

**The 6424 MeshScape® Wireless Local Energy Meter (Wi-LEM) Measures And Communicates Active Power And Current Values As A Node In A Self-Forming And Self-Healing Wireless Network.**

**Features At a Glance**

- MeshScape® compatible wireless sensor node
- Operates on worldwide license-free 2.4 GHz ISM radio band, with 16 user selectable channels
- Wide range of electrical parameter measurement
- Direct connections to:
  - 3 phases Star (with or without neutral) or Delta 120/240 VAC
  - Single phase 120/240 VAC
- Self powered from the line
- Current rating: 5, 20, 50, 100 A – 2000 A
- Accuracy: Active energy IEC 62053-21 Class 1
- Split core current transformers
- CE and FCC compliant hardware modules

**Wireless Energy Sensor**

The 6424 MeshScape Wireless Local Energy Meter, Wi-LEM, is ideal for retrofit or new installations for such purposes as electricity sub-metering, energy auditing and diagnostics. It serves as a specific instance of a MeshScape 6424 Mesh Node, with a factory-installed split core transducer for the electronic measurements of AC waveform currents.

**Measurement Values**

The meter processes multiple sensor signals to provide electric parameters for each phase (i.e. L1, L2, L3), indicated by shading in the chart below:

	Configurable Reading Interval (5 to 30 minutes)													
	Interval Base Values									Cumulated Values				
	L1			L2			L3			Sum	L1	L2	L3	Sum
	Av	Min	Max	Av	Min	Max	Av	Min	Max					
Current (A)														
Voltage (V)														
Active Energy (kWh)														
Reactive Energy (kVarh)														
Apparent Energy (kVA)														
Frequency														

**Energy Sub-Metering Where It's Needed**

Due to its small size, the Wi-LEM is perfectly suitable for limited cabinet space and can be fitted to most electrical boxes. Long range radio enhances communications through metal electric boxes; available with a maximum power of 10mW or 18mW (allowed by North American regulations). Wi-LEM can be positioned on existing circuits, regardless of where they are in a building. Wireless Mesh Network connectivity allows repositioning Wi-LEM from one location to another within a building, or even from one building to another without any additional configuration.

**Try it for yourself**

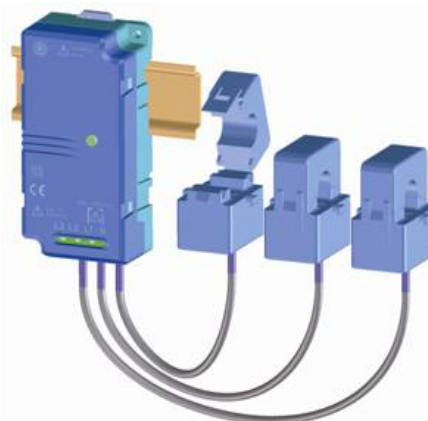
Setting up a wireless mesh network is fast and easy. The MeshScape™ self-forming and self-healing network is designed for rapid deployment and ease of operation.

For more information, visit [www.millennialnet.com](http://www.millennialnet.com)

**MeshScape® 4 Networking**

The Wi-LEM uses industrially-proven MeshScape 4 networking software. MeshScape 4 uses patented Persistent Dynamic Routing™ (PDR) techniques to form a self-configuring, wireless mesh network. PDR uses a node-initiated network formation for efficient topology discovery, and uses "best route" information for network re-formation (required in ever-changing RF environments). With MeshScape, you can deploy industrial-class wireless mesh networks that are:

- **Self-administrating:** a self-forming and self-healing mesh network that requires no administration
- **Robust:** a network that ensures reliable data transmission
- **Responsive:** a network that quickly adapts itself to changes in topology or radio frequency (RF) environments
- **Power efficient:** can run for years on a single battery set
- **Scalable:** can scale with the application to hundreds of wireless nodes with minimal overhead
- **Low latency:** with very short network data delivery times



Example of a DIN rail mount Wi-LEM showing three split core current transformers (CTs); simply snap on to electric wire.

**Typical Applications**

The Wi-LEM is an energy sub-meter used for current measurement for active power and energy consumption calculation. As part of a Wireless Energy Management System, it allows easier energy usage and costs allocation to specific departments or users in many commercial, residential and industrial environments.

**Remote Monitoring/Control Software Features**

The Wi-LEM is designed to interface with a MeshScape-compatible Wireless Energy Management software application enabling users to remotely monitor and control energy usage at their sites. For example, Millennial Net's Wi-EMS is a full-featured and easy to use system that provides all the tools you need for reporting, historical trending and in-depth energy analysis.

