

DC-DC Converter

DC10



Key Features



One primary and up to two secondary outputs (12 V and 5 V)



High efficiencies of up to 93.5%, load dependent



Status reporting via software API and CAN bus



Software alerts to system controller



Overcurrent and short circuit protection



Real-time data monitoring for all voltages, currents, and temperatures



LED indicators provide status for output voltages and currents

Fly Higher. Fly Longer. Fly Smarter.

Unmanned aerial vehicle (UAV) electronics continue to evolve as mission profiles become more demanding. System power designers are being challenged to provide more innovative power supply systems to improve efficiency, ensure reliability, reduce weight, minimize heat dissipation, and lower overall cost. New levels of energy and system-level efficiencies are also required to meet tomorrow's aviation needs.

DC-DC Converter

ePropelled DC10 is a sophisticated DC-DC voltage converter. It is designed to accept the standard output voltage of the iPS3000 (28 V or 48 V) while providing three DC outputs that can be used to power customer loads—one primary output that matches the primary input voltage, and two secondary outputs at 12 V and 5 V.

The DC10 also has a secondary DC input for an onshore (external) battery. The secondary DC input provides power to all three outputs if the primary DC input is not present or out of range. The secondary DC input does not charge the onboard connected battery. The DC10 implements a CAN interface similar to, and compatible with, the iPS3000 and EES3000.

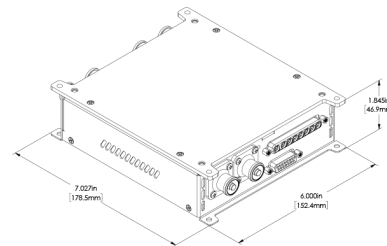
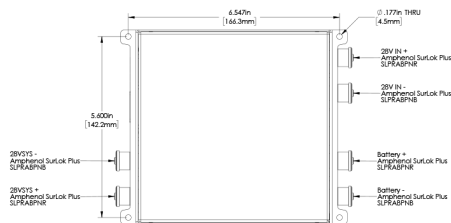
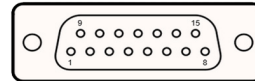
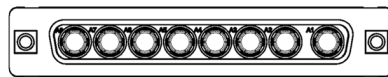


DC10 PRELIMINARY SPECIFICATIONS

Parameter	INPUT		
	Min	Max	Notes
Primary Input Voltage Range	25 V	50 V	DC
Secondary Input Voltage Range (Onshore Battery)	16 V	50 V	DC
Maximum Total Input Power	3150 W		At 50°C ambient [122°F]
Parameter	OUTPUT		
	Min	Notes	
Maximum Total Output Power (Continuous)	3000 W	DC at 50°C ambient [122°F]	
Primary Output Voltage	28 V	DC, factory set	
Primary Output Current	108 A	DC, factory set	
Secondary Output 1 Voltage	12 V	DC, factory set	
Secondary Output 1 Current	60 A	DC, factory set	
Secondary Output 2 Voltage	5 V	DC, factory set	
Secondary Output 2 Current	60 A	DC, factory set	
Voltage Regulation	±500 mV	DC, factory set	
Voltage Ripple P-P	<500 mV		
Peak Efficiency	≥90%	Load dependent	
Protection Features	Input undervoltage and overvoltage warning Output undervoltage and overvoltage warning Output overcurrent warning and overcurrent protection Output short circuit protection Over temperature warning		
Parameter	MECHANICAL		
	Notes		
Dimensions	7.027" x 6.0" x 1.831" [178.5 mm x 152.4 mm x 46.5 mm]		
Cooling	Air cooled		
Ambient Operating Temperature	-32°C to 50°C at 3000 W [-26°F to 122°F]		
Storage Temperature	-40°C to 85°C [-40°F to 185°F]		
Ingress Protection	IP20		
CAN Bus	2		
Parameter	SOFTWARE		
	Notes		
Software Modules	System information System configuration - alerts, system parameters, etc. Real-time alerts - voltage, currents, temperature, etc. Real-time monitoring of all conditions in platform Software API		

DSC10 PINOUT

Connector	Name	Description
Power (SurLok Plus 5.7 mm Receptacles)	28 V IN +	Primary DC input voltage, positive connection (from iPS3000 output)
	28 V IN -	Primary DC input voltage, negative connection (from iPS3000 output)
	Battery +	Secondary DC input voltage, positive connection (from onshore battery)
	Battery -	Secondary DC input voltage, negative connection (from onshore battery)
	28 V Sys +	Primary DC output voltage, positive connection (for system load)
	28 V Sys -	Primary DC output voltage, negative connection (for system load)
Power (CONEC 3008W8SXX44A10X)	Name	Description
	A1	12 V secondary DC output voltage, positive connection (for system load)
	A2	12 V secondary DC output voltage, positive connection (for system load)
	A3	GND, 12 V secondary DC output voltage, negative connection (for system load)
	A4	GND, 12 V secondary DC output voltage, negative connection (for system load)
	A5	GND, 5 V secondary DC output voltage, negative connection (for system load)
	A6	GND, 5 V secondary DC output voltage, negative connection (for system load)
	A7	5 V secondary DC output voltage, positive connection (for system load)
A8	5 V secondary DC output voltage, positive connection (for system load)	
Communications (Female DB-15)	Name	Description
	1-5	Not to be used by customer
	6	Ground
	7	CAN high
	8-13	Not to be used by customer
	14	CAN low
	15	Not to be used by customer



Assembled in USA

All specifications subject to change without notice. For more information, including ordering product, please contact us at info@ePropelled.com.

Warnings and Labels



ePropelled © 2021. ePropelled designs intelligent motors, motor controllers, and generators that help reduce energy consumption and improve system efficiency at a lower cost. We are a leader in magnetics engineering, and our patented technology and innovative smart power systems are equally at home in the air, on the road, and under water, defining the future of electric propulsion.