

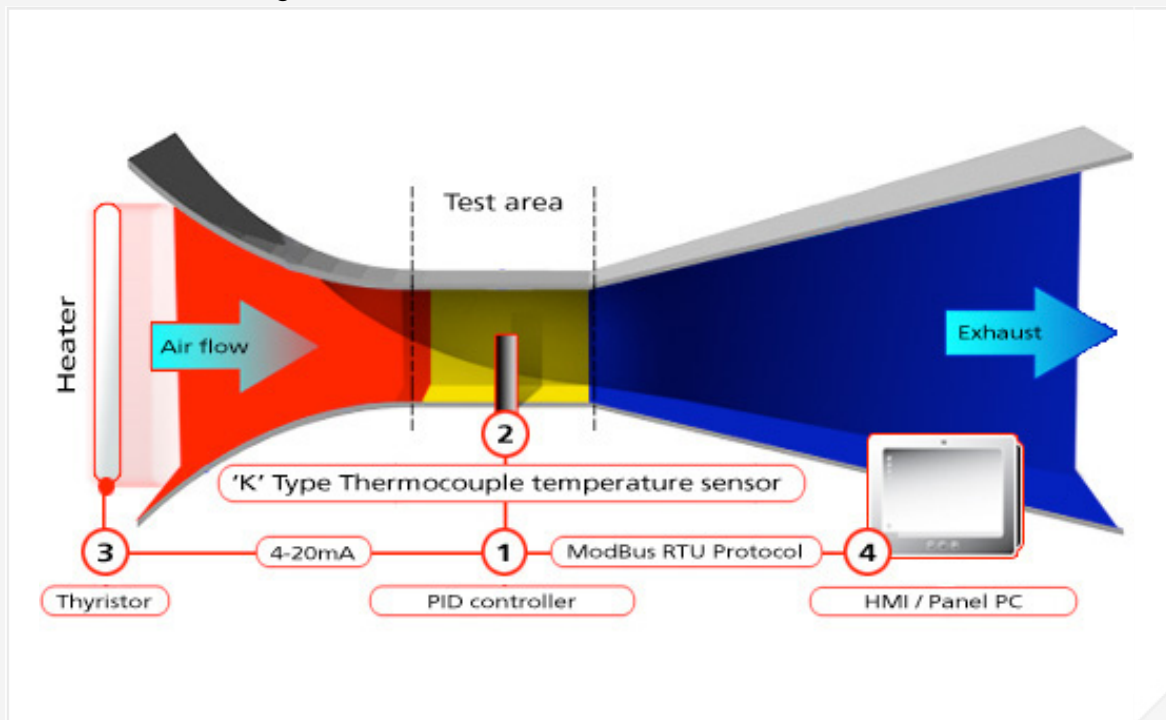
## Case studies



### WIND TUNNEL CLIMATE CONTROL APPLICATION ▾

We were approached by the chief experimental officer for the Environmental Flow Research Centre at the University of Surrey to upgrade an existing temperature monitoring and control system that simulates layered atmospheric conditions in their environmental flow laboratory.

Scale models of various locations such as central London and UK power plants were placed within medium sized wind tunnels. This enabled them to predict the impact on the site of selected factors such as weather changes or industrial discharge.



### SYSTEMS REQUIREMENTS ▾

The initial specification was for 15 single loop PID controllers able to accept type K thermocouples to measure a range of 20–150°C and output a 4–20mA heat control signal. They also required the temperature values being measured to be communicated to a central PC using Modbus RTU for online analysis.



The application needed to look at the change in density of air versus height in a wind tunnel with varying simulated conditions. This was to be done in a 20m long tunnel, 3m wide and 1.5m high; Air was heated at one end of the tunnel in horizontal layers using 15 Eltron 400kW heating elements and air was pulled through the tunnel by two fans situated at the far end of the tunnel.



type thermocouples which offered direct sensor signal conditioning, PID control functionality and a Modbus re-transmit interface that connected back to the central PC. The Tracker 331 gave the customer high accuracy measurement with its on-board 20-Bit A/D converter and as a local display was not needed, the DIN rail mountable Tracker 331 was located in a small footprint

## THE RESULTS 🏆

With over 30 years experience in supplying high end solutions and many similar projects already completed Amplicon were first choice to supply hardware for this high profile project.

If you would like more information please contact our industrial computing sales engineers on 01273 570 220 or email [sales@amplicon.co.uk](mailto:sales@amplicon.co.uk).