UNINTERRUPTABLE CONNECTIVITY FOR INDUSTRIAL CLIMATE CONTROL

SUMMARY

Many countries are still developing their power supply or expanding it together with the growth of cities. This race to meet the ever-growing demand for power leads to grid stability problems. Many industrial IoT setups face issues like devices restarting or electronics getting damaged without a stable electricity supply. One of the examples is the need for constant connectivity to gather and transmit essential data from warehouses or production lines. If a power outage occurs, connectivity is also interrupted.

CHALLENGE

The electricity supply grid is usually unstable in developing countries and experiences voltage fluctuations that modern cities might also face, as the power infrastructure can fall behind the urban growth.

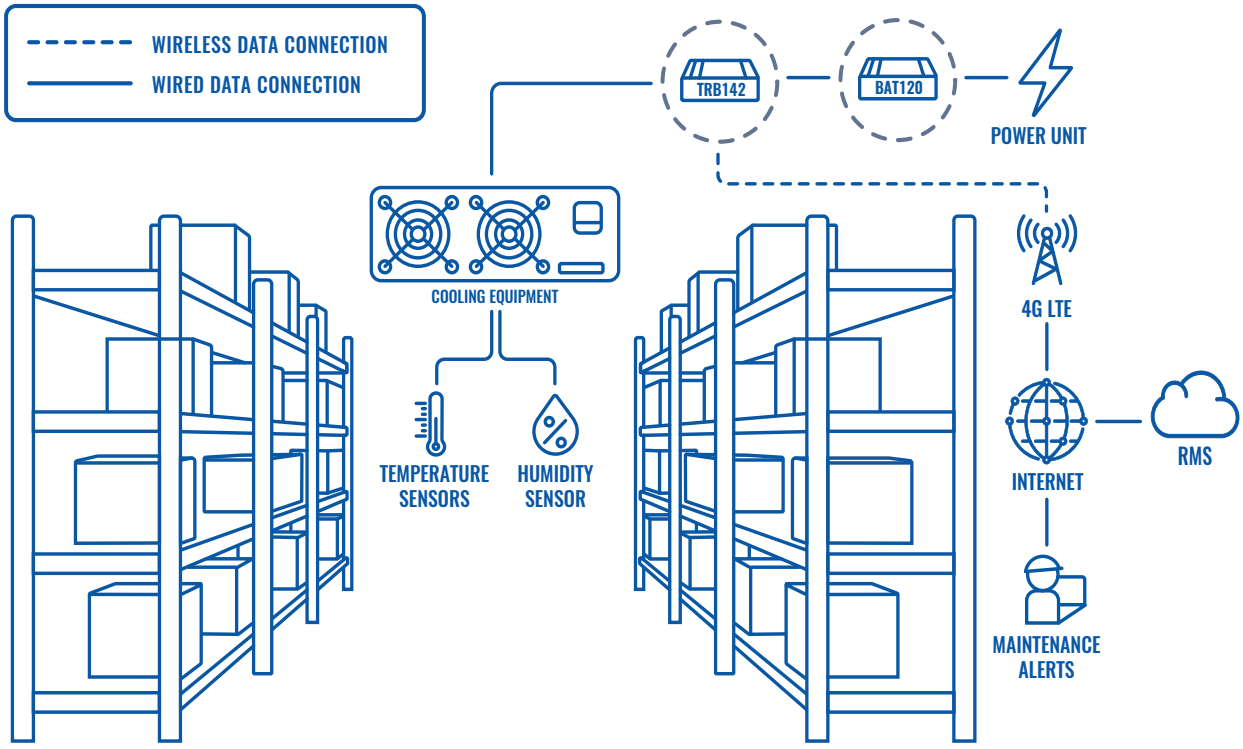
The more powerful technology has its backup energy supply like engines, control units, and computers. However, smaller connectivity hardware usually lacks backup power sources and specific industrial sectors like the FMCG (Fast Moving Consumer Goods) are very data reliant. If a temperature or moisture level shifts for a more extended period in the storage, entire stockpiles of produce will be unfit for sale to consumers according to rigorous FMCG standards. Such solutions require constant monitoring, which can be disrupted by power loss.

SOLUTION

The constant data stream in FMCG is vital because if the temperature and humidity reach a certain point the entire stock of supplies might be compromised. Cooling equipment with temperature and moisture sensors is connected to the Teltonika Networks TRB142 industrial gateway to monitor the FMCG warehouse closely. TRB142 then wirelessly sends all the information back to a monitoring center, where it is closely tracked. However, that connection can get interrupted due to unstable electrical supply conditions.

Our clients are looking for a way to have stable internet despite the fluctuations in the electrical grid. That is why we created the BAT120 uninterrupted power supply. TRB142 connects to Teltonika Networks' BAT120, acting as a backup power source. In case of an electricity outage, the two 18650 Li-ion cells within the BAT120 store a charge that will power the connected device. This uninterrupted power supply can store up to 6 hours' worth of electricity, enough time to restore the primary grid. This backup battery lets TRB142 continuously transmit data from temperature and humidity sensors in the cooling equipment to the surveillance center and, at the same time, inform about the power outage. When BAT120 detects the absence of electricity, it powers the TRB142 with stored energy and sends a signal through the digital output, allowing the gateway to send out an alert. The connected Teltonika Networks device, in this case, TRB142, has custom alerts set up that inform about an outage via SMS, HTTP POST/GET requests or email.

TOPOLOGY



BENEFITS

- BAT120 can provide stable electricity to compatible devices for up to 6 hours.
- BAT120 delivers a signal to a compatible Teltonika Networks device that the main power supply has been lost, allowing it to send out a custom alert.
- BAT120 can be mounted on a DIN rail for easy installation in server rooms and other mounted solutions.

WHY TELTONIKA NETWORKS?

Teltonika Networks always takes an interest in how our products are being implemented in various IoT solutions and what problems our clients face. Based on the knowledge we gather through observation, we design products with new functionalities that meet all of our customers' needs.