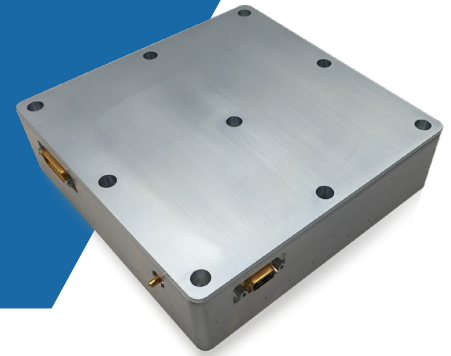


## HIGH-POWER LOW COST CONTROL ELECTRONICS (HP-LCCE)

- 200W of output power at your fingertips
- Cooler agnostic, applicable to other devices



### COMPACT, PLUG AND PLAY, RADHARD TECHNOLOGY FOR MULTI-PURPOSE CONTROL.

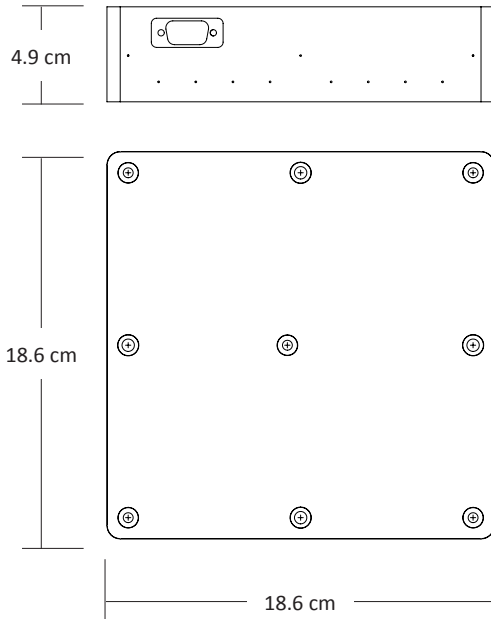
The High Power, Low Cost Control Electronics (HP-LCCE) is a radiation-hard, space qualified set of control electronics developed under NASA sponsored contracts, initially designed to drive microsatellite space-based cryocooler systems supporting thermal imaging systems. The HP-LCCE has two motor drives and temperature sensors, and is cooler agnostic, allowing it to be integrated with cryocoolers from multiple manufacturers.

In addition to basic cryocooler control functionality, the HP-LCCE provides input ripple filter (IRF) and vibration mitigation functions. The IRF reduces noise perturbation to the input power bus, reducing conducted emissions. The vibration control provides 5-harmonic vibration analysis between the accelerometer or force transducer and the compressor, adjusting the voltage and providing image stabilization.

The HP-LCCE was specifically designed to support a wide range of linear cryocoolers, from various manufacturers, at the nominal output power point of 200W. It is designed to tolerate radiation levels up to 100 krad. The HP-LCCE accepts a DC input voltage from 22 to 35V and provides power conversion at 85% efficiency at rated power. The HP-LCCE currently accepts a vibration signal from an Endevco 7703A-1000 accelerometer, and the input circuitry is easily adjustable to accept other accelerometer outputs.

The Iris Technology HP-LCCE represents an FPGA based general purpose, radiation hardened platform for the control of a variety of device types such as motors, actuators, solar power / battery charging systems, and optical bench thermal stabilization.

## HIGH-POWER LOW COST CONTROL ELECTRONICS (HP-LCCE)



High Power LCCE (HP-LCCE)

High Power LCCE (HP-LCCE)	
	200W
<b>GENERAL</b>	
Application	Low Cost Space
# of Motors	2
<b>PHYSICAL</b>	
Mass	1800 grams
Volume (cm)	18.6 x 18.6 x 4.9
<b>POWER</b>	
Input Voltage ( $V_{DC}$ )	22 to 37
Total Output Power ( $W_{AC}$ )	200
<b>TEMPERATURE TELEMETRY</b>	
# of Temp. Sensors	2
<b>ADVANCED FEATURES</b>	
Vibration Control	Yes
Input Ripple Filter	Yes
TRL Level	6