What is claimed is:

1. A method for powering a current sensor circuit by a step up current transformer comprising a low ohmic alloy wire wound primary coil and a copper wire wound secondary coil, said circuit comprising a current signal amplifier, a CPU and a DC converter connected to said secondary coil;

said primary coil is connected to an input of said amplifier and between a load and an AC power source, said method comprising the steps of:

applying an AC power for operating said load, initiating a current drain and a voltage drop across said low ohmic primary coil;

outputting a stepped up secondary output voltage augmented by said voltage drop;

coverting said stepped up output voltage to a DC for powering said circuit;

amplifying said voltage drop; and

feeding an amplified signal pertaining the drained current to said CPU for processing.

2. The method for powering a current sensor circuit according to claim 1, wherein said circuit further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

3. The method for powering a current sensor circuit according to claim 1, wherein said circuit is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

4. The method for powering a current sensor circuit according to claim 3, wherein said circuit further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power via at least one of in air and through an optical cable respectively.

5. The method for powering a current sensor circuit according to claim 1, wherein said secondary coil further comprising a plurality of taps for outputting a diverse voltages each commensurate with a given

range of said current drain, said circuit further comprising a selector for connecting one voltage of said diverse voltages to said converter, selectively operatable by at least one of said voltage drop and said diverse voltages.

6. The method for powering a current sensor circuit according to claim 5, wherein one of said diverse voltages commensurate with an over current drain above said given range for generating an overload alert.

7. A method for increasing the current sensing output signal of a current transformer included in a current sensor comprising a current signal amplifier and a CPU, said current transformer comprising a copper wire wound secondary coil and a low ohmic alloy wire wound primary coil, said primary coil is connected between a load and an AC power source, said secondary coil is connected to an input of said amplifier, said method comprising the steps of:

applying an AC power for operating said load, initiating a current drain and an increased voltage drop across said low ohmic primary coil;

outputting a stepped up secondary output voltage augmented by said voltage drop;

amplifying said output voltage; and

feeding an amplified signal pertaining the drained current to said CPU for processing.

8. The method for increasing the current sensing output according to claim 7, wherein said current sensor further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

9. The method for increasing the current sensing output according to claim 7, wherein said current sensor is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

10. The method for increasing the current sensing output according to claim 9, wherein said current sensor further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed

data pertaining the consumed power, via at least one of in air and through an optical cable respectively.

11. A method for sensing a current drain of a load by processing a voltage drop over a structured portion of a low ohmic alloy based terminal selected from a group comprising a power pin, a power socket and a combination thereof, said terminal connects between said load and an AC power source through said portion structured to fit a size, a shape and a given low ohmic value for connecting and feeding a voltage drop commensurate with said current drain to an input of a current signal amplifier of a current sensor;

said amplifier connects to a CPU included in said current sensor, said method comprising the steps of:

applying an AC power for operating said load, initiating a current drain and a voltage drop across said structured portion of a low ohmic alloy based terminal;

amplifying said voltage drop; and

feeding an amplified signal pertaining the drained current to said CPU for processing.

12. The method for sensing current drain according to claim 11, wherein said current sensor further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

13. The method for sensing current drain according to claim 11, wherein said current sensor is fed with a voltage reference of said AC power for processing each said amplified current drain signal coinciding with said reference for deriving the power consumed by each of said loads.

14. The method for sensing current drain according to claim 13, wherein said current sensor further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining said consumed power via at least one of in air and through an optical cable respectively.

15. The method for sensing current drain according to claim 11, wherein said terminal is structured with a plurality of sockets for use in a multi AC power outlet, each said socket includes one said structured

portion for connecting and feeding a voltage drop to an input of one of a plurality of current signal amplifiers;

connecting each output of said plurality of amplifiers to one input of a plurality of inputs included in said CPU, said terminal is connected to an AC power source, said method comprising the further steps of:

connecting each said socket to one load of a plurality of loads;

applying power to said terminal; and

feeding amplified signals pertaining the current drained by each said load to said CPU for processing each amplified signal individually.

16. The method for sensing current drain according to claim 15, wherein said current sensor further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current by at least one of each individual load and a combined current drain by all loads via at least one of in air and through an optical cable respectively.

17. The method for sensing current drain according to claim 15, wherein said current sensor is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the consumed power by at least one of each individual load and a combined consumed power by all loads.

18. The method for sensing current drain according to claim 17, wherein said current sensor further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power by at least one of said each individual load and said combined consumed power by all loads via at least one of in air and through an optical cable respectively.

19. A step up current sensing transformer comprising a low ohmic alloy wire wound primary coil for increasing the voltage drop across the primary terminals by a current drained through it and a copper wire wound secondary coil for outputting one of an increased signal level augmented by said voltage drop for measuring said current drained and a given voltage range for powering

a circuit by a given range of current flow through said primary.

20. A step up current sensing transformer according to claim 19, wherein said voltage drop is used for measuring said drained current.

21. A step up current sensing transformer according to claim 19, wherein said secondary coil comprising plurality of taps for outputting diverse voltages for widening said given range of current flow.

22. A current sensing low ohmic alloy terminal selected from a group comprising a power pin, a power socket and a combination thereof including a structured portion in a size, a shape and a given low ohmic value for current sensing by a current sensor assembly selected from a group comprising a power plug, a power socket, a plug-in current sensor, a power outlet and a cable assembly with at least one of a power plug and a power socket.

23. The current sensing low ohmic alloy terminal according to claim 22, wherein said terminal comprising plurality of sockets each includes said portion for

current sensing by a plurality of power sockets included in a multi power outlet device selected from a group comprising a wall mounted power outlet, a plug-in power adaptor and an extension power cable assembly.

24. An AC current sensor comprising a step up current transformer, a DC converter, a current signal amplifier and a CPU, said current transformer comprising a copper wire wound secondary coil and a low ohmic ally wire wound primary coil for increasing the voltage drop across the primary terminals by a current drained through it to a measurable level and augmenting a stepped up output voltage by said secondary coil;

said primary coil is connected between an AC power source and a load and to an input of said amplifier, said secondary coil is connected to said DC converter for converting its output to DC for powering said current sensor when a current is drained by said load and an amplified current drain signal is fed to said CPU for processing.

25. The AC current sensor according to claim 24, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

26. The AC current sensor according to claim 24, wherein said CPU is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

27. The AC current sensor according to claim 26, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power via at least one of in air and through an optical cable respectively.

28. The AC current sensor according to claim 19, wherein said secondary coil further comprising a plurality of taps for outputting a diverse voltages each commensurate with a given range of said current drain, said current sensor further comprising a selector for connecting one voltage of said diverse voltages to

said converter, selectively operatable by at least one of said voltage drop and said diverse voltages.

29. The AC current sensor according to claim 28, wherein one of said diverse voltages commensurate with an over current drain above said given range for generating an overload alert.

30. The AC current sensor according to claim 28, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

31. The AC current sensor circuit according to claim 28, wherein said CPU is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

32. The AC current sensor circuit according to claim 31, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power via at least one of in air and through an optical cable respectively.

33. An AC current sensor comprising a step up current transformer, a current signal amplifier and a CPU, said current transformer comprising a copper wire wound secondary coil and a low ohmic alloy wire wound primary coil for increasing the voltage drop across said primary coil and thereby augmenting an increase of a stepped up voltage level by said secondary coil;

said primary coil is connected between an AC power source and a load and said secondary coil is connected to an input of said amplifier for outputting an amplified current drain signal to said CPU for processing when a current is drained by said load.

34. The AC current sensor according to claim 33, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

35. The AC current sensor circuit according to claim 33, wherein said CPU is fed with a voltage reference of said AC power for processing said amplified current

drain signal coinciding with said reference for deriving the power consumed by said load.

36. The AC current sensor circuit according to claim 35, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power via at least one of in air and through an optical cable respectively.

37. An AC current sensor comprising a terminal made of a low ohmic alloy, a current signal amplifier and a CPU, said terminal is selected from a group comprising a power pin, a power socket and a combination thereof including a portion structured to fit a size, a shape and a low ohmic value for introducing a low ohmic sensing element to said current sensor;

said terminal is connected between a load and an AC power source via said sensing element and to an input of said amplifier for amplifying a voltage drop developed over said sensing element by a current drained by said load, and said amplifier feeds an amplified current drain signal to said CPU for processing.

38. The AC current sensor according to claim 37, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current via at least one of in air and through an optical cable respectively.

39. The AC current sensor circuit according to claim 37, wherein said CPU is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

40. The AC current sensor circuit according to claim 39, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power via at least one of in air and through an optical cable respectively.

41. The current sensor according to claim 37, wherein said terminal is structured with a plurality of sockets for use in a multi AC power outlet, each said socket includes one said sensing element of said structured portion for connecting the voltage drop developed over it to an input of one of a plurality of current signal amplifiers included in said current sensor;

said terminal connects to an AC power source and each said socket of said power outlet connects to one load, each amplifier of said plurality of current signal amplifiers feed its amplified current drain signal to said CPU for processing each current drain individually.

42. The AC current sensor according to claim 41, further comprising at least one of an RF transceiver and an optical transceiver for propagating a processed data pertaining the drained current by at least one of each individual load and a combined current drain by all loads via at least one of in air and through an optical cable respectively.

43. The AC current sensor circuit according to claim 41, wherein said CPU is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the consumed power by at least one of each individual load and a combined consumed power by all loads.

44. The method for powering a current sensor circuit according to claim 43, further comprising at least one

of an RF transceiver and an optical transceiver for propagating a processed data pertaining the consumed power by at least one of said each individual load and said combined consumed power by all loads via at least one of in air and through an optical cable respectively.

45. The AC current sensor according to claim 24 enclosed in one of a body and a cover with a visible color coded ratings selected from a group comprising a power consumption range, a power consumption value, a current drain range, a current drain value, a power voltage range, a power voltage value, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.

46. The AC current sensor according to claim 28 enclosed in one of a body and a cover with a visible color coded ratings selected from a group comprising a power consumption range, a power consumption value, a current drain range, a current drain value, a power voltage range, a power voltage value, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.

47. The AC current sensor according to claim 33 is enclosed in one of a body and a cover with selected from a group comprising a power consumption range code, a current drain range code, a power voltage code, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.

48. The AC current sensor according to claim 37 is enclosed in one of a body and a cover with selected from a group comprising a power consumption range code, a current drain range code, a power voltage code, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.

49. The AC current sensor according to claim 41 is enclosed in one of a body and a cover with selected from a group comprising a power consumption range code, a current drain range code, a power voltage code, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.

CLAIMS

1. A method for sensing AC current drain through one of a coiled and a structured current sensor made of a low ohmic metal alloy by a load attached to an electrical device selected from a group comprising AC outlet, AC plug, AC current sensing unit and AC current sensing adaptor each including said one of coiled and structured current sensor structured into a portion of at least one of a terminal selected from a group comprising a power pin, a power socket, AC terminal and combinations thereof for connecting and conducting the current drawn by said load through said current sensor, said electrical device further includes circuits comprising a CPU and a current signal amplifier for amplifying a voltage drop developing over said current sensor, said method comprising the steps of:

   a. attaching a load to said AC device;

   b. operating said load;

   c. feeding the voltage drop developing over said current sensor made of low ohmic metal alloy to said amplifier;

   d. amplifying said voltage drop signal; and

   e. feeding the amplified signal to said CPU for processing.

2. The method according to claim 1, wherein said one of coiled and structured current sensor structured into the portion of said terminal is made to fit a size, a shape and a given low ohmic value for developing a voltage drop commensurate within one of a given current drain values and range, said CPU is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

3. The method according to one of claims 1 and 2, wherein said circuits further comprising at least one of an RF transceiver and an optical transceiver for communicating a processed data pertaining to at least one of the current drained and the consumed power via at least one of in air and through an optical cable respectively.

4. The method according to anyone of claims 1 to 3, wherein said power socket is structured with a plurality of sockets for use in a multi AC power outlet, each said socket includes individual current signal amplifier and one of said coiled and structured current sensor for feeding each individual voltage drop to said individual current signal amplifier for feeding the individually amplified signal to one port of a plurality of ports included in said CPU for processing.

5. The method according to anyone of claims 1 to 4, wherein said current sensor is one of structured into a portion of a combination terminal comprising said power pin with said power socket used in said AC current sensing adaptor and said coiled current sensor included in said AC current sensing unit.

6. The method according to anyone of claims 1 to 5, wherein said coiled current sensor is a primary coil of a current transformer and wherein a secondary coil of said transformer is structured to output one of a single step-up voltage for powering said circuits and multi step-up voltages for at least one of setting the amplification factor for said amplifier and feeding an overload alert signal to said transceiver.

7. The method according to anyone of claims 1 to 6, wherein said electrical device is enclosed in one of a body and a cover with a visible color coded ratings selected from a group comprising a power consumption range, a power consumption value, a current drain range, a current drain value, a power voltage range, a power voltage value, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.

8. An apparatus for sensing AC current drain through one of a coiled and a structured current sensor made of a low ohmic metal alloy by a load attached to an electrical device selected from a group comprising AC outlet, AC plug, AC current sensing unit and AC current sensing adaptor each including said one of coiled and structured current sensor structured into a portion of at least one of a terminal selected from a group comprising a power pin, a power socket, AC terminal and a combination thereof;

said electrical device further includes circuits comprising a CPU and a current signal amplifier for amplifying a voltage drop developing over said current sensor by the current drawn by a connected load for feeding the amplified signal to said CPU for processing.

9. The apparatus according to claim 8, wherein one of said coiled and said structured into a portion of said terminal is made to fit a size, a shape and a given low ohmic value for developing a voltage drop commensurate within one of a given current drain values and range, said CPU is fed with a voltage reference of said AC power for processing said amplified current drain signal coinciding with said reference for deriving the power consumed by said load.

10. The apparatus according to one of claims 8 and 9, wherein said circuits further comprising at least one of an RF transceiver and an optical transceiver for communicating a processed data pertaining to at least one of the current drained and the consumed power via at least one of in air and through an optical cable respectively.

11. The apparatus according to anyone of claims 8 to 10, wherein said power socket is structured with a plurality of sockets for use in a multi AC power outlet, each said socket includes individual current signal amplifier and one of said coiled and structured current sensor for feeding each individual voltage drop to said individual current signal amplifier for feeding the individually amplified signal to one port of a plurality of ports included in said CPU for processing.

12. The apparatus according to anyone of claims 8 to 9, wherein said current sensor is one of structured into a portion of a combination terminal comprising said power pin with said power socket used in said AC current sensing adaptor and said coiled current sensor is included in said AC current sensing unit.

13. The apparatus according to anyone of claims 8 to 12, wherein said coiled current sensor is a primary coil of a current transformer and wherein a secondary coil of said transformer is structured to output one of a single step-up voltage for powering said circuits and multi step-up voltages for at least one of setting the amplification factor for said amplifier and feeding an overload alert signal to said transceiver.

14. The apparatus according to anyone of claims 8-13, wherein said electrical device is enclosed in one of a body and a cover with a visible color coded ratings selected from a group comprising a power consumption range, a power consumption value, a current drain range, a current drain value, a power voltage range, a power voltage value, a colored front cover, a colored rear cover, a colored frame, a colored whole body and combinations thereof.