

# High Voltage Power Distribution Controller Unit



GE's 1065000G1 is a Silicon Carbide (SiC) based high voltage power distribution control unit (HVPC) designed for U.S. Army's Vehicle Electrification Architecture (VEA). The HVPC is designed with collaboration of Global ET, our Small Business Innovation Research Program (SBIR) partner. It can provide control to twelve high voltage channels, designed to handle 210kW with 105° C liquid coolant. The HVPC is equipped with Controller Area Network (CAN) communication which is configurable to the customer's protocol.



## Features:

- ◆ Input per MIL-PRF-GCS600A and MIL-STD1275E
- ◆ Configurable CAN bus per SAE J1939 for channel control and operational information
- ◆ Controls 12 high voltage, high temperature SiC channels
  - ◆ 350 amps x 1 channel (210 kW)
  - ◆ 200 amps x 1 channel (120 kW)
  - ◆ 50 amps x 1 channel (30 kW)
  - ◆ 30 amps x 5 channels (18kW per channel)
  - ◆ 10 amps x 4 channels (6 kW per channel)
- ◆ Configurable for parallel operations
- ◆ High Voltage Interlock (HVIL) detection and protection

## Physical (see 1065001 ICD)

Weight: 20.71kg (45.65 lbs.)  
 Dimensions: 305mm x 356mm x 140mm (12" x 14" x 5.5")  
 Connector: Input, Control: MIL-C-38999; Output: ½"  
 Mounting: 10-32 bolt Front tie down; Guide Pin Receivers

## Environmental:

Operating Temperature: -45°C to +121°C ambient  
 Coolant Temperature: -45C to 105°C; flow 12 l/min 60/40 EGW;  
 Temperature Shock: MIL-STD-810E, Method 503.3  
 Humidity: MIL-STD-810E, Method 507, Procedure III  
 Shock: MIL-STD-810E, Method 516.4, Proc. I 25G, 25msec., half-sine 40G,9 msec., sawtooth  
 Vibration: MIL-STD-810E Method 514.4, Procedure I for Combined Road March, Tactical & Plume Effects

## Electrical I/O:

Connector	Current	Channel #	Positive	Negative	HVIL (+)	HVIL (-)
J1		1	E,G	A,C	B (Top)	F (Bottom)
J2		2	A,C	G,E	H (Top)	D (Bottom)
J3	50A Output	8	K	T	E	H
J3	30A In/Out	9	L	U	P	Q
J3	30A In/Out	4	C	D	A	G
J3	30A In/Out	5	J	S	B	F
J3	30A In/Out	6	A	Z	W	c
J3	30A In/Out	7	I	R	M	N
J5	10A Output	3	B,C	D,U	A	T
J5	10A Output	10	E,F	G,H	V	W
J5	10A Output	11	L,Y	J,K	d	X
J5	10A Output	12	P,N	M,Z	R	a
J4 Connector						
Pin	Description	Pin	Description	Pin	Description	
A	28VDC (Battery)	E	Valve Control	I	CAN Select 0	
B	Power Ground	F	Valve Position	J	CAN Select 1	
C	CAN H	G	Valve Power			
D	CAN L	H	Valve Return			



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