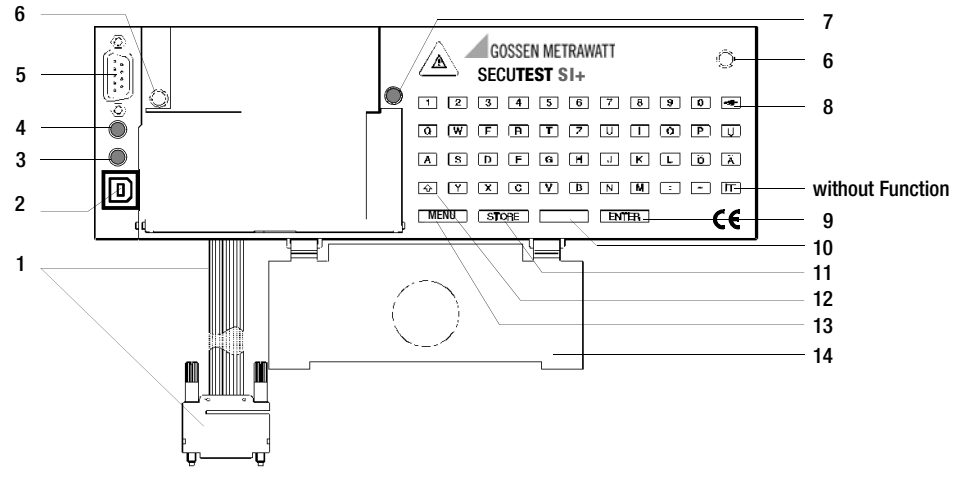
Operating Instructions

GOSSEN METRAWATT

SECUTEST | SI+



3-349-613-15
7/9.22



Standard Equipment

1 Input and memory module **SECUTEST SI+**,
1 USB connector cable,
1 Operating instructions

The Driver Control software for installing the USB device driver is available from our website.

1 Ribbon cable with RS232 plug for connection of the SI module to the tester

2 USB socket connector for the transmission of stored data to the PC

3 LED signal lights up green when USB interface is active
provided the USB device driver has been installed to the connected PC

4 LED signal lights up green when RS232 interface is active

5 RS232 connection socket for PC, barcode reader or RFID scanner

6 Knurled screw

7 Signal LED, lights up briefly when connected with the test instrument and remains deactivated afterwards

8 Clear key ← to delete single characters or
complete lines in connection with the shift key ▲

9 Enter key ENTER to conclude the entry and go to the next entry prompt

10 Space key ▭ to enter spaces

11 Storage key STORE to store the last test report

12 Shift key ▲ to shift the keyboard from small letters to capital letters and vice versa
Key ' shifts to full stop (.)
Key - shifts to underline (_)

13 Key MENU to activate the SI module

14 Flap to fix the probe lead in the lid of the SECUTEST...

Combined keyboard instructions for report entry
(only for SECUTEST... test instrument)

▲ + ← Deletes the line on which the cursor is positioned.

▲ + 1 All text entries are deleted,
provided the cursor is positioned in an active text entry section

▲ + STORE The report stored last is deleted,
provided no SI module window is active.

▲ + 0 A reset is done, the SI module is initialized, all stored data are deleted!
This is only possible in the **Setup** menu under **Clear memory**.

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1 Applications

The SI (**S**torage **I**nterface) module **SECUTEST SI+** is a special accessory for the the following test instruments:
SECUTEST..., SECULIFE ST, PROFITEST 204 and METRISO 5000 D-PI.
It is installed in the lid of the tester and fastened with two knurled screws. The test results determined with the test instrument are directly transferred to the SI module via the ribbon line.

1.1 Application SECUTEST...

All measured values for approximately 300 reports (amount of one working day) can be stored in this memory.
Via a serial RS232 port or an USB interface, the stored measured values can be transferred from the **SECUTEST SI+** to the PC, archived and processed there with our software packages (e.g. for the preparation of invoices), or printed directly into a pre-made form.



Note
Transmission of the data from the memory of the SI module **to the PC via the RS232 or USB interface** is only possible when the SI module is connected to the test instrument.

Note
Data transmission from the memory of the SI module to the PC **via USB interface** is only possible if you have installed the required device driver to your PC via the Driver Control software.

USB Device Driver

The **Driver Control** software for installing the USB device driver including the operating instructions are available for download from our website

https://www.gmc-instruments.de/en/services/download-center/

Free of Charge Starter Programs

An overview of the up-to-date report generating software with and without database for testers (free starter programs and demo software for data management, report and list generation) is provided on our website. These programs can be downloaded either directly or after registration.

https://www.gmc-instruments.de/en/services/download-center/

1.2 Application PROFITEST 204 and METRISO 5000 D-PI

Operation with these test instruments is limited to the function „Entry of comments via the alphanumeric keyboard.“ Only the following chapters are relevant in this context:

chap. 2	Safety Features and Safety Precautions
chap. 3.1	Installing the SI Module
chap. 10	Technical Data (without memory function)
chap. 11, 12 and 13	Maintenance and Addresses

1.3 Meaning of the Symbols on the Unit



Warnung concerning a point of danger
(Attention: observe documentation!)



indicates EC conformity



This device may not be disposed of with the trash. Further information regarding the WEEE mark can be accessed on the Internet at www.gossenmetrawatt.com by entering the search term WEEE.

2 Safety Features and Safety Precautions

When the **SECUTEST SI+** is properly used, the safety of both the user and the unit is assured.
In order to meet the legal regulations for electromagnetic compatibility (EMC), an electrically conductive plastic material is used for the housing for shielding. Touching of the SI module under normal operation causes no danger as contact-hazardous voltages do not occur in the **SECUTEST SI+**.



Attention!
The housing of the SI module has electrically conductive characteristics that are similar to those of metal. It must not come into connection with live parts.

Read the operating instructions carefully and completely before you use your unit and follow them in all respects.



Data Backup (only instruments of the SECUTEST... series)

The measurement, report and entry data can be safely stored in the RAM of the **SECUTEST SI+** storage module.
We advise you to regularly transmit your stored data to a PC in order to prevent potential loss of data in the storage module.
We assume no liability for any data loss.
For data processing and management we recommend our software packages, see page 7.

3 Getting Started

3.1 Installing the SI Module

- *SECUTEST... only:* Remove the cover from the lid of the SECUTEST.... For this purpose, press the cover to the side.
- Insert the SI module into the lid and fasten it with the two knurled retaining screws.
- Connect the module to the connection socket of the RS232 interface of the test instrument via the ribbon cable.
- *SECUTEST... only:* Below the SI module there is a compartment provided in the lid for the storage of the probe lead. Lock the flap inserted in the module on the hinge of the lid so that the probe lead will not fall out when the lid is closed.

3.2 Activating the SI Module

To activate the SI module, a connection to the RS232 interface of the SECUTEST... must be established and the test instrument must be connected to the mains.



Attention!
As long as the signal lamp lights up at the SI module, a synchronization between the test instrument and the SI module is being performed during which no test data may be imported from the SI module. Do not press any key at the test instrument.

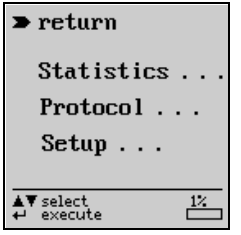
Initial Start-up – Clear memory

For initial start-up, the memory should be completely cleared by means of a reset:

- Activate the menu function by pressing MENU .
- Select the **Setup** menu and then the menu **Clear memory**.
- Press ▲ + 0 simultaneously.
- Reset date and time after initialization.

Request menu

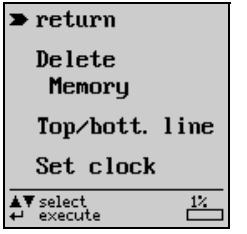
Press 1x MENU



Selection and execution of the functions listed in the menu is done by means of the corresponding keys on the test instrument.
The other operating controls and connectors should remain unchanged while the SI module is active so that the data traffic will not be disturbed.
The menu item "Return" causes a return to the LC display presented prior to activating the SI module.
The display 10% shows that 10 % of the storage capacity are already occupied. When 99% of the memory are filled, the data should be transmitted to a PC and stored there. Subsequently, the existing data must be deleted before new data can be stored to memory. Otherwise, the messages „Memory full“ and „Clear memory in setup“ appear.

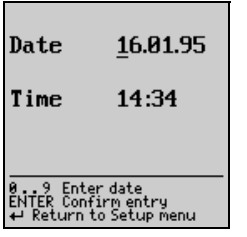
4 Presettings

Upon selection of the menu item „Setup“ you can perform the following settings:

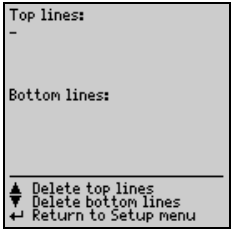


4.1 Setting the Clock

Note:
Please ensure that the same date and time are set in the connected test instrument.



4.2 Enter and Delete Top and Bottom Lines



From the keyboard, you can enter optional texts which – before and/or after the test result – are to be automatically included in the report printout. For top and bottom lines, 5 lines of 24 characters each are available. The top and bottom lines are the same for all test results in the memory. Enter the texts via the keyboard.
Data entry is also possible via barcode reader (see chapter 7, page 20).

➪ You will get to the next line by pressing the ENTER key
➪ You can delete the top and bottom lines with the ▼ and ▲ keys

4.3 Clear Memory



To clear the memory, press the ENTER key on the SI module.

To stop, press the ↵ key on the SECUTEST....

Note
With the „Clear memory“ function, text information that has been entered consisting of headline and bottom line, device type, manufacturer, prototype as well as details on customer, repair work and statistics are preserved. These data can only be deleted by performing a reset (▲ + 0).

5 How to Display and Store Reports

Note

Storage of the results of the safety and function tests as well as their entry into reports and statistics is only possible after tests have been performed.

Exception: the function switch is in the „MENUE“ position (older versions: also „FUNCTION-TEST“). In this position only the result of the last function test can be stored.

You can load the result of the last test into the SI module and store it there under an Ident Number. The report of the last test can be printed out several times.

The results of a complete working day (approximately 300 reports) can be stored in the memory of the SI module. Pressing the STORE key several times makes for the same data record to be overwritten again and again.

The test report automatically contains the test result including the measured and limit values as well as information on the visual inspection. Further specific information on device under test, customer and repair can be integrated in the test report by entries via the keyboard or a barcode reader (see chapter 7, page 20).

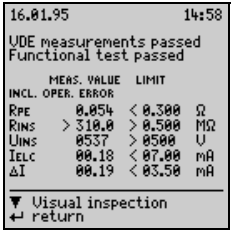
The report is presented on the LCD in several windows.

5.1 How to Display Reports, Enter and Store Texts

⇨ Request the SI menu via the MENU key

⇨ Select **Protocol** and confirm with ↵

First, the test result including measured and limit values is shown. The display contains available data only.

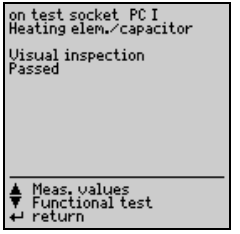


In further windows that can be selected with the ▼ and ▲ keys, you can display information on the visual inspection as well as enter texts via the keyboard, and barcodes via the barcode reader (see chapter 7, page 20). A maximum of 24 characters can be entered into one line.

End the text entry of a line by pressing the ENTER key. At the same time, this brings you to the next line.

➪ To store, press the STORE key.
↵ returns you to the SI menu.

When storing the report, the consecutive ident number is output between date and time.



Results of the function test

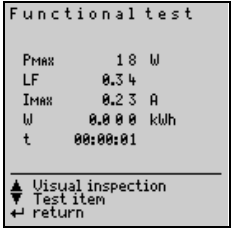
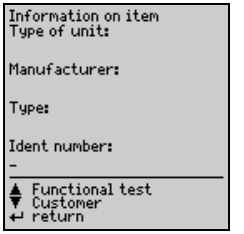
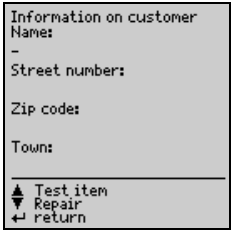


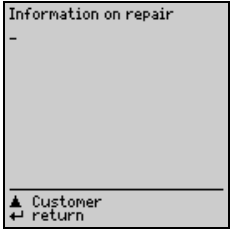
Figure at left:
Info on DUT
max. 24 charact. each

Figure at right:
Info on customer
max. 24 charact. each





Information on
e.g. repair
max. 10 lines
of max.
24 characters each



If there are no data available in the test instrument when the menu item **Protocol** is called up, the following message appears:



5.2 Automatic Report Storage

All test results are automatically allocated a consecutive ident number* provided the **Autostore** function is active. After the safety test as well as after the function test, a note is displayed indicating that the test data are being stored.
When the SI module is deactivated, proceed as follows to activate the Autostore function in the test instrument:

- **SECUTEST... test instrument:**
  Select the desired test at the function selector switch of the test instrument.
- **older versions SECUTEST 0701/0702S:**
  Set the function selector switch of the test instrument to the MENUE position.

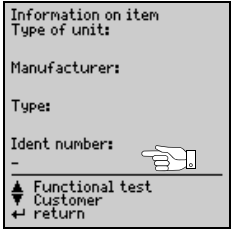
- Move the cursor to **Setup¼** and confirm with ↵.
- Move the cursor to **Configure¼** and confirm with ↵.
- Move the cursor to **Autostore**: activate or deactivate the function with ↵.

* It consists of max. 24 digits. Counting starts with the first four digits in each case, beginning with 0000.

5.3 Quick Report Storage

If many measurements are to be made successively and the results are to be evaluated later, the function "Quick report storage" presents itself. This function can only be performed after a test (safety test and/or function test).

- Activate the SI module with STORE. This brings you directly to the enter field for the ident number. Here you can enter a maximum of 24 digits and confirm with ENTER.
- To store, press the STORE key once more.



The report is stored in the data base of the SI module together with all available data. Empty data fields are ignored. At the same time you return to measuring mode to immediately start the next measurement.

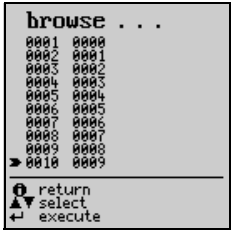
Note

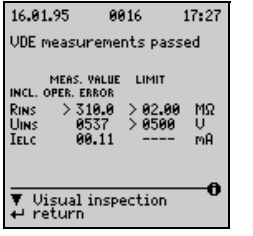
If a reset has been made accidentally after the test, e.g. by changing the position of the function switch or pulling the interface cable off, the ident number must again be entered in the report. The data are preserved.

5.4 Requesting Stored Reports

A list of all stored reports can be requested at any time in order to display and print out the contents of individual reports at a later date. The first column contains the consecutive numbers, the second one the ident numbers. The first 14 characters of the ident number are shown as a maximum.

- ⇨ Choose **Protocol** and confirm with ↵ .
- ⇨ Press the help key **i** on the SECUTEST....
  A list of the stored reports appears.
- ⇨ Select the desired report using the ▼ and ▲ keys and confirm with ↵.

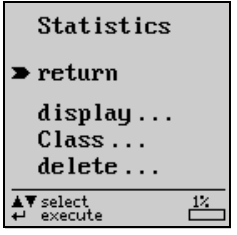




A maximum of 10 stored reports is displayed. The next 10 reports are selected by browsing through with the cursor.
In the presentation of the archived report, an ⓘ on the right-hand side of the first bottom line informs you that the measured data have been stored under a consecutive number and consequently no more data can be entered.

6 Statistics

Altogether, statistic data of a maximum of eight equipment classes can be recorded. The statistic data include the number of the errors occurred as well as their percentage of the total measurement within one class. The statistics menu appears provided **Statistics** has been selected in the main menu, see chapter 3.2, page 9.





6.1 Getting Started for Statistics Recording

Where statistic data are to be recorded, the associated class designation must be defined prior to a measurement by selection of Class. If a class name is already entered, it must be activated.

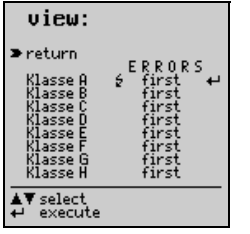
- Move the cursor to **Class** and ↵, **set** menu is displayed.
- Move the cursor to the respective class name and ↵, an underline appears at the end of the text.
- If you want another class name: delete existing characters with ←, or complete lines with ▲ + ← and enter a maximum of eight characters via the alphanumeric keyboard.
- Confirm with ↵, the cursor moves to the error column.
- Determine with ▲ or ▼ whether only the first or all errors are to be considered. Confirm with ↵. A lightning symbol appears behind the activated class name.
- Repeat **Return** until the SI LCD no longer appears.

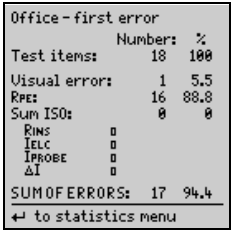
The safety tests as well as the function tests can now be performed for the selected class.
After the start of a report recording, the setting **First** or **All** in the statistics menu can no longer be changed.
After each complete measurement, consting of safety test and function test, the measured data must be stored so that they will be available for statistic evaluation. See „How to Display and Store Reports“ on page 12.
If, after the measurement, **First** or **All** is followed by a ↵ symbol, statistic data have been stored for the respective class.
All following measurements expand the statistics of the class activated at the time by the additional measured results. If new statistic data are to be recorded for an existing class, the stored statistic data can be deleted, see chap. 6.3 Delete Statistic Data.

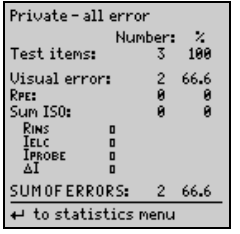
6.2 View Statistic Data

Select the Statistics menu to request statistic data:

- With ▲ or ▼ move the cursor to **Display** and confirm with ↵. **View** menu is shown.
- Select the class the statistic data of which you wish to see, confirm with ↵. The statistic data of the selected class are listed.
  Moreover, in this mode you can browse through the statistic data of all classes with the ▲ or ▼ keys.







6.3 Delete Statistic Data

⇨ With ▲ or ▼, move the cursor to **Delete** and press ↵.

⇨ Select the class the data of which is to be deleted

or

⇨ Select **Delete: all** to delete the stored statistic data of all classes!



After all classes are deleted, class A is set active and the error type of each class is set to First.

7 Operation with Barcode Reader

The barcode reader Z720A or Z502F (as accessory) allows for all information available in barcode form to be quickly, easily and safely entered into the test reports. This type of data entry permits time-saving and low-cost acquisition of large amounts of information, e.g. for series measurements of devices provided with barcodes.

7.1 Connecting the Barcode Reader

➪ Connect the reader to the RS232 interface of the SI module.
An SI LCD window must not be active!
The barcode reader confirms the correct connection with a double acoustic signal.

7.2 Configuring the Barcode Reader

The barcode reader Z720A or Z502F is configured for the following barcodes:
CODE 39 / CODE 128 / EAN13 (12 digits) *

The barcode reader is immediately ready for operation when connected to a SECUTEST... or **SECUTEST SI+** test instrument.

For operation with PROFITEST 204, the barcode reader has to be configured with the code indicated in the operating instructions of the barcode reader adapter. For these test instruments, only Code 128 is possible.

If you wish to use other codes for the SECUTEST..., please consult our Product Support Hotline, see chapter 13, page 26

* Z720A or Z502F has the appropriate scanning width to be programmed to the EAN 128 barcode.

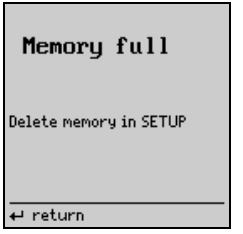
8 Data exchange with a PC

Transmission of the data to the PC is only possible when the SI module is connected to the test instrument, which, in turn is connected to the mains.

➪ Connect the PC to the RS232 connection socket of the SI module via an interface cable.

9 Error Message

Message when the STORE key has been pressed although there is no free memory.



10 Technical Data

Connection elements

Fasteners on test instrument	2 knurled screws for fastening in the lid of the test instrument; transmission of measured data and power supply via ribbon cable and 9-pin D-SUB connector, to be connected to the RS232 interface of the test instrument
Interfaces	**RS232**, bidirectional, 9-pin D-SUB socket, e.g. for connection to a PC or a barcode reader, or RFID Scanner
	USB, 4 pin USB1.1 type B, for connection to a PC (only for transmission of measured data)

Data Memory

RAM (data)	100 kbytes
Real-time clock with date	battery-backed by embedded Lithium cell

RS232 Interface

Type	RS232, serial, per DIN 19241
Operating voltage	6.5 V ... 12 V for connection to test instrument
Current consumption	40 mA typical
Baud rate	9600 bauds
Parity	none
Data bits	8
Stop bit	1

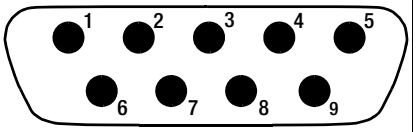


Note
A comprehensive description of the interface protocole can be downloaded from our website www.gossenmetrawatt.com.

Assignment of the Interfaces: see following page

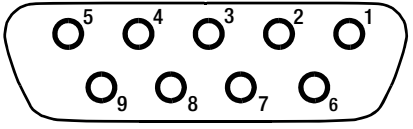
The 9-pin D-SUB **connector** for connection of the SI module to the SECUTEST 0701S tester has the following pin assignment:

1: Enable remote control „Plus“
2: RXD
3: TXD
4: NC
5: GROUND
6: Enable remote contr. "GROUND"
7: NC
8: NC
9: +9 V



The 9-pin D-SUB **connection socket** for connection to PC, barcode reader, etc., has the following pin assignment:

1: NC
2: TXD
3: RXD
4: Switching input
5: GROUND
6: +5 V
7: CTS
8: RTS
9: NC



USB Interface

Type	USB 1.1
Operating voltage	5 V DC ±10% from the RS232 interface of the test instrument
Current consumption	40 mA typical
Baud rate	9600 bauds
Parity	none
Data bits	8
Stop bit	1
Terminal assignment	Type B 4 pin, 1: VCC, 2: D–, 3: D+, 4: GND

Reference Conditions

Operating voltage for connection to test instrument	9 V ± 0.5 V DC or 8 V ± 0.5 V rectified
Ambient temperature	+23 °C ± 2 K
Relative humidity	40 ... 60 %

Ambient Conditions

Operating temperature	0 °C ... +40 °C
Storage temperature	– 20 °C ... +60 °C
Humidity	max. 75 % RH; no condensation

Electromagnetic Compatibility (EMC)

Interference emission	EN 61326-1:2013 class B
Interference immunity	EN 61326-1:2013

Mechanical Design

Protection type	IP 20 for the housing
Dimensions	240 mm x 81 mm x 40 mm (without knurled screws and ribbon cable)
Weight	approx. 0.4 kg

11 Maintenance

11.1 How to Reset the SI Module

Should the SI module no longer react, e.g. due to incorrect operation, it must be initialized:

➪ Pull the line plug of the test instrument and restart it. Stored data are preserved

or

➪ **If stored data are to be deleted at the same time:**
Select the **Setup** menu and then the menu item **Clear memory**.
Press ▲ + 0 simultaneously.

Check the preset time after a reset!

11.2 Housing

No special maintenance is required for the housing. Keep outside surfaces clean. Use a slightly dampened cloth for cleaning. Avoid the use of cleansers, abrasives or solvents.

11.3 Device Return and Environmentally Compatible Disposal

The instrument is a category 9 product (monitoring and control instrument) in accordance with ElektroG *(German Electrical and Electronic Device Law)*. This device is subject to the WEEE directive.



We identify our electrical and electronic devices in accordance with WEEE 2012/19/EU and ElektroG with the symbol shown to the right per DIN EN 50419. These devices may not be disposed with the trash. Please contact our service department regarding the return of old devices, address see chap. 12.

If you use batteries or rechargeable batteries in your instrument or accessories which no longer function properly, they must be duly disposed of in compliance with the applicable national regulations. Batteries or rechargeable batteries may contain harmful substances or heavy metal such as lead (PB), cadmium (CD) or mercury (Hg).



They symbol shown to the right indicates that batteries or rechargeable batteries may not be disposed of with the trash, but must be delivered to collection points specially provided for this purpose.

12 Repair and Replacement Parts Service

When you need service, please contact:

GMC-I Service GmbH
Service Center
Beuthener Straße 41
90471 Nürnberg • Germany
Phone +49 911 817718-0
Fax +49 911 817718-253
E-Mail service@gossenmetrawatt.com
www.gmci-service.com

This address is only valid in Germany. Please contact our representatives or subsidiaries for service in other countries.

13 Product Support

When you need support, please contact:

Gossen Metrawatt GmbH
Product Support Hotline
Phone +49 911 8602-0
Fax +49 911 8602-709
E-Mail support@gossenmetrawatt.com

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