

# EN-4000™



## EN-4000™

### Prime Applications

- Legacy to IP conversion
- SCADA
- Power Grid Monitoring
- Sub-station Security
- Video Surveillance
- Power over Ethernet
- Business Continuity
- Digital Signage
- Custom Configurations
- Distributed Enterprise

### EN-4000™ Features

- Supports Dual Cellular modules
- Wi-Fi Access point, Client or Hotspot
- Automatic Traffic Load sharing between wireline and wireless links
- Multiple interface support, GigE, Fiber, Serial
- Pass Through/Bridge Operation
- License free VRRP, and GRE routing protocols
- Assign traffic to different ports
- Redundant power sources AC & DC
- IPsec VPN (Tunnel, NAT-T, Dead Peer Detection)
- VPN IP Security AES 256 and 3DES, SSL/TLS and SSH
- Open VPN (Client, Server w/Certificates)

### Cloud Management Available with enCloud™ Enterprise Management System

## EN-4000™ BROADBAND LTE ROUTER

The EN-4000™ is a highly customizable broadband LTE router designed for both commercial and hardened industrial use. Its modular design can be customized for a wide range of applications and services. It adds speed, capacity, and flexibility to the EN™ series of cellular enabled routers. The EN-4000™ base configuration includes, 5 10/100 Ethernet ports, redundant power supplies (AC and DC) in either a metal or plastic enclosure, and is DIN rail mountable. The EN-4000™ with 3 modular expansion slots can be customized to include a 4-port Power over Ethernet switch, 2 cellular modules, 802.11 Wi-Fi 2.4/5 GHz module, additional GigE Ethernet ports, Fiber optic ports, dual RS-232, RS-485, RS-422 serial data ports, and I/O contacts.

The EN-4000™ supports, several advanced IP routing protocols and security features including IPsec VPN (AES 256/3DES), stateful firewall, Ethernet switching, and legacy industrial protocol to IP internetworking, i.e. MODBUS and DNP3. This allows the EN-4000™ to support legacy SCADA and M2M applications commonly used by Utilities, Power, Oil & Gas and Water companies. With the modular hardware interfaces and support of legacy protocols the EN-4000™ can be used to replace aging copper line connections while simultaneously upgrading to IP connectivity. This makes the EN-4000™ incredibly valuable for continued ROI as a way preserve existing CAPEX by not having to rip and replace older working legacy hardware while upgrading to more secure and versatile Ethernet/IP connectivity.

As a member of the EN™ Series of broadband routers the EN-4000™ provides exceptional features at a low-cost with no user fees. All of the EN™ routers come with a three year hardware warranty, an intuitive web GUI interface, built in Firewall, advanced IP routing features, VPN and layer 4 firewall feature support.

### Manage the EN-4000™ with enCloud™

Additionally, all of the EN™ routers can be monitored and managed with Encore's enterprise management system, enCloud™. enCloud™ offers many features that will make managing your entire network of EN™ routers easier, including Cellular data limit enforcement for individual and group data plans, firmware updates, no touch deployment for new hardware, and reseller and customer tiers to assist in delivering managed network services for multiple customers.

# TECHNICAL SPECIFICATIONS

## GENERAL FEATURES

Protocol management and translation of legacy industry serial protocols  
 SNMPv3  
 Access for control via SSH, Telnet, and web access interface  
 Up to four antennas - 3G/4G LTE cellular, 802.11 Wi-Fi, and GPS services.  
 Three slots for optional interface modules  
 enCloud™ Enterprise Management System  
 Disaster Recovery and Traffic Load Sharing over WAN connections  
 QoS enforcement to prioritize critical traffic  
 Redundant power sources

## SECURITY APPLIANCE FEATURES

Stateful inspection firewall  
 IEEE 802.11i (WPA2, RSN)  
 DMZ LAN port  
 NAT (Network Address Translation)  
 SSL/TLS1  
 IP Sec (RFC 2401) with AES 256 and 3DES  
 Generic Router Encapsulation GRE (RFC 1701)  
 Internet Key Exchange--IKE (RFC-2409)  
 RADIUS authentication  
 Open VPN

## TRANSPORT PROTOCOLS

**WAN**  
 IP over Ethernet (compatible with MPLS services)  
 Frame Relay (RFC-1490, IP over FR)  
 Asynchronous PPP  
 Synchronous PPP  
 X.25  
 MLPPP  
 PPPoE  
 Selective Layer Encryption (SLE) for VPN Optimization (patented)

**IP**  
 IP Versions 4 and 6  
 IP Routing (RIP v1/v2), OSPF, BGP, or static routing  
 DHCP client/server/BootP/Relay  
 IP QoS and traffic prioritization  
 IP fragmentation/reassembly  
 IP routing over VPN; TCP and UDP  
 802.1q VLAN tagging  
 Virtual Redundant Routing Protocol (VRRP)  
 Dead Peer Detection

## CELLULAR

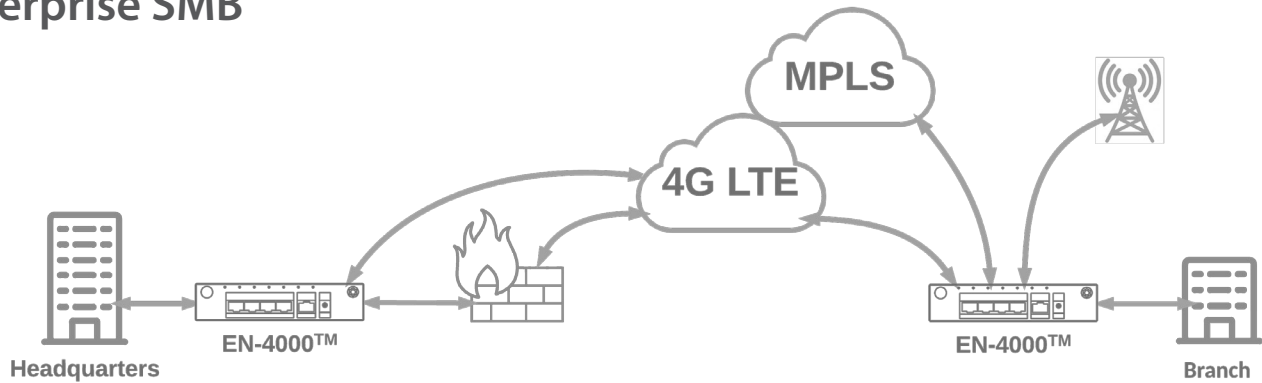
AT&T; CAT 3 100/50 Mbits – Bands, 2, 4, 5, 17 – UMTS 850/1900  
 T-Mobile; CAT 3 100/50 Mbits – Bands, 4 – UMTS 850/1900  
 Verizon; CAT 4 150/50 Mbits – Bands 4, 13

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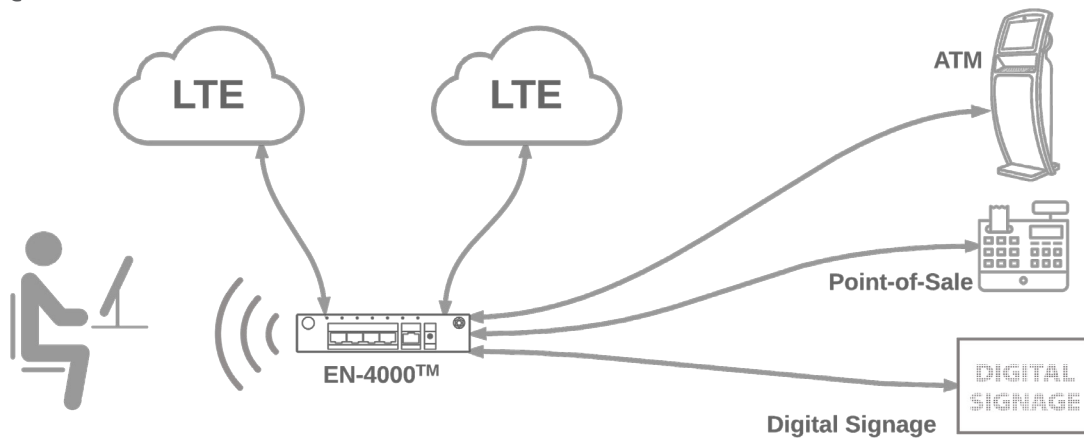
<b>MANAGEMENT</b>	<p>enCloud™ Enterprise Management  SNMP v3  Craft Interface  GUI Web Management  Telnet  SSH (secure shell)  DMNR, PNTM  Syslog</p>
<b>PHYSICAL FEATURES</b>	<p><b>EN-4000™ Front Panel</b>  4 LEDs for module, system status, and power indication  Two antenna connectors for internal wireless modules  2 groups of 4 LEDs for wireless signal strength indication for two cellular modules  Reset switch</p> <p><b>EN-4000™ Back Panel</b>  Two antenna connectors for factory-installed internal radios: Cellular: 3G, EVDO, 4G LTE; 802.11ac  One 10/100 Mbit/s Ethernet RJ-45 (WAN)  Four 10/100 Mbit/s switched Ethernet RJ-45 (LAN)  5 V DC input (from AC line-power adapter)  Additional power connector for optional factory-installed PSU, settable to other DC voltages</p>
<b>OPTIONAL MODULES</b>	<p>Single Optical Ethernet (SFP) interface for fiber, 1 Gig/s  10/100/1000 Mbit/s Switched Ethernet over copper  Dual high-speed serial ports (RS-232, RS-485, RS-422)  Cellular 4G LTE, 3G, HSPA+, HSPA, 2G  Wi-Fi Access/Client  Commercial miniPCI modules such as the latest Wi-Fi  4-Port PoE Switch</p>
<b>SERIAL DATA SUPPORT</b>	<p>Up to 4 serial ports supporting EIA/TIA RS-485, RS-232, RS-422  Legacy Protocol support for IEC 60870-5-101/103/104 MODBUS  Other Protocols Available</p>
<b>POWER SUPPLY OPTIONS</b>	<p>Redundancy between AC input and any DC  DC: 12, 24, 48; 13 Watts maximum  AC: 100-240 V AC Auto ranging adapter, 50-60 Hz</p>
<b>ENVIRONMENTAL</b>	<p>Operating Temperature: -40 C to +85 C (Industrial Hardened)  -20 C to +65 C (Extended Temperature Commercial)  Storage: -40 C to +85 C  Humidity: 5% to 95%, non-condensing</p>
<b>MECHANICAL</b>	<p>Height: 1.6 inches/40 mm  Width: 5.7 inches/145 mm  Depth: 4 inches/100 mm  Weight: 1 lb. ( 0.45 kg)</p>
<b>STANDARDS COMPLIANCE</b>	<p>RoHS Compliant  EMC: FCC Part 15, EN 55011/CISPR II, IEC 61850-3, IEEE 1613  Product Safety: UL/CSA 60950-1, CAN/CSA-C22.2 No. 60950-1-03, EN 60950-1</p>

Specifications subject to change without notice

## Enterprise SMB



## Hot Spot



## Industrial SCADA - M2M

