

1 - General:

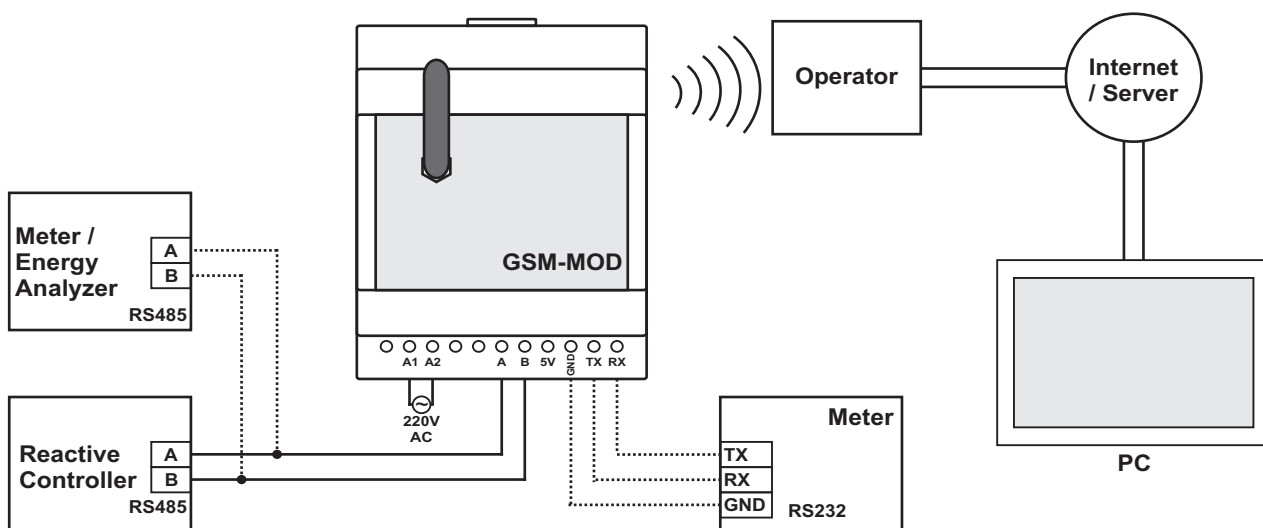
All data of the meter and the relay in the line connected to the modem can be read and controlled from a distance through Meter reading and Compensation Monitoring. (by using GSM data line) It can read, archive and report the instant energy consumption of the company by obtaining the meter data, capacitor 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 change 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

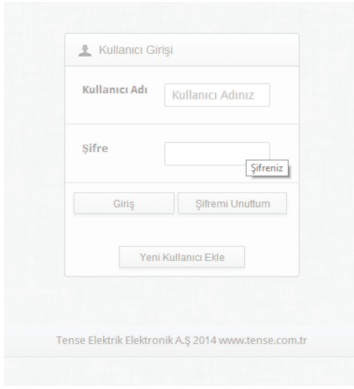


Figure-1 shows the user login interface. It includes a 'Kullanıcı Giriş' (User Login) section with fields for 'Kullanıcı Adı' (Username) and 'Şifre' (Password). There is a 'Şifrenizi' (Forgot Password) link and buttons for 'Giriş' (Login) and 'Şifremi Unuttum' (Forgot my password). Below this is a 'Yeni Kullanıcı Ekle' (Add New User) button. At the bottom, it says 'Tense Elektrik Elektronik A.Ş 2014 www.tense.com.tr'.

Figure-2

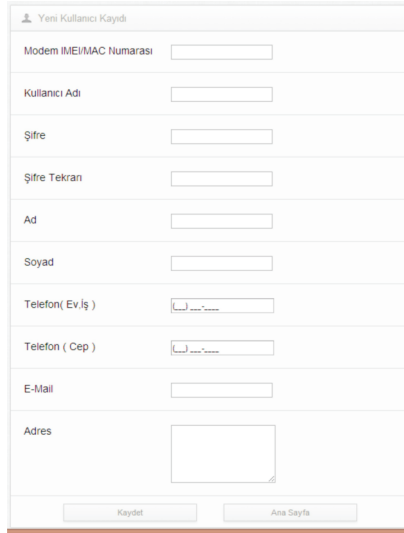


Figure-2 shows the 'Yeni Kullanıcı Kayıt' (New User Registration) form. It includes fields for 'Modem IMEI/MAC Numarası', 'Kullanıcı Adı', 'Şifre', 'Şifre Tekrar', 'Ad', 'Soyad', 'Telefon (Ev.İş)', 'Telefon (Cep)', 'E-Mail', and 'Adres'. There are 'Kaydet' (Save) and 'Ana Sayfa' (Home) buttons at the bottom.

- 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

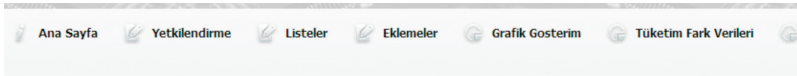


Figure-3 shows the main menu with options: 'Ana Sayfa' (Home), 'Yetkilendirme' (Authorization), 'Listeler' (Lists), 'Eklmeler' (Additions), 'Grafik Gosterim' (Graph Display), and 'Tuketim Fark Verileri' (Consumption Difference Data).

Firma Ekle / Güncelle

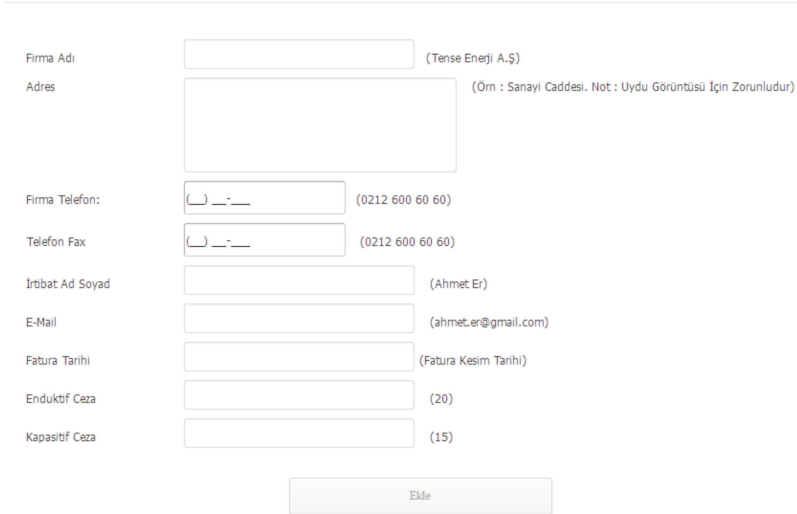


Figure-4 shows the 'Firma Ekle / Güncelle' (Add/Update Firm) form. It includes fields for 'Firma Adı' (Firm Name), 'Adres' (Address), 'Firma Telefon' (Firm Phone), 'Telefon Fax', 'İrtibat Ad Soyad' (Contact Name Surname), 'E-Mail', 'Fatura Tarihi' (Invoice Date), 'Endüktif Ceza' (Inductive Penalty), and 'Kapasitif Ceza' (Capacitive Penalty). There is an 'Ekle' (Add) button at the bottom.

Figure-4

Modem Ünitesi Ekle / Güncelle



Figure-4 shows the 'Modem Ünitesi Ekle / Güncelle' (Add/Update Modem Unit) form. It includes fields for 'Firma İsmi' (Firm Name), 'Mac Adress/IMEI', 'Bağlantı Zamanı' (Connection Time), 'Haberleşme Ünitesi' (Communication Unit), 'Sim Tel No' (SIM Phone Number), 'Ip', and 'Port'. There is a 'Kaydet' (Save) button at the bottom.

- 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.

- 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

Sayaç Ekle / Güncelle

Sayaç Marka : (Zorunlu) (Sayaç Markası *)

Sayaç Model : (Zorunlu) (Sayaç Modeli *)

Bağlantı : Şekli

Sayaç Seri No : (Zorunlu) (Sayaç Numarası : 11223344)

Modem Seç : Aç (Zorunlu) (Tıklayarak Kaydettiğiniz Modemi Seçiniz.)

Trafo : (Zorunlu) (Trafo Çarpanı Örn : 1)

Çarpanı * : (Zorunlu) (Sözleşme Gücü Örn : 30kWh)

Sözleşme Gücü : (Zorunlu) (Sayacınızın Bulunduğu Mevki Örn : Ankara Batıkent Metro)

Konum * : (Zorunlu) (Sayacınızın Bulunduğu Mevki Örn : Ankara Batıkent Metro)

Kaydet

- 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

Ana Sayfa Yetkilendirme Listeler Eklemler Grafik Gösterim Tüketim Fark Verileri Raporlar Çıkış

Sayaçlar

İletişim	Firması	Konum	Endüktif Oran(%)	Kapasitif Oran(%)	Model	Sayaç Seri No	Bağlantı Tipi	Modem Seri No
✓	TENSE Elektronik	Arge İstanbul Gaziosmanpaşa	7,28	4,6	KÖHLER TF.10/20	60036591	GPRS	353469043614544
Page size: 200 0 items in 1 pages								

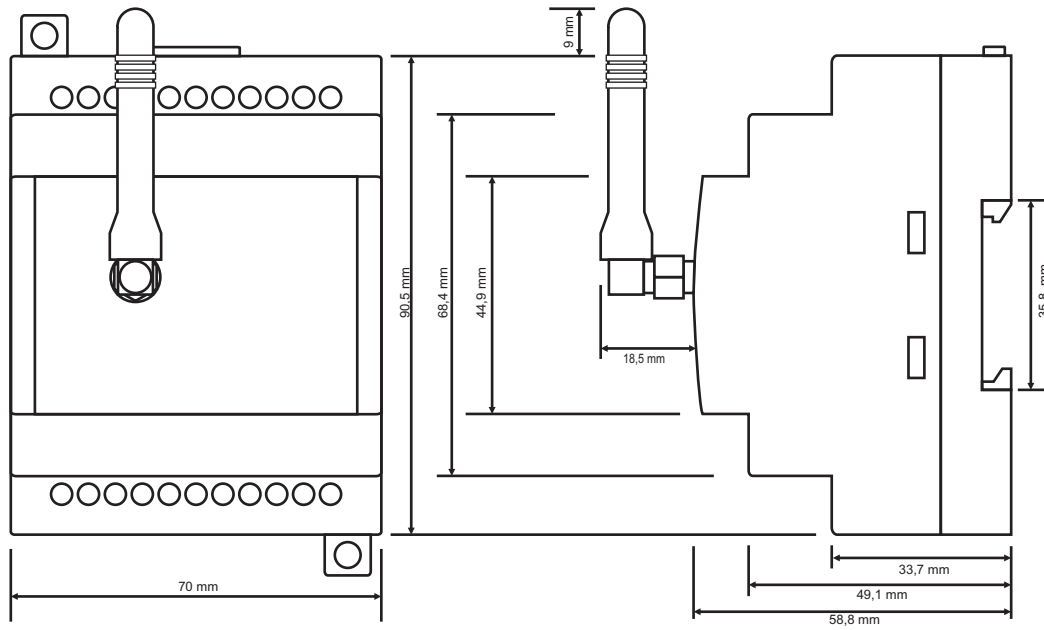
Figure-7

TENSE Elektronik Arge İstanbul Gaziosmanpaşa 60036591 Seri Numaralı Sayaç için veri detayları

Data Tarihi	Aktif (kWh)	Gündüz (T1) (KWH*1000)	Puant (T2) (KWH*1000)	Gece (T3) (KWH*1000)	Endüktif (kVarh)	Endüktif Oran	Kapasitif (kVarh)	Kapasitif Oran	Demand (kW)	Demand Tarihi
25.06.2014 09:35:37	051067.525	041318.777	008217.555	001531.193	002158.112	7,28	002044.470	4,6	032.328	13/06/14
25.06.2014 07:35:34	051039.795	041291.047	008217.555	001531.193	002157.153	7,31	002043.784	4,61	032.328	13/06/14
25.06.2014 06:35:35	051039.246	041290.498	008217.555	001531.193	002157.017	7,31	002043.700	4,61	032.328	13/06/14

- 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	-20°C.....+55°C
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 interface with Max.128 devices
	RS232 interface
	Optik probe interface
	TCP/IP communication protocol
Communication Type	GSM/GPRS
Antenna	2.2dBi SMA replaceable 90° antenna
Bandwidth	Quad band GSM/GPRS/EDGE
Weight	<200gr.
Protection class	IP20
Operatin Altitude	<2000m