



- 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 for Heavy-duty Applications - 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 to 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, NVMe, 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.

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. |
| | ACCELEROMETE R | 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/CONT ROL | 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 |
| | ENVIRONMENTA L | 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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