Claims

1. An Internet-of-Things module (1) for a device, the Internet-of-Things module comprising:

a first interface (3a) via which the module (1) can be coupled to a hybrid single pair Ethernet line for exchanging data and/or commands and for supplying voltage,

a voltage regulator (4) for converting the first voltage applied at the first interface (3a) into a second voltage for supplying the module (1),

a controller (5) for IP-based communication via the hybrid single pair Ethernet line (11) which can be coupled to the first interface (3a),

a second interface (3b) via which the module (1) can be coupled to the device (15) for exchanging data, signals and/or commands and for supplying voltage, wherein the second interface is releasably and interchangeably pluggable to a plurality of devices including the device and switchable between the plurality of devices, and the Internet-of-Things module is interoperable with the plurality of devices, wherein the Internet-of-Things module and the device are separate devices, and

a carrier circuit board (6),

wherein the first and second interfaces, the voltage regulator, and the controller are coupled to the carrier circuit board,

wherein the Internet-of-Things module is implemented as a system-in-package or a system-on-chip,

wherein the device has no keyboard, display, or other human-machine interface for configuration by a user, and

wherein parameters of the device can be configured via an external web-based user interface.

2. Internet-of-Things module (1) according to Claim 1,

wherein the device (15) has a sensor, an actuator, a wireless transmitter/receiver, and/or an input/output adapter.

3. Internet-of-Things module (1) according to Claim 1 or 2, also comprising

at least one PHY unit (2a) for encoding or decoding the signals that are transmitted via the hybrid single pair Ethernet line.

4. Internet-of-Things module (1) according to any one of Claims 1 to 3, also comprising

an Ethernet switch (32) and at least two PHY units (2a), which allow the connection of a plurality of hybrid cables.

5. Internet-of-Things module (1) according to any one of Claims 1 to 4, also comprising

a secure element (5c) for encryption and decryption of the IP-based communication via the at least one hybrid single pair Ethernet line.

6. Internet-of-Things module (1) according to any one of Claims 1 to 5, wherein the controller (5) is designed to allow a purely IPv6-based communication.

7. The Internet-of-Things module according to claim 1 wherein the device is a sensor, an actor, a switch, a media converter, a wireless transmitter/receiver or an actuator.

8. The Internet-of-Things module according to claim 1, comprising:

a housing integrating:

the first interface,

the voltage regulator,

the controller, and

the second interface.