HYPEX ETHERNET SWITCHES

MODULAR MANAGED ETHERNET SWITCHES WITH POE SUPPORT

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DESCRIPTION

HYPEX Managed Ethernet switches are designed specifically for an onboard Ethernet communication infrastructure. Their modular HW design allows the creation of a wide range of production models with different port counts and configurations, communication speeds and PoE support. The HYPEX platform also uses easily replaceable modules which are shared by many different onboard devices and therefore, helps to optimize life cycle costs.

HYPEX platform internal architecture uses 10Gbps communication lines between individual modules to ensure full wire speed switching between all ports.

HYPEX Ethernet switches support a fault-tolerant network topology. Fast recovery times under 50ms are ensured by ring control protocol implementation. Multiple rings may be combined in one network. Integrated bypass relays allow network operation even during multiple Each HYPEX Ethernet switch contains a powerful CPU module to provide high performance IP routing in networks with multiple VLANs. A custom Linux based operating system provides a complete set of networking features and tools, which can be used to implement project specific cybersecurity requirements. Integrated diagnostic services provide access to detailed diagnostic information via standard SNMP protocol and TRDP application protocol. The configuration and deployment of network components and end devices, are supported by HW configuration pins in the power supply connector and integrated DHCP server, with port-based address allocation.

Additional modules from the HYPEX platform may be used to extend the switch functionality and create multipurpose devices (e.g. SSD data storage, wireless communication modules, field bus interfaces such as CAN or RS-485)

KEY FEATURES

- A powerful managed Ethernet routing switch.
- A modular design with a variable number of ports and optional PoE support.
- All models are based on a HYPEX modular platform and share the same HW and SW components.
- Support for fault-tolerant ring topology with fast recovery time.
- Up to 4 ports with bypass relays allow operation of the network even during multiple failures.
- A powerful CPU for IP routing.
- Support for configuration profiles controlled by HW configuration pins in the power connector.
- A custom Linux-based system with a complete set of networking features to help implement cybersecurity requirements.
- An integrated DHCP server with port-based address allocation to simplify end device configuration.
- Integrated diagnostic features for detailed runtime network analysis.
- Easily replaceable modules to help optimise life cycle costs.
- Both rack and panel mounting options.

DEVICE MODELS

Optional configuration of the number of ports with different functionality (1000BASE-T, 1000BASE-T with BYPASS, 1000BASE-T with PoE, 1000BASE-TX, 1000BASE-T with PoE). Complete list of options is available on request.

STANDARDS

EN 50155:2018, EN 61373:2011, EN 50121-3-2:2017, EN 50124-1: 2002, IEC 61375-1:2012, IEC 61375-3-4:2017

OPERATING CONDITIONS

PARAMETER	VALUE	NOTE
Operating temperature range	-40 to +70 ° C	Class TX according to EN50155
Power supply voltage	24 V DC, Class 52	Range according to EN 50155
Power Consumption	< 50W (device) / 150W (PoE)	
Galvanic isolation	1000 V AC, 50 Hz	
Shock & Vibration	Category 1, Class B	
Altitude	Up to 1400 m	Class A1 according to EN 50125-1
Dimensions BOX.B / BOX.C / BOX.E	206 × 133 × 123 mm / 280 × 133 × 123 mm / 304 × 133 × 123 mm	
Weight BOX.B / BOX.C / BOX.E	< 3.5 kg / < 4 kg / < 4.5 kg	
Cooling	Natural	
Protection	IP20	
CPU	QorIQ LS1043A, 4× Cortex-A53 64-bit cores at 1.0 GHz	
Memory	1GB DDR RAM / 256MB NOR Flash / 2MB MRAM / SD Card slot	
RTC	RTC with battery backup	Necessary. Ethernet communication, 2×1000BASE-T
Ethernet ports	Maximum 27 Ethernet ports:	Modular design, see different models below
PoE power output	4×1000BASE-T with bypass relays	complies EN 60529

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