

This project is a “**Programmable Electronic Load**,” aimed at simulating various electrical loads for stress-testing a wide range of power sources. The design places a strong emphasis on effective thermal management, which is accomplished using extruded heatsinks and the thermal properties of the aluminium enclosure itself. The thermal system must dissipate multiple kilowatts of heat efficiently while maintaining a benchtop-friendly temperature to ensure operator comfort.

The enclosure will be milled from aluminium plate and assembled with M5 bolts, ensuring structural integrity and accurate alignment. Forced airflow will be managed through two independent channels, with multiple fans enabling efficient extraction of heat from the enclosure. This enclosure will house various electronic components in addition to the heat-generating components, both internally and externally.

