



## Modem MCL 5.10 for smart meter reading

Meter reading modem is an important part of smart metering systems. In most cases, meter installation sites do not have access to wired internet. So wireless communication modems are very popular alternative.

MCL 5.10 is the our most popular product. It is used in many electricity smart metering systems across the world. Its simple installation and reliable operation are the core benefits.

The device is sturdy and compact. MCL 5.10 can be installed under smart meter terminal cover or on 35 mm DIN rail. There are also plug-in options.

MCL 5.10 works as a transparent communication interface converter. This means that the device does not analyze, alter or edit any passing data. It passes raw metering data to the data collection center, which analyzes the data and makes it available for users. This feature allows MCL 5.10 to transfer data from any smart meter, regardless of manufacturer. To complete this feature, the modem has several different communication interface options:

- RS485 interface, which supports up to 32 connected meters;
- CLO interface, also known as 20 mA current loop. This interface supports up to 3 connected meters;
- RS232 interface, supporting 1 connected meter.

To meet the power supply requirements of different meter manufacturers, MCL 5.10 also has multiple power supply options:

- 230 V AC, 50 Hz mains power supply;
- 5 V DC power supply from the smart meter.

Remote meter reading modem can seem like a standard data transmission modem, but these devices have several special features, designed specifically for communication with smart meters. These features ensure fast and secure data exchange between meters and collection system. For example:

- Automatic network provider detection. The controller automatically detects the network provider, when SIM card is inserted. In order for this to work, user must configure every network provider in device settings. MCL 5.10 supports up to 6 different provider settings.
- Selection of optimal communication technology. MCL 5.10 automatically switches between 4G/3G/2G technology, depending on network signal strength. This ensures the best conditions for meter data transmission.
- Internal battery. It allows meter reading modem to send a message to the data center, in an event of power failure. This feature is known as Last Gasp or Dying Gasp.
- Periodic reboot. If there is no data transmission for set amount of time, MCL 5.10 will reboot itself.
- Passive client. Modems usually operate using static IP address. Static IP address doesn't change after device reboot. In some countries, SIM cards with static IP address are very expensive. To address this, we designed the Passive client feature. Using this, MCL 5.10 automatically sends its new IP address to the meter reading system after every reboot.

---

## TECHNICAL DETAILS

Power supply, AC	90 - 264 V, 50 Hz
Consumed power	< 6 VA
RS485 communication interface for meter connection	Data transmission speed 300 ... 19200 baud
RS232 communication interface for configuration	Data transmission speed 2400 ... 19200 baud
GSM/GPRS modem	850/900/1800/1900 MHz, Multi-slot class 10, CS1-CS4, Class B
Antenna connector	SMA (50 Ω)
Operating temperature	-20 ... +60 °C
Relative humidity	5 ... 95% non condensing
Dimensions	93x68x37 mm