

Meters with Integrated Broadband Powerline



Meter Reading in Real-Time with Broadband Powerline

Our Generation 4 Broadband Powerline System enables Smart Metering in real-time, from request to response in milliseconds. Fully compliant to IEEE 1901 standard, independent of the meter manufacturer, with open interfaces to accounting and billing systems.

With BPL inside, meters automatically become part of a Smart Grid and meter data is immediately available in the backend systems.

No concentrator is needed, and IP-based data is transparently available with plenty of bandwidth and low latency for additional services and functionality such as pre-payment, remote disconnect, short interval reading and flexible tariffs, as well as further industry and customer focused services emerging from developments in smart metering and smart grids. Real-time access to meter data can enable the customer to monitor their consumption via web portals.

PPC's G4 BPL system enables future proof communication according to IPv6 standard as well as current IPv4. With BPL, the power grid becomes a universal communication platform for multiple smart services and applications.

Meter Integrated BPL Modules in the field rhienergie

Swiss utility rhienergie had to renew a ripple control system which switches boilers, street lights and meters, renewing 750 old meters in 450 households, and 360 ripple control receivers.

The new solution by our Partner Swistec offers the option of remote meter reading and to switch ripple control receivers over a single medium of communication. From the HQ to the substations, the network is based on fibre optic links.



PPC's BPL establishes IP-based connection between the substation and end-consumers. The communication is encrypted: AES with 128-bit keys provides adequate protection for sensitive information.

"We chose BPL because we believe that it is the only system which provides the necessary availability and can reliably transfer future vast amounts of data," explained rhienergie Managing Director, Theo Joos. "With this solution, we are optimally prepared for the liberalisation of the electricity market."

The system enables the consumers to control and analyse their daily energy consumption via internet – an important basis for optimising industrial as well as private energy use.

Possible future services enabled in the Smart Grid are building control technologies (alarms, blinds, lighting etc.) as well as the provision of secondary control power by utilities or third parties for Swissgrid's national transmission grid.

Meter-integrated BPL modules

BPL Module for Landis+Gyr E350

Landis+Gyr smart meters are built with data-driven applications in mind to offer maximum flexibility for future market requirements.



Building on its tradition of open communication meters, the E350 is compatible with the interfaces and communication modules of the ZCF/ZMF/ZFF100 meter platform.

PPC's BPL module for the Landis+Gyr E350 connects the meter directly to a BPL

communications channel for real-time, bi-directional data transfer.

BPL Module for Elster AS 3000 & AS 220

The BPL MCM 4E is a BPL module especially shaped for Elster AS3000 and AS220 electricity meters. It is made to fit into Elster's standard communications module casing. The direct connected meter.



Communications modules enable the AS3000 to meet current and future market requirements for smart meter applications.

BPL Module for EasyMeter

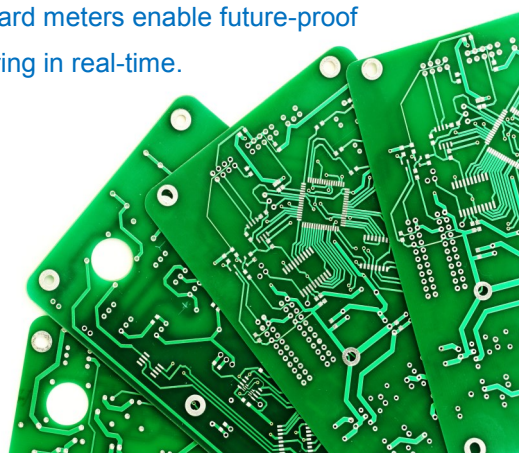
With the PPC EasyMeter BPL Gateway, each EasyMeter Q3 series becomes a BPL gateway in PPC's Broadband Powerline System.

Optional interfaces allow the integration of other metering systems:

- Ethernet
- Wireless MBus
- RS485



Small BPL modules designed to fit into standard meters enable future-proof metering in real-time.



The Advantages of Meter Reading with PPC's Broadband Powerline System

The 4th generation of our BPL system is IEEE 1901 compliant. It fulfils the need for stable, high performance communications for smart metering and smart grids, combined with the low cost of powerline communications.

BPL is the most cost effective communications solution in major roll out scenarios, and provides an easily scalable platform with low operating costs. It offers the best availability and accessibility to applications anywhere in the power network due to its leading meshed network technology. G4 BPL can be installed into individual devices and on the network, transforming the power grid itself into an Ethernet communications platform.

Broadband data transmission from devices to utilities' data centres eliminates the need for intermediate storage in concentrators, enables direct, two-way communications with meters and all

connected devices and also allows end-to-end encryption using advanced security standards such as TLS.

The broad frequency bandwidth (approximately 1,000 OFDM carrier frequencies) offers maximum robustness against interference, with plenty of bandwidth for Big Data applications.

The BPL network automatically adapts to grid conditions, enabling easy automation and operation. Dynamic routing and repeating in meshed networks ensure maximum availability.

Network Management System (NMS)

PPC's NMS enables detailed monitoring and status analysis of each BPL connection (channel and network analysis) and integration with existing systems thanks to SNMPv3.

