



Connecting Conservation with Comfort



Energate ZIP Connect

ZigBee compliance ensures that utilities and consumers benefit from seamless communications with other ZigBee enabled components within the Smart Grid. Now you can enable full two-way connectivity via a secure broadband Internet connection through Energate's ZigBee to IP Bridge — the ZIP Connect. The ZIP Connect is a core component of Energate's home energy management solution that lets consumers and utilities conveniently manage energy use and reduce peak demand.



Energate's Home Energy Management Suite empowers consumers while enabling utilities and energy service providers.



Demand Response Enabled

Today, many utilities are searching for a way to realize the benefits of Demand Response programs in advance of their AMI networks being deployed. As well, any solution that is deployed must be compatible with their chosen solution. The ZIP Connect enables a two-way communications path to the home using a broadband Internet connection and connects to other ZigBee Smart Energy compliant devices in the home. You get the Demand Response benefits now with an investment that is complementary to your AMI deployment and will automatically connect to the AMI network once it is rolled out. With broadband Internet access penetration approaching 50%, there are a significant number of your customers who can participate in Demand Response programs today.

Extending the Smart Grid

The ZIP Connect provides secure access to the Internet, and in effect, provides customers with global access to managing their energy use. Key features include:

- Compact plug and play device
- ZigBee Pro and Smart Energy Profile fully supported
- Certificate-based key exchange security
- Remotely upgradeable firmware

Connecting Conservation with Comfort

Building on our extensive experience in the HVAC industry, Energate has developed home energy management solutions that balance the needs of utilities with those of consumers — connecting conservation with comfort. Like all Energate products, the ZIP Connect enables the control of energy use inside the home by empowering consumers and utilities to respond to changing energy pricing and peak load conditions. The capability provided by the ZigBee-enabled ZIP Connect gives utilities the flexibility to establish Demand Response programs that are tailored to their needs and the needs of their customers.

ZigBee Smart Energy Profile

The Smart Energy Profile defines a series of standards designed to ensure interoperability between energy utilities and household devices such as smart thermostats and appliances. This results in a seamless wireless communications infrastructure which lets consumers manage their energy consumption more precisely, while allowing utilities to implement new advanced metering and Demand Response programs. Visit www.zigbee.org for more information.

ZigBee Specifications

- ZigBee Pro compliant
- Full ZigBee Smart Energy Profile support
- Operates as an Energy Services Portal
- Forms and secures a HAN using certificate-based key exchange technology

RF Specifications

Radio	IEEE 802.15.4 compliant ZigBee radio
Operating frequency	2405 – 2483.5 MHz, supports ZigBee channels 11 to 26, 5MHz spacing
Receiver sensitivity	-95dBm
Transmitter power	+18dBm output power (<100mW typ)

Hardware acceleration for IEEE 802.15.4 compliant transmissions

Ethernet and TCP/IP Specifications

- Ethernet 10/100 base TX with Auto Negotiation, and HP Auto MDIX
- Supports standard socket-based communications
- SSL Client or Server, Selectable 128/256/512/1024 Bit Certificates
- ENCRYPTION: AES, 3DES and RC4 Encryption for SSH & SSL
- Supports end-to-end AES 128 Bit Encryption
- AUTHENTICATION: SHA-1, MD5, Base-64
- Designed to survive hostile Internet environment
- Core protocols supported: ARP, TCP, DHCP, Auto IP, SSL
- Optional protocols supported: UDP, Telnet, ICMP, SNMP, BOOTP, HTTP, SMTP, TFTP, HTTPS, SSH, FTP, PPP
- Security hardened OS and Protocol Stacks
- Remotely upgradeable firmware

Other Specifications

- Tested for CE and FCC compliance
- Operating temperature range: -40°C to +70°C

Demand Response Program Support

- Enables Demand Response programs (i.e., direct load control, event criticality, price response) by providing two-way secure communications between the utility head end and Energate's Pioneer Z100 and LC301 Load Control Switch

Certifications (pending)

FCC Class B, Part 15
Industry Canada RS-210
IEEE 472-74, includes C37.90.1 and IEEE 62.41
C37.90.2
ZigBee Smart Energy Profile



About Energate

Energate is a leading provider of advanced energy management solutions for residential and small business applications. Our products interface to the smart grid in support of demand response programs.

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