



GarrettCom[®]
Industrial Networking at Its Best[™]

Ethernet Switch System

The DYMEC Ethernet Switch System (ESS) provides high performance data connectivity in harsh environments where general-purpose commercial products fail. The ESS is purpose-built for the rigors of power utility substations, designed to meet utility industry standards for product hardening.

Ethernet Switch Systems are also ideal for carrier central offices, intelligent transportation systems, water treatment, pipeline and other industrial applications where reliability is required under challenging conditions.

Utility and industrial applications are rapidly evolving to Ethernet as a standard network interface in order to leverage the flexibility of IP communications, integrate multiple applications onto a common network, standardize system design and provide high performance connectivity.

DYMEC Ethernet Switch Systems allow operators to extend the advantages of distributed Ethernet networking into harsh environments reliably and simply. ESS hardware design protects against electrical surge, EMI, extreme temperature variations and other environmental challenges. ESS software provides the security, class of service and network management capabilities needed to assure application performance.

The Ethernet Switch System is available in 8, 16 or 24 port 10/100 Ethernet configurations with optional dual Gigabit Ethernet ports. Each system may be configured with all copper or multi-mode fiber or a combination of interfaces. Single-mode fiber ports are also available.

Operators may deploy the ESS in either managed or unmanaged configurations. Ethernet switching may be incorporated into DYMEC's DynaStar Network Integration System, integrating routing, switching, terminal server and multi-protocol access concentration in a single product. The ESS also interoperates with DYMEC Ethernet-over-Fiber Link products to provide further access extension and electrical isolation in harsh environments.



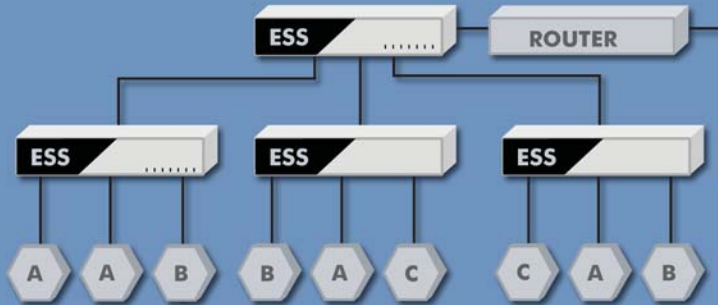
Highlights

- High performance connectivity with 10/100 and Gigabit Ethernet
- Flexible configurations of 8, 16 and 24 ports and a mix of copper and fiber interfaces
- Substation hardened: certified to IEEE 1613 and IEC 61850-3 specifications
- Traffic prioritization and multiple classes of service to ensure critical applications performance
- Security via VLAN and access screening to segregate applications, users and ports as appropriate
- High network availability using Rapid Spanning Tree Protocols for dynamic reconfiguration
- Integrated IP router and DHCP server features
- Both unmanaged or managed operations modes. Managed mode includes remote SNMP, Telnet and port monitoring capabilities

We Simplify Network Connectivity

ETHERNET SWITCH SYSTEM

UTILITY SITE WITH STAR CONFIGURATION LAN



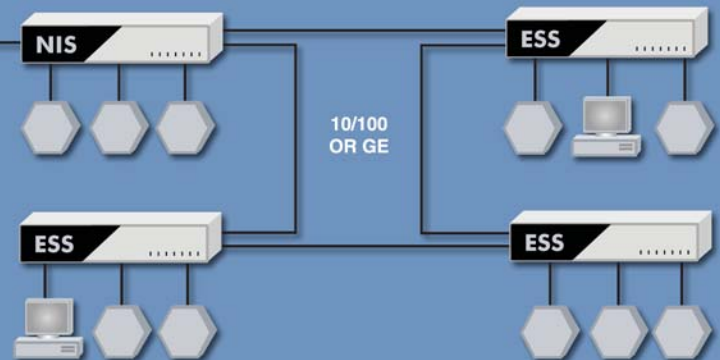
DISTRIBUTED DEVICES WITH 10/100 ETHERNET COPPER OR FIBER GROUPED INTO THREE VLANS (A, B, AND C) FOR SECURITY AND/OR SERVICES

WIDE AREA NETWORK

Ethernet Switch Systems can be distributed throughout a utility site as local network concentration points for IEDs, NEs or other Ethernet devices. Data traffic within a VLAN stays within the ESS network, not involving the router used primarily for WAN access.

WIDE AREA NETWORKS

INDUSTRIAL SITE WITH RING CONFIGURATION LAN



ETHERNET DEVICES ON 10/100 COPPER OR FIBER

Ethernet Switch Systems may be configured in redundant ring configurations with 10/100 or dual Gigabit Ethernet uplinks. An ESS module incorporated within a DynaStar Network Integration System provides both a local switching peer to the other ESS devices and a gateway router to the wide area network for the entire site.

SPECIFICATIONS

Ports:

- 8, 16 or 24 ports 10/100 Ethernet
- 0, 1 or 2 Gigabit Ethernet uplinks

Physical Interfaces:

- 10/100BaseTX
- 100BaseFX MM
- 100BaseFX SFP (MM or SM)
- 1000BaseLX or EX SFP SM
- Mixed configurations

System Features:

- Rapid Spanning Tree Protocol (RSTP) per 802.1w
- Spanning Tree Protocol (STP) per 802.1d
- Tagged VLAN per 802.1Q
- Traffic prioritization per 802.1p
- Managed (SNMP MIB and telnet) or unmanaged
- Port monitoring / port mirroring
- IP Routing (RIP, OSPF)

Power supplies

- Low: 24-48Vdc (18-60Vdc input range)
- High: 125Vdc (90 to 140Vdc input range)
- AC: 100-240Vac (90-260Vac input range)

Operating temperature

- -20°C to +75°C (DC)
- 0°C to +50°C (AC)

Standard compliance:

- IEEE 1613, IEC 61850-3
- CE, UL, FCC