DynaNET 100G-01

HPEC Ethernet Switch - 16 Port 100GbE, Layer 3

- **16x 40/56/100GbE Ports**
- **Up to 32x 50GbE or 64x 10/25GbE Ports**
- **Layer 3 Managed, Non-blocking**
- **Automotive Certified**
- **Liquid Cooled**
- **Compact & Lightweight**
- **Easy to Deploy and Maintain**
- **Customizable**

Features

16 Port 100GbE Switch - Delivers 16x 40/56/100GbE ports over QSFP28, and with breakout cables up to 32x 50GbE or 64x 10/25GbE ports for a total throughput of 3.2Tb/s and 2.38Bpps processing capacity and zero packet loss
Layer 3 Managed - Provides flat latency across L2 and L3 forwarding, 300ns for 100GbE port-to-port latency with Software Defined Networking support
Automotive Certified - Comes with ECE R10, ISO 50498, ISO 16750-3/LV-142-2 (Shock & Vibration), VDA320, LV-142 (Electrical Tests) certification 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 100G-01 is a high performance switch for Automotive and rugged applications, where extreme levels of performance, reliability and compactness are required.

Featuring a total of 16x 40/56/100GbE QSFP28 ports, the DynaNET 100G-01 is the ideal solution as a high performance backbone in high performance applications, such as in Autonomous Driving, Artificial Vision and HPEC. When a high port count is needed, it is also possible to use breakout cables to reach up to 32x 50GbE or 64x 10/25GbE ports.

With a total throughput of 3.2Tb/s, a processing capacity of 2.38Bpps and 300ns port-to-port latency, the DynaNET 100G-01 can be used as a spine switch to implement a spine-leaf rugged switch architecture, delivering significant benefits in terms of data traffic predictability at a very low latency.

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 100G-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 100G-01 is liquid cooled and has no vents nor moving parts, dramatically increasing reliability. Since it does not require any ventilation, the DynaNET 100G-01 is extremely compact and lightweight, making it simple to fit it in any recess. The liquid cooling infrastructure of the vehicle may be used to feed the DynaNET 100G-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.

Note: The information in this document is subject to change without notice and should not be construed as a commitment by EUROTECH. While reasonable precautions have been taken, EUROTECH assumes no responsibility for any error that may appear in this document. All trademarks or registered trademarks are the properties of their respective companies.

DynaNET 100G-01

HPEC Ethernet Switch - 16 Port 100GbE, Layer 3

EUROTECH

Ordering code: DYNET-100G-01-XX			
XX		-01	-02
NETWORK	Performance	Throughput: 3.2Tb/s, Processing Capacity: 2.38Bpps, Port-to-Port Latency: 300ns, Zero Packet Loss	
	Interfaces	16x 40/56/100GbE QSFP28 Ports - Up to 32x 50GbE Ports - Up to 64x 10/25GbE Ports	
MANAGEMENT	Management Ports	1x 10/100/1000 BASE-T RJ45 (Out-of-band) - 1x USB - 1x RS-232 RJ45	
LAYER 2	Flow Control	802.3ad Link Aggregation (LAG) & LACP: 16 Ports/Channel – 64 Groups Per System, Multi chassis LAG (MLAG), MLAG with STP support	
	Spanning Tree	802.1W Rapid Spanning Tree: BPDU Filter, Root Guard, Loop Guard, BPDU Guard, RSTP, MSTP and PVRST	
	Link Aggregation	802.1AX Link Aggregation (Max. 32 Groups per Device, 8 Ports per Group)	
	VLAN	802.1Q Multiple STP, VLAN 802.1Q (4K) - Q-In-Q	
	L2 Multicast	IGMPv2/v3, Snooping, Querier	
	Other	LLDP, Store & Forward / Cut-through Mode, HLL, 1/10/25/40/50/56/100GbE, Jumbo Frames (9216 Bytes)	
LAYER 3	General	User and Management VRFs, IPv4 & IPv6 Routing Including Route Maps, MP-BGP, OSPFv2 - PIM-SSM, PIM-SM, BFD (BGP, OSPF, Static Routes), VRRP, DHCPv4/v6 Relay - Router Port, int VLAN, NULL Interface for Routing, ECMP, 64-way, IGMPv2/v3 Snooping Querier	
	Synchronization	PTP IEEE-1588 (SMPTE Profile), NTP	
	QoS	802.3X Flow Control, WRED, Fast ECN & PFC, 802.1Qbb Priority Flow Control, 802.1Qaz ETS - DCBX – App TLV Support, Advanced QoS – Qualification, Rewrite, Policers – 802.1AB - Shared Buffer Management	
OTHER	Management	ZTP, Ansible, Puppet, FTP / TFTP / SCP - AAA, RADIUS / TACACS+ / LDAP - JSON & CLI, Web UI, SNMP v1,2,3 - In-band Management, DHCP, SSHv2, Telnet, SYSLOG	
	SDN	OpenFlow 1.3: Hybrid, Supported Controllers: ODL, ONOS, FloodLight, RYU, etc.	
	Monitoring	sFlow, Real time Queue Depth Histograms & Thresholds, Port Mirroring (SPAN & ERSPAN) - Enhanced Link & Phy Monitoring, BER Degradation Monitor, Enhanced Health Mechanism - 3rd Party Integration (Splunk, etc.)	
	Display	OLED Display with Protection	
	LEDs	1x PSU Power Good LED, 1x System Health LED, 1x Switch Power LED, 1x Bad port LED, 1x Identifier LED	
	Maintenance	Remote Eurotech Protection Systems Monitoring, FW Upgrade	
POWER	Input	48VDC Nom. (20 to 58VDC,13A Max)	12VDC Nom. (9 to 18VDC, 25A Max)
	Protection	Integrated Inrush Protection and Ignition Key Sense	
	Consumption	210W Peak	
COOLING	Coolant	Flow: 75lph, 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	6Kg (Including Coolant)	
	Dimensions	206x380x83mm (WxDxH) - Excluding Connectors	

Note: The information in this document is subject to change without notice and should not be construed as a commitment by EUROTECH. While reasonable precautions have been taken, EUROTECH assumes no responsibility for any error that may appear in this document. All trademarks or registered trademarks are the properties of their respective companies.