

Fortis™ C-class HPEC Systems

A Rugged, Compact and Scalable Platform
for Mobile High Performance Computing



- Ideal for compute-intensive mission critical applications
- Superior computational performance (16.5 TFLOPS)
- Scalable to 264 TFlops
- 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.

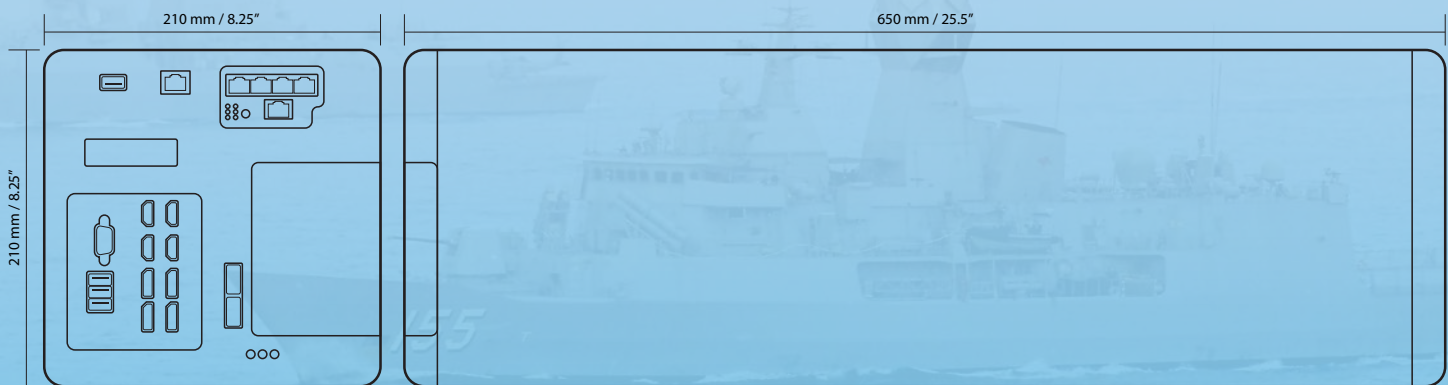
Fortis C-class HPEC systems are compact and rugged, liquid-cooled supercomputers designed to deliver the highest level of computational performance in the smallest possible footprint. Optimized to support computationally intensive numerical algorithms, each C-class system provides up to 16.5 TFLOPs of performance, making it an ideal platform for deep learning, artificial intelligence (AI), signal processing and other demanding applications at the network edge. Up to 16 systems can be seamlessly connected to deliver a world-class 264 TFLOP supercomputer.

Designed to sustain massive workloads, the Fortis C-class features 14-core Intel® Xeon® CPUs along with high performance GPU acceleration. Systems are further enhanced with the use of top quality components such as 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 C-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™ C-class HPEC Systems

System Specifications	
Processor	Dual Intel® Xeon® E5-2690v4 2.60GHz (3.50GHz), 14 Cores
Memory	64GB High Reliability ECC DDR4 (soldered down)
GPU	NVIDIA GeForce GTX 1070Ti PCIe x16 Card
Storage	512GB High Reliability Slim SATA SSD
NVMe	One (1) Ultrastar SN200 NVMe SSD PCIe x8 Cards (7. 68TB) 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 Four (4) T4, 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: 36-58VDC (48VDC Nominal) Consumption: 1kW Max
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: 210 x 210 x 650 mm / 8.25 x 8.25 x 25.5 in (H x W x D) Weight: ~20kg / 44lbs



dynatem.com

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.