devolo
BPL Repeater

Broadband data communication in the low-voltage grid

With its innovative multi-channel feed, the devolo BPL repeater guarantees a highly available and powerful BPL network.

High-performance. For application scenarios on the low-voltage level with high bandwidth requirements and real-time capability.

Added value. Optional grid functionality for monitoring the mains voltage.

Rugged design. Waterproof and insensitive to cold and heat. For use in cable distribution cabinets.

Robust connectivity. Use of multi-phase supply for significantly improved connectivity compared to previous BPL solutions.

Security. Data security through AES 128-bit data encryption and state-of-the-art security concept.

Scalable as required. Connectivity with just a few devices in the network cluster. Easily expandable and extendable up to full configuration with repeaters.

Connect it, and you're done! Easy installation in cable distribution cabinets. The PLC network independently builds itself. On-site configuration is not required.

Self-organizing. Automatic setup of the data network, administrative work is generally not required.

Range. Maximum possible transmission distances due to adapted signal coupling technologies with external couplers.

Cost-effective. Use of standalone infrastructure. No additional communication costs.

Investment security. Sustainability through international standards (ITU-T G.9960) and innovative G.hn technology.

Scenario

Broadband Powerline (BPL) for a high-availability data network on the low-voltage grid

BPL repeaters are installed in cable distribution cabinets and ensure a comprehensive and stable BPL network between end points (e.g. intelligent measurement systems) and the BPL headend in the local substation. The compact and robust design allows installation on the inside of the door or on a side wall of the cable distribution cabinet.

The devolo BPL repeaters are optionally equipped with grid functionality. The devices record the current mains voltage at this point and send the measured data via the power line to the BPL Headend. From there data reach the control room via an uplink-technology (fibre optic or LTE). This gives the network operator an current view of the low-voltage level, warns him if a critical condition is imminent and can react at the right time.

The 4-pin connector with quick connection technology allows the technician to quickly and conveniently establish the electrical connection between the device and the power distribution busbar on site without the need for special tools. The robust and water-protected connector has reverse polarity protection and protection against accidental contact in accordance with DIN EN 0105. Repairs to the connecting cable, couplings and extensions can also be carried out quickly and easily.

Technical data

PLC standard	G.hn-BPL according to ITU-T G.9960, optimised for access communication
PLC frequency range	2 to 25 MHz
Functionality	PLC Bridge, Repeater for PLC communication
Protocols	IPv6, IPv4
Transfer rate	200 Mbps (gross)
Modulation	4096/1024/256/64-QAM, QPSK, BPSK (OFDM)
Range	400 m, depending on the network properties and topology
Security	AES 128-bit layer 2, higher level authentication based on 802.1X (RADIUS)
LEDs	Operation indicator, PLC data transmission, fault indicator
Management	SNMP v3
Response time	60 ms (typ.)
Device interfaces	Optical communication interface for local configuration on site
Power consumption	6 W (max.)
Supply voltage	230 V AC mains (L + N)
PLC coupling	3-phase (multiphase coupling) capacitive or inductive with external coupler each
Dimensions (in mm)	40 (width) x 135 (height) x 105 (depth)
Ambient temperature (storage/ operation)	-40 °C to +85 °C / -40 °C to +70 °C
Ambient conditions	10 - 95 % humidity (non-condensing)
Degree of ingress protection	IP 65
Protection class / dielectric strength	Class 2 / Category IV
Approvals	CE Class A (EU, CH, NO)
Conformity, further standards	EN 61850-3, EN 60870-2-1, EN 60870-2-2, EN 62368-1

BPL Headend | BPL Repeater | BPL Repeater | SMGW^{plus} BPL

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We'd be happy to serve as your consultant.
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