# Magnum DX800
## Serial Device Router

## *Features*

- Hardened for harsh environments
- IEEE 1613 / IEC 61850-3

- Serial and Ethernet interfaces
  - 4 RS232/RS485 ports software selectable
  - 2 10/100 BaseTX RJ45 Ethernet ports
  - 2 100FX SFP/SFF Ethernet ports multi/single mode

- Multiprotocol support
  - Async and SCADA to TCP/IP
  - Ethernet, TCP/IP
  - Ethernet switching
  - VLANs
  - Prioritization
  - RSTP
  - IP routing
  - DHCP service
  - Serial Multipoint and Multimaster topologies

- Cyber-Security protection:
  - Serial SSL
  - Secure HTTP
  - IPSec encrypted VPNs
  - Ethernet port security
  - TCP/IP firewall
  - Serial port SSL
  - Per Serial port VLANs

- Web GUI, XML
- SNMP management
- Built-in protocol analyzer

- AC and DC, wide range of power options
- No fans or moving parts

## DX800 Serial Device Router

**T**he Magnum DX800 delivers secure multi-protocol networking in a compact, rugged package purpose-built for power substations and other harsh environments. With mounting options for panels, DIN-rail or 19" racks, the DX800 provides deployment flexibility for wherever a mix of serial and Ethernet-based connectivity is required.

Dual fiber Ethernet connectivity coupled with Rapid Spanning Tree and IP routing capabilities ensure resilient backbone communications.

The DX800 provides full perimeter protection with IP firewall and IPsec VPN features when used as an edge router/terminal server at remote critical facilities. Per-session encrypted SSL capabilities permit fine-grained security extended to end-point connections when used as a distributed terminal server in larger installations.
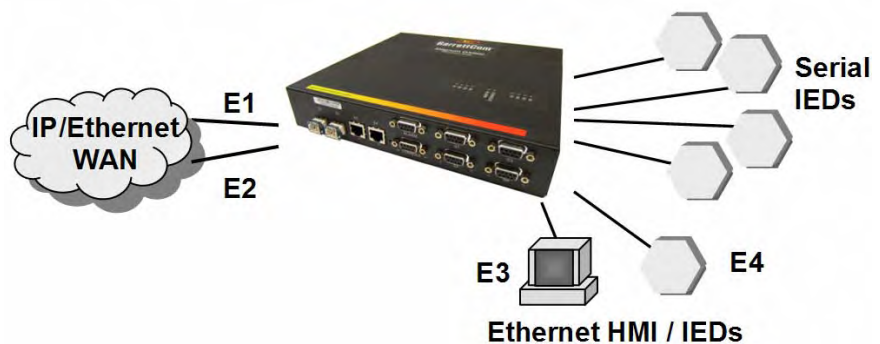
# Specifications

## SERIAL INTERFACE

**Physical Interface:**
- 4 ports, RS232 or RS485, S/W selectable
- DB9 female connector
- Serial data rate from 300 bps to 230.4 kbps
- Data length: 1-32 bits support"

**Protocols/Features:**
- Async to TCP/IP; • DNP Modbus, Telnet
- TCP/IP to serial terminal server, reverse terminal server
- SCADA protocols
- Serial Multipoint and Multimaster Topologies

## ETHERNET INTERFACE

**Physical Interfaces:**
- 2 RJ-45 modular connector ports
- Full Duplex, Half Duplex
- 10/100 Base TX, auto-sensing or fixed speed
- 2 100FX Ethernet SFF or SFP modules
- Single-mode 8µ cable up to 40km
- Multi-mode 62.5µ/125 cable up to 2km

**Protocols/Features:**
- Ethernet, TCP/IP
- Full wire speed switching between ports
- IEEE 802.3x flow control
- Prioritization per IEEE 802.1p*
- VLANs per 802.1Q
- Rapid Spanning Tree per IEEE 802.1w
- Support for 4096 MAC Addresses
- Port Rate Limiting

## IP ROUTING FUNCTIONS & FEATURES

- IP Routing, RIP, RIP II, Static Routes.
- OSPF
- Per VLAN Routing
- ICMP, ARP
- DHCP & BootP Services*
- Block / Allow / IP or PORT addresses
- DiffServ, traffic prioritization*

## SECURITY

- TCP/IP Firewall
- Serial port SSL with AES/3DES
- IP VPN using IPSec*
- Secure HTTP (HTTPS), Secure FTP
- Serial Port VLANs
- Ethernet port security
- RSA/Radius Support
- Multilevel passwords with enforcement and aging
- Management activity logging and alarms

## MANAGEMENT & DIAGNOSTICS

- Web-based Graphical User Interface (GUI)
- CLI access via TELNET connection
- Powerful built-in protocol analyzer to monitor traffic on any port
- Comprehensive layer 1 through 3 statistics
- SNMP MIB II and SNMP Traps
- Proprietary Enterprise MIB
- PING and TELNET diagnostic functions
- Syslog Event Logging
- XML-based config file

## ENVIRONMENTAL

**Operating Temperature:**
- -40C to +85C, no fans

**Storage Temperature:**
- -40C to +85C

**Humidity:**
- 95% non-condensing

**Industrial:**
- IEEE1613
- IEC 61850-3
- IEC 61000-6-5

**Emissions:**
- EN55022A, FCC Part 15A

**Immunity:**
- EN55024
- EN61000-6-2
- EN61000-4-2 (ESD)
- EN61000-4-3 (RF)
- EN61000-4-4 (EFT)
- EN61000-4-5 (SURGE)
- EN61000-4-6 (CRF)
- EN61000-4-10 (MAG FIELD)
- EN61000-4-11 (VDI)
- EN61000-4-12 (OSCILLATION)
- EN61000-4-16 (CCM)
- EN61000-4-17 (RIPPLE)
- EN61000-4-29 (VDI)

**Safety:**
- UL60950-1
- EN60950-1
- CSA C22.2

**Environmental Monitoring:**
- Relay contacts for alarms: Form C, 2 NC/NO, software controllable

## POWER OPTIONS

High Voltage (H)
- 90-250 Vac or Vdc, 50-60Hz
- 0.3A, 27 watts

Low Voltage DC (L)
- 24-48 Vdc
- 1.3A, 31 watts

## MECHANICAL

**Dimensions:**
19 inch Rack Mount, 1U
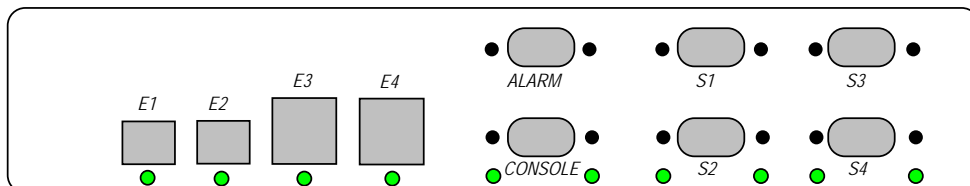9.5" W x 9.0" D x 1.75" H
(24.13 cm x 22.86 cm x 4.45 cm)

**Weight:**
5 lbs (2.3 kg)

**Mounting:**
Rack, Panel Mount and DIN Rail Options

## DX800 Port Configuration



* Planned Features     Specifications subject to change