DynaCOR 61-10 – ADAS/HIL AI Server Edition

AUTOMOTIVE AI SERVER - 4U - AMD EPYC - Multi GPU - Hot Swap - 100GbE

- **High Performance ADAS/HIL AI Server**
- **Up to 3 High Performance GPUs**
- **Up to 495TFLOPS FP16 / 990TOPS INT8**
- **AMD EPYC 7003 Series**
- **Up to 64TB NVME**
- **Liquid and Air Cooling**
- **Configuration Service**

Features

High Performance ADAS/HIL AI Server : Designed for in-vehicle and in-lab HIL AI Inference and Training, suitable also as a hybrid logger. Built with reliable components and ruggedized for Road Vehicle deployments

In-Vehicle Inference and Training : Meets the most demanding requirements of Autonomous Driving projects: it supports up to three high performance GPUs to provide best-in-class inference capabilities; it also supports accelerated FP64 for training and advanced simulation tasks

High Speed, Low Latency Clustering : Provides 4x100GbE + 2x 10GbE to allow clustering of multiple DynaCOR 61-10 (AI Servers or Loggers) to add more computational performance and storage capacity; allows direct attach (switchless) to vehicle sensors, with up to 18x 10GbE interfaces by fanning out the 100GbE ports

Logging Capabilities : Supports up to 64TB with one hot-swappable NVME data cartridge. Data cartridges eliminate the need to deal with individual disks when data is transferred to the data center, making the process fast and error-proof

A Data Center on the Wheels : Plenty of computational power thanks to the AMD EPYC 7003 Series CPUs and up to 1TB RAM supporting advanced data fusion and filtering workloads. Check out also the ADAS/HIL Logger family for massive storage capacity

Hybrid Cooling : Combined liquid and air cooling, to meet a range of deployment needs, both in the vehicle and in the lab/data center

Configuration Service : Highly modular design, allows for personalized configurations, including hybrid Logger – Inference (GPU) server ones.

Description

The DynaCOR 61-10 is a high performance ADAS/HIL AI Server that provides cutting edge performance for in-vehicle and lab Inference and Training workloads.

Designed for road vehicles, it offers reliable operation thanks to automotive grade ruggedization; it is also available in non-rugged configurations to enable HIL and vehicle digital twins in the lab and the data center.

The internal fabric provides full PCIe Gen 4 bandwidth between the GPUs, the NVMEs and the 100GbE network cards, to support ingestion, computation and storage from multiple data intensive streams without any glitch.

With up to three NVIDIA A30 GPUs and the AMD EPYC7003 Series CPU, the DynaCOR 61-10 packs exceptional Inference capabilities: up to 246TFLOPS in TP32 precision, up to 495 TFLOPS in FP16/BFLOAT16 and 990TOPS in INT8; the DynaCOR 61-10 is also suitable for Training workloads, supporting accelerated FP64 (30.9TFLOPS).

The storage system capacity reaches 64TB on 4 U.2 disks. The disks come in a hot swappable data cartridge that can be easily moved from the device in the vehicle to an equivalent unit in the lab / data center, greatly improving the speed and reliability of the data transfer for further processing. For even more capacity and computational capabilities, it is also possible to cluster multiple DynaCOR 61-10 with other Eurotech ADAS products, including the AI ADAS Loggers for massive storage capacity.

The DynaCOR 61-10 offers high-performance network interfaces for clustering, with 2x 10G/5/2.5/1GbE (RJ45) and 4x 100/50/25/10GbE (QSFP28). The 100GbE ports are particularly versatile, since they support precision timing, allow for different types of media (fiber, copper) and can be split each in up to 4x 25/10GbE ports, bringing the total count to 18 10GbE ports that can also be used to interface directly to sensors.

Eurotech configuration management service allows fine tuning the DynaCOR 61-10 to meet and exceed your project requirements; call us for more information for more options.

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Ordering Code: DYCOR-61-10-XX				
XX		-04	-05	-06
PROCESSOR	CPU	AMD EPYC™ 7443P 24 Cores / 48 Threads 2.80GHz / 4.00GHz	AMD EPYC™ 7543P 32 Cores / 64 Threads 2.80GHz / 3.70Gz	
AI ACCELERATION	GPU	1x Nvidia® A30	2x Nvidia® A30	3x Nvidia® A30
	FP64 / TP64 Tensor Core	5.2 TFLOPS / 10.3 TFLOPS	10.4 TFLOPS / 20.6 TFLOPS	15.6 TFLOPS / 30.9 TFLOPS
	FP32 / TP32 Tensor Core	10.3 TFLOPS / 82 TFLOPS; 165 TFLOPS (Sparsity)	20.6 TFLOPS / 164 TFLOPS; 330 TFLOPS (Sparsity)	30.8 TFLOPS / 246 TFLOPS; 495 TFLOPS (Sparsity)
	BFLOAT16 Tensor Core	165 TFLOPS; 330 TFLOPS (Sparsity)	330 TFLOPS; 660 TFLOPS (Sparsity)	495 TFLOPS; 990 TFLOPS (Sparsity)
	FP16 Tensor Core	165 TFLOPS; 330 TFLOPS (Sparsity)	330 TFLOPS; 660 TFLOPS (Sparsity)	495 TFLOPS; 990 TFLOPS (Sparsity)
	INT8 Tensor Core	330 TOPS; 661 TOPS (Sparsity)	660 TOPS; 1322 TOPS (Sparsity)	990 TOPS; 1983 TOPS (Sparsity)
	INT4 Tensor Core	661 TOPS; 1321 TOPS (Sparsity)	1322 TOPS; 2642 TOPS (Sparsity)	1983 TOPS; 3963 TOPS (Sparsity)
MEMORY	RAM	64GB DDR4 ECC	128GB DDR4 ECC	256GB DDR4 ECC
STORAGE	OS Disk	500GB NVMe (PCIe x4)		
	Data	32TB (4x U.2 G3) RAW; 1x Data Cartridge		32TB (4x U.2 G3) RAW; 1x Data Cartridge, Hot Swap
	RAID	RAID 0/1/5/10, Hardware RAID		RAID 0/1/10, Hardware RAID
I/O INTERFACES	Ethernet	2x 100/50/25/10GbE (QSFP28); 2x 10G/5/2.5/1GbE (RJ45); Each 100GbE can be Split in 4x 25/10GbE Ports		4x 100/50/25/10GbE (QSFP28); 2x 10G/5/2.5/1GbE (RJ45); Each 100GbE can be Split in 4x 25/10GbE Ports
	Timing Support on Ethernet	IEEE 1588 PTP v1 and v2 Support		
	USB	2x USB 3.1 Gen1 (Type A), 1x USB 3.1 Gen 2 (Type C), 2x USB 2.0		
	CAN	4x CAN-FD bus (ISO 11898-2) (DB9, CiA® 303-1) Galvanic Isolation up to 500V		
	Serial	1x RS-232 (DB9 Connector)		
	Video Out	1x VGA		
CYBERSECURITY (HARDWARE)	TPM	TPM 2.0 Support		
SYSTEM MANAGEMENT	BMC	Yes		
	BMC LAN	Yes		
EXPANSIONS	Internal Expansion	2x M.2 (x4 G4), 7x PCIe (x16 G4), 2x SlimSAS (x8 G4); Expansion Availability Depends on Product Configuration		
COOLING	Technology	Hybrid Liquid (CPU, GPU)		
	Accessories	External Radiator with Reservoir and Pump		
POWER	Input	Automotive Grade: 9 ~ 18VDC / 1000Watt; Factory Option: 110/230V AC; Screw Terminals for Ring Eyelets (DC)		
ENVIRONMENT	Operating Temp	-20 to 70°C		
	Storage Temp	-20 to 70°C		
	Humidity	10 to 90% Relative Humidity (Non-condensing) at +40°C		
CERTIFICATIONS	Regulatory	EU/UK: CE, UKCA; North America: Factory Option, Japan: Factory Option; Other Countries (Factory Option)		
	Safety	Low voltage safety (2014/35/EU); EN 62368, UL 60950 (§)		
	Road	CE (93/68/EWG), EMV (2014/30/EU)		
	Environment	RoHS3, REACH		
	Ingress Protection	IP20		
MECHANICAL	Enclosure	Material: Metal; Color: Black		
	Dimensions	430 x 177 x 401mm (W x H x D)		

§ UL, NRTL listing Factory Option.

SOFTWARE		
SOFTWARE	OS	Linux; Win 10/11/Server

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