



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

### 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                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                      |

\*Designed for

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