

PB00104

### Magnum DX40 Serial Device Router

Combining the features of a Serial device server, Ethernet switch and IP router in a single product



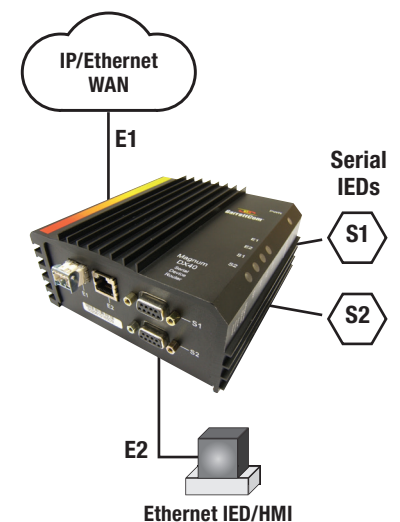
**The Magnum DX40 provides a rugged and secure solution for extending fiber-based connectivity to remote devices in harsh environments, such as power utility substations.**

#### Features:

- Hardened for harsh industrial environments
- Complies with IEEE1613 / IEC 61850-3 standards
- Serial and Ethernet interfaces
  - 2 RS232/RS485 ports software selectable
  - 2 Ethernet ports 10/100 BaseTX RJ45 OR 100FX SFP/SFF multi/single-mode
- Supports multiple protocols
  - Async and SCADA to TCP/IP
  - Ethernet, TCP/IP
  - IP routing
  - Network resiliency / RSTP
  - 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
- Offers wide range of AC and DC power options
- Trouble-free maintenance – no fans or moving parts

The DX40's dual-serial, dual-Ethernet configuration supports several flexible configurations. It provides resilient dual fiber-based extension from a core Ethernet network to serial device distributed across a large facility. It services as a multi-protocol concentration and access point for a fiber-based Ethernet wide area network (WAN) connection to a small site.

Encrypted per-session SSL and IPsec VPN capabilities, along with other IP firewall and port security features, assure cyber security protections will extend cost effectively all the way to end-point devices and small facilities.



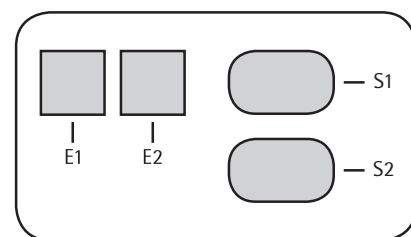
## Applications

The Magnum DX40 is ideal for any setting where the network must cover multiple facilities or remote locations. It is especially well suited to power utility substations.

## Technical Information

Serial Interface		Environmental	
<b>Physical Interface</b>	2 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	<b>Operating Temperature</b>	-40°C to +85°C, no fans
<b>Protocols/Features</b>	Async to TCP/IP DNP, Modbus, Telnet TCP/IP to serial terminal server, reverse terminal server Serial multipoint and multimaster topologies Select SCADA bit oriented protocols*	<b>Storage Temperature</b>	-40°C to +85°C
<b>Ethernet Interface</b>		<b>Humidity</b>	95% non-condensing
<b>Physical Interface</b>	2 copper or fiber ports Full Duplex, Half Duplex RJ45 modular connector ports 10/100 Base TX, auto-sensing or fixed speed 100FX Ethernet SFF or SFP modules Single-mode 8µ cable up to 40km Multi-mode 62.5µ /125 cable up to 2km	<b>Industrial</b>	IEEE 1613 IEC 61850-3 IEC 61000-6-5
<b>Protocols/Features</b>	Ethernet, TCP/IP IEEE 802.3x flow control Prioritization per IEEE 802.1p* VLANs per 802.1Q Port rate limiting Rapid Spanning Tree per IEEE 802.1w Support for 1024 MAC addresses	<b>Emissions</b>	EN55022A, FCC Part 15A
		<b>Immunity</b>	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)
		<b>Safety</b>	UL60950-1 EN60950-1 CSA C22.2
IP Routing Functions & Features		Power Options	
<b>Description</b>	IP routing, RIP, RIP II, Static Routes Per VLAN routing ICMP, ARP OSPF Block / Allow / IP or PORT addresses DiffServ, traffic prioritization	<b>High Voltage (H)</b>	90-250V AC or DC, 50-60Hz 0.2A, 18 watts
		<b>Low Voltage DC (L)</b>	24-48V DC 0.75A, 18 watts
Security		Mechanical	
<b>Description</b>	TCP/IP firewall Serial port SSL with AES/3DES IP VPN using IPSec Secure HTTP (HTTPS) Serial port VLANs Ethernet port security RSA/Radius Support Multilevel passwords with enforcement and aging Management activity logging and alarms	<b>Dimensions</b>	5.6" W x 5.1" D x 2.5"H (14.2 cm x 12.95 cm x 6.35 cm)
		<b>Weight</b>	2.75 lbs (1.25 kg)
		<b>Mounting</b>	Panel mount and DIN Rail options
Management & Diagnostics			
<b>Description</b>	Web-based Graphical User Interface (GUI) CLI access via remote 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 PING and TELNET diagnostic functions Syslog event logging Proprietary Enterprise MIB XML-based config file		

### DX40 Port Configuration



Got questions? Need to talk to an expert? Send us an email:

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## Ordering Information

DX40	-	02	-	L	-	D
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### Model

DX40 = Serial Device Router

### Ethernet Ports

01 = 1 x SFP, 1 x Twisted Pair RJ45

02 = 2 x SFP

03 = 2 x Twisted Pair RJ45

### Power Supply

L = 24-48 VDC

H = 90-250 VAC/DC

### Mounting

P = Panel

D = DIN-Rail

### Choose SFP Transceivers

Module No.	Description
SFP100P-RJ45	100Mb Copper SFP transceiver, 10/100 auto-negotiating
SFP100P-FXMM2	100FX Fiber Optic SFP transceiver, multimode, 2Km
SFP100P-FXSM20	100FX Fiber Optic SFP transceiver, singlemode, 20Km.
SFP100P-FXSM40	100FX Fiber Optic SFP transceiver, singlemode, 40Km.



## Belden Competence Center

As the complexity of communication and connectivity solutions has increased, so have the requirements for design, implementation and maintenance of these solutions. For users, acquiring and verifying the latest expert knowledge plays a decisive role in this. As a reliable partner for end-to-end solutions, Belden offers expert consulting, design, technical support, as well as technology and product training courses, from a single source: Belden Competence Center. In addition, we offer you the right qualification for every area of expertise through the world's first certification program for industrial networks. Up-to-date manufacturer's expertise, an international service network and access to external specialists guarantee you the best possible support for products. Irrespective of the technology you use, you can rely on our full support – from implementation to optimization of every aspect of daily operations.

### About Belden

Belden Inc., a global leader in high quality, end-to-end signal transmission solutions, delivers a comprehensive product portfolio designed to meet the mission-critical network infrastructure needs of industrial, enterprise and broadcast markets. With innovative solutions targeted at reliable and secure transmission of rapidly growing amounts of data, audio and video needed for today's applications, Belden is at the center of the global transformation to a connected world. Founded in 1902, the company is headquartered in St. Louis, USA, and has manufacturing capabilities in North and South America, Europe and Asia.

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