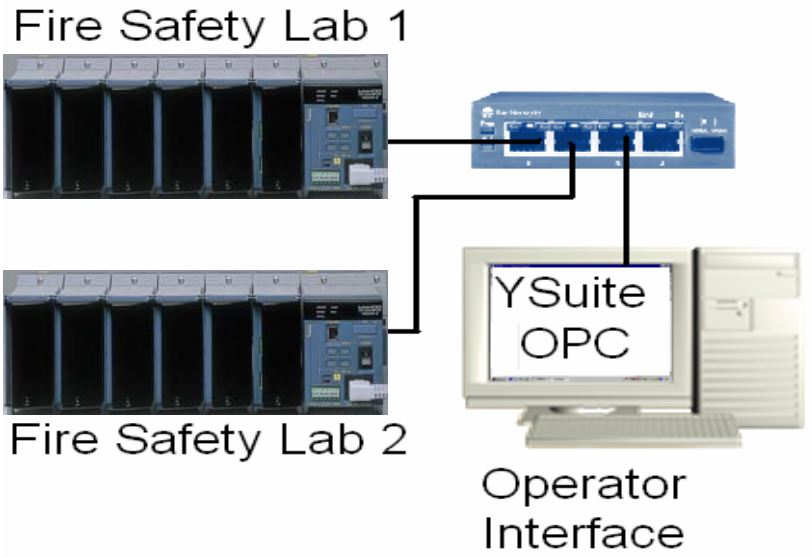
- Construct the room by moving sliding walls in order to change dimensions
- Install and configure test equipment
- Start temperature measurement and data collection
- Raise temperature in room through a profile to simulate a fire
- Fire safety system responds to fire
- Fire safety system brings room to a safe temperature within a time limit, if not the test fails
- Stop data collection
- Issue report

The customer began a search for a new automated data acquisition system with the following benefits:

- Automated sampling of data at a much higher rate then would be possible through manual sampling
- Greater accuracy and consistency in sampling method
- Automatic abort of test if failure conditions were met
- Automatic generation of test report
- Reduction of overall test cycle time
- Reduction of operator workload

Solution

Since the customer required a data collection and reporting system with operator interface, Yokogawa recommends an MW100 system with YSuite software. YSuite is Yokogawa's software solution for SCADA/HMI, Trending and Alarming. There are two fire safety labs each equipped with an MW100 with 50 universal input and ten relay outputs. The operator interface and reporting system consists of YSuite's GraphWorx with the final report being issue via a Microsoft Excel Spreadsheet. GraphWorx and the MW100 communicated via Kepware's OPC Server. Development of the system was handled by a local integrator.



The finished MW100 system collects various temperature, pressure, flow rate and discrete signal information from the fire labs and provides discrete control of water pumps. The custom GraphWorx interface allows the operator to navigate between the various rooms in the fire safety labs, configure the room size, activate the pumps, initiate the tests, monitor the lab conditions and issue the reports.

The MW100 in combination with YSuite provides a cost effective and flexible solution for data collection, process monitoring and reporting. Once implemented, the Yokogawa solution allowed the operator to run more tests per day with greater accuracy and less operator involvement.

KEPServerEX





All Rights Reserved, Copyright © 2007, Yokogawa Corporation of America