DynaNET 10G-01

HPEC Ethernet Switch - 52 Port, Layer 3



- **48x 1GbE + 4x 10GbE Ports**
- **Layer 3 Managed**
- **Designed for Automotive Applications**
- **Liquid Cooled**
- **Compact & Lightweight**
- **Easy to Deploy and Mantain**
- **Customizable**

Features

Stackable 52 Port Switch - Delivers 44x GbE over RJ45, 4x GbE over combo RJ45/SFP ports and 4x 10GbE ports over SFP+, with a total 176Gb/s switching capacity

Layer 3 Managed - Enables advanced features required by demanding applications, such as granular Bandwidth, Congestion, and Class of Service control

Designed for Automotive Applications - Comes with ECE R10, ISO 50498 and is designed for ISO 16750-3, VDA320, LV-142-2 (Shock & Vibration) for use on traditional, electric and autonomous vehicles

Liquid Cooled - Interfaces with the vehicle liquid cooling infrastructure and Eurotech liquid cooled systems, delivering the highest level of energy efficiency and ruggedness

Compact & Lightweight - Saves precious space and weight thanks to liquid cooling: direct heat removal does not require bulky and heavy heatsinks

Easy to Deploy and Mantain - Can be installed in any recess and does not require airflow for cooling; quick disconnects allow fast and secure integration with the vehicle cooling infrastructure and simple removal for maintenance

Customizable - Flexible: personalization and full customization options are available, ranging from branding (“skin” and color) to deep hardware configurations

Description

The DynaNET 10G-01 is a high port density switch for Automotive and rugged applications, where exteme levels of performance, reliability and compactness are required.

Featuring a total of 52 ports, the DynaNET 10G-01 is the ideal solution for applications where a large number of devices need to be reliably connected, including high performance sensors, such as LIDARs, RADARs, high definition cameras typically found in autonomous vehicles.

With a total switch capacity of 176Gbs and 4x 10GbE ports, the DynaNET 10G-01 can be stacked to further increase the port count, or can be connected to a 40Gbs backbone.

Layer 3 switching allows great control over traffic, and makes it possible to manage services and data streams in a much more deterministic way. This is a very important feature in all those applications where it is necessary to avoid data starvation and preserve the deterministic behavior of the network.

The DynaNET 10G-01 is certified for Automotive applications and can be easily integrated in traditional combustion, hybrid, electric and autonomous vehicles. It is available with a 12VDC or 48VDC automotive-grade power supply.

The DynaNET 10G-01 is liquid cooled and has no vents nor moving parts, dramatically increasing reliability. Since it does not require any ventilation, the DynaNET 10G-01 is extremely compact and lightweight, making it simple to fit it in any recess. The liquid cooling infrastructure of the vehicle can be used to feed the DynaNET 10G-01, delivering significant savings in integration cost and complexity. Field-proven quick disconnects provide a fast and safe interface to the vehicle cooling system and greatly enhance deployment and maintenance procedures.

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Ordering code: DYNET-10G-01-XX

XX		-01	-02
NETWORK	Performance	176Gb/s Switch Capacity / 130.95Mpps Packet Forwarding Rate	
	Interfaces	44x 10/100/1000BASE-T Ethernet Ports - 4x Combo 10/100/1000BASE-T/SFP Ethernet Ports - 4x 10 GbE SFP+ Ethernet Ports	
	Stackability	Up to 80Gb/s Stacking Bandwidth, Up to 9 Switches in a Stack, Ring/Chain Topology Support	
MANAGEMENT	Management Ports	1x 10/100/1000 BASE-T RJ45 (Out-of-band), 1x USB, 1x Alarm Port	
LAYER 2	Flow Control	802.3x Flow Control When Using Full Duplex, HOL Blocking Prevention	
	Spanning Tree	802.1D STP, 802.1w RSTP, 802.1s MSTP, Root Guard, Loop Guard	
	Link Aggregation	802.1AX Link Aggregation (Max. 32 Groups per Device, 8 Ports per Group)	
	VLAN	802.1Q, 802.1v Protocol-based VLAN - Double VLAN (Q-in-Q): Port-based Q-in-Q, Selective Q-in-Q - Port-based VLAN, MAC-based VLAN, Subnet-based VLAN, Private VLAN - VLAN Group: Max. 4K VLAN Groups, Max. 4094 VIDs - Multicast VLAN (ISM VLAN for IPv4/IPv6), Auto Surveillance VLAN, VLAN Trunking - Asymmetric VLAN , GVRP: Up to 4K Dynamic VLANs	
	L2 Multicast	MLD Snooping, IGMP Snooping, PIM Snooping	
LAYER 3	Routing	Supports 16K Hardware Routing Entries Shared by IPv4/IPv6 - Supports up to 32K Hardware L3 Forwarding Entries Shared by IPv4/IPv6 - Static Route (Max. 512 IPv4, Max. 256 IPv6 Entries) - IPv4/IPv6 Default Route, PBR (Policy-based Route), Null Route, Route Preference, Route Redistribution - RIPv1/v2/ng, BFD (Bidirectional Forwarding Detection): IPv4/v6 Static Route, RIP, VRRP	
	L3 Multicast	IGMP/MLD Filtering	
	QoS	802.1p, 8 queues per port - Queue Handling: Strict Priority (SP), Weighted Round Robin (WRR), Strict + WRR, Weighted Deficit Round Robin (WDRR) - Congestion Control: Weighted Random Early Detection (WRED) - 802.1Qbb Priority-based Flow Control (PFC) for 10 GbE Port - Bandwidth Control: Port-based, Flow-based, Per Queue Bandwidth Control - Policy Map: Remark 802.1p Priority, Remark IP Precedence/DSCP, Time-based QoS	
	CoS	CoS Based on: Switch Port, Inner/Outer 802.1p Priority, Inner/Outer VID, MAC Address, Ether Type, IP Address, ToS/IP Preference, DSCP, Protocol Type, TCP/UDP Port, IPv6 Traffic Class, IPv6 Flow Label	
OTHER	Display	OLED Display with Protection	
	LEDs	1x PSU Power Good LED, 1x Switch Board Power LED, 1x Console LED, 1x Stack ID Display - 56x Link/Act LED	
	Maintenance	FW Upgrade	
POWER	Input	48VDC Nom. (20 to 48VDC, 4.4A Max)	12VDC Nom. (9 to 18VDC, 8.2A Max)
	Protection	Integrated Inrush Protection and Ignition Key Sense	
	Consumption	70W Peak	
COOLING	Coolant	Flow: 55lph, 35°C Tinlet, 30% v/v Antifrogen L Coolant, Max Inlet Temperature: +45°C	
	Filter	Integrated Mesh Protection Filter	
	Protection	Eurotech Protection Systems: Condensation Detection, System Watchdog, Flow Rate, Internal Temperature, Inlet/Outlet Temperature, Humidity, Input Voltage/Current/Energy	
ENVIRONMENT	Operating Temp	0 to +45°C	
	Storage Temp	-40 to +70°C (No Coolant)	
CERTIFICATIONS	Regulatory	EN 50498	
	Automotive	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration)*, VDA320	ECE ONU Reg.10, ISO 16750-3/LV-124-2 (Shock & Vibration)*, LV-124 (Electrical Tests)
	Environmental	RoHS3, REACH	
MECHANICAL	Weight	5Kg	
	Dimensions	441x261x69mm (WxDxH) - Excluding Connectors	

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