EXT-KAMSTRUP-LoRa

Extension LoRa for Kamstrup meters

The extension EXT-KAMSTRUP-LoRa allows to read the indexes of Kamstrup Omnipower meters. It sends then these indexes according to the LoRaWAN protocol. It means that the data transmission is made on long distances. Radio messages are received by Gateway LoRa which transmit them to a server through an internet connection.
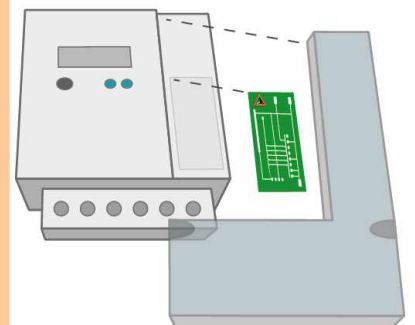
The EXT-KAMSTRUP-LoRa module has 2 tariff inputs (so 4 tariff combinations. The EXT-KAMSTRUP-LoRa was specially designed to fit into the cases of Kamstrup Omnipower meters. So no additional place is necessary. It takes place in any discretion in meters.

This extension allows to make remote transmission where the GSM is too expensive.
Ideal for a daily invoicing, the EXT-KAMSTRUP-LoRa also avoids you sending a person to read meters during the movings.

Advantages of EXT-KAMSTRUP-LoRa

- ✔ Installation directly in the meters
- ✔ Add radio transmission to existing meters
- ✔ 4 tariffs
- ✔ Compatible LoRa
- ✔ No wiring required

Technical characteristics

Protocole: LoRaWAN 1.0 (not yet certifed)

Tariff inputs: 2 inputs 230V with screw

Communication: LoRa 868 MHz with external antenna (cable 40cm)
                    Connector RJ12 for USB communication

Dimensions: 137 x 42mm
                    For Kamstrup Omnipower or Omnipower CT meters

Connectors: 8 pins, compatible Kamstrup

Power supply :   The module is powered directyl by the electric meter

```
/KAM5 6841138AN110001[0D][0A]
[02]0.0.1(60053)[0D][0A]
97.97.0(0)[0D][0A]
1.8.0(0000451*kWh)[0D][0A]
1.8.1(0000450*kWh)[0D][0A]
1.8.2(0000001*kWh)[0D][0A]
2.8.0(0000000*kWh)[0D][0A]
2.8.1(0000000*kWh)[0D][0A]
2.8.2(0000000*kWh)[0D][0A]
3.8.0(0000000*kvarh)[0D][0A]
3.8.1(0000000*kvarh)[0D][0A]
3.8.2(0000000*kvarh)[0D][0A]
4.8.0(0000000*kvarh)[0D][0A]
4.8.1(0000000*kvarh)[0D][0A]
4.8.2(0000000*kvarh)[0D][0A]
1.6.0(1.084*kW)(00141109161500)[0D][0A]
1.6.1(1.084*kW)(00141109161500)[0D][0A]
1.6.2(0.000*kW)(00141101000000)[0D][0A]
2.6.0(0.000*kW)(00141101000000)[0D][0A]
1.2.0(23.370*kW)[0D][0A]
2.2.0(0.000*kW)[0D][0A]
3.6.0(0.000*kvar)(00141101000000)[0D][0A]
3.2.0(0.000*kvar)[0D][0A]
4.6.0(0.000*kvar)(00141101000000)[0D][0A]
4.2.0(0.000*kvar)[0D][0A]
0.1.0(15)[0D][0A]
96.8.0(11018)[0D][0A]
1.0.0(00141109232637)[0D][0A]
![0D][0A]
[03]'
```

How does it work ?

The module is configured from a XML file. The module queries the meter in IEC1107 (IEC62056-21).
Thanks to filters defined in the XML file, only certains fields of the answer IEC are kept (for example serial number, register 1.8.0, 1.8.1, 1.8.2,....). These data are then formated in a package LoRa and sent on the network.

```
<OBIS_FILTER index="1">
    <OBIS_ITEM header="129" code="1.8.0"/>
    <OBIS_ITEM header="130" code="0.0" type="integer"/>
    <OBIS_ITEM header="131" code="1.8.2"/>
</OBIS_FILTER>
```

The measure frequency of the meter is defined (1x/day, 1x/hour or 1x/15min) as well as the sending frequency of the data in LoRa (for example 1x/day, 1x/hour, 1x/5min)

```
<GSM_INTERVAL value="417" />
<RADIO_CONFIG config="0"
            netID_hex="10"
            devAddr_hex="20AD66"
            nwkSkey_hex="112233445566778899AABBCCDDEEFF00"
            appSkey_hex="112233445566778899AABBCCDDEEFF00" />
```

For configuration, it is necessary to use an adaptater cable USB <=> RJ12 (to order separately). It is also necessary to use the Axiom BASIC program available on the Tetraedre web site.