

Transit Case Solutions Liquid Cooling Kits

Military Application



Description

Traditional transit cases used for military electronics equipment require that the front and rear covers be removed before the equipment can be powered up and used. Such operation exposes electronics to damage and failure from dust and moisture. Further, heat generated by the internal equipment is customarily controlled by regulating ambient air temperature around the transit case, necessitating the use of a large and power-hungry environmental control system (ECS) to maintain an optimal temperature for electronics. SprayCool's next-generation transit case kits enable a sealed environment in which commercial grade 19-inch, rack mount products can operate safely in the harshest environments. The innovative two-phase liquid cooling system keeps the critical components operating below their spec limit even in 50°C ambient conditions, and removes this heat from the air path inside the hardware so that downstream components get cooler air. The end result is power efficient, reliable operation of low-cost, commercial-grade electronics anywhere the war fighter needs them, and in a smaller, lighter, less power-hungry platform than any other on the market.

Specifications

Service	Air
Dimensions:	7U and greater rack mount transit cases
Capacity:	cooling at 50°C: 2500 W (8500 Btu/hr) Harsh environments up to 50°C, MIL-STD-810F
Cooling system	
Operational range:	-40 to 50°C (storage: -40 to 72°C)
Reliability:	Predicted to be 45,000 hrs MTBF
Cooling system	
Power consumption:	464 watts maximum
Input power:	28 VDC or 110/220 VAC
Weight:	Less than 100 lbs empty (incl: transit case and cooling system)
Weatherproofing:	
Transit Case –	According to IP 65 per EN 60529 (MIL-STD-4150, MIL-STD-28800, MIL-STD-810F)
External Fans –	According to IP 55 per EN 60529 (MIL-STD-4150, MIL-STD-28800, MIL-STD-810F)

SprayCool Kit Configuration Features

Product Overview

- Enables command and control on the move
- Enables environmental isolation of commercial-grade electronics in transit-case solutions
- Enables fully integrated enclosure solutions with power and cooling

Features

- 2500W of cooling capacity
- 450W power for cooling
- Wide range of OEM solutions
- Compatible with composite and aluminum cases
- Designed to meet MIL-STD-810

Benefits

- Lighter weight, lower power, and cooler processors than comparable A/C systems
- Simple service model with field serviceability of key items that are light, small, and easy to store on vehicle

Contact Information

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Enabling Electronics Survivability *in tactical rack-mount enclosures*

Available in 1000 –2500 Watt kits. The total power draw of the cooling system is only 450W, and can handle a total payload of 2500W in the case. SprayCool-enabled transit cases are smaller, lighter, and more energy efficient, which equates to a mobile computing cabinet that is convenient to install, easier to transport, and requires less cooling and power infrastructure to operate. The end result is the enhanced ability to position advanced computing power at the front edge of the battlefield.

Capabilities

- Light-weight: meets payload requirements of an armored HMMWV
- Commercial servers and communications gear deployed in hostile environments
- Remote network node in unmanned environments
- HMMWV applications without rigid wall shelter
- Halt and on-the-move operation using vehicle power
- Tent applications without HVAC
- Unsheltered Navy applications utilizing COTS electronics
- Low altitude (below 25,000 ft) airborne application

SprayCool® Technology

SprayCool's patented 2-phase "direct spray" liquid cooling technology deploys a fine mist of non-corrosive, non-conductive liquid, sprayed in a thin layer, which evaporates and cools electronics. The process continuously cycles within a sealed, closed loop system. In doing so, SprayCool products isolate the electronics from dirty, corrosive environments found in military and industrial applications resulting in temperature optimized, higher performance, and more durable electronic devices, often without the need of dedicated environmental control systems. SprayCool technology enables customers to deploy both commercial grade and custom electronics in harsh environments more quickly, and at significantly lower costs.

Ground Mobile Applications

- Tactical operations center
- On-the-move computing
- Ground support stations
- SATCOM
- EW Systems

Transit Case Solutions Liquid Cooling Kits

OEM Spray Module Kits

Cisco	Dell	HP	IBM
3825 Router	1850	DL 140	x326
3750 12 Port switch	1950	DL 145	x336
3750 24 Port switch	1425	DL 360	
7825 Call manager	2850	SUN Microsystems	
	2950	Sunfire x4100	



1U/2U servers



Servers blade



Switch and routers

Optional Services

- OEM hardware integration
- System configuration & testing
- Design for support (acquisition logistics/logistics engineering)
- SprayCool education and training services
- Technical assistance center (TAC)

Optional Accessories

- Custom I/O panel
- Fluid fill kit
 - Depot level
 - Field level