



Wi-LEM Wireless Energy Meter

The Synetica **Wi-LEM** is a complete mesh wireless sub metering solution that is fast and easy to install.

With the **Wi-LEM** system you can quickly monitor all of your electrical energy consumption without expensive meters or infrastructure. The **Wi-LEM** meters simply clip around the electrical circuit to be monitored and wirelessly transmit the meter data using a robust mesh wireless protocol. A wireless pulse input unit (**Wi-Pulse**) is also available for acquiring data from any meter with a standard pulse output facility.

Energy consumption data is automatically logged within the Synetica **DataStream**. A Web Server within the **DataStream** provides powerful interactive energy charting using the simplicity of your favourite Web Browser. Logged data can also be automatically e-mailed or transmitted via the IP network to a Monitoring & Targeting (aM&T) package or a spreadsheet such as Excel® for further analysis.

There are three components to the **Wi-LEM** metering system:

- ✔ **The Energy Meter Node** - a wireless, class 1, sub-meter that attaches to the circuit being monitored. A battery powered pulse input unit (**Wi-Pulse**) is available for pulse output meters.
- ✔ **The Mesh Node** - automatically relays data from Meter Nodes to extend wireless range and to provide robust wireless links.
- ✔ **The DataStream + Mesh Gate** - at the 'end of the line', the **DataStream** plus Mesh Gate node is the point of data aggregation and network management. Data from the wireless energy meters is stored within the **DataStream** and is automatically forwarded via the IP network either to an automatic Monitoring and Targeting system or a spreadsheet such as Microsoft Excel®.

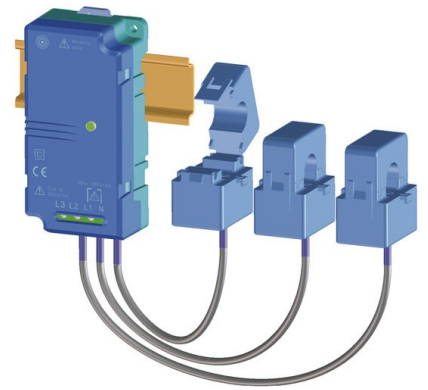
Energy DataStream Integration

The **Wi-LEM** links seamlessly with Synetica's **DataStream** to provide a complete solution for acquiring and presenting energy consumption from multiple meters and sensors. The **DataStream** allows up to 64 meters and/or sensors to be acquired, stored and transmitted.

Meters can be a combination of **Wi-LEM**, **Wi-CT**, Modbus, pulse output, or other EnOcean sensors such as temperature and humidity.

Energy Profiling

Data logged by the **DataStream** can be presented as energy profile charts within a standard Web Browser. The built in interactive charts allow you to view the logged data in a variety of formats including line and bar charts. In many applications the built in energy profiling application can be used in place of a full featured Monitoring and Targeting (aM&T) application.



Wi-LEM Wireless Energy Meter

- Wireless communication significantly reduces the time, cost and disruption involved in deploying sub-metering installations
- High accuracy; Class 1 meters
- Easy Installation - Split Core Current Transformer
- Long range - 140m to Mesh Node, 25m to Energy Meter Node
- Self powered from voltage line
- Choice of primary current ranges - 5 to 2000 Amps RMS
- Battery powered pulse input unit available for pulse output meters
- Links seamlessly to Synetica **DataStream** Energy Logger

Wi-LEM plus DataStream

- Records energy consumption at selectable intervals
- Reveals energy consumption in real time
- Built in energy charting
- Automatically streams data to host computer or Monitoring & Targeting (aM&T) software for further analysis
- Notifies excessive consumption via email / SMS text alerts
- Can be used stand alone or combined with Synetica's hosted energy Monitoring and Targeting software **EnergyAnalytics** to provide a complete energy management solution

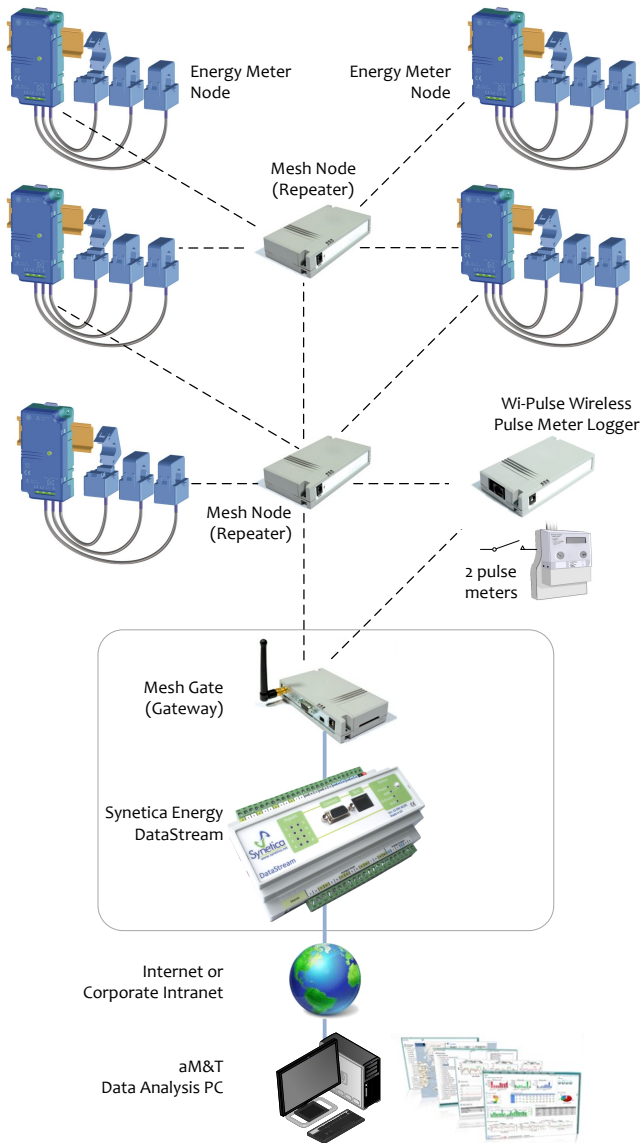


Carbon Footprint Analysis

Automatic calculation and graphical presentation of greenhouse gas emissions, also known as Carbon Footprint allows you to track environmental impact and any improvements achieved.

Energy Alerts

The **DataStream** can send email alerts when consumption limits are reached. For example when more energy is consumed in a given day or period than anticipated, then an email containing the energy profile data is automatically sent.



Analysis: The **Wi-LEM + DataStream** links directly to **EnergyAnalytics**; our web based energy management solution that provides a complete

aM&T, carbon reporting and asset management solution for single and multi site organisations. See the **EnergyAnalytics** brochure for further details.

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Synetica Limited. 18 Cameron Wharf. Stone. Staffs. ST15 8JX. U.K.

Features/Benefits

Mesh Wireless	Quick, simple installation with no cables to run.
Clip on Current Transformer (CT)	Easy installation; simply clips around the circuit to be monitored.
High accuracy	Class 1 accuracy Active Energy (kWh)
Long Range Wireless	140 metres to Mesh Nodes and 25 metres to Meter Nodes indoors.
Radio repeaters	Mesh nodes automatically form multiple redundant paths for robust connections.
Signal Strength Indicator	Gives RF strength link between two nodes (EMN or Mesh Node) simplifying the wireless network deployment.
Wide range of capacities	Available in 5 Amp to 2000 Amp versions.
Single and 3 phase versions	Available as a single phase and three phase meters, 2, 3 and 4 wire
Cost effective	Up to 64 Wi-LEM's can be connected to a single DataStream.
Automatic identification of new EMN Meters	Scalability & time saving for future site extension
Scaling factor auto-configuration	Saves time & reduces risk of errors

Specifications

Measurement types	Active Energy, Voltage, Current, Apparent Energy, Reactive Energy.
Accuracy	Active energy (kWh): Class 1.
Frequency	50/60Hz
Current Ranges	5A, 20A, 50A, 100A, 200A, 500A, 1000A, 2000A
Sensing aperture	< 100 A: 16mm. 200A-2000A: 75-85mm
Primary Voltage	90 to 300 V RMS
Battery Life (Wi-Pulse)	8 years (typical) at 300s transmission interval
Wireless standard	IEEE 802.15.4. License-free 2.4 GHz
RF output power	10dBm (10mW)

For model numbers, options and latest prices, please refer to SYN-PLM-0002 or contact your local distributor.

www.synetica.net

sales@synetica.net

SYN-PLM-0001A