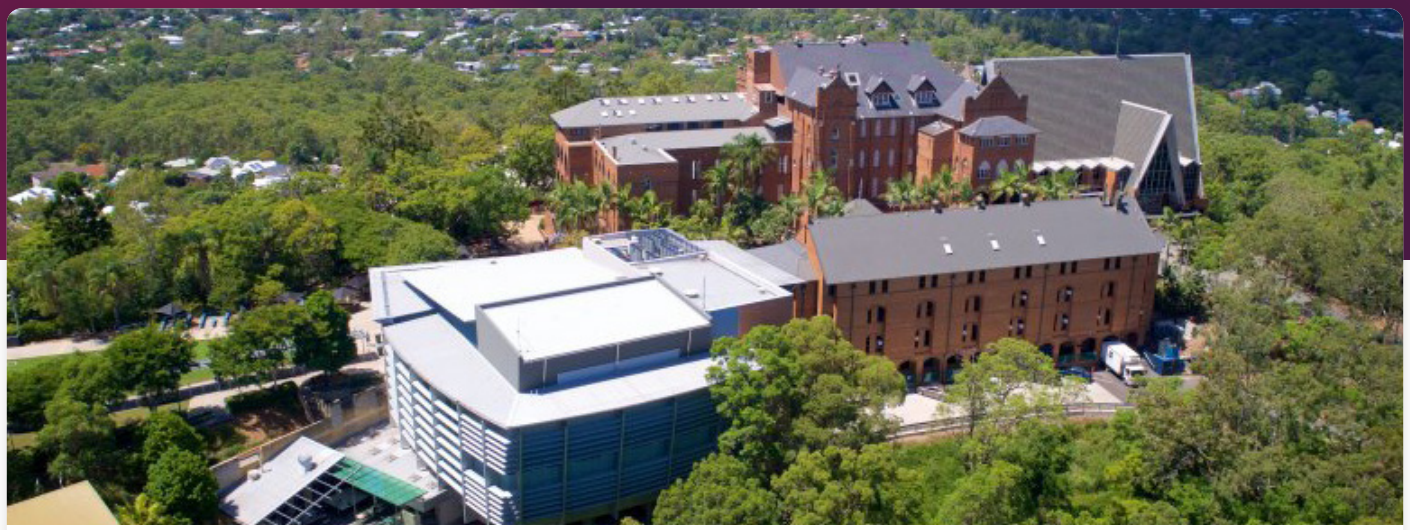
COOLAUTOMATION

Case Study

Brisbane Australia site
Challenge to reach and maintain setpoint

Daikin VRV Heat Pump



The Customer **CoolTimes**

Site Stuartholme School

The system Daikin VRV Heat Pump

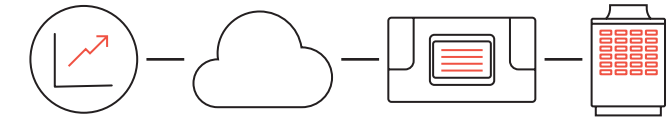
Stuartholme School is an all-girls private high school located in Brisbane, Queensland, Australia. The site consists mainly of Daikin VRV connected to various types of indoor units.

The Challenge Identify why the entire building was struggling to maintain setpoint and see how HVAC Remote service tools could simplify the setup.

The solution

CoolAutomation's smart HVAC predictive maintenance tool

By using the professional application and its advanced HVAC diagnostic tools section, we were quickly able to identify an extremely high current reading from the fan driver PCB. This was limiting the machine's frequency, yet no fault or protection state was activated.



The Traditional Course of Action

1. Schedule a site visit
2. Travel to the site
3. Connect the service tool and wait on-site for several hours to gather data
4. Analyze the service data
5. Potentially have to share the data with a senior technician to analyze
6. Locate the fault
7. Order the required parts
8. Return to the site and replace parts
9. Connect the service tool and re-analyze the data to confirm correct operation

Total of 11 working hours

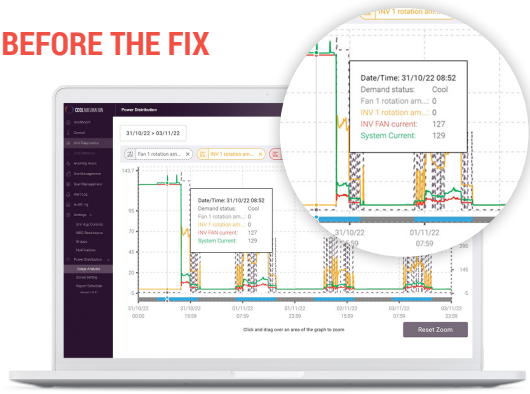
CoolAutomation's HVAC Diagnostic Tools in Action

1. Use CoolAutomation Professional Application Suite, remotely monitor the site, analyze the historical data and see the machine operation prior to fault condition
2. Identify the fault
3. Travel to the site with the correct parts and replace them
4. Monitor the site remotely with HVAC service tools, to confirm correct operation

Total of 2 working hours

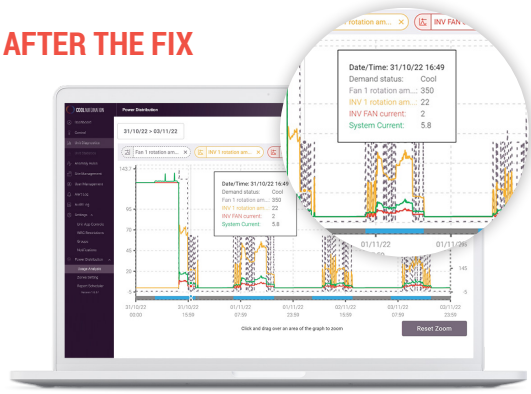
CoolAutomation Solution Used

BEFORE THE FIX



The service data from the VRV outdoor unit below clearly shows the fan speed at 0 and yet still drawing 128amps. The outdoor unit continues to run at a reduced capacity with no protection state activated nor fault code present.

AFTER THE FIX



After the fan driver PCB has been replaced you can see a rotation speed of 710 and a realistic current draw of 8amps.

The result is

- Save time for HVAC Technician
- Significant energy saving
- Enhanced tenant comfort - before anyone even notices there is an issue

Benefits

- Reduced service technician working hours
- Reduced costs with no initial call-out fee
- Enhanced service - one service call vs. two traditionally
- System longevity - identifying problematic faults quicker, ensuring no long-term damage to the system
- Maintain comfort for pupils and staff - less system downtime
- Save on system energy consumption

"CoolTimes Services have introduced us to CoolAutomation's solutions. On countless occasions it has saved the school on both reactive call outs and labour, minimising time by utilising their unique cloud based solution, allowing senior technicians to diagnose the Daikin VRV equipment remotely and efficiently, ensuring minimal downtime of the equipment.

In addition to the service diagnostics, I've been able to regain control of the HVAC with the help of CoolAutomation's air conditioning management platform. With the help of CoolTimes we've been able to set schedules, restrict operation at the wall controller, set auto heat/cool logic change over rules and see real time energy consumption. Implementing these control strategies has already seen an energy and maintenance downturn in costs and presumably see equipment lifespan increased."

Alan Bedford
Facilities Manager, Stuartholme School, Qld Australia

Smartly control your HVAC systems like never before

CoolAutomation is a global leader in smart solutions for HVAC systems, specializing in VRF, Split systems, and heat pumps. With over 10,000 customers in more than 100 countries, our innovative products enable seamless HVAC integration and remote management, service, diagnostics, and universal system control. Founded in 2009, CoolAutomation has become the go-to choice for HVAC service companies, home & building automation integrators, building management experts, and facility managers looking to save energy, enhance service, and reduce costs for both residential and commercial sites.