

Remotely Located Heat Sink

Design Goals and Constraints

- 10 Watt heat load
- Space constraint (inadequate space for heat sink on heat source)
- Low cost and weight
- Avoid existing electronics

Solution: Mini Modular Fan Cooler seen in Figure 1.

The solution, designed by Enertron engineers, is composed of a heat collector, a heat pipe, a fin channel, and an axial fan. The primary constraint with the application was that there was not enough space to mount the heat sink directly to the heat source. For this reason a remote heat dissipation unit was designed. The heat collector mounts directly to the heat source. A heat pipe carries the heat from the heat collector to the fin channel, where it is dissipated to the ambient by forced convection using a small axial fan.

To design an effective solution, Enertron engineers had to work closely with the customer. CAD files were exchanged regularly to ensure that the solution would not interfere with any existing electronics. The enclosure was designed to allow a proper airflow path through the fan and heat sink.

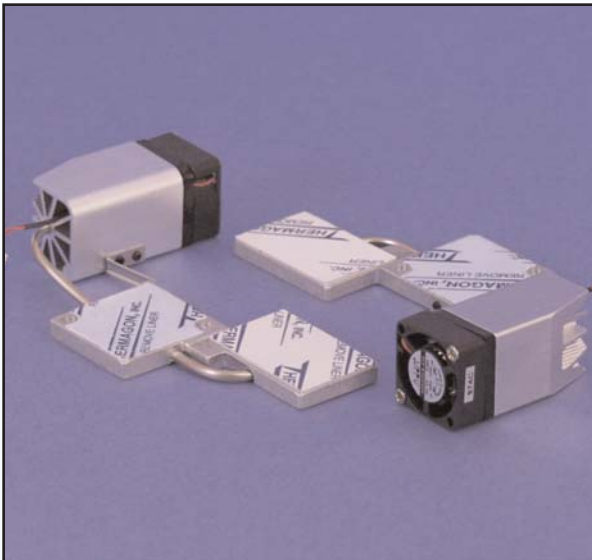


Figure 1: Mini Modular Fan Cooler

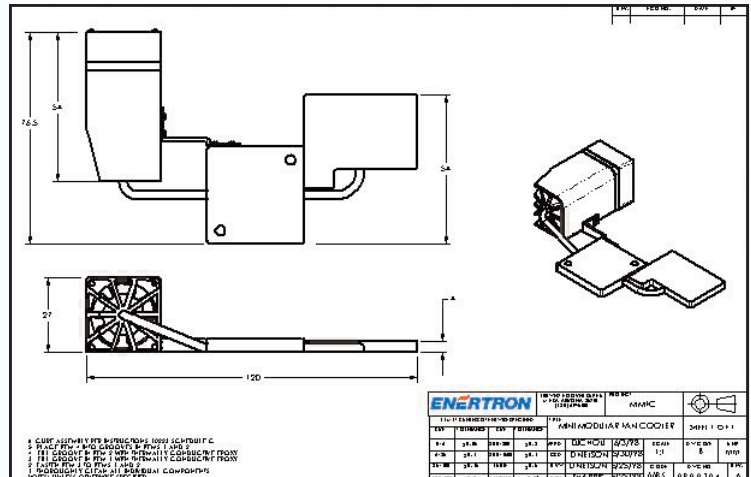


Figure 2: CAD Drawing