CASE STUDY

CoolX1800 meets the power density, digital control, and monitoring needs for aesthetic laser treatment

INDUSTRY	SOLUTION	EQUIPMENT
Medical Life Science	CoolX®1800	Aesthetic Laser Treatment

CHALLENGE

For a pioneer in aesthetic laser equipment looking to develop next-generation devices targeting a range of skin conditions and cosmetic procedures, the design imperative was clear: achieve a compact form factor without compromising the sophisticated control and regulated power outputs necessary for precision laser treatments.

Advanced Energy's medical group has worked closely with the top medical laser companies for several years providing AC-DC and High Voltage DC-DC products to meet their system power requirements.

A leading aesthetic laser equipment manufacturer needed a compact AC-DC power supply to deliver 1300 W over all input AC line voltages, along with intelligent control to modulate laser pulses and provide system voltages.

Our CoolX1800 configurable AC-DC power supply product was evaluated for the system power.

SOLUTION

The solution was CoolX®1800, Advanced Energy's intelligent, modular power supply technology. With medical safety standard certifications and a modular framework that supports optimized, high-density power delivery, the CoolX1800 offered the design flexibility needed to create a suite of isolated and regulated DC voltages.

For this application, several CoolMods were connected in parallel to deliver the higher currents required to drive laser pulses. It was also critical for the customer that they could both control and monitor these voltages. The integrated PMBus digital intelligence capabilities facilitated effortless integration into the equipment's control and monitoring electronics, simplifying the precise modulation of laser pulses.

RESULT

The choice of CoolX1800 was driven by its unmatched power density, allowing the delivery of up to 1800 W in a 1U package - ideal for the portability demands of an aesthetic laser system. Eliminating the need for custom design, offering the ability to connect modules in parallel for heightened current requirements and offering built-in digital control functionality, the CoolX1800 platform provided the client with a seamless solution that met the needs of the system within the shortest possible timescales. The customer's additional reasons for selecting this model included:

- The large selection of modules offered the customer design engineer the flexibility to meet all the low voltage requirements for their portable system.
- The CoolX platform has a built-in PMbus digital system with unique firmware that provides the ability to monitor and control critical parameters within the power supply, which reduced the need for customers to incorporate hardware and software requirements into their systems.
- The digital PMbus system provided the customer with voltage control and monitoring capabilities that simplified their design requirements, allowing for outstanding laser pulse control.

CONCLUSION

AE's medical group supports the world's leading aesthetic and surgical laser treatment equipment suppliers, and for many years has been the go-to AC-DC power supply for each new generation of their equipment. The knowledge gained through these experiences has been incorporated into our next-generation CoolX AC-DC products. This case study highlights how our hardware design and additional firmware features support development of the latest equipment for laser treatments.

Advanced Energy

For international contact information, visit advancedenergy.com.

powersales@aei.com
+1.970.221.0108

PRECISION | POWER | PERFORMANCE