

## Impact Clean Power Technology S.A.

ICPT develops, designs and produces the most advanced energy storage systems based on lithium-ion cells supported by state-of-the-art battery management and control systems. Our cutting-edge technology enables us to deliver integrated solutions for numerous challenging applications including innovative electric propulsion systems for road, water and air transport applications.

The highly efficient battery supply systems are able to operate in diverse environmental conditions and are noted for their reliability and long life.

## Thunderbolt Battery Pack

This battery pack is destined for industrial applications only. It combines excellent energy density with great-embedded safety and communication interface to master the system.

Thunderbolt battery has a firm and compact mechanical construction. It is vibration proof in order to support mobile applications such as robots, AGVs, and small industrial vehicles. The batteries are customized to connect in parallel to create higher capacity systems.

The major business areas include:

- electric buses and trucks
- automation and robotics
- rolling stock
- power industry
- telecommunication
- auxiliary backup systems/UPS
- mining



## SYSTEM SPECIFICATION

Nominal parameters	Nominal voltage	50,4 V
	Operating voltage	42,0 - 58,1 V
	Nominal capacity	100 Ah
	Rated energy	5 kWh
	Max charge rate	70 A Continuous
	Max discharge rate	100 A Continuous
	Max pulse discharge rate	150 A
	Energy density	120 Wh/kg
	Number of cycles @80% DoD	>1500
	SOC energy metering	<ul style="list-style-type: none"> <li>•based on advanced ICPT algorithms</li> <li>•available via CAN interface</li> </ul>
	Data interface	CAN bus
	Configuration of modules	<ul style="list-style-type: none"> <li>•parallel operation</li> <li>•up to 8 modules</li> </ul>
	Operating conditions	Ambient operating temperature
Humidity		95% non-condensing
Protection class		IP 64
Mechanical parameters	Width x Length x Height	365 mm x 329 mm x 248 mm
	Weight	42 kg
	Mechanical interface	four M8 mounting brackets
	Insertion	drop down lifting ears or threaded insert, M6 x 1,25 x 25 mm deep, located on the top of module
	Construction	powder coated aluminium tray
	Power Interface	pigtail with APP SB175 connector
Safety	Safe cell design	li-ion cells with venting device
	Thermal conductive and non-flammable filling among cells	UL-94V certified thermal conductive material
	ICPT advanced BMS	ICPT BMS system with: <ul style="list-style-type: none"> <li>•excellent measurement precision</li> <li>•galvanic isolation</li> <li>•multi-level fault detection system</li> </ul>
	Cells thermal management	Passive to battery enclosure
	Internal protection	Contactors and fuse inside
Standards	EMC	IEC 61000-4-3, IEC 61000-4-8, IEC 61000-6-2, IEC 61000-6-4
	Safety	UN 38.3 CE