High Performance Embedded Computing (HPEC)

☰ Dynatem

Fortis™ S-class HPEC Systems
Rugged Network Attached Storage (NAS) for Mobile High Performance Data Acquisition

- Ideal for data-intensive mission critical applications

- Superior data logging performance (4.4 GBytes/second)

- 16TB of NVMe storage in a small footprint

- Designed for reliability in extreme environments

- Size, weight and power (SwaP) optimized for in-vehicle installation

- Modular and customizable to meet program-specific requirements

- Commercial off-the-shelf (COTS) technology for cost-effective flexibility

The Dynatem Fortis™ family is a modular and scalable line of High Performance Embedded Computing (HPEC) systems for use in compute and data intensive mobile and edge of network applications. The rugged and compact Fortis family leverages commercial-off-the-shelf (COTS) technology to enable data center performance in applications that are size, weight and power (SWaP) constrained. The Fortis product family offers an ideal solution for large scale data acquisition and real-time data processing in mobile manned/unmanned land, sea or air platforms and are the perfect complement to Dynatem's Fortis C-class HPEC systems in "mobile cloud" applications.

Fortis S-class HPEC systems are designed for high capacity Network Attached Storage (NAS) and optimal data logging performance. S-class systems feature high-performance embedded CPUs and GPU accelerators, along with soldered down ECC memory and super-fast and reliable NVMe SSD. World-class performance and scalability are delivered through an onboard 96 lane PCI Express switch and dual 40/56 Gigabit Ethernet connections. The rugged and reliable S-class is designed to withstand shock and vibration, while also being E-Mark certified for in-vehicle installations. Systems are customizable to meet user-specific application requirements, including custom I/O, validation and certification testing.

The innovative Fortis thermal design enables ultra-high performance in a compact package, even when used in extreme environmental conditions. Our unique liquid cooling technology dissipates up to 1kW and can easily interface with the on-platform cooling system or with an independent cooling unit.

Fortis™ S-class HPEC Systems

System Specifications

Processor	Intel® Xeon® E3-1281v3, 3.70GHz (4.1GHz Turbo Boost), 4 Cores
Memory	32GB High Reliability ECC DDR3 (soldered down)
GPU	NVIDIA GeForce GTX 1050Ti PCIe x16 Card
Storage	256GB High Reliability SATA SSD
NVMe	Up to Two (2) Ultrastar SN200 NVMe SSD PCIe x8 Cards (15.36TB MAX) Max 6100MB/s Sequential Read, Max 2200MB/s Sequential Write
Display	One (1) Integrated OLED
Standard IO	Two (2) 40/56 Gigabit Ethernet connections Two (2) RJ45 Gigabit Ethernet connections Three (3) USB 2.0 connections (100mA, Type A), One (1) USB 2.0 (500mA, Type A) One (1) Configurable Serial (RS-232 Default, DB9)
Expandability	Internal Midplane with 96 PCIe Gen 3 Lanes
Power	Input Options: 9-18VDC (12VDC Nominal); 36-58VDC (48VDC Nominal) Consumption: Up to 350W TBC (450W Peak)
Ruggedization	Tested to Industrial and Automotive Temperature, Shock and Vibration Standards
Environmental	Cooling: Direct Hot Water Cooling (Vehicle Cooling System or Independent Cooling Unit can be used) Operating Temp: 0 to +50°C Standard (Wider Ranges Optional) Storage Temp: -20 to +70°C
Mechanical	Dimensions: 157 x 162 x 455 mm / 6.2 x 6.4 x 17.9 in (H x W x D) Weight: ~11Kg / 25lbs

157 mm / 6.2"   455 mm / 17.9"

157 mm / 6.2"
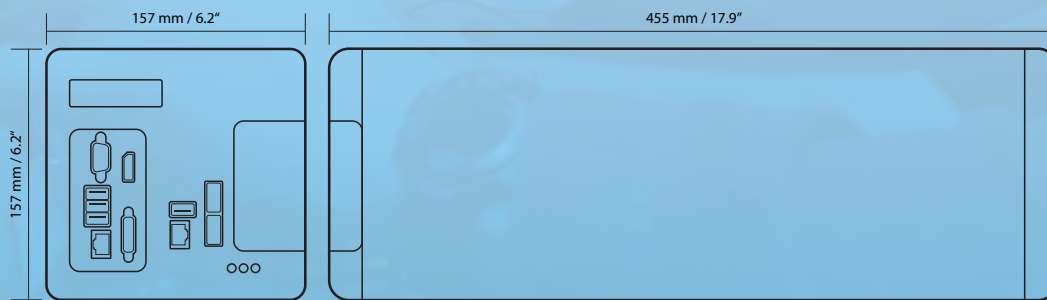
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Since 1981, Dynatem has been a trusted supplier of rugged and secure mission-critical solutions for defense and aerospace applications. We are proven experts in designing and building rugged, small form factor technology products for use in harsh environments. Dynatem solutions can be found in mission-critical defense systems around the world—powering airborne, ground and shipboard deployments.