

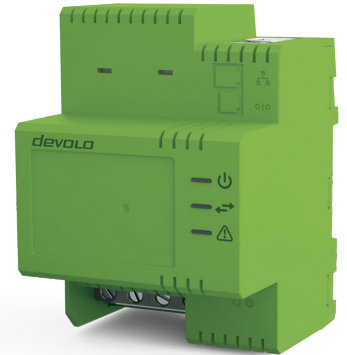
devolo

G3-PLC Modem 500k

devolo
SMART GRID

Data communication at the low-voltage level.

The devolo G3-PLC Modem 500k is the all-rounder in the low-voltage network and is ideally suited for smart grid applications thanks to its extremely long range.



Optimal network coverage. Up to 1.7 km range without a repeater, depending on network characteristics and topology.



100% building penetration. Each measuring and control device is accessible over a stable and reliable connection. None of the adverse effects of bulky construction like with wireless technologies.



Retrofit. Older devices can be integrated into the smart grid using the serial port.

150
500

High-performance. High data rates in the 150 - 500 kHz frequency band. Ideal for smart grid applications.



Inexpensive. Use of standalone infrastructure. No additional communication expenses.



Scalable to any extent. Connectivity even with just a few devices in a network cluster. Supports convenient expandability to complete coverage.



Connect it, and you're done! Simple installation on a DIN rail. The PLC network independently builds itself. On-site configuration is not necessary.



Self-organising data network. Independent, flexible network set-up.



Investment protection. Technological sustainability thanks to international standardization (ITU-T G.9903) and global interest group (G3-PLC Alliance).

Scenario

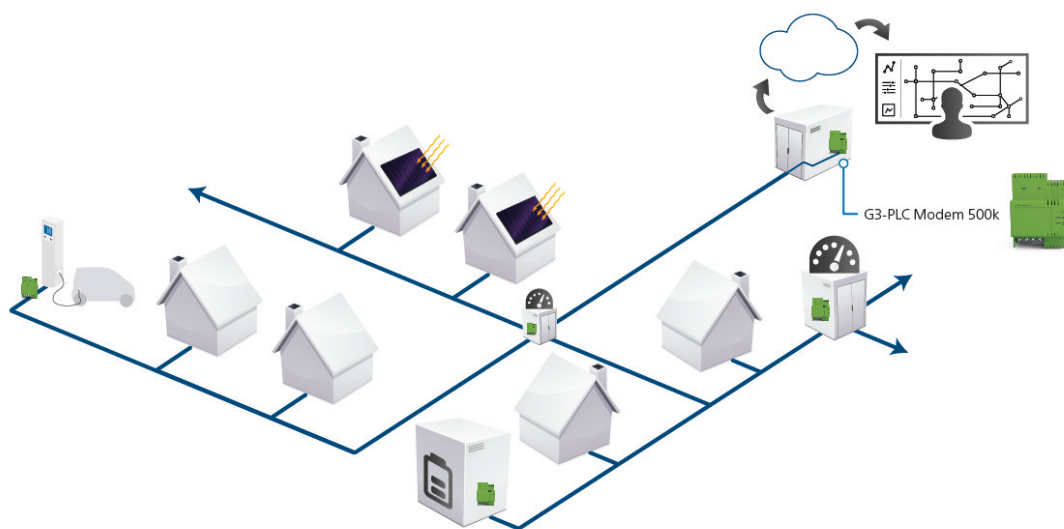
G3-PLC for all smart grid applications. Stable data communication is the basic requirement for a smart low-voltage network.

The importance of measuring devices for network status monitoring and network control technology continues to increase and the devices have to be integrated into the smart grid in a way that enables communication.

G3-PLC uses the existing powerline for bidirectional data communication. Older network control technology can also be integrated into the smart grid using the serial port on the G3-PLC modem 500k. This makes G3-PLC the perfect solution for obsolete communication technologies such as analog telephony or CSD wireless system.

Technical data

Standards	G3-PLC specification (ITU-T G.9903)
Functionality	Ethernet over G3-PLC, Serial over G3-PLC
Protocols	IPv6, IPv4, IEEE 802.3
Transfer rates	240 kbit/s (max D8PSK), gross
Modulation	Robo, DBPSK, DQPSK, D8PSK (OFDM)
Network characteristics	Dynamic routing mechanism supports mesh networking and automatic connection adjustment for selecting the optimum transmission path. Automatic Repeat Request (ARQ) improves error detection and data reliability
Range	Up to 1,700 m depending on network characteristics and topology
Security	AES 128 bit Layer 2
LEDs	Operation indicator, PLC connected/ data transmission, fault indicator
Buttons	Reset / factory default
Frequency band	150 to 490 kHz
Output power	100 dBμV/-9 dBm @ 50 ohms
Device connection	RJ45 (Ethernet), RJ12 (serial), screw terminal (mains supply)
Power consumption	4 W @ 10 kbps bidirectional data communication @ 3 ohms of line impedance
Supply voltage	230 V AC three-phase / single-phase (internal fuse protection with 50 kA breaking capacity)
PLC coupling	1 or 3 phases to neutral
Dimensions (in mm)	71 (width) x 100 (45+55) (height) x 75 (depth)
Ambient temperature (storage / operation)	-25 °C to 70 °C / -25 °C to 55 °C
Ambient conditions	10 - 90% humidity (non-condensing)
Degree of ingress protection	IP 30
Approvals	CE Klasse A (EU, CH, NO)



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SMART GRID

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