

1. Introduction

The OCP-475 is a compact, lightweight thermoelectric cold plate built on the EHS-025 heatsink. It employs the state-of-the-art LED cooling technology, designed for temperature controlling high power laser diodes or any other high heat devices that require temperature stabilization.

The key features are:

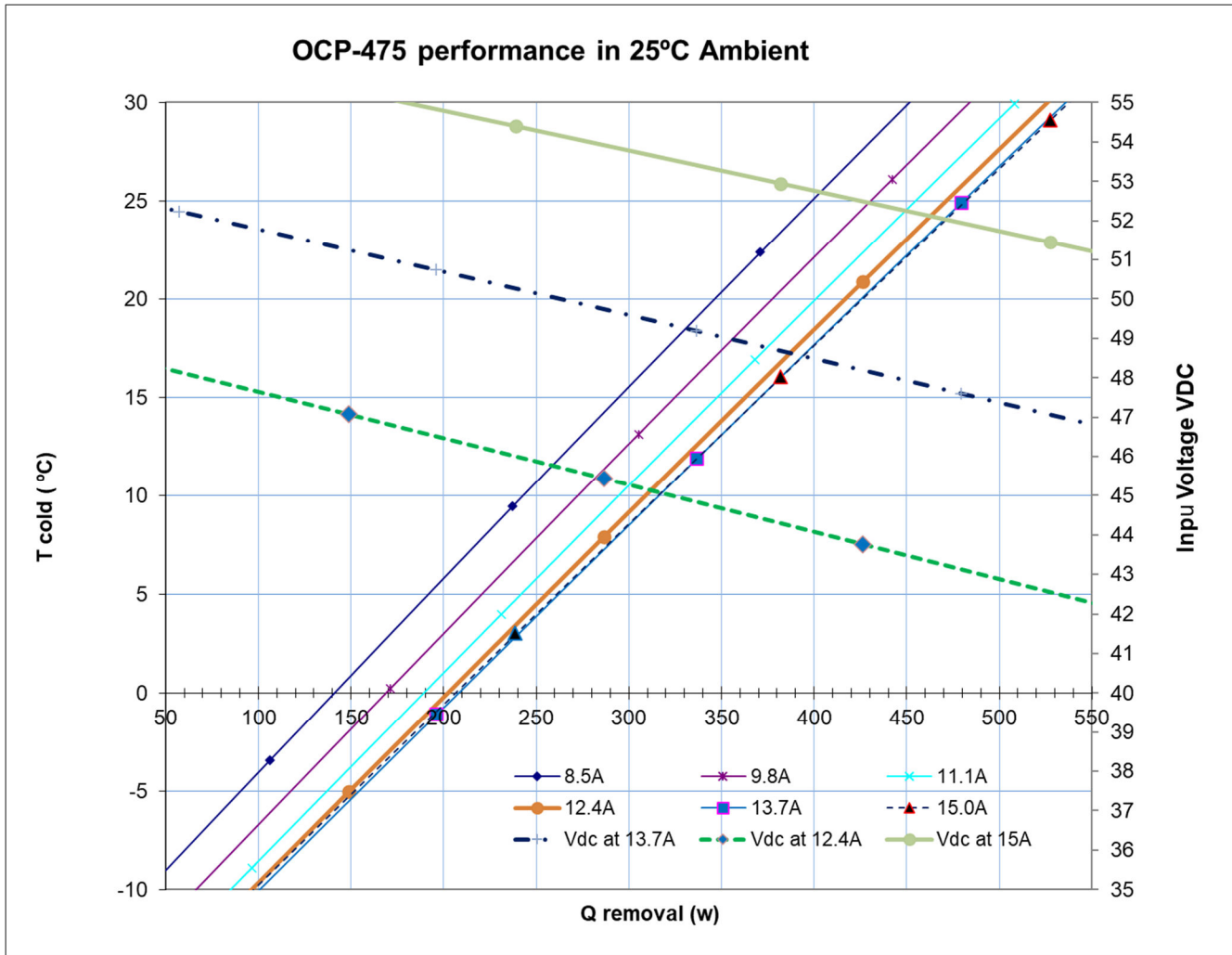
- a) In a 25°C ambient environment, maximum heat removal capacity is 475w for diodes rated at 25°C case temperature. Or -20°C cold plate temperature at no heat load.
- b) Optimum operating power is $I \approx 14A$, $V \approx 48V$ in 25°C ambient at 475w heatload
- c) Mass at 22.6lbs
- d) Predrilled/tapped mounting holes for nLight E24i and Aero diodes
- e) Fits in a 2U 19" rack mount chassis.
- f) Removable bottom carrying plate and fan assembly, so users may incorporate the EHS core or the OCP-475 core for integrating into OEM systems.
- g) Carrying plate provides pre-drilled holes for 8-32 screws or 1/4-20 screws on 1" pattern for securing EHS-025 on any optical tables
- h) Fans may be PWM modulated or driven at lower voltage to lower noise for less demanding cooling scenarios (available only on special order).



2. Performance

The following chart illustrates the performance of OCP-475 in a 25°C ambient. The performance curve will be slightly elevated if operated in a higher ambient environment, while the required driving voltage rises. The chart also indicates the optimum drive current is between 13.7A and 15A. Driving the TECs with lower or higher current will result in lower performance.

Contact us if you need this chart in a different ambient environment.



3. Cooling Fan Specifications

There are 3 cooling fans wired in parallel. The table below summarizes the key specifications:

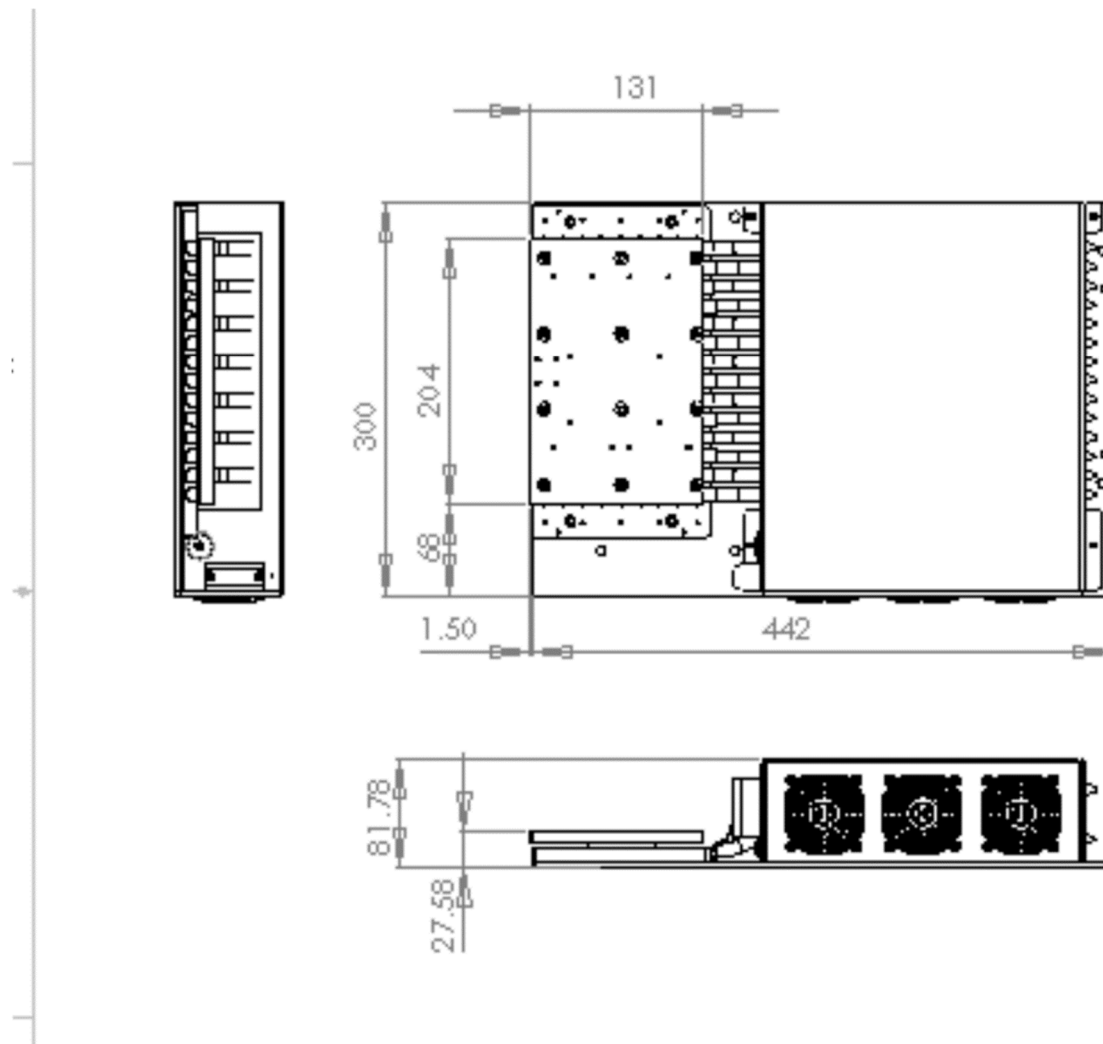
Fan's rated voltage	12VDC
Fan's operating voltage range	7 – 13.8VDC
Input power/fan	18.5w
Rated current/fan	1.54A
Noise/fan	58dBA

4. Pin outs of terminal block

Pin 1	TEC+
Pin 2	TEC-
Pin 3	Fan +
Pin 4	Fan -
Pin 5	Fan tachometer
Pin 6	Fan PWM control (available for special order)

5. Dimensions and Diode mounting

The relevant dimensions are shown in the drawing below. The cold plate has two sets of predrilled mounting holes for two Aero diodes, and one set of mounting holes for a single nLight E24i diode. Custom mounting holes may be available upon request.



6. Pricing and availability

For pricing and availability, please contact ETE:

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