1 - General:

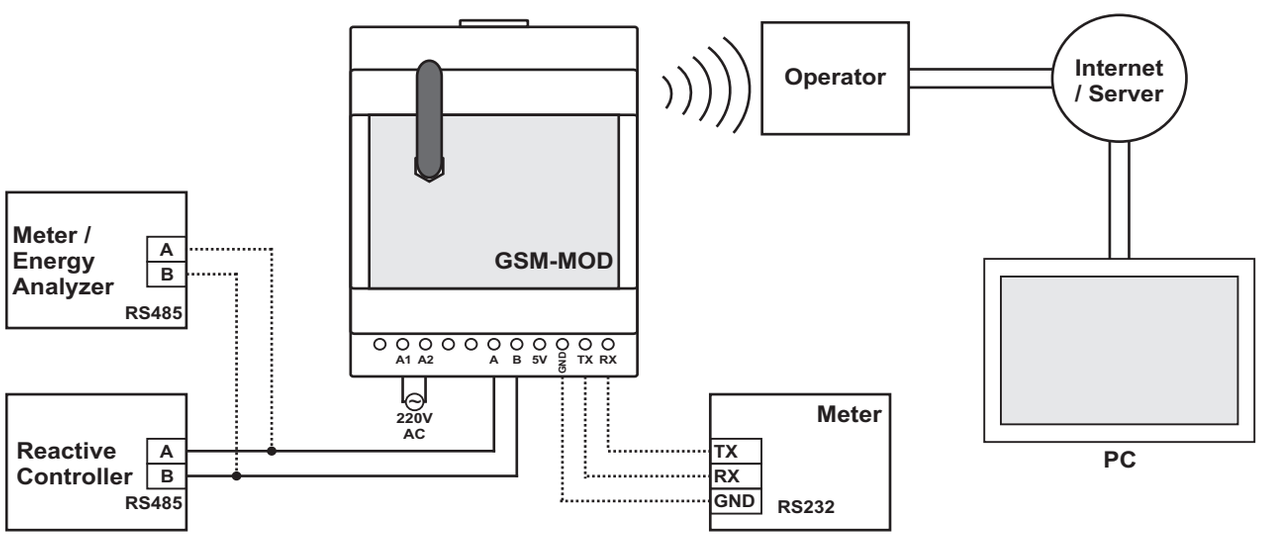
All data of the meter and the relay in the line connected to the modem can be read and controlled from a distance through Meter reading and Compensation Monitoring. (by using GSM data line) It can read, archive and report the instant energy consumption of the company by obtaining the meter data, capacitor power values can be obtained through the compensation system, stage test can be done, retroactive power flow graphics can be charted, active/reactive consumption values can be archived and reported, the current and voltage irregularities, reactive ratios and the faults occurred in the system can be detected from a distance. Compatible with all GSM Operators.

Only the reactive relay or the counter and energy analyzer together with it can be connected for remote communication with GSM-MOD. Remote communication is provided through energy analyzer (counter and reactive relay) on www.tenseenerji.com (server) by using 50-100MB (recommended) data line from GSM operators.

2 - Serial Number and Modbus Address

If there are minimum two device (Meter, Reactive Relay, Energy Analyzer etc.) to connected RS485 interface, The Serial number and Modbus address should be introduced to GSM-Modem. If there are only one reactive relay do not need to chance Modbus address. Meters have fixed 8 digits serial number. If you connect more than one reactive relay, you have to check all Modbus address same address. Otherwise you can receive wrong data.

3 - Connection Diagram



The maximum cable length of RS485 is 1000 meter. If Cable length and number of device is rising you can 120 ohm resistor supplied with device. Connection speed increase with cable length decreases and connection speed decrease with cable length increases. GSM-MOD supports maximum 127 devices.

The cable length of RS232 more than 2 meters, data loss may occur. You can use only one device with RS232 connection. If you use optical reader with RS232 connection you should paste a label /band light-proof where optical port is placed. Otherwise the data can be distorted.

4 - Start-up of the Device

First , Insert SIM card your mobile phone and cancel control of PIN code then insert SIM card GSM MODEM. Energize to device. When the device energized for the first time, Led of PWR is steady on. Then if insert SIM card device , SIGNAL LED light green, if not SIGNAL LED light red.

Device starting to connect GSM operator. When the signal level is strong, Signal led will be green , otherwise the Led will be red. When connect to the GSM operator , led of signal is steady on. If signal level is weak you should use external antenna.

You have to register on www.tenseenerji.com (server) able to remote control with GSM modem.

2 - Usage of the device:

Figure-1

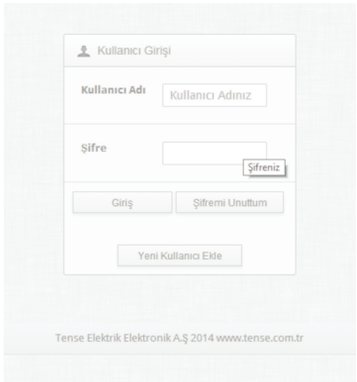
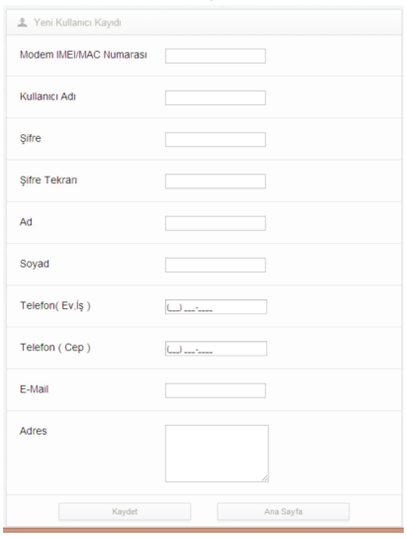
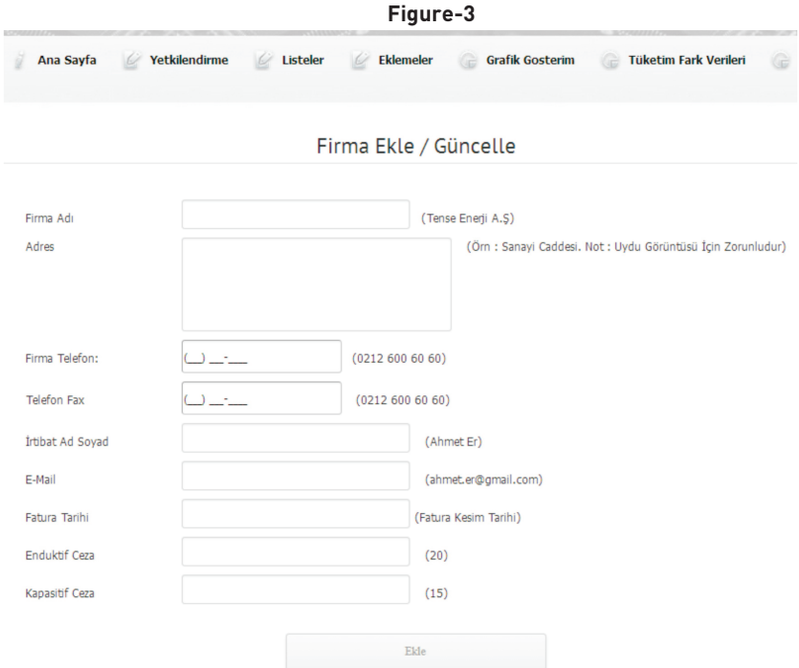


Figure-2



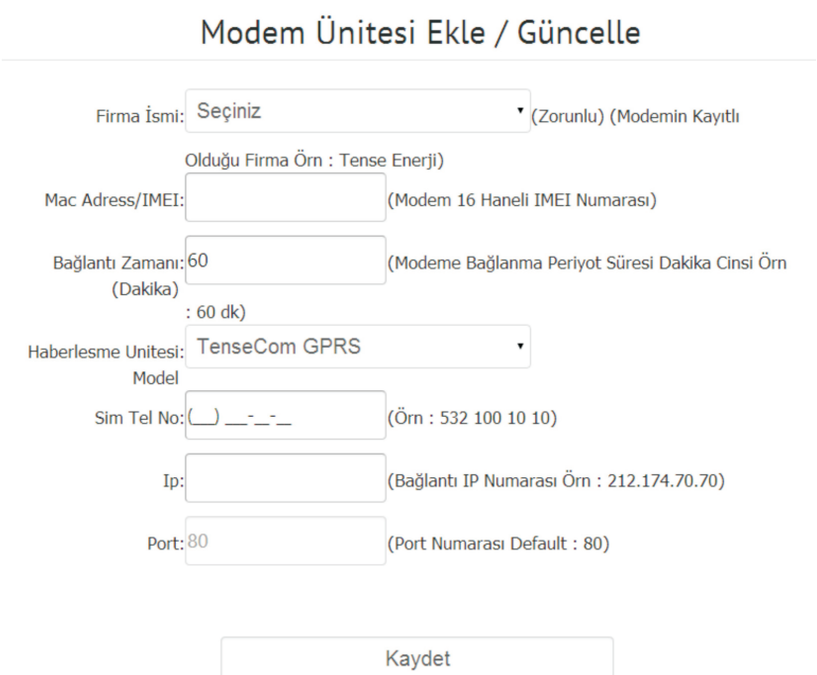
1-) The figure-1 is displayed when you go www.tenseenerji.com
2-) Press button of the add new user.
3-) The figure-2 is displayed.
4-) Enter IMEI number on GSM Modem.
5-) Enter Username.
6-) Enter Password and Verification of Password.
7-) Enter Name, Surname ,Telephone Number, e-mail address and address.
8-) Press save button.
9-) Your information reaches to the data processing center and your account will be activated.
10-) You can login on www.tenseenerji.com homepage.

Figure-3



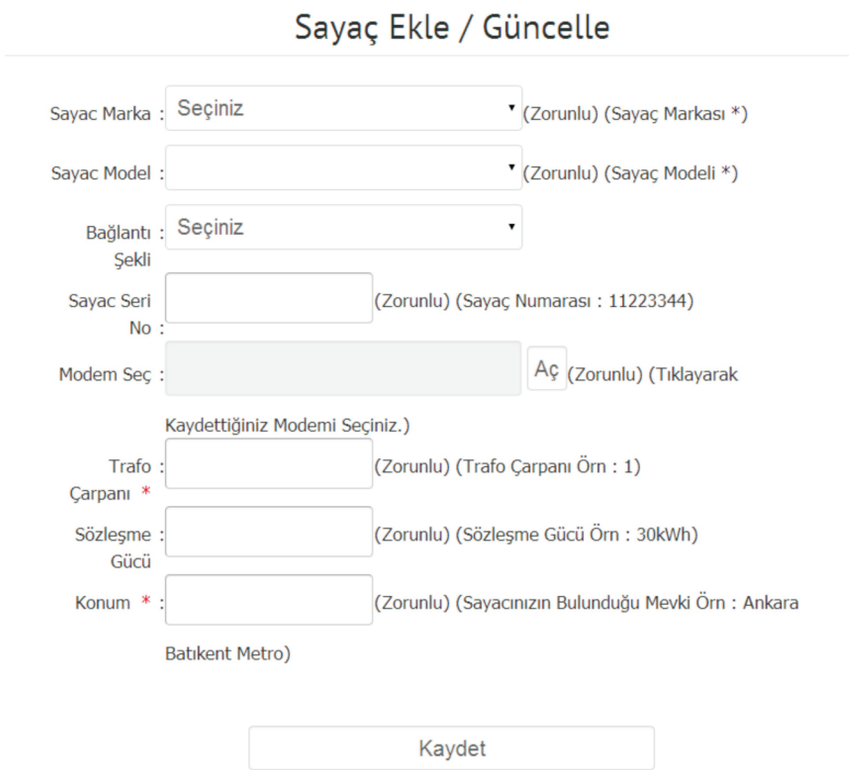
11-) After login , Press button of adds and then if you press add firm button you should add/update firm information
12-) The figure-3 is displayed when you pressed add/update firm button.
13-) Enter the information as a company name, phone number, contact name, surname and e-mail, invoice date , inductive/capacitive penalty belong to the company which is modem is installed.
14-) After entered information, press add button.

Figure-4



14-) After firm was added , you should press adds button then you press modem add button.
15-) The figure-4 is displayed when you pressed Modem add button.
16-) Select the firm.
17-) Enter number of IMEI on GSM-MODEM tag.
18-) Enter frequency of reading data.
19-) Select Modem Type(GSM or ETH).
20-) Enter telephone number and IP number of SIM Card in GSM-MODEM
21-) After enter information press save button.

Figure-5



22-) After added modem, press adds button and press " add device of connected to the modem" button (Exaple: Add Meter)
23-) The figure-5 is displayed when you pressed add meter button
24-) Select Meter brand and model of meter.
25-) Select Connection type (RS232 or Rs485).
26-) Enter 8 digit meter's serial number.
27-) Select the meter is connected to the modem.
28-) Enter Meter's Current Transformer Factor.
29-) Enter "Contract power"
30-) If you have minimum two meter you will enter location (store, place of manufacture etc.)
31-) After entered information, press save button. Meter is added on your modem

Figure-6

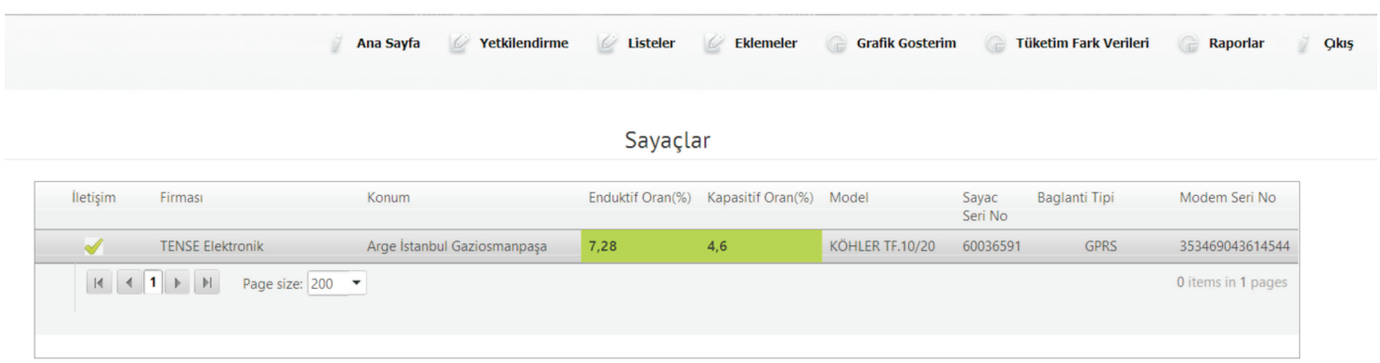
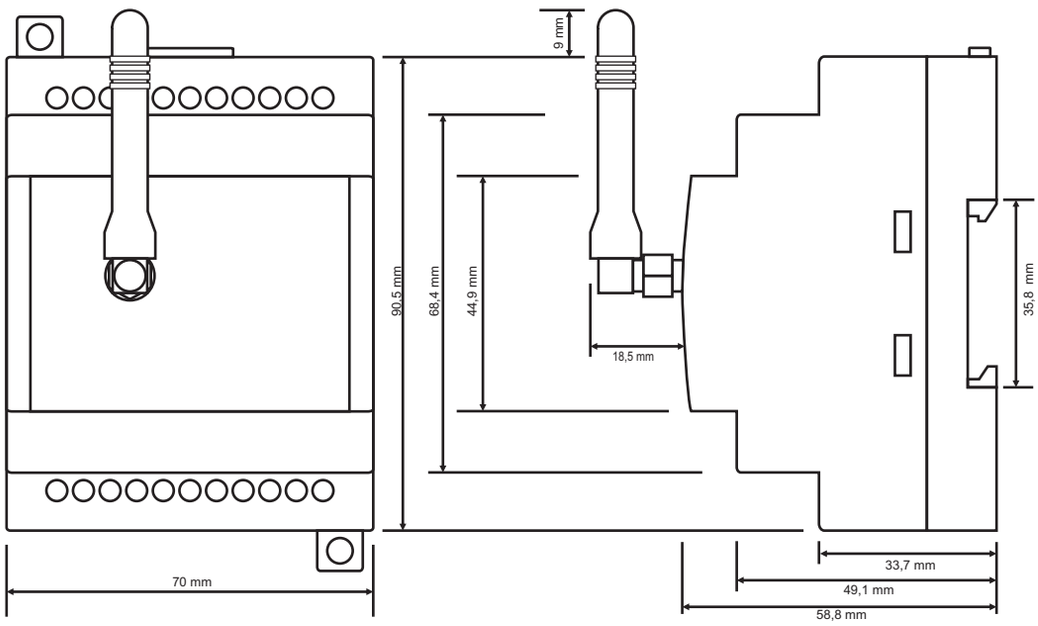


Figure-7

32-) After entered information of firm, modem and meter you exit. The figure-6 is displayed when you again login. You can see firm name, meter's location , inductive/capacitive ratio, meter's brand, model, serial number, IMEI number and connection type.
33-) if you double click on firm line, the figure-7 is displayed.
34-) There are data dates ,hour, active/reactive power, energy values, "tariff", percent of inductive/capacitive and demand values, date and hour on screen.

3 - Dimensions:



3 - Technical Specifications:

Operating Voltage	85V - 285V AC
Operating Frequency	50Hz. / 60Hz.
Operating Temperature	-20ºC.....+55ºC
Air ESD Protection	10kV
Impact Resistance	4kV
Operating Power	1VA(system standby), 10VA(system communicate)
Display	Power LED, Signal Level LED and Rx, Tx LEDs
Connection Type	Max. 19200bps (For meters IEC62056-21 protocol)
	Modbus Communication (For meters, analyzers and reactive controllers
	RS485 inferface with Max.128 devices
	RS232 inferface
	Optik probe inferface
	TCP/IP communication protocol
Communication Type	GSM/GPRS
Antenna	2.2dBi SMA replaceable 90º antenna
Bandwidth	Quad band GSM/GPRS/EDGE
Weight	<200gr.
Protection class	IP20
Operatin Altitude	<2000m

Document Number : DK-029-2