CLAIMS

1. A method for acquiring data from at least one wireless sensor comprising the steps of:

activating, by a wake up module, a wake up mode upon a preset time interval, wherein the wake up mode comprises the steps of:

initialising, by an initialising module, the wireless sensor upon the activation of wake up mode;

retrieving, by a retrieval module, data from the wireless sensor;

calculating, by a calculation module, values of electrical parameters and associated measurements;

switching, by a power supply module, on a power supply of a wireless module;

establishing, by a wireless module, a communication link between the wireless module and a gateway of a remote server;

transmitting, by a transmission module, the calculated values to the remote server via the communication link;

generating and transmitting, by an acknowledgement module, an acknowledgement request signal to the remote server via the communication link so as to check if the remote server receives the calculated values;

and activating, by a sleep module, a sleep mode upon receiving a completion signal from the remote server, wherein the sleep mode comprises the step of:

switching, by the power supply module, off the power supply of the wireless module.

wherein the step of communicating and transmitting the values over the wireless network to the remote server through the gateway comprises the steps of:

initializing and setting number of re-tries permissible;

checking response from the remote server;

putting the wireless sensor on sleep mode if the number of re-tries to connect to

wireless network has exceeded; and
displaying notification in case failure to connect to wireless network.

2. A method according to claim 1, wherein the initialization process of the wireless sensor comprises the steps of:
checking which wireless sensor is connected to which current port;
incrementing associated variables for location and total count;
checking whether a correct combination of wireless sensors are connected; and
displaying error notification in case of incorrect combination.

3. A method according to claim 1, wherein the step of calculating the values of the electrical parameters and associated measurements comprises the steps of:
implementing a phase correction algorithm so as to improve timing efficiency when the process enters a sampling stage of measurements; and
sampling current in the ports based on the number of detected wireless sensor.

4. A method according to claim 1 further comprising the step of implementing an energy saving procedure based on accurate timing process, wherein the energy saving procedure includes the steps of:
powering on the wireless module when a transmission stage begins;
introducing delay to allow for boot up time of wireless module;
removing power from the wireless module completely; and
setting time of delay by using correction factor calculated from the time when the wireless sensor entered the sampling phase.

5. A system for acquiring data from at least one wireless sensor comprising:
a microcontroller module (10) in communication with:
at least one port (11, 12, 13) for connecting the wireless sensor,

a wake up module for activating a wake up mode,

a sleep module for activating a sleep mode,

an initialising module for initialising connected sensor upon the activation of the wake up mode,

a retrieval module for retrieving data from the wireless sensor, and

a calculation module for calculating values of electrical parameters and associated measurements,

a wireless module (14) for establishing a communication link between the wireless module (14) and a gateway (2) of a remote server (4),

a transmission module for transmitting the calculated values to the remote server (4) via the communication link,

a power supply module (16) for regulating the electrical power that supplies to the wireless module (14), and

an acknowledgement module for generating and transmitting an acknowledgement request signal to the remote server (4) via the communication link so as to check if the remote server (4) receives the calculated values;

wherein the wake up module activates the wake up mode upon a preset time interval;

wherein the sleep module activates the sleep mode upon receiving a completion signal from the remote server (4); and

wherein the power supply module (16) switches on the power supply of the wireless module (14) when the wake up mode is activated, and switches off when the sleep mode is activated;

characterised in that the transmission module comprises:

a computer-executable instruction for initializing and setting number of re-tries permissible;

a computer-executable instruction for checking response from the remote server (4);

a computer-executable instruction for putting the wireless sensor on sleep mode if the number of re-tries to connect to wireless network has exceeded; and

a computer-executable instruction for displaying notification in case failure to connect

to wireless network.

6. A system according to claim 5, wherein the initializing module comprises:

a computer-executable instruction for checking which wireless sensor is connected to which current port;

a computer-executable instruction for incrementing associated variables for location and total count;

a computer-executable instruction for checking whethera correct combination of sensors are connected; and

a computer-executable instruction for displaying error notification in case of incorrect combination.

7. A system according to claim 5, wherein the calculation module comprises:

a computer-executable instruction for implementing a phase correction algorithm so as to improve timing efficiency when the process enters a sampling stage of measurements; and

a computer-executable instruction for sampling current in the ports (11, 12, 13) based on the number of detected wireless sensor.

8. A system according to claim5, further comprising an energy saving module to implement an energy saving procedure based on accurate timing process, wherein the energy saving module comprises:

a computer-executable instruction for powering on the wireless module (14) when a transmission stage begins;

a computer-executable instruction for introducing delay to allow for boot up time of wireless module (14);

a computer-executable instruction for removing power from the wireless module (14) completely; and

a computer-executable instruction for setting time of delay by using correction factor calculated from the time when the wireless sensor entered the sampling phase.

5