DynaCOR 40-34

Automotive HPEC NAS - 16TB NVMe @4.4GB/s, Liquid Cooled

- **NAS for Autonomous Vehicles**
- **Shock & Vibe and E-Mark Certified**
- **16TB NVMe Storage**
- **Dual 40/56 Gigabit Ethernet**
- **In-vehicle Installation**
- **Liquid Cooled**
- **Professional Services**

Features

High-performance Networking Storage - The system provides up to 16TB storage @4.4GB/s writing speed and multiple 40/56 GbE interfaces

Automotive Certified - E-Mark and Shock & Vibe certifications for reliable operation in autonomous driving and other rugged applications

In-vehicle Installation - An optional Docking Station allows to easily pull the system in and out from the vehicle and bring it into the data center

Liquid Cooled - The extremely compact, fanless and ventless unit dissipates up to 1kW with an integrated direct exchange technology that interfaces the vehicle liquid cooling system

Professional Services - The modular design allows further customization through Eurotech Professional Services, including the integration of user selected accelerators, storage and networking modules

Description

The DynaCOR 40-34 is a compact, liquid-cooled, rugged HPEC networking storage system, certified for automotive applications. It embeds an Intel Xeon E3 v3 processor with 32GB soldered-down ECC RAM, and multiple high-performance NVMe SSD Cards, Network Interface Controllers (NIC) and GPUs.

The DynaCOR 40-34 is designed to withstand shocks and vibrations, and it is E-Mark certified for in-vehicle installations.

The internal architecture of the DynaCOR 40-34 features one CPU card and provides five internal bays for GPUs, NVMe and networking modules, connected with a 96 PCIe lanes switch.

Off-the-shelf configurations include the following PCIe expansion cards: two NVMe SSD Cards providing up to 16TB of storage, one Network Interface Controller (NIC) card that enables two 40/56 Gigabit Ethernet interfaces, and one NVIDIA GeForce GPU. Eurotech Professional Services allow for further personalization, including validation and integration of user-selected expansion modules.

The DynaCOR 40-34 supports loads of up to 1kW thanks to an innovative technology that interfaces with the vehicle liquid cooling system. The coolant circulates inside cold plates that are tightly coupled with the expansion boards, providing efficient heating dissipation.

An optional Docking Station makes it quick and easy to swap or transfer the unit to the data center, whenever immediate dataset availability is required.

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Expansion Modules Specifications

CPU Module	CPU	Xeon E3-1281v3 - 3.70GHz (4.1GHz Turbo Boost), 4 Cores
	RAM	32GB DDR3-ECC High Reliability Soldered-down
	Ethernet	2x 10/100/1000Mbps - RJ45 (Shared with Out-of-band Management)
	USB	3x USB 2.0 (100mA, Type A), 1x USB 2.0 (500mA, Type A)
	Serial	1x Configurable Serial (RS-232 Default, DB9)
	Consumption	110W Max
NVMe	Type	High Performance NVMe (8 Lanes PCIe Gen 3, High Endurance)
	Capacity	7.68TB Max
	Performance	Max 6100MB/s Sequential Read, Max 2200MB/s Sequential Write
	Consumption	25W Typ. (9W Idle)
NIC	I/O Interfaces	Dual 40/56 GbE QSFP28 (QSFP+ Compatible)
	Consumption	25W Max
GPU	Model	NVIDIA GeForce GTX 1050 Ti
	Clock	1290MHz (1392MHz Boost)
	RAM	4GB GDDR4 ECC, 7Gb/s Memory Speed
	Max Resolution	7680x4320@60Hz
	I/O Interfaces	1x DL-DVI, 1x DisplayPort 1.4
	Consumption	75W Typ. (110W Peak)

Ordering code: DYCOR-40-34-XX

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CPU Module	Intel Xeon E3-1281v3	1x	
NVMe	NVMe (7.68TB)	1x	2x
NIC	Dual 40/56GbE	1x	
GPU	NVIDIA GeForce GTX 1050 Ti	1x	
POWER	Input	9-18VDC (12VDC Nominal)	
	Consumption	Up to 350W TBC (450W Peak)	

Other expansions modules (GPU, NVMe, FPGA, etc.) are available through Eurotech Professional Service

Superset Specifications

Expansion Module	Format	5x Expansion Bays compatible with PCIe Gen 3 Expansion Cards
Midplane	PCIe Switch	PCIe Switch Providing 96 PCIe Gen 3 Lanes
Management	Supervisor	Independent Controller Board for System Level Environment Management
	BMC	Baseboard Management Controller for Out-of-band Management (IPMI Tool Support)
Storage	SATA	1x 256GB High Reliability SATA SSD
I/O Interfaces	Display	1x Display OLED (Integrated)
Other	LEDs	3x LED Indicators
Power	Input	Options: 9-18VDC (12VDC Nominal) – 36-58VDC (48VDC Nominal)
Environment	Operating Temp.	0 to +50°C (Factory Option: Wider Ranges)
	Storage Temp.	- 20 to +70°C (Without Liquid Coolant, Depending on Configuration)
Mechanical	Dimensions	157 x 162 x 455 mm (H x W x D)
	Weight	~ 11Kg
	Cooling	Direct Hot Water Cooling (Car Cooling System or Independent Cooling Unit can be used)
	Installation	Docking Station