ETH I/O Ethernet I/O

Power & Power Generation

Acromag THE LEADER IN INDUSTRIAL I/O

Application Note:

Monitoring a Remote Geothermal Steam Well for Power Generation

Defining the Problem:

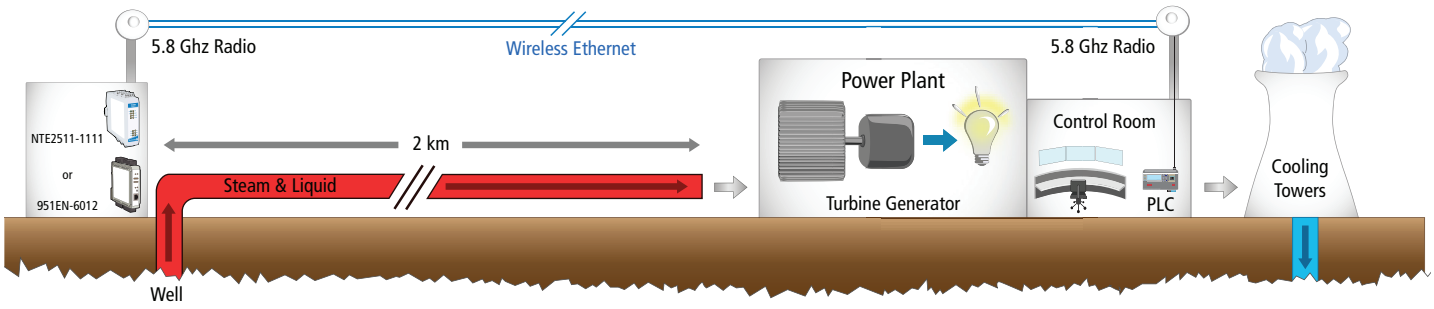
Operations at a remote geothermal steam well are monitored by a PLC from the power plant. C&I personnel need to transmit conditions from the wellsite to the control room 2km away. A wireless communications network is available for Ethernet remote I/O. The modules can be installed at the wellsite for telemetry purposes.

System Requirements:

Remote communication via a NTE2511-1111 Ethernet multi-function I/O module, or, a 951EN-6012 Ethernet/IP module to an Allen-Bradley CompactLogix™ PLC. They need to monitor three discrete inputs and two analog inputs. One Acromag® NTE2511-1111 multi-function I/O module or one 951EN-6012 combination I/O module will accept these five inputs and report over the wireless network back to the PLC.

I/O to be monitored:
Two (2) 4-20mA inputs from Pressure Transmitters
Three (3) Discrete inputs from a Pressure Switch
an Auto/Manual Control and Intrusion Detection

Dry Steam and Binary Cycle Power Plant



Implementing the Solution:

1. Refer to the Acromag CompactLogix™ application note; the RSLogix™ 5000 software can be configured to discover the I/O module. An EDS file is available on Acromag's website, on the NTE2511-1111 product page or the 951EN-6012 product page, to create the module profile.
2. The NTE2511-1111 or the 951EN-6012 Ethernet/IP Control and Information Protocol (CIP™) module communicates with implicit messaging. Reading and writing is done with the Register Map using Object Models. The Acromag product user manual lists all of the CIP service definitions and formats.
3. Either I/O module is configured using any standard web browser. The module is password protected for added security. Enter the network parameters and select the analog I/O ranges.
4. With wiring and power applied, view the analog and discrete test pages in the browser to validate operations. For reliable performance, apply earth ground as shown in the Acromag user manual.

Featured Products:

NTE2511-1111: Ethernet I/O module with dual RJ45 ports, 4 current inputs, 2 current outputs, 4 discrete I/O

951EN-6012: Ethernet/IP Combo Module, 4 current inputs, 2 current outputs, 6 discrete I/O

Notes:

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Why Acromag:

One combination module for all I/O requires only one IP Address and makes set-up and installation easy and fast. The NT2510 Series can easily be converted from one protocol to another through drop down menus, while the 900EN series Ethernet/IP products can communicate with both Ethernet/IP and Modbus TCP/IP simultaneously. This offers more versatility in the implementation and future use of these devices.

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