

# MT49S

Single-phase PLC modem



The MT49S powerline modem is designed to provide a data connection via existing 230 V power lines. The advantage of the modem is automatic and adaptive build of G3-PLC network according to the parameters of LV line and creation of an encrypted tunnel for transparent data transfers. It allows to use any protocol (Modbus, DLMS, Profibus, etc.) using standard interfaces such as RS485, RS232 or Ethernet



## Typical applications

- Smart grid (e.g. remote meter readings)
- Home automation
- Industrial automation
- Perfect for transfer of Modbus, IEC62056-21, DLMS...

## Key features

- Designed for 230 V / 50 Hz lines
- Automatic network formation
- Adaptive routing
- Fully-encrypted communication
- High output power

## Reliable communication

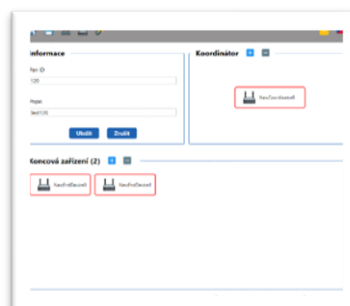
The communication channel created by MT49S allows to maximize utilization of the transmission channel potential. PLC communication parameters and packet routing is constantly adapted to the conditions presented on the LV line (attenuation, noise, topology change) to achieve best ratio between speed and robustness of transmission.

## Flexible and secure

The automatic network formation and continual network management feature allows to create large and dynamically changing infrastructure. Formation, management and also data transmission are protected using AES encryption. Each modem contains a unique set of keys that is used to authenticate and to grant access to the PLC network. Therefore, the loss or theft of one modem does not jeopardize the security of the entire PLC network.

## Easy management

The SemSET application is used to configure the entire modem network, basic diagnostics and then set the parameters of each modem. It is a simple, easy-to-use application for MS Windows.



## Technical data

### Power supply

Voltage	85 – 305 VAC 120 – 430 VDC
Frequency	47 – 440 Hz
Power consumption	max. 15 VA

### PLC communication

Frequency band	FCC (On request CENELEC A, B)
Modulation scheme	OFDM
Modulation	DBPSK DQPSK, D8PSK
PLC standard	G3-PLC
Theoretical data rates	FCC up to 280 kbps CENELEC up to 44 kbps
Output amplitude	134 dB/μV ( $R_L = 12 \Omega$ )
Output current	Max. 1 A <sub>PP</sub>
Input sensitivity	1 mV
Amplitude adjustment	Yes, manual
Minimal SNR	> 3 dB (PER 10 <sup>-4</sup> )
Protections	overcurrent, thermal
Encryption	AES-128
PLC coupler	Built-in internal
Output to an external coupler	On request

### Serial interfaces

Type	RS485/RS232
Galvanic isolation	Yes
Protocol	transparent/command
Baud rate	300–230400 bps
Data bits	7,8
Parity	none, odd, even
Stop bits	1,2
Data buffers	8 kB

### Ethernet

Connector	RJ45
Operation modes	TCP, UDP, Telnet
Other features	DHCP, password protection
Configuration	Web Manager, Telnet

### Safety

Electrical appliance class II – double insulated	
Comply with	EN 61000 EN 61010 EN 50065 EN 60870 EN 60529

### Environment

Operating temperature	-40 to +60 °C
Storage temperature	-40 to +70 °C
Relative humidity*	0 – 80 %

\*No water condensation

### Mounting

DIN 35 rail mounting	
Enclosure	Plastic
Protection class	IP30

### Dimensions and Weight

Dimensions	106 x 90 x 57 mm (W x H x D)
Weight	450 g