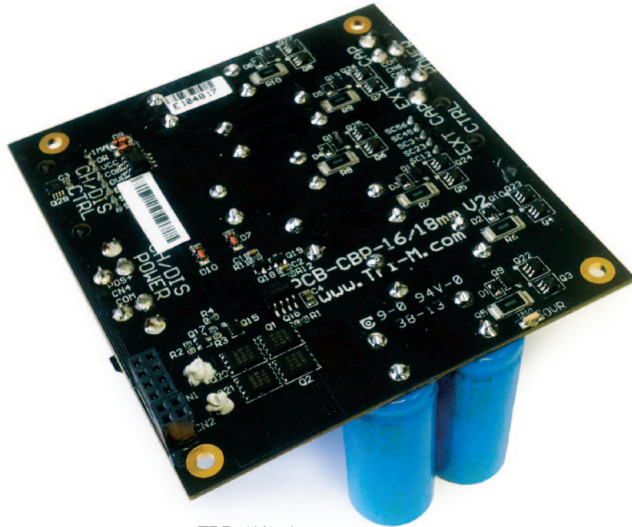


## Ultra Capacitor Backup for HESC & HPSC

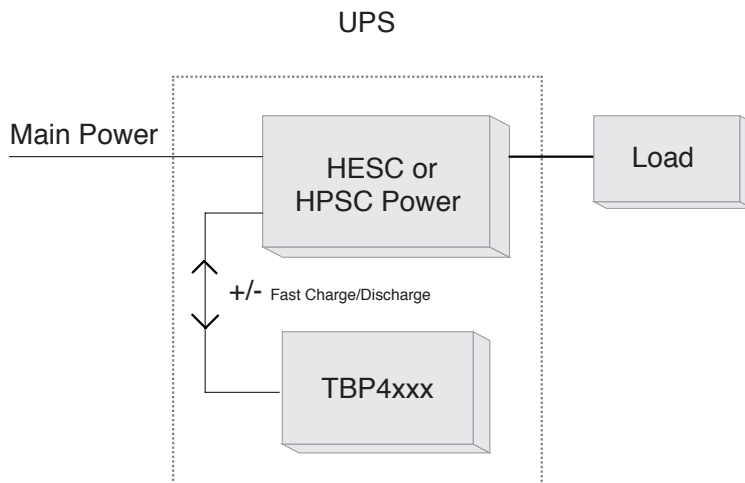


TBP42K0 shown

TBP4xxx modules are extended temperature, maintenance free, high cycling backup energy modules that when combined with a Tri-M HESC or HPSC smart charging power solution creates a complete uninterruptable power system (UPS) in a PC/104 footprint. The TBP4xxx designed for hostile environments of extreme temperatures and vibration. This rugged backup energy module is ideal for applications that have either a large number of discharge cycles or where a “maintenance free” solution is required such as remote and hard to access locations.

TBP4xxx Modules are available in 500, 1000, 2000 and 4000 joules and mate directly to the bottom of HESC or HPSC power supplies.

### Block Diagram



### Key Specifications

- Fully charged in less than a minute
- 500,000 charge cycles
- Deep discharge immune
- Extreme temperature operation
- High altitude capable (info available on request)
- Designed for high vibration and shock environments
- PC/104 size footprint
- Cable free mating with HESC & HPSC

### Advantages

- Designed to MIL Standards
- Prevents loss of data or corruption due to reliable system backup power
- Reduced downtime due to maintenance-free operation
- High Density PC/104 footprint
- Improved reliability due to cable free integration of HESC & HPSC

### Applications

- Military & Civil Vehicles
- Aerospace & Defence
- Industrial Automation
- Telecommunications
- Undersea & Marine

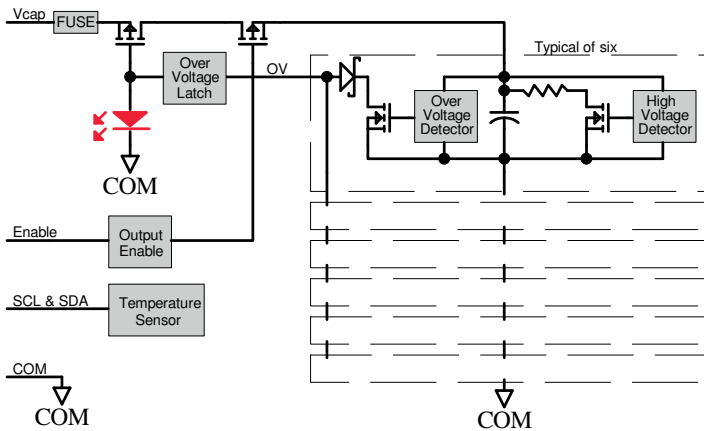
# Specifications

Specification Detail	Units	Capacitive Backup Power Module			
		TBP4K50	TBP41K0	TBP42K0	TBP44K0
Backup energy (See Note 1)	joules	500	1000	2000	4000
Maximum voltage (See Note 2)	volts	13			
Temperature range	°C	-40 to 85			
	°F	-40 to 185			
Size (length and width)	inch	3.55 x 3.775			
	mm	90 x 96			
Height in addition to the standard 0.662" PC/104 card on the PC/104 stack.	inch	0	1.57	2.36	2.36
	mm	0	40	60	60
Recommended maximum load wattage	watts	40	40	80	80
	ounces	4.2	6.7	11.6	17.3
Weight	grams	120	190	330	490
	seconds	100	200	400	800
Holdup time for 5 watt load	seconds	50	100	200	400
Holdup time for 10 watt load	seconds	20	40	80	160
Holdup time for 25 watt load	seconds	not recommended		40	80
Holdup time for 50 watt load	seconds	not recommended		40	80

Note 1: The module backup energy is based on a cutoff of 7V.

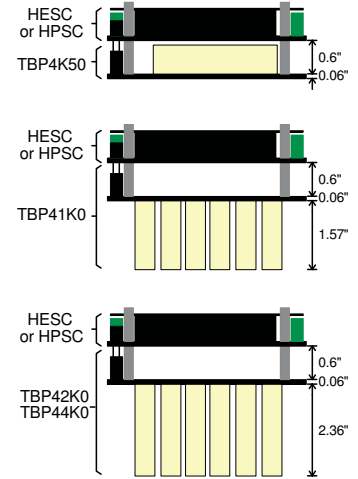
Note 2: A minimum input of 14V for HESC & HPSC is required to fully charge the TBP4xxx backup power modules.

## Block Schematic



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

## Module Configuration & Integration



# Ordering Information

## Models

### TBP4xxx[-Cy]-PBF

where "xxx" is the joules in three digit notation.

"xxx" = "K50" is 500 joules (TBP4K50-PBF)

"xxx" = "1K0" is 1000 joules (TBP41K0-PBF)

"xxx" = "2K0" is 2000 joules (TBP42K0-PBF)

"xxx" = "4K0" is 4000 joules (TBP44K0-PBF)

## Options

where [-Cy] is the optional conformal coating selection

where [-CS] is silicon conformal coating

where [-CU] is urethane conformal coating

where [-CH] is HumiSeal conformal coating

ex: TBP4K50-CU-PBF; 500 joules backup module with urethane coating.