DynaCOR 40-35

Rugged HPEC NAS - 123TB NVMe @80Gbit/s Sustained Write, Liquid Cooled



- **High-performance Networking Storage**
- **Rugged, with Automotive Certifications**
- **Liquid Cooled**
- **In-vehicle Installation**
- **Professional Services**

Features

High-performance Networking Storage - The system provides up to 123TB storage @80Gbit/s sustained write, 2x 100 GbE and 4x 10 GbE interfaces

Rugged, with Automotive Certifications - Automotive power supply, totally fanless, E-Mark and Shock & Vibration certifications for reliable operation in autonomous driving and other rugged applications

Liquid Cooled - Integrated direct liquid cooling technology for an extremely compact, fanless and ventless unit

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

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 40-35 is a compact, liquid-cooled, rugged HPEC networking storage system, suitable for any heavy-duty applications and certified for automotive applications.

The DynaCOR 40-35 delivers an unprecedented sustained write speed of 80Gbit/s (RAID 0) and 76Gbit/s (RAID 5) in a compact, rugged form factor.

It embeds an Intel D2100 series processor with 64GB soldered-down ECC RAM, two 100 GbE and 4x 10GbE interfaces and up to 16 high-performance NVMe. The DynaCOR 40-35 is designed to withstand shocks and vibrations, and it is E-Mark certified for in-vehicle installations.

The internal architecture of the DynaCOR 40-35 features one CPU card and provides five internal bays NVMe and networking modules, connected with a 96 PCIe lane switch.

Off-the-shelf configurations deliver from 31TB to 123TB of Raw capacity, with Linux RAID or Advanced RAID. All configurations feature video out, a GNSS with untethered dead reckoning support for precise geolocation and timestamping, a 12VDC or 48VDC automotive grade power supply and a system management and monitoring unit that ensures safe boot, operation and shutdown of the system.

The DynaCOR 40-35 typically only requires 350W in its richest configuration and its power supply is designed to sustain peak requests of up 500W with an input range of 36 to 58VDC (48VDC nominal) or 9 to 18VDC (12VDC nominal).

The system is totally fanless and with no moving parts, thanks to an innovative technology that interfaces with the vehicle liquid cooling system. The coolant circulates inside cold plates that are tightly coupled with all the components (CPU, RAM, NVMes, power supply), providing efficient heating dissipation and greatly simplifying the deployment in a wide range of electric, hybrid and conventional vehicles.

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.

Eurotech Professional Services allow for further personalization, including validation and integration of user-selected expansion modules.

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General Specifications

PROCESSOR	CPU	Xeon D-2183IT - 2.20GHz (3.00GHz), 16 Cores
MEMORY	RAM	64GB, 4 Channel 2400MHz ECC DDR4, Soldered Down
STORAGE	OS STORAGE	512GB, NVMe (1TB Factory Option)
	DATA STORAGE	Up to 16x NVMe (U.2)
	RAID	RAID 0 (up to 80Gbit/s Sustained Write), RAID 5 (up to 76Gbit/s Sustained Write)
I/O INTERFACES	ETHERNET	2x 100GbE (2x QSFP28), 4x 10GbE (1x QSFP+), 2x 1GbE (2x RJ45)
	USB	1x USB 3.0 (USB type A), 2x USB 2.0 (USB Type A)
	SERIAL	1x RS-232 (9 Wires), 1x RS-233 (2 Wires) - System Management
	CAN 2.0B	Factory Option
	DIGITAL IO	1x Ignition KEY Input (9 - 58 VDC), 2x System Status Output (Open Collector) (Factory Option), 8x (Factory Option)
	VIDEO	1X DVI-D (up to 2x DVI-D Factory Option) / (up to 2x HDMI Factory Option), 1x VGA
	AUDIO	Factory Option
RADIO INTERFACES	INTERNAL GPS	GNSS (Dead-Reckoning Unthetered)
	ANTENNAS (EXTERNAL)	1x SMA (GPS)
OTHER	RTC	2x RTC, 1x CPU RTC (Coin Battery), 1x System Managemet RTC (SuperCAP), GNSS Timestamp
	WATCHDOG	Yes, on System Management RTC
	EEPROM	256 kB
	TEMPERATURE SENSORS	2x Coolant Temp., 3x System Temp., Boards Specific Temp., NVMe Temp.
	ACCELEROMETER	Factory Option
	LED	Power, 2x Midplane Status, NVMe Activity
SYSTEM MANAGEMENT	SUPERVISORS	1x HPC Subsystem BMC, 1x System Controller
	IPMI	Version 2.0; System Power Cycle, Subsystem Reset
	LOGS	Memory Error, System Status, Diagnostics
	REMOTE MONITOR/CONTROL	BMC Ethernet, System Serial Port
	FW UPDATE	from O.S., IPMI, System Serial Port
	OTHER	Ignition Key, 2x System Status Digital Output
COOLING	COOLANT	Nominal Flow: 180lph @35°C Tinlet, 30% v/v Glycol Coolant - Max Inlet Temperature: +45°C
	FILTER	Removable Mesh Protection Filter
	PROTECTION	Eurotech Protection Systems: Anti-Condensation, System Watchdog, Flow Rate/Temp. monitoring, Overheating protection, Humidity monitoring, Input Voltage/Current/Energy monitoring; Inrush protection
ENVIRONMENT	OPERATING TEMPERATURE	+5 to +45°C (Factory Option: Wider Ranges)
	STORAGE TEMPERATURE	- 20 to +70°C (No Liquid Coolant)
	HUMIDITY	75%
CERTIFICATIONS	REGULATORY	CE (RED)
	SAFETY	EN 62368-1
	ENVIRONMENTAL	RoHS3, REACH
MECHANICAL	DIMENSIONS	177 x 495 x 196 mm (L x D x H)
	WEIGHT	<15Kg
	COOLING	Direct Hot Water Cooling (Car Cooling System or Independent Cooling Unit)
	INSTALLATION	Quick Docking Option

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Ordering code: DYCOR-40-35-XX							
Ordering code		MAIN STORAGE (RAW CAPACITY)	MAIN STORAGE (CONFIGURATION)	RAID	POWER INPUT	POWER CONSUMPTION	AUTOMOTIVE CERTIFICATIONS
DYCOR-40-35-	03	31TB	4x 7.68TB, NVMe	Linux RAID	48VDC (36-58VDC), Automotive	215W Typ, 365W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), VDA320
	04	31TB	4x 7.68TB, NVMe	Linux RAID	12VDC (9-18VDC), Automotive	215W Typ, 365W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), LV-124 (Electrical Tests)
	05	61TB	8x 7.68TB, NVMe	Advanced RAID	48VDC (36-58VDC), Automotive	260W Typ, 410 W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), VDA320
	06	61TB	8x 7.68TB, NVMe	Advanced RAID	12VDC (9-18VDC), Automotive	260W Typ, 410 W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), LV-124 (Electrical Tests)
	07	92TB	12x 7.68TB, NVMe	Advanced RAID	48VDC (36-58VDC), Automotive	305W Typ, 455 W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), VDA320
	08	92TB	12x 7.68TB, NVMe	Advanced RAID	12VDC (9-18VDC), Automotive	305W Typ, 455 W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), LV-124 (Electrical Tests)
	09	123TB	16x 7.68TB, NVMe	Advanced RAID	48VDC (36-58VDC), Automotive	350W Typ, 500W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), VDA320
	10	123TB	16x 7.68TB, NVMe	Advanced RAID	12VDC (9-18VDC), Automotive	350W Typ, 500W Peak	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration), LV-124 (Electrical Tests)

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