WHAT IS CLAIMED IS:

1. An optical meter reader apparatus ~~(100)~~ for reading data from a meter, the optical meter reader apparatus ~~(100)~~ comprising:

a housing ~~(102)~~;

a housing extension ~~(120)~~ connected to the housing ~~(102)~~, the housing extension ~~(120)~~ having a flat face ~~(120A)~~;

a first slot ~~(130)~~ formed on the flat face ~~(120A)~~;

a second slot ~~(132)~~ formed on the flat face ~~(120A)~~; and

a first port formed on the flat face and configured to allow a first infrared wave to exit the housing extension;

a second port formed on the flat face and configured to allow a second infrared wave to enter the housing extension; and

an optical communication module ~~(730)~~ located within the housing ~~(102)~~ and the housing extension ~~(120)~~ and configured to exchange information with the meter ~~(400)~~ using the first and second infrared waves,

wherein a longitudinal axis of the firs slot is perpendicular to a longitudinal axis of the second slot.

2. The optical meter reader apparatus of Claim 1, wherein the first and second slots are rectangular.

~~3. The optical meter reader apparatus of Claim 1, wherein a longitudinal axis of the first slot is perpendicular to a longitudinal axis of the second slot.~~

~~4~~3. The optical meter reader apparatus of Claim 1, wherein the first and second slots are located diametrically opposite to each other and the flat face is circular.

~~5~~4. The optical meter reader apparatus of Claim 1, wherein the optical communication module comprises:

an infrared light emitting diode that emits the first infrared ~~light~~wave; and

a photodiode that detects the data ~~as~~ from the second infrared ~~light~~wave.

~~6~~5. The optical meter reader apparatus of Claim ~~5~~4, further comprising:

a microprocessor that is configured to control the infrared light emitting diode and to receive the data from the photodiode.

~~7~~6. The optical meter reader apparatus of Claim ~~6~~5, further comprising:

a radio-frequency module that transmits the data in a wireless manner.

~~8~~7. The optical meter reader apparatus of Claim ~~7~~6, further comprising:

an antenna attached to the housing and electrically connected to the radio-frequency module.

~~9~~8. The optical meter reader apparatus of Claim ~~8~~7, further comprising:

a power source.

~~10~~9. A system ~~(100, 400)~~ for reading information from a meter ~~(400)~~ and transmitting the information to a server ~~(804)~~, the system comprising:

a meter ~~(400)~~ configured to estimate an amount of a product delivered by an utility throughout the meter;

a coupling device ~~(420)~~ attached to a face ~~(410)~~ of the meter ~~(400)~~; and

an optical meter reader apparatus ~~(100)~~ for reading the information from the meter ~~(400)~~,

wherein the optical meter reader apparatus has a housing and a housing extension, and the housing extension ~~(100)~~ is detachably attached to the coupling device,

wherein the housing extension is configured to exchange no electrical current with the coupling device, and

wherein the optical meter reader apparatus further comprises:

the housing;

the housing extension connected to the housing, the housing extension having a flat face;

the first slot formed on the flat face;

the second slot formed on the flat face;

a first port formed on the flat face and configured to allow a first infrared wave to exit the housing extension;

a second port formed on the flat face and configured to allow a second infrared wave to enter the housing extension; and

an optical communication module located within the housing and the housing extension and configured to exchange the information with the meter using the first and second infrared waves ~~(420)~~.

~~11~~10. The system of Claim ~~10~~9, wherein the coupling device comprises:

a metallic plate ~~(422)~~ attached to the face ~~(410)~~ of the meter, the metallic plate having a slot that allows an optical communication module ~~(450)~~ of the meter to freely exchange an infrared beam with the optical meter reader apparatus.

~~12~~11. The system of Claim ~~11~~10, wherein the metallic plate has first and second blocks that fit inside first and second slots of the optical meter reader apparatus.

~~13. The system of Claim 12, wherein the optical meter reader apparatus further comprises:~~

~~a housing (102);~~

~~a housing extension (120) connected to the housing (102), the housing extension (120) having a flat face (120A);~~

~~the first slot (130) formed on the flat face (120A);~~

~~the second slot (132) formed on the flat face (120A); and~~

~~an optical communication module (730) located within the housing (102) and the housing extension (120) and configured to exchange the information with the meter (400).~~

14~~2~~. The system of Claim ~~13~~9, wherein the first and second slots and the first and second blocks are rectangular.

~~15~~13. The system of Claim ~~13~~9, wherein a longitudinal axis of the first slot is perpendicular to a longitudinal axis of the second slot.

~~16~~14. The system of Claim ~~13~~9, wherein the first and second slots are located diametrically opposite to each other and the flat face is circular.

~~17~~15. The system of Claim ~~13~~9, wherein the optical communication module of the optical meter reader apparatus comprises:

an infrared light emitting diode that emits the first infrared ~~light~~wave; and

a photodiode that detects the information ~~as~~ from the second infrared ~~light~~wave.

~~18~~16. The system of Claim ~~17~~15, wherein the optical meter reader apparatus further comprises:

a microprocessor that is configured to control the infrared light emitting diode and to receive the information from the photodiode;

a radio-frequency module that transmits the information in a wireless manner;

an antenna attached to the housing and electrically connected to the radio-frequency module; and

a power source connected to the meter.

~~19~~17. The system of Claim ~~13~~9, wherein the optical meter reader apparatus further comprises:

a magnet ~~(150)~~ attached on a back of the flat face, the magnet being configured to establish mechanical contact between the flat face and the coupling device.

~~20~~18. A method for collecting and transmitting information from a meter, the method comprising:

attaching ~~(1000)~~ a coupling device ~~(420)~~ to the meter ~~(400)~~;

attaching a housing extension of ~~(1002)~~ an optical meter reader apparatus ~~(100)~~ to the coupling device, wherein the optical meter reader apparatus has a housing and the housing extension ~~(420)~~;

exchanging ~~(1004)~~ information embedded into infrared light ~~(600)~~ between the meter ~~(400)~~ and the optical meter reader apparatus through first and second ports formed in a flat face of the housing extension ~~(100)~~; and

transmitting ~~(1006)~~ in a wireless manner the information from the optical meter reader apparatus to a server,

wherein the coupling device includes one or more blocks and the housing extension of the optical meter reader apparatus includes one or more slots that accommodate the one or more blocks, respectively, so that the optical meter reader apparatus does not move relative to the meter, and

wherein a longitudinal axis of a first slot of the one or more slots is perpendicular to a longitudinal axis of a second slot of the one or more slots.