

MerooraPlus

User Manual



Gemini AI

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Attention! There may be differences between the description and the program due to continuous improvements!!

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Installation

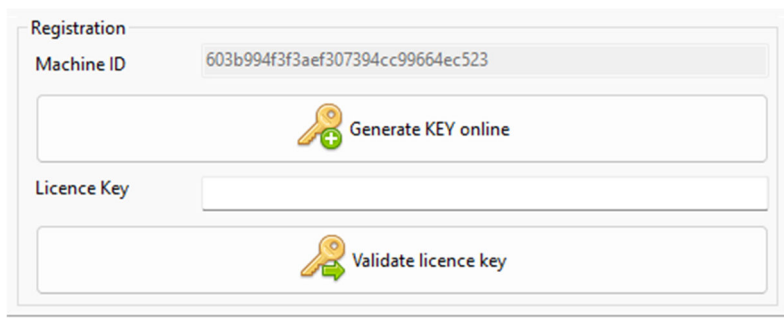
After downloading the program, there are two options for using it:

- installation, which the installation file will do automatically. (exe file)
- by extracting a compressed file to a specific location on your computer. (zip file)

When downloading, you have to pay attention to downloading the file according to the correct operating system!

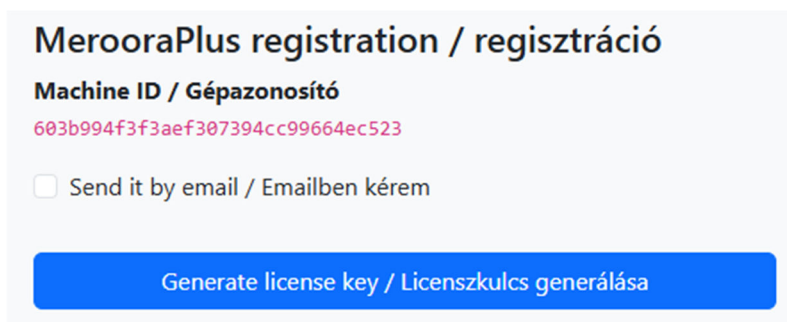
Registration

The program is free to use, but a registration is required. Without registration, up to 5 entries can be recorded in the meter, reading and invoice modules. Registration can be started from the Help menu. The Generate license key online button opens the registration interface. **The registration is always valid only for the given computer!**



The screenshot shows a registration window titled "Registration". It contains a "Machine ID" field with the value "603b994f3f3aef307394cc99664ec523". Below this is a button with a key icon and a plus sign, labeled "Generate KEY online". Underneath is a "Licence Key" input field. At the bottom is another button with a key icon and a checkmark, labeled "Validate licence key".

On the online interface, the user can choose to generate only a code or store the registration in the database by entering an email address. The stored email address is only for statistical purposes and can be used to notify users in case of extremely serious problems (when there are problems with the start of the program). **The user's consent is required to store the email address!**



The screenshot shows the "MerooraPlus registration / regisztráció" form. It displays the "Machine ID / Gépezonosító" as "603b994f3f3aef307394cc99664ec523". There is a checkbox labeled "Send it by email / Emailben kérem" which is currently unchecked. At the bottom is a blue button labeled "Generate license key / Licenzkulcs generálása".

MerooraPlus registration / regisztráció

Machine ID / Gépezonosító

603b994f3f3aef307394cc99664ec523

Send it by email / Emailben kérem

Email

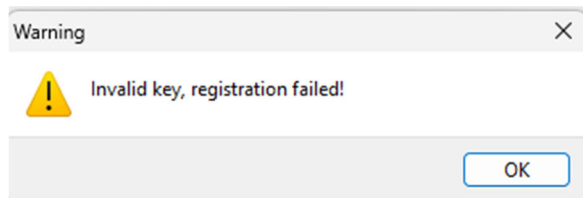
I agree to the storage of my email / Hozzájárulok az email tárolásához

Generate license key / Licenzkulcs generálása

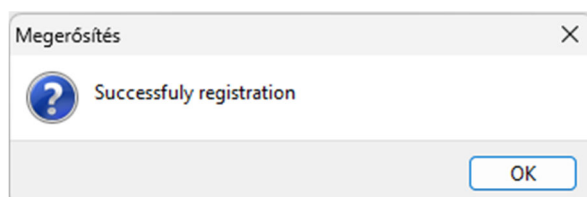
If a standard email address has been provided and consent has been given, the license key will be generated. The license key must be copied into the program's License Key field and then the registration must be completed by clicking on the validation button. **In case of a non-standard email address or lack of consent, the site will send an error message and the registration cannot be finalized.**

Consent is required to use email. / Az email használatához hozzájárulás szükséges.

The program could not validate the license key that you entered.



The program was able to validate the license key, the registration was successful.

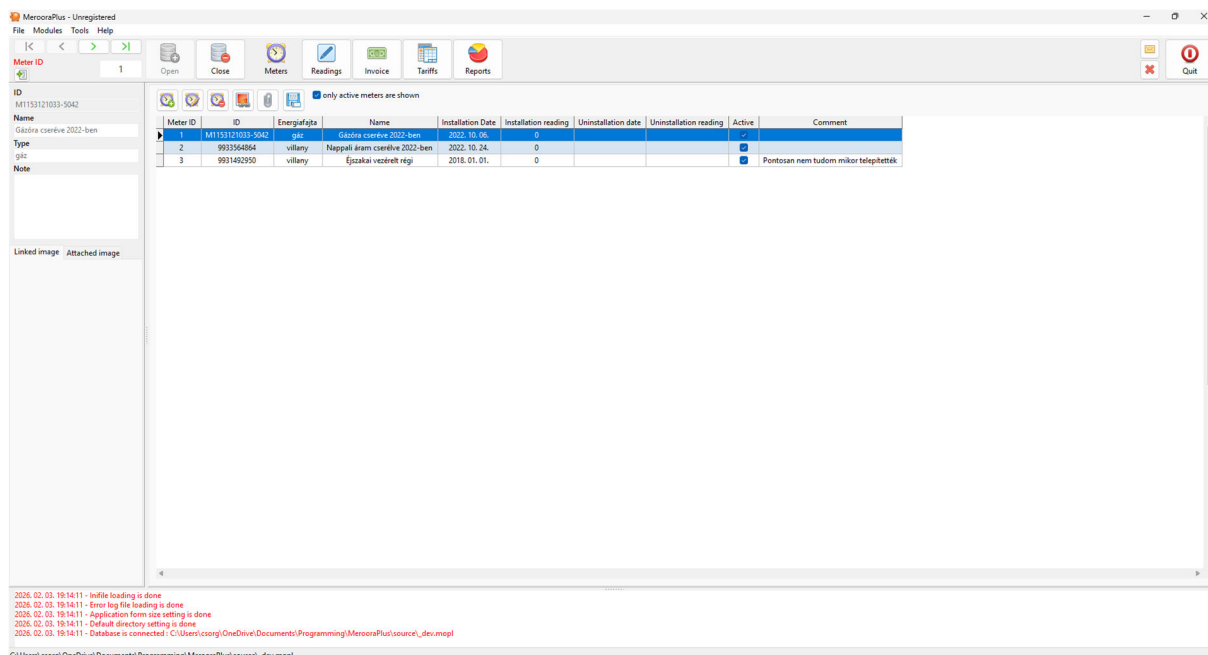


Registration is for statistical purposes only, so that the number of users can be seen.

Structure of the program

The program starts with the following screen by default. If you set the option to **Utoljára használt adatbázis automatikus megnyitása indításkor** start when the file is available, the last database you used will be automatically opened.

Home Screen



The program's interface consists of six main parts:

1. Menu – see below for details
2. Button bar – main actions
3. Current meter details – basic information and optionally pictures
4. Main modules -
5. Message list – messages sent by the program
6. footer - current database path

At the top of the program are the menus:

File

New: Create a database (.mopl) with a user-defined location and name.

Open: Open an existing database

Save As: Saves the database that is currently in use to the location specified by the user and with a new name.

Close: Closes the database that is currently in use.

Exit: close the program.

Modules

Meters: Open the module for recording meters.

Readings: open the module for reading meter readings.

Rates: Open the module for recording calculation and billing methods.

Invoices: open the module for recording invoices.

Statistics: Open a module for displaying PivotTable reports.

Tools

Preferences: opens the program's configuration options.

Compact database: Rebuild the database that is currently in use to free up unnecessary space.

Database backup: Makes a copy of the database that you are currently using.

Delete error file: delete the contents of error.log files in the program directory.

Delete message list: delete the current content of the list (5) at the bottom of the program.

SQL Editor: A module for analyzing the database with SQL commands, which is recommended for knowledgeable users only. **Erroneous database modifications can cause serious problems in the operation of the program!**

Help

Check for updates: The program checks the Internet for new updates available. The result can be read in the message list below.

User Guide: Open this document online or from a file stored on your computer.

Starting a ticket: if the user discovers a bug, he can start a bug for the developer on the open page. Tickets are investigated and may result in the correction or modification of the program if necessary.

Open website: the official website of the program can be opened.

Open Forum: The official user forum of the program can be opened.

Send email: you can send a message to the developer with the email you open.

Request a new feature: with the email opened, the developer can be asked to develop a new feature.

Opening a Facebook group: the official Facebook closed group of the program can be opened.

Registration: Register the program.

Application

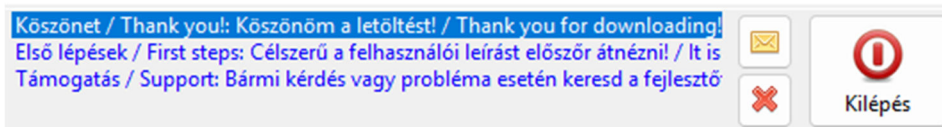
beta tester: You will be able to test new developments before release.

For translators: it will be possible to translate English or Hungarian language files into other languages.

About: Displays the program's about, which contains key information, such as version or enrollment status.

System messages

The program can display messages from the developer in the area next to the exit button. The purpose of these messages is to let users know about important information, such as a new program version, pricing file, or report.



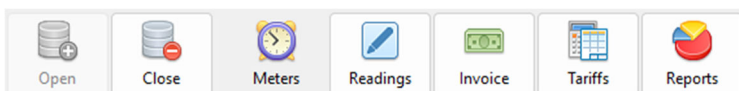
In the settings, you can specify that the program automatically checks for new messages when it starts. If this is not set, the user can also start retrieving messages by using the email button above. The given message can be opened by double-clicking and the details can be read. With the delete button, the selected message is marked as read, so it will no longer appear in the list.

Working principle

Using the program begins with installation and basic settings.

The next step is to add at least one meter, which is described in the next chapter. Additional features such as meter reading, tariffs, and invoices are linked to the meter ID, so once the meter is created, these features will also be available.

The background of the button of the current module is different from the other buttons. In this case, the meter module is open.



Meter reading and invoice data entry can be easily solved by using the given data entry windows. When entering readings and invoices, it must be ensured that the data entered really belongs to the meter that is currently current (3.). **Bills can be recorded without a meter, such as a TV or internet service fee.**

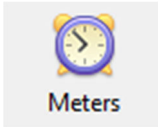
To create tariffs, you need to know the billing method, tariffs and discounts of the given service provider. In addition, to create a tariff, the use of this module must be understood and learned. **Tariff programming requires expertise, so changes to existing tariffs should be done with great caution to avoid potential errors.** This is explained in detail in a separate chapter.

A special feature of the program is that it can create a preliminary invoice calculation and invoice calculation using the given reading data, tariffs and calculation formulas.

Simple graphs can be created from the data entered.

On the data entry interfaces, the mandatory data is marked in red.

Meters



The first step is to record the meters, which can be done in the meter module.



The add button can be used to start the data entry window to record the new meter.

Filling in the fields marked in red is mandatory, its fulfillment is checked by the program and the OK button is activated after it is completed. For fields in the number format, the correct format is also checked. **So in a field for entering a number data, the program will not accept text format!**

The following information may or must be provided:

Meter identification number: usually the serial number of the meter.

Energy type: the type of energy that the watch is used to measure. The content of the Energy Type field in the Settings / Variables section can be freely changed and translated.

Name: freely enter a name for the meter for easier identification.

Installation date: when the watch was installed and started to be used.

Clock position at installation: the clock position from which the clock started.

Date of decommissioning: when the watch was removed and ceased to be used.

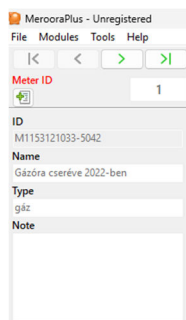
Clock reading on dismantling: the last recorded clock reading.

Active: the meter is in use or not. With filters, inactive hours can be ignored later.

Note: any note for the watch.

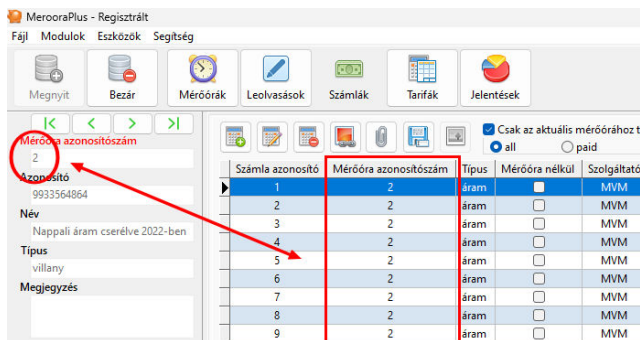
Clicking OK saves the meter data to the database.


On the left side of the program, the main data of the current meter are displayed.





This is necessary so that when working in another module, it is possible to see which meter is currently the current meter, i.e. which meter the new entry to be created in the other module will belong to.

The meter ID number marked in red is very important, as readings and invoices can be linked to the given meter with this identifier. This number is automatically generated for each meter.



The meters can be cycled using the following function . With the change of meter, the display of readings, tariffs and invoices also changes, as by default they always display the entries for the current meter.

Existing meter entries can be modified and deleted if necessary  .

It is NOT advisable to delete an existing meter entry, because then all other entries, meter readings, tariffs or invoices related to it will become redundant in the database, as there will be no base meter for them. Therefore, it is not recommended to delete the meter entry! It is recommended to use the active state of the meter.

It is possible to ignore inactive meters by using the function below  only active meters are shown.

Two types of files can be attached to each meter entry.



Only the path to the image file is stored in the database. The linked image is



displayed. It is important that you should attach ONLY a file in image format here, otherwise an error message will appear in the message list. So, for example, a PDF file should not be attached here.



The file is uploaded to the database. Its advantage is that the image is in the database, so it can be downloaded from there if necessary. Many uploaded files increase

the size of the database and can result in speed losses. If the file is in image format, it will



be displayed next to the referenced image. It is important that you should attach ONLY a file in image format here, otherwise an error message will appear in the message list. So, for example, a PDF file should not be attached here.



button to copy the image file stored in the database to a usable location. The file name will be the original after saving.

Readings

In the readings section, the meter readings belonging to the meters can be recorded. This module is only available if you have a meter attached.

To record the meter readings, you can use the functions known in the meter module, such as adding new ones, editing and deleting them.

The following information may or must be provided:

Consumption from this date: the date since the reading was made, i.e. probably the date of the previous reading

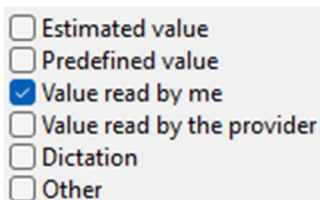
Date: date of reading

Value: clock position

It belongs to this month: which month the given clock reading belongs to. This is important if the data of the same month, the clock reading and the invoice, have to be compared, then there should be a connection between them. **It is advisable to decide at the beginning of using the program whether it will be documented based on the date of the reading or the time of consumption, for example. For example, if the reading is on the first of each month, the clock reading may belong to the previous month, since that is when the consumption occurred.** The mandatory nature of this field can be turned off in the settings!

It belongs to this year: the same as for the month.

Kind of reading: only one type of reading will be accepted by the program out of the six options.



Estimated value
 Predefined value
 Value read by me
 Value read by the provider
 Dictation
 Other

Note: any comments made by the user for reading.

Tariff name: if a tariff has been created, the tariff for the given meter and period can be assigned in the drop-down list. **If a tariff has already been assigned, but that assignment needs to be deleted, it can be done by pressing Ctrl+D.** Only the tariffs assigned to or without a meter are listed in the options.

By clicking on the Invoice pre-calculation button on the right side of the page, the program can calculate the expected invoice amount based on the given tariff, detailing the partial calculations used for the calculation.

Invoice pre-calculation		
Name	Value	Meas...
HU_MVM_gáz_normál_részszámla_leolvasás_becslés_2024-2026_v1		
TARIFFS		
Korrekciós tényező	1	
Fűtőérték	34,87	MJ/m3
Kedvezményes gázdíj	2,256	Ft/MJ
Háztartási alapdíj	766	Ft/hó
ÁFA	0,27	%
Éves kedvezményes	63645	MJ
Piaci ár	17,324	Ft/MJ
VARIABLES		
Current reading	4401	
Record date	2025. 04. 03.	
Today	2026. 02. 03.	
Cost of the invoice	0	
Quantity on the invoice	231	
Covered days on the invoice	32	
Start day of the invoice	2025. 03. 02.	
End day of the invoice	2025. 04. 03.	
Quantity since the previous invoice or reading	231	
Days from the last invoice or reading	31	
Quantity since previous invoicing turning date	0	
Days since turning date	0	
Quantity since last provider reading	1608	
Days since last provider reading	344	
CALCULATIONS		
Hőmennyiség	8055	
Számlázott napok	31	
Összes kedvezményes mennyiség	5405	
Kedvezményes mennyiség	5405	
Piaci mennyiség	2650	
Kedvezményes ára	12195	
Piaci mennyiség ára	45900	
Havidíj	766	
SZÁMLA VÉGÖSSZEG	74753	

Accounts

The invoice module is used to register invoices received from service providers. Invoices can be entered with or without fixed meters. Without meter

If the account differs from the others, for example an annual settlement account, it is possible to mark it as a special account Special invoice and omit them in queries or reports, or just query them.

The data entry interface looks like this.

The following information may or must be provided:

Invoice ID: the serial number of the invoice

Invoice type: usually the goods that the invoice is about. For example, internet, water, electricity or gas. The account type list can be changed in the Settings / Variables section.

Previous reading: if there is a value, the value of the previous clock position.

Reading: the current clock reading on the invoice.

Quantity: the quantity that is the basis of the invoice to be paid.

Cost: the amount to be paid.

Service Provider: the Service Provider issuing the invoice.

Belongs to this month: see the readings section.

It belongs to this year: see the readings section.

Date of issue: date of the invoice.

Date received: the date the invoice was received.

Payment deadline: the deadline indicated by the service provider.

Payment date: the date of completion.

- Estimated value
- Predefined value
- Value read by me
- Value read by the provider
- Dictation
- Other

Invoice value generation: Only one type can be selected.

Note: this is information that can be freely entered by the user.

Billing start date: The information on the invoice. **The mandatory nature of this field can be turned off in the settings! It is advisable to use this data to calculate the exact invoice amount.**

Billing end date: the information on the invoice. **The mandatory nature of this field can be turned off in the settings! It is advisable to use this data to calculate the exact invoice amount.**

Tariff name: if a tariff has been created, the tariff for the given meter and period can be assigned in the drop-down list. **If a tariff has already been assigned, but that assignment needs to be deleted, it can be done by pressing Ctrl+D.** Only the tariffs assigned to or without a meter are listed in the options. With the Invoice calculation check button on the right side of the page, the program can calculate and check the invoice amount on the invoice based on the given tariff, detailing the partial calculations used for the calculation.

fx Invoice calculation check		
Name	Value	Meas...
Current reading	1	
Record date	2025. 09. 11.	
Today	2026. 02. 03.	
Cost of the invoice	13462	
Quantity on the invoice	125	
Covered days on the invoice	30	
Start day of the invoice	2025. 08. 12.	
End day of the invoice	2025. 09. 11.	
Quantity since the previous invoice or reading	125	
Days from the last invoice or reading	30	
Quantity since previous invoicing turning date	250	
Days since turning date	60	
Quantity since last provider reading	625	
Days since last provider reading	149	
Paid since the previous invoice or reading	13462	
Days from the last invoice or reading	30	
Paid since previous invoicing turning date	26921	
Days since turning date	60	
Paid since last provider reading	67307	
Days since last provider reading	149	
CALCULATIONS		
Számlázott napok száma	30	
Elhasznált mennyiség	125	MJ
Fűtőérték	34,87	
Hőmennyiség	4445	MJ
Napi elhasznált hőmennyiség	148	MJ
Napi kedvezményes mennyiség	174,4	MJ
Kedvezményes mennyiség	5231	MJ
Elhasznált kedvezményes mennyiség	4445	MJ
Elhasznált piaci áras mennyiség	0	MJ
Kedvezményes mennyiség nettó ára	10028	Ft
Piaci mennyiség nettó ára	0	Ft
Háztartási alapdíj	766	Ft/hó
ÁFA	27	%
Nettó számlaérték összesen	10794	Ft
Bruttó számlaérték összesen	13708	Ft

Special account: the option to indicate that the given account is different from the others, for example, an annual settlement account.

The program displays the current meter identification number at the bottom, so that the user can see which account it belongs to. This helps to avoid typos. If the Meter is not activated, no meter ID will be displayed.

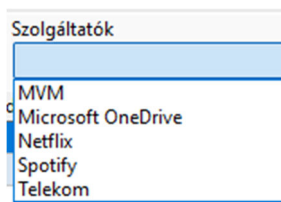
1 Meter ID

Within the module, it is possible to apply filters, which can be used to list only the invoices of the active meter, as well as paid, unpaid and overdue invoices. (all=all, paid=paid, unpaid=unpaid, expired=expired)

Only invoices related to the current meter

all paid unpaid expired

If not only active accounts are displayed Only invoices related to the current meter, it is



possible to list by service providers

When recording or modifying each invoice, special attention must be paid to whether the given invoice is recorded with the correct meter or without a meter.



By clicking on the button, if there is a picture attached to the invoice, it can be displayed.



If there was a tariff change within an invoice, it is advisable to split the invoice and enter it separately, although the built-in special method described later can handle this. For example, here, the transmission fee changed between 2023 and 2024.

Átviteli díj "A1"	2023.12.16-2023.12.31	114	kWh	9,8000 Ft/kWh	1.117	27	1.419
Átviteli díj "A1"	2024.01.01-2024.01.15	106	kWh	6,8000 Ft/kWh	721	27	916

Tariffs

The tariff module consists of two main parts:

- Tariffs
- Formulas

Meter ID	Tariff ID	Tariff name	Key	Key name	Value number	Value date	Value string	Measure	Comment	Active
1	39	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	Korrekciós tényező	korr.teny	1,0198				Ig 1, elszám	<input checked="" type="checkbox"/>
1	40	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	Fűtőérték	futo.ertek	34,96			MJ/m ³	szá a számlás	<input checked="" type="checkbox"/>
1	41	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	Kedvezményes gázdíj	kedv.ar	2,256			Ft/MJ		<input checked="" type="checkbox"/>
1	42	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	Piaci gázdíj	piac.ar	17,324			Ft/MJ		<input checked="" type="checkbox"/>
1	43	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	Hátartási alapdíj	hazt.alap	766			Ft/hó		<input checked="" type="checkbox"/>





Meter ID	Formula ID	Tariff name	Sequence	Name	Variable name	Expression	External
1	133	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	1	Számlázott napok száma	napok	days_count	<input type="checkbox"/>
1	130	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	2	Elhasznált mennyiség	hasznalt	quantity_value	<input type="checkbox"/>
1	144	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	3	Fűtőérték	futo	CASE(extractyear(read_date),35.0,2022,34.57,2023,34.35,2024,34.49,2025,34.87,2026,34.87)	<input type="checkbox"/>
1	131	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	4	Hőmennyiség	homennyiség	hasznalt * korr.teny * futo	<input type="checkbox"/>
1	137	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	5	Napi elhasznált hőmennyiség	hasznalt.napi	homennyiség / napok	<input type="checkbox"/>
1	132	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	6	Napi kedvezményes mennyiség	napi.kedv	kedv.eves / 365	<input type="checkbox"/>
1	134	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	7	Kedvezményes mennyiség	ossz.kedv	napok * napi.kedv	<input type="checkbox"/>
1	135	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	8	Elhasznált kedvezményes mennyiség	hasznalt.kedv	IF(homennyiség <= ossz.kedv, homennyiség,ossz.kedv)	<input type="checkbox"/>
1	136	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	9	Elhasznált piaci ársz. mennyiség	hasznalt.piaci	IF(homennyiség >= ossz.kedv, homennyiség - ossz.kedv, 0.0)	<input type="checkbox"/>
1	138	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	10	Kedvezményes mennyiség nettó ára	kedv.fizet	hasznalt.kedv * kedv.ar	<input type="checkbox"/>
1	141	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	11	Piaci mennyiség nettó ára	piaci.fizet	hasznalt.piaci * piac.ar	<input type="checkbox"/>
1	139	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	12	Hátartási alapdíj	h.alap	hazt.alap	<input type="checkbox"/>
1	140	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	13	ÁFA	afas	afa * 100	<input type="checkbox"/>
1	142	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	14	Nettó számlaérték összesen	netto	kedv.fizet + piaci.fizet + h.alap	<input type="checkbox"/>
1	143	HU_MVM_gaz_normal_részszámla_havi_2022-2026_v1	15	Bruttó számlaérték összesen	brutto	netto * (1 + afa)	<input type="checkbox"/>

Tariff part:

In this section, you can specify the default values required for calculating the invoice. To do this, you need to know the billing method of the given service provider and the tariffs for the current period. Such a tariff is, for example, the price of one unit of energy, from which the price of the energy consumed can be calculated together with the amount consumed. After clicking on the Date Value, a date entry window will appear on the right. The date selected there can be copied to the current field by clicking the Save button.

Tariffs can be entered using the button bar above the table section.



Click to  add a row, save   or discard the data entry. It is a good idea to update the rates after each change .

The Rate Name, Key and Key Name fields are required. The tariff identifier is provided by the program, it cannot be changed.

If there is already data entered, the name of the tariff will be automatically filled in at the new row.

If it is not necessary to assign the tariff to a meter, then that field must be left empty.


Complete tariffs can also be downloaded from the Internet, from the developer's site. The list of available tariffs is displayed in the form below, and then the tariff is downloaded to the tariff directory of the program by clicking on the Download tariff button.

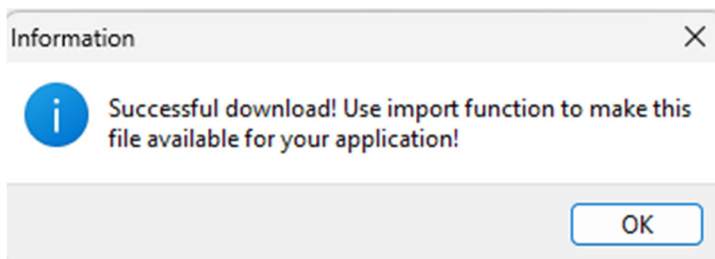
Tariff download


Download tariff

Tariff name	Created by	Created on	Filename
HU_MVM_gáz_normál_résszámla_havi_2024-2026_v1	Csörgő Tamás	2026. 01. 31.	HU_MVM_gáz_normál_résszámla_havi_2024-2026_v1.db
HU_MVM_gáz_normál_résszámla_leolvasás_becslés_2024-2026_v1	Csörgő Tamás	2026. 01. 31.	HU_MVM_gáz_normál_résszámla_leolvasás_becslés_2024-2026_v1.db
HU_MVM_gáz_normál_diktálás_havi_2024-2026_v1	Csörgő Tamás	2026. 01. 31.	HU_MVM_gáz_normál_diktálás_havi_2024-2026_v1.db

Ez a tarifa az MVM résszámlás havi gázzsámla számítására készült. Megnézi a rögzített teljes fogyasztást, majd a számla által lefedett napokból kiszámolja a kedvezményes és esetleges piaci mennyiséget is. Ezekből az igénybevehető és igénybevett mennyiségeket is nézi. Mivel ez havi számlázást néz, a számlázott időszakot szétbontja az első és a második hónapra vonatkozó adatokra és tarifákra. FONTOS, hogy az adatbevitelnél a számla nyitó és záró dátumát is meg kell adni! A fűtőértéket és a korrekciós tényezőt ellenőrizni kell a tarifa adatoknál és szükség esetén módosítani. Ennek hiánya minimális eltérést eredményezhet a számla végösszegében! Ez a tarifa akkor számol helyesen, ha a kezdő és záró dátum két egymást követő hónapban vannak.

The downloaded tariff can be copied and used to the database using the import command. After importing, it's a good idea to update your tariffs .



A new rate can be created by  clicking on the sign to add a new line to the rate, but entering a completely new name for the rate name. After that, the program will handle this new tariff separately.

Formulas section:

The program knows and can handle two types of formula handling. One is the normal mathematical calculations (+, -, *, /, >, <, =, IF, CASE, etc..), while the second is a built-in special method.

Normal mathematical calculations

By using the default values given in the tariff section, the billing methods can be programmed here. When you click on the Formula box, a formula editor window appears on the right. The formula entered there can be copied to the current field by clicking the Save button.

Data entry can be performed as described in the tariff.

The decimal place specified in the formulas is taken into account in the formula calculation. If the specified value is 0, integers will be counted. Usually service providers also calculate with whole numbers.

In the course of the formulas, the default values in the above tariff section can be used based on the "Key Name".

Example:

Kulcs	Kulcs neve	Számérték	Dátumérték	Mértékegység	Megjegyzés	Aktív
Kedvezményes ár	kedv.ar	4,94		Ft/kWh		<input checked="" type="checkbox"/>
Átviteli forgalmi díj	atv.forg.dij	4,84		Ft/kWh		<input checked="" type="checkbox"/>
Elosztói forgalmi díj	el.forg.dij	18,56		Ft/kWh		<input checked="" type="checkbox"/>
Elosztói alapidj	el.alapidj	120,5		Ft/hó		<input checked="" type="checkbox"/>
Áfa	afa	0,27		%		<input checked="" type="checkbox"/>
Kedvezményes forduló kezdődátuma	sum_from_date		2025. 07. 31.			<input checked="" type="checkbox"/>
Kedvezményes forduló záródátuma	sum_to_date		2026. 08. 01.			<input checked="" type="checkbox"/>
Havi kedvezményes limit	h.limit	210,25		kWh		<input checked="" type="checkbox"/>
Piaci ár	piac.ar	31,8		Ft/kWh		<input checked="" type="checkbox"/>

Sorrend	Név	Változó neve	Képlet
1	Elfogyasztott mennyiség	f.menny	quantity_value
2	Kedvezményes mennyiség	k.menny	if(f.menny < h.limit,f.menny
3	Piaci mennyiség	p.menny	if(f.menny > h.limit,f.menny-h
4	ESZ Lakossági "A1" kedvez. árszabás ára	f.kedvez.ar	(k.menny*kedv.ar*(1+a
5	ESZ Lakossági "A1" piaci árszabás ára	p.ar	(p.menny*piac.ar*(1+a
6	Átviteli forgalmi díj "A1"	f.forgal.dij	(value_diff*atv.forg.dij*(1
7	Elosztói forgalmi díj "A1"	f.elosz.dij	(value_diff*el.forg.dij*(1
8	Elosztói alapidj "A1"	f.elosz.alap	(el.alapidj*(1+afa))

Képletek

```
if(f.menny < h.limit,f.menny,h.limit)
```

The formula is: **if(f.menny < h.limit,f.menny,h.limit)**

It checks whether the value of the variable "f.menny", which means the value of "quantity_value" from the data entered into the database, is less than the "h.limit", which is a default value for tariffs. That is, it checks whether the quantity recorded by the user is below the monthly limit quantity or not. If it is not more than the discounted amount, it saves the value of "f. menny " as the variable "f. menny ", i.e. the amount used below the limit. If it is more, the value of the "k. menny " will be the "h.limit" because the maximum discount has been used by the consumer.

Built-in special method

With the help of this, it is possible to analyze periods and apply special formulas to them. The basis of this method is that the program goes through the designated periods.

Looks at the next date intervals.

Consumption from this date	2024.06.03
Date	2024.07.02

For readings:

Invoiced period from this date	2025.08.12
Invoiced period until this date	2025.09.11

For invoices:

When you go through the period, you look at the date daily and store the number of days in the variable "n". The "yyyy" variable contains the years, the "mm" variable contains the months, and the "dd" variable contains the days. These four variables can be used in formulas. For example, if the formula is "n*20", then each day, i.e., 1, is multiplied by 20, so that the end result is the number of days * 20. This can be supplemented, for example, with an IF function, and then periodic or annual rates can be assigned separately for the days. **For this advanced method to run, the "External" check mark in the formulas table**

Képlet	External
n * 20	<input checked="" type="checkbox"/>

must be turned on.

With this method, you can mainly manage accounting-type invoices, which go through the period and, if necessary, calculate the costs on a daily or monthly annual basis based on the formulas.

Other variables

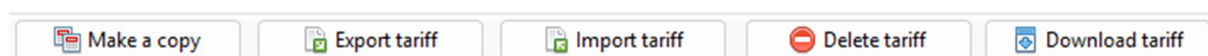
In addition to the default values specified in the above pricing section, other data can also be used in the formulas. These are the so-called fixed data from the database, which are automatically generated by the database.

Variable names and data contents:

	Variable Name	Reading in module	In the Invoice module
1*	value_diff	the amount between the current and previous readings (consumption)	The quantity (consumption) between the current and previous billing values
2*	days_diff	the number of days between the current and previous reading day	The number of days between the current and previous billing dates
3*	value_sum_turndate	the sum of the values read since the current and the specified cut-off date (sum_from_date)	
4*	days_count_turndate	The number of days between the current and the specified record date (sum_from_date)	
5*	value_sum_provider	Sum of the readings taken since the reading by the current and last provider	
6*	days_count_provider	the number of days between the current and last reading by the provider	
7*	read_value	the value of the current clock position	
8*	read_date	the date of the reading of the current clock position	End date of the invoice clock reading
9*	today_date	today	
10*	cost_value	0	Invoice amount

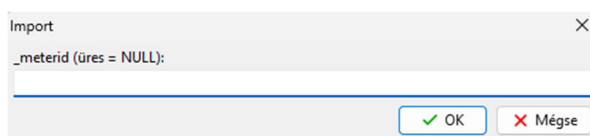
11*	quantity_value	the amount between the current and previous readings (automatically calculated)	Current quantity
12*	days_count	The number of days that have elapsed between the previous and current reading dates. If there is no date value, it is 0.	The number of days between the start and end dates of the invoice. If there is no date value, it is 0.
13*	start_day_date	the date of the previous reading. If it is not specified, then today.	The start date of the invoice. If it is not specified, then today.
14*	end_day_date	the date of the reading. If it is not specified, then today.	The closing date of the invoice. If it is not specified, then today.
15	value_diff_cost	-	The amount of the current invoice
16	days_diff_cost	-	The number of days between the current and previous billing
17	value_sum_turndate_cost	-	the amount paid since the current and specified record date (sum_from_date)
18	days_count_turndate_cost	-	The number of days between the current and the specified record date (sum_from_date)
19	value_sum_provider_cost	-	the amount paid since the reading by the current and last provider
20	days_count_provider_cost	-	the number of days between the current and last reading by the provider

The names of these variables are permanent, they cannot be changed and they cannot be given as new variable names.



With the completed tariffs, the following operations can be performed:

- Make a copy: You can make a copy of the tariff that the selected cell is on with a different name.
- Export Rate: You can create a *.db file of the tariff on which the selected cell is located, which can be stored for security reasons or passed on to someone else.
- Import Tariff: Add a *.db pricing file to the database in use. During the import, you will be asked which meter to assign the new tariff to.

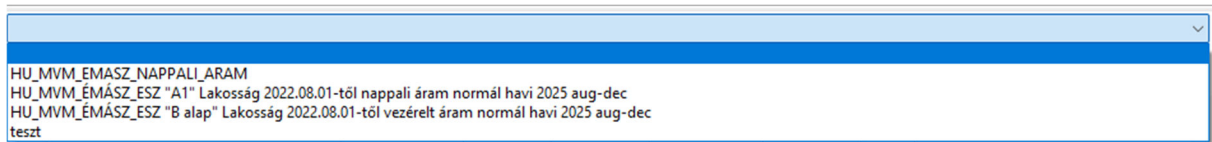


If it is not necessary to assign it to a

meter, it must be left blank. **By using the Cancel button, the import will also be done with an empty meter status.** If this tariff is unnecessary, it will be possible to cancel it using the cancel tariff function.

- Clear Rate: The specific rate that the selected cell is on will be completely deleted along with the related formulas.

Any tariff can be loaded and modified from the drop-down list.



Formula engine technical part:

The expression interpreter handles the following types:

- text,
- integer,
- decimal number,
- Date and time
- true – false

The following actions are allowed:

- + - / *
- not and or xor
- ()

For text, addition (+) results in concatenation.

Operator precedence is taken into account. For the same precedent, the evaluation is done from left to right.

Normally, both operands in binary operations must be of the same type.

For example, if one operation in an IF function is a decimal, then the other must be a decimal as well. If you want a value of 0 next to the decimal, you have to enter it in the format 0.0.

There are two exceptions: the engine converts integers to decimals or dates when it detects that one of the operands is of decimal or date type.

Various text actions

length, copy, delete, pos, lowercase, uppercase, stringreplace, comparetext.

Date/Time Operations

date, time, now, dayofweek, extractyear, extractmonth, extractday, extracthour, extractmin, extractsec, extractmsec, encodedate, encodetime, encodedatetime, shortdayname, shortmonthname, longdayname, longmonthname, formatdatetime.

Mathematical operations

pi, cos, sin, arctan, abs, sqr, sqrt, exp, ln, log, frac, int, round, trunc.

Conversion actions

inttostr, strtoint, strtointdef, floattostr, strtfloat, strtfloatdef, booltostr, strtobool, strtobooldef, datetostr, timetostr, strtodate, strtodatedef, strtotime, strtotimedef, strtodatetime, strtodatetimedef.

The engine recognizes two specially handled built-in functions:

- IF > IF(Expr, Res1, Res2)

If Expr is set to True, the result is Res1, if it is False, it is Res2. Res1 and Res2 must have the same type, and Expr must be a Boolean expression.

- CASE > CASE(Tag, Def, Label1, Value1, Label2, Value2, ...)

CASE compares the value of the Member with the values of Label1, Label2, etc. In case of a hit, the corresponding Value is returned. If there is no match, the Def value will be the result.

It follows that:

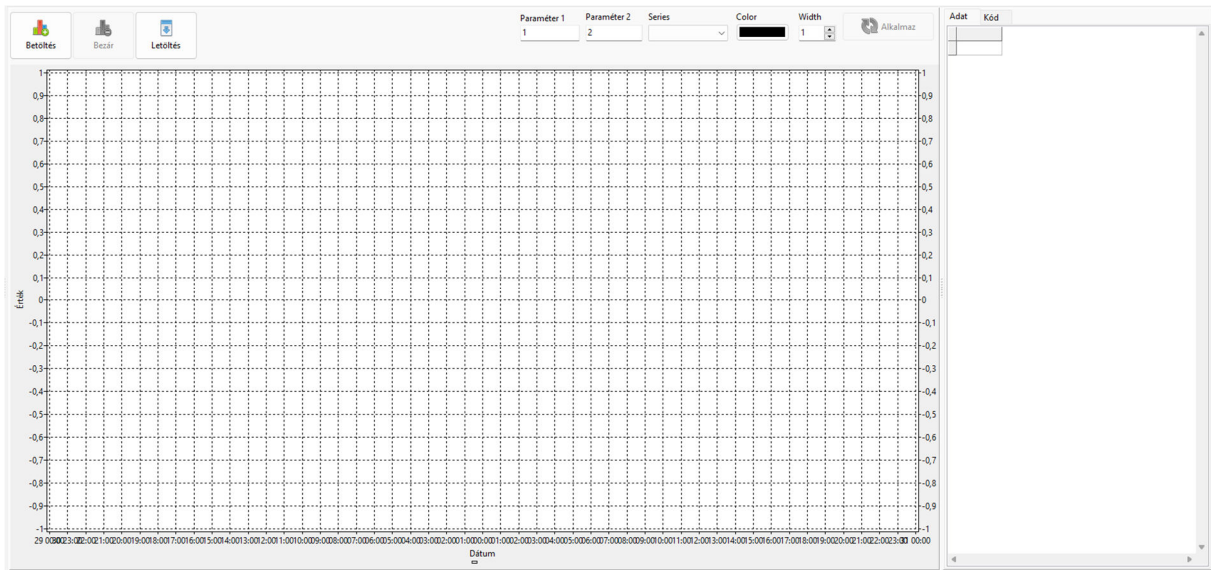
- The number of arguments is always even, and at least 4
- The type of Tag, Label1, Label2 must be the same
- The type of Def, Value1, Value2 must also be the same

Reports

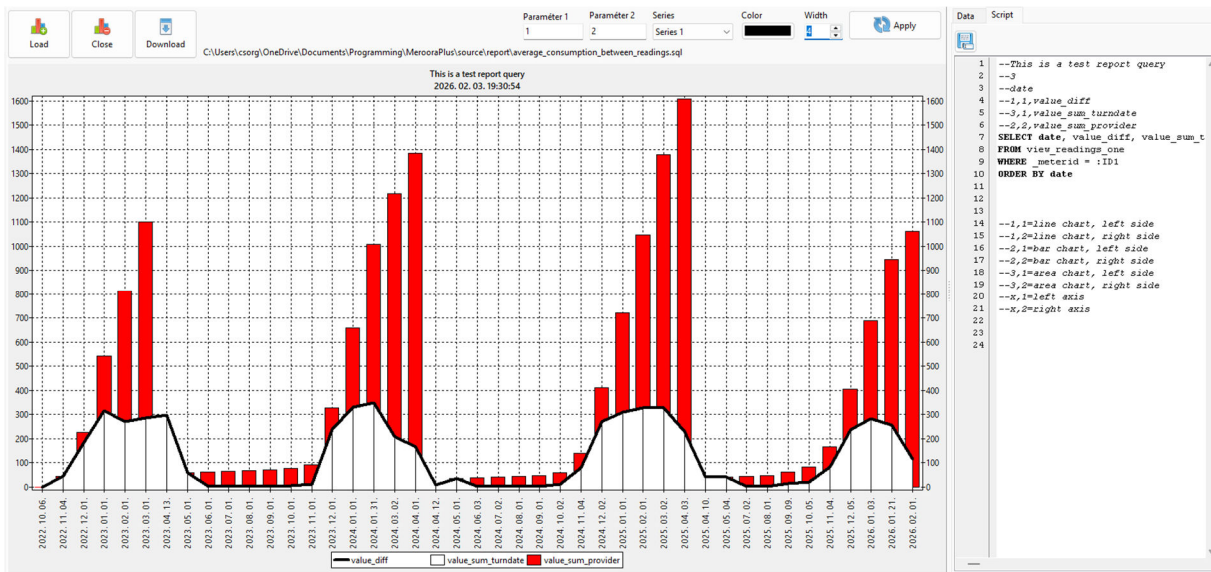
In the Reports module, you can create reports that work with SQL commands. The interface consists of four main parts:

- buttons, settings
- Graph

- the data set from which the graph is made
- code that generates the dataset



The Load button opens the report, which is a *.sql file. The program runs the SQL command, creates the data set, loads the SQL file, and creates the graph.



```

Adat  Kód
1  --Representation of consumptions between consecutive readings
2  --3
3  --date
4  --1,1,value_diff
5  --2,1,value_sum_turndate
6  --2,2,value_sum_provider
7  SELECT date, value_diff, value_sum_turndate, value_sum_provider
8  FROM view_readings_one
9  WHERE _meterid = :ID1
10 ORDER BY date
11
12
13
14 --1,1=line chart, left side
15 --1,2=line chart, right side
16 --2,1=bar chart, left side
17 --2,2=bar chart, right side
18 --3,1=area chart, left side
19 --3,2=area chart, right side
20 --x,1=left axis
21 --x,2=right axis
22

```

It is also possible to parameterize the SQL command with two parameters.

Example:

The SQL command references the :ID1 parameter. In the module interface of the report, Parameter 1 is specified, i.e. the SQL command will use it. In this case, as the meter ID.

```

Adat  Kód
1  --Representation of consumptions between consecutive readings
2  --3
3  --date
4  --1,1,value_diff
5  --2,1,value_sum_turndate
6  --2,2,value_sum_provider
7  SELECT date, value_diff, value_sum_turndate, value_sum_provider
8  FROM view_readings_one
9  WHERE _meterid = :ID1
10 ORDER BY date
11

```

The first lines of the SQL command, which are before the SQL command, are the configuration data.

```

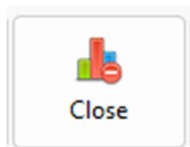
--Representation of consumptions between consecutive readings
--3
--date
--1,1,value_diff
--2,1,value_sum_turndate
--2,2,value_sum_provider

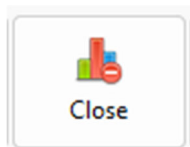
```

- First row: Name of the report
- Second row: Number of sequences
- third row: the name of the column of the dataset containing the X-axis data
- from the fourth row:
 - o First Value: Type
 - 1 = line
 - 2 = column
 - 3 = area
 - o Second value: axis

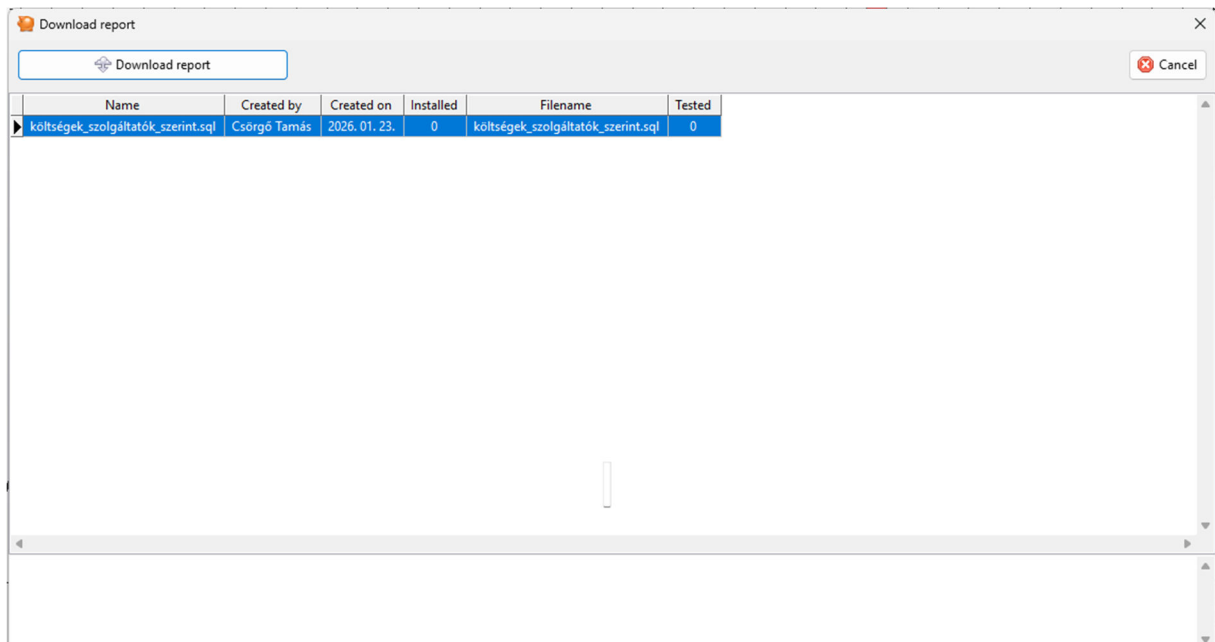
- 1 = left
- 2 = Right
- third value: the name of the column of the dataset containing the Y-axis data

The appearance of the completed graph can be modified. First, you need to select the sequence and then set the display values that you want to change.



The  button resets the reporting module.

Reports can also be downloaded from the Internet, from the developer's site. The interface below contains a list of downloadable reports, which can be downloaded by clicking the Download Report button. The downloaded reports are saved to the program's report directory.

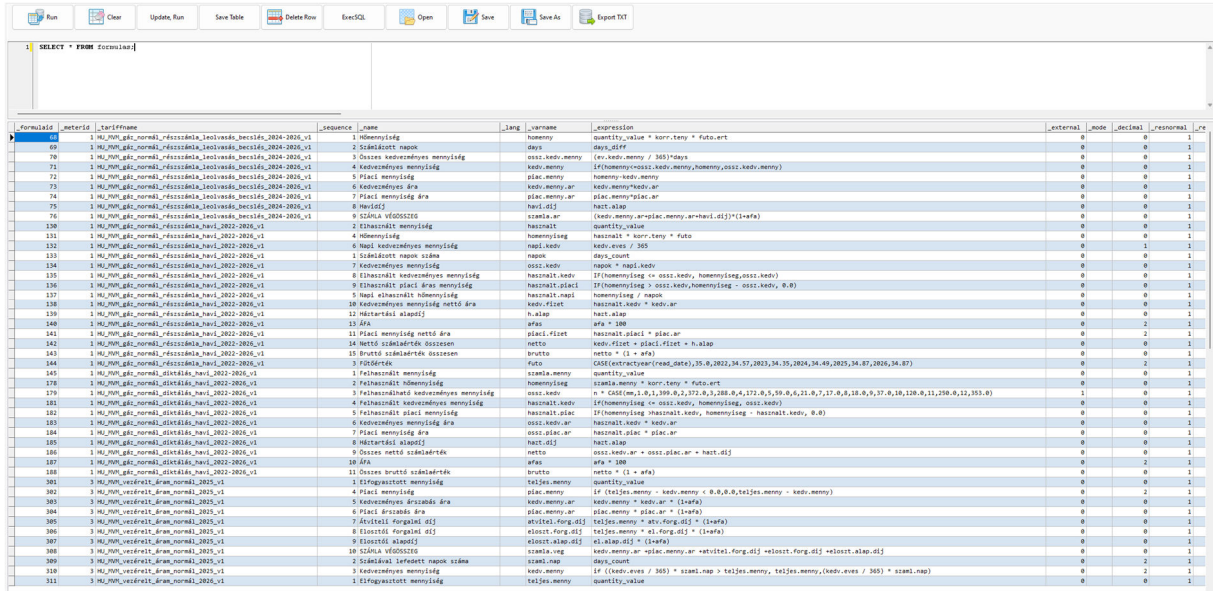


The downloaded reports can be used with the Load button of the Report module.

SQL Editor

The SQL editor is only for advanced users, as it can lead to database corruption or data loss. In the best case, only the use of the program stops. Therefore, this module should be used with great care.

Editor interface:



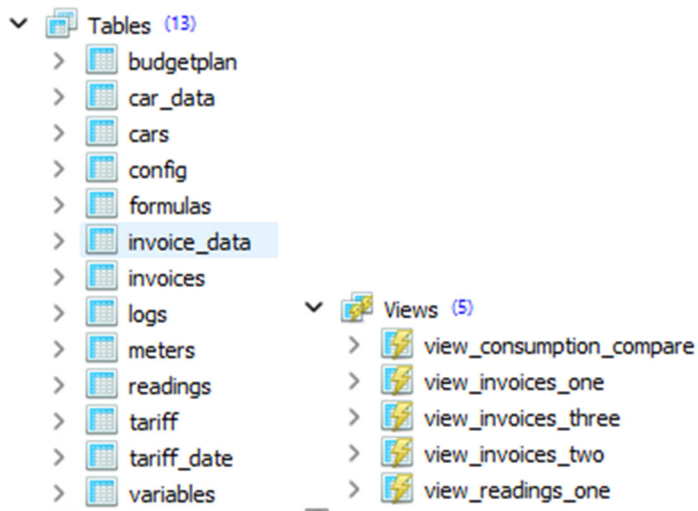
It consists of three parts:

- Buttons for operation
- Code
- Scoreboard

This part of the program is not documented in detail, as it is only for development and maintenance purposes. If you need more information, please contact the developer.

Database structure

The database contains the following tables and views:



The designations have been included in this documentation only because they can be useful in the preparation of reports because of the extraction of data.

Data from any table can be extracted for viewing in the SQL module by using the following SQL command:

```
SELECT * FROM table or view name
```

```
1 | SELECT * FROM tariff;
```

The database contains some VIEW tables that automatically provide certain data.

view_readings_one - processes the "readings" table based on the clock positions.

view_invoicess_one – processes the "invoices" table based on the invoice amount

view_invoicess_two – processes the "Invoices" table based on clock readings

view_invoicess_three – processes the "invoices" table based on the input consumption

view_consumption_compare – compares the "invoices" and "readings" tables

Conclusion

Thank you for downloading this program and I'm interested in using it. I wish you to find in it the opportunity you needed.

If you have any questions, comments or suggestions, please contact me.

Thank you!

