

TECHNICAL SPECIFICATION COMMUNICATION UNIT FOR ELECTRONIC METERS

The communication unit (modem) that will be used for the communication link of the electronic meters for electrical energy with Telemetering System for the transfer of metering data shall:

- 1. Be of **GSM/GPRS/3G/4G** type.
- 2. Be GPRS multislot Class 8 or higher.
- 3. Support communication based on the TCP/IP protocol.
- 4. Have "Transparent" operation capability.
- 5. Support dynamic and static IP address for GPRS/3G/4G communication.
- 6. Operate with all mobile communication networks of the country.
- 7. Perform automatic switching to GSM communication with capability for automatic restoration to GPRS/3G/4G communication, when the signal is lost in case of GPRS/3G/4G communication.
- 8. Auto restart in order to find GSM or GPRS/3G/4G communication signal in case of voltage loss and subsequent voltage restoration.
- 9. Be capable to automatically reboot at regular intervals, configurable from 1 to 24 hours.
- 10.Communicate at speed from 9600 to at least 19.200 bps, with the capability of remote and local selection of the desired speed.
- 11.Be able to remotely change the communication mode from GSM to GPRS/3G/4G and vice versa.
- 12.Provide capability for reading and parameterization (speed, codes, communication status, signal strength, etc.) via remote commands.
- 13.Be modular.
- 14.Be plug-in on the front side of the meter or adaptable inside the terminals cover of the meter.
- 15.Access to the modem (e.g. for testing, replacement, SIM card replacement, etc) shall be secured with sealing, but without requiring the opening of the main meter cover or violation of the metrological meter sealing.
- 16.Be directly powered by the meter without any external power supply.
- 17.Be accompanied by an appropriate antenna of suitable gain and dimensions, in order to be installed in the metering device.
- 18.Provide operating indications and signal strength on meter's display. Alternatively provide operating indications (i.e. using LED) that include signal strength and are visible when the meter and the modem are fully installed.
- 19. Provide device for placement of the SIM card.
- 20.Operate in accordance with meters communication protocols EN / IEC 62056-21 and DLMS/COSEM.
- 21.Operate smoothly (uninterrupted) and without problems at the following environmental conditions:
 - Operating temperature range -20°C to +55°C
 - Annual mean humidity up to 75% (IEC 62052-11).
- 22. Have the CE mark and conform with the E.U. R&TTE Directive.

- 23.Provide protection (in conjunction with the meter power supply) against overvoltages.
- 24.Modem configuration software accompanied by software licenses shall be provided.
- 25.Be delivered parameterized, according to HEDNO guidelines.
- 26.Have degree of protection IP51 (IEC 60529) or higher in conjunction with its installation on the meter.
- 27. Have a protection system against destruction of the SIM card when the card is removed from the modem without prior disconnection of the modem power supply.
- 28.Not require recharge or/and new parameterization for its immediate operation, in case of storing it for at least 36 month period.

PACKING

- 29.The modems shall be placed, carefully packed, inside protective cardboard boxes.
- 30. The cardboard boxes shall be placed on EU palettes to facilitate transport.
- 31. These boxes shall be externally and indelibly marked with the Contract number, the material Code and the Manufacturer's Data.

<u>SAMPLE</u>

It is required to submit <u>sample</u> of the communication unit – antenna, with the parameterization software for testing of the seamless communication and meter data transfer between meters – communication units and the Meter Software as well as the Telemetering System through HEDNO VPN and the mobile carrier.