

⚡ HESC-SERD

60 Watt High Efficiency Power Converter
with Smart Charging

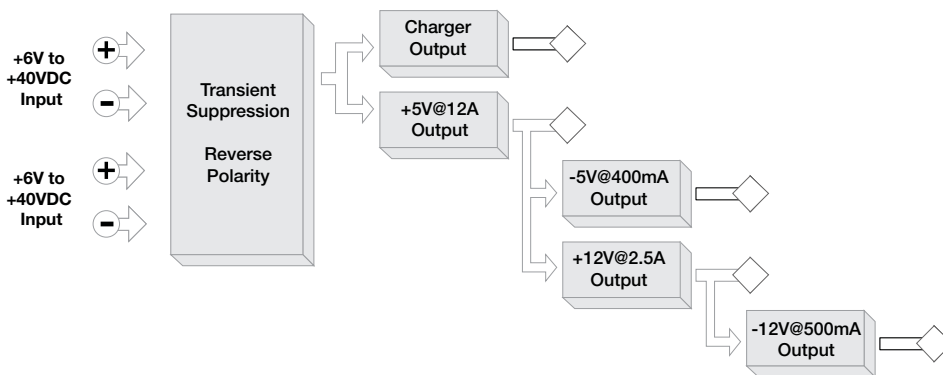
POWER OS TRI-M
TECHNOLOGIES INC.

PC/104 Size Power Solution



The HESC-SERD when mated with a Tri-M backup power module creates a complete uninterruptable power solution (UPS) in a PC/104 footprint. An on-board microcontroller provides advanced power management, smart backup power charging and command/monitoring over the RS232 port. The HESC-SERD has two 6 to 50V wide range inputs and is designed for hostile environments of extreme temperatures and vibration. The universal smart charger can handle any backup power chemistry including NiCd, NiMH, SLA, Li-Ion, SMBus batteries and ultra capacitors.

Block Diagram



Key Specifications

- **PC/104 Compliant**
- **Multi-stage Charging of:**
 - Ultra Capacitors,
 - SLA batteries
 - NiCd batteries
 - NiMH batteries
 - Li-Ion batteries
 - SMBus batteries
- **9000W Transient Suppression**
- **Dual Wide Range Voltage Inputs**
6V to 50V DC
- **Outputs Power:**
 - 5V @ 12A
 - 12V @ 2.5A
 - 5V @ 400mA
 - 12V @ 500mA
- **RS232 port permits**
Command and monitoring of HESC-SERD functions including voltage, current & temperature
- **Extended Temperature**
-40°C to +85°C

Advantages

- **Rugged Design**
Designed to meet MIL standards
- **Complete UPS solution** when mated with backup power module
- **Smart charging** supports any backup chemistry
- **The power management** is configurable for all systems

Our Capabilities

- **Application Engineering**
- **Rapid Development**
- **Engineered Systems**
- **Custom Software**
- **Industry Standards & Certification**
- **Exceptional Customer Experience**

Specifications

Electrical Specifications

Main Outputs	
5V Output1	12A
12V Output	2.5A
-5V Output	400mA
-12V Output	500mA
Input Voltage	6 to 50V DC

Charger Rating

Current	0A to 4A
Voltage	10 to 35V

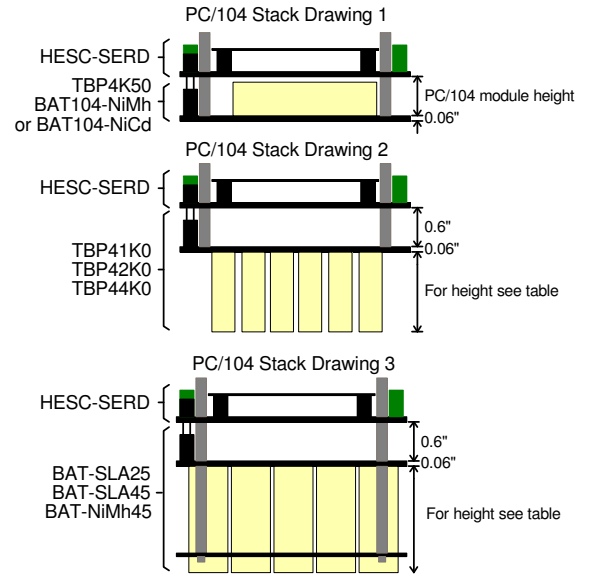
Mechanical/Environmental

Dimensions	90 x 96 x 15mm (3.55 x 3.75 x 0.55")
Weight	185.92g / 6.56oz

Environmental

Temperature Range	-40°C to +85°C (-40°F to +185°F)
MTBF	127,189 hours

HESC-SERD Stack Arrangement



HESC-SERD mated with	Backup Energy			Size						
	Chemistry	Watt-hr	Joules	Width		Depth		Height (in addition to one PC/104 height when mated with HESC-SERD)		PC/104 Stack Drawing
				Inches	MM	Inches	MM	Inches	MM	
TBP4K50	Ultra capacitor	0.14	500	3.55	90	3.775	96	0	0	1
TBP41K0	Ultra capacitor	0.27	1000	3.55	90	3.775	96	1.57	40	2
TBP42K0	Ultra capacitor	0.55	2000	3.55	90	3.775	96	2.36	60	2
TBP44K0	Ultra capacitor	1.11	4000	3.55	90	3.775	96	2.36	60	2
BAT104-NiCd	NiCd	5.04	18100	3.55	90	3.775	96	0	0	1
BAT104-NiMh	NiMh	22.7	81600	3.55	90	3.775	96	0	0	1
BAT-SLA25	SLA	25	90000	3.55	90	3.775	96	2.42	61.5	3
BAT-NiMh45	NiMh	37.8	136000	3.55	90	3.775	96	1.5	38	3
BAT-SLA45	SLA	45	162000	3.55	90	3.775	96	3.78	96	3

Note: For detailed dimension, connector, and pin spacing information, please see the User Guide.

Ordering Information

Models HESC-SERD[-Cy]-PBF

ex: HESC-SERD-PBF, 60W Dual Input Smart Charger Power Supply.

Options

where [-Cy] is the optional conformal coating selection

“-CS” is silicon conformal coating

“-CU” is urethane conformal coating

“-CH” is HumiSeal conformal coating

ex: HESC-SERD-CH-PBF; 60W Smart Charger60W Dual Input Smart Charger Power Supply with HumiSeal conformal coating.