CASE STUDY

CONEXA
TECH SOLUTIONS

Data Transmission Oversight Solved

Background

To ensure data collection across multiple sites however the challenge was to install protocol conversion and a data transmission method that enabled signals to be provided from what amounted to a concrete underground bunker.

Our customer had recently installed a modern BACnet building management system to collect data from a new office block that they had added to their existing site. Whilst the system installed did everything they needed in the new building they also wanted to collect data from the other buildings as part of their overall management activities and had failed to realise that the equipment they wanted to collect data did not provide this data as BACnet.

The heat pump equipment in question provided an output using an older Modbus style interface that the new system could not interface with. Their problems were further compounded by the addition of some external electricity meters of which some were Modbus enabled but others used legacy S0 pulse outputs to provide a pulse count that defined a fixed amount in kWh.

The next problem that the customer had was that some of the equipment was mounted in an old, deep, stone basement over 200 meters away. There were no bus wires and the location meant that a radio based solution to transmit data was simply not feasible.

CONEXA TECH SOLUTIONS

Our involvement

We needed to define a solution using our modular IoT capabilities to provide both protocol conversion and a data transmission method that enabled signals to be provided from what amounted to a concrete underground bunker.

To solve the protocol issues we provided installed on of our BACnet gateways into the deep, stone, basement. This gateway was fitted with our Modbus module and used our stack software to convert the heatpump and electricity meter data into BACnet data which could then be trend logged. A similar approach was taken with the SO pulse outputs on the other electricity meters through utilisation of the binary inputs on the BACnet gateway backbone. The stack software was configured to read and convert this data and again trend logging was enabled.

The final issue to solve was getting the data out of the basement and to the new management system that had been installed. As stated previously there were no bus wires, no ability to use radio and in addition there was no mobile telephone coverage and this prevented using this as a solution. The only wires into the area were the existing power lines and fortunately we have a powerline comms module as part of our configurable solution.

We added our robust narrow band powerline communication module to the gateway and configured this as a slave, this could be polled from a master powerline module that was installed in a gateway adjacent to the new management system. This gateway provided a BACnet output to the new system that enabled access to all of the data that was previously unavailable.

Outcomes

The installation of our modular based gateway and IoT modules gave the customer access to data that they did not think they could reach. Initially the customer did not have the system that they originally envisaged but the addition of products gave them a solution that met the original vision.

Further development

The fact that our system is modular and highly configurable with modules covering a wide range of modern communications protocols means that the customer has future proofed his installation. If they decide to add further capabilities to their existing buildings, like sensors, we have a modular solution ready to provide the communications that they need.

To find out more or to discuss your requirements, please get in touch

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