

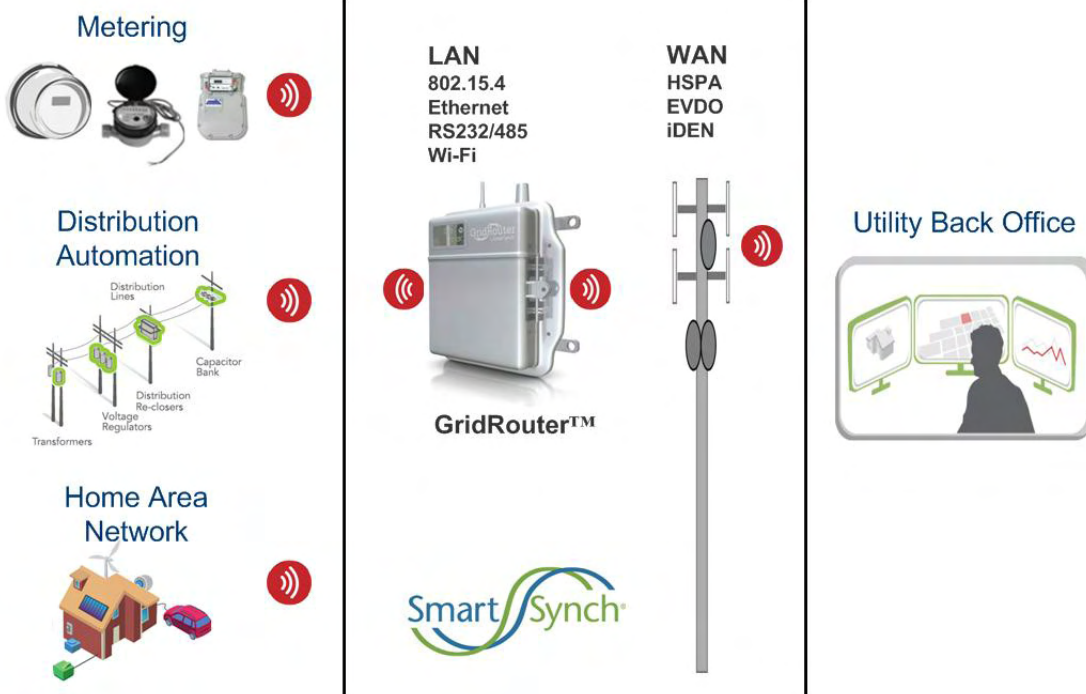
SmartSynch GridRouter[™]

The GridRouter[™] is the next generation smart grid product supporting multiple communication networks and connectivity to almost any smart grid device. It serves as an IP-addressable, external interface offering WAN, LAN and HAN connectivity to a variety of smart grid devices. The GridRouter acts as a wireless pipe capable of transmitting and receiving data over public wireless networks using Internet-based or other open standards. Through the GridRouter and its use of public wireless networks, utilities can quickly and affordably spot-deploy smart grid applications, including load profile and control, power quality monitoring, distribution automation, and standby generator control. The GridRouter also enables utilities to support homeowner-focused smart metering programs such as demand response, demand-side management and real-time pricing.



Benefits

- Provides a platform for realizing a truly open and interoperable Smart Grid
- Provides investment protection by enabling future utility applications without replacing the unit
- Lowers the total cost of ownership by enabling integrated metering of electric, gas and water endpoints
- Supports a variety of WAN interfaces to leverage the most optimal public wireless network



Applications Supported

Residential Electric Metering	HAN/Demand Response
C&I Electric Metering	Substation Automation
Gas Metering	Distribution Automation
Water Metering	SCADA

Main Board

Enclosure	Nema4x
CPU Board (CPU)	PowerPC (405EXr, 333 MHz)
Flash	256MB
DRAM	64MB
Operating System	Linux (OpenWrt 2.6.32)
Capacitor Storage Bank	Up to 60 seconds
Temperature Range	-40°C to +85°C

Regulatory & Industry Certifications

FCC Part 15 Class B
FCC Part 22
FCC Part 24
FCC Part 90
PTCRB Certification (AT&T, T-Mobile, Rogers)
ANSI C37.90.1 – 1989
ANSI C12.20 – 1998
Verizon Network Certification

Electrical, Physical & Environmental

Input Voltage	85-305 V AC, 50/60 Hz 12-48 V DC
Power Consumption	Varies by product due to WAN interface power consumption
Dimensions (approx.)	8.74 in/22.2 cm length 9.13 in/23.2 cm width 3.9 in/10.0 cm depth
Weight (approx.)	1.5 lbs/0.7 kg
Operating Temperature	-40° C to +85° C <small>Actual operating temperature range depends on specific WAN/LAN interfaces installed.</small>
Humidity Range	0% to 100% non-condensing

IPsec Security Platform

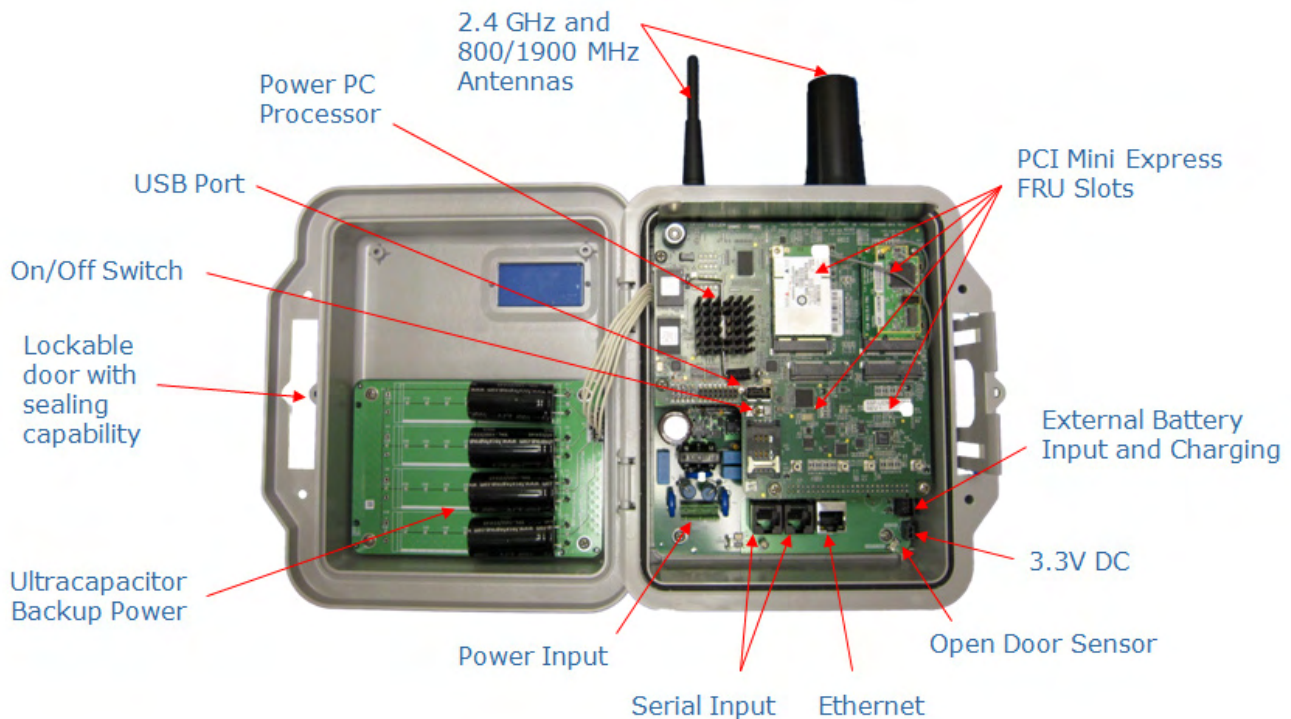
Public Key Infrastructure (PKI)	VPN Subtunnels to Connected IP end-devices
Digital Certificates	SSL/HTTPS/SSH
AES 256-bit Encryption	Security Policy Mgmt.
VPN Tunnels to Each GridRouter Port	

External Antennas

WAN Antenna	GSM, CDMA: 806-960 Mhz @ 1.4 dBi, 1710-1990 Mhz @ 4 dBi
LAN Antenna	ZigBee, 6LoWPAN: 2.4-2.5 Ghz @ 2.5

Field Replaceable Unit (FRU) Options

WAN FRU	Network	LAN FRU	Transmit Power
CDMA/1xRTT/EVDO	Verizon, Aeris, Sprint, Cellular South	ZigBee/6LoWPAN (802.15.4)	100mw (20dBm)
GSM/GPRS/HSPA	AT&T, T-Mobile, Rogers	Wi-Fi (802.11g)	100mw (20dBm)
iDEN	SouthernLINC		



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About SmartSynch: Headquartered in Jackson, Miss., SmartSynch has been developing successful Smart Grid Intelligence solutions for the utility industry since 2000. The company's clean-tech innovations in the two-way delivery of real-time energy usage data over public wireless networks, in lieu of private network build-outs, have to date simplified SmartMeter deployments for 100 major North American utilities, while enabling green-energy initiatives and delivering significantly higher Returns on Resources.