What is claimed is:

1. A method for calibrating a communication and measuring circuit of an AC outlet via one of an optical signal and an RFID signal generated in close proximity by a loader, said circuit for measuring a power consumed by a load including elements selected from a group comprising one of a first socket and a terminal for applying said power to said load, at least one of a first optoport and a first RFID antenna accessed through the front of said first socket;

said loader including a communication and a calibrated circuit for measuring said power consumed by one of said load and a standard load, said calibrated circuit including elements selected from a group comprising a second plug complementary to said first socket, one of said standard load and a second socket, at least one of a second optoport and a second RFID antenna accessed through the front of said second plug;

said measuring circuit is programmed to calculate the power consumed by said load for transmitting a derived first value and receiving a calibration command, said calibrated circuit is programmed to calculate said

power consumed by said load and derive a calibrated value, receive said first value, compare said first value with said calibrated value and communicate said calibration command for calibrating said measuring circuit when said first value and said calibrated value do not match, said method comprising the steps of:

a. attaching said second plug to said first socket;

b. attaching said load to said second socket;

c. measuring the power consumed via said AC outlet;

d. transmitting said derived first value to said loader via one of said first optoport and said first RFID antenna;

e. measuring the power consumed via said loader;

f. comparing the received said first value with said calibrated value; and

g. communicating at least one calibrate command with said AC outlet via one of said second optoport and said second RFID antenna when said first value and said calibrated value do not match.

2. The method for calibrating a communication and measuring circuit according to claim 1, wherein said standard load is one a load of built into said loader and attached to said second socket for propagating to said AC outlet a command for calibration to a standard value, and wherein said measuring circuit is further programmed to compare said standard value with said first value for self-calibration.

3. The method for calibrating a communication and measuring circuit according to claim 1, wherein said measuring circuit is programmed to measure and calibrate a plurality of said first sockets associated with said AC outlet and said calibrating is repeated with each of the associated sockets individually, using one of said load and said standard load.

4. The method for calibrating a communication and measuring circuit according to claim 1, wherein said terminal is an AC power source connected via said measuring circuit and wherein said first optoport and said first RFID antenna are accessed through a surface of an enclosure containing said measuring circuit; and

said loader further includes at least one of a third optoport and a third RFID antenna accessible through its enclosure for enabling a close proximity communication with one of said first optoport and said first RFID antenna for exchanging said first value and said calibration commands.

5. The method for calibrating a communication and measuring circuit according to claim 1, wherein said calibrated circuit further comprises a programmed touch screen display and at least one of touch icons and keys for recalling commands and displays for at least one of an individual and combinations of basic AC values as measured by said calibrated circuit and said measuring circuit selected from a group comprising the AC voltage, an AC current drain by one of said load and said standard load, the AC frequency and said consumed power, said method further comprising the steps of:

f. comparing said at least one of said individual and combinations of said basic AC values;

g. deriving the values for at least one of self-calibration and calibrating said measuring circuit; and

h. recalling at least one said self-calibration and communicating said at least one calibrate command.

6. The method for calibrating a communication and measuring circuit according to claim 1, wherein said calibrated circuit further comprises a programmed touch screen display and at least one of touch icons and keys for recalling at least one of processing data selected from a group comprising reading, installing, loading, adding, updating, modifying, annexing, indexing, recording and erasing;

said touch icons and keys further recall the displaying of data selected from a group comprising AC outlets and sub outlets numbers, sockets and AC terminals numbers, room numbers and particulars, zone numbers and particulars, appliances on record and locations, appliance selection lists and codes, recorded appliances consumption data file, past power consumption data file, said method comprising the further steps of:

c. installing at least one of an allotted number to a given AC socket and its location;

d. recalling said appliance selection lists and codes for identifying a given appliance code;

e. installing and indexing the identified appliance code to said AC outlet number and location; and

f. adding the consumed power by the identified appliance into said recorded appliance consumption data file.

7. The method for calibrating a communication and measuring circuit according to claim 6, wherein one of an RFID tag recorded with a fixed unique code and a recordable blank RFID tag is attached to a front surface of an AC plug of a given appliance intended for mating with one socket of a plurality of AC outlets at random is plugged into said second socket for one of reading said unique code and installing an appliance code into said blank RFID tag via a fourth RFID antenna of said second socket;

mating said second plug with said intended for matting one socket for loading one of said unique code annexed to said selected appliance code and said selected appliance code into said appliances on record and

locations file of the measuring circuit of said one socket replacing said method steps d. and e. of claim 6.

8. The method for calibrating a communication and measuring circuit according to claim 7, wherein said measuring circuit further includes a rear optoport for communicating optical signals via an optical grid of a residence automation network for propagating and installing one of a newly recorded said selected appliance code and said selected appliance code annexed to said unique RFID code into said appliance on record file of each AC outlet of said automation network, said method further comprising the step of:

h. identifying said selected appliance when its plug is mated with any one of said AC outlets, sub outlets and sockets of said automation network at random.

9. The method for calibrating a communication and measuring circuit according to claim 1, wherein an imprinted and pre-coded RFID tag for a designated appliance is attached to a front surface of an AC plug of said designated appliance for mating with one of said AC outlet at random;

said pre-coded code is an allotted code to the designated appliance in an appliances list and codes stored by said measuring circuit and said calibrated circuit for identifying the appliance from close proximity when the AC plug is mated with one of said first socket and said second socket; and

said measuring circuit measures routinely and reporting the power consumed by said designated appliance by propagating said consumed power value along with said designated appliance particulars via a rear optoport included in said AC outlet to an optical grid of a residence and other premises automation network.

10. The method for calibrating a communication and measuring circuit according to claim 1, wherein said measuring circuit is contained in a power consumption adaptor for communicating optical signals with an optical receiver pertaining to one of current drain and power consumption data, said adaptor comprising a third plug for attachment to a non-intelligent AC outlet and a fifth optoport for connecting said adaptor to said optical receiver by an optical cable;

said optical receiver comprising at least one optoport for communicating with at least one of said AC outlets and said power consumption adaptors via an optical grid of said optical cables, a CPU, a memory and a driver circuit, said driver circuit including at least one of a low voltage bus-line driver and an RF transceiver, said method further comprising the steps of:

a. propagating at least one way of two way said optical signals;

b. receiving said one of current drain and power consumption data for processing the data;

c. converting the processed data into a low voltage electrical signal for reporting one of the current drain and power consumption via one of a low voltage bus-line and RF signal to a system controller.

11. A loader for calibrating a measuring circuit of an AC outlet via one of an optical signal and an RFID signal generated in close proximity to an AC outlet, said circuit for measuring a power consumed by a load including elements selected from a group comprising one of a first socket and a terminal for applying said power to said load, a rear optoport for reporting said

consumed power, at least one of a first optoport and a first RFID antenna accessed through the front of said first socket;

said loader including a calibrated circuit for measuring said power consumed by one of said load and a standard load, said calibrated circuit including elements selected from a group comprising a second plug complementary to said first socket, one of said standard load and a second socket for said load, a CPU, a memory, a driver circuit, at least one of a second optoport and a second RFID antenna accessed through the front of said second plug;

each said measuring circuit and said calibrated circuit further comprising at least one transceiver for communicating at least one way of two way signals via said first and second optoport, at least one RFID transceiver for exchanging RFID signals via said first and second antenna and combinations thereof;

said measuring circuit is programmed to calculate the power consumed by a load attached to said first socket direct and through said loader via said second socket for transmitting a derived first value and receiving a calibration command via said one of optical signal and

RFID signal generated in said close proximity of said second plug attached to said first socket;

said calibrated circuit is programmed to calculate the power consumed by said load and derive a calibration value, receive and compare said first value with said calibration value for communicating at least one command for calibrating said measuring circuit when said first value and said calibrated value do not match.

12. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said standard load is one of built into said loader and attached to said second socket for propagating to said AC outlet a command for calibration to a standard value, and wherein said measuring circuit is further programmed to compare said standard value with said first value for self-calibration.

13. The loader for calibrating a communication and measuring circuit according to claim 12, wherein said measuring circuit is programmed to measure and calibrate a plurality of sockets associated with said AC outlet and said calibration is repeated with each of

the associated sockets individually, using one of said load and said standard load.

14. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said terminal is an AC power source connected via said measuring circuit and wherein said first optoport and said first RFID antenna are accessed through a surface of an enclosure containing said measuring circuit; and

said loader further including at least one of a third optoport and a third RFID antenna accessible through its enclosure for enabling a close proximity communications with one of said first optoport and said first RFID antenna for exchanging said first value and said calibration command.

15. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said calibrated circuit further comprises a programmed touch screen display and at least one of touch icons and keys for recalling commands and displays for one of an individual and combinations of basic AC values as

measured by said calibrated circuit and said measuring circuit;

said basic AC values selected from a group comprising the AC voltage, an AC current drain by one of said load and said standard load, the AC frequency and said consumed power including comparison value of at least one of said individual and combinations of said basic AC values provide the data for deriving the calibration values and the processing of at least one of self-calibration and calibrating said power measuring circuit.

16. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said calibrated circuit further comprises a programmed touch screen display and at least one of touch icons and keys for recalling data displays selected from a group comprising AC outlets and sub outlets numbers, sockets and AC terminals numbers, room numbers and particulars, zone numbers and particulars, appliances on record and locations, appliance selection lists and codes, recorded appliances consumption data file and past power consumption data file;

said touch icons and keys further command the processing of data selected from a group comprising reading, installing, loading, adding, updating, modifying, annexing, indexing, recording and erasing for installing an allotted number to a given AC socket and its location, review said appliance selection lists and codes for installing and indexing an identified appliance code to said given AC socket number and location, adding said identified appliance to said appliance on record and location and recording the power consumed by said identified appliance into said recorded appliance consumption data file.

17. The loader for calibrating a communication and measuring circuit according to claim 16, wherein one of an RFID tag recorded with a fixed unique code and a recordable blank RFID tag is attached to a front surface of an AC plug of a given appliance intended for mating with one socket of a plurality of AC outlets at random is plugged into said second socket for one of reading said unique code and installing an appliance code into said blank RFID tag via a fourth RFID antenna of said second socket;

mating said second plug with said intended for matting one socket for loading one of said unique code annexed to said selected appliance code and said selected appliance code into said appliances on record and locations file of the measuring circuit of said socket.

18. The loader for calibrating a communication and measuring circuit according to claim 17, wherein said measuring circuit is communicating optical signals via said rear optoport and via an optical grid of a residence automation network for propagating and installing one of a newly recorded said selected appliance code and said selected appliance code annexed to said unique RFID code into said appliance on record file of each AC outlet of said automation network for identifying said selected appliance when its plug is mated with any one of said AC outlets, sub outlets and sockets of said automation network at random.

19. The loader for calibrating a communication and measuring circuit according to claim 11, wherein an imprinted and pre-coded RFID tag for a designated appliance is attached to a front surface of an AC plug

of said designated appliance for mating with one of said AC outlet at random;

said pre-coded code is an allotted code to the designated appliance in an appliances list and codes stored by said measuring circuit and said calibrated circuit for identifying the appliance from close proximity when the AC plug is mated with one of said first socket and said second socket; and

said measuring circuit measures routinely and reporting the power consumed by said designated appliance by propagating said consumed power value along with said designated appliance particulars via said rear optoport to an optical grid of a residence and other premises automation network.

20. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said measuring circuit is contained in a power consumption adaptor for communicating optical signals pertaining to one of current drain and power consumption data with an optical receiver, said adaptor comprising a third plug for mating with a non-intelligent AC outlet and a fifth

optoport for connecting said adaptor to said optical receiver by an optical cable;

said receiver comprising at least one optoport for communicating with at least one of said AC outlets and said power consumption adaptors via an optical grid of said optical cables, a CPU, a memory and a driver circuit for propagating at least one way of two way said optical signals and for receiving said one of current drain and power consumption data for processing the data;

said driver circuit further including at least one of a low voltage bus-line driver and an RF transceiver for converting the processed data into a low voltage electrical signal for reporting one of the current drain and power consumption via one of a low voltage bus-line and RF signal to a system controller.

CLAIMS

1. A method for calibrating a communication and measuring circuit of an AC outlet via one of an optical signal and a radio frequency identification (RFID) signal generated in close proximity by a loader, said circuit for measuring a power consumed by a load including elements selected from a group comprising one of a first socket and a terminal for applying said power to said load, at least one of a first optoport and a first RFID antenna accessed through the front of said first socket;

said loader including a communication and a calibrated circuit for measuring said power consumed by one of said load and a standard load, said calibrated circuit including elements selected from a group comprising a second plug complementary to said first socket, one of said standard load and a second socket, at least one of a second optoport and a second RFID antenna accessed through the front of said second plug;

said measuring circuit is programmed to calculate the power consumed by said load and to transmit a derived first value and receive a calibration command, said calibrated circuit is programmed to calculate said power consumed by said load and derive a calibrated value, receive said first value, compare with the calibrated value and communicate said calibration command for calibrating said measuring circuit when said first value and said calibrated value do not match, said method comprising the steps of:

a. attaching said second plug to said first socket;

b. attaching said load to said second socket;

c. measuring the power consumed via said AC outlet;

d. transmitting said derived first value to said loader via one of said first optoport and said first RFID antenna;

e. measuring the power consumed via said loader;

f. comparing the received said first value with the derived calibrated value; and

g. communicating at least one calibration command with said AC outlet via one of said second optoport and said second RFID antenna when said comparing do not match.

2. The method for calibrating a communication and measuring circuit according to claim 1, wherein said standard load is one of built into said loader and attached to said second socket for propagating to said AC outlet a command for calibration to a standard value, and wherein said measuring circuit is further programmed to compare said standard value with said first value for self-calibration.

3. The method for calibrating a communication and measuring circuit according to claim 2, wherein said measuring circuit is programmed to measure and calibrate a plurality of said first sockets associated with at least one of said AC outlet and said calibrating is repeated with each of the associated sockets individually, using one of said load and said standard load.

4. The method for calibrating a communication and measuring circuit according to claim 3, wherein said calibrated circuit further comprising a programmed touch screen display and at least one of touch icons and keys for recalling at least one of processing data selected from a group comprising reading, installing, loading, adding, updating, modifying, annexing, indexing, recording and erasing;

said touch icons and keys further recall the displaying of data selected from a group comprising AC outlets and sub outlets numbers, sockets and AC terminals numbers, room numbers and particulars, zone numbers and particulars, appliances on record and locations, appliance selection lists and codes, recorded appliances consumption data file,

past power consumption data file, said method comprising the further steps of:

h. installing at least one of an allotted number to a given AC socket and its location;

i. recalling said appliance selection lists and codes for identifying a given appliance code;

j. installing and indexing the identified appliance code to said AC outlet number and location; and

k. adding the consumed power by the identified appliance into said recorded appliance consumption data file.

5. The method for calibrating a communication and measuring circuit according to claim 4, wherein one of an RFID tag recorded with a fixed unique code and a recordable blank RFID tag is attached to a front surface of an AC plug of a given appliance intended for mating with one socket of a plurality of AC outlets at random for one of reading said unique code and installing an appliance code into said blank RFID tag via a fourth RFID antenna of said second socket, said method comprising the further steps of:

l. attaching said second plug to said one socket intended for mating at random;

m. attaching said AC plug of said given appliance into said second socket;

n. installing into each of said plurality of AC outlets at least one of its location and an allotted number;

o. reading one of said fixed unique code from said recorded RFID tag and said given appliance code from said appliance selection lists and codes; and

p. installing one of the identified appliance code into said blank RFID tag and the read said fixed unique code into said one socket.

6. The method for calibrating a communication and measuring circuit according to claim 5, wherein said measuring circuit further including a rear optoport for communicating optical signals via an optical grid of a premises automation network for propagating and installing one of the newly recorded said identified appliance code and said unique RFID code into said appliance on record file of each AC outlet of said automation network, said method further comprising the step of:

q. connecting said rear optoport to said optical network; and

r. identifying said selected appliance when its plug is mated with any one of said plurality of AC outlets, sub outlets and sockets of said automation network at random.

7. The method for calibrating a communication and measuring circuit according to claim 6, wherein an imprinted and pre-coded RFID tag for a designated appliance is attached to a front surface of an AC plug of said designated appliance for mating with one of said AC outlet at random;

said pre-coded code is an allotted code to the designated appliance in said appliances list and codes stored by said measuring circuit and said calibrated circuit for identifying the appliance from close proximity when the AC plug is mated with one of said first socket and said second socket; and

said measuring circuit measures routinely and reporting the power consumed by said designated appliance by propagating said consumed power value along with said designated appliance particulars via said rear optoport to said optical grid.

8. The method for calibrating a communication and measuring circuit according to claim 2, wherein said calibrated circuit further comprising a programmed touch screen display and at least one of touch icons and keys for recalling commands and displays for at

least one of an individual and combinations of basic AC values as measured by said calibrated circuit and said measuring circuit selected from a group comprising the AC voltage, an AC current drain by one of said load and said standard load, the AC frequency and said consumed power, said method further comprising the steps of:

h. comparing said at least one of said individual and combinations of said basic AC values;

i. deriving the values for at least one of self-calibration and calibrating said measuring circuit; and

j. recalling at least one said self-calibration and communicating said at least one calibrate command.

9. The method for calibrating a communication and measuring circuit according to claim 3, wherein said measuring circuit is contained in a power consumption adaptor for communicating optical signals with an optical receiver pertaining to one of current drain and power consumption data, said adaptor comprising a third plug for attachment to a non-intelligent AC outlet and a fifth optoport for connecting said adaptor to said optical receiver by an optical cable;

said optical receiver comprising at least one optoport for communicating with at least one of said AC outlet and said power consumption adaptor via an optical grid of said optical cables, a CPU, a memory and a driver circuit, said driver circuit including at least one of a low voltage bus-line driver and an RF transceiver, said method further comprising the steps of:

h. attaching said second plug to said non intelligent AC outlet via said power consumption adaptor and connecting said fifth optoport to said optical receiver via said optical cable;

i. attaching said load to said second socket;

j. propagating at least one way of two way said optical signals;

k. receiving said one of current drain and power consumption data for processing the data;

l. converting the processed data into a low voltage electrical signal for reporting one of the current drain and power consumption via one of a low voltage bus-line and RF signal to a system controller.

10. The method for calibrating a communication and measuring circuit according to claim 1, wherein said terminal is an AC power source connected via said measuring circuit and wherein said first optoport and said first RFID antenna are accessed through a surface of an enclosure containing said measuring circuit; and

said loader further including at least one of a third optoport and a third RFID antenna accessible through its enclosure for enabling a close proximity communications with one of said first optoport and said first RFID antenna for exchanging said first value and said calibration commands.

11. A loader for calibrating a measuring circuit of an AC outlet via one of an optical signal and a radio frequency identification (RFID) signal generated in close proximity to an AC outlet, said circuit for measuring a power consumed by a load including elements selected from a group comprising one of a first socket and a terminal for applying said power to said load, a rear optoport for reporting said consumed power, at least one of a first optoport and a first RFID antenna accessed through the front of said first socket;

said loader including a calibrated circuit for measuring said power consumed by

one of said load and a standard load, said calibrated circuit including elements selected from a group comprising a second plug complementary to said first socket, one of said standard load and a second socket for said load, a CPU, a memory, a driver circuit, at least one of a second optoport and a second RFID antenna accessed through the front of said second plug;

each said measuring circuit and said calibrated circuit further comprising at least one transceiver for communicating at least one way of two way signals via said first and second optoport, at least one RFID transceiver for exchanging RFID signals via said first and second antenna and combinations thereof;

said measuring circuit is programmed to calculate the power consumed by a load attached to said first socket direct and through said loader via said second socket for transmitting a derived first value and receiving a calibration command via said one of optical signal and RFID signal generated in said close proximity of said second plug attached to said first socket;

said calibrated circuit is programmed to calculate the power consumed by said load and derive a calibration value, receive and compare said first value with said calibration value for communicating at least one command for calibrating said measuring circuit when said first value and said calibrated value do not match.

12. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said standard load is one of built into said loader and attached to said second socket for propagating to said AC outlet a command for calibration to a standard value, and wherein said measuring circuit is further programmed to compare said standard value with said first value for self-calibration.

13. The loader for calibrating a communication and measuring circuit according to claim 12, wherein said measuring circuit is programmed to measure and calibrate a plurality of sockets associated with said AC outlet and said calibration is repeated with each of the associated sockets individually, using one of said load and said standard load.

14. The loader for calibrating a communication and measuring circuit according to claim 13, wherein said calibrated circuit further comprising a programmed touch screen display and at least one of touch icons and keys for recalling data displays selected from a group comprising AC outlets and sub outlets numbers, sockets and AC terminals numbers, room numbers and particulars, zone numbers and particulars, appliances on record and locations, appliance selection lists and codes, recorded appliances consumption data file and past power consumption data file;

said touch icons and keys further command the processing of data selected from a group comprising reading, installing, loading, adding, updating, modifying, annexing, indexing, recording and erasing for installing an allotted number to a given AC socket and its location, review said appliance selection lists and codes for installing and indexing an identified appliance code to said given AC socket number and location, adding said identified appliance to said appliance on record and location and recording the power consumed by said identified appliance into said recorded appliance consumption data file.

15. The loader for calibrating a communication and measuring circuit according to claim 14, wherein one of an RFID tag recorded with a fixed unique code and a recordable blank RFID tag is attached to a front surface of an AC plug of a given appliance intended for mating with one socket of a plurality of AC outlets at random is plugged into said second socket for one of reading said unique code and installing an appliance code into

said blank RFID tag via a fourth RFID antenna of said second socket;

said loader further comprising means of mating said second plug with said intended for matting one socket for loading one of said unique code annexed to said selected appliance code and said selected appliance code into said appliances on record and locations file of the measuring circuit of said socket.

16. The loader for calibrating a communication and measuring circuit according to claim 15, wherein said measuring circuit is communicating optical signals via said rear optoport and via an optical grid of a premises automation network for propagating and installing one of the newly recorded said selected appliance code and said read code from said unique RFID code into said appliance on record file of each AC outlet of said automation network for identifying said selected appliance when its plug is mated with any one of said AC outlets, sub outlets and sockets of said automation network at random.

17. The loader for calibrating a communication and measuring circuit according to claim 16, wherein an imprinted and pre-coded RFID tag for a designated appliance is attached to a front surface of an AC plug of said designated appliance for mating with one of said AC outlet at random;

said pre-coded code is an allotted code to the designated appliance in said appliances list and codes stored by said measuring circuit and said calibrated circuit for identifying the appliance from close proximity when the AC plug is mated with one of said first socket and said second socket; and

said measuring circuit measures routinely and reporting the power consumed by said designated appliance by propagating said consumed power value along with said designated appliance particulars via said rear optoport to said optical grid.

18. The loader for calibrating a communication and measuring circuit according to claim 13, wherein said measuring circuit is contained in a power consumption adaptor for communicating optical signals pertaining to one of current drain and power consumption data with an optical receiver, said adaptor comprising a third plug for mating with a non-intelligent AC outlet and a fifth optoport for connecting said adaptor to said optical receiver by an optical cable;

said receiver comprising at least one optoport for communicating with at least one of said AC outlets and said power consumption adaptor via an optical grid of said optical cables, a CPU, a memory and a driver circuit for propagating at least one way of two way said optical signals and for receiving said one of current drain and power consumption data for processing the data;

said driver circuit further including at least one of a low voltage bus-line driver and an RF transceiver for converting the processed data into a low voltage electrical signal for reporting one of the current drain and power consumption via one of a low voltage bus-line and RF signal to a system controller.

19. The loader for calibrating a communication and measuring circuit according to claim 12, wherein said calibrated circuit further comprising a programmed touch screen display and at least one of touch icons and keys for recalling commands and displays for one of an individual and combinations of basic AC values as measured by said calibrated circuit and said measuring circuit;

said basic AC values selected from a group comprising the AC voltage, an AC current drain by one of said load and said standard load, the AC frequency and said consumed power including comparison value of at least one of said individual and combinations of said basic AC values provide the data for deriving the calibration values

and the processing of at least one of self-calibration and calibrating said power measuring circuit.

20. The loader for calibrating a communication and measuring circuit according to claim 11, wherein said terminal is an AC power source connected via said measuring circuit and wherein said first optoport and said first RFID antenna are accessed through a surface of an enclosure containing said measuring circuit; and

said loader further including at least one of a third optoport and a third RFID antenna accessible through its enclosure for enabling a close proximity communications with one of said first optoport and said first RFID antenna for exchanging said first value and said calibration command.