



SICOM

PC software: Communications program

USER'S MANUAL

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1. INTRODUCTION

The **SICom software** is compatible with Windows® operating systems, including Windows 7, Windows 8, Windows 10, and Windows 11. It provides a comprehensive graphical user interface that facilitates access to all relay information, enables parameter modifications, and allows for event data management. The primary functions of the SICom software include:

- **General Data Access:** Retrieval of complete relay model details, version information, serial number, and more.
- **Status Monitoring:** Reading of relay states.
- **Measurement Access:** Retrieval of measurement data.
- **Settings Management:** Reading and modification of relay settings.
- **Configuration Management:** Reading and modification of relay configurations.
- **Event Management:** Reading, saving, and deleting event records.
- **Fault Report Management:** Reading and deletion of fault reports.
- **Load Profiling:** Reading and deletion of demand current data.
- **Oscillographic Data:** Reading and saving oscillographic records in COMTRADE format.
- **User Access Management:** Modifying user passwords.
- **File Handling:** Saving and loading settings and configuration files.
- **Data Synchronization:** Synchronization of date and time settings.
- **Communication Configuration:** Setting communication parameters.
- **Counter Management:** Reading and modifying counter values.
- **Control Commands:** Issuing commands for circuit breaker operation (open/close) and recloser blocking/unblocking (other commands available).
- **Input Configuration:** Defining and adjusting input parameters.
- **Output Configuration:** Defining and adjusting output parameters.
- **Fault Reporting Configuration:** Customizing conditions that trigger fault reports.

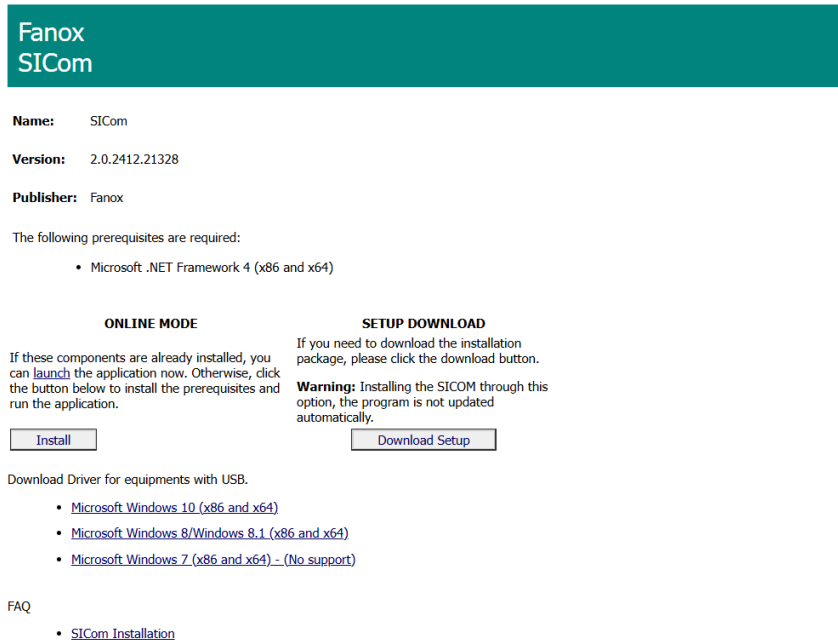
This functionality ensures efficient relay management, detailed data analysis, and enhanced operational reliability.

2. HOW TO INSTALL SICOM SOFTWARE

To install the SICom it is necessary the following link:

<http://fanox.blob.core.windows.net/sicom/publish.htm>

The link will open the next screen, where key “install” must be pressed:



The screenshot shows the Fanox SICom installation interface. At the top, it says 'Fanox SICom'. Below this, it lists the software details: Name: SICom, Version: 2.0.2412.21328, and Publisher: Fanox. A note states that the following prerequisites are required: Microsoft .NET Framework 4 (x86 and x64). There are two main sections: 'ONLINE MODE' and 'SETUP DOWNLOAD'. The 'ONLINE MODE' section explains that if components are already installed, the user can launch the application, or click a button to install prerequisites and run the application. The 'SETUP DOWNLOAD' section explains that if the user needs to download the installation package, they should click the download button. A warning states that installing the SICOM through this option means the program is not updated automatically. There are two buttons: 'Install' and 'Download Setup'. Below these, there is a section for downloading drivers for equipment with USB, listing links for Microsoft Windows 10, 8, and 7. At the bottom, there is an FAQ section with a link to 'SICom Installation'.

**Fanox
SICom**

Name: SICom

Version: 2.0.2412.21328

Publisher: Fanox

The following prerequisites are required:

- Microsoft .NET Framework 4 (x86 and x64)

ONLINE MODE

If these components are already installed, you can [launch](#) the application now. Otherwise, click the button below to install the prerequisites and run the application.

SETUP DOWNLOAD

If you need to download the installation package, please click the download button.

Warning: Installing the SICOM through this option, the program is not updated automatically.

[Install](#) [Download Setup](#)

Download Driver for equipments with USB.

- [Microsoft Windows 10 \(x86 and x64\)](#)
- [Microsoft Windows 8/Windows 8.1 \(x86 and x64\)](#)
- [Microsoft Windows 7 \(x86 and x64\) - \(No support\)](#)

FAQ

- [SICom Installation](#)

2016 Fanox

Once it is pressed INSTALL, the SICOM will be installed automatically. Following this advice, the update of the software does not require any user's action, this is, if the SICOM is run being the laptop connected to Internet, The SICOM updates itself when it is started. Besides, the necessary drivers depending on the operative system can be downloaded from this page.

Offline mode is also available to prepare the settings and configuration files without having the relay connected to the laptop, reducing engineering and commissioning time.

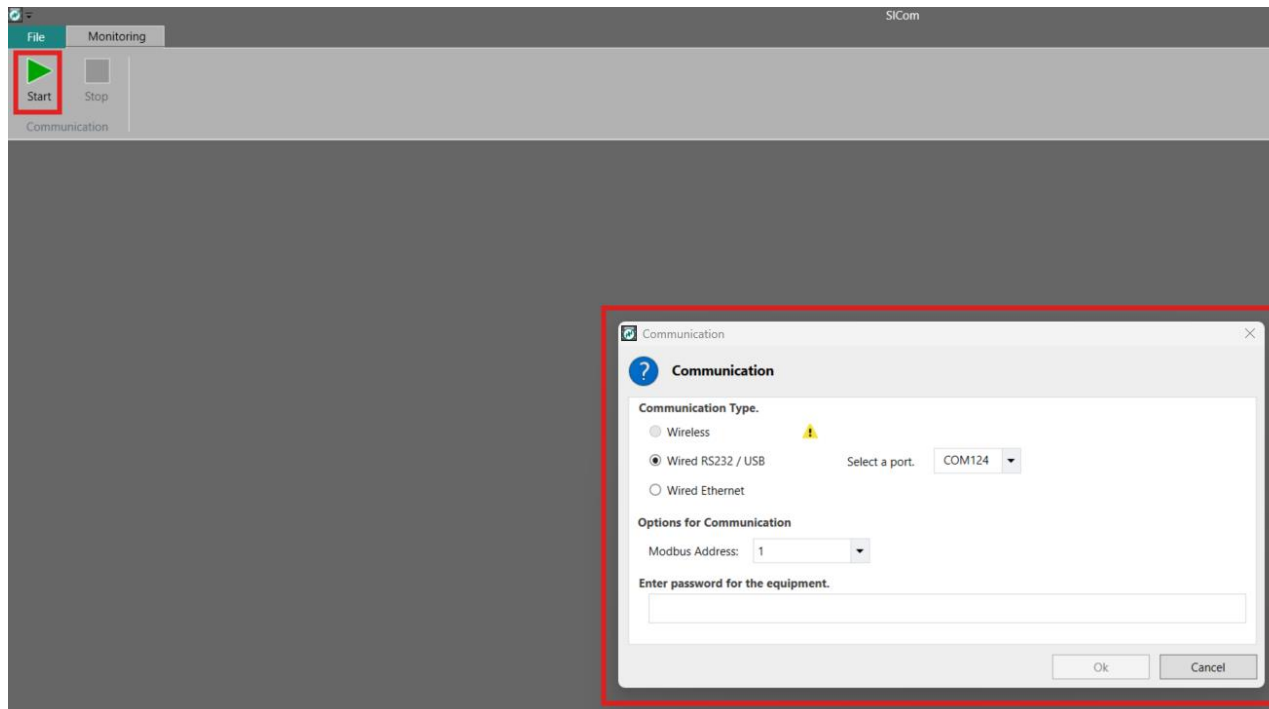
3. HOW TO COMMUNICATE WITH THE COMPUTER

It is possible to connect with the SICOM through the front local port or through the rear ethernet port if it is available in the relay.

SICOM program uses Modbus (RTU or TCP/IP) protocol, so only the ports with this protocol can be used to establish the communication.

Follow the next steps to start the session:

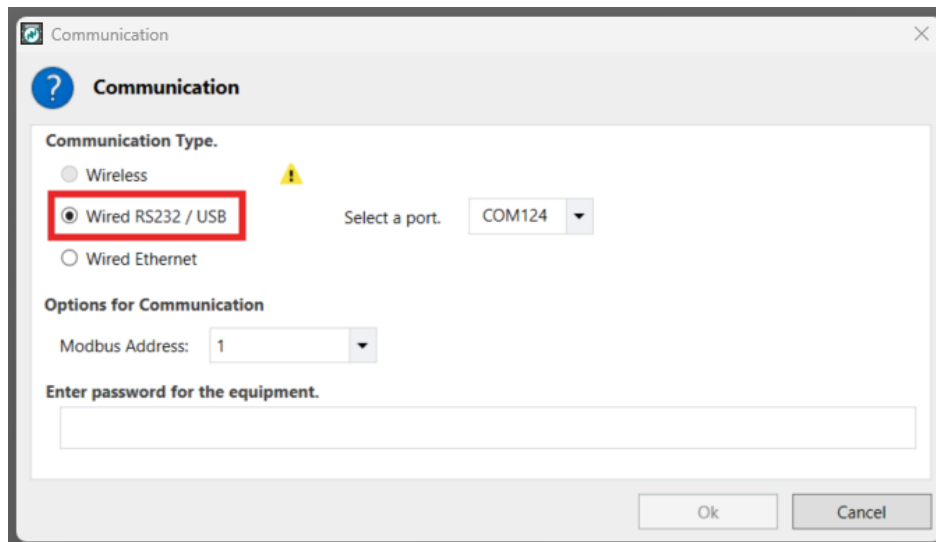
- Connect the relay to the PC through a port that uses Modbus RTU protocol (depending on the relay this port can be USB, RS232, RS485, RJ45 (ethernet) or Wi-Fi).
- Open the SICOM previously installed, and press START. The following screen will appear:



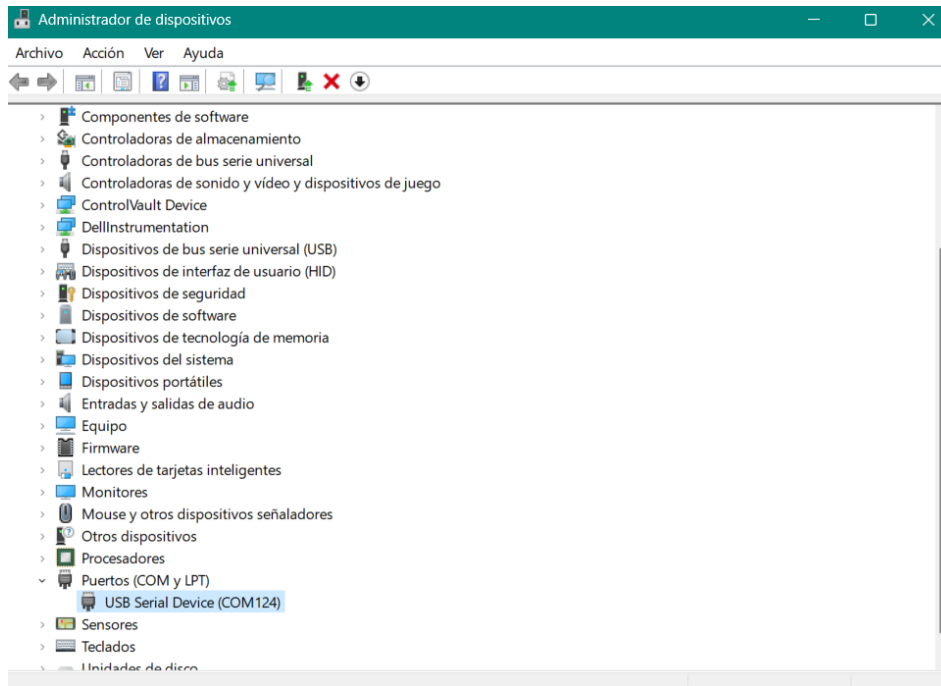
3.1. Communication through local front port (USB or RS232):

All Fanox relays can communicate with the SICOM through the local front port. Once the relay is switched on, connect it to the laptop through a USB or RS232 cable, depending on the available front port in the relay.

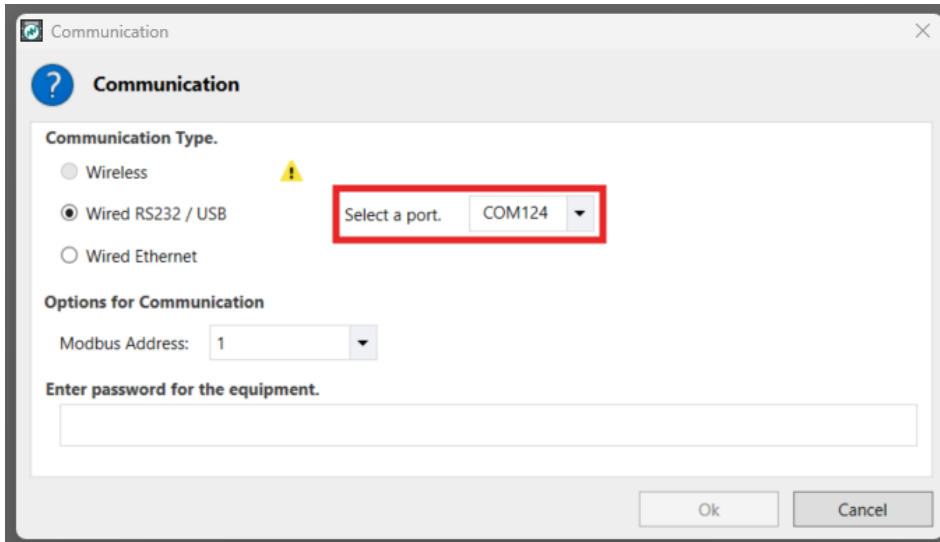
1. Select the option “Wired RS232/USB” option:



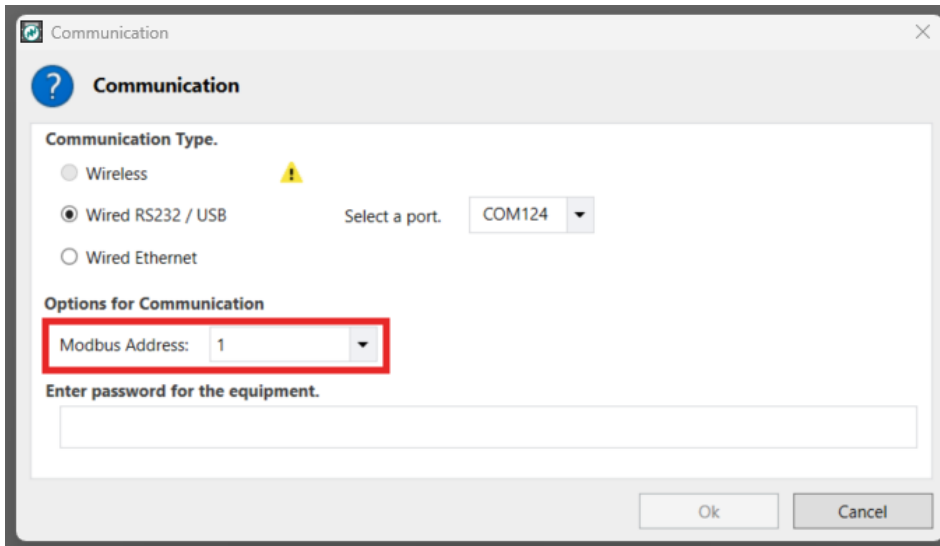
2. Check the associated “COM” to the used port. To check it, “**Device manager→Ports (COM and LPT)**”:



3. Set the associated “COM” in the SICOM option called “Select a port”. If only one port is connected to the laptop, the SICOM will recognize it automatically:



4. Check the “Local communication slave address” in the relay and set it in “Modbus address” of the SICOM. By default, this address is set to “1”, but the user can change it from 1 to 254:



Communication

Communication

Communication Type.

☐ Wireless

☒ Wired RS232 / USB Select a port. COM124 ▼

☐ Wired Ethernet

Options for Communication

Modbus Address: 1 ▼

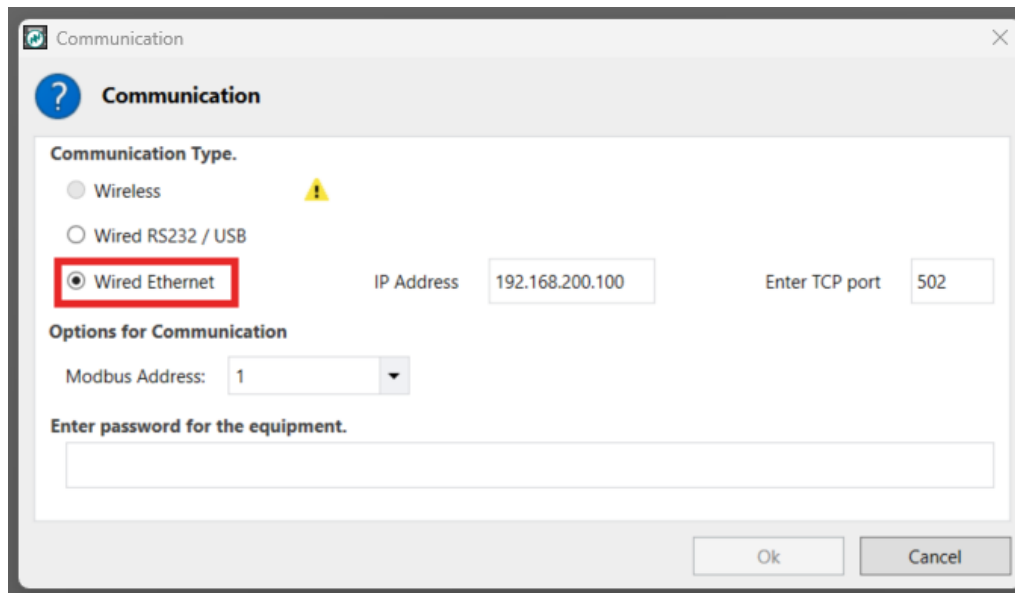
Enter password for the equipment.

Ok Cancel

3.2. Communication through remote ethernet port (RJ45):

If the relay is provided with Ethernet communication port and Modbus TCP/IP protocol associated to it, it is possible to use it to communicate with the SICOM. Once the relay is switched on, connect the Ethernet port from the relay to the laptop (point to point).

1. Select in the SICOM the option “Wired Ethernet”



The screenshot shows a 'Communication' dialog box with the following fields and options:

- Communication Type:**
 - ☐ Wireless (with a yellow warning triangle icon)
 - ☐ Wired RS232 / USB
 - ☒ Wired Ethernet (highlighted with a red rectangle)
- IP Address:** 192.168.200.100
- Enter TCP port:** 502
- Options for Communication:**
 - Modbus Address:** 1 (dropdown menu)
- Enter password for the equipment.** (empty text field)
- Buttons:** Ok, Cancel

2. Check in relay HMI in “GENERAL SETTINGS → Rear TCP COM” menu the set protocol. It is necessary to have it set to MODBUS TCP to communicate with the SICOM (if you need to change the protocol to set it to Modbus TCP, after changing it, switch the relay off and switch it on again). Go down through this menu and check the IP address.

3. Check the IP address set in the relay for this Modbus TCP protocol and set it in the relay (this IP can be set by the user) and keep the TCP port to 502.

Communication

Communication Type.

☐ Wireless 

☐ Wired RS232 / USB

☒ Wired Ethernet

IP Address 192.168.200.100 Enter TCP port 502

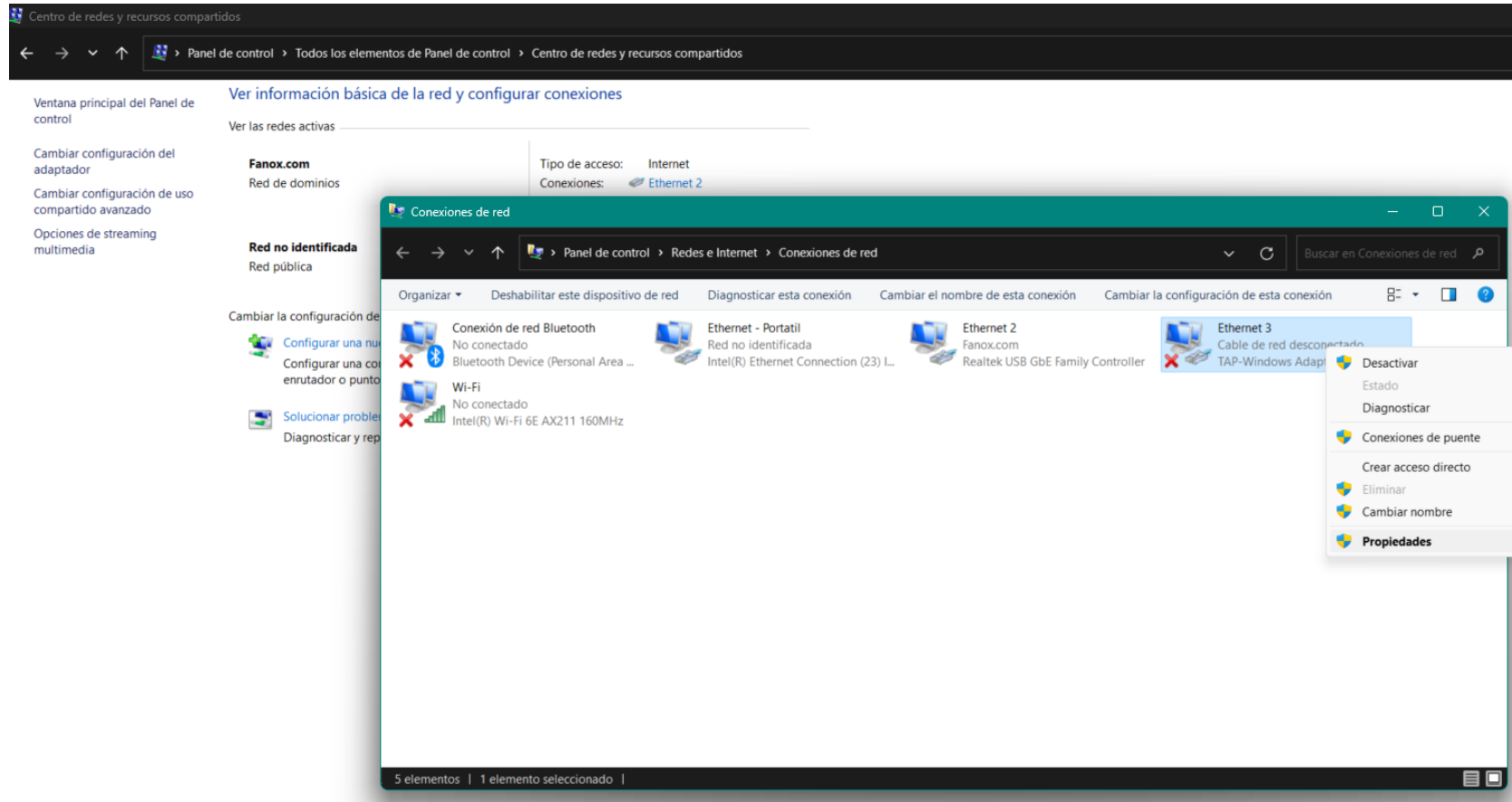
Options for Communication

Modbus Address: 1

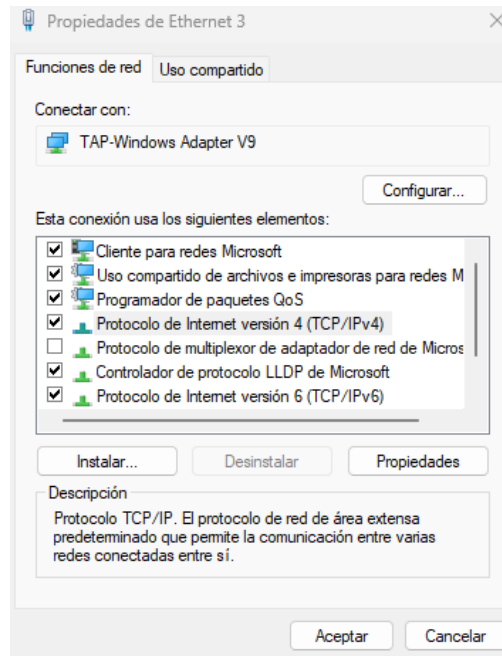
Enter password for the equipment.

Ok Cancel

4. Ensure, the laptop settings for the ethernet port are in the same segmented network of the relay. To check it:
- Go to **“Control panel→ Network and Sharing Center → Change adapter settings”** (on the left menu)
 - Right click on the Ethernet port you are using (the one that is connected to the relay) and click on properties (last option):



- Double click on Internet protocol version 4 (TCP/IPv4):



- Set the IP of the relay changing the last bits, for example:

Propiedades: Protocolo de Internet versión 4 (TCP/IPv4)

General

Puede hacer que la configuración IP se asigne automáticamente si la red es compatible con esta funcionalidad. De lo contrario, deberá consultar con el administrador de red cuál es la configuración IP apropiada.

☐ Obtener una dirección IP automáticamente

☒ Usar la siguiente dirección IP:

Dirección IP: 192 . 168 . 200 . 8

Máscara de subred: 255 . 255 . 255 . 0

Puerta de enlace predeterminada: . . .

☐ Obtener la dirección del servidor DNS automáticamente

☒ Usar las siguientes direcciones de servidor DNS:

Servidor DNS preferido: . . .

Servidor DNS alternativo: . . .

☐ Validar configuración al salir Opciones avanzadas...

Aceptar Cancelar

NOTE: It is possible to change the IP address of the relay directly to the same segmented network of the laptop (avoiding the steps described in this point 4), if it is known.

5. Check in relay HMI in “GENERAL SETTINGS → MODBUS TCP” menu, the slave address. By default, this address is 2 (going down in this menu you can check the port that will be 502). You need to set this address in “Modbus address” of the SICOM. By default, this address is set to “2”, but the user can change it from 1 to 254:

The screenshot shows a 'Communication' dialog box with the following fields and options:

- Communication Type:**
 - ☐ Wireless
 - ☐ Wired RS232 / USB
 - ☒ Wired Ethernet
- IP Address:** 192.168.200.100
- Enter TCP port:** 502
- Options for Communication:**
 - Modbus Address:** 2 (highlighted with a red rectangle)
- Enter password for the equipment:** (empty text field)

Buttons: Ok, Cancel

3.3. Communication through Wi-Fi

If the relay is provided with wireless communication, it is possible to use it to communicate with the SICOM.

Once the relay is switched on, connect to the relay Wi-Fi the Ethernet port from the relay to the laptop (point to point).

1. Select in the SICOM the option "Wired Ethernet"

The screenshot shows a 'Communication' dialog box with the following fields and options:

- Communication Type:**
 - ☒ **Wireless** (highlighted with a red box)
 - ☐ Wired RS232 / USB
 - ☐ Wired Ethernet
- IP Address:** 192.168.200.110
- Enter TCP port:** 502
- Options for Communication:**
 - Modbus Address:** 1 (dropdown menu)
- Enter password for the equipment:** (empty text field)

Buttons: Ok, Cancel

2. Check in relay HMI in “GENERAL SETTINGS → WIFI COM” the IP address and the port that will be 502:

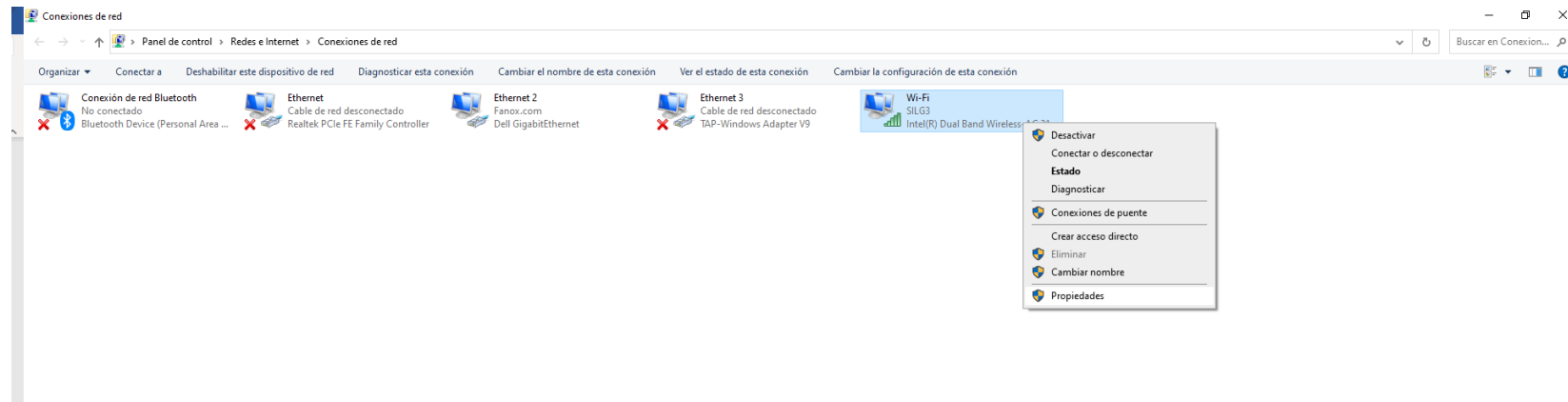
The screenshot shows a 'Communication' dialog box with the following fields and options:

- Communication Type:**
 - ☒ Wireless
 - ☐ Wired RS232 / USB
 - ☐ Wired Ethernet
- Options for Communication:**
 - Modbus Address: 1
- Enter password for the equipment.** (Empty text box)

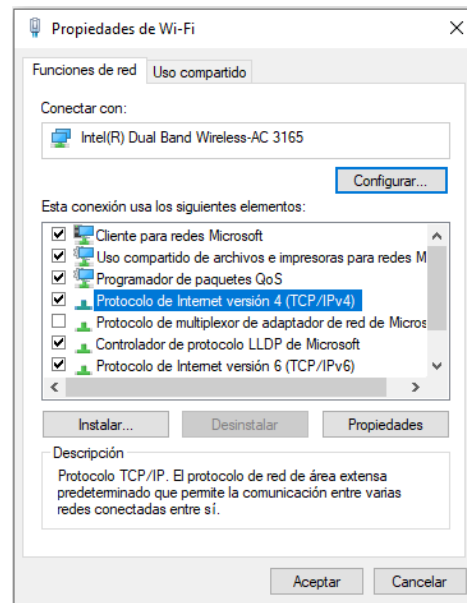
The 'IP Address' field contains '192.168.200.110' and the 'Enter TCP port' field contains '502'. These two fields are highlighted with a red rectangle.

3. Ensure, the laptop settings for the WIFI port are in the same segmented network of the relay. To check it:

- Go to “**Control panel → Network and Sharing Center → Change adapter settings**” (on the left menu)
- Right click on the WIFI port you are using (the one that is connected to the relay) and click on properties (last option):



- Double click on Internet protocol version 4 (TCP/IPv4):



- Set the IP of the relay changing the last bits, for example:

Propiedades: Protocolo de Internet versión 4 (TCP/IPv4)

General

Puede hacer que la configuración IP se asigne automáticamente si la red es compatible con esta funcionalidad. De lo contrario, deberá consultar con el administrador de red cuál es la configuración IP apropiada.

☐ Obtener una dirección IP automáticamente

☒ Usar la siguiente dirección IP:

Dirección IP: 192 . 168 . 200 . 10

Máscara de subred: 255 . 255 . 255 . 0

Puerta de enlace predeterminada: . . .

☐ Obtener la dirección del servidor DNS automáticamente

☒ Usar las siguientes direcciones de servidor DNS:

Servidor DNS preferido: . . .

Servidor DNS alternativo: . . .

☐ Validar configuración al salir

Opciones avanzadas...

Aceptar Cancelar

NOTE: It is possible to change the IP address of the relay directly to the same segmented network of the laptop (avoiding the steps described in this point 3), if it is known.

4. Check in relay HMI in “GENERAL SETTINGS → WIFI COM” the Slave address that by default is 1 (although the user can change it from 1 to 247):

Communication

Communication Type.

☒ Wireless  IP Address 192.168.200.110 Enter TCP port 502

☐ Wired RS232 / USB

☐ Wired Ethernet

Options for Communication

Modbus Address 1

Enter password for the equipment.

Ok Cancel

4. PASSWORD TO START THE SESSION

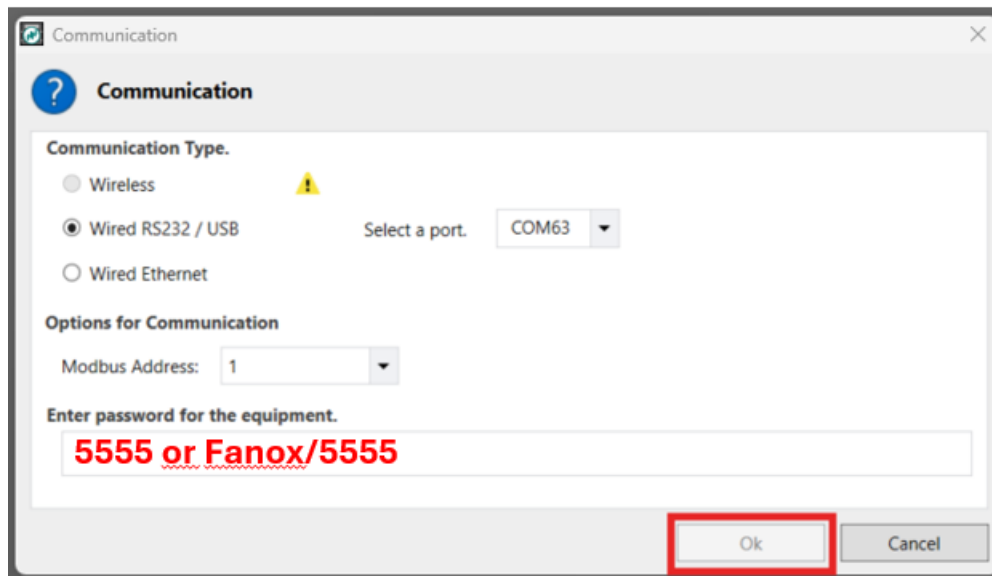
The password will be different depending on the relay and the user. By default, it is:

For SIA family the default password is **5555**

For SIL and SIR family the password is: **Fanox/5555**

In any case, it can be changed by the user.

Set the corresponding password (depending on the used relay and user) and press OK to start the session:



Once the session is correctly started, the following screen will be open:

FileMonitoringConfigurationReportsOperationsSecurity

StartStopStates

CommunicationEquipment

SILG000C0B74AB - SiCom

Monitoring

Equipment: SILG000C0B74ABVersion: 01.04 - 02.00 - 01.05Serial Number: 24370968Identifier: SenelecDate: 12/5/2024Time: 17:35:16

Features

Q: 1 A or 5 A

Q: 1 A or 5 A

Q: Up to 1000 V (direct connection) or 250 V (with VTs)

C: 24-230 Vdc / Vac

Q: -

B: USB (Modbus RTU) + Rear Serial Port (Modbus RTU, IEC60870-5-103 or DNP3.0 Si

7: 16 Inputs + 11 Outputs

4: Vertical Assembly

A: English, Spanish, German and French

B: (2) 50 + SOTF + 50G + 50N + (4) 67/51 + (2) 67G/51G + (2) 67N/51N + 67GI + 67

States

Measurements

Date

Self-Diagnosis

General

52

Inputs

Outputs

PGC

Alarm Leds

Control Leds

50-1

50-2

SOTF

67/51-1

67/51-2

67/51-3

67/51-4

50G

50N

67G/51G-1

67G/51G-2

Measurements

I-A 0.00 A

I-B 0.00 A

I-C 0.00 A

I-N 0.00 A

V-A 0.00 V

V-B 0.00 V

V-C 0.00 V

V-R 0.00 V

U-AB 0.00 V

U-BC 0.00 V

U-CA 0.00 V

3I-0 0.00 A

I-1 0.00 A

I-2 0.00 A

I-2/I-1 0.00 %

I-Max 0.00 A

Therm.I 0.00 %

I-A2H 0.00 A

I-B2H 0.00 A

I-C2H 0.00 A

I-N2H 0.00 A

Counters

Openings Number 1

Recloses Number 0

Accumulated Amperes 10 k(A²)

Positive Active Energy 227 Wh

Negative Active Energy 0 Wh

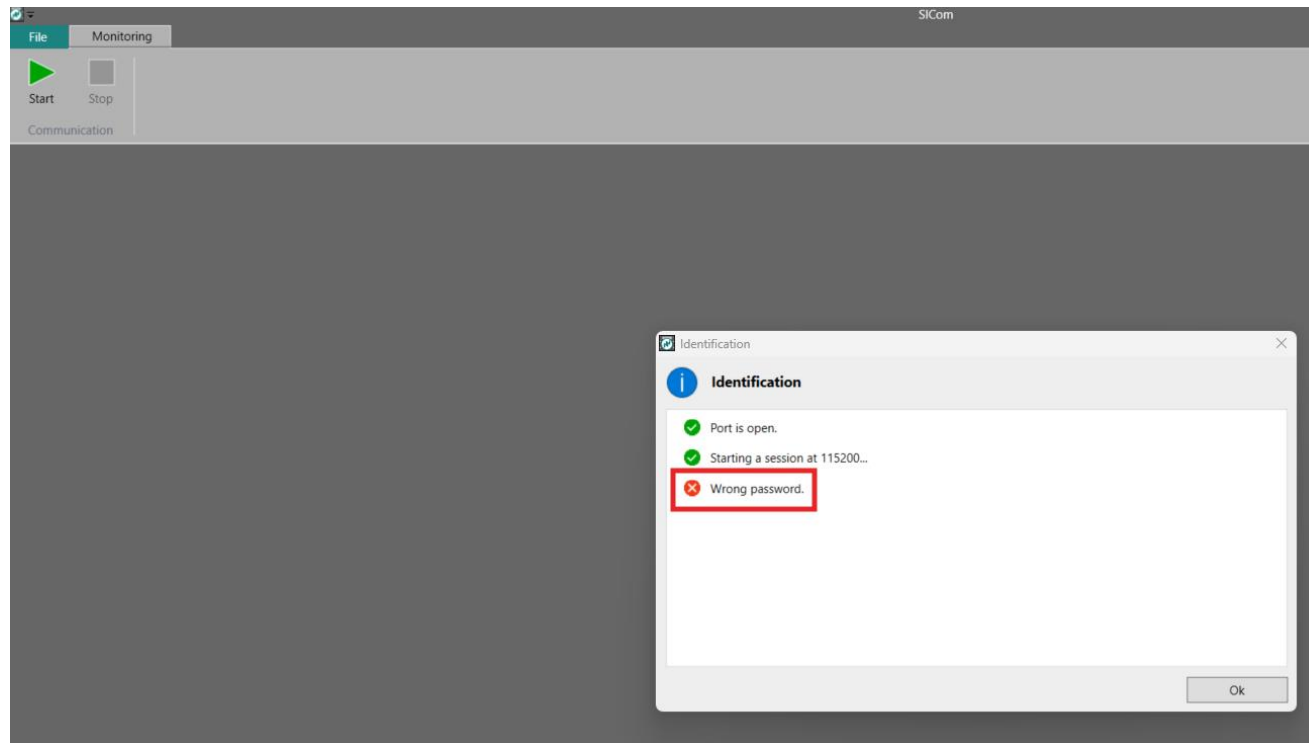
Positive Reactive Energy 6 VARh

Negative Reactive Energy 0 VARh

Fanox - SiCom 2024

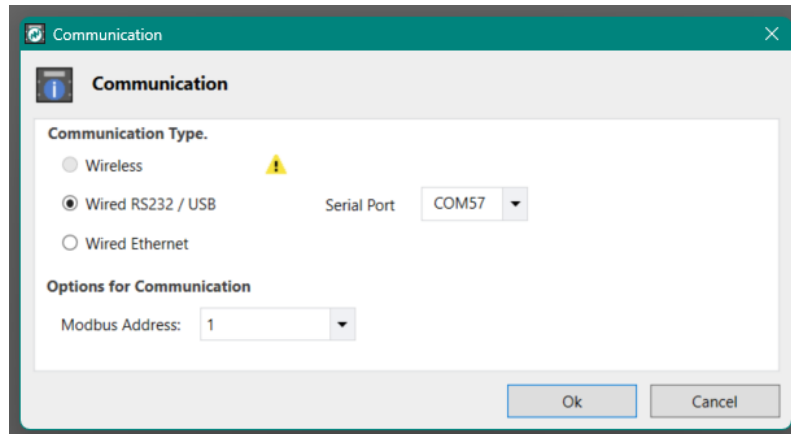
CONNECTED - COM124

If there is some parameter wrongly selected, a message will appear informing about it, and the session will not start.

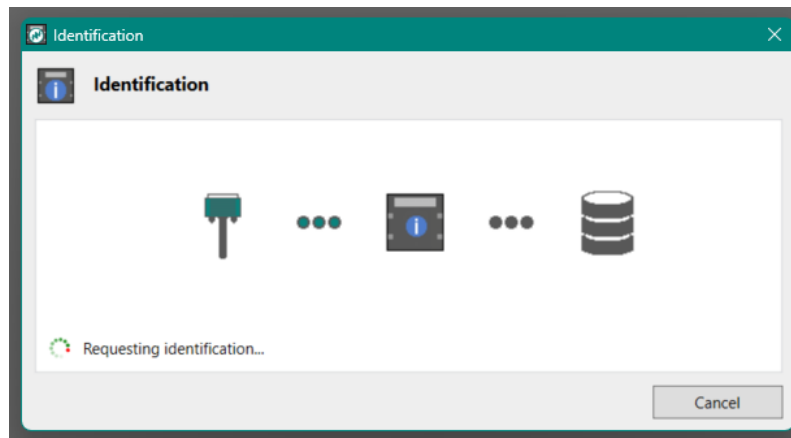


From Sicom version 2.0.2502.21993 onwards, the software will also ask for the user in some of the relay models. Users can be checked and modified in the “Security” section of the Sicom software (section number 10 of the guide).

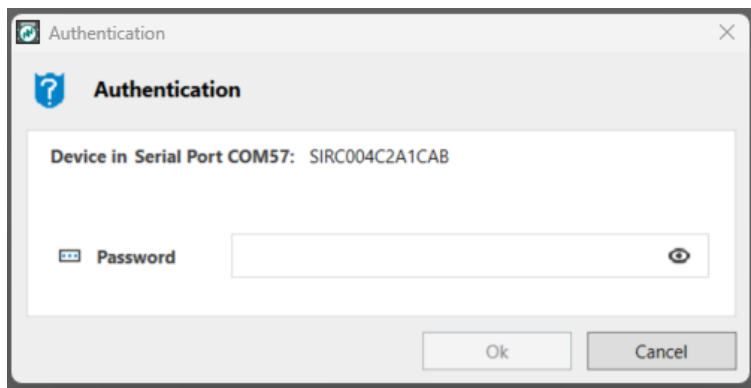
First, communication is established according to the above explained procedure:



Then, the identification process starts:



Finally, the password must be introduced and as mentioned, depending on the version, the user too:

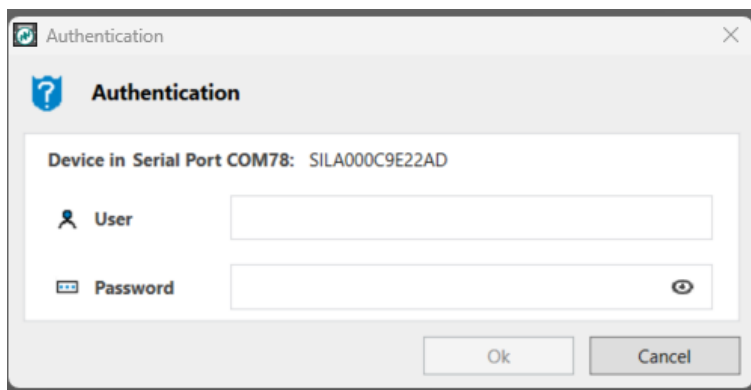


Authentication

Device in Serial Port COM57: SIRC004C2A1CAB

Password

Ok Cancel



Authentication

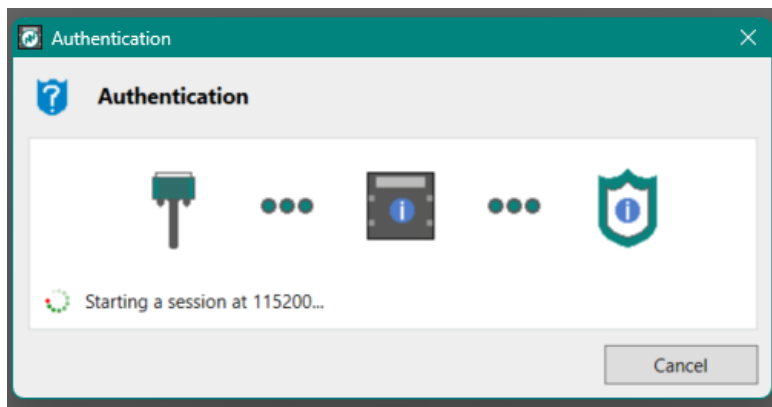
Device in Serial Port COM78: SILA000C9E22AD

User

Password

Ok Cancel

Once “OK” is pressed, the authentication process is completed, and the relay starts the session:

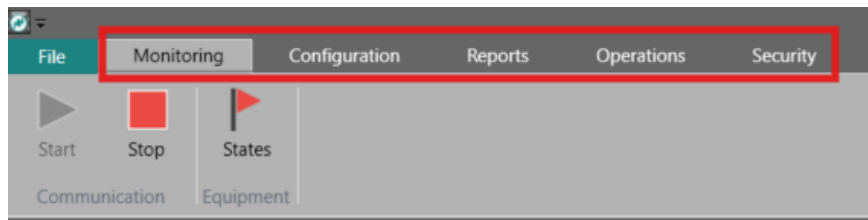


5. WHAT IS SHOWN ON THE MAIN SCREEN

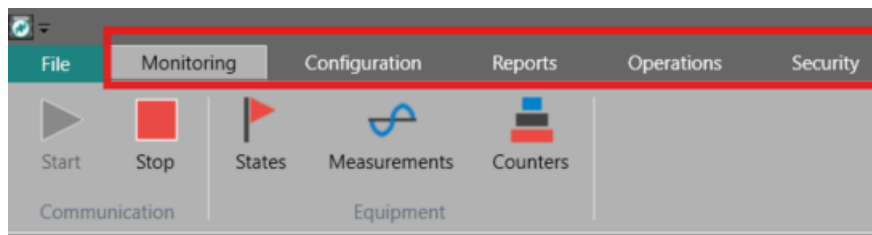
The main screen is divided in different parts. On the top of the screen all the different options of the relay are displayed.

- Monitoring
- Configuration
- Reports
- Operations
- Security

Main screen version: (*)



Updated main screen: (*)



(*) Depending on the model the main screen is already updated or in the update process.

When clicking in the tabs, the different sections of each one are displayed.

5.1. MONITORING

As shown in the picture above, from the left to the right, it is shown:

Stop → It is used to stop the session.

States → It is used to see all the states.

(*) Measurements → It allows to check the measurements done by the relay.

(*) Counters → It allows to check the counters of the relay.

(*) Depending on the model the main screen is already updated or in the update process.

5.2. CONFIGURATION

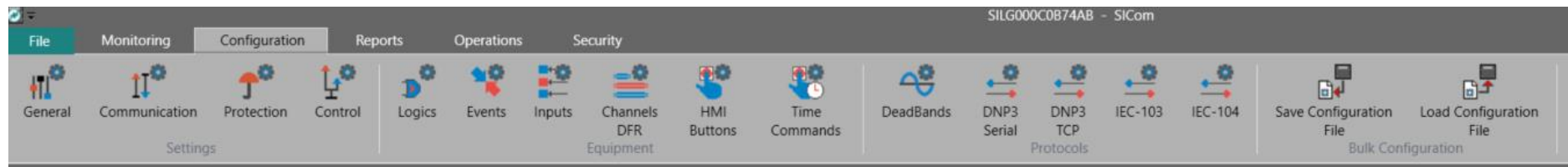
From the left to the right, it is shown:

Settings → It is used to consult and change the different settings.

Equipment → It allows to access to the relay outputs, inputs, logical signals, events, channels and so on that can be configured.

Protocols → It allows to configure the deadbands and different communication protocols available in the relay.

Save/Load configuration File → It is used to save or load a complete configuration file, which includes all the sections mentioned before.



5.3. REPORTS

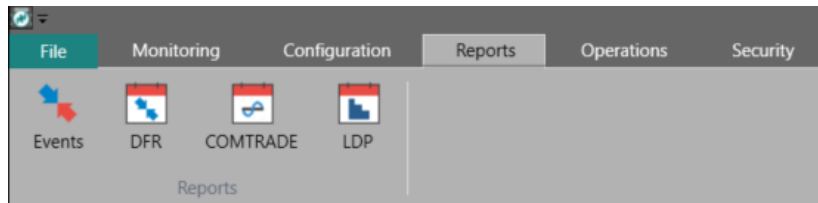
From the left to the right, it is shown:

Events → All the events can be visualized and downloaded to analyze them.

DFR → All the fault reports can be visualized and downloaded to analyze them.

COMTRADE → It allows visualizing and downloading the oscillographic registers in COMTRADE format.

LDP → It allow to analyze the demand of current.



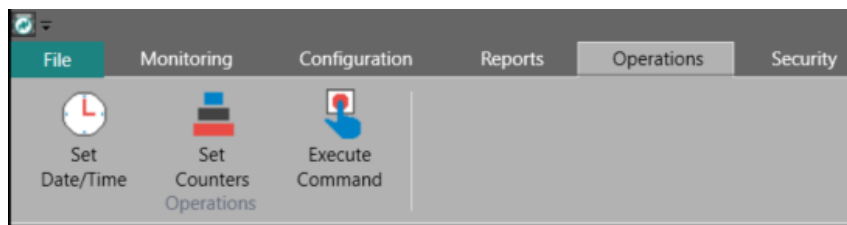
5.4. OPERATIONS

From the left to the right, it is shown:

Set Date/Time → It is used to synchronize the relay.

Set Counters → The value of the counters can be modified through this menu.

Execute Command → It allows to carry out different commands, such as, close/open breaker, reset, 79 block/unblock...



5.5. SECURITY

From the left to the right, it is shown:

Users → It allows the creation of different roles that can be assigned to the users.

Roles → It allows to assign permissions to the roles.



👉 **NOTE:** Depending on the relay some of these menus might not be available.

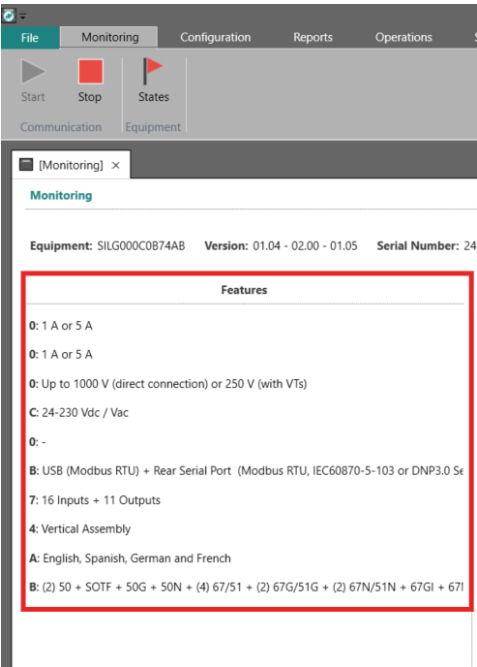
6. MONITORING MENU

This screen is the one that can be seen when a session is started.

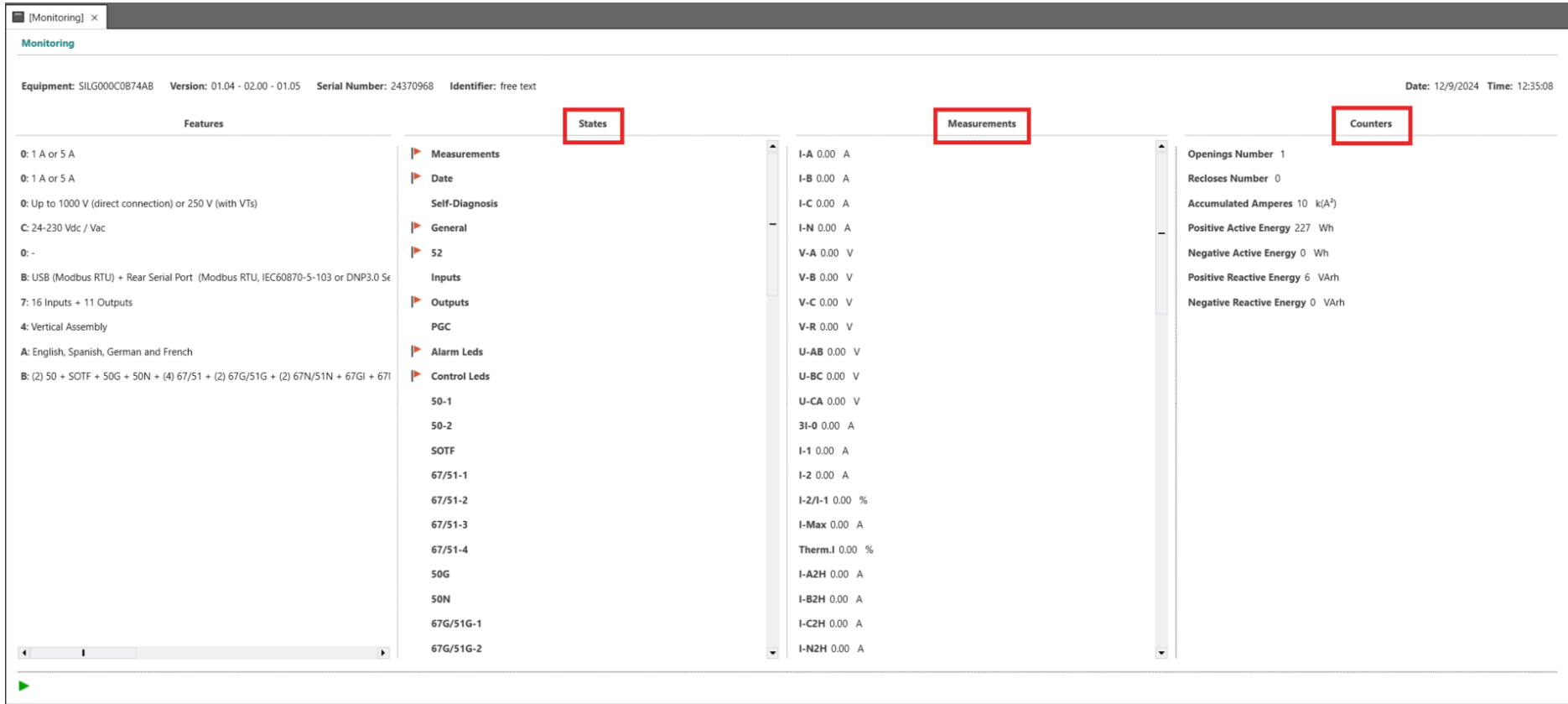
On the top of the screen the model, version, serial number and identification of the relay can be checked. Besides, on the right, the date and time can be consulted.



Below this, on the left of the screen, the meaning of each digit that makes up the model of the relay is explained.



In the center of the screen, it can be appreciated the States grouped by criteria (a flag symbolizes that some state of the criterion is activated), the measures and the counters (if they are available).

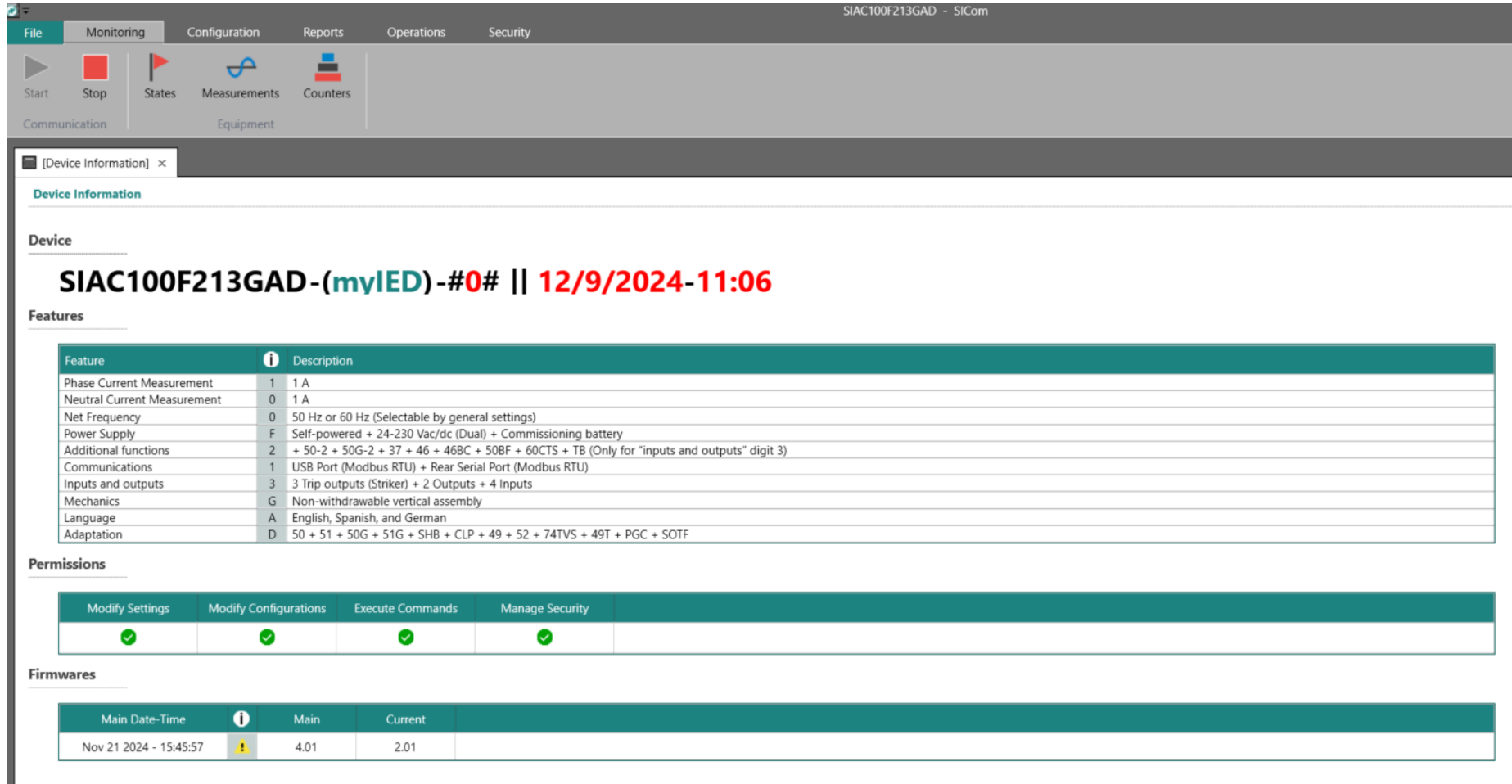


The screenshot displays the FANOX Monitoring interface. At the top, the title bar shows "[Monitoring] x". Below it, the "Monitoring" tab is active. The header area contains equipment details: "Equipment: SILG000C0B74AB", "Version: 01.04 - 02.00 - 01.05", "Serial Number: 24370968", and "Identifier: free text". The date and time are shown as "Date: 12/9/2024 Time: 12:35:08".

The main content area is divided into four sections, each with a red box highlighting its title:

- Features:** Lists various specifications such as "0: 1 A or 5 A", "0: Up to 1000 V (direct connection) or 250 V (with VTs)", "C: 24-230 Vdc / Vac", "0: -", "B: USB (Modbus RTU) + Rear Serial Port (Modbus RTU, IEC60870-5-103 or DNP3.0 Se)", "7: 16 Inputs + 11 Outputs", "4: Vertical Assembly", "A: English, Spanish, German and French", and "B: (2) 50 + SOTF + 50G + 50N + (4) 67/51 + (2) 67G/51G + (2) 67N/51N + 67GI + 67I".
- States:** A list of states grouped by criteria, including "Measurements", "Date", "Self-Diagnosis", "General", "52", "Inputs", "Outputs", "PGC", "Alarm Leds", and "Control Leds". Each state is preceded by a red flag icon.
- Measurements:** A list of measured values, including "I-A 0.00 A", "I-B 0.00 A", "I-C 0.00 A", "I-N 0.00 A", "V-A 0.00 V", "V-B 0.00 V", "V-C 0.00 V", "V-R 0.00 V", "U-AB 0.00 V", "U-BC 0.00 V", "U-CA 0.00 V", "3I-0 0.00 A", "I-1 0.00 A", "I-2 0.00 A", "I-2/I-1 0.00 %", "I-Max 0.00 A", "Therm.I 0.00 %", "I-A2H 0.00 A", "I-B2H 0.00 A", "I-C2H 0.00 A", and "I-N2H 0.00 A".
- Counters:** A list of counter values, including "Openings Number 1", "Recloses Number 0", "Accumulated Amperes 10 k(A²)", "Positive Active Energy 227 Wh", "Negative Active Energy 0 Wh", "Positive Reactive Energy 6 VARh", and "Negative Reactive Energy 0 VARh".

In the upcoming version of Sicom software the monitoring menu looks like this:



The screenshot shows the Sicom software interface for device SIAC100F213GAD. The top navigation bar includes File, Monitoring (selected), Configuration, Reports, Operations, and Security. Below this is a toolbar with icons for Start, Stop, States, Measurements, and Counters. The main content area is titled "[Device Information] x" and contains the following sections:

Device Information

Device

SIAC100F213GAD-(myIED) -#0# || 12/9/2024-11:06

Features

Feature	Description
Phase Current Measurement	1 1 A
Neutral Current Measurement	0 1 A
Net Frequency	0 50 Hz or 60 Hz (Selectable by general settings)
Power Supply	F Self-powered + 24-230 Vac/dc (Dual) + Commissioning battery
Additional functions	2 + 50-2 + 50G-2 + 37 + 46 + 46BC + 50BF + 60CTS + TB (Only for "inputs and outputs" digit 3)
Communications	1 USB Port (Modbus RTU) + Rear Serial Port (Modbus RTU)
Inputs and outputs	3 3 Trip outputs (Striker) + 2 Outputs + 4 Inputs
Mechanics	G Non-withdrawable vertical assembly
Language	A English, Spanish, and German
Adaptation	D 50 + 51 + 50G + 51G + SHB + CLP + 49 + 52 + 74TVS + 49T + PGC + SOTF

Permissions

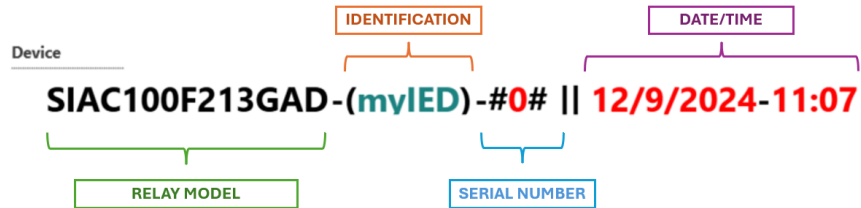
Modify Settings	Modify Configurations	Execute Commands	Manage Security
✓	✓	✓	✓

Firmwares

Main Date-Time	Main	Current
Nov 21 2024 - 15:45:57	4.01	2.01

DEVICE

The following information can be found:



FEATURES

The meaning of each digit that makes up the relay model can be checked in this section.

PERMISSIONS

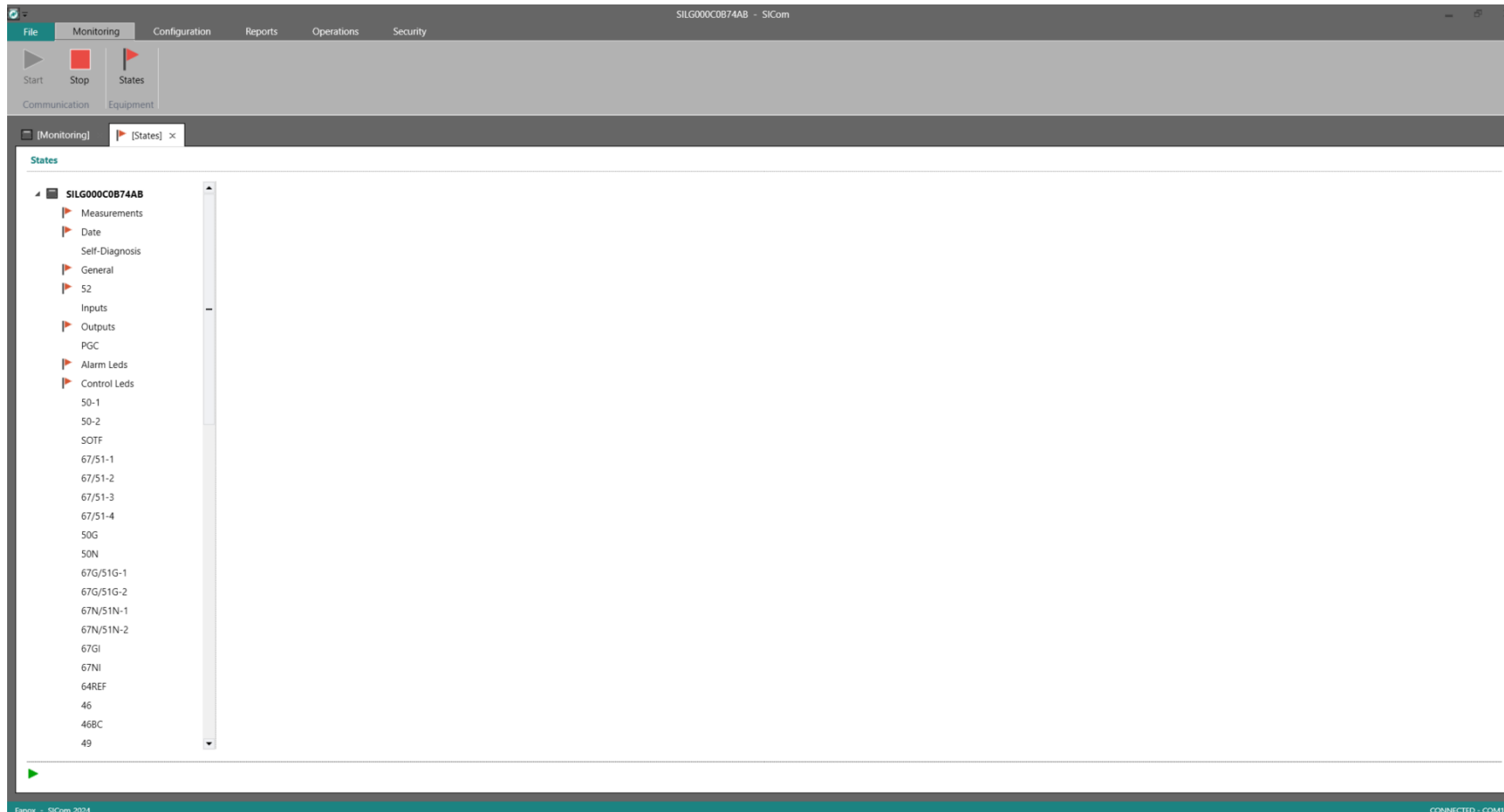
The permits to do modifications on the different parameters of the relay depend on the user used to start the session. In this section it can be checked which permits are available for the current session.

FIRMWARES

The firmware version of the micros of the relay can be checked in this section.

6.1. STATES MENU

To access this menu, press Monitoring tab and then “States” option. The following screen will be opened:



The flags located on the left represent the activation of some of the states of the corresponding criterion.

To show the different states of each criterion, click on that criterion. In this case, the activated states of the criterion are represented by a yellow triangle (instead of a flag):

The screenshot displays the FANOX SICom 2024 software interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, and Security. Below the menu is a toolbar with Start, Stop, and States buttons. The main window is titled 'SILG000C0B74AB - SICom'. The 'States' tab is active, showing a tree view on the left with the following structure:

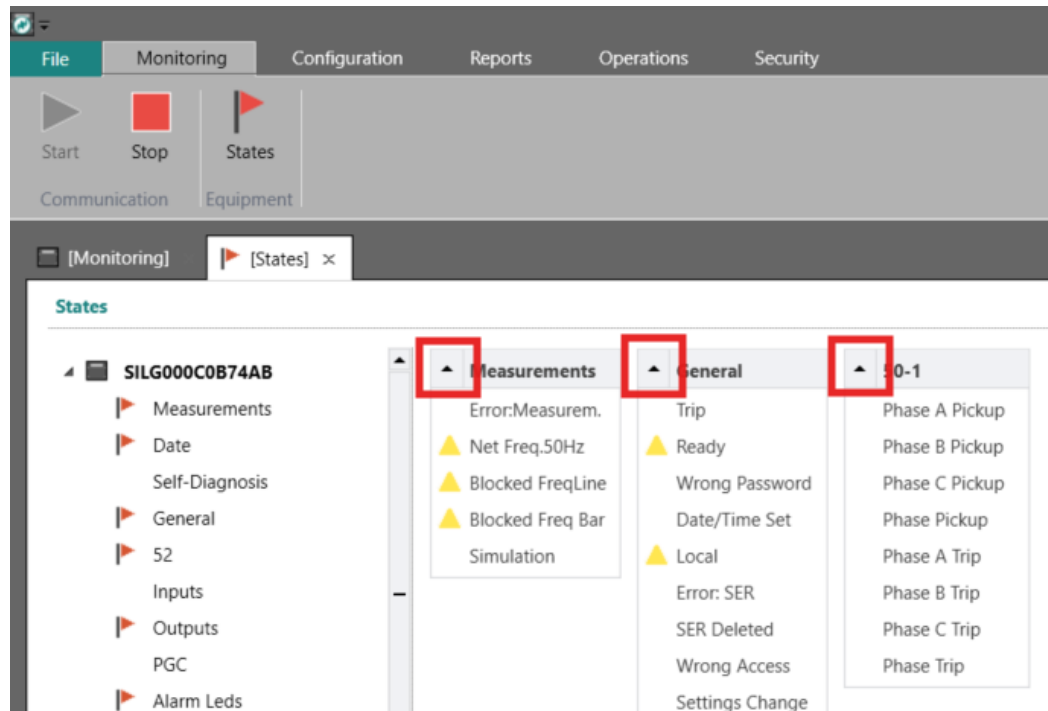
- SILG000C0B74AB
 - Measurements
 - Date
 - Self-Diagnosis
 - General
 - 52
 - Inputs
 - Outputs
 - PGC
 - Alarm Leds
 - Control Leds
 - 50-1
 - 50-2
 - SOTF
 - 67/51-1
 - 67/51-2
 - 67/51-3
 - 67/51-4
 - 50G
 - 50N
 - 67G/51G-1
 - 67G/51G-2
 - 67N/51N-1
 - 67N/51N-2
 - 67GI
 - 67NI
 - 64REF
 - 46
 - 46BC
 - 49

The main area displays two columns of status information:

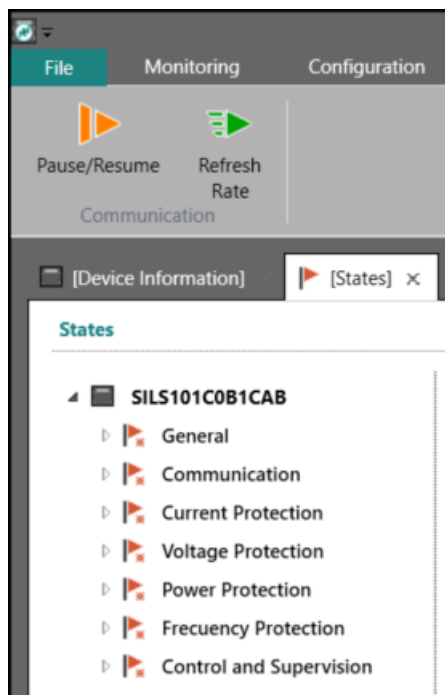
Measurements	General
Error:Measur.	Trip
▲ Net Freq.50Hz	▲ Ready
▲ Blocked FreqLine	Wrong Password
▲ Blocked Freq Bar	Date/Time Set
Simulation	▲ Local
	Error: SER
	SER Deleted
	Wrong Access
	Settings Change
	SER Overflow
	Config Change
	LDP Deleted
	New DFR
	Phase Trip
	Trip Block
	Pickup
	Phase A Pickup
	Phase B Pickup
	Phase C Pickup
	Neutral Pickup
	Phase A Trip
	Phase B Trip
	Phase C Trip
	Neutral Trip
	▲ SettingsG. 1
	SettingsG. 2
	SettingsG. 3
	SettingsG. 4
	Set to FALSE

The bottom status bar shows 'FANOX - SICom 2024' on the left and 'CONNECTED - COM124' on the right.

To hide some of the criteria previously opened, press the arrow next to its name:



In the upcoming version of Sicom software, the states menu will look like the following image (*):



(*) Some criteria might be available depending on the model.

The main criteria are shown in this version and when clicked in these criteria the following sub-criteria are displayed:

File Monitoring Configuration Reports Operations Security **Monitoring** Actions

SILS101C0B1CAB - SiCom

Pause/Resume Refresh Rate Communication

[Device Information] [States] x

States

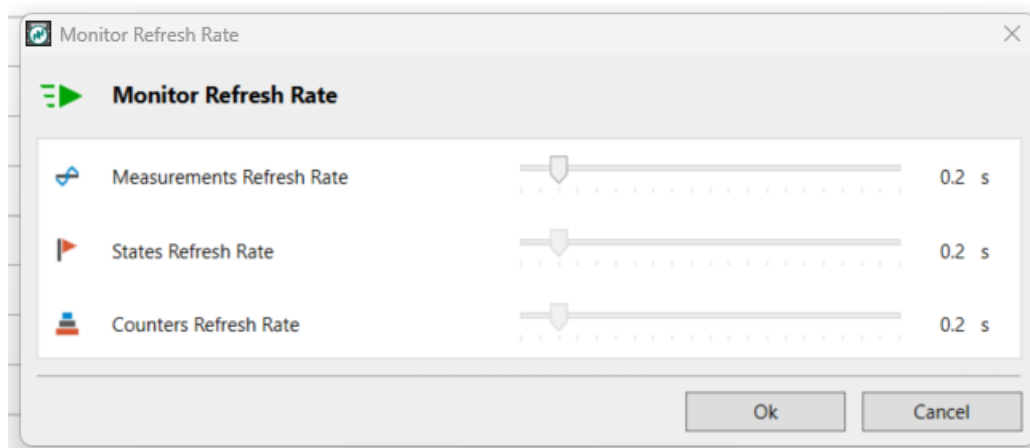
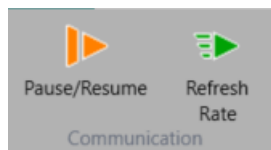
SILS101C0B1CAB

- General
- Communication
- Current Protection
- Voltage Protection
- Power Protection
- Frequency Protection
- Control and Supervision

Criterion	States
General	
Measurements	Error:Measurem. Net Freq:50Hz Blocked FreqLine Blocked Freq Bar Simulation
Date	Date/Time Set Need Sync. Summer Time IRIG-B Synchroni SNTP Synchroniza
Self Diagnosis	Model Error HW Error Slot 3 Empty Slot 4 Empty Slot 5 Empty COM Loading Test State Default Settings
	Error:Settings Default Config Error:Config Error: Curves ENVM Full
General	Trip Ready Wrong Password Local Error: SER SER Deleted Wrong Access Settings Change
	SER Overflow Config Change LDP Deleted New DFR Phase Trip Trip Block Pickup Phase A Pickup
	Phase B Pickup Phase C Pickup Neutral Pickup Phase A Trip Phase B Trip Phase C Trip Neutral Trip SettingsG. 1
	SettingsG. 2 SettingsG. 3 SettingsG. 4 Set to FALSE Set to TRUE
Inputs	Input 6 Input 1 Input 2 Input 3 Input 4 Input 5 Input 7 Input 8
	Input 9 Input 10 Input 11
Outputs	Output 1 Output 2 Output 3 Output 4 Output 5 Virtual Output 6 Virtual Output 7 Virtual Output 8
	Virtual Output 9 Virtual Output 10 Virtual Output 11 Virtual Output 12 Virtual Output 13 Virtual Output 14 Virtual Output 15 Virtual Output 16
	Virtual Output 17 Virtual Output 18 Virtual Output 19 Virtual Output 20 Virtual Output 21 Virtual Output 22 Virtual Output 23 Virtual Output 24
	Virtual Output 25 Virtual Output 26 Virtual Output 27 Virtual Output 28 Virtual Output 29 Virtual Output 30 Virtual Output 31 Virtual Output 32
Communication	
HMI	Open Breaker Close Breaker 79 Block 79 Unblock Local Control Remote Control Reset HLT On
	HLT Off User Command 1 User Command 2 User Command 3 User Command 4 User Command 5 User Command 6 Set Counter
	Key Reset Activity Identification Test State
USB COM	Open Breaker Close Breaker 79 Block 79 Unblock Local Control Remote Control Reset HLT On
	HLT Off User Command 1 User Command 2 User Command 3 User Command 4 User Command 5 User Command 6 Set Counter

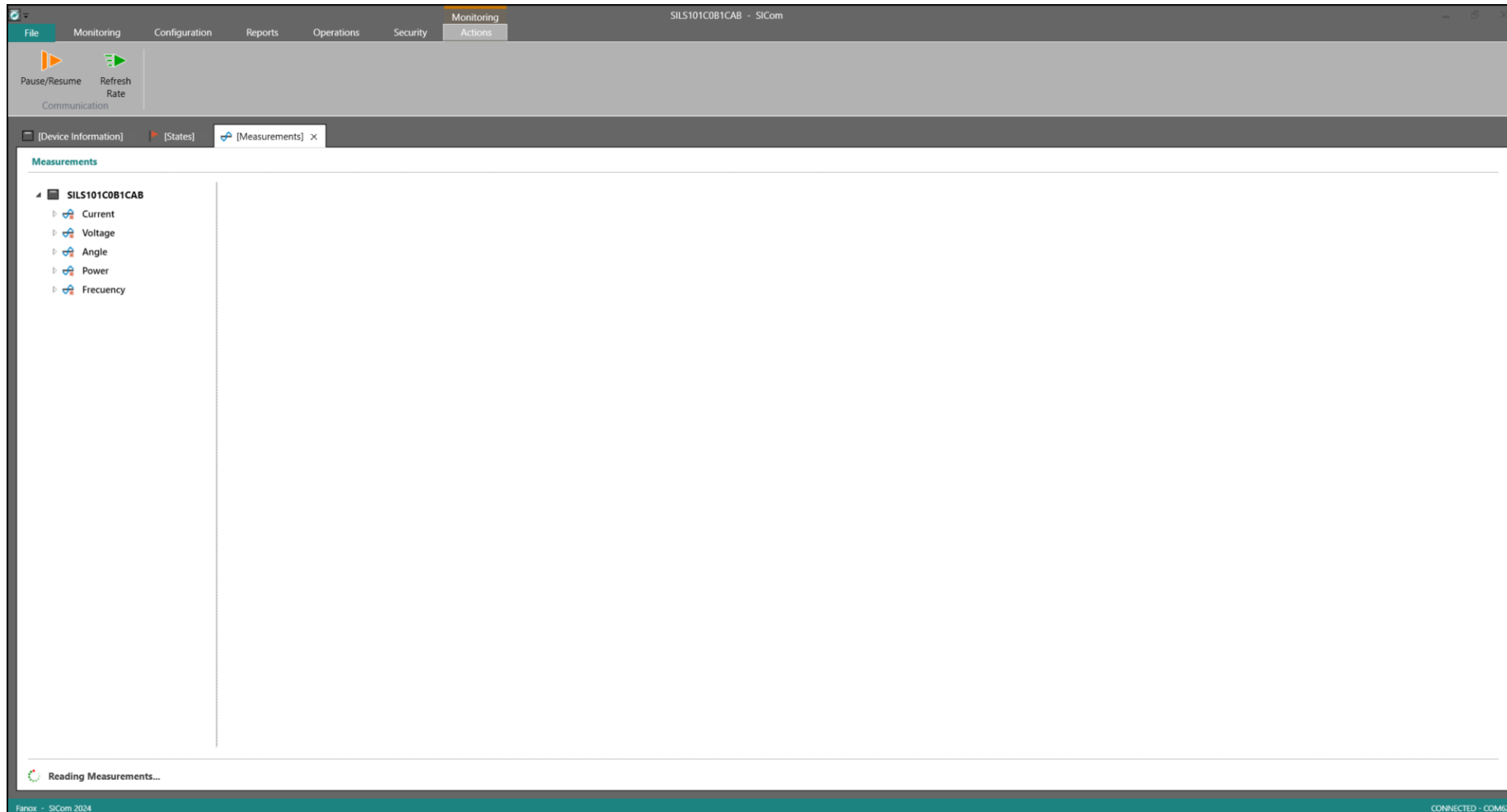
Pause/Resume button can be used to freeze/unfreeze the measures at any given value.

Refresh Rate button allows to set the refresh rate of the sections in the monitoring menu.



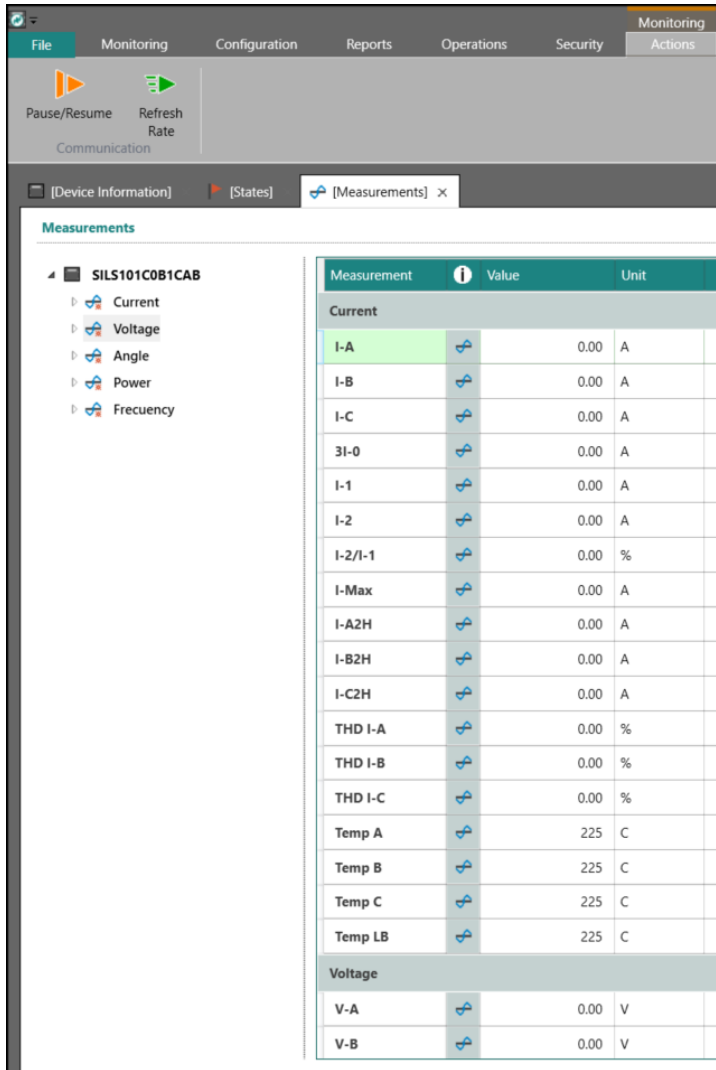
6.2. MEASUREMENTS

To access this menu, press Monitoring tab and then “Measurements” option. The following screen will open (*):



(*) Some measurements might be available depending on the model.

To show the different measurements of each criterion, click on that criterion.



Measurements

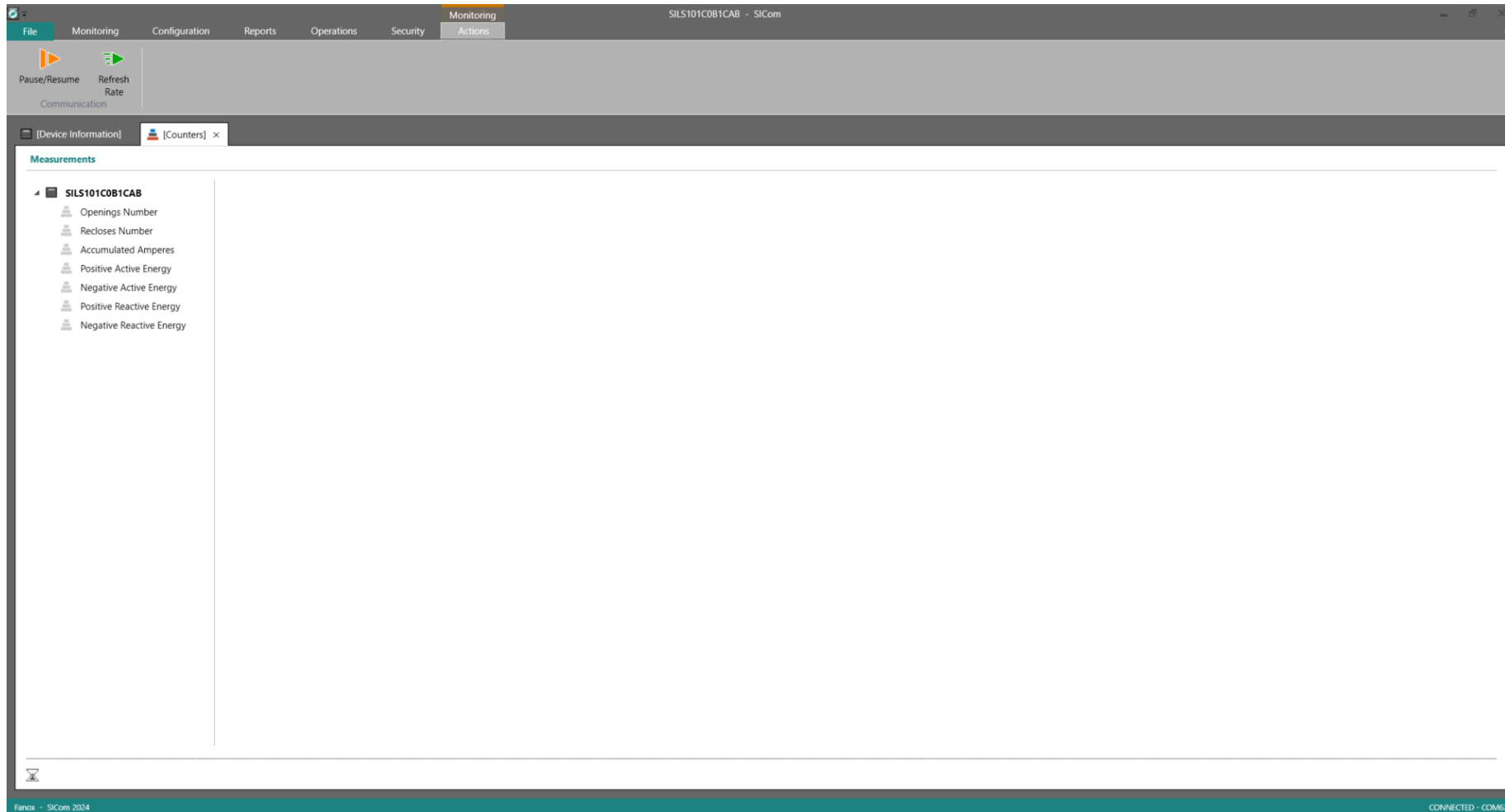
SILS101C0B1CAB

- Current
- Voltage
- Angle
- Power
- Frequency

Measurement	Value	Unit
Current		
I-A	0.00	A
I-B	0.00	A
I-C	0.00	A
3I-0	0.00	A
I-1	0.00	A
I-2	0.00	A
I-2/I-1	0.00	%
I-Max	0.00	A
I-A2H	0.00	A
I-B2H	0.00	A
I-C2H	0.00	A
THD I-A	0.00	%
THD I-B	0.00	%
THD I-C	0.00	%
Temp A	225	C
Temp B	225	C
Temp C	225	C
Temp LB	225	C
Voltage		
V-A	0.00	V
V-B	0.00	V

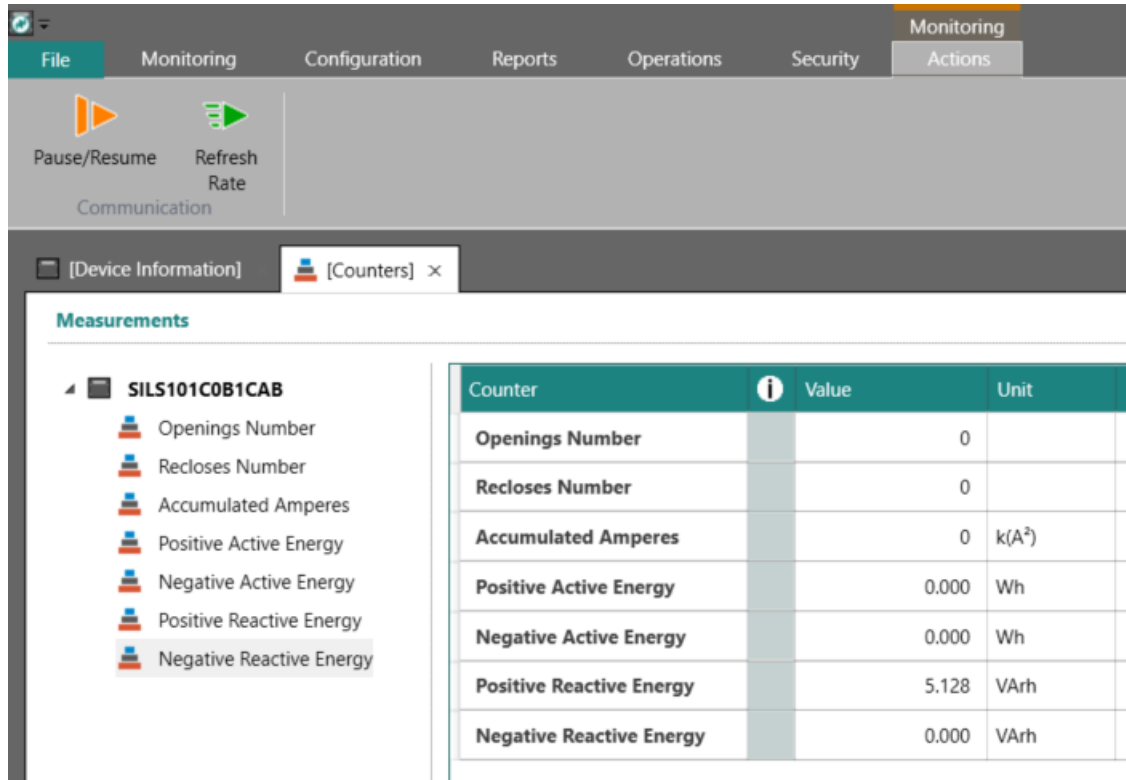
6.3. COUNTERS

To access this menu, press Monitoring tab and then “Measurements” option. The following screen will open (*):



(*) Some counters might be available depending on the model.

To show the values of the counters, click on each one.



Measurements

SILS101C0B1CAB

- Openings Number
- Recloses Number
- Accumulated Amperes
- Positive Active Energy
- Negative Active Energy
- Positive Reactive Energy
- Negative Reactive Energy

Counter	Value	Unit
Openings Number	0	
Recloses Number	0	
Accumulated Amperes	0	k(A ²)
Positive Active Energy	0.000	Wh
Negative Active Energy	0.000	Wh
Positive Reactive Energy	5.128	VArh
Negative Reactive Energy	0.000	VArh

7. CONFIGURATION MENU

In the configuration menu the following tabs can be found (*):

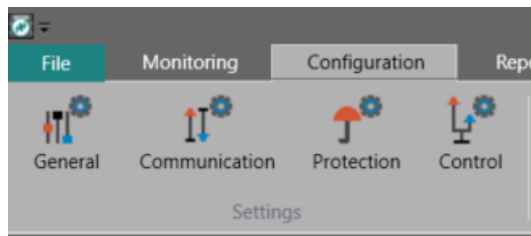


(*) Some of them depend on the model, thus they might not be available in all the relays.

7.1. SETTINGS MENU

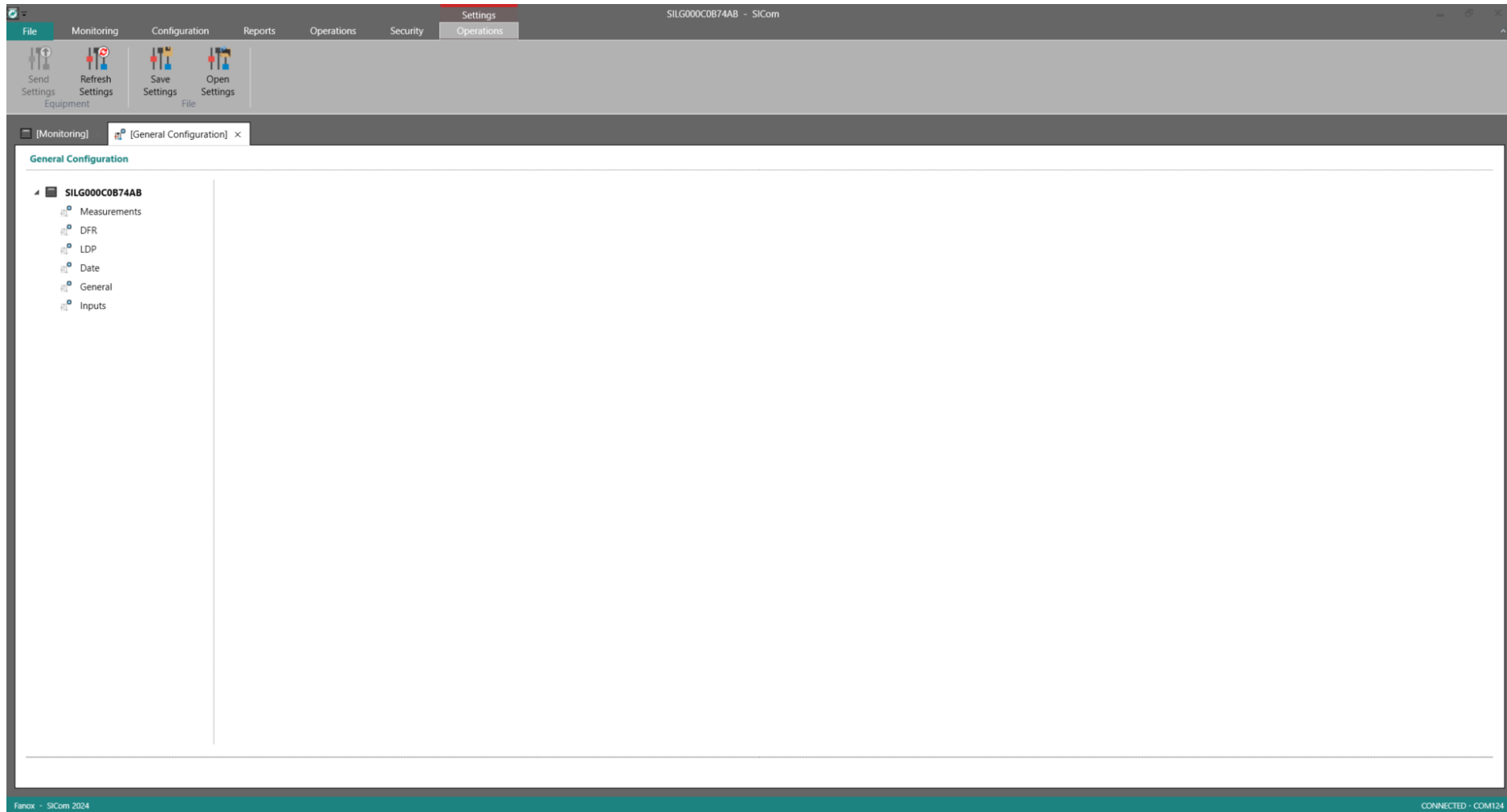
The settings menu is divided into 4 sections:

- General → for general settings such as measurements, DFR, Date...
- Communication → for communication protocols (addresses, IPs, ports...).
- Protection → for protection functions.
- Control → for control functions (LMS).

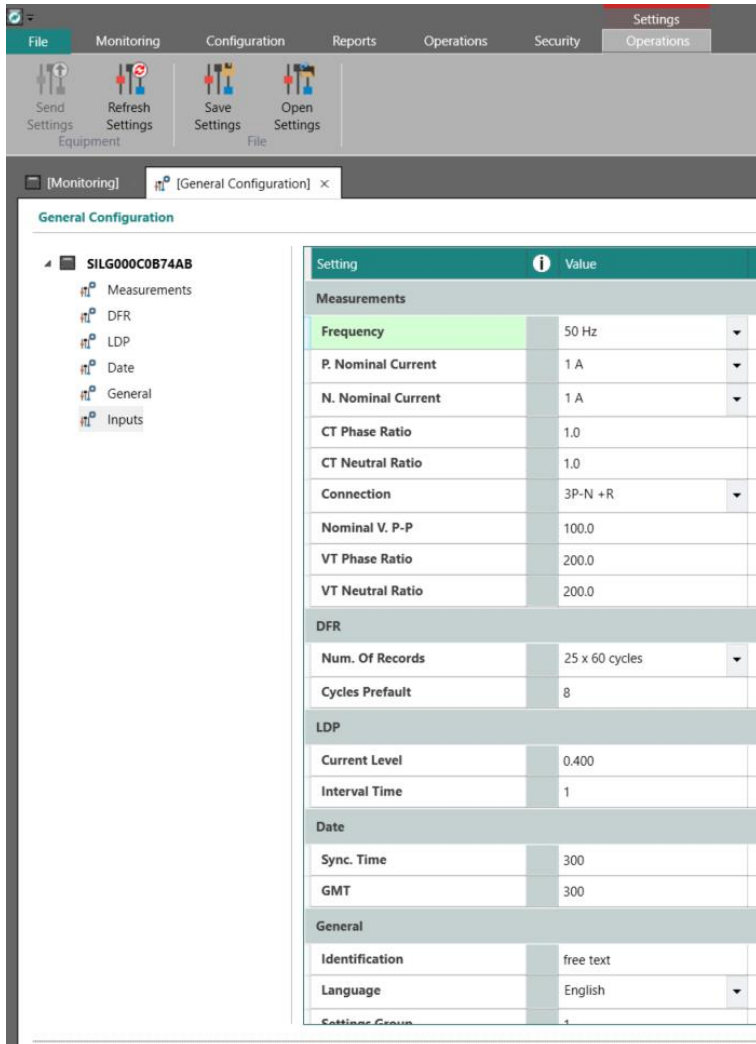


7.1.1. General

When clicking in this section the following window will be opened:



To show the configurable settings of the sub-sections, click on each one.



General Configuration

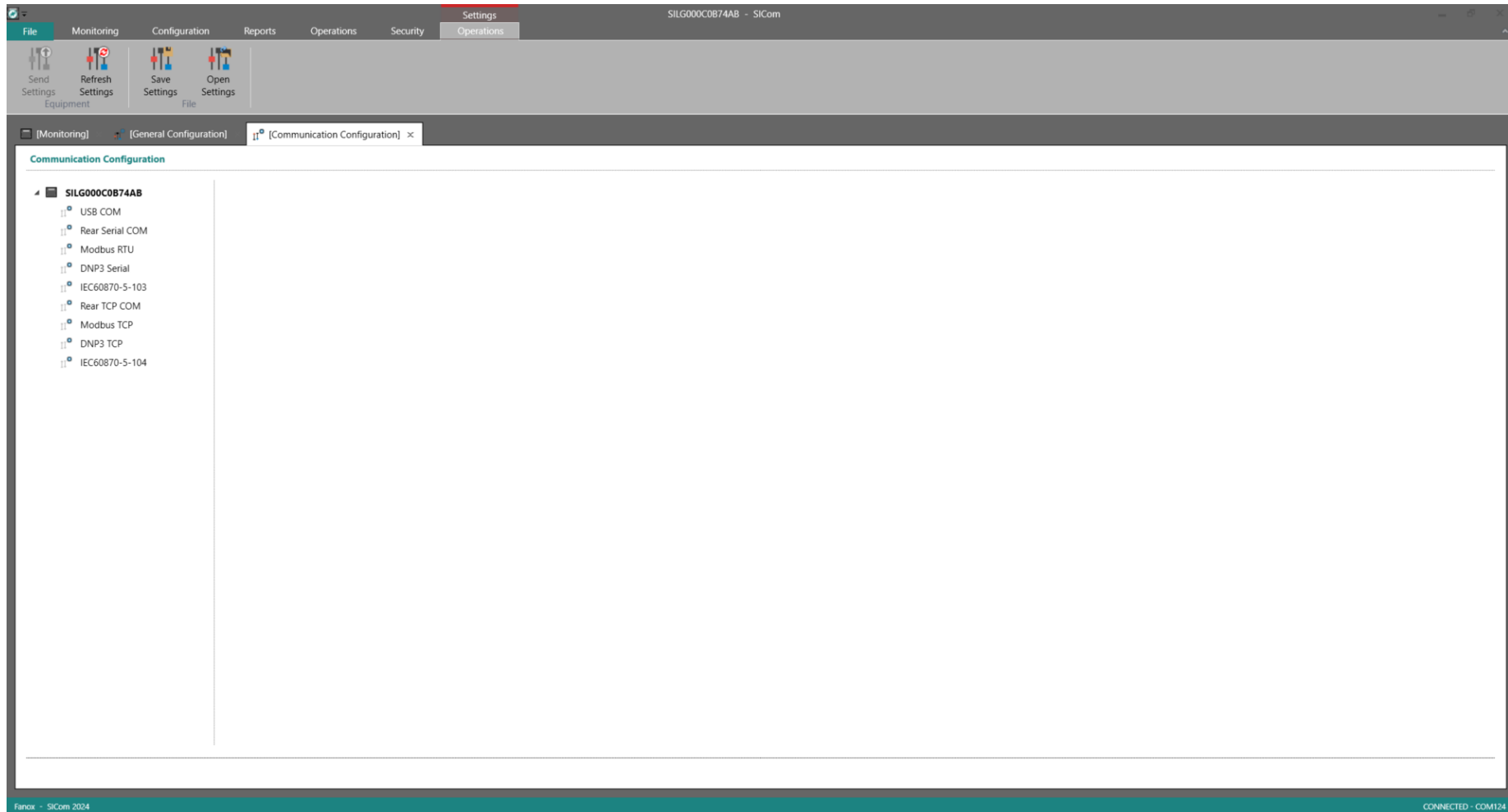
SILG000C0874AB

- Measurements
- DFR
- LDP
- Date
- General
- Inputs

Setting	Value
Measurements	
Frequency	50 Hz
P. Nominal Current	1 A
N. Nominal Current	1 A
CT Phase Ratio	1.0
CT Neutral Ratio	1.0
Connection	3P-N +R
Nominal V. P-P	100.0
VT Phase Ratio	200.0
VT Neutral Ratio	200.0
DFR	
Num. Of Records	25 x 60 cycles
Cycles Prefault	8
LDP	
Current Level	0.400
Interval Time	1
Date	
Sync. Time	300
GMT	300
General	
Identification	free text
Language	English
Settings Group	1

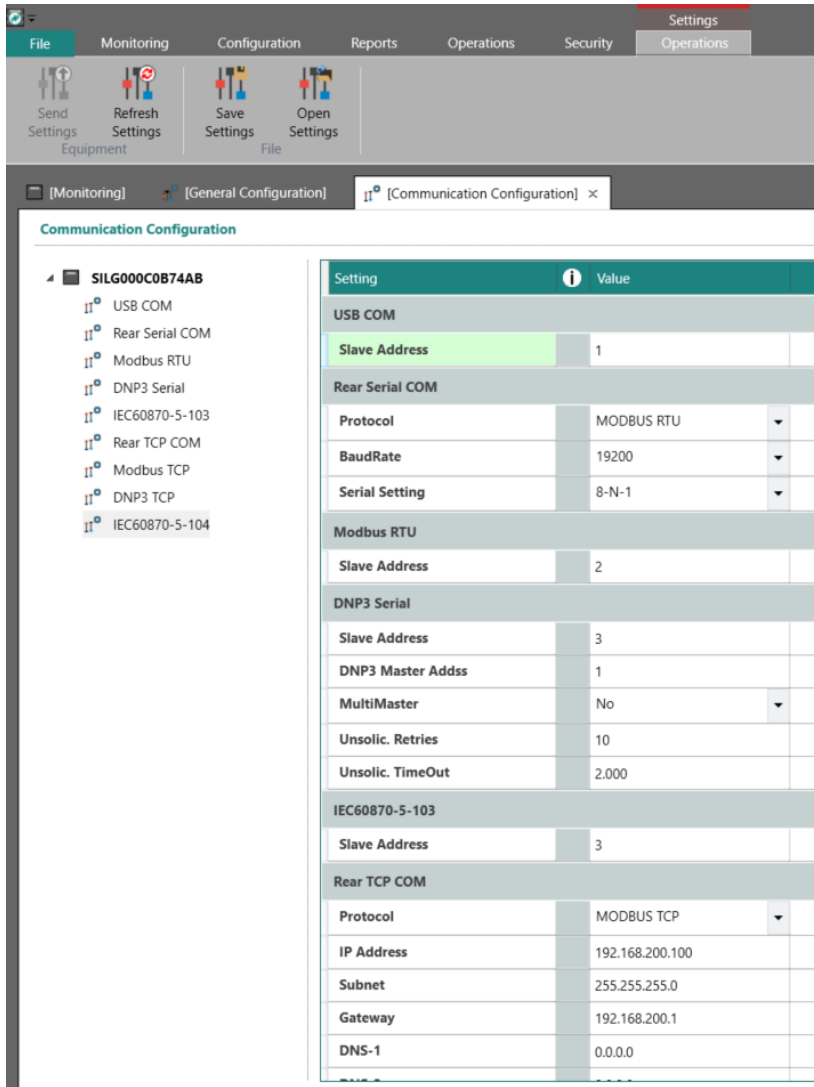
7.1.2. Communication

When clicking in this section the following window will be opened (*):



(*) Some options are available depending on the model.

To show the configurable settings of the sub-sections, click on each one.



Communication Configuration

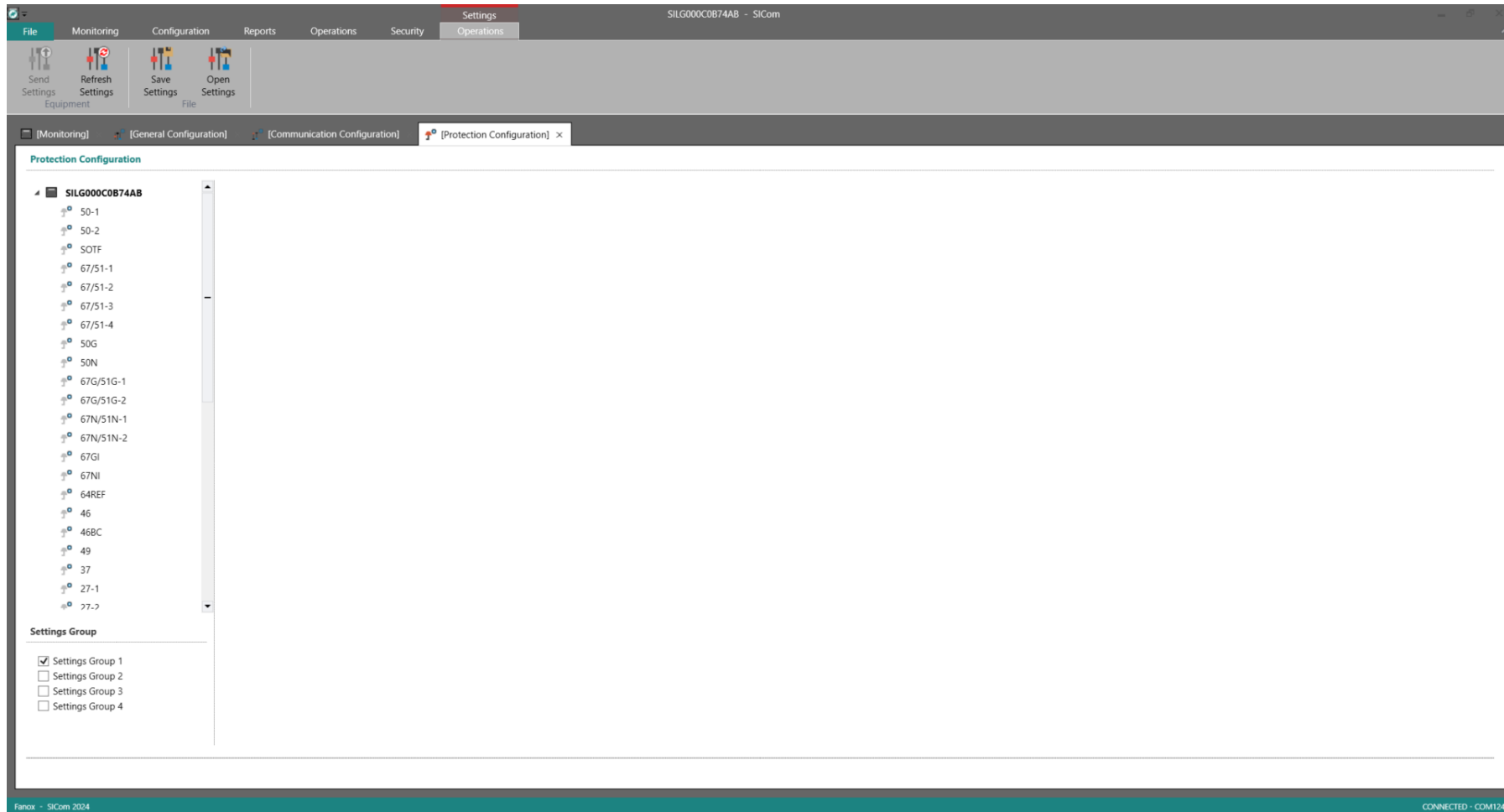
SILG000C0B74AB

- USB COM
- Rear Serial COM
- Modbus RTU
- DNP3 Serial
- IEC60870-5-103
- Rear TCP COM
- Modbus TCP
- DNP3 TCP
- IEC60870-5-104

Setting	Value
USB COM	
Slave Address	1
Rear Serial COM	
Protocol	MODBUS RTU
BaudRate	19200
Serial Setting	8-N-1
Modbus RTU	
Slave Address	2
DNP3 Serial	
Slave Address	3
DNP3 Master Addrss	1
MultiMaster	No
Unsollic. Retries	10
Unsollic. TimeOut	2.000
IEC60870-5-103	
Slave Address	3
Rear TCP COM	
Protocol	MODBUS TCP
IP Address	192.168.200.100
Subnet	255.255.255.0
Gateway	192.168.200.1
DNS-1	0.0.0.0

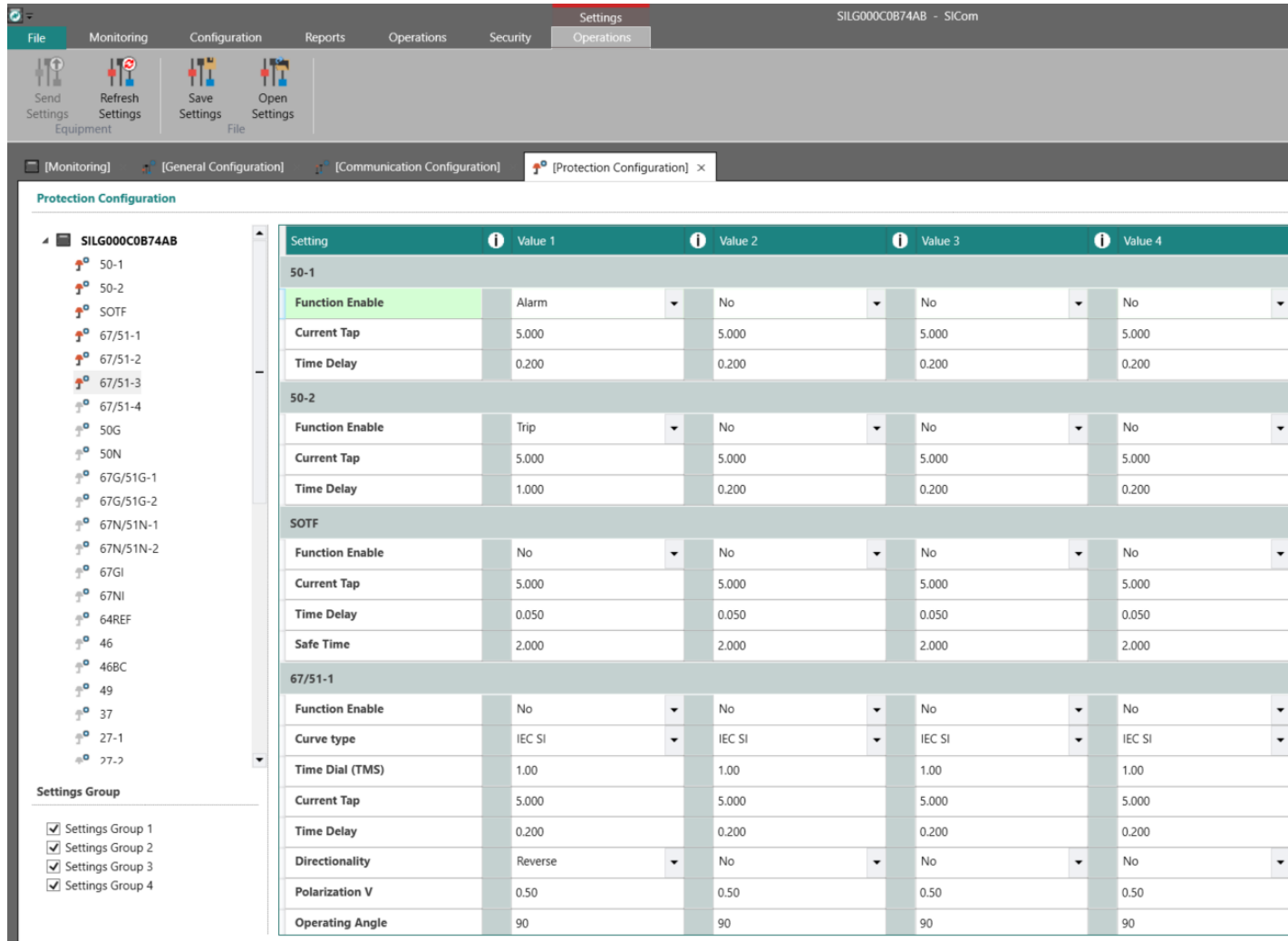
7.1.3. Protection

When clicking in this section the following window will be opened (*):



(*) Some options are available depending on the model.

To show the configurable settings of the sub-sections, click on each one.



Protection Configuration

SILG000C0B74AB

- 50-1
- 50-2
- SOTF
- 67/51-1
- 67/51-2
- 67/51-3
- 67/51-4
- 50G
- 50N
- 67G/51G-1
- 67G/51G-2
- 67N/51N-1
- 67N/51N-2
- 67GI
- 67NI
- 64REF
- 46
- 46BC
- 49
- 37
- 27-1
- 27-2

Settings Group

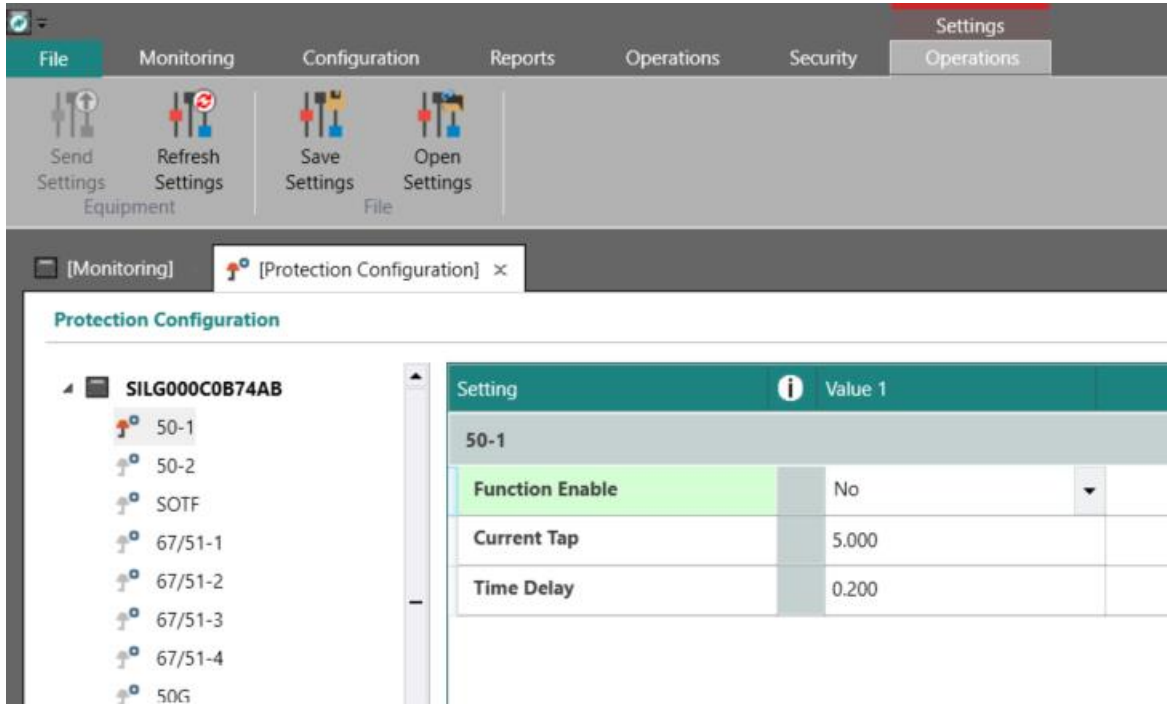
- ☒ Settings Group 1
- ☒ Settings Group 2
- ☒ Settings Group 3
- ☒ Settings Group 4

Setting	Value 1	Value 2	Value 3	Value 4
50-1				
Function Enable	Alarm	No	No	No
Current Tap	5.000	5.000	5.000	5.000
Time Delay	0.200	0.200	0.200	0.200
50-2				
Function Enable	Trip	No	No	No
Current Tap	5.000	5.000	5.000	5.000
Time Delay	1.000	0.200	0.200	0.200
SOTF				
Function Enable	No	No	No	No
Current Tap	5.000	5.000	5.000	5.000
Time Delay	0.050	0.050	0.050	0.050
Safe Time	2.000	2.000	2.000	2.000
67/51-1				
Function Enable	No	No	No	No
Curve type	IEC SI	IEC SI	IEC SI	IEC SI
Time Dial (TMS)	1.00	1.00	1.00	1.00
Current Tap	5.000	5.000	5.000	5.000
Time Delay	0.200	0.200	0.200	0.200
Directionality	Reverse	No	No	No
Polarization V	0.50	0.50	0.50	0.50
Operating Angle	90	90	90	90

The settings of the different settings groups can be modified by clicking on the settings group options on the bottom left of the screen.

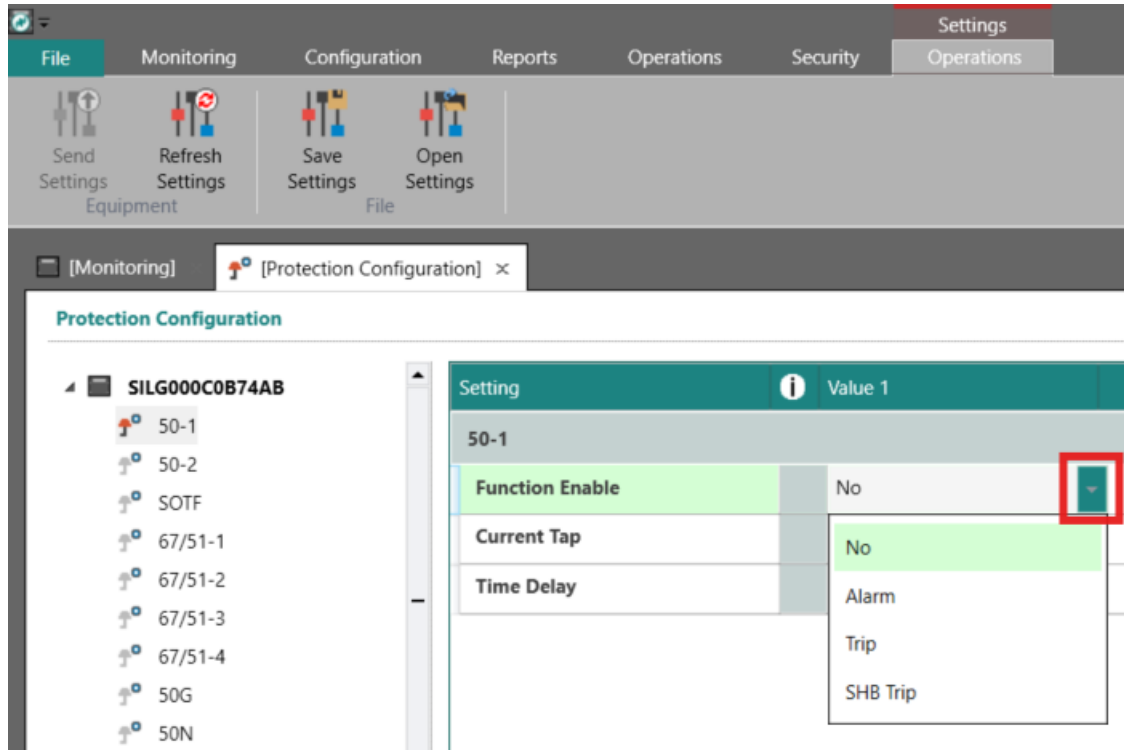
7.1.4. How to change a setting

On the left side of the settings screen all the protection functions are listed (the list will depend on the model of the relay). Select the desired function and all the settings related with it will be displayed:



Setting	Value 1
50-1	
Function Enable	No
Current Tap	5.000
Time Delay	0.200

If there is an arrow on the right of a parameter, press it to check the options and select the required option:



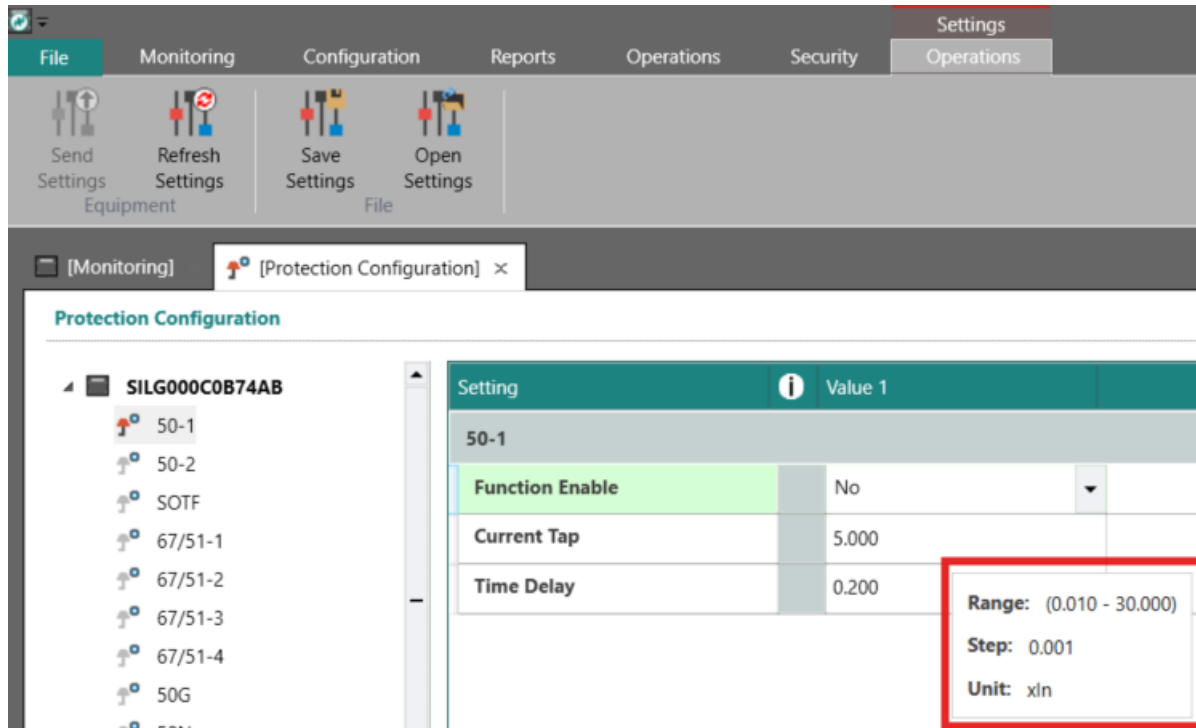
Protection Configuration

SILG000C0B74AB

- 50-1
- 50-2
- SOTF
- 67/51-1
- 67/51-2
- 67/51-3
- 67/51-4
- 50G
- 50N

Setting	Value 1
50-1	
Function Enable	No
Current Tap	No
Time Delay	Alarm
	Trip
	SHB Trip

If there is not an arrow, place the cursor on the parameter setting and the range (minimum and maximum value), the unit and the step will be shown. In this way the user can know which values correct and which ones are out of range.



Setting	Value 1
50-1	
Function Enable	No
Current Tap	5.000
Time Delay	0.200

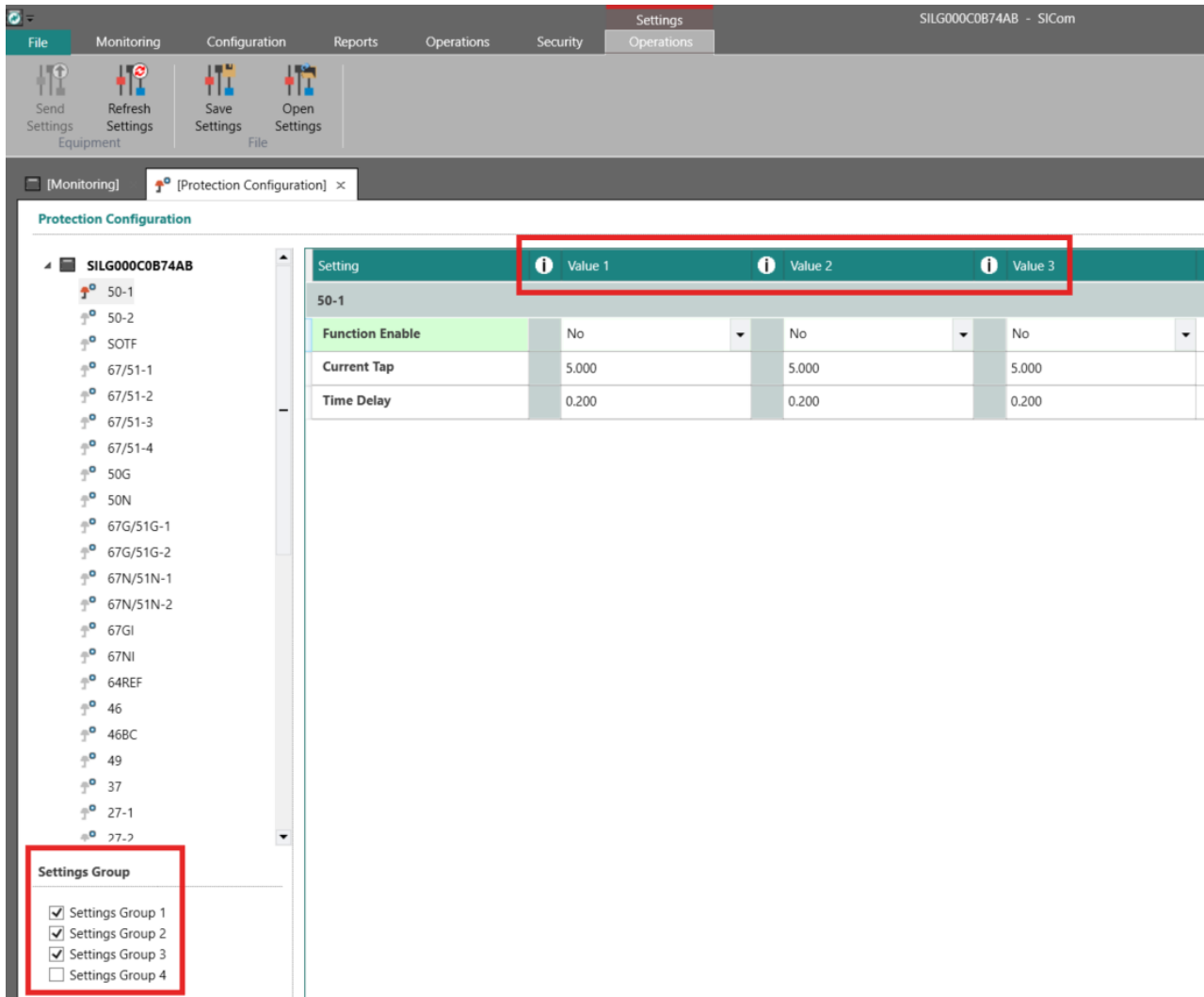
Range: (0.010 - 30.000)

Step: 0.001

Unit: xIn

To close the settings of a protection function, double click on the protection function on the left of the screen.

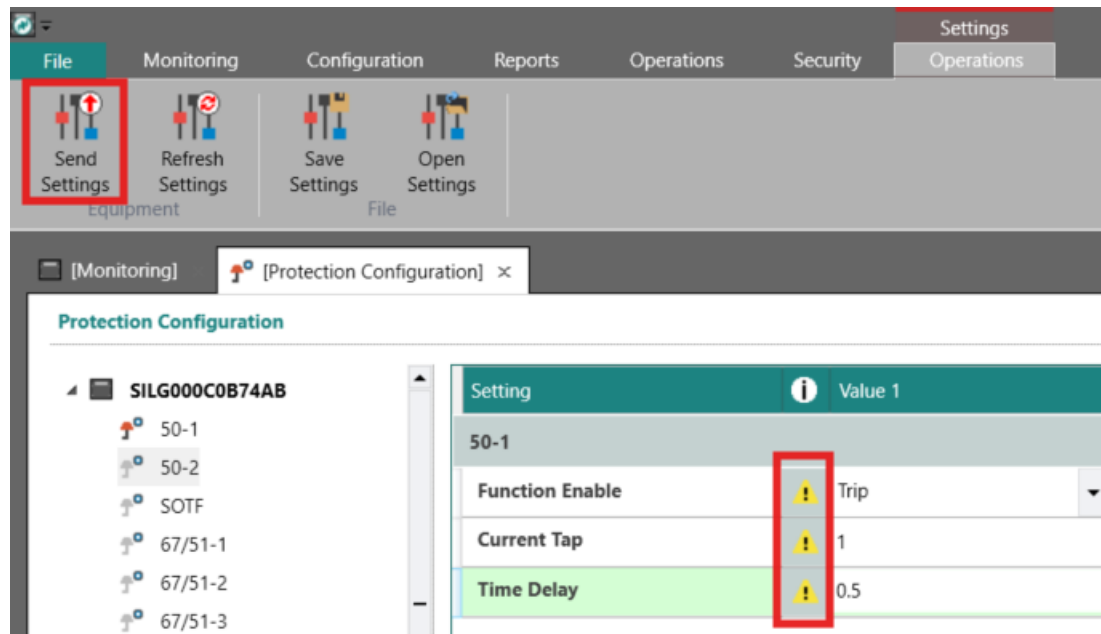
By default, only one settings group is shown. If the relay has more than one settings group, they can be selected pressing the option at the bottom of the screen:



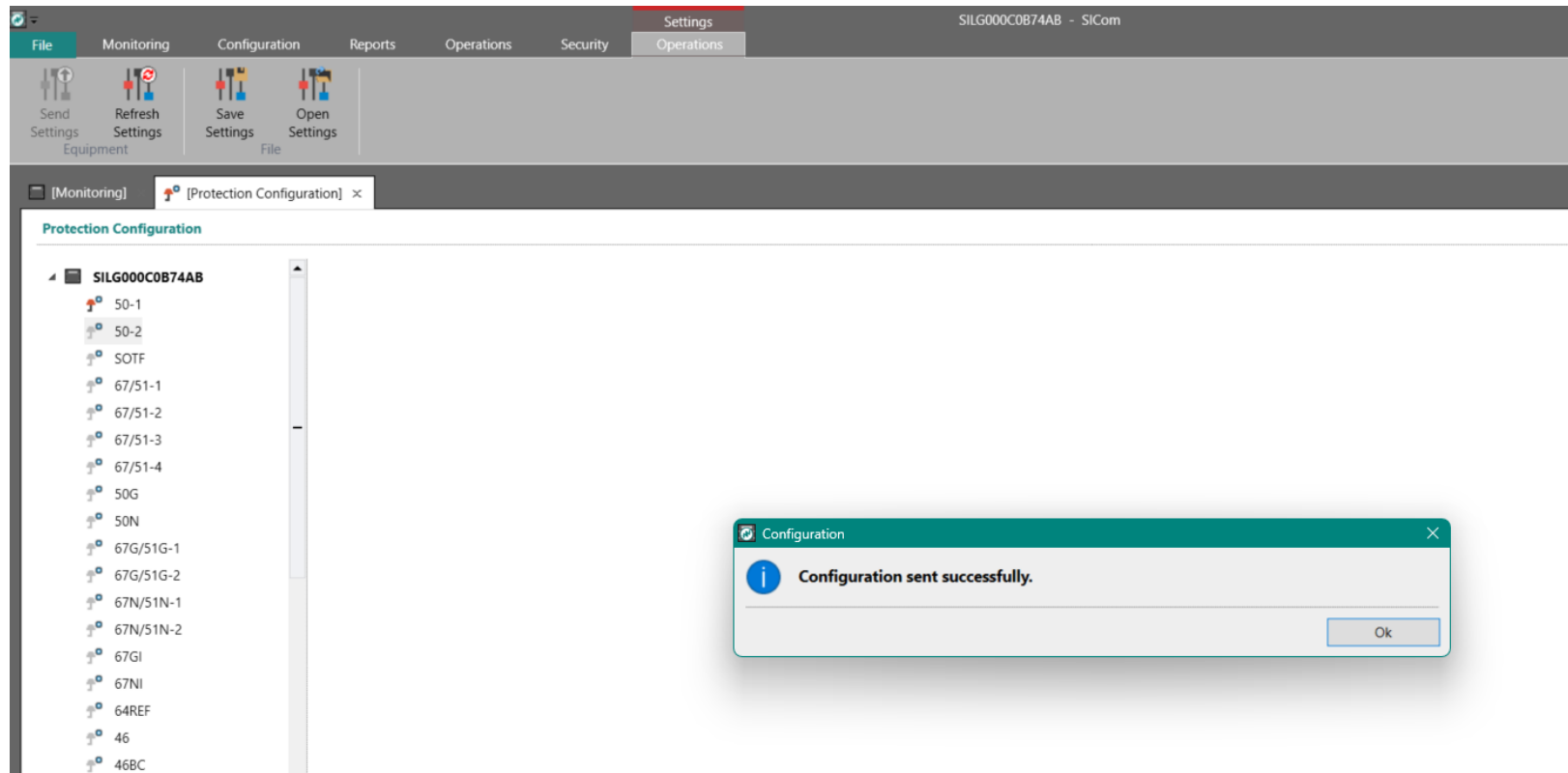
The screenshot displays the 'Protection Configuration' window for device SILG000C0B74AB. The interface includes a top navigation bar with tabs for File, Monitoring, Configuration, Reports, Operations, Security, and Settings. Below the navigation bar is a toolbar with icons for Send Settings, Refresh Settings, Save Settings, and Open Settings. The main area is divided into a sidebar and a main content area. The sidebar lists various settings groups, and a red box highlights the 'Settings Group' section at the bottom, which contains four checkboxes: 'Settings Group 1' (checked), 'Settings Group 2' (checked), 'Settings Group 3' (checked), and 'Settings Group 4' (unchecked). The main content area displays the configuration for '50-1', with a table showing values for 'Function Enable', 'Current Tap', and 'Time Delay' across three columns labeled 'Value 1', 'Value 2', and 'Value 3'. A red box highlights the column headers 'Value 1', 'Value 2', and 'Value 3'.

Setting	Value 1	Value 2	Value 3
50-1			
Function Enable	No	No	No
Current Tap	5.000	5.000	5.000
Time Delay	0.200	0.200	0.200

When a parameter is changed, a yellow triangle will appear on its left (informing that a change has happened, but it has not been sent yet). To send the changes to the relay press “Send Settings” (up on the left):



If the action is correct, a message confirming it will appear on the screen:



If a value out of range is written, a symbol informing about it will appear and the option “Send Settings” will not be available:

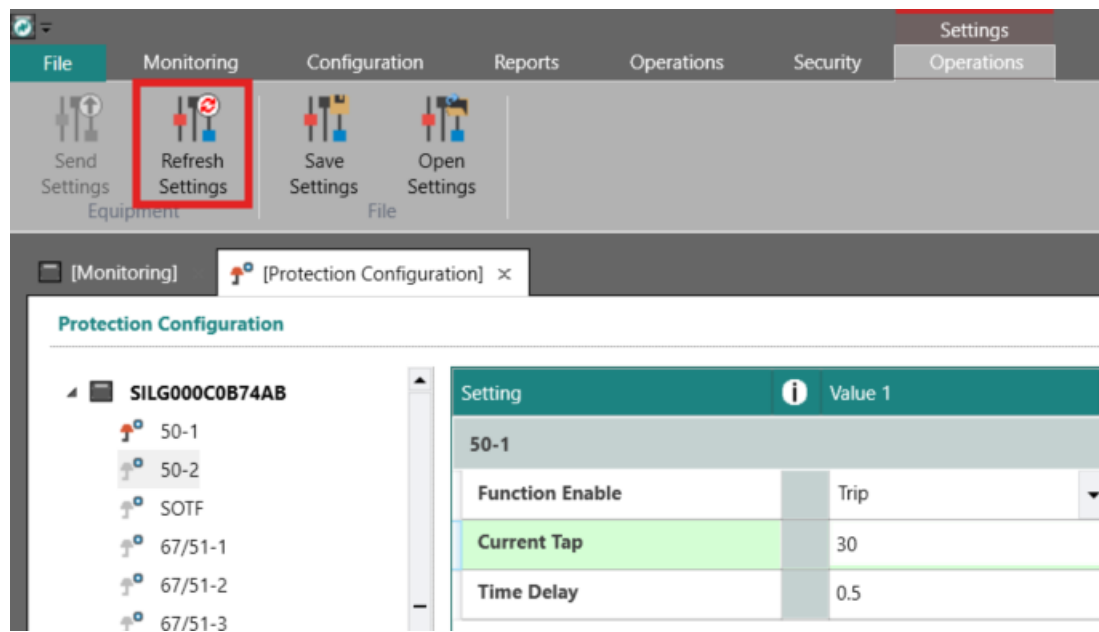
The screenshot displays the FANOX software interface. The top navigation bar includes tabs for File, Monitoring, Configuration, Reports, Operations, Security, and Settings. The 'Settings' tab is active, showing sub-tabs for Equipment and File. The 'Send Settings' button under the Equipment sub-tab is highlighted with a red box. Below the navigation bar, the 'Protection Configuration' window is open, showing a tree view on the left with the selected equipment 'SILG000C0B74AB'. The right pane displays the configuration for '50-1', including 'Function Enable' (Trip), 'Current Tap' (0), and 'Time Delay' (0.5). The 'Current Tap' value is highlighted with a red box, and a red 'X' icon is visible next to it, indicating an out-of-range value.

Setting	Value 1
50-1	
Function Enable	Trip
Current Tap	0
Time Delay	0.5

Setting change made from HMI:

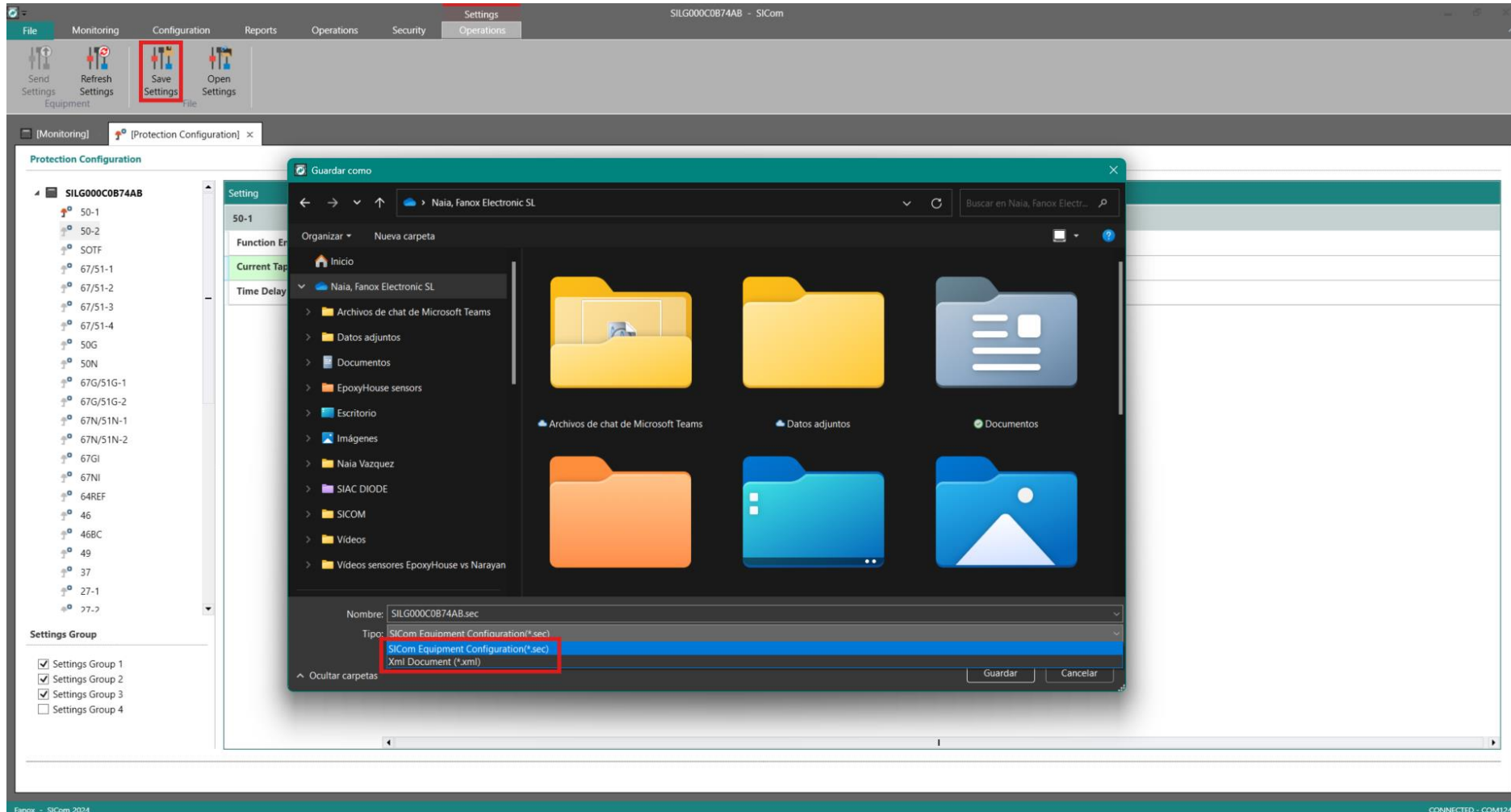
There are 2 options:

- If the settings menu is not opened, once the menu is opened, the new setting will appear in the SiCom.
- If the settings menu is already opened, after the changes in HMI, it is necessary to press “Refresh Settings” to visualize the changes in the SiCom:



7.1.5. How to save a settings file

It is possible to save a settings file thanks to “Save Settings” option. When it is pressed a window to save these settings will be opened. The file can be saved in 2 formats. “.sec” or “.xml”.



It is possible to select a name for the file and the wanted location. A message confirming the action will be shown.

The screenshot displays the FANOX SICom software interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Settings. The 'Settings' menu is open, showing 'Operations' as the selected option. The main window is titled 'Protection Configuration' and shows a list of settings on the left and a table of values on the right. A red box highlights a 'Configuration' dialog box with the message 'Configuration saved successfully.' and an 'Ok' button.

Protection Configuration

Settings

Setting	Value 1	Value 2	Value 3
50-1			
Function Enable	Trip	No	No
Current Tap	30	5.000	5.000
Time Delay	0.5	0.200	0.200

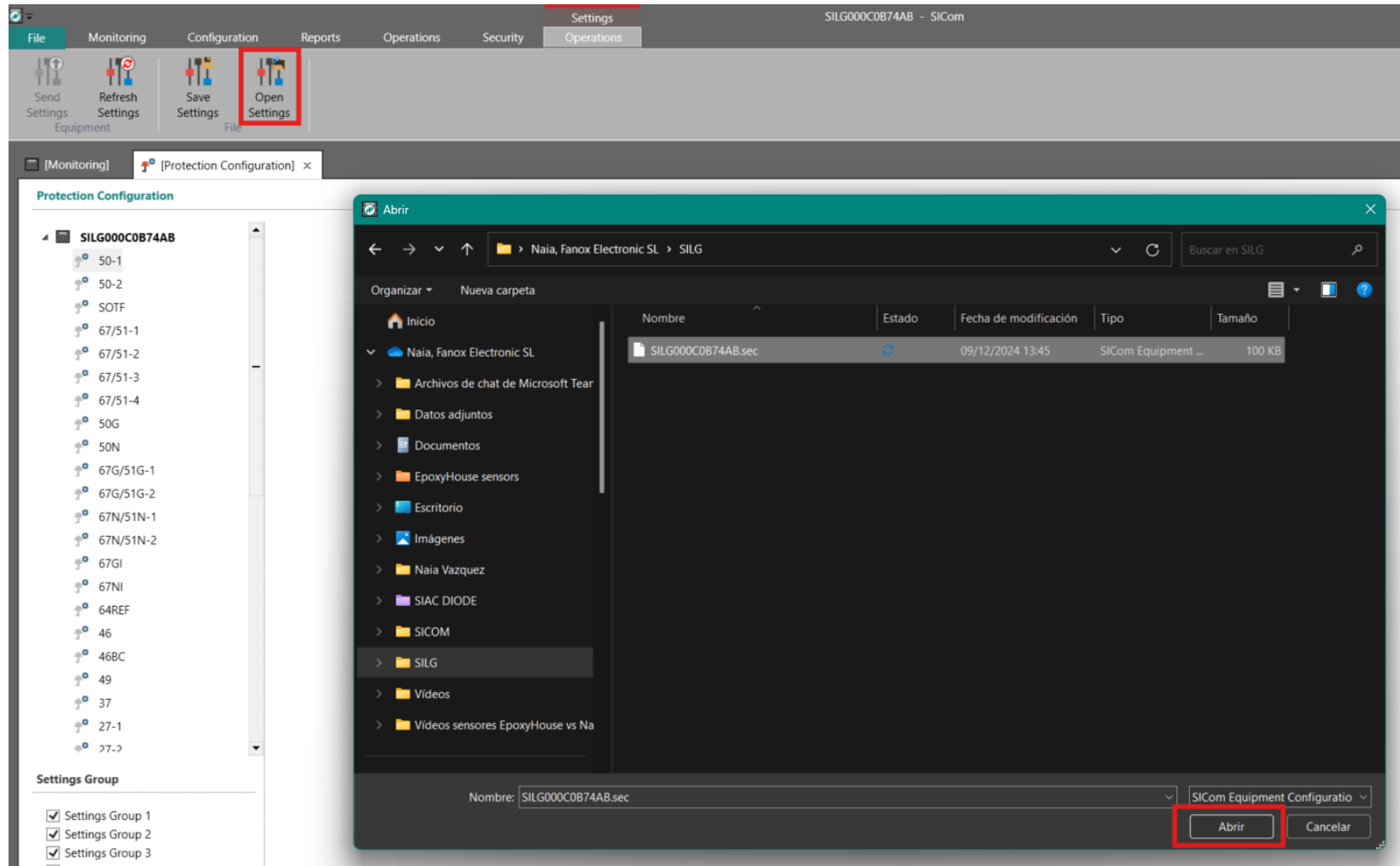
Configuration

Configuration saved successfully.

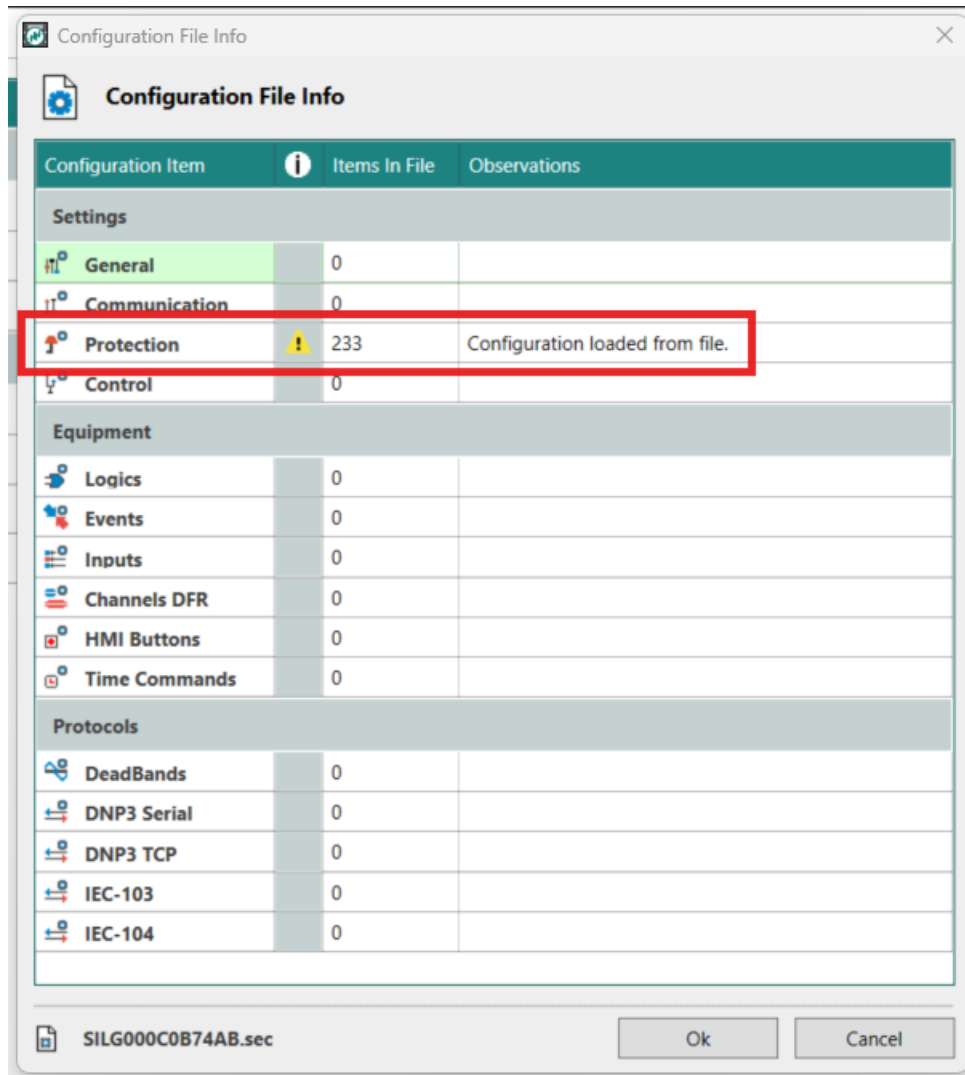
Ok

7.1.6. How to open a settings file

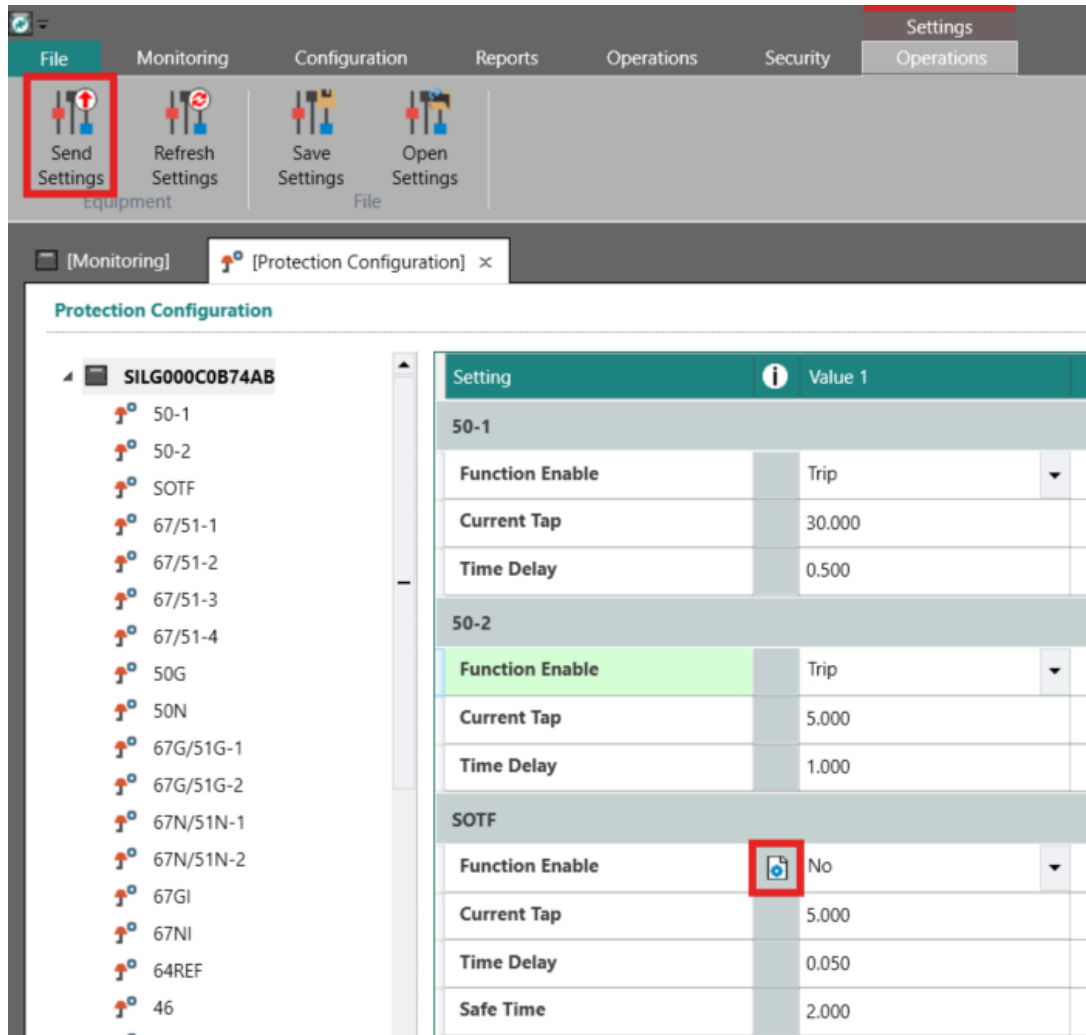
It is possible to open a settings file previously saved and send it to the relay. To do this, press “Open Settings” option, select the desired file and press “open”:



The following window will appear to indicate which settings are being opened, press OK.



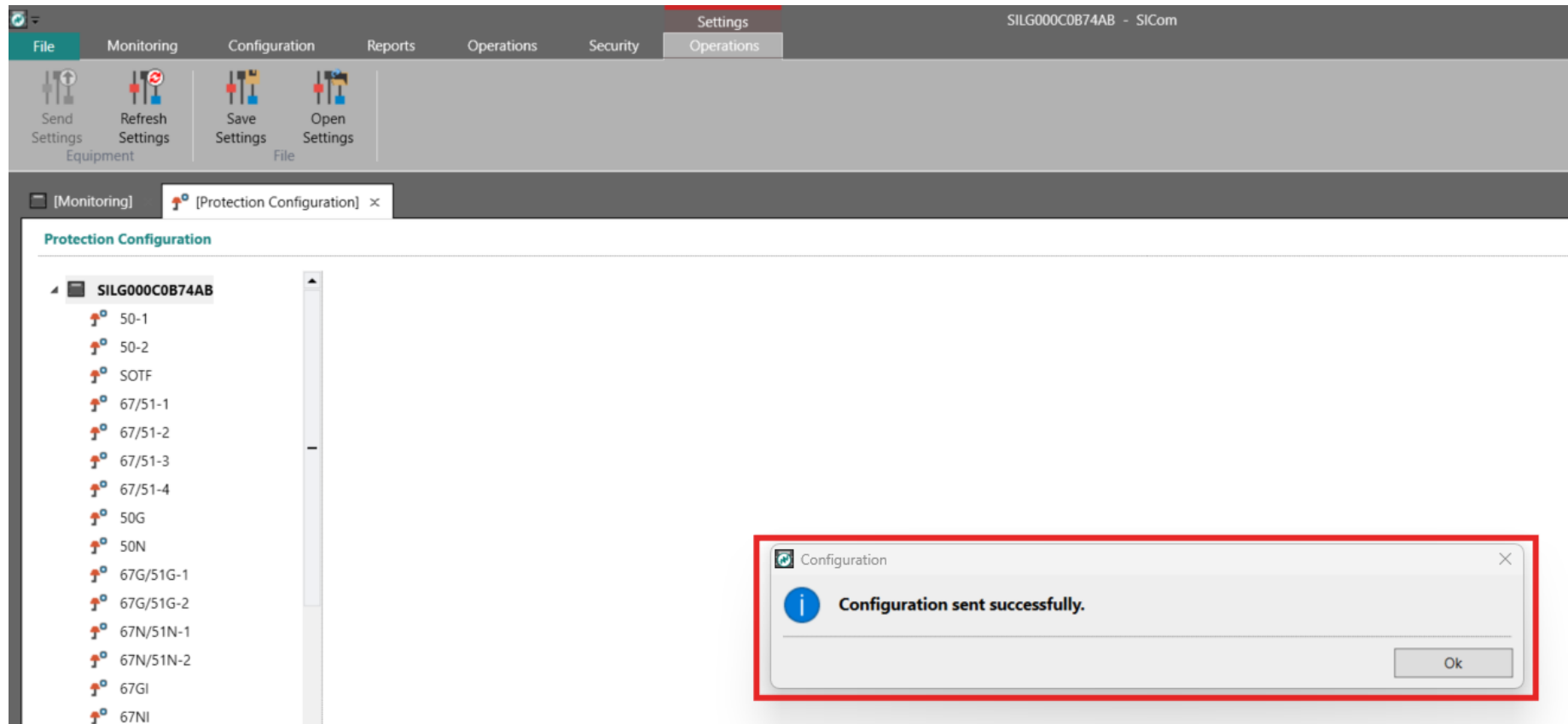
If in the opened file any of the settings is different from the previously adjusted, they will appear with a marking on the left. To send them to the relay, press "Send Settings".



The screenshot shows the FANOX Protection Configuration interface. The top toolbar includes buttons for File, Monitoring, Configuration, Reports, Operations, Security, and Settings. The 'Send Settings' button is highlighted with a red box. The main configuration area shows a list of protection functions on the left and a table of settings on the right. The 'SOTF' function is selected, and its settings are displayed in the table. The 'Function Enable' setting for 'SOTF' is highlighted with a red box, indicating it needs to be sent to the relay.

Setting	Value 1
50-1	
Function Enable	Trip
Current Tap	30.000
Time Delay	0.500
50-2	
Function Enable	Trip
Current Tap	5.000
Time Delay	1.000
SOTF	
Function Enable	No
Current Tap	5.000
Time Delay	0.050
Safe Time	2.000

A message confirming that the settings have been sent will appear:

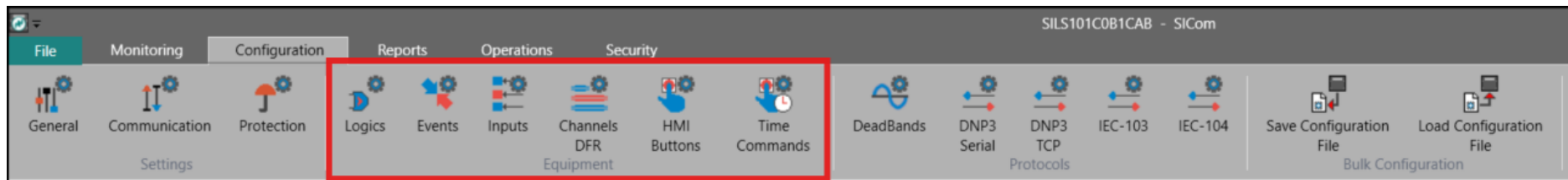


If there are several settings file for different relays, please take care of selecting the correct one. If an incompatible file is selected SICom will not open the document.

7.2. EQUIPMENT MENU

The equipment menu is divided into 6 sections (*):

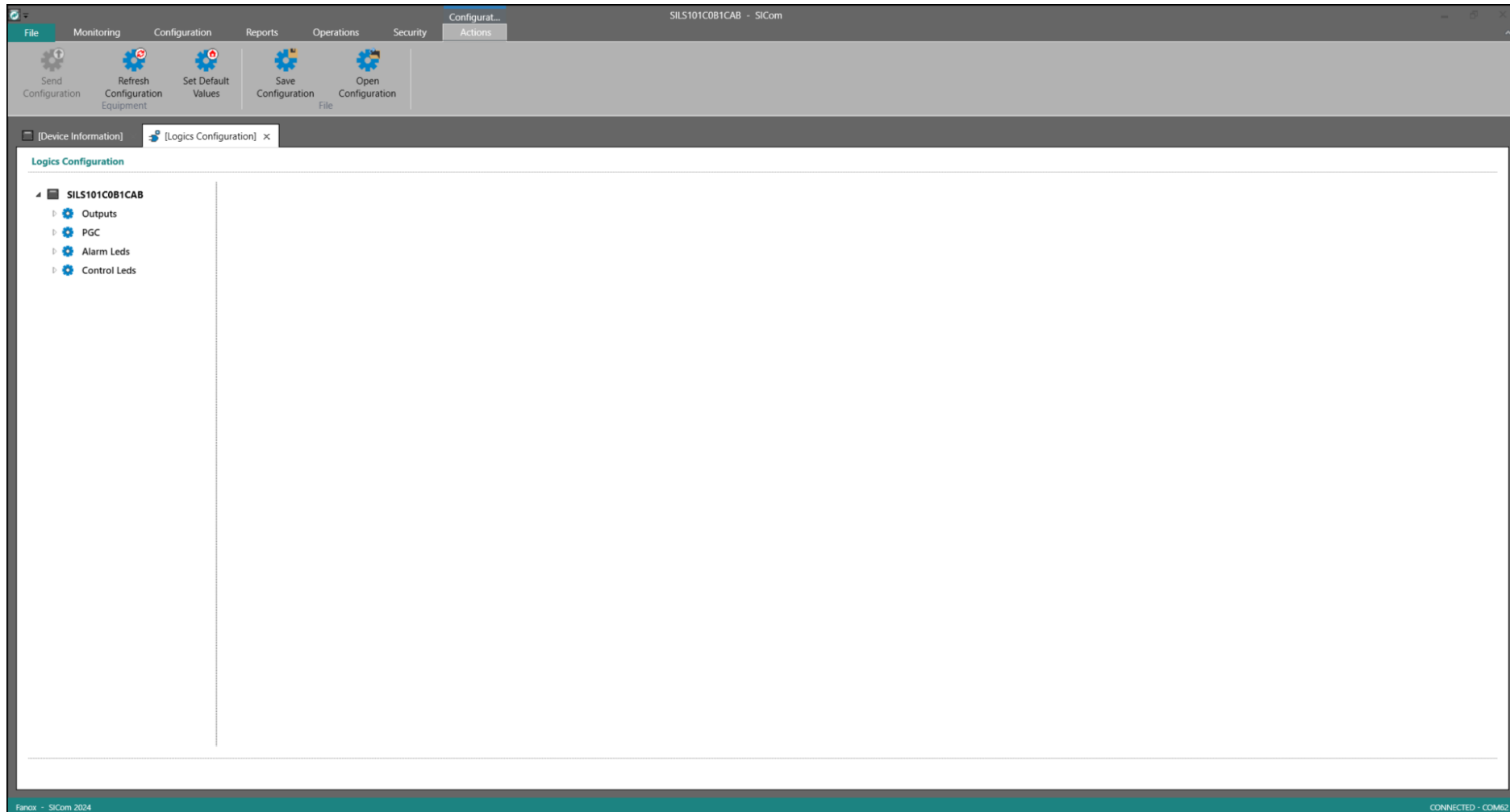
- Logics → allows to configure the internal logics of the relay.
- Events → allows to mask/unmask the events.
- Inputs → can be used to assign a name to the inputs.
- Channels DFR → allows to configure which criteria and state is shown in each channel.
- HMI Buttons → allows to configure which command is designated to each button.
- Time Commands → can be used to set the time a command takes to activate.



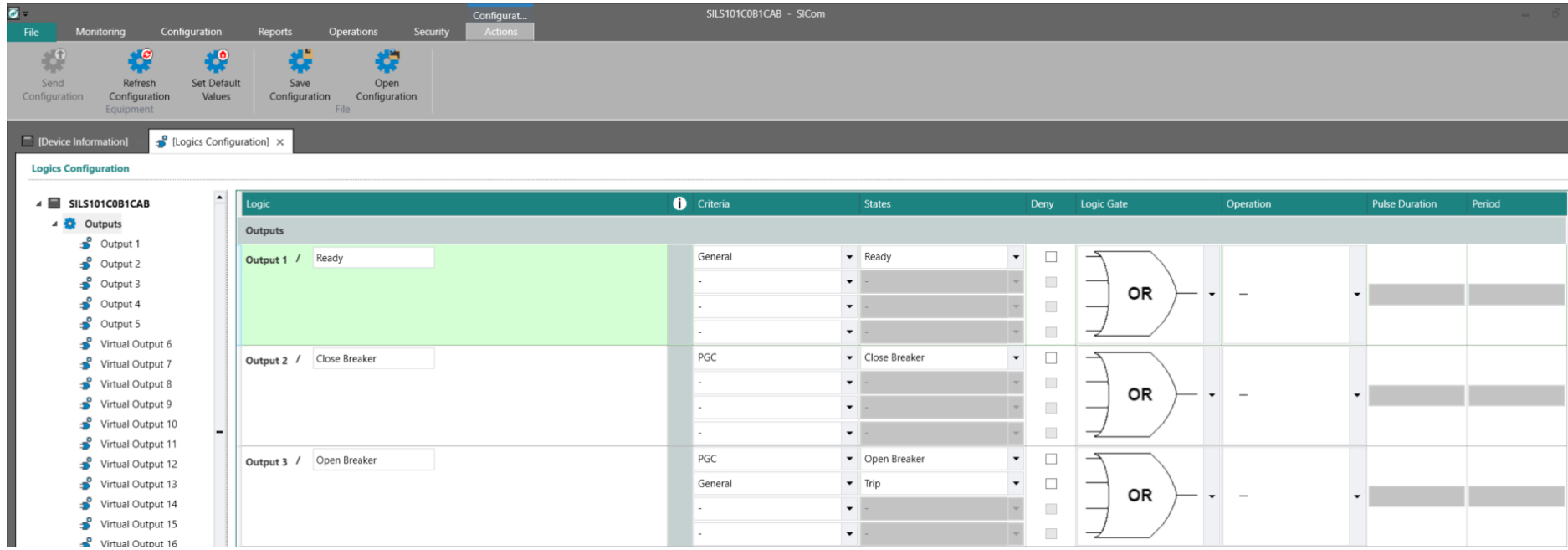
(*) Available depending on the model.

7.2.1. Logics

When clicking the logics tab, a window with the Outputs, PGCs, Alarm LEDs and Control LEDs will be opened.



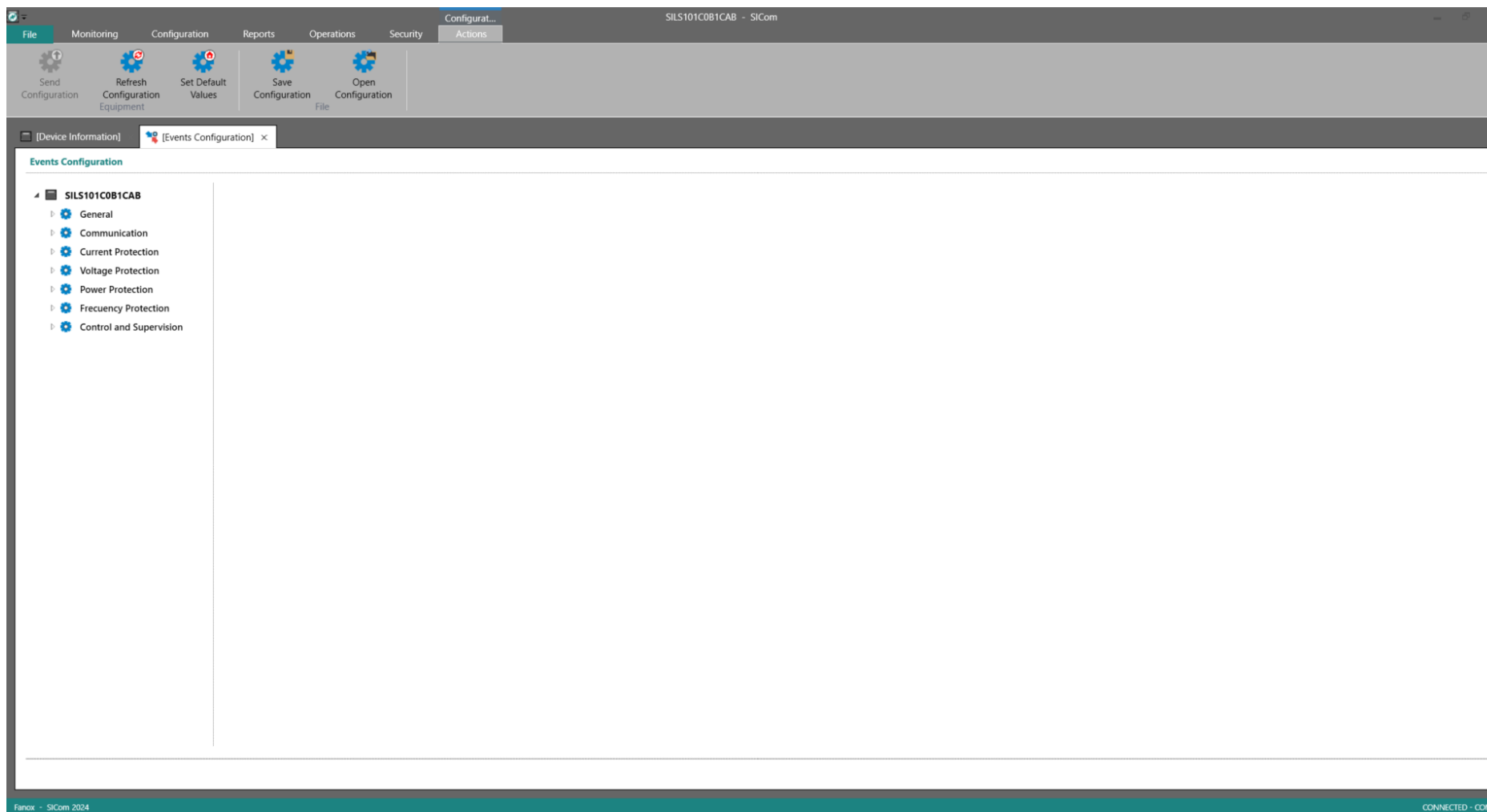
To show the configurable sub-sections, click on each one.



Logic	Criteria	States	Deny	Logic Gate	Operation	Pulse Duration	Period
Outputs							
Output 1 / Ready	General	Ready	☐	OR	-		
	-	-	☐	OR	-		
	-	-	☐	OR	-		
	-	-	☐	OR	-		
Output 2 / Close Breaker	PGC	Close Breaker	☐	OR	-		
	-	-	☐	OR	-		
	-	-	☐	OR	-		
	-	-	☐	OR	-		
Output 3 / Open Breaker	PGC	Open Breaker	☐	OR	-		
	General	Trip	☐	OR	-		
	-	-	☐	OR	-		
	-	-	☐	OR	-		

7.2.2. Events

When clicking the events tab, a list with the different states criteria will be opened.



To show the configurable events, click on each one. If there is a tick in the box, the event will show in the events record in case the state is activated, if it is not, the event won't show even if it is activated.

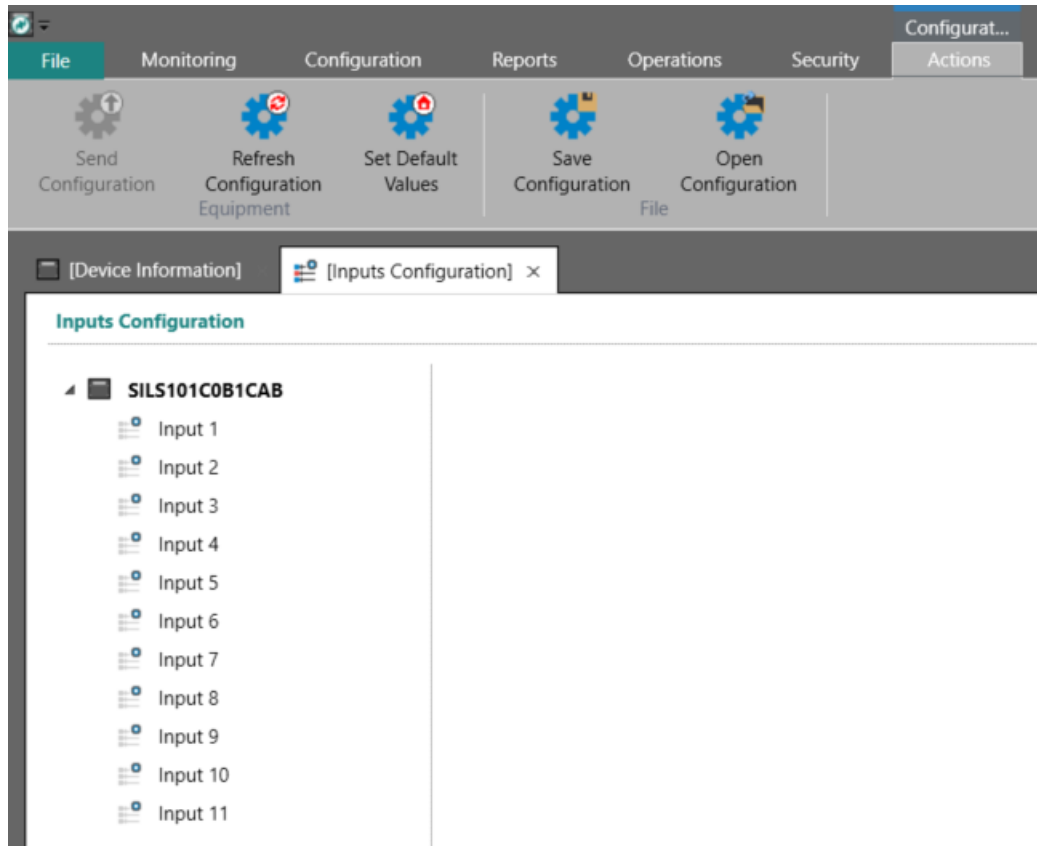
Configuration window for SILS101C0B1CAB - SiCom. The interface includes tabs for File, Monitoring, Configuration, Reports, Operations, Security, and Actions. The Configuration tab is active, showing options like Send Configuration, Refresh Configuration Equipment, Set Default Values, Save Configuration, and Open Configuration File.

The Events Configuration window is open, displaying a table of configurable events. The table is organized into sections: General, Measurements, Date, Self Diagnosis, General, Inputs, and Outputs. Each event has a description and a status indicator (a box with a tick or a cross).

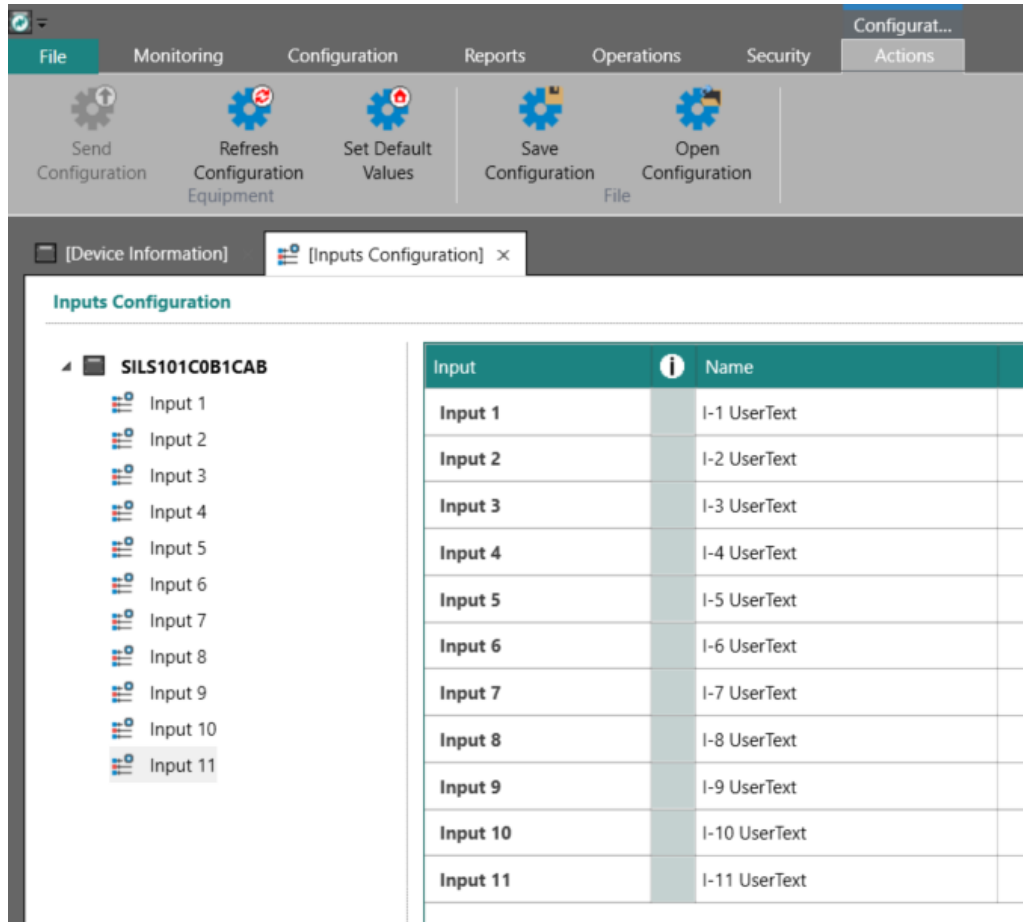
Function	Event Description								
General									
Measurements	Error:Measurem.	Net Freq.50Hz	Blocked FreqLine	Blocked Freq Bar	Simulation				
	☒ ☒	☐ ☐	☒ ☒	☒ ☒	☐ ☐				
Date	Date/Time Set	Need Sync.	Summer Time	IRIG-B Synchroni	SNTP Synchroniza				
	☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐				
Self Diagnosis	Model Error	HW Error	Slot 3 Empty	Slot 4 Empty	Slot 5 Empty	COM Loading	Test State	Default Settings	
	☒ ☒	☒ ☒	☐ ☐	☐ ☐	☐ ☐	☒ ☒	☒ ☒	☒ ☒	
General	Error:Settings	Default Config	Error:Config	Error: Curves	ENVM Full				
	☒ ☒	☒ ☒	☒ ☒	☐ ☐	☐ ☐				
General	Trip	Ready	Wrong Password	Local	Error: SER	SER Deleted	Wrong Access	Settings Change	
	☒ ☒	☒ ☒	☒ ☐	☒ ☒	☒ ☒	☒ ☐	☒ ☐	☒ ☐	
	SER Overflow	Config Change	LDP Deleted	New DFR	Phase Trip	Trip Block	Pickup	Phase A Pickup	
	☐ ☐	☒ ☐	☒ ☐	☒ ☒	☐ ☐	☒ ☒	☒ ☒	☒ ☒	
General	Phase B Pickup	Phase C Pickup	Neutral Pickup	Phase A Trip	Phase B Trip	Phase C Trip	Neutral Trip	SettingsG. 1	
	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	
	SettingsG. 2	SettingsG. 3	SettingsG. 4	Set to FALSE	Set to TRUE				
	☒ ☒	☒ ☒	☒ ☒	☐ ☐	☐ ☐				
Inputs	Input 6	Input 1	Input 2	Input 3	Input 4	Input 5	Input 7	Input 8	
	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	
Inputs	Input 9	Input 10	Input 11						
	☒ ☒	☒ ☒	☒ ☒						
Outputs	Output 1	Output 2	Output 3	Output 4	Output 5	Virtual Output 6	Virtual Output 7	Virtual Output 8	
	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	
	Virtual Output 9	Virtual Output 10	Virtual Output 11	Virtual Output 12	Virtual Output 13	Virtual Output 14	Virtual Output 15	Virtual Output 16	
	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	
	Virtual Output 17	Virtual Output 18	Virtual Output 19	Virtual Output 20	Virtual Output 21	Virtual Output 22	Virtual Output 23	Virtual Output 24	
	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	
	Virtual Output 25	Virtual Output 26	Virtual Output 27	Virtual Output 28	Virtual Output 29	Virtual Output 30	Virtual Output 31	Virtual Output 32	
	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	☒ ☒	

7.2.3. Inputs

When clicking the inputs tab, a list with the different inputs will be opened.



To show the configurable inputs, click on each one. It is possible to assign a name to each of them.



Inputs Configuration

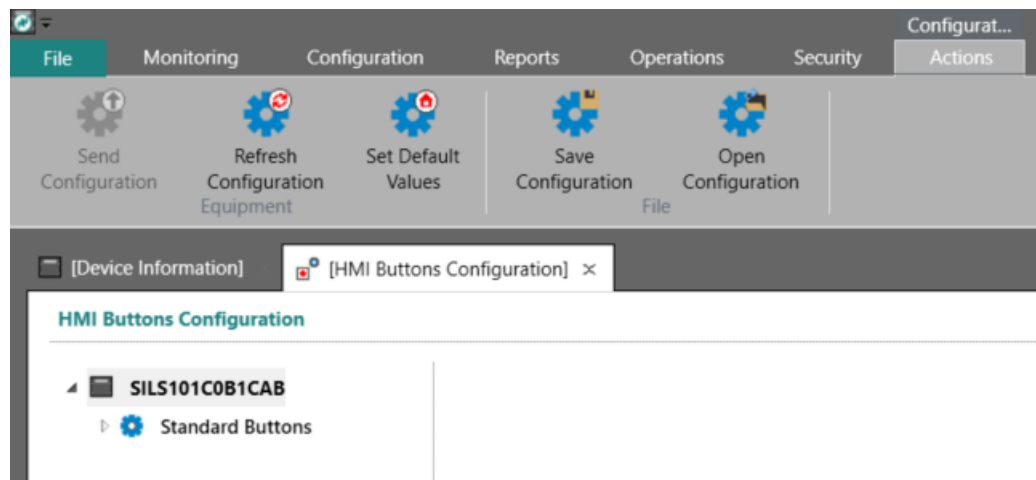
SIL5101C0B1CAB

- Input 1
- Input 2
- Input 3
- Input 4
- Input 5
- Input 6
- Input 7
- Input 8
- Input 9
- Input 10
- Input 11

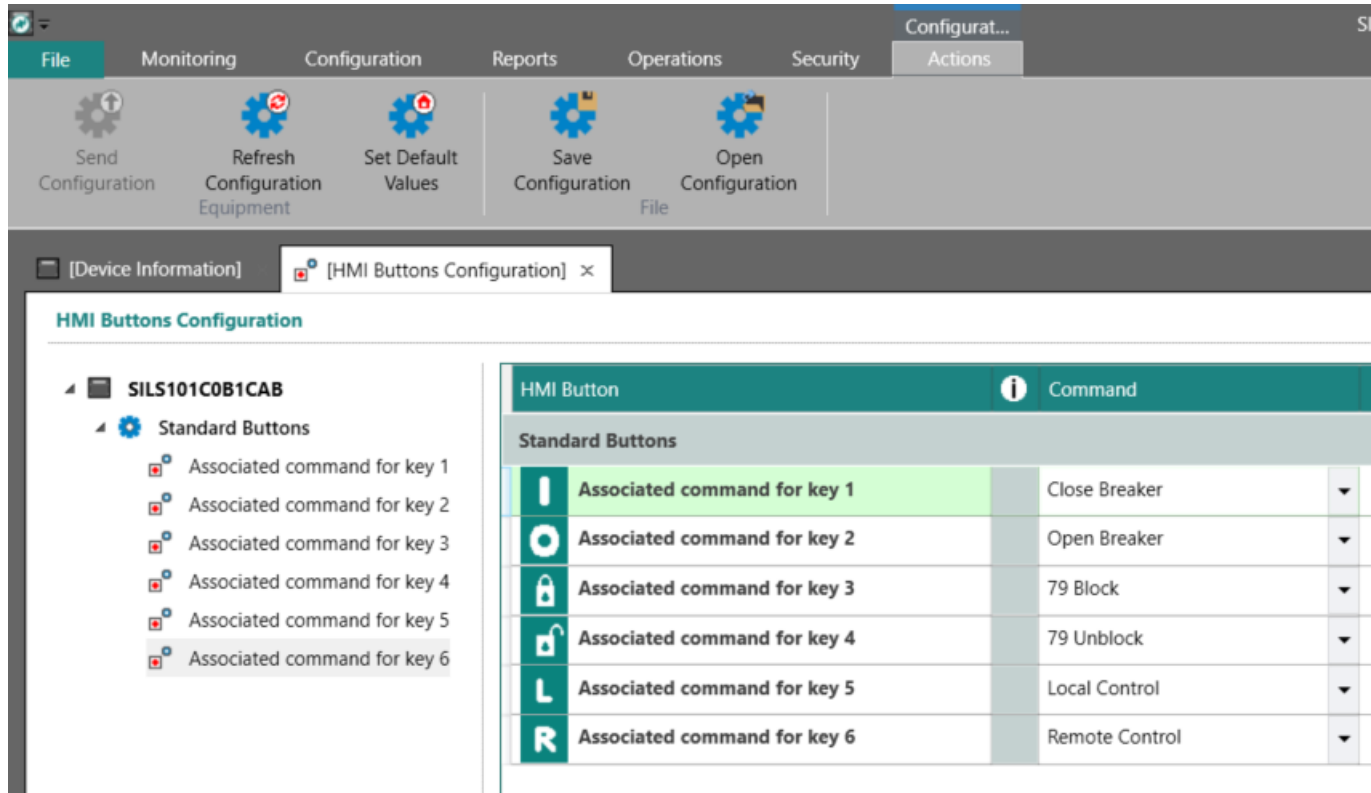
Input	Name
Input 1	I-1 UserText
Input 2	I-2 UserText
Input 3	I-3 UserText
Input 4	I-4 UserText
Input 5	I-5 UserText
Input 6	I-6 UserText
Input 7	I-7 UserText
Input 8	I-8 UserText
Input 9	I-9 UserText
Input 10	I-10 UserText
Input 11	I-11 UserText

7.2.1. HMI Buttons

When clicking the HMI Buttons tab, a list with the different buttons will be displayed.



To show the configurable buttons, click on each one. It is possible to assign a command to each button.



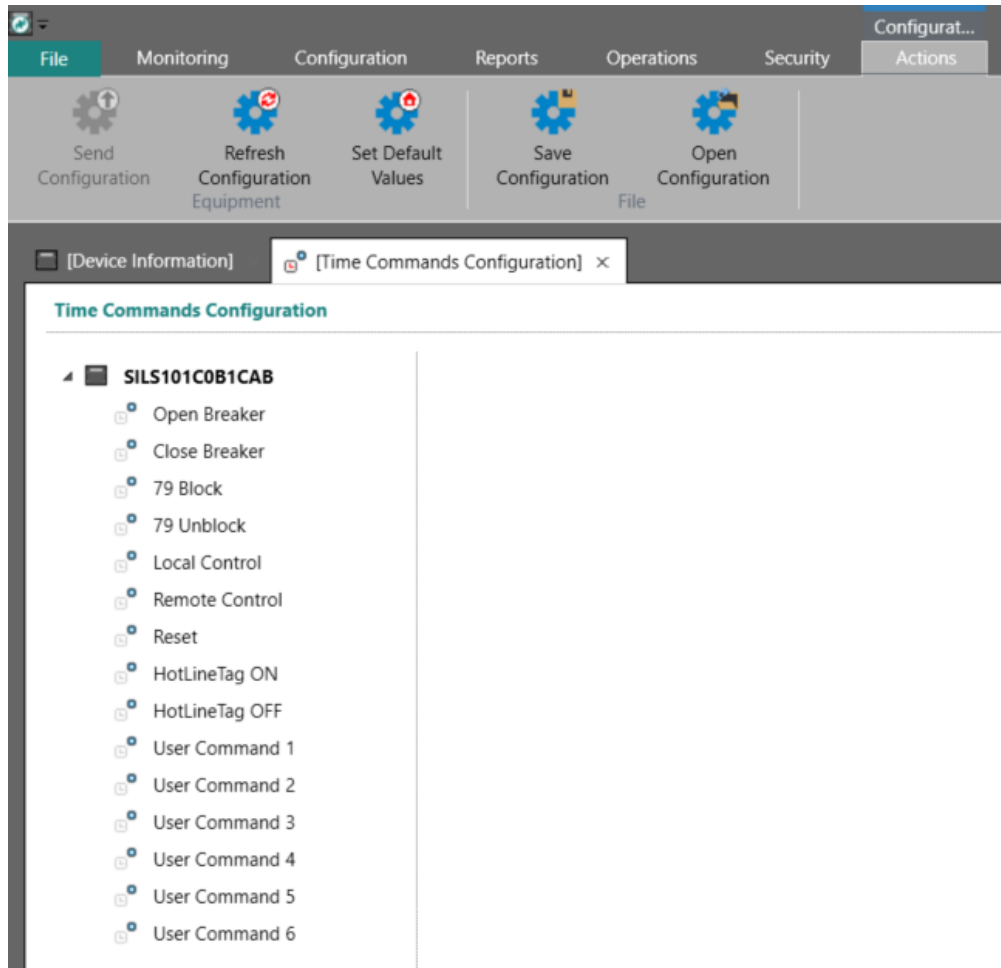
HMI Buttons Configuration

Standard Buttons

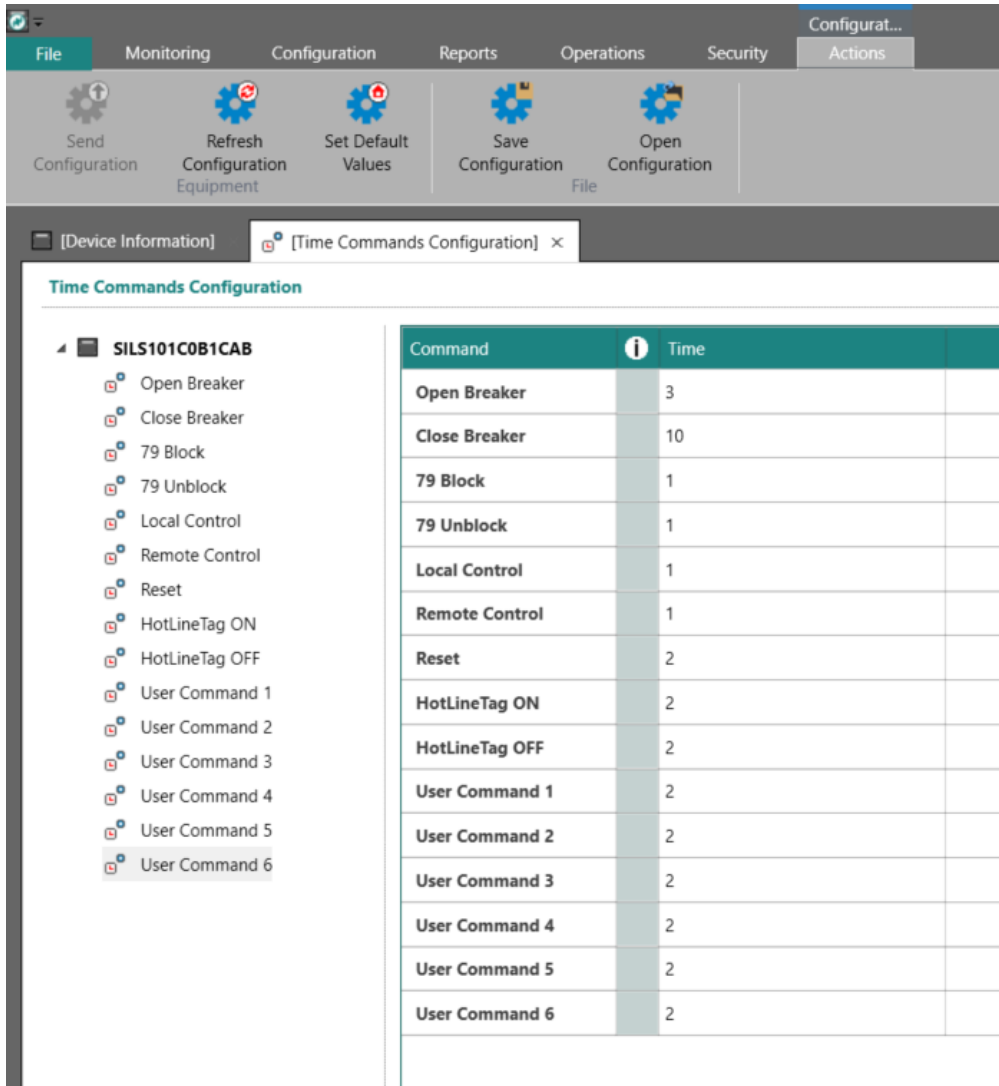
HMI Button	Command
I Associated command for key 1	Close Breaker
O Associated command for key 2	Open Breaker
Associated command for key 3	79 Block
Associated command for key 4	79 Unblock
L Associated command for key 5	Local Control
R Associated command for key 6	Remote Control

7.2.2. Time Commands

When clicking the Time Commands tab, a list with the different available commands will be displayed.



To show the configurable time commands, click on each one. It is possible to assign an activation time to each command.



The screenshot shows the FANOX configuration interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Configurat... (Configuration). Below the menu bar are icons for Send Configuration, Refresh Configuration Equipment, Set Default Values, Save Configuration File, and Open Configuration File. The main window has tabs for [Device Information] and [Time Commands Configuration] x. The [Time Commands Configuration] tab is active, showing a list of commands on the left and a table of command activation times on the right.

Time Commands Configuration

SILS101C0B1CAB

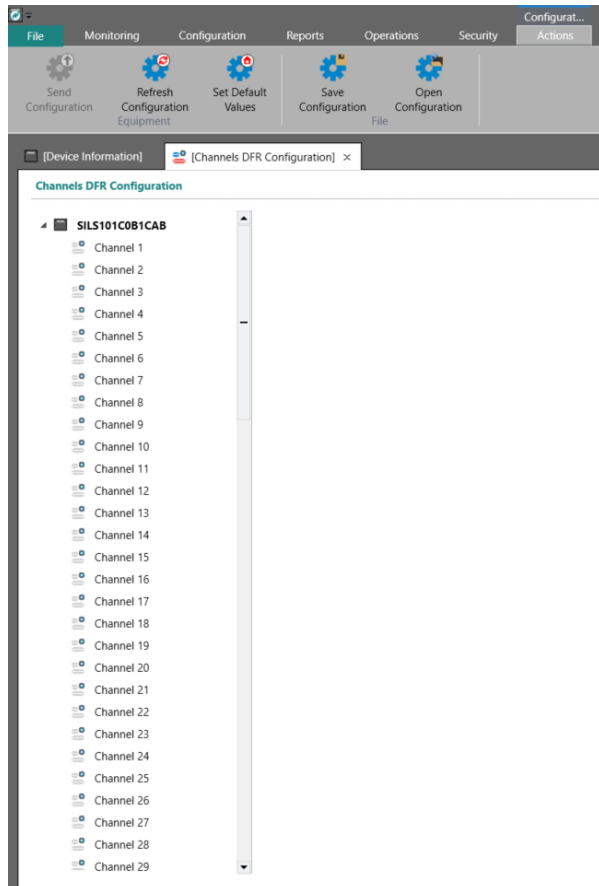
- Open Breaker
- Close Breaker
- 79 Block
- 79 Unblock
- Local Control
- Remote Control
- Reset
- HotLineTag ON
- HotLineTag OFF
- User Command 1
- User Command 2
- User Command 3
- User Command 4
- User Command 5
- User Command 6

Command	Time
Open Breaker	3
Close Breaker	10
79 Block	1
79 Unblock	1
Local Control	1
Remote Control	1
Reset	2
HotLineTag ON	2
HotLineTag OFF	2
User Command 1	2
User Command 2	2
User Command 3	2
User Command 4	2
User Command 5	2
User Command 6	2

7.3. CHANNELS MENU

7.3.1. Channels DFR

When clicking the COMTRADE channels tab, a list with the different channels will be displayed.



To show the configurable channels, click on each one. It is possible to assign a criteria and state to each of them, which will show in the COMTRADE records.

Configurat... SILS10

File Monitoring Configuration Reports Operations Security Actions

Send Configuration Refresh Configuration Equipment Set Default Values Save Configuration File Open Configuration

[Device Information] [Channels DFR Configuration] ×

Channels DFR Configuration

SILS101C0B1CAB

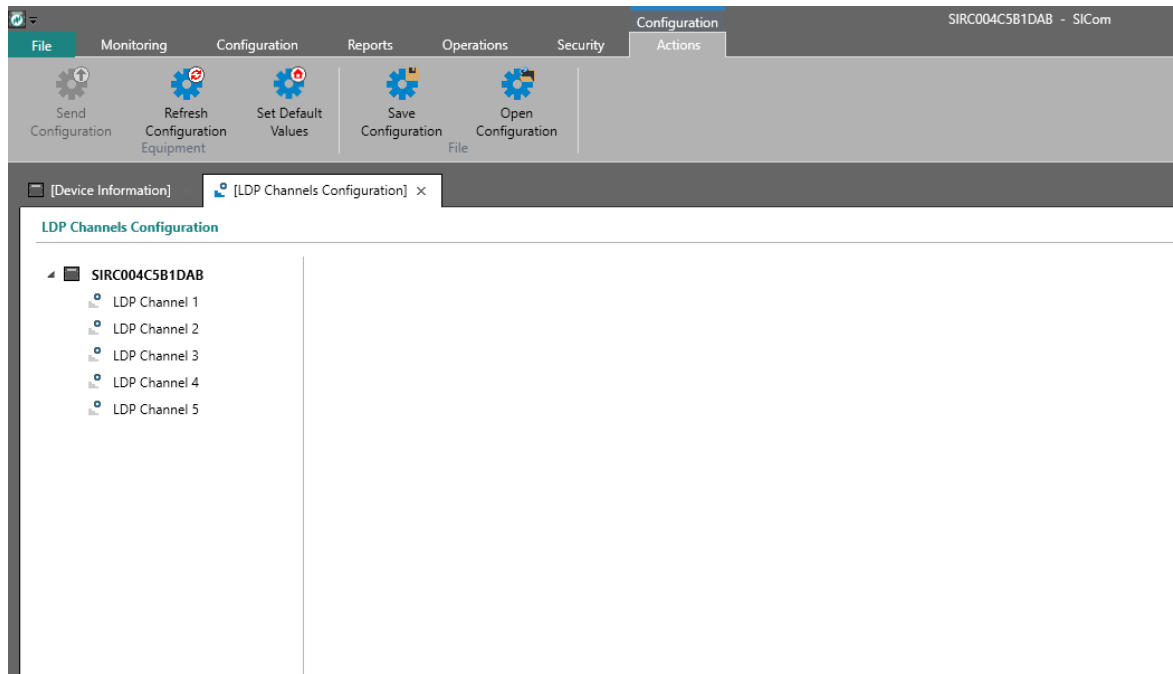
- Channel 1
- Channel 2
- Channel 3
- Channel 4
- Channel 5
- Channel 6
- Channel 7
- Channel 8
- Channel 9
- Channel 10
- Channel 11
- Channel 12
- Channel 13
- Channel 14
- Channel 15
- Channel 16
- Channel 17
- Channel 18
- Channel 19
- Channel 20
- Channel 21
- Channel 22
- Channel 23
- Channel 24

Channel	Criteria	State
Channel 1	50-1	Phase Trip
Channel 2	50-2	Phase Trip
Channel 3	SOTF	Phase Trip
Channel 4	67/51-1	Phase Trip
Channel 5	67/51-2	Phase Trip
Channel 6	67/51-3	Phase Trip
Channel 7	67/51-4	Phase Trip
Channel 8	50N	Neutral Trip
Channel 9	67N/51N-1	Neutral Trip
Channel 10	67N/51N-2	Neutral Trip
Channel 11	46	Trip
Channel 12	46BC	Trip
Channel 13	37	Phase Trip
Channel 14	27-1	Phase Trip
Channel 15	27-2	Phase Trip
Channel 16	27V1	Trip
Channel 17	59-1	Phase Trip

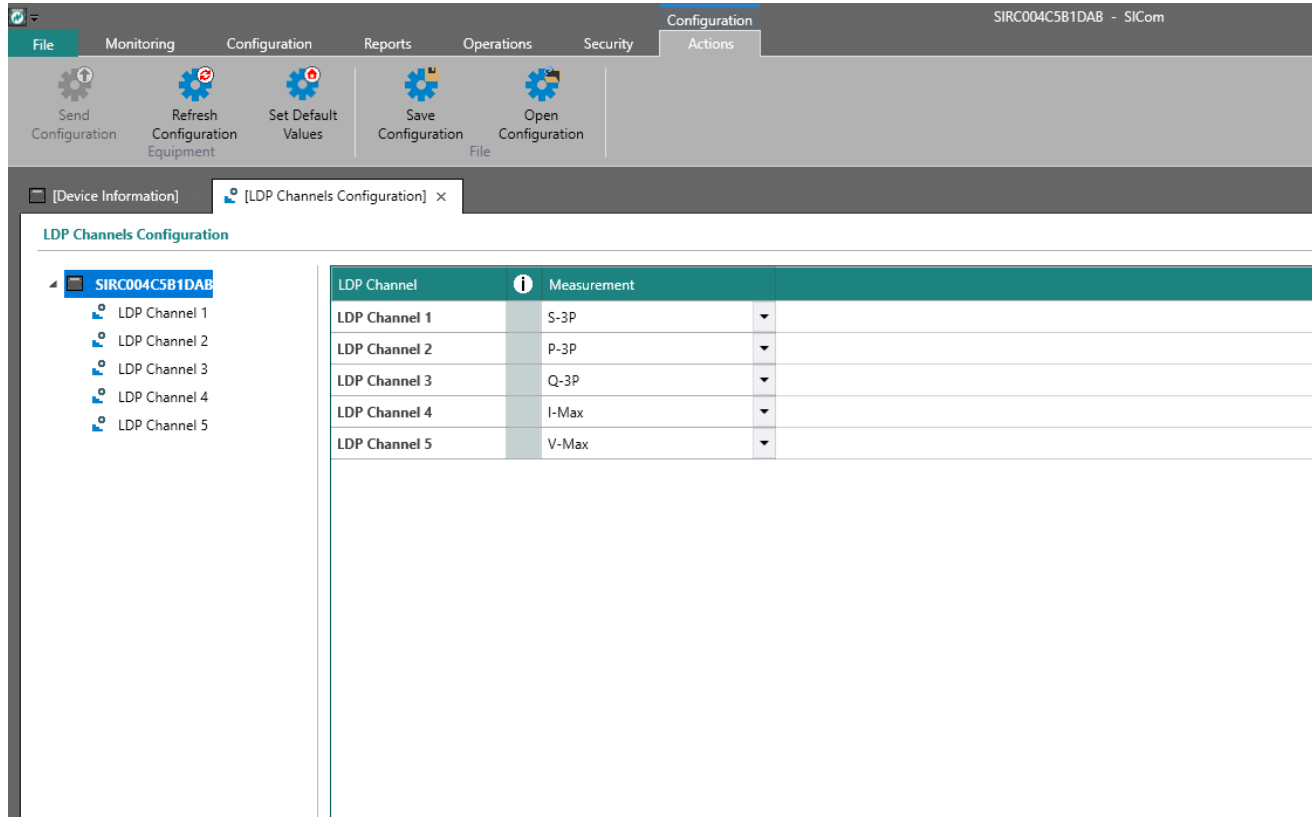
7.3.2. LDP Channels

For SIRA and SIRC relays, from fw version 1.22 onwards, LDP channels are configurable.

When clicking the LDP Channels tab, a list with the different LDP channels will be displayed.



To show the configurable channels, click on each one. It is possible to assign to each channel a measurement which will show in the LDP records.

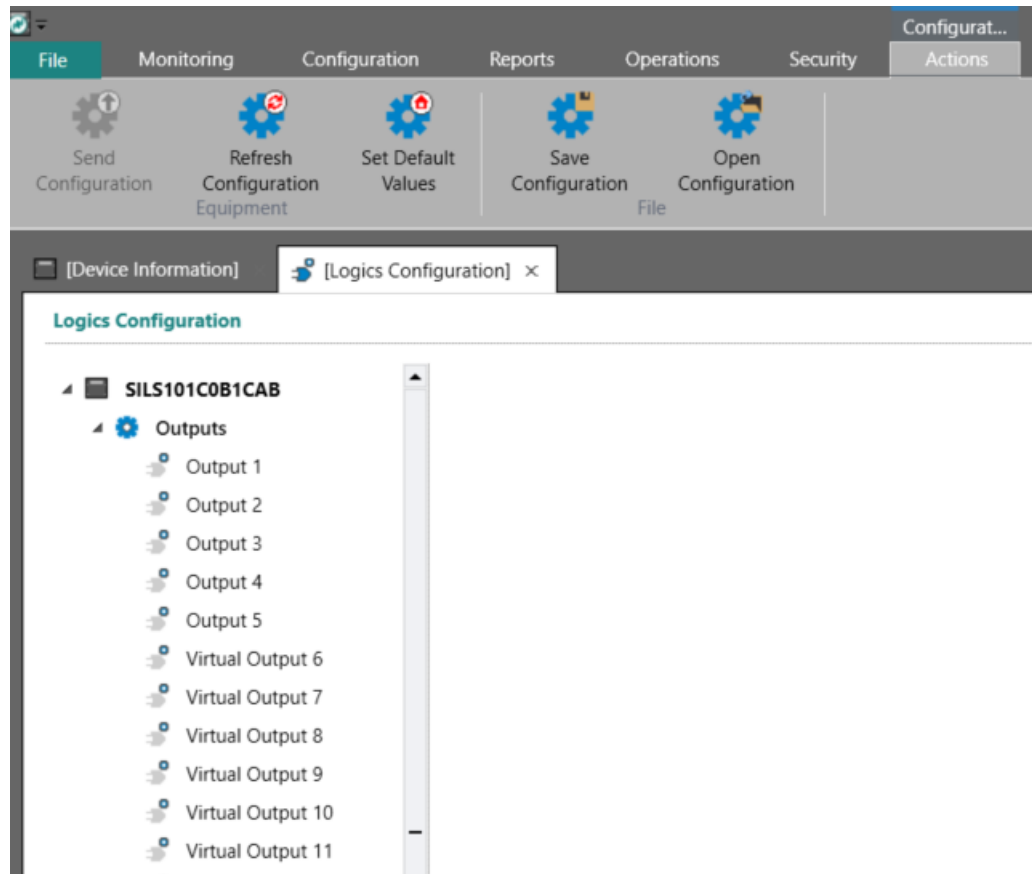


The screenshot shows the FANOX software interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Actions. The Configuration menu is active, showing options like Send Configuration, Refresh Configuration Equipment, Set Default Values, Save Configuration, and Open Configuration File. The main window displays the LDP Channels Configuration for device SIRC004C5B1DAB. On the left, a tree view shows LDP Channel 1 through LDP Channel 5. The main table lists these channels with their assigned measurements: S-3P, P-3P, Q-3P, I-Max, and V-Max.

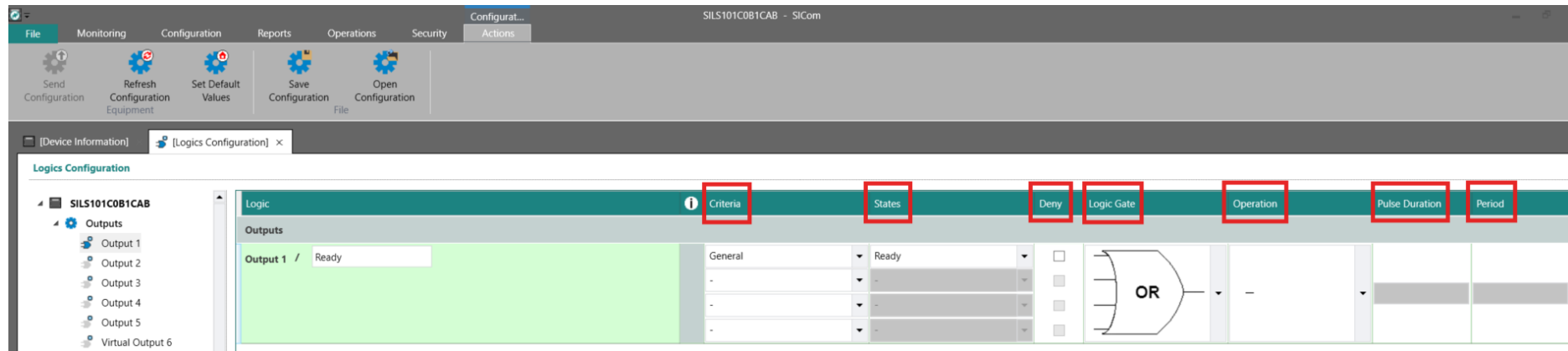
LDP Channel	Measurement
LDP Channel 1	S-3P
LDP Channel 2	P-3P
LDP Channel 3	Q-3P
LDP Channel 4	I-Max
LDP Channel 5	V-Max

7.4. HOW TO CHANGE THE CONFIGURATION

Expand the options to see all the signals that can be configured:



Selecting a signal, the different fields to configure will be opened:

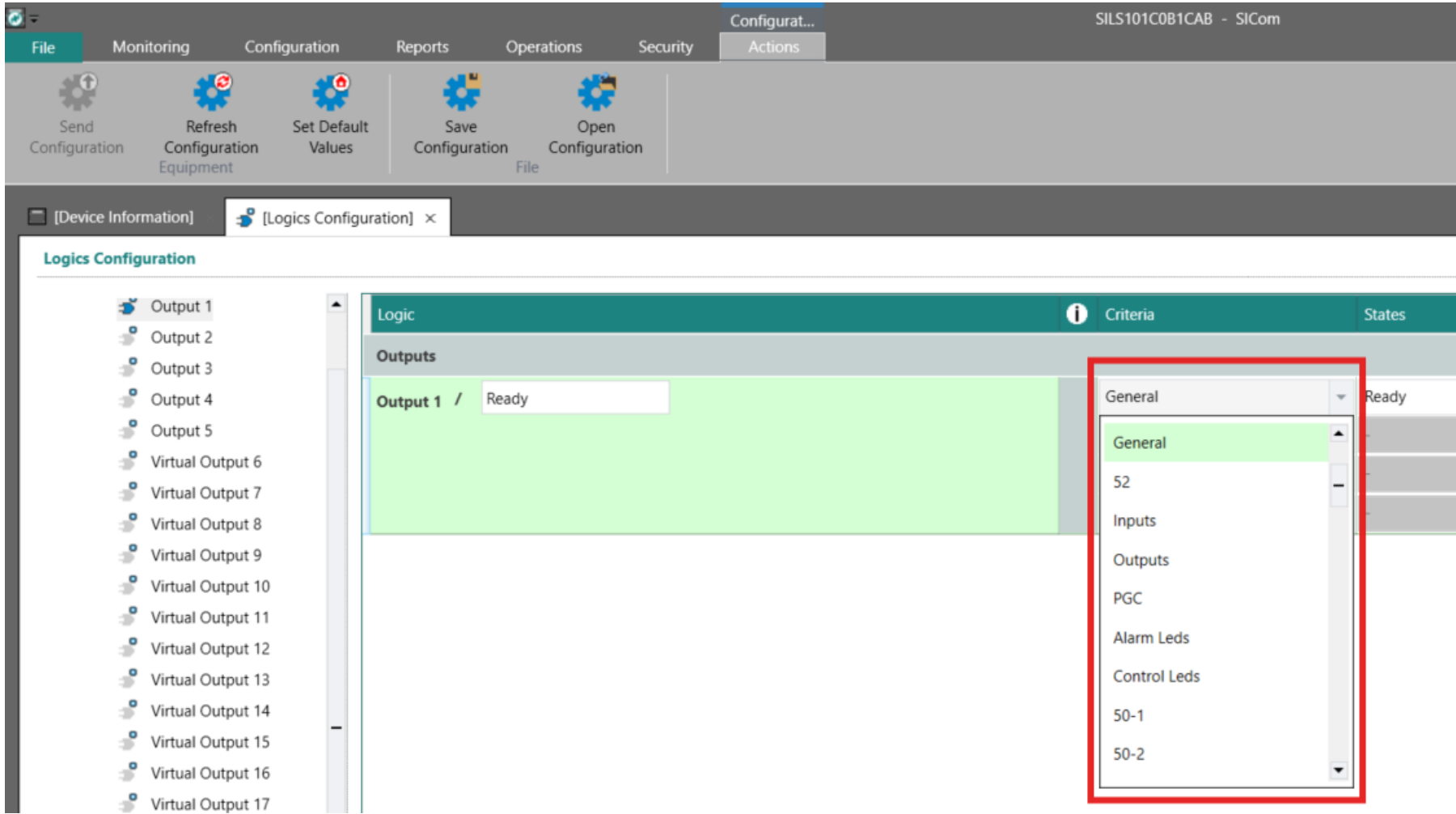


These fields are:

- Criteria
- States
- Deny
- Logic Gate
- Operation
- Pulse Duration
- Period

CRITERIA

This field is made up of all criteria included in “States menu” of the relay, this is, protection functions, inputs, outputs, logic, communications... All the options that can be assigned to outputs, PGCs, Alarms LEDs and control LEDs will appear:

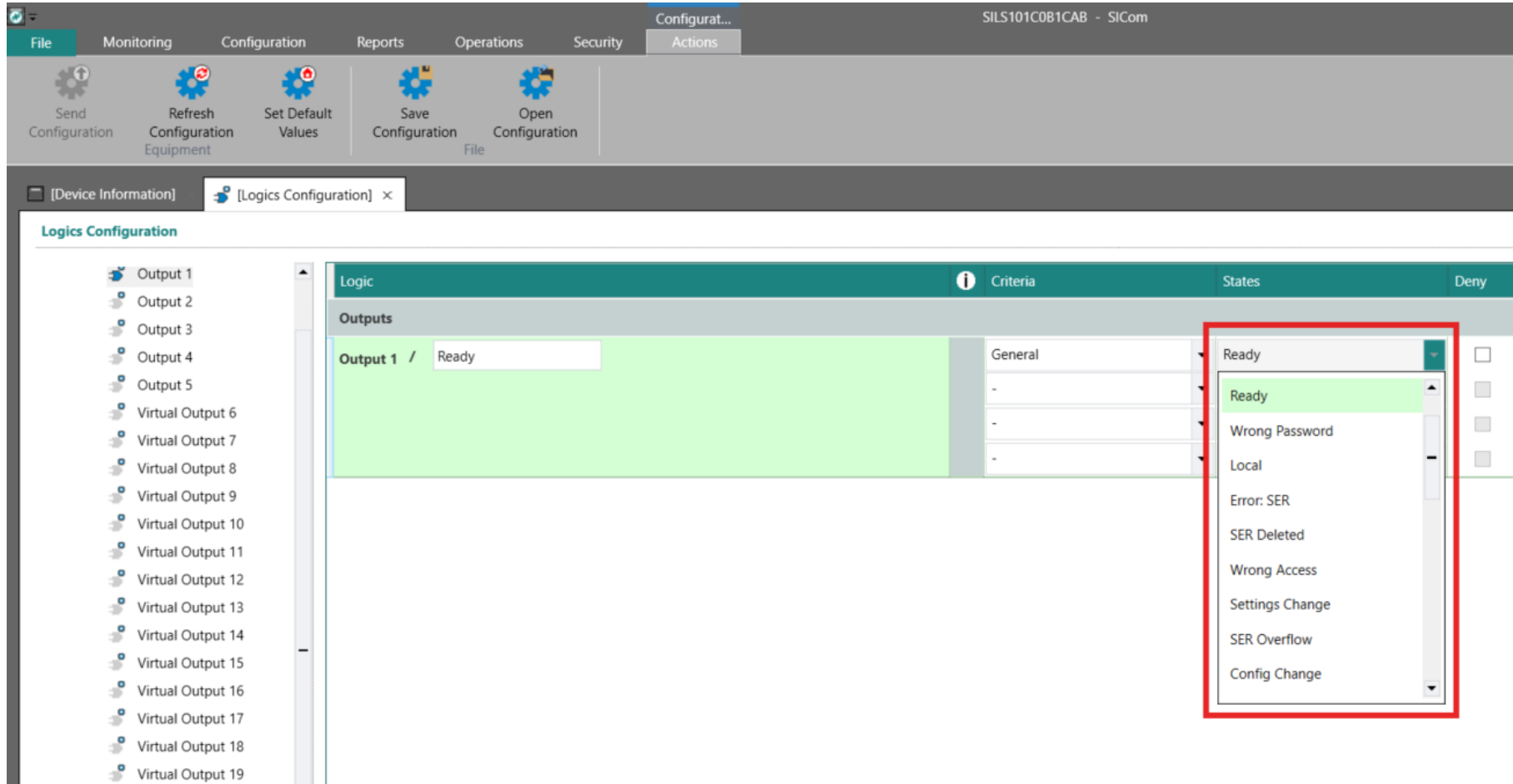


The screenshot shows the FANOX configuration interface for device SILS101C0B1CAB - SICom. The 'Logics Configuration' tab is selected, displaying a list of outputs on the left and a configuration table on the right. A dropdown menu is open for 'Output 1', showing a list of criteria including General, 52, Inputs, Outputs, PGC, Alarm Leds, Control Leds, 50-1, and 50-2.

Logic	Criteria	States
Output 1 / Ready	General	Ready

STATES

Once, a criterion is selected, the different states associated to that criterion will appear in “States” field:



The screenshot shows the FANOX web interface with the 'Logics Configuration' tab selected. The 'States' dropdown menu is open, displaying a list of states. The states listed are:

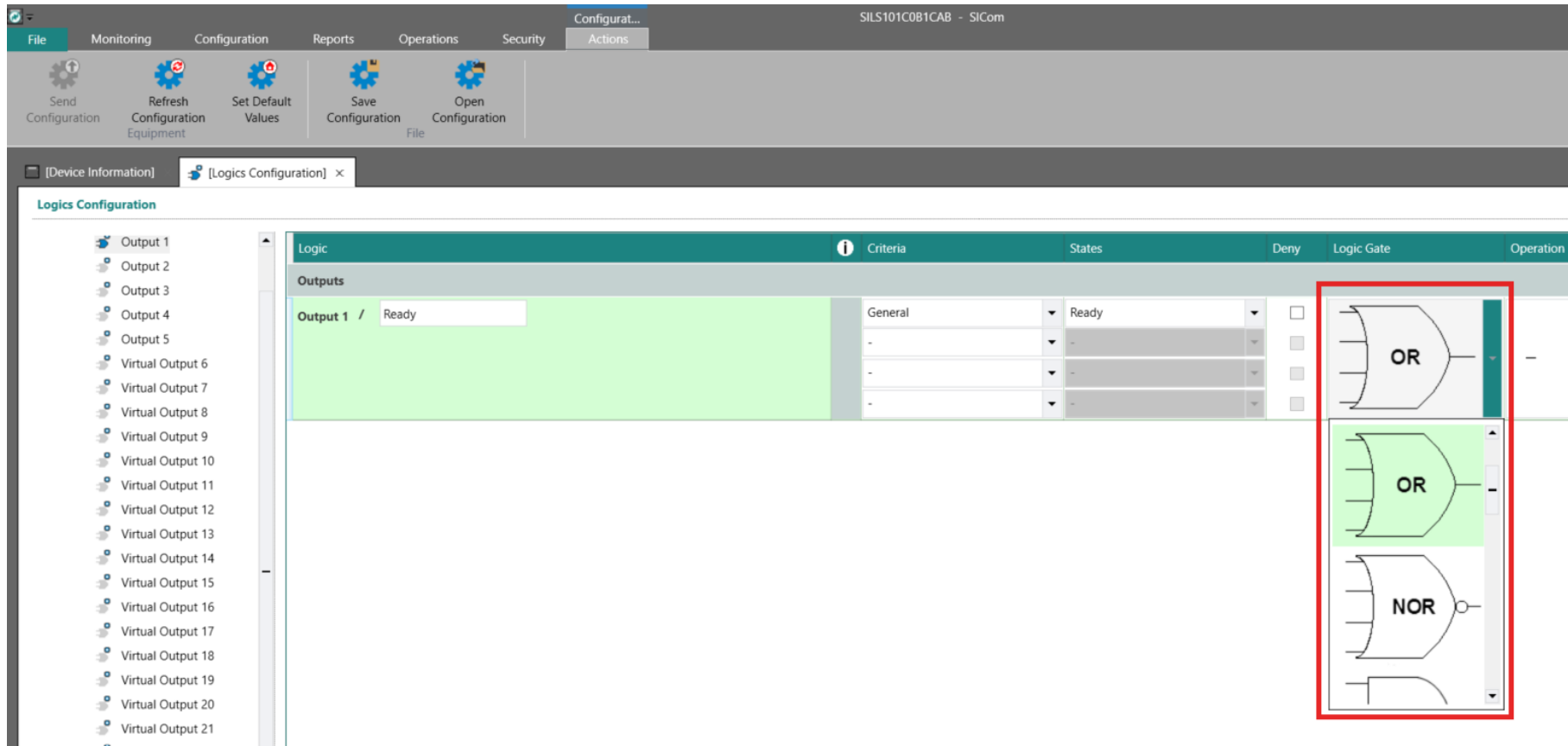
- Ready
- Ready
- Wrong Password
- Local
- Error: SER
- SER Deleted
- Wrong Access
- Settings Change
- SER Overflow
- Config Change

DENY

This box is ticked if the condition to activate the output, PGC or LED is that the configured state is NOT activated.

LOGIC GATE

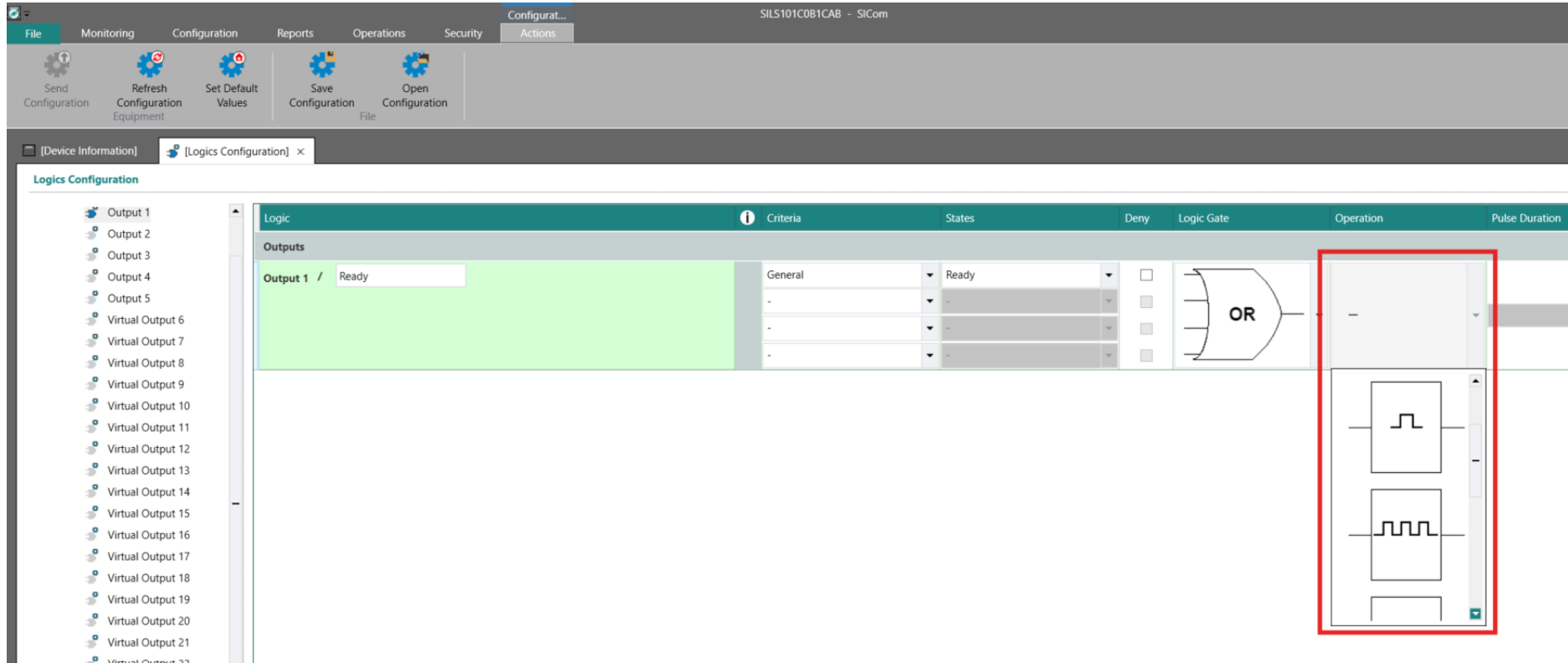
The next field is “Logic Gate”. It is possible to choose between OR, NOR, AND, NAND, XOR, FFSR, FFRS, R EDGE or F EDGE. The inputs of these gates will be the signals selected in “Criteria” field:



Logic	Criteria	States	Deny	Logic Gate	Operation
Output 1 / Ready	General	Ready	☐	OR	-
	-	-	☐	OR	-
	-	-	☐	OR	-
	-	-	☐	NOR	-

OPERATION

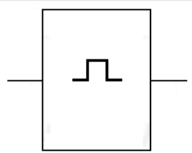
Finally, a logical gate can be selected between latch, pulse, several pulses, blinking, timer up or timer down (depending on model some of these options will not be available). The input of this logical gate will be the output of the previous gate:



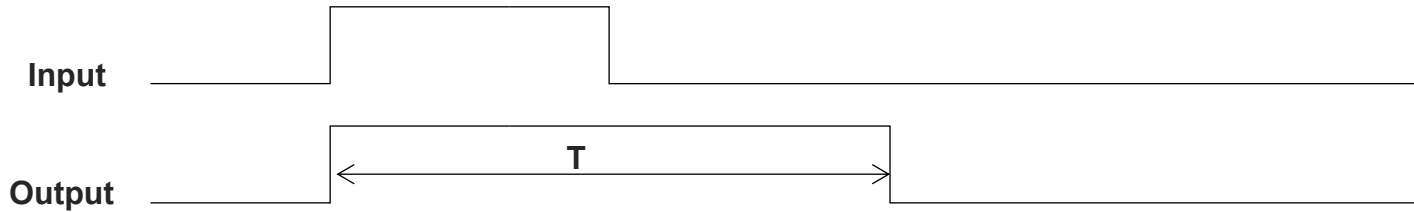
Logic	Criteria	States	Deny	Logic Gate	Operation	Pulse Duration
Output 1 / Ready	General	Ready	☐	OR	-	-
	-	-	☐			
	-	-	☐			
	-	-	☐			

Logical gate selection guide

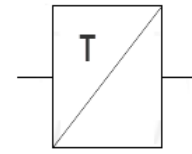
1 PULSE



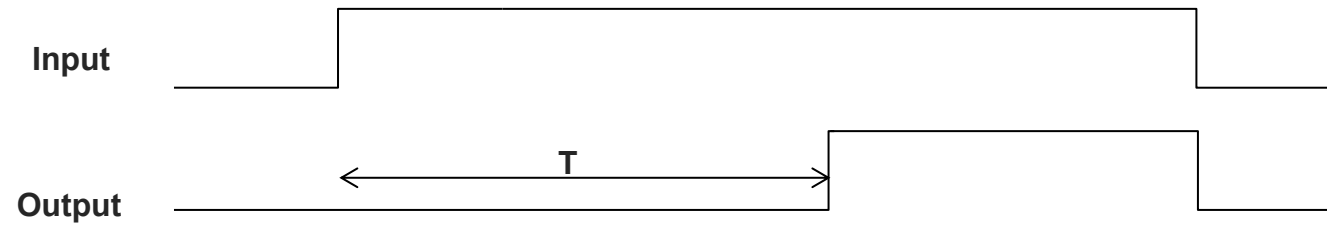
The configured signal will produce a pulse of the same duration than the adjusted time in the “time up” parameter once the input signal is activated.



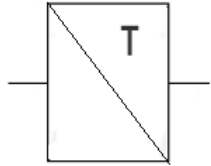
TIMER UP



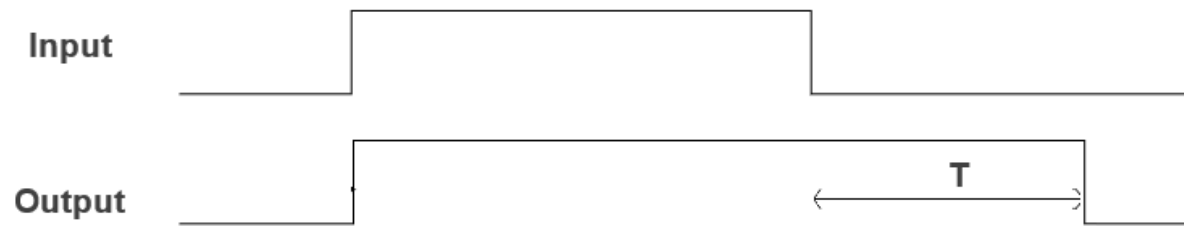
The configured signal waits for the adjusted time in the “time up” parameter for activating itself once the input signal is activated.



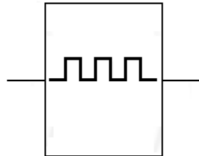
TIMER DOWN



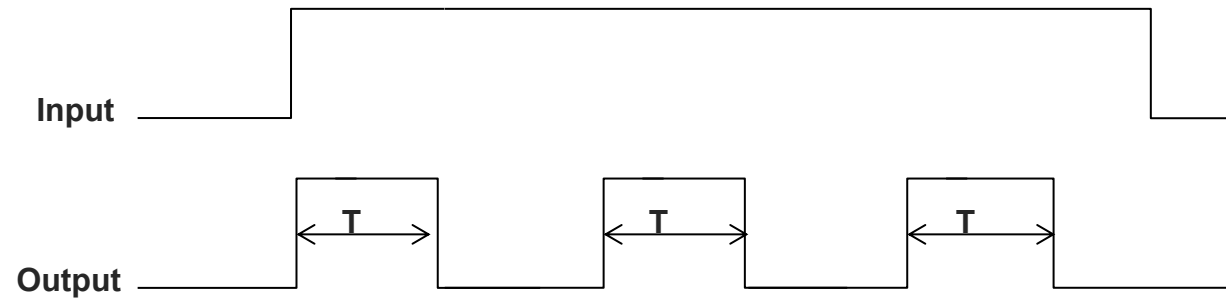
Once the configured signal is activated, it waits for the adjusted time in the “time up” parameter to deactivate itself.

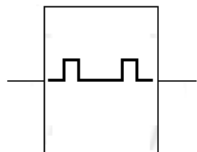


PULSES (Same time on and time off)

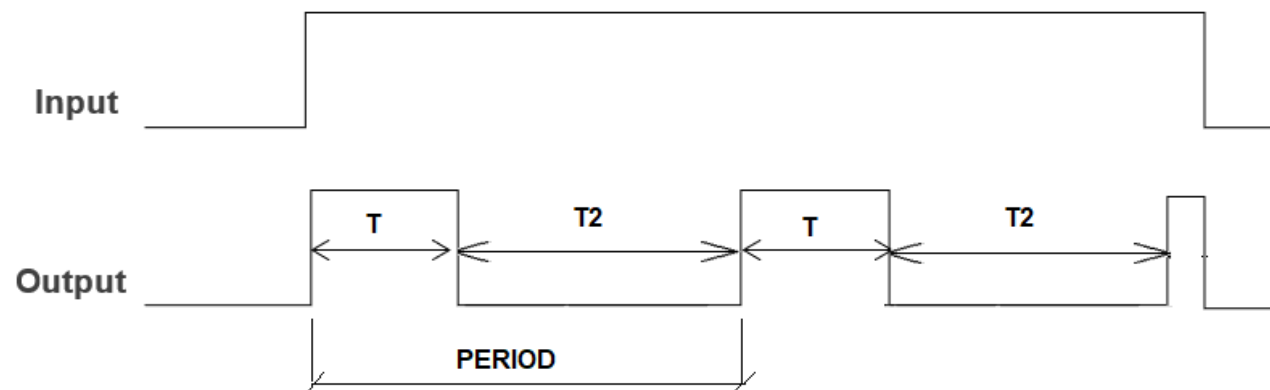


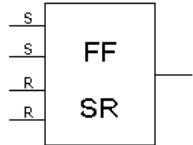
The configured signal will make pulses of the adjusted milliseconds while the input signal is activated.



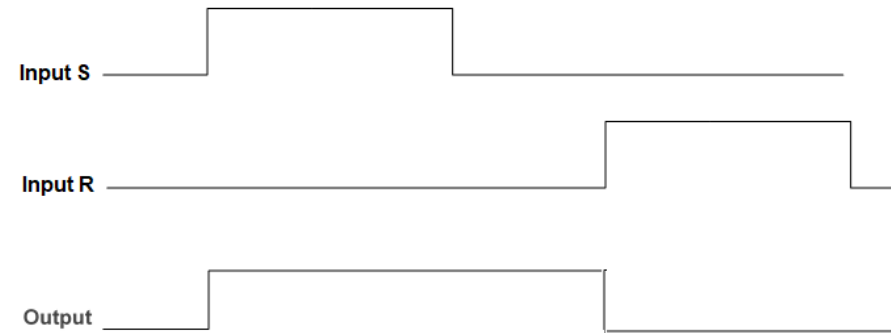
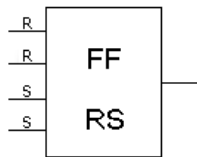
BLINKING (different time on (T) and time off (T2))

The configured signal will be activated at the time set in the “time up” parameter, and will be switched off at the time set in the “period” parameter less the value set in the “time up” parameter:



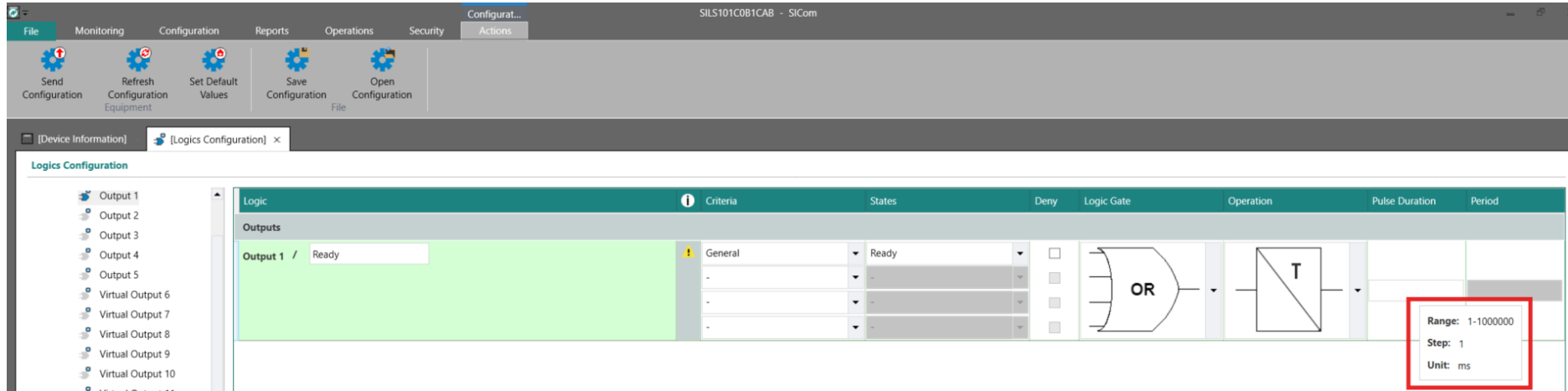
SR FLIP FLOP (priority for set signals) & RS FLIP FLOP (priority for reset signals)

The configured signal will be activated once the bits in the “s” position are activated (set position). The signal remains activated until the bits configured in the “R” position are activated.



PULSE DURATION

The field “Pulse Duration” is only available if pulse, pulses, blinking or timer option is selected. Positioning the cursor on the corresponding box the range the step and the unit will be shown:

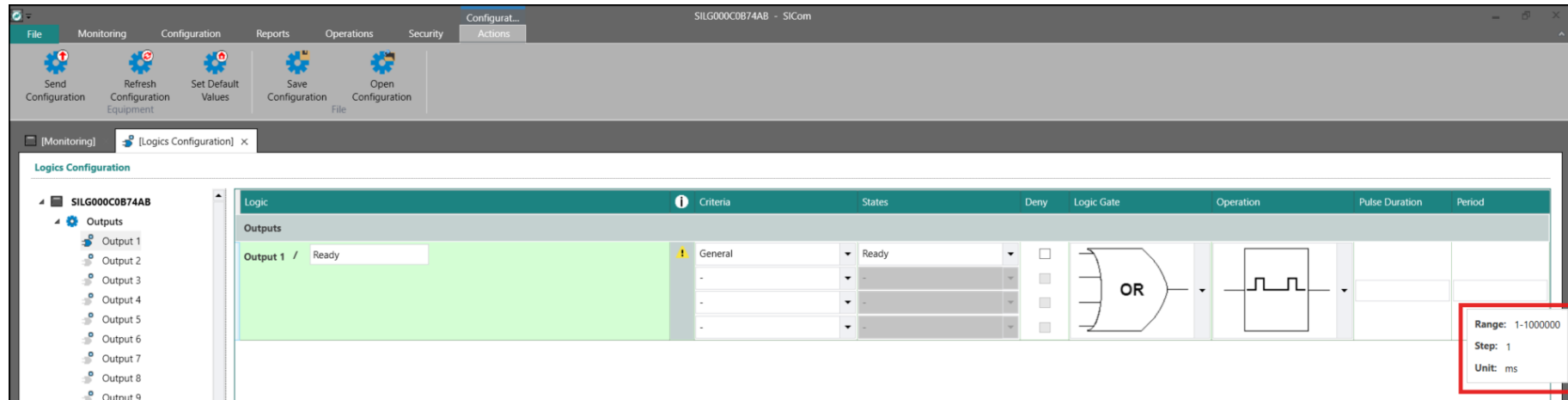


The screenshot shows the FANOX configuration interface for the SILS101C0B1CAB - SICom device. The 'Logics Configuration' tab is selected, displaying a table with the following columns: Logic, Criteria, States, Deny, Logic Gate, Operation, Pulse Duration, and Period. A tooltip is visible over the 'Pulse Duration' field, showing the following information:

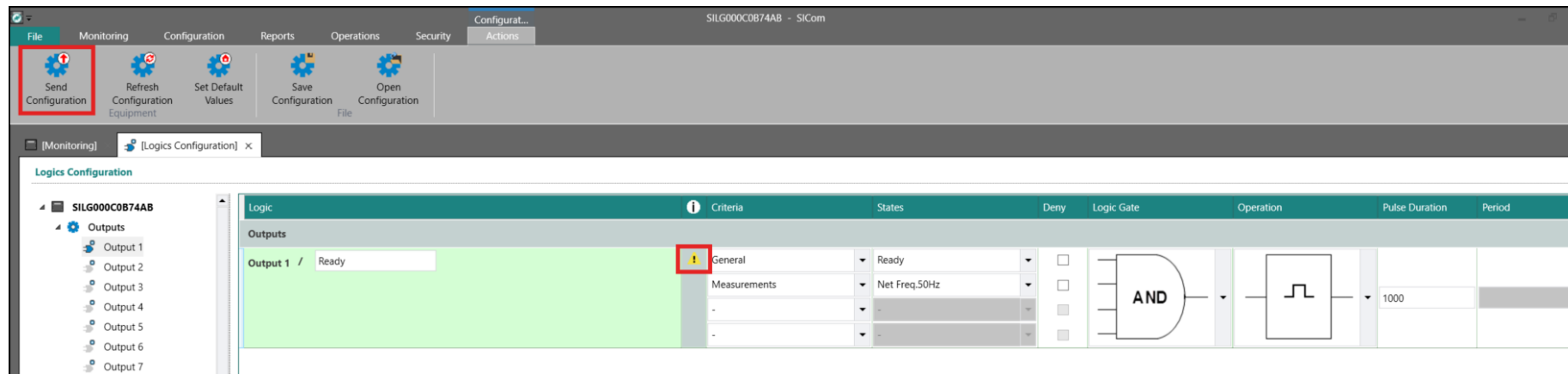
- Range: 1-1000000
- Step: 1
- Unit: ms

PERIOD

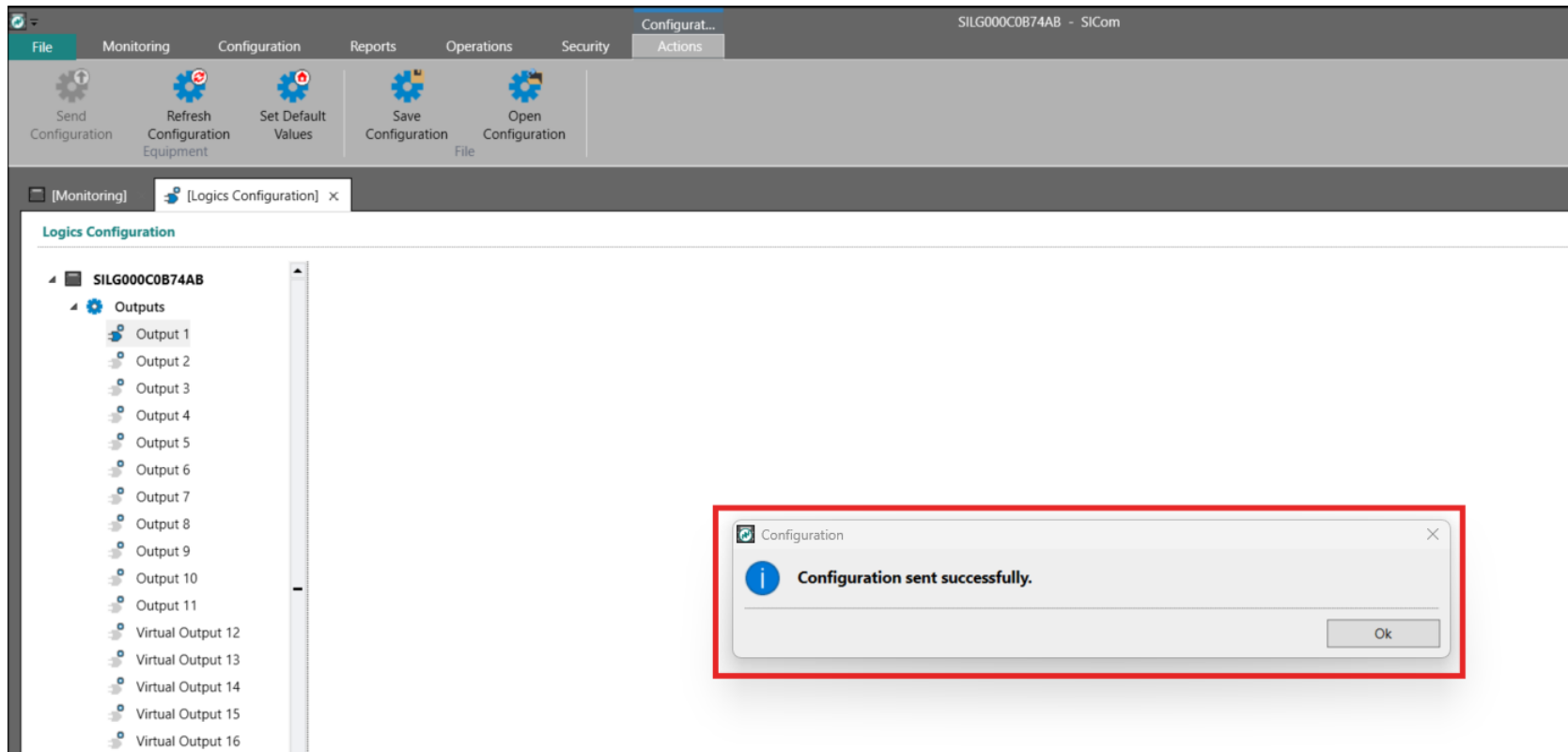
The field “Period” is only available if blinking option is selected.



Once the configuration is changed, a yellow triangle is shown before the criteria filed, which indicates that the configuration has not been sent yet. Press “Send Configuration” and it will be sent to the relay:



If the configuration is sent correctly, a message confirming it will be shown:

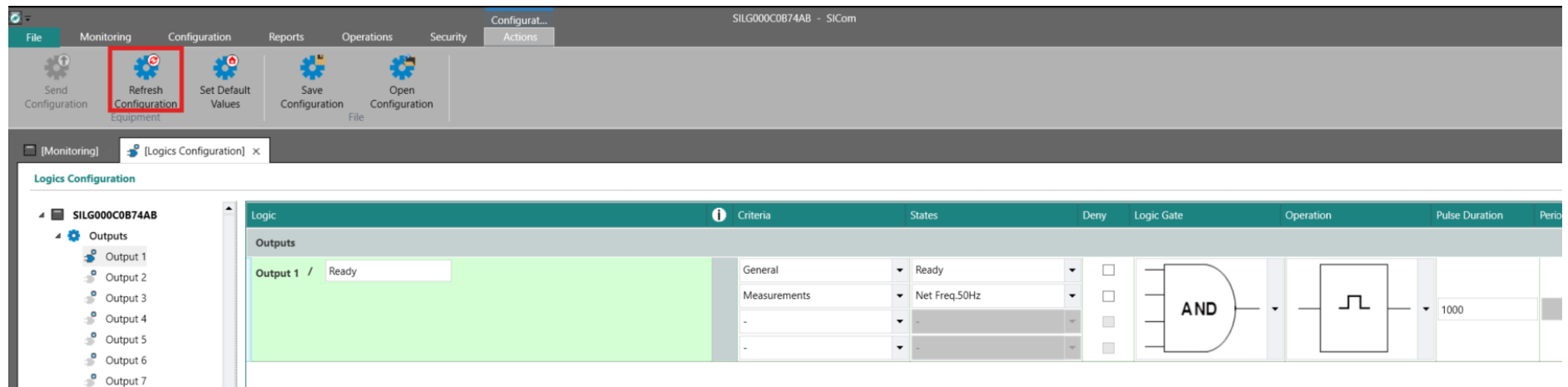


The same procedure applies to configure PGCs and LEDs.

Configuration change made from HMI:

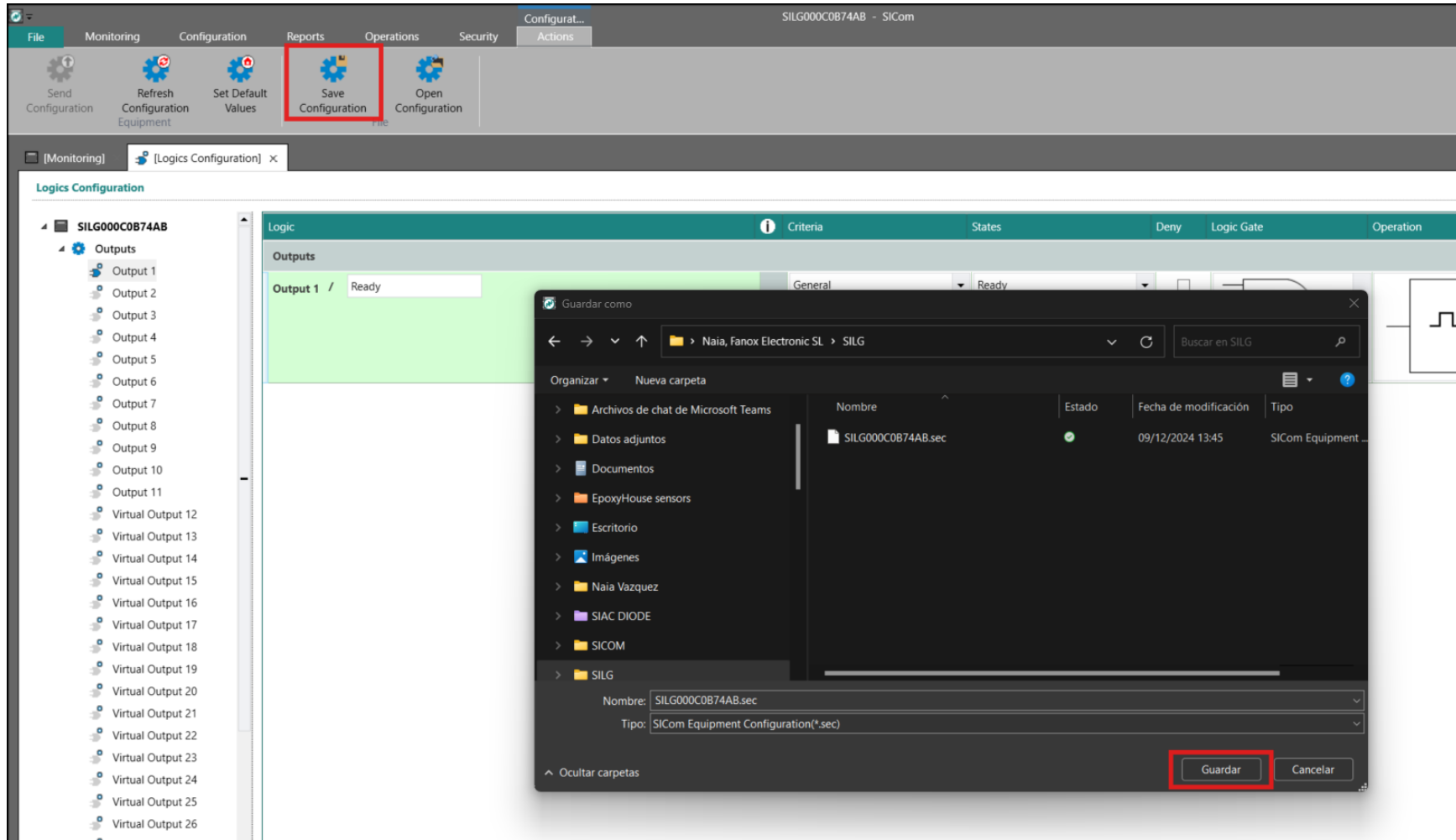
If the configuration menu is not open, once the menu is opened, the new configuration will appear in the SICom.

If the configuration menu is already open, after making some changes through HMI, it is necessary to press “Refresh Configuration” to visualize the changes in the SICom.



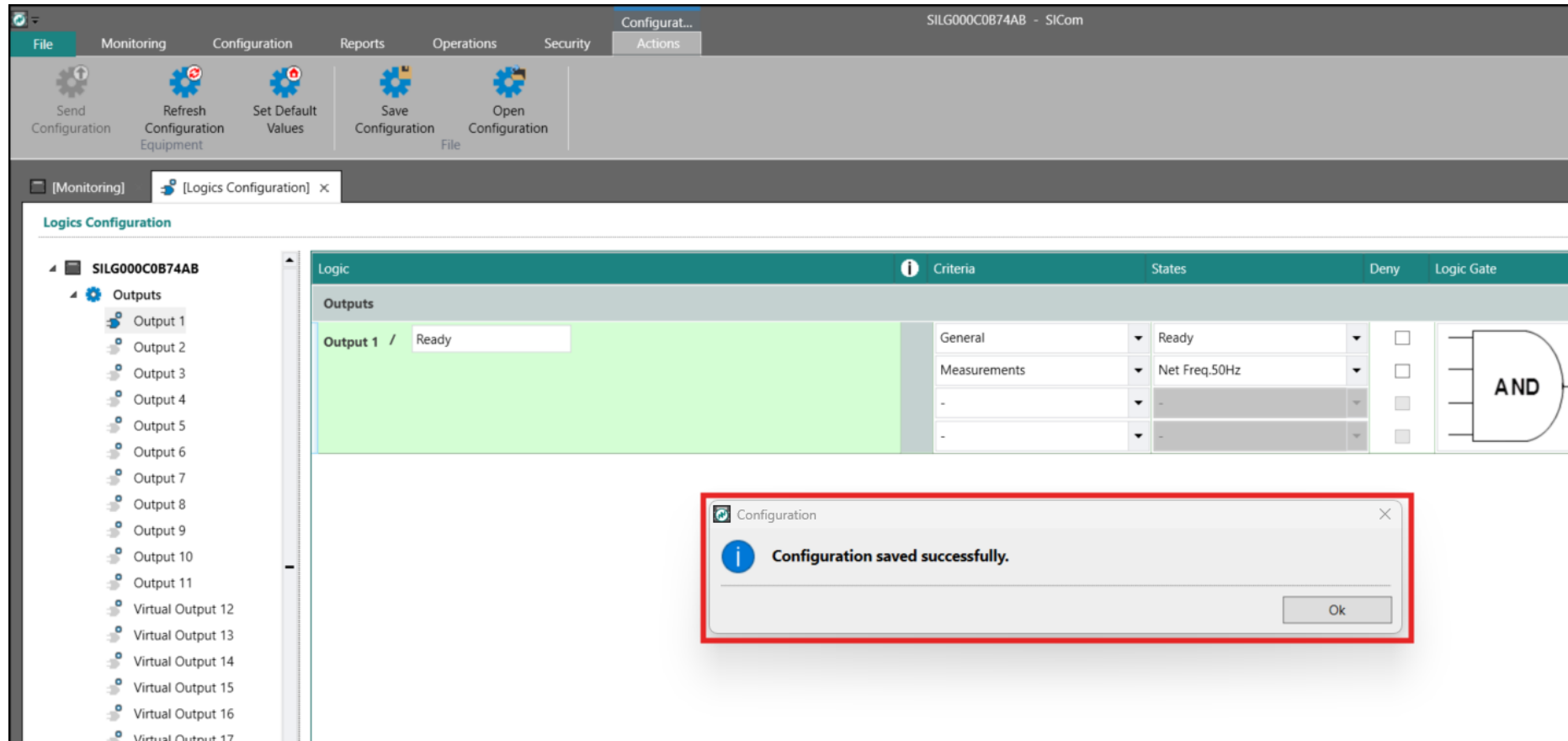
7.5. HOW TO SAVE A CONFIGURATION FILE

It is possible to save a configuration file thanks to the “Save Configuration” menu. When this option is pressed, a window to save this configuration will be opened:

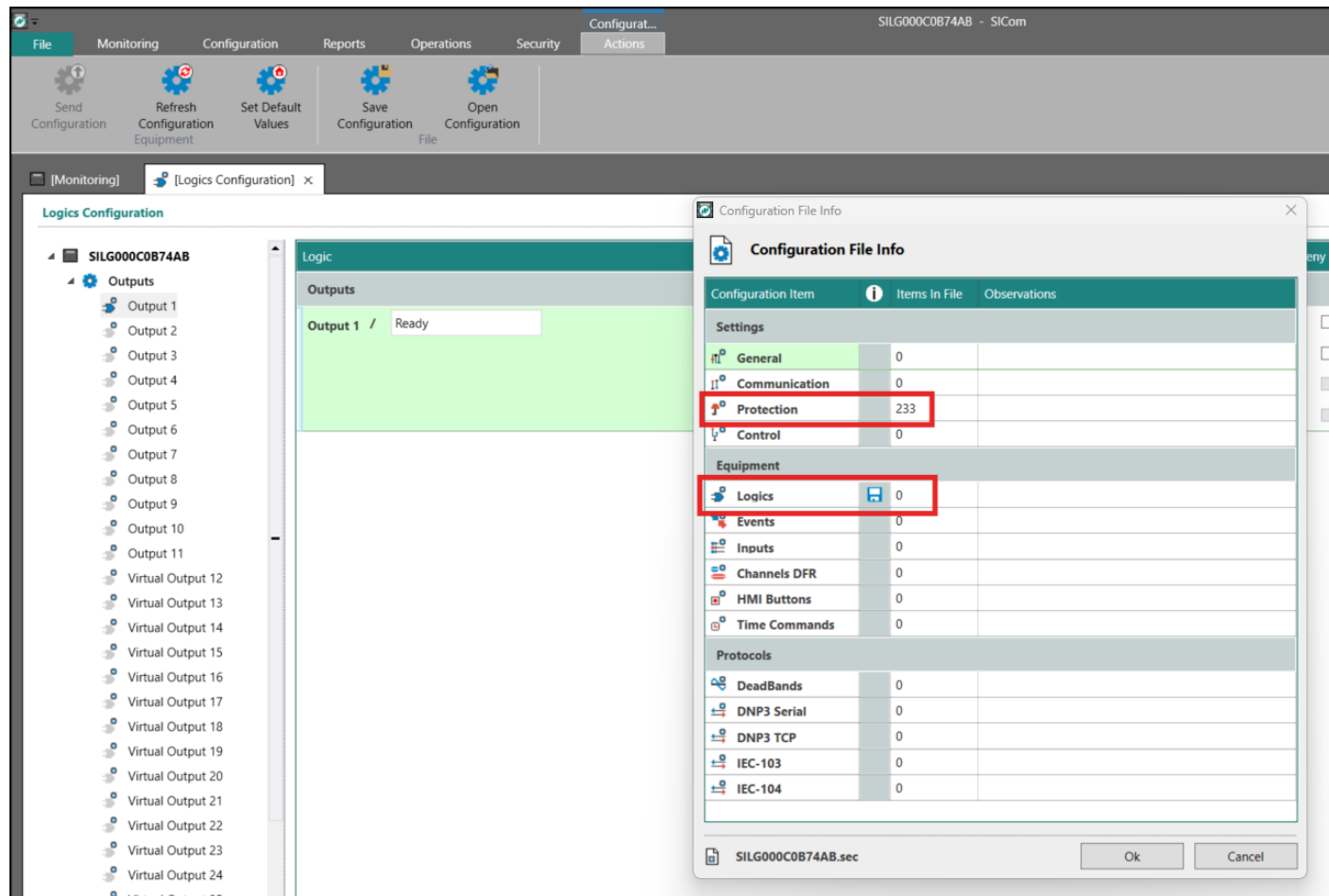


The name of the file and the wanted location can be selected.

Finally, a message confirming the configuration has been saved will appear on the screen.



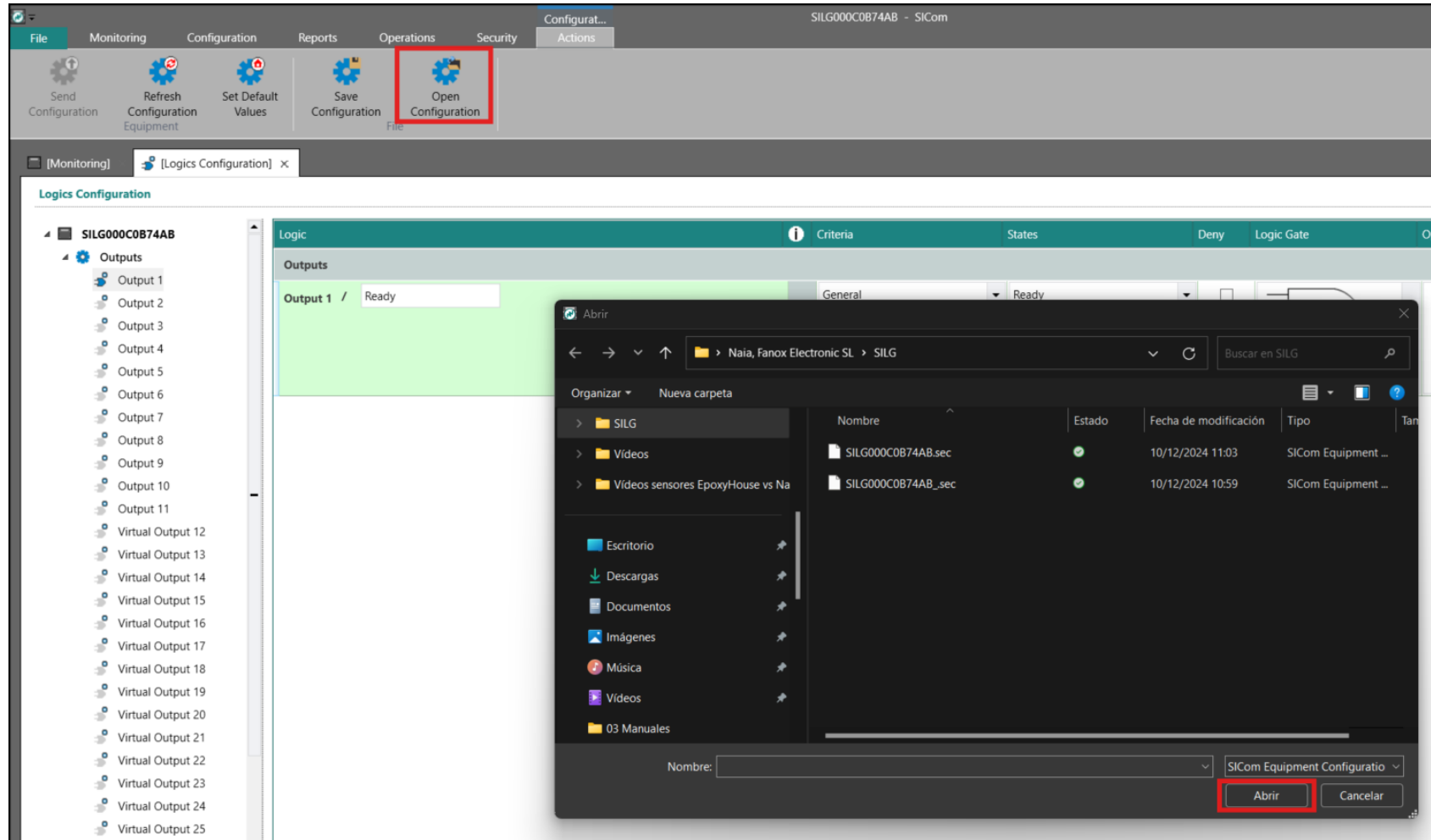
It is possible to overwrite the changes in a previously saved file. For example, if the settings file has already been saved, when pressing the “Save Configuration” button if the name of the file is not changed, the following screen will appear:



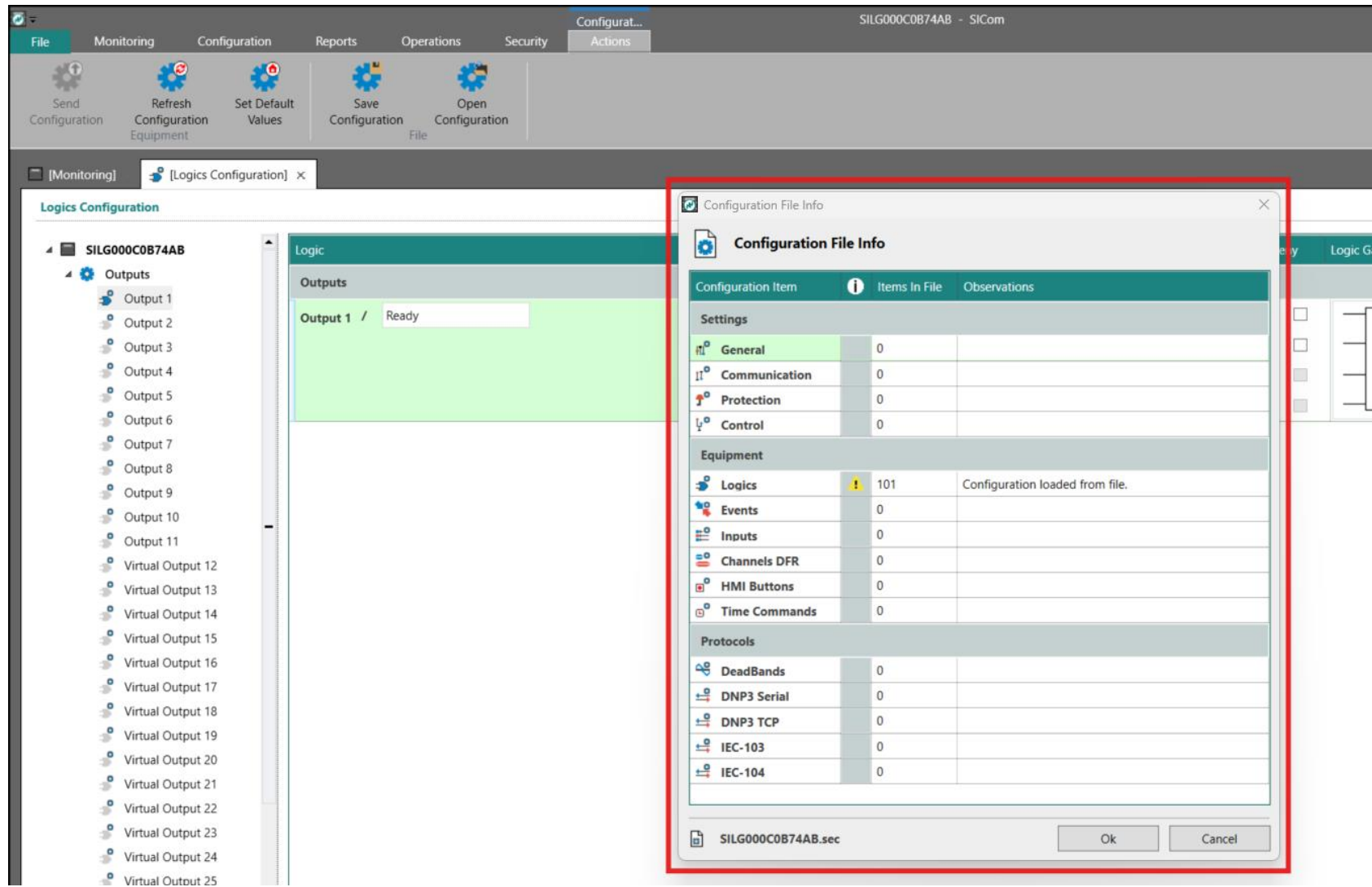
This means that the actual file has the information of the protection settings (the ones that were previously saved in the original file) and the logics configuration. Saving a configuration file on the rest of the “Equipment” tabs (Events, Inputs, Channels DFR, HMI Buttons, Time Commands) is done with the same procedure.

7.6. HOW TO OPEN A CONFIGURATION FILE

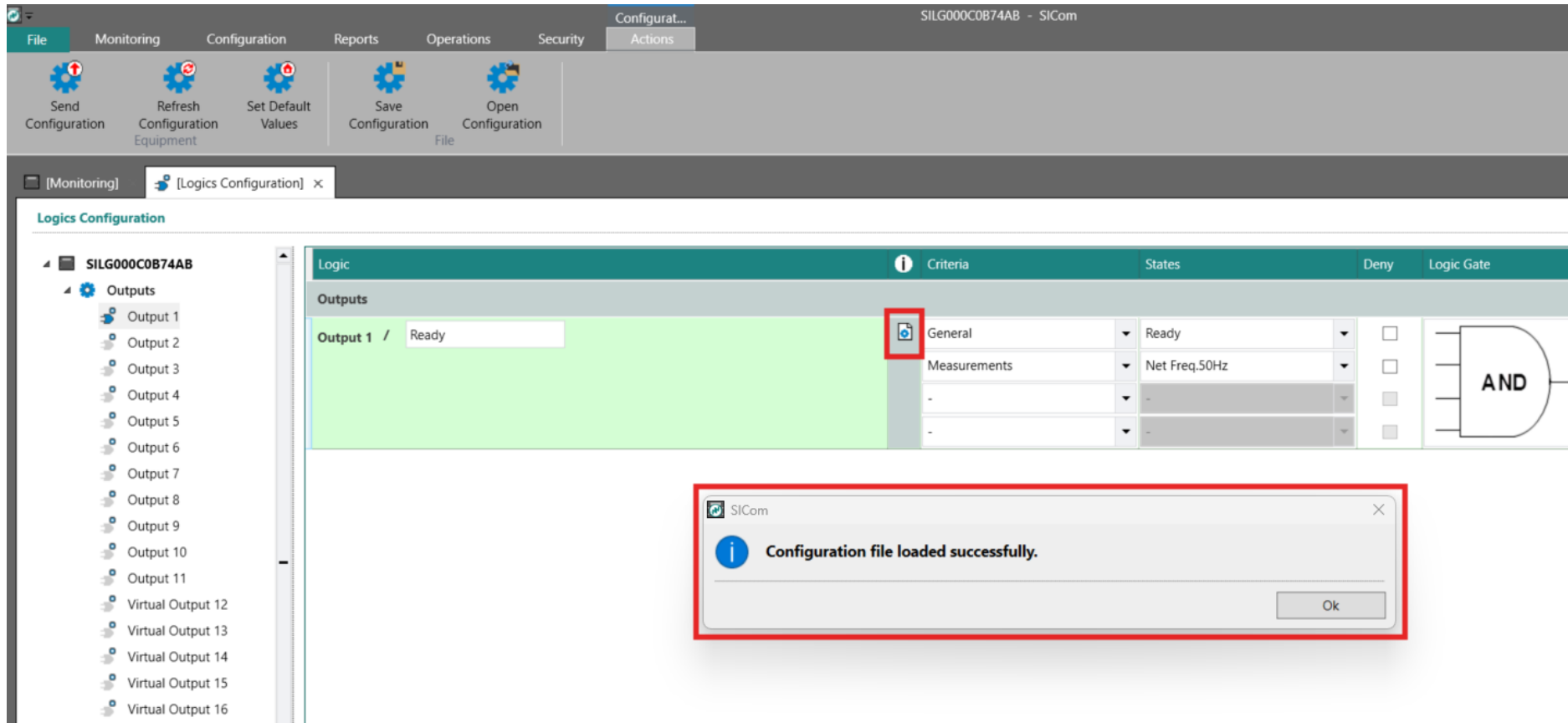
It is possible to open a configuration file previously saved and to send it to the relay. To do this, press “Open Configuration” key, select the file you need and press “open”:



The following screen will show, indicating which items are saved in the configuration that is being opened. Press “OK”.

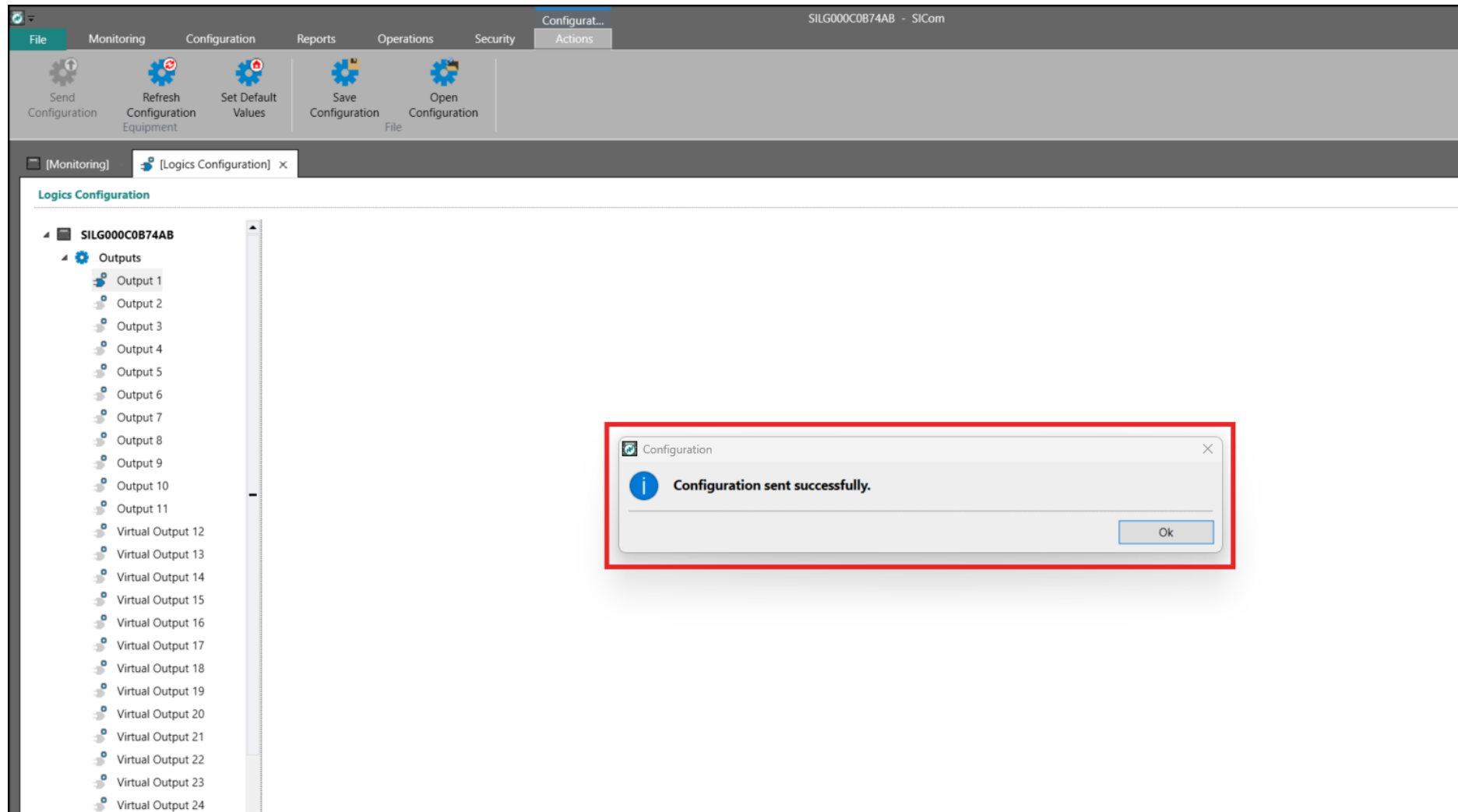


A message confirming that the configuration has been loaded correctly will appear on the screen. The symbol before the “Criteria” field indicates the changes that have been made by uploading the new configuration. To save these changes, they must be sent to the relay.

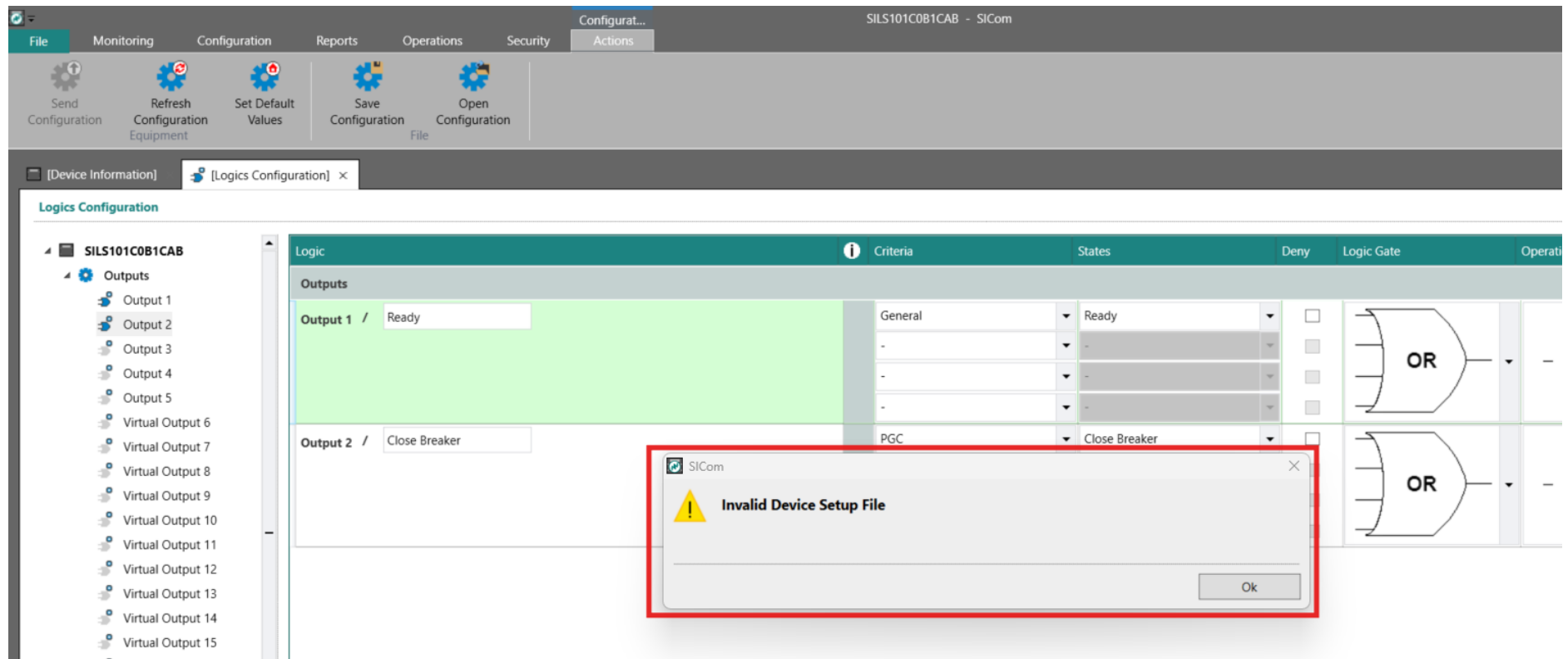


The screenshot displays the FANOX configuration software interface for device SILG000C0B74AB. The top navigation bar includes tabs for File, Monitoring, Configuration, Reports, Operations, Security, and Actions. Below this is a toolbar with icons for Send Configuration, Refresh Configuration Equipment, Set Default Values, Save Configuration File, and Open Configuration File. The main window is titled 'Logics Configuration' and features a left-hand tree view showing the device structure, including 'Outputs' and 'Virtual Output' items. The central area displays a table with columns: Logic, Criteria, States, Deny, and Logic Gate. The 'Criteria' column has a red box around a gear icon. The 'States' column shows 'Ready' and 'Net Freq.50Hz'. The 'Logic Gate' column shows an 'AND' gate symbol. A message box is overlaid on the screen with the text 'Configuration file loaded successfully.' and an 'Ok' button.

Press “Send Configuration” to send it to the relay and window to confirm the sending will appear.



It is very important that the file corresponds to the model of the relay. If an incorrect file is selected, SICom cannot open that file, and the program will inform about it:



Opening a configuration file on the rest of the "Equipment" tabs (Events, Inputs, Channels DFR, HMI Buttons, Time Commands) is done with the same procedure.

7.7. PROTOCOLS MENU

The protocols menu is divided into 5 sections (*):

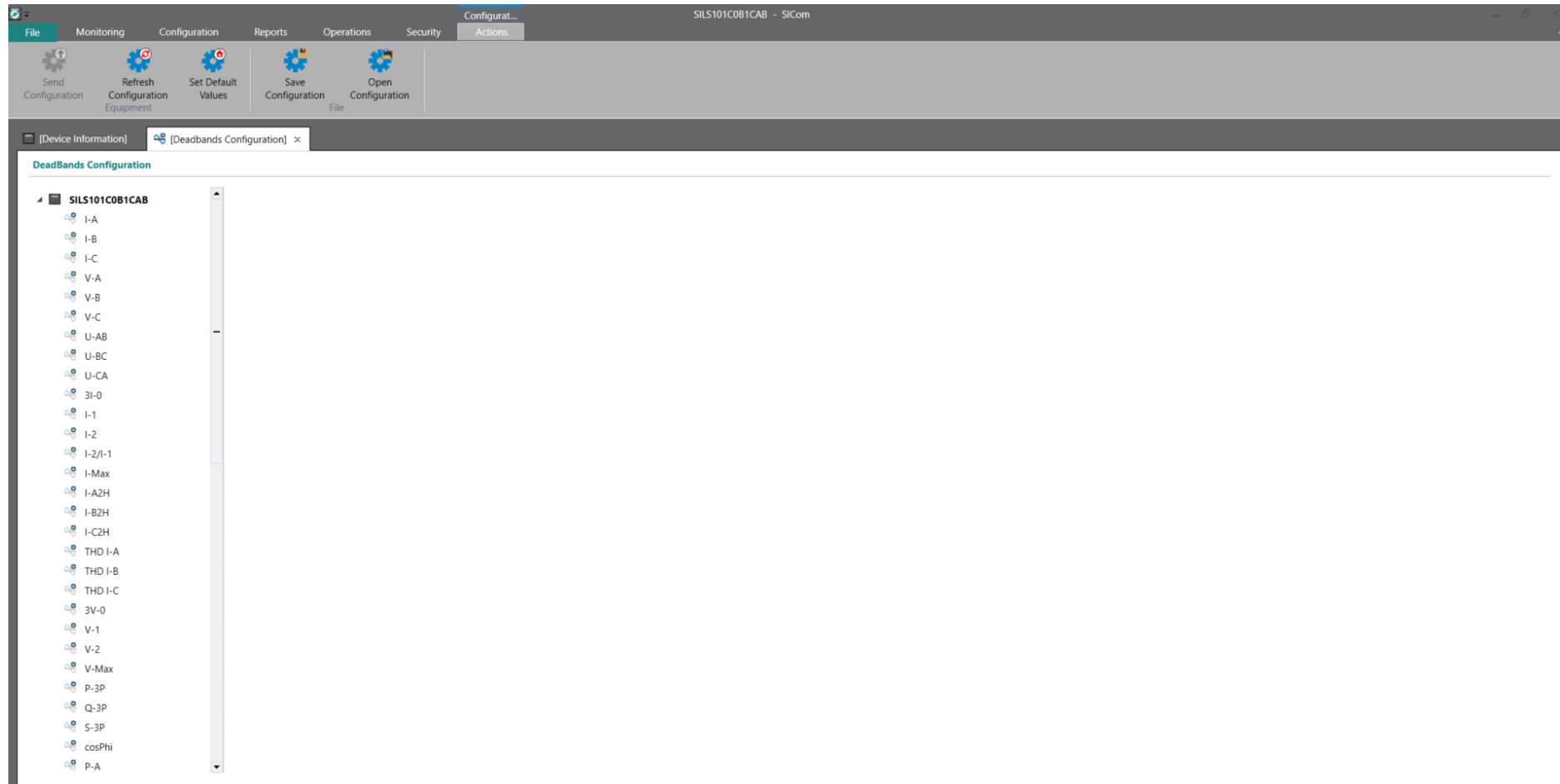
- Deadbands → allows to configure the deadbands of the measurements of the relay.
- DNP3 Serial → allows to configure the analog and binary inputs.
- DNP3 TCP → allows to configure the analog and binary inputs.
- IEC-103 → allows to configure the binary inputs.
- IEC-104 → allows to configure the analog inputs, binary inputs, counters and commands.



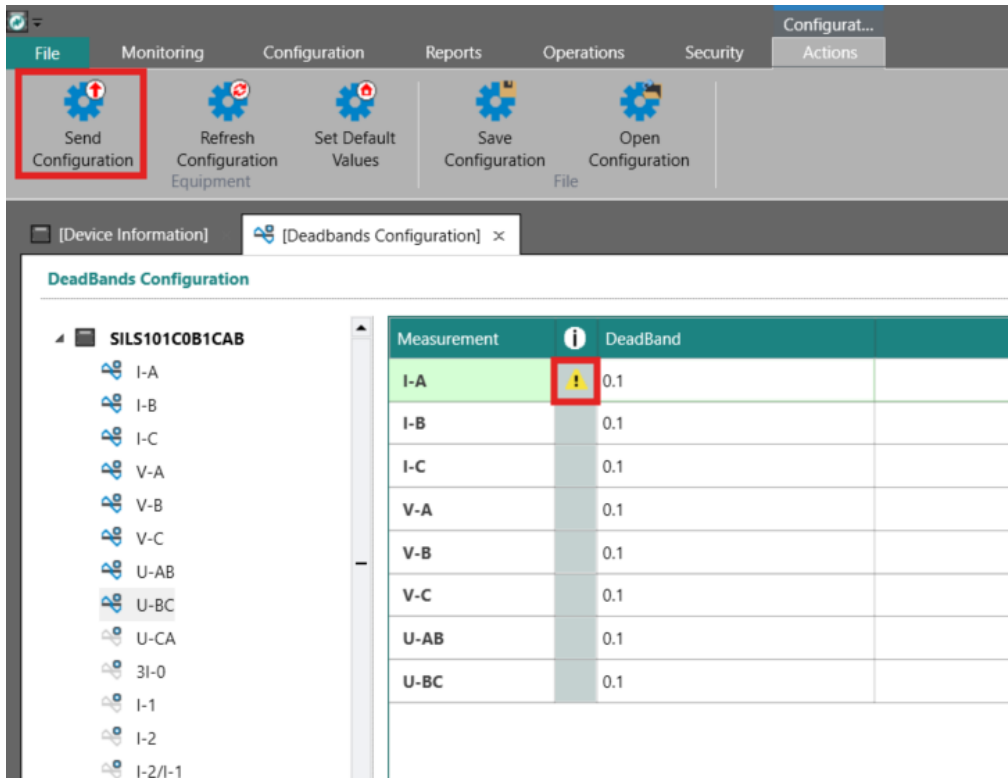
(*) Available depending on the model.

7.7.1. Deadbands menu

When clicking in this section the following window will be opened:



To configure the value of the deadbands, click on each one and modify them. A yellow triangle will appear, showing that the changes have not been sent to the relay:



The screenshot shows the FANOX configuration interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Configurat... (Configuration). Below the menu bar, there are several buttons: Send Configuration (highlighted with a red box), Refresh Configuration Equipment, Set Default Values, Save Configuration File, and Open Configuration File. The main area is titled 'Deadbands Configuration' and shows a list of measurements on the left and a table of deadband values on the right. The table has columns for Measurement, a status icon (yellow triangle), and DeadBand. The measurements listed are I-A, I-B, I-C, V-A, V-B, V-C, U-AB, U-BC, U-CA, 3I-0, I-1, I-2, and I-2/I-1. The deadband values for all measurements are 0.1.

Measurement	Status	DeadBand
I-A	!	0.1
I-B		0.1
I-C		0.1
V-A		0.1
V-B		0.1
V-C		0.1
U-AB		0.1
U-BC		0.1
U-CA		
3I-0		
I-1		
I-2		
I-2/I-1		

The procedures to change, send, save, open a configuration are the same as the ones explained before for the other configuration files:

- To change the values, simply type the desired values in the "DeadBand" column,
- To send the configuration to the relay, click on the "Send Configuration" button on the top left of the screen.
- To save the configuration file, just click on the "Save Configuration" button.
- To open a configuration file previously saved or created, click on the "Open Configuration" button.

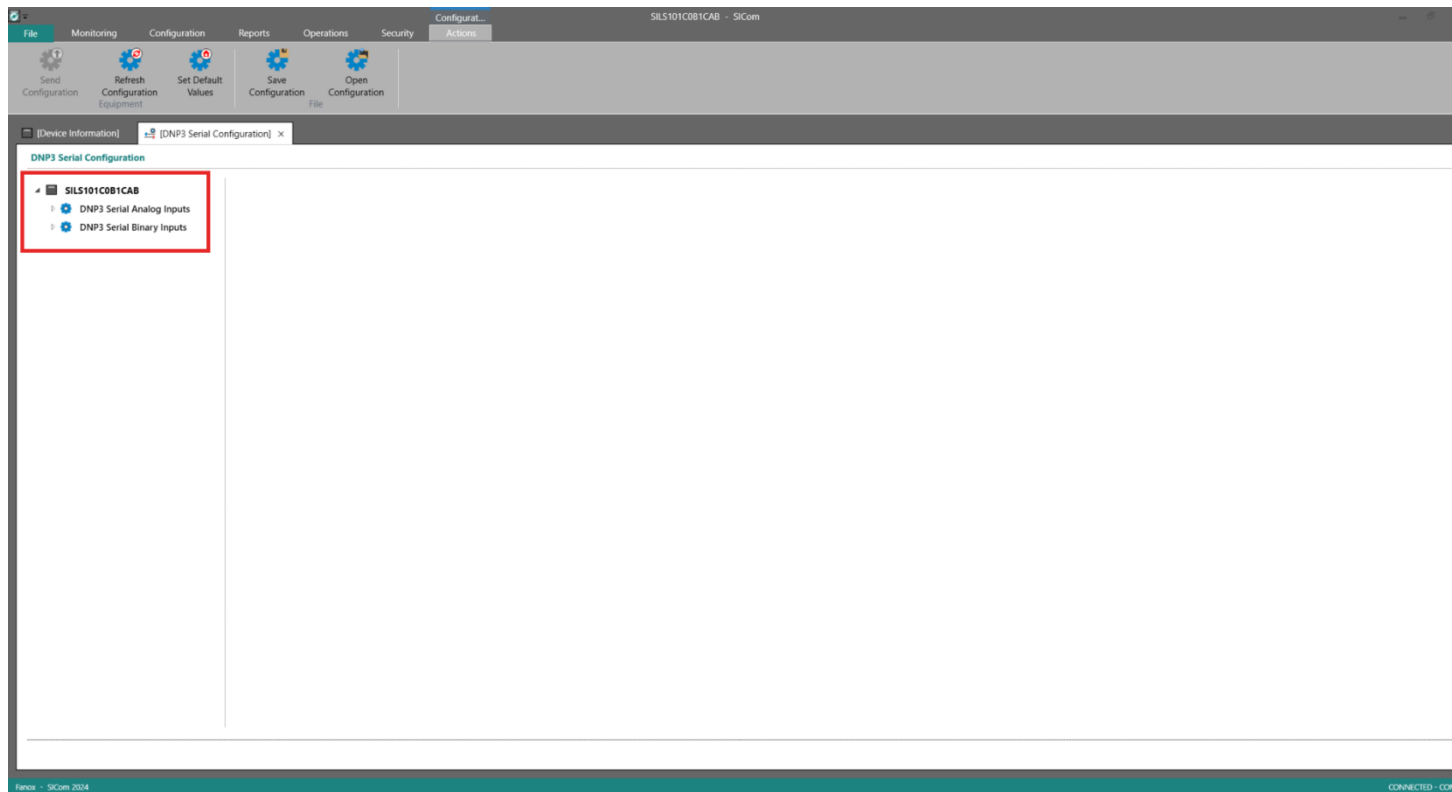
7.7.2. DNP3 Serial Menu

The configuration of the signals is done from the **SICom** software on **Configuration Menu/DNP3 Serial**.

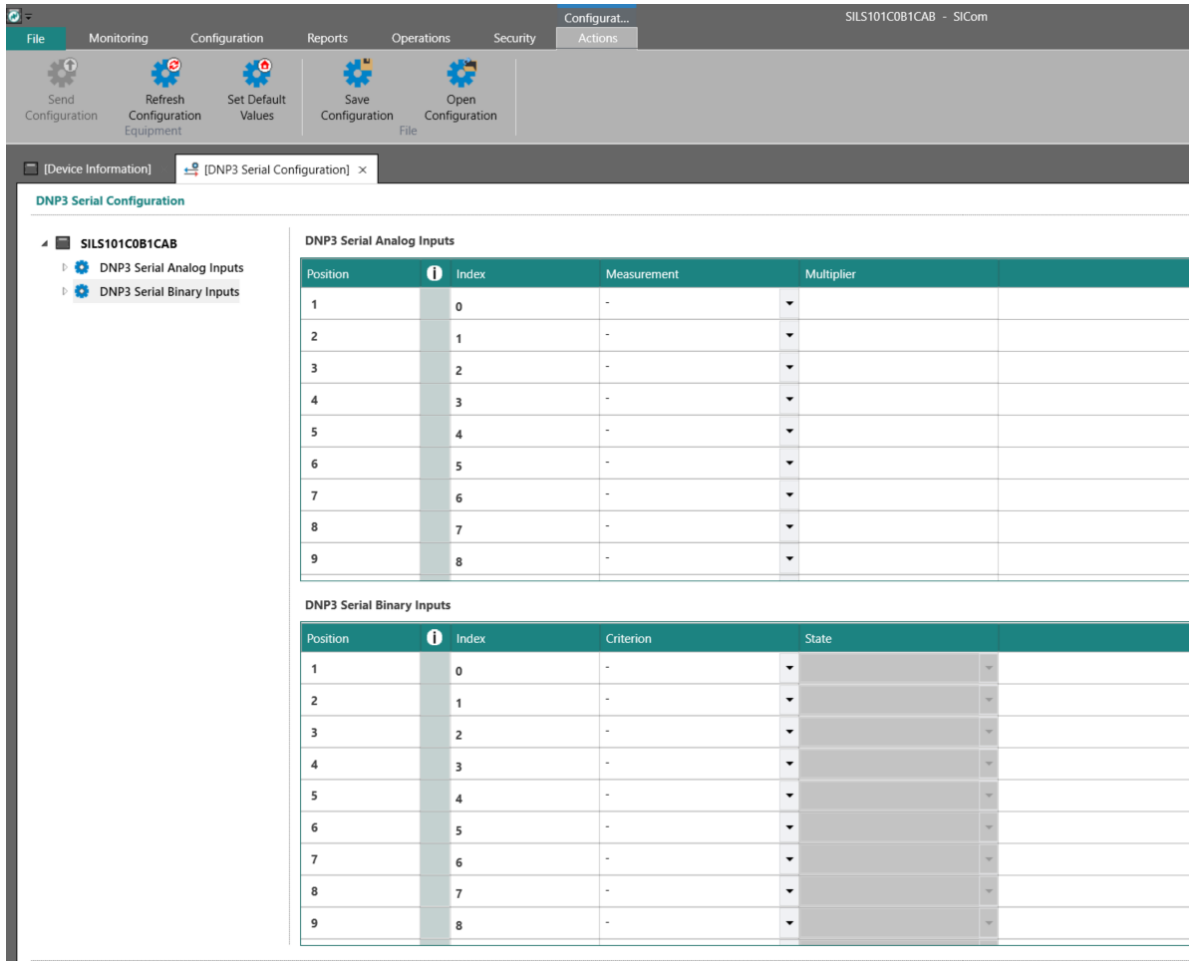
Once the protocol is selected, a new window appears with the different types of signals to be configured:

- DNP3 Serial Analog Inputs.
- DNP3 Serial Binary Inputs.

Counters and commands are not configurable in DNP3 Serial.



When clicking in each type of signal the following configurable parameters will appear:



DNP3 Serial Configuration

SILS101C0B1CAB

- DNP3 Serial Analog Inputs
- DNP3 Serial Binary Inputs

DNP3 Serial Analog Inputs

Position	Index	Measurement	Multiplier
1	0	-	
2	1	-	
3	2	-	
4	3	-	
5	4	-	
6	5	-	
7	6	-	
8	7	-	
9	8	-	

DNP3 Serial Binary Inputs

Position	Index	Criterion	State
1	0	-	
2	1	-	
3	2	-	
4	3	-	
5	4	-	
6	5	-	
7	6	-	
8	7	-	
9	8	-	

The entire database table of analog and binary signals is empty by default. To set the desired values and parameters, just click on the drop-down lists for measurements, criterion and state, and select the values for the multiplier.

The procedures to change, send, save, open a configuration are the same as the ones explained before for the other configuration files.

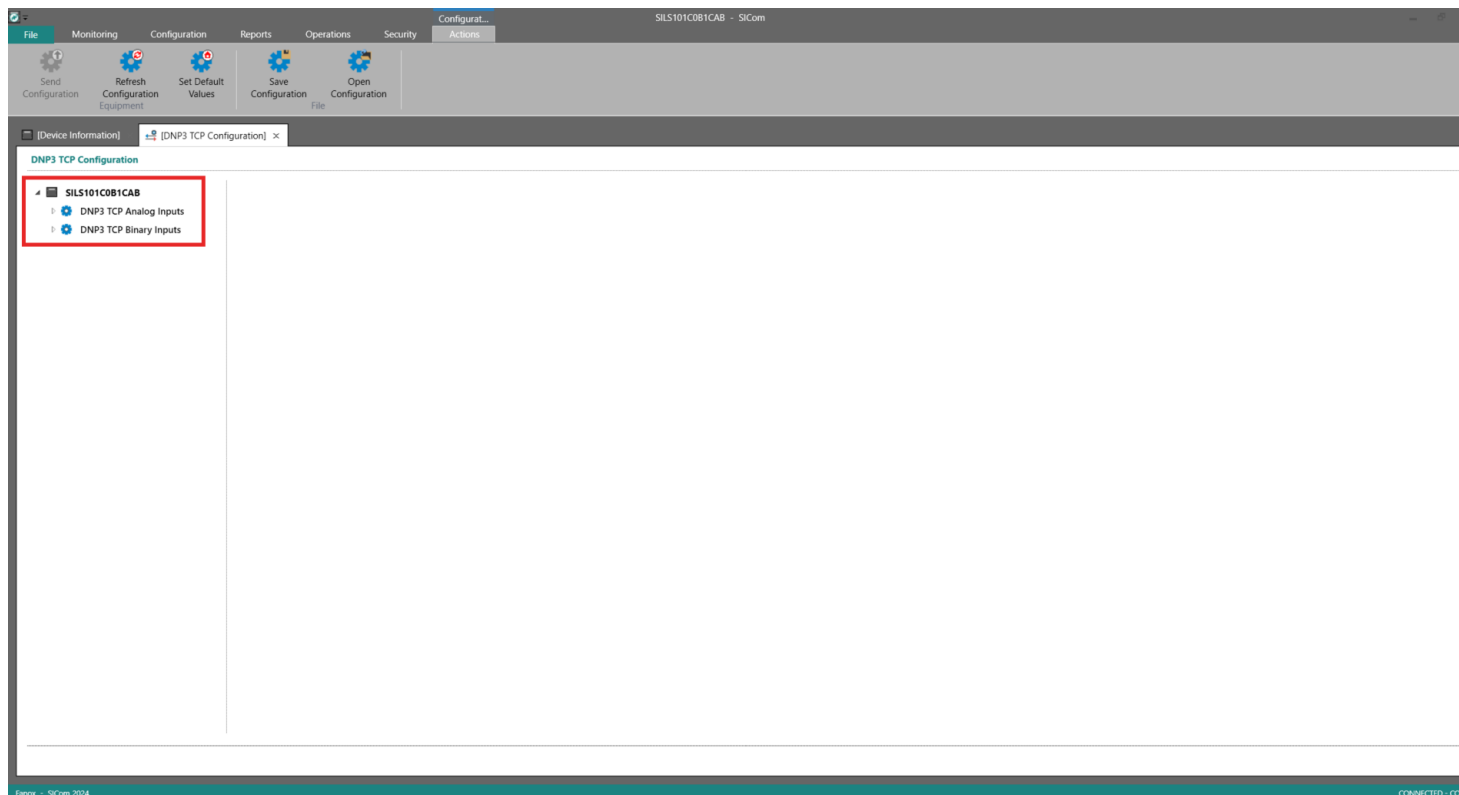
7.7.3. DNP3 TCP Menu

The configuration of the signals is done from the **SiCom** software on **Configuration Menu/DNP3 TCP**.

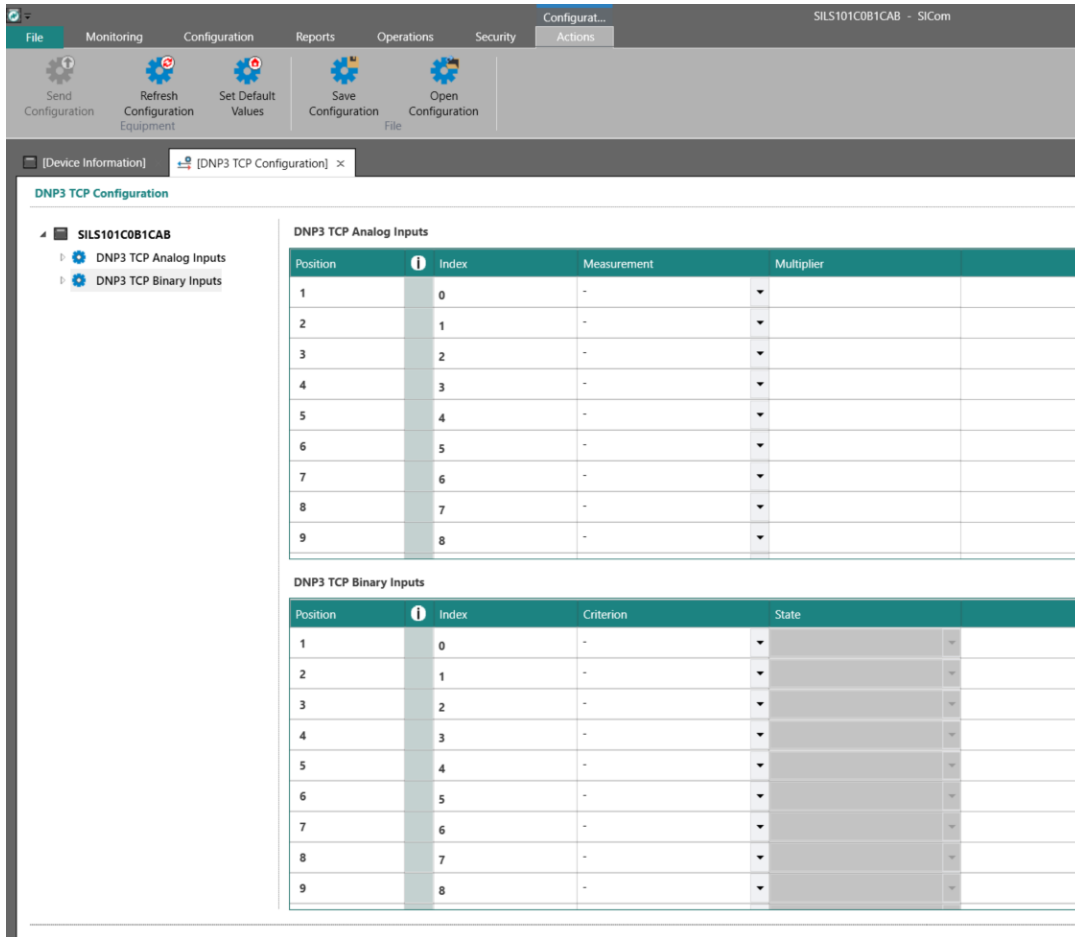
Once the protocol is selected, a new window appears with the different types of signals to be configured:

- DNP3 TCP Analog Inputs.
- DNP3 TCP Binary Inputs.

Counters and commands are not configurable in DNP3 TCP.



When clicking in each type of signal the following configurable parameters will appear:



DNP3 TCP Configuration

SILS101C081CAB

- DNP3 TCP Analog Inputs
- DNP3 TCP Binary Inputs

DNP3 TCP Analog Inputs

Position	Index	Measurement	Multiplier
1	0	-	
2	1	-	
3	2	-	
4	3	-	
5	4	-	
6	5	-	
7	6	-	
8	7	-	
9	8	-	

DNP3 TCP Binary Inputs

Position	Index	Criterion	State
1	0	-	
2	1	-	
3	2	-	
4	3	-	
5	4	-	
6	5	-	
7	6	-	
8	7	-	
9	8	-	

The entire database table of analog and binary signals is empty by default. To set the desired values and parameters, just click on the drop-down lists for measurements, criterion and state, and select the values for the multiplier.

The procedures to change, send, save, open a configuration are the same as the ones explained before for the other configuration files.

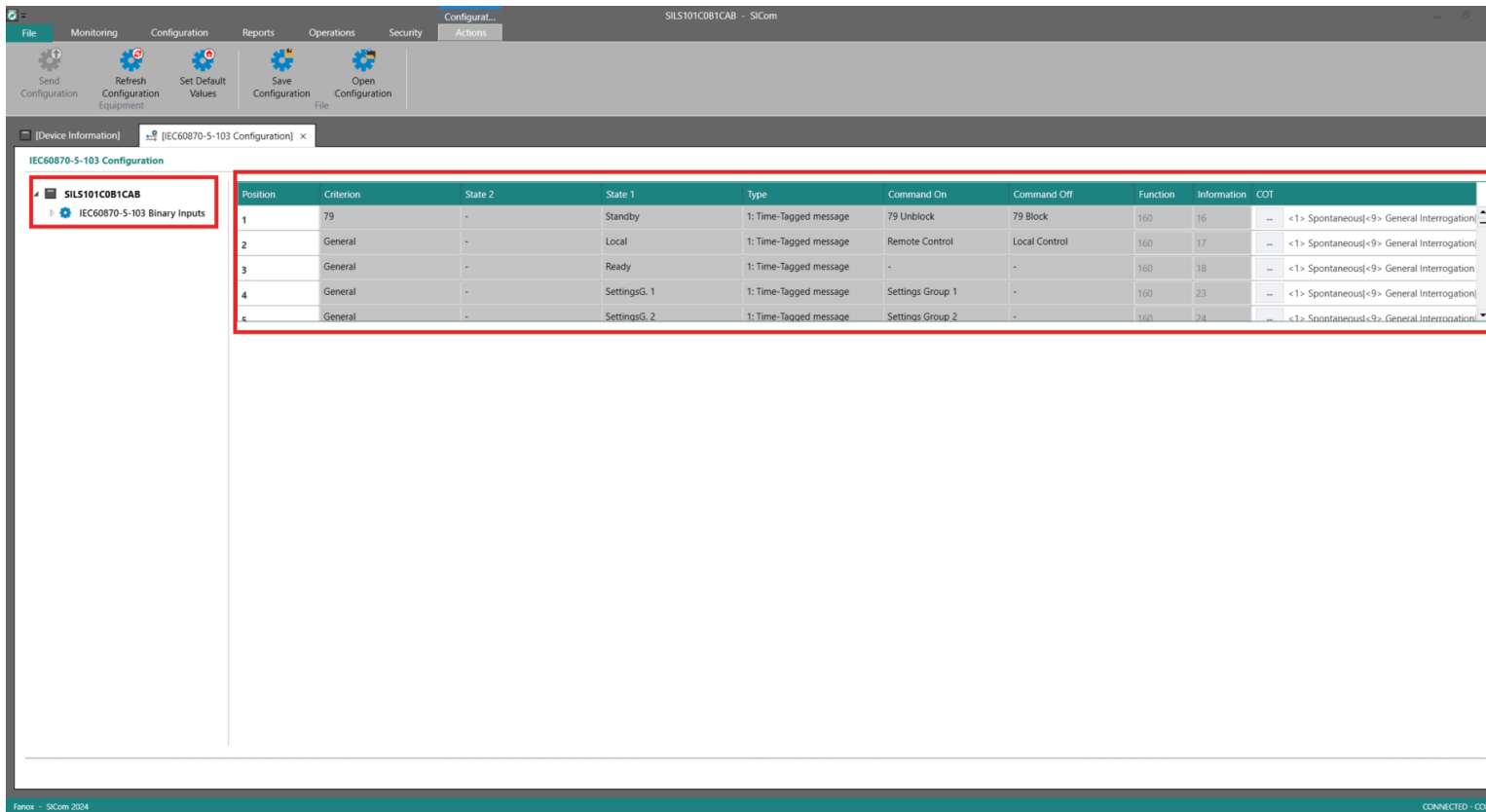
7.7.4. IEC-103 Menu

The configuration of the signals is done from the **SiCom** software on **Configuration Menu/IEC-103**.

Once the protocol is selected, a new window appears with the signals to be configured:

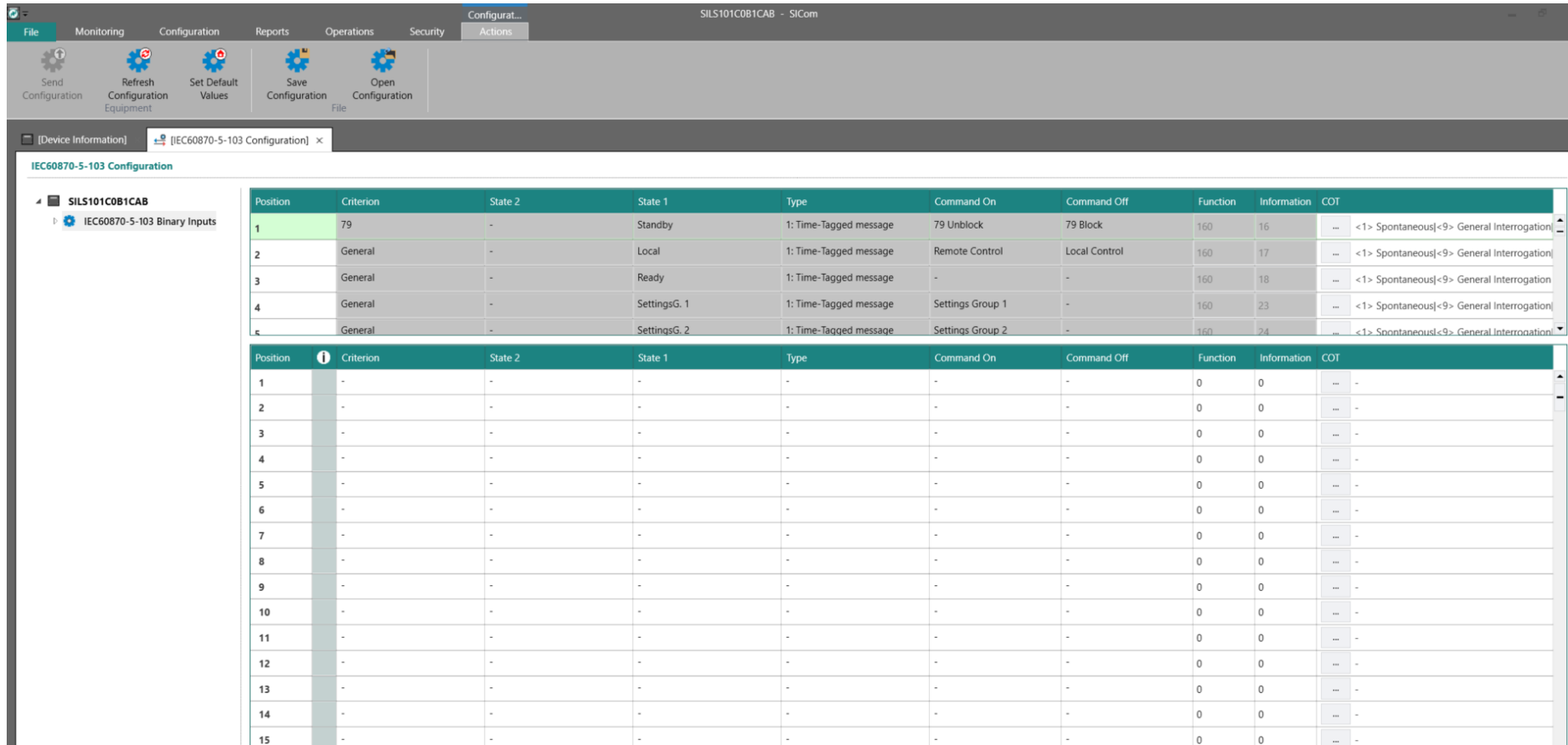
- IEC60870-5-103 Binary Inputs.

Also, the binary inputs that are defined by the standard appear in grey in the screen and are not modifiable. Analog inputs, counters and commands are not configurable in IEC-103.



Position	Criterion	State 2	State 1	Type	Command On	Command Off	Function	Information	COT	
1	79	-	Standby	1: Time-Tagged message	79 Unblock	79 Block	160	16	-	<1> Spontaneous<9> General Interrogation
2	General	-	Local	1: Time-Tagged message	Remote Control	Local Control	160	17	-	<1> Spontaneous<9> General Interrogation
3	General	-	Ready	1: Time-Tagged message	-	-	160	18	-	<1> Spontaneous<9> General Interrogation
4	General	-	SettingsG. 1	1: Time-Tagged message	Settings Group 1	-	160	23	-	<1> Spontaneous<9> General Interrogation
5	General	-	SettingsG. 2	1: Time-Tagged message	Settings Group 2	-	160	24	-	<1> Spontaneous<9> General Interrogation

When clicking in binary inputs, a list is displayed to configure the rest of the inputs that are configurable:



Position	Criterion	State 2	State 1	Type	Command On	Command Off	Function	Information	COT
1	79	-	Standby	1: Time-Tagged message	79 Unblock	79 Block	160	16	<1> Spontaneous<9> General Interrogation
2	General	-	Local	1: Time-Tagged message	Remote Control	Local Control	160	17	<1> Spontaneous<9> General Interrogation
3	General	-	Ready	1: Time-Tagged message	-	-	160	18	<1> Spontaneous<9> General Interrogation
4	General	-	SettingsG. 1	1: Time-Tagged message	Settings Group 1	-	160	23	<1> Spontaneous<9> General Interrogation
5	General	-	SettingsG. 2	1: Time-Tagged message	Settings Group 2	-	160	24	<1> Spontaneous<9> General Interrogation
6	-	-	-	-	-	-	0	0	-
7	-	-	-	-	-	-	0	0	-
8	-	-	-	-	-	-	0	0	-
9	-	-	-	-	-	-	0	0	-
10	-	-	-	-	-	-	0	0	-
11	-	-	-	-	-	-	0	0	-
12	-	-	-	-	-	-	0	0	-
13	-	-	-	-	-	-	0	0	-
14	-	-	-	-	-	-	0	0	-
15	-	-	-	-	-	-	0	0	-

The entire database table of the configurable binary signals is empty by default. To set the configuration, just click on the drop-down lists and choose the desired options.

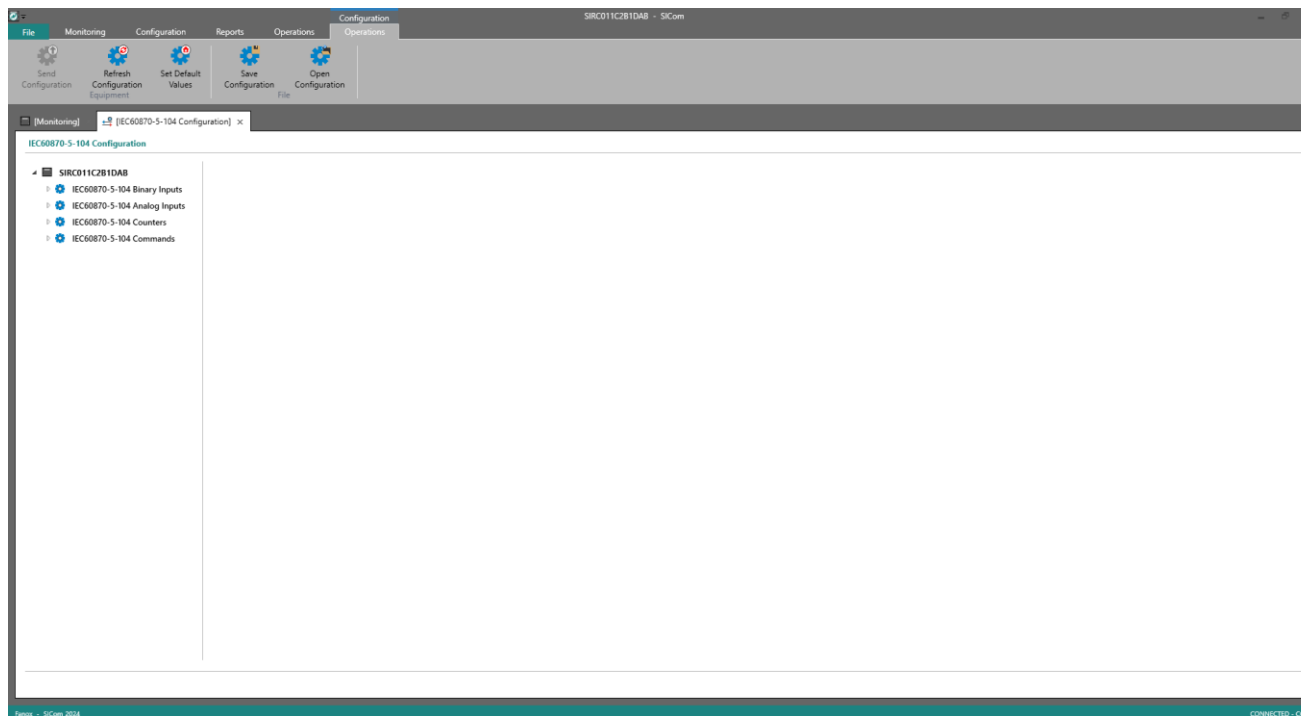
The procedures to change, send, save, open a configuration are the same as the ones explained before for the other configuration files.

7.7.5. IEC-104 Menu

The configuration of the signals is done from the **SiCom** software on **Configuration Menu/IEC-104**.

Once the protocol is selected, a new window appears with the different types of signals to be configured:

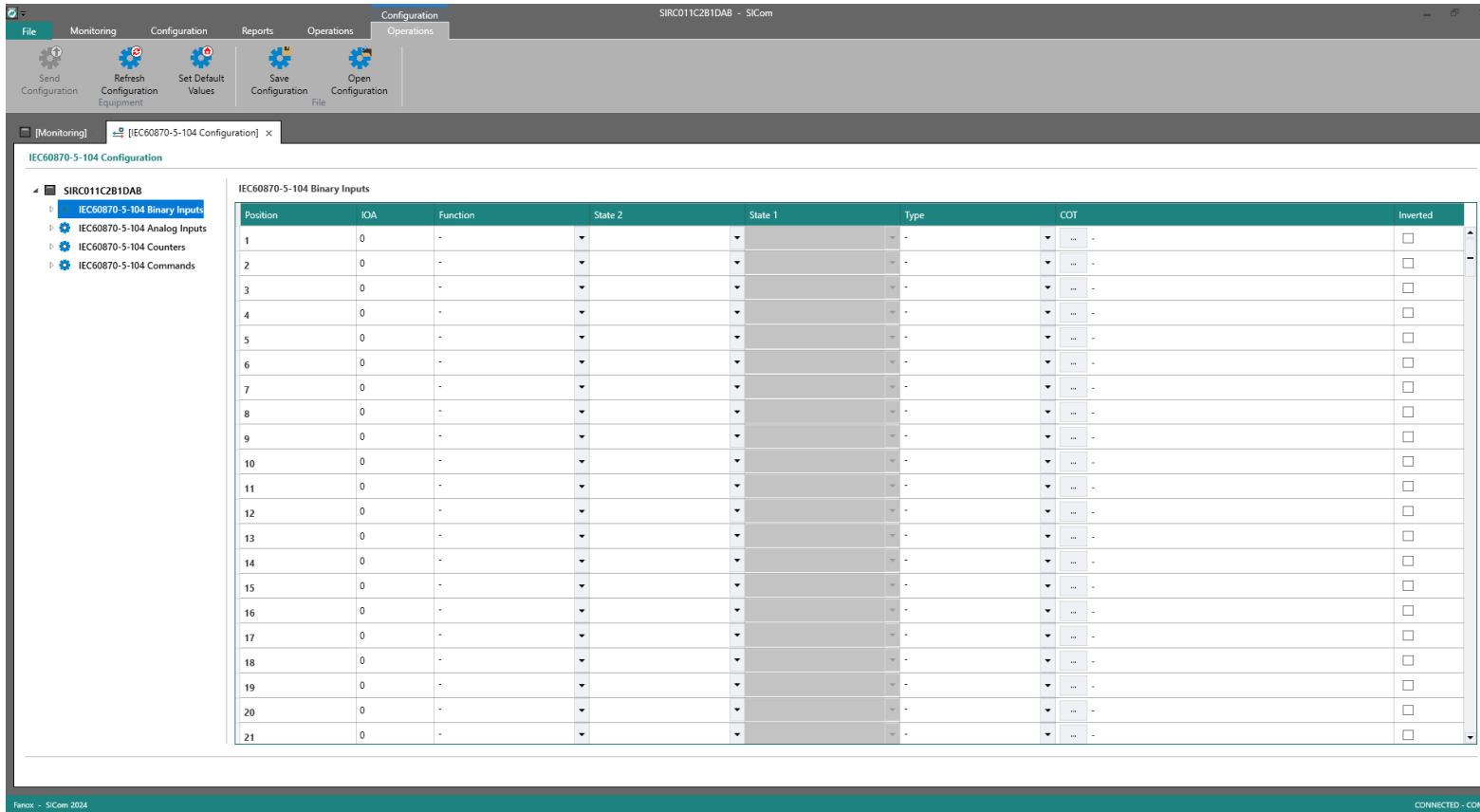
- IEC60870-5-104 Binary Inputs.
- IEC60870-5-104 Analog Inputs.
- IEC60870-5-104 Counters.
- IEC60870-5-104 Commands.



7.7.5.1. IEC60870-5-104 Binary Inputs

Binary Inputs include all digital signals, Single or double point, to be sent to the controlling station (Client).

Selecting **IEC60870-5-104 Binary Inputs** opens the entire database table of binary signals, which is empty by default.



The screenshot displays the FANOX SICom 2024 software interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, and Configuration/Operations. The left sidebar shows a tree view with the following items:

- SICom2024
 - IEC60870-5-104 Binary Inputs (selected)
 - IEC60870-5-104 Analog Inputs
 - IEC60870-5-104 Counters
 - IEC60870-5-104 Commands

The main window displays the "IEC60870-5-104 Binary Inputs" table. The table has the following columns: Position, IOA, Function, State 2, State 1, Type, COT, and Inverted. The table contains 21 rows, all of which are empty except for the header row.

Position	IOA	Function	State 2	State 1	Type	COT	Inverted
1	0	-			-	...	☐
2	0	-			-	...	☐
3	0	-			-	...	☐
4	0	-			-	...	☐
5	0	-			-	...	☐
6	0	-			-	...	☐
7	0	-			-	...	☐
8	0	-			-	...	☐
9	0	-			-	...	☐
10	0	-			-	...	☐
11	0	-			-	...	☐
12	0	-			-	...	☐
13	0	-			-	...	☐
14	0	-			-	...	☐
15	0	-			-	...	☐
16	0	-			-	...	☐
17	0	-			-	...	☐
18	0	-			-	...	☐
19	0	-			-	...	☐
20	0	-			-	...	☐
21	0	-			-	...	☐

The bottom status bar shows "FANOX - SICom 2024" and "CONNECTED - COM3".

Where:

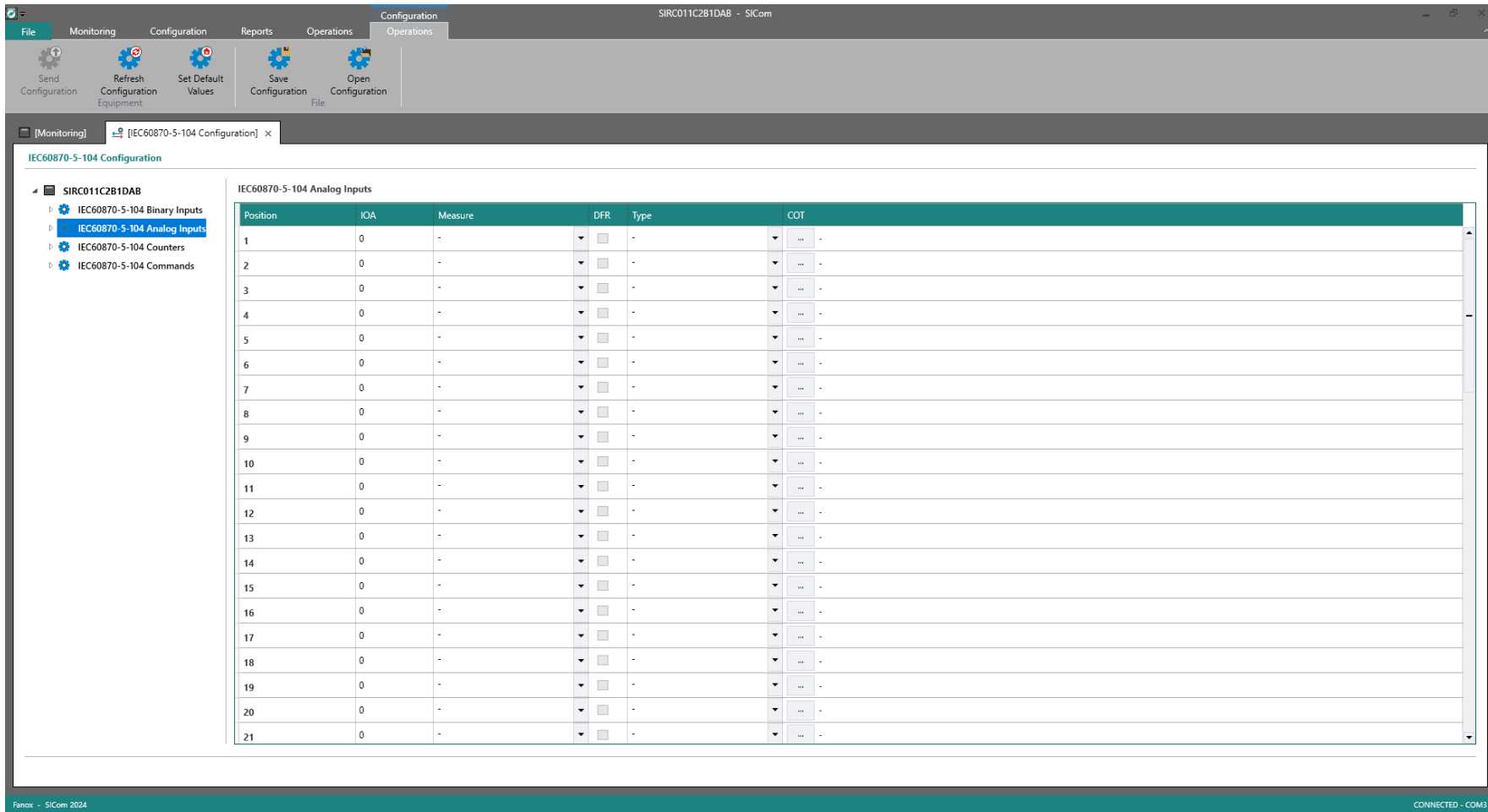
Name	Description
Position	Index of the position on the configuration table
IOA	Configurable Information Object Address. Is not recommended to assign the same IOA to different states or to repeat a state in different positions.
Function	Group of signals according to the relay model, selectable from a list.
State 2	Used only in double point information (types 3 and 31) to select a second state bit from the same function.
State 1	Used in single- and double-point information. Select the state of the criterion selected in "Function" column to communicate.
Type	Type identifications, selectable from a list.
COT	Selection of the cause of transmission. The available COTs will be limited depending on the selected type id.
Inverted	Inverted status of the point for sending to the master

After configuring the desired states, send the configuration to the relay with "Send configuration" button on the top menu bar.

7.7.5.2. IEC60870-5-104 Analog Inputs

Analog Inputs include all measures signals to be sent to the controlling station (Client).

Selecting **IEC60870-5-104 Analog Inputs** opens the entire database table of analog signals, which is empty by default.



The screenshot shows the FANOX SICom 2024 software interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, and Configuration Operations. The Configuration Operations menu is open, showing options like Send Configuration, Refresh Configuration Equipment, Set Default Values, Save Configuration File, and Open Configuration File. The main window displays the IEC60870-5-104 Configuration window, which is currently empty. The left sidebar shows the tree structure with the following items:

- SICom011C2B1DAB
 - IEC60870-5-104 Binary Inputs
 - IEC60870-5-104 Analog Inputs**
 - IEC60870-5-104 Counters
 - IEC60870-5-104 Commands

The main table, titled "IEC60870-5-104 Analog Inputs", has the following columns: Position, IOA, Measure, DFR, Type, and COT. The table contains 21 rows, all of which are empty.

Position	IOA	Measure	DFR	Type	COT
1	0	-		-	-
2	0	-		-	-
3	0	-		-	-
4	0	-		-	-
5	0	-		-	-
6	0	-		-	-
7	0	-		-	-
8	0	-		-	-
9	0	-		-	-
10	0	-		-	-
11	0	-		-	-
12	0	-		-	-
13	0	-		-	-
14	0	-		-	-
15	0	-		-	-
16	0	-		-	-
17	0	-		-	-
18	0	-		-	-
19	0	-		-	-
20	0	-		-	-
21	0	-		-	-

The status bar at the bottom indicates "FANOX - SICom 2024" and "CONNECTED - COM3".

Where:

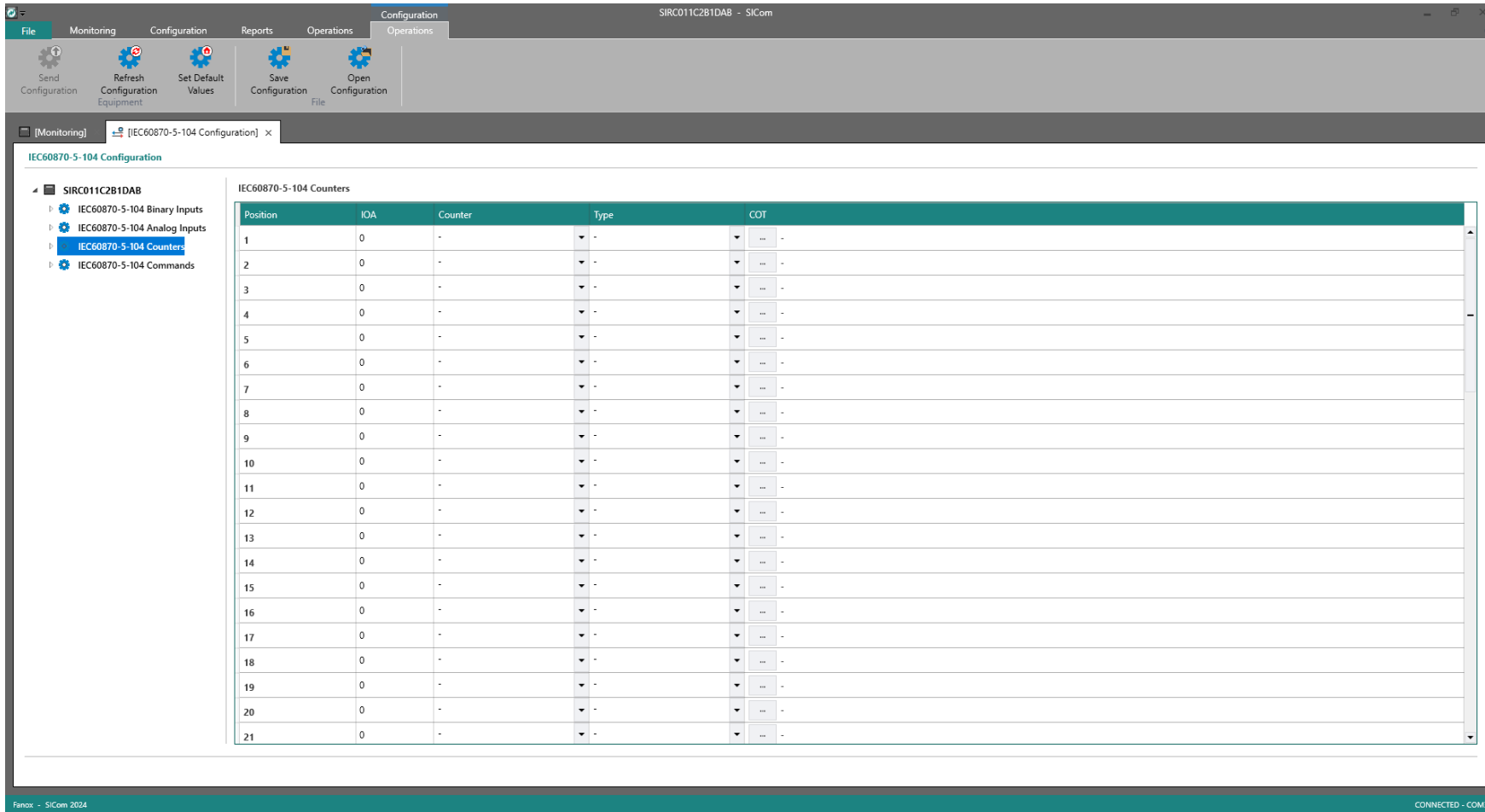
Name	Description
Position	Informative numeral to show the position on the configuration table
IOA	Configurable Information Object Address. Is not recommended to assign the same IOA to different states or to repeat a state in different positions.
Measure	Analog signals according to the relay model, selectable from a list.
DFR	Allows the measurement to be included in the DFR to be sent to the Controlling station.
Type	Type identifications, selectable from a list.
COT	Cause of transmission, selectable from a list. The available COTs will be limited depending on the selected type of id.

After configuring the desired measurements, send the configuration to the relay with “Send configuration” button on the top menu bar.

7.7.5.3. IEC60870-5-104 Counters

Internal equipment counters to be sent to the controlling station (Client).

Selecting **IEC60870-5-104 Counters** opens the entire database table of counters, which is empty by default.



The screenshot shows the FANOX SICom 2024 software interface. The main window is titled "IEC60870-5-104 Configuration" and displays a table of counters for the device "SIRC011C2B1DAB". The table has the following columns: Position, IOA, Counter, Type, and COT. The table is currently empty, showing 21 rows with Position values from 1 to 21. The left sidebar shows the configuration tree with "IEC60870-5-104 Counters" selected.

Position	IOA	Counter	Type	COT
1	0	-	-	-
2	0	-	-	-
3	0	-	-	-
4	0	-	-	-
5	0	-	-	-
6	0	-	-	-
7	0	-	-	-
8	0	-	-	-
9	0	-	-	-
10	0	-	-	-
11	0	-	-	-
12	0	-	-	-
13	0	-	-	-
14	0	-	-	-
15	0	-	-	-
16	0	-	-	-
17	0	-	-	-
18	0	-	-	-
19	0	-	-	-
20	0	-	-	-
21	0	-	-	-

Where:

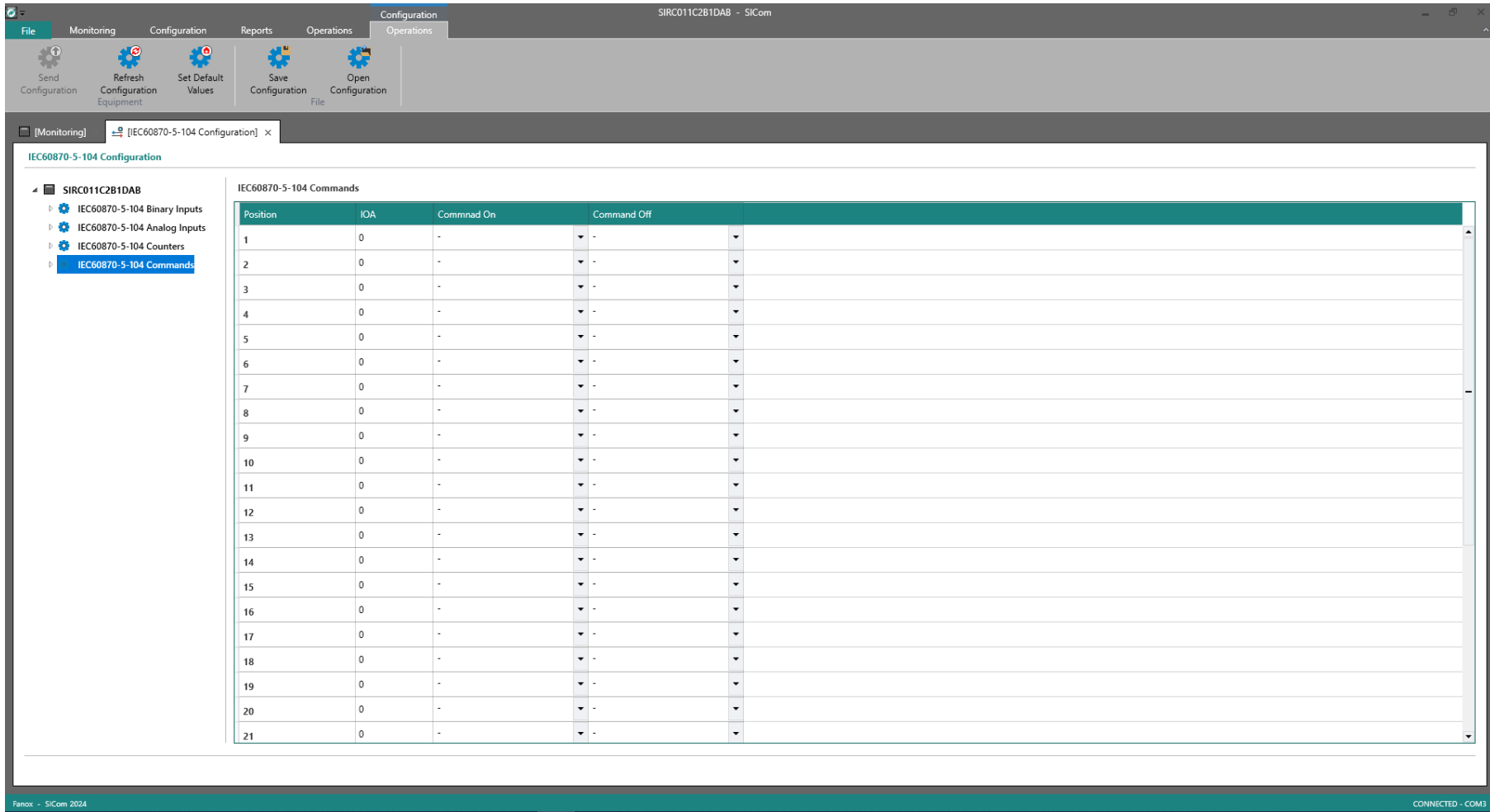
Name	Description
Position	Index of the position on the configuration table
IOA	Configurable Information Object Address. Is not recommended to assign the same IOA to different states or to repeat a state in different positions.
Counter	Counter signal according to the relay model, selectable from a list
Type	Type identification, selectable from a list
COT	Cause of transmission, selectable from a list. The available COTs will be limited depending on the selected type of id.

After configuring the desired counters, send the configuration to the relay with “Send configuration” button on the top menu bar.

7.7.5.4. IEC60870-5-104 Commands

Command includes all command signals, Single or double, to be sent to the controlling station (Client).

Selecting **IEC60870-5-104 Command** opens the entire database table of command, which is empty by default.



The screenshot shows the FANOX SICom 2024 software interface. The top menu bar includes File, Monitoring, Configuration, Reports, and Operations. The Configuration menu is open, showing options like Send Configuration, Refresh Configuration Equipment, Set Default Values, Save Configuration File, and Open Configuration File. The main window displays the IEC60870-5-104 Configuration window, which is titled "IEC60870-5-104 Configuration". On the left, a tree view shows the configuration structure for SIRC011C2B1DAB, including Binary Inputs, Analog Inputs, Counters, and Commands. The Commands section is selected, and the main area displays a table of 21 command positions. The table has columns for Position, IOA, Command On, and Command Off. All fields are currently empty or set to default values.

Position	IOA	Command On	Command Off
1	0	-	-
2	0	-	-
3	0	-	-
4	0	-	-
5	0	-	-
6	0	-	-
7	0	-	-
8	0	-	-
9	0	-	-
10	0	-	-
11	0	-	-
12	0	-	-
13	0	-	-
14	0	-	-
15	0	-	-
16	0	-	-
17	0	-	-
18	0	-	-
19	0	-	-
20	0	-	-
21	0	-	-

Where:

Name	Description
Position	Informative numeral to show the position on the configuration table
IOA	Configurable Information Object Address. Is not recommended to assign the same IOA to different states or to repeat a state in different positions.
Command ON	Select the command to perform when a "ON" value is sent to the relay in that IOA.
Command OFF	Select the command to perform when a "OFF" value is sent to the relay in that IOA.

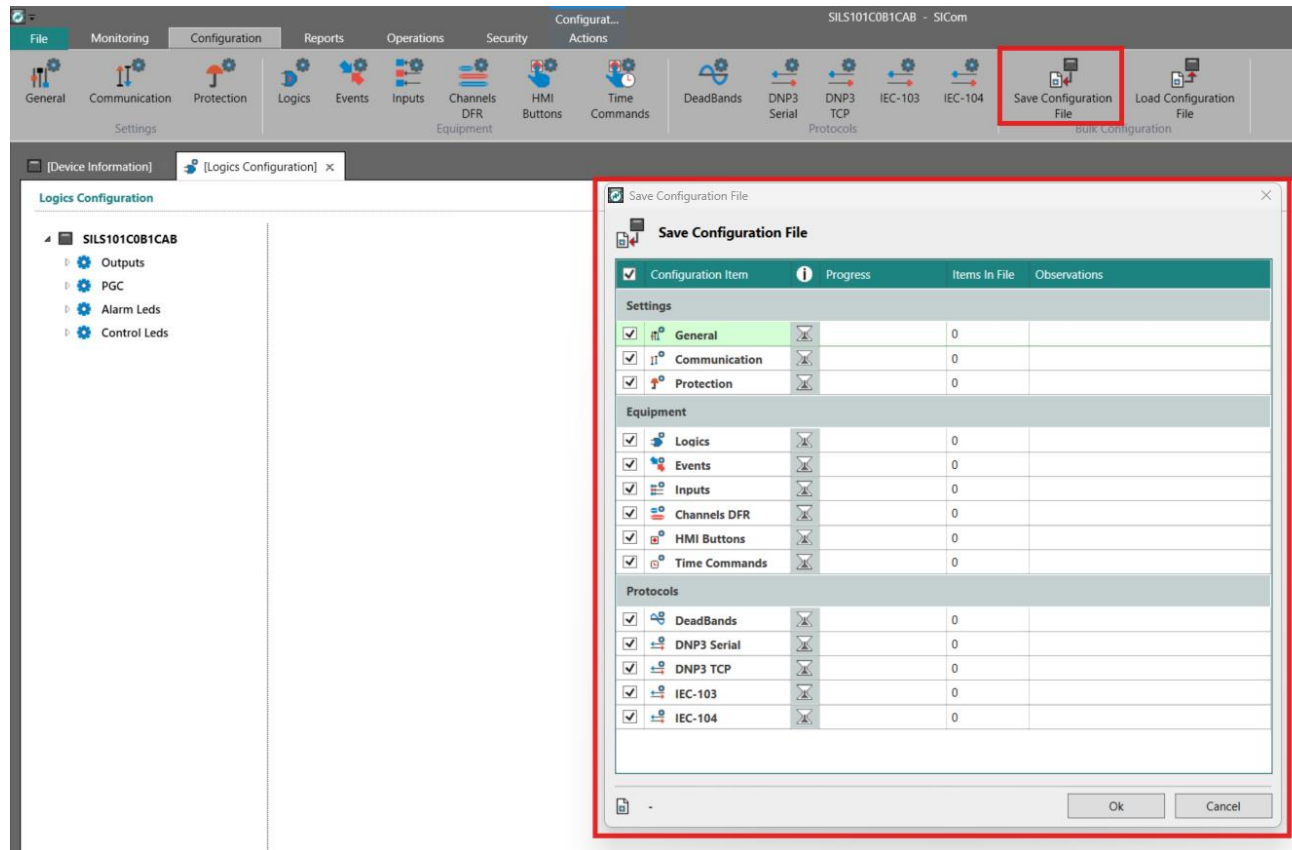
After configuring the commands, send the configuration to the relay with "Send configuration" button on the top menu bar.

7.8. BULK CONFIGURATION MENU

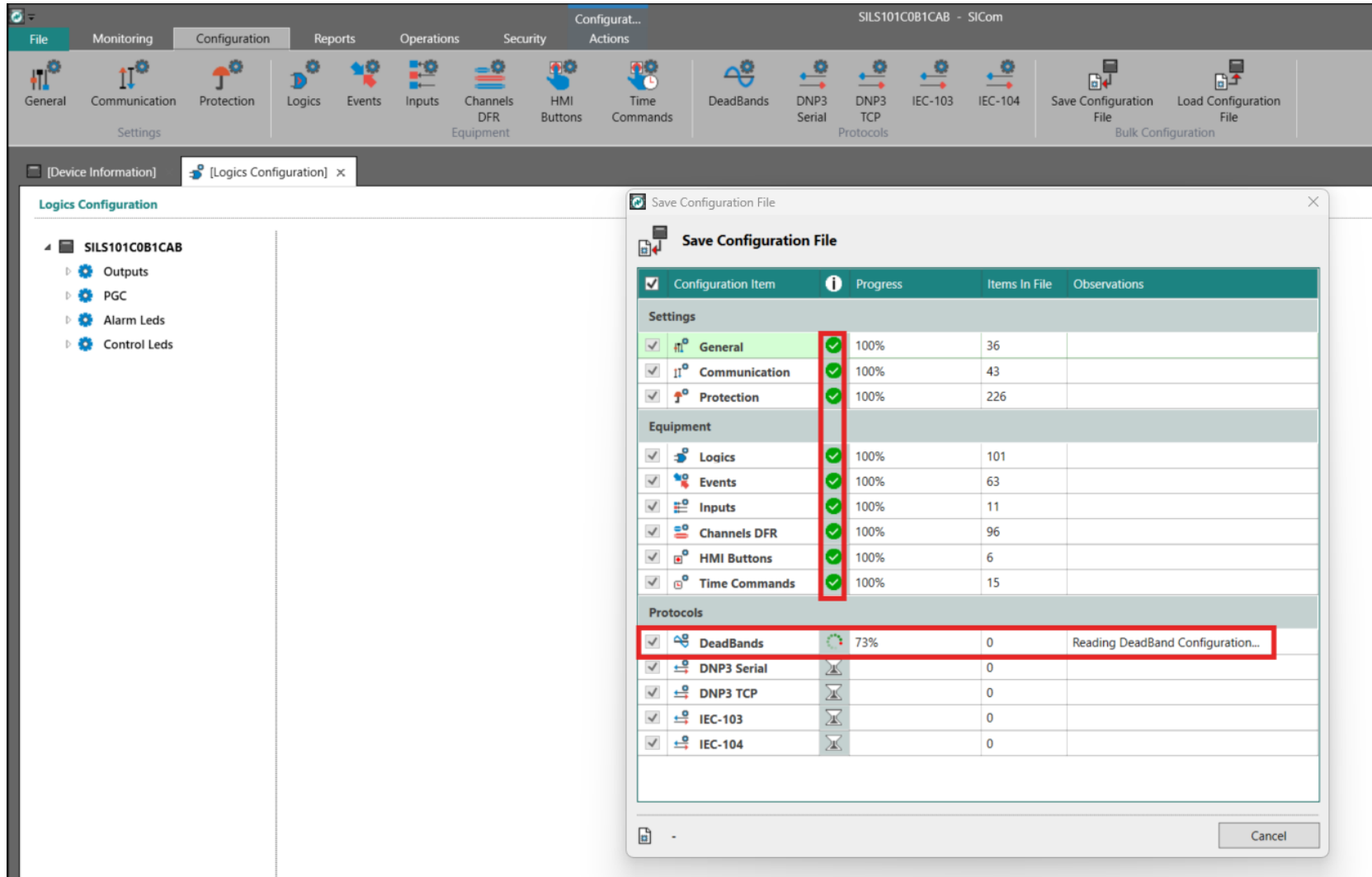
This menu makes it possible to save or load the complete configuration files.

7.8.1. Save configuration files

To save the complete configuration file, press “Save Configuration File”. The following screen will appear, where it is possible to choose which configuration items are saved by selecting them in the first column.



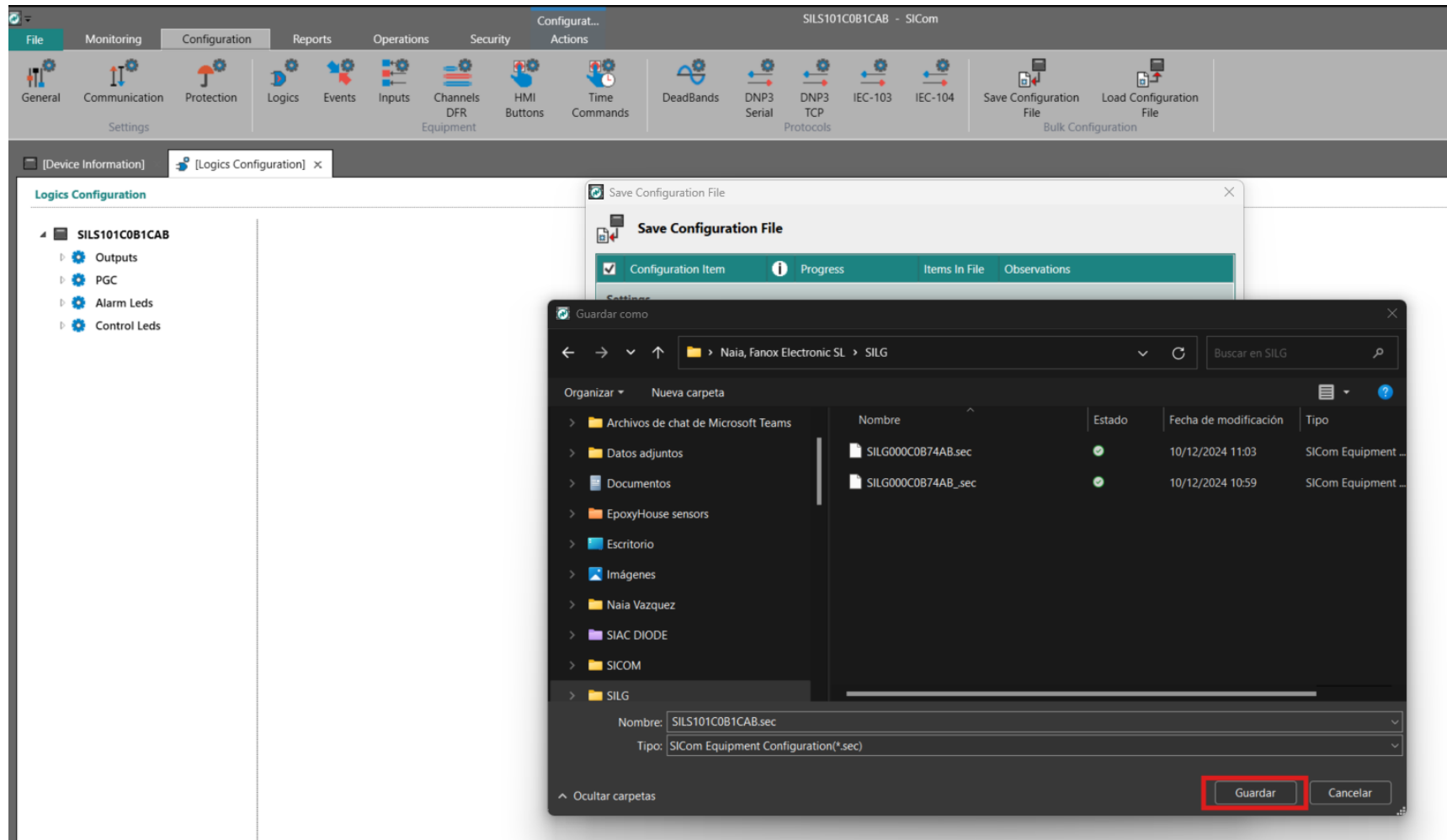
Once “OK” is pressed, the items are saved one by one. This process will take some time.



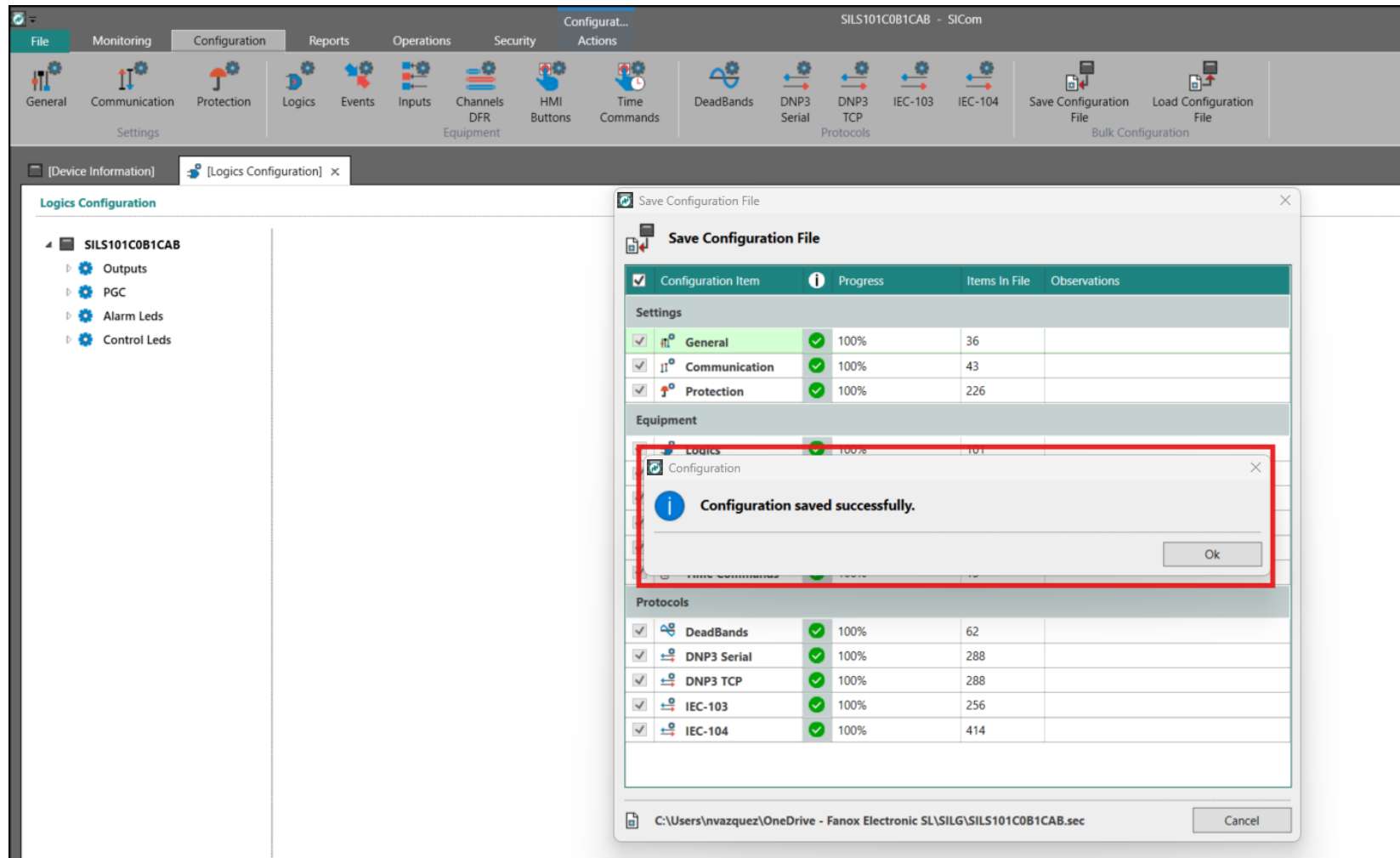
The screenshot shows the FANOX configuration software interface. The main window displays the 'Logics Configuration' for device 'SILS101C0B1CAB'. A 'Save Configuration File' dialog box is open, showing a table of configuration items and their progress. A red box highlights the 'DeadBands' item, which is at 73% progress and has the observation 'Reading DeadBand Configuration...'.

Configuration Item	Progress	Items In File	Observations
Settings			
General	100%	36	
Communication	100%	43	
Protection	100%	226	
Equipment			
Logics	100%	101	
Events	100%	63	
Inputs	100%	11	
Channels DFR	100%	96	
HMI Buttons	100%	6	
Time Commands	100%	15	
Protocols			
DeadBands	73%	0	Reading DeadBand Configuration...
DNP3 Serial		0	
DNP3 TCP		0	
IEC-103		0	
IEC-104		0	

When all the selected items are saved, press “Save” in the following screen that will appear:

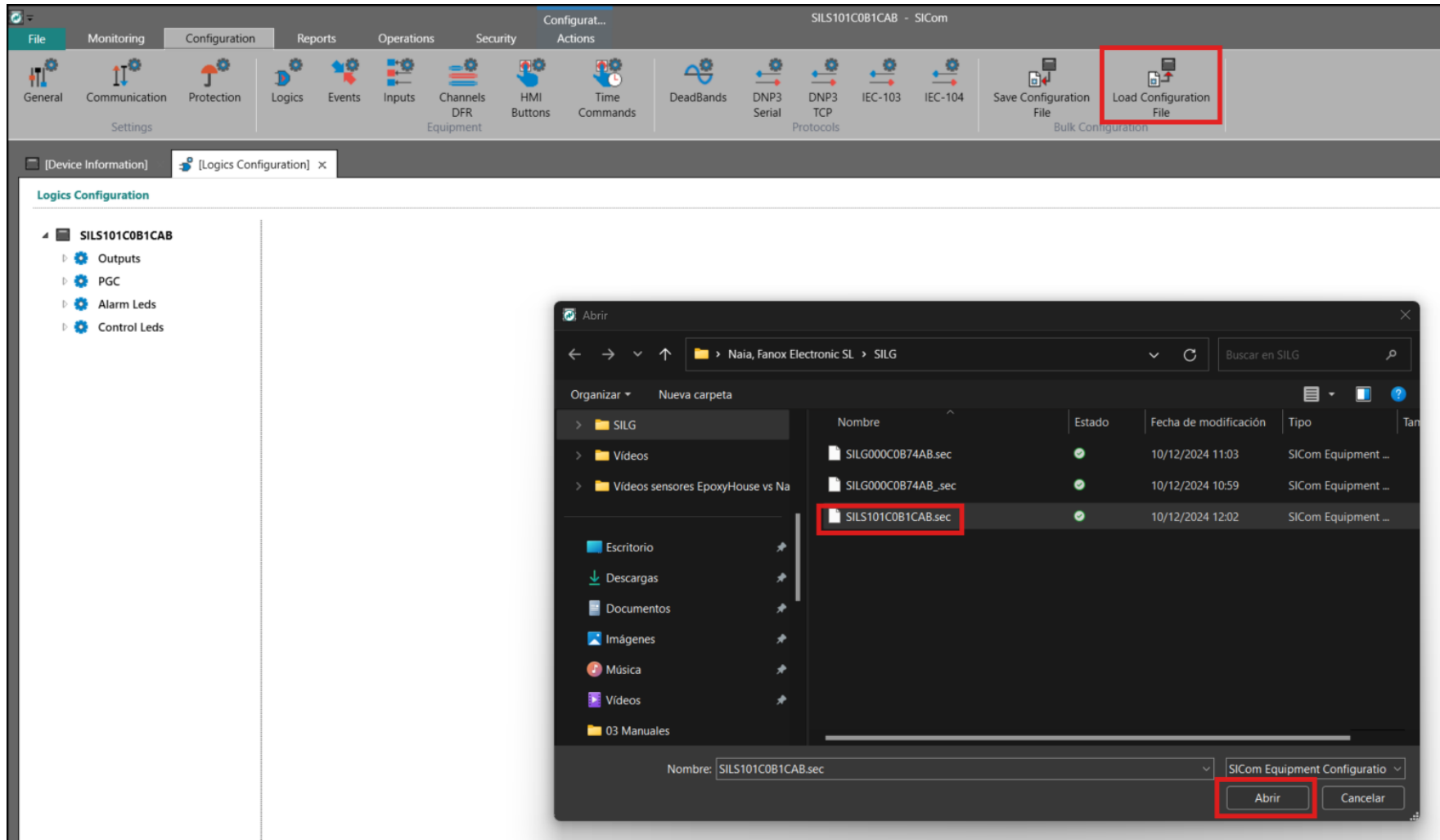


The following message will pop to indicate that the whole configuration has been successfully saved:

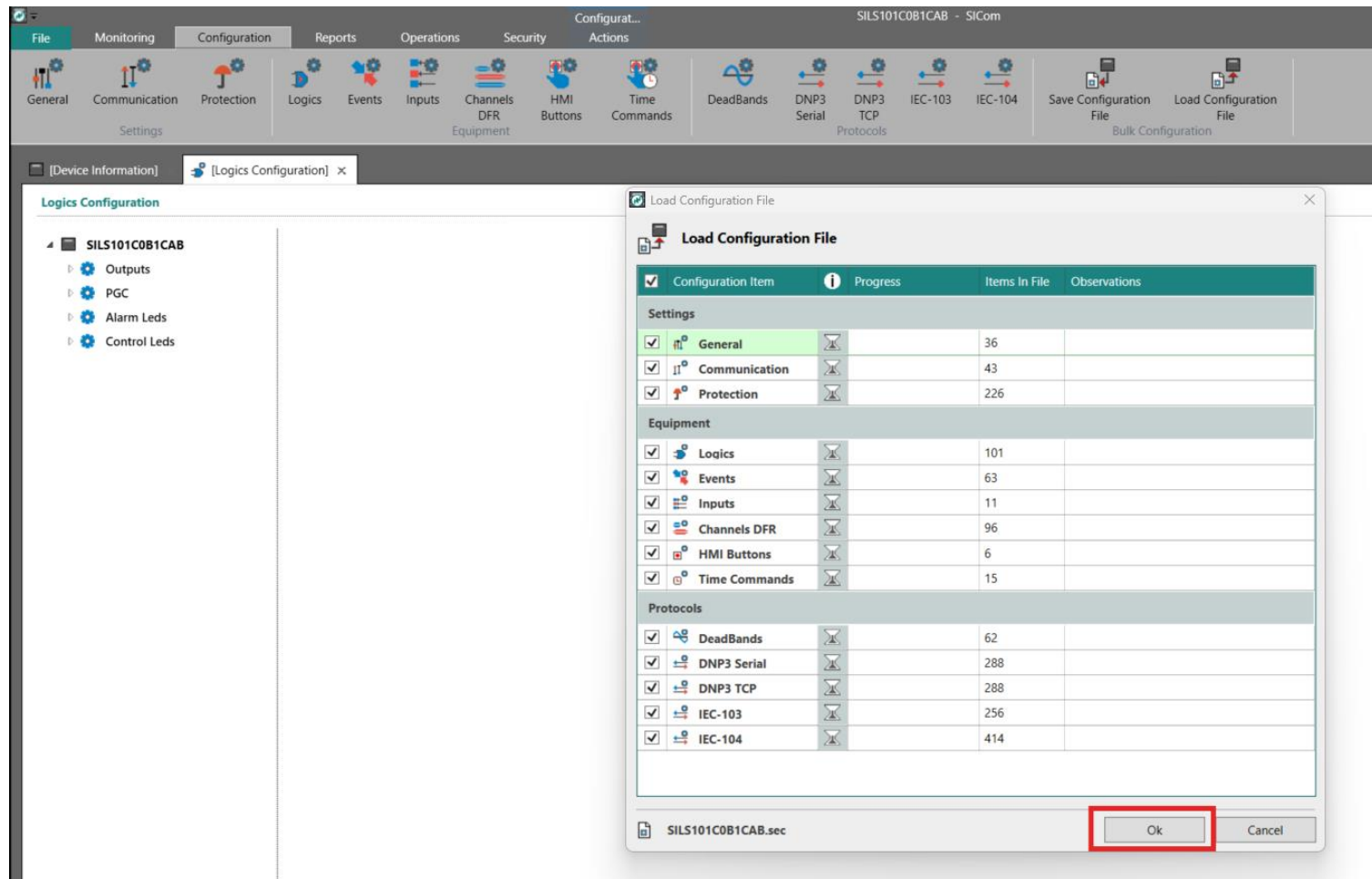


7.8.2. Load configuration files

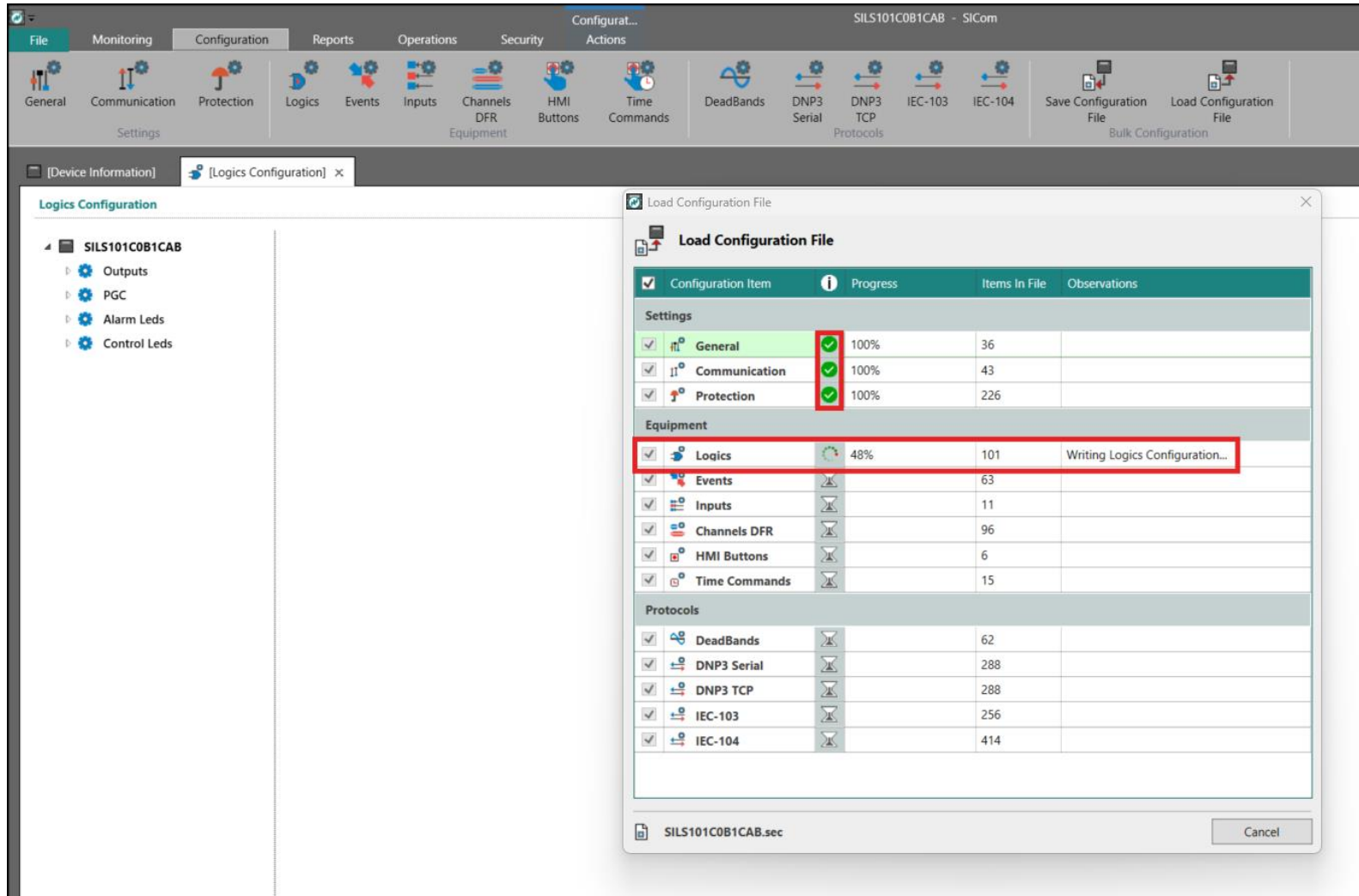
To load the complete configuration file, press “Load Configuration File”. The following screen will appear, where the desired file to load can be selected:



When “Open” is pressed, a new window appears where it is possible to choose which configuration items (previously saved) want to be loaded. This is done by selecting them in the first column.



Once “OK” is pressed, the items are loaded one by one. This process will take some time.

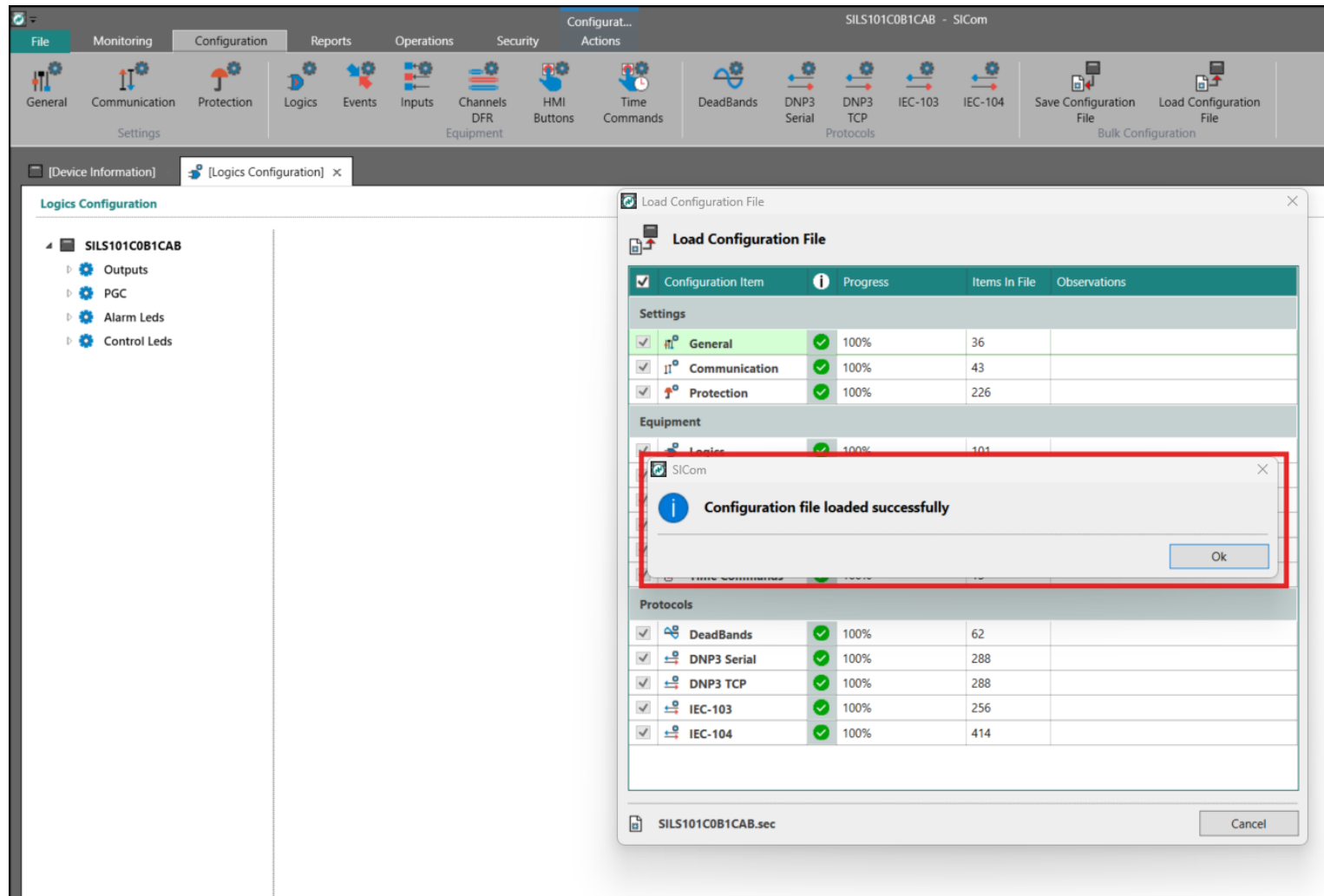


The screenshot displays the FANOX configuration interface. The main window shows the 'Logics Configuration' tab for device 'SILS101C0B1CAB'. A 'Load Configuration File' dialog box is open, showing a table of configuration items and their loading progress.

Configuration Item	Progress	Items In File	Observations
Settings			
General	100%	36	
Communication	100%	43	
Protection	100%	226	
Equipment			
Logics	48%	101	Writing Logics Configuration...
Events		63	
Inputs		11	
Channels DFR		96	
HMI Buttons		6	
Time Commands		15	
Protocols			
DeadBands		62	
DNP3 Serial		288	
DNP3 TCP		288	
IEC-103		256	
IEC-104		414	

The dialog box also shows the file name 'SILS101C0B1CAB.sec' and a 'Cancel' button.

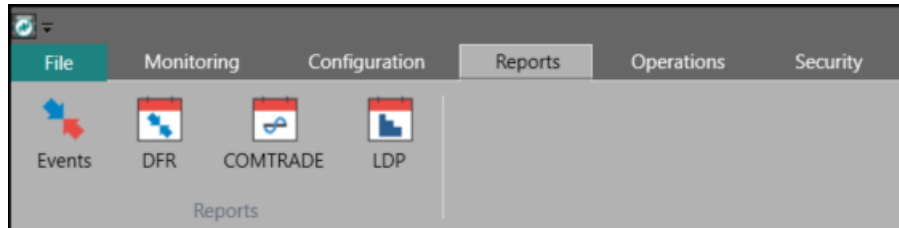
Once the whole configuration has been loaded correctly, the following message will appear:



To check the loaded configuration, open the desired configuration tabs.

8. REPORTS MENU

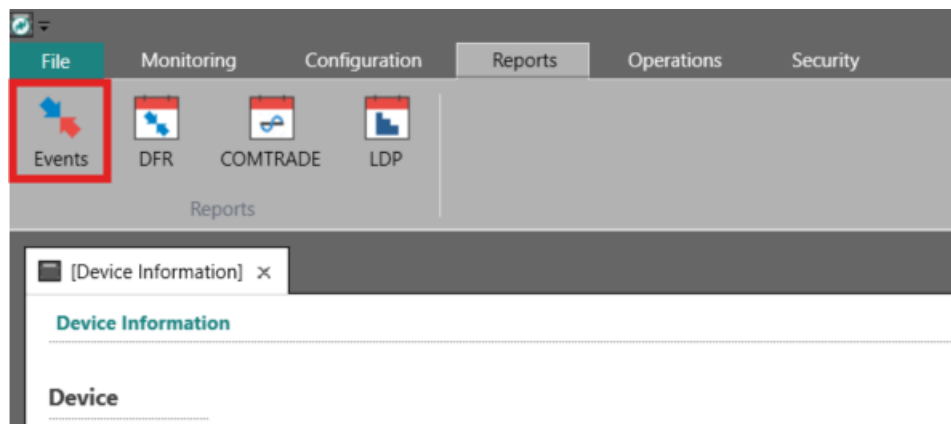
In the “Reports” menu the following tabs can be found (*):



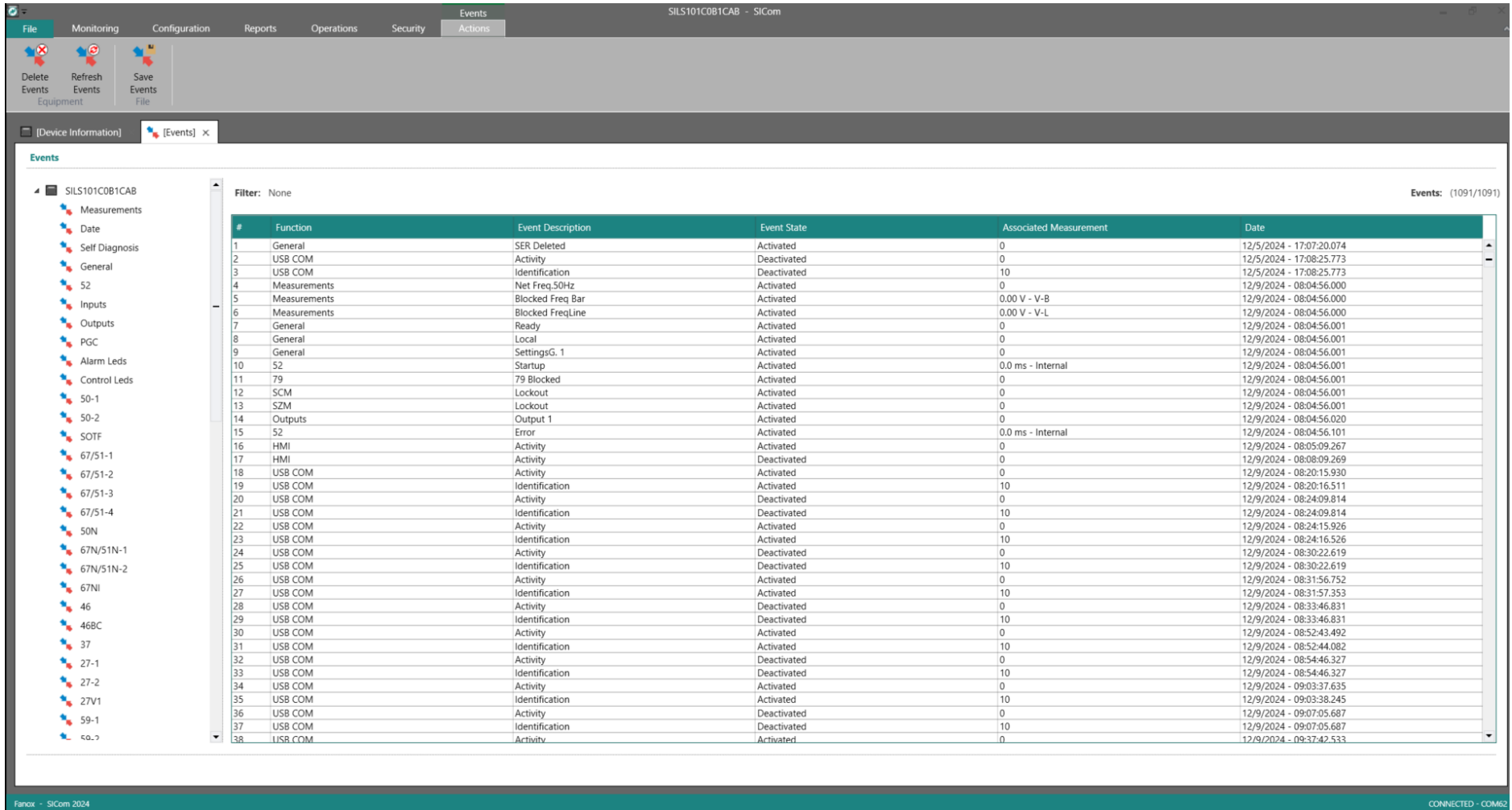
(*) Some of them depend on the model, thus they might not be available in all the relays.

8.1. EVENTS MENU

Press “Events” key in the “Reports” menu:



A window with all the events registered in the relay will be shown:



Events window for device SILS101C0B1CAB - SiCom. The table displays the following events:

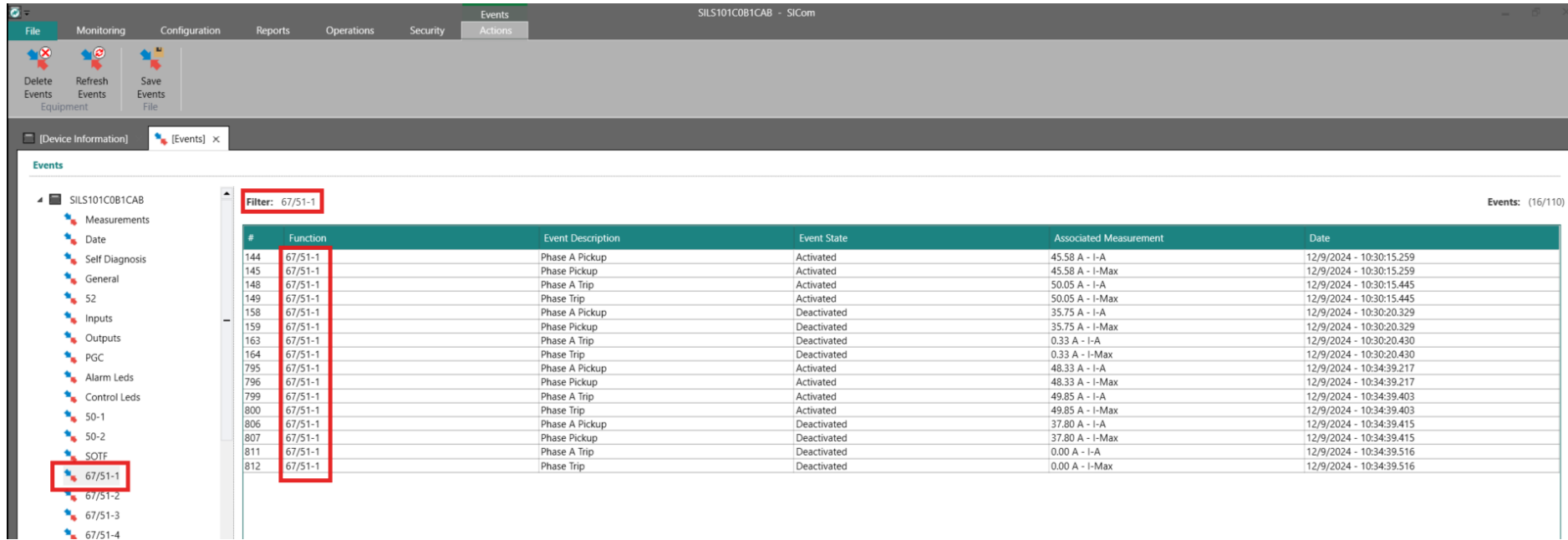
#	Function	Event Description	Event State	Associated Measurement	Date
1	General	SER Deleted	Activated	0	12/5/2024 - 17:07:20.074
2	USB COM	Activity	Deactivated	0	12/5/2024 - 17:08:25.773
3	USB COM	Identification	Deactivated	10	12/5/2024 - 17:08:25.773
4	Measurements	Net Freq 50Hz	Activated	0	12/9/2024 - 08:04:56.000
5	Measurements	Blocked Freq Bar	Activated	0.00 V - V-B	12/9/2024 - 08:04:56.000
6	Measurements	Blocked FreqLine	Activated	0.00 V - V-L	12/9/2024 - 08:04:56.000
7	General	Ready	Activated	0	12/9/2024 - 08:04:56.001
8	General	Local	Activated	0	12/9/2024 - 08:04:56.001
9	General	SettingsG. 1	Activated	0	12/9/2024 - 08:04:56.001
10	52	Startup	Activated	0.0 ms - Internal	12/9/2024 - 08:04:56.001
11	79	79 Blocked	Activated	0	12/9/2024 - 08:04:56.001
12	SCM	Lockout	Activated	0	12/9/2024 - 08:04:56.001
13	SZM	Lockout	Activated	0	12/9/2024 - 08:04:56.001
14	Outputs	Output 1	Activated	0	12/9/2024 - 08:04:56.020
15	52	Error	Activated	0.0 ms - Internal	12/9/2024 - 08:04:56.101
16	HMI	Activity	Activated	0	12/9/2024 - 08:05:09.267
17	HMI	Activity	Deactivated	0	12/9/2024 - 08:08:09.269
18	USB COM	Activity	Activated	0	12/9/2024 - 08:20:15.930
19	USB COM	Identification	Activated	10	12/9/2024 - 08:20:16.511
20	USB COM	Activity	Deactivated	0	12/9/2024 - 08:24:09.814
21	USB COM	Identification	Deactivated	10	12/9/2024 - 08:24:09.814
22	USB COM	Activity	Activated	0	12/9/2024 - 08:24:15.926
23	USB COM	Identification	Activated	10	12/9/2024 - 08:24:16.526
24	USB COM	Activity	Deactivated	0	12/9/2024 - 08:30:22.619
25	USB COM	Identification	Deactivated	10	12/9/2024 - 08:30:22.619
26	USB COM	Activity	Activated	0	12/9/2024 - 08:31:56.752
27	USB COM	Identification	Activated	10	12/9/2024 - 08:31:57.353
28	USB COM	Activity	Deactivated	0	12/9/2024 - 08:33:46.831
29	USB COM	Identification	Deactivated	10	12/9/2024 - 08:33:46.831
30	USB COM	Activity	Activated	0	12/9/2024 - 08:52:43.492
31	USB COM	Identification	Activated	10	12/9/2024 - 08:52:44.082
32	USB COM	Activity	Deactivated	0	12/9/2024 - 08:54:46.327
33	USB COM	Identification	Deactivated	10	12/9/2024 - 08:54:46.327
34	USB COM	Activity	Activated	0	12/9/2024 - 09:03:37.635
35	USB COM	Identification	Activated	10	12/9/2024 - 09:03:38.245
36	USB COM	Activity	Deactivated	0	12/9/2024 - 09:07:05.687
37	USB COM	Identification	Deactivated	10	12/9/2024 - 09:07:05.687
38	USB COM	Activity	Activated	0	12/9/2024 - 09:37:42.533



The following information is available:

- Function: The criterion that has originated the event.
- Event Description: The specific state of the criterion that has originated the event.
- Event State: If the event originated because of an activation or deactivation of the state.
- Associated Measurement: The measure at the time of the register. If this measure is registered with the corresponding unit, it will be shown as well.
- Date: Time stamp of the event.

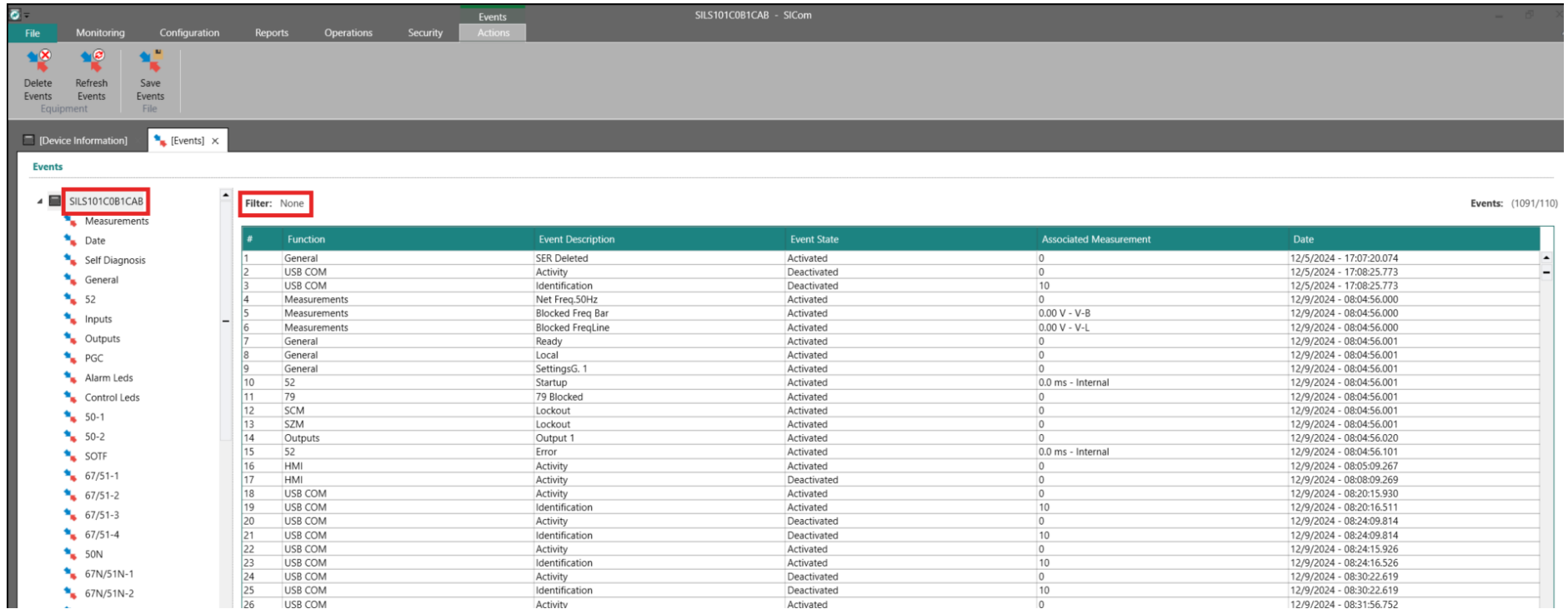
On the left of the screen all the criteria that generate events appear. Pressing one of those options, the events are filtered according to that criterion:



The screenshot shows the FANOX Events monitoring interface. The left sidebar contains a tree view of criteria, with '67/51-1' under 'SOTF' selected. The main table displays 16 filtered events for '67/51-1'. The table has columns for #, Function, Event Description, Event State, Associated Measurement, and Date. The events are listed in descending order of date.

#	Function	Event Description	Event State	Associated Measurement	Date
144	67/51-1	Phase A Pickup	Activated	45.58 A - I-A	12/9/2024 - 10:30:15.259
145	67/51-1	Phase Pickup	Activated	45.58 A - I-Max	12/9/2024 - 10:30:15.259
148	67/51-1	Phase A Trip	Activated	50.05 A - I-A	12/9/2024 - 10:30:15.445
149	67/51-1	Phase Trip	Activated	50.05 A - I-Max	12/9/2024 - 10:30:15.445
158	67/51-1	Phase A Pickup	Deactivated	35.75 A - I-A	12/9/2024 - 10:30:20.329
159	67/51-1	Phase Pickup	Deactivated	35.75 A - I-Max	12/9/2024 - 10:30:20.329
163	67/51-1	Phase A Trip	Deactivated	0.33 A - I-A	12/9/2024 - 10:30:20.430
164	67/51-1	Phase Trip	Deactivated	0.33 A - I-Max	12/9/2024 - 10:30:20.430
795	67/51-1	Phase A Pickup	Activated	48.33 A - I-A	12/9/2024 - 10:34:39.217
796	67/51-1	Phase Pickup	Activated	48.33 A - I-Max	12/9/2024 - 10:34:39.217
799	67/51-1	Phase A Trip	Activated	49.85 A - I-A	12/9/2024 - 10:34:39.403
800	67/51-1	Phase Trip	Activated	49.85 A - I-Max	12/9/2024 - 10:34:39.403
806	67/51-1	Phase A Pickup	Deactivated	37.80 A - I-A	12/9/2024 - 10:34:39.415
807	67/51-1	Phase Pickup	Deactivated	37.80 A - I-Max	12/9/2024 - 10:34:39.415
811	67/51-1	Phase A Trip	Deactivated	0.00 A - I-A	12/9/2024 - 10:34:39.516
812	67/51-1	Phase Trip	Deactivated	0.00 A - I-Max	12/9/2024 - 10:34:39.516

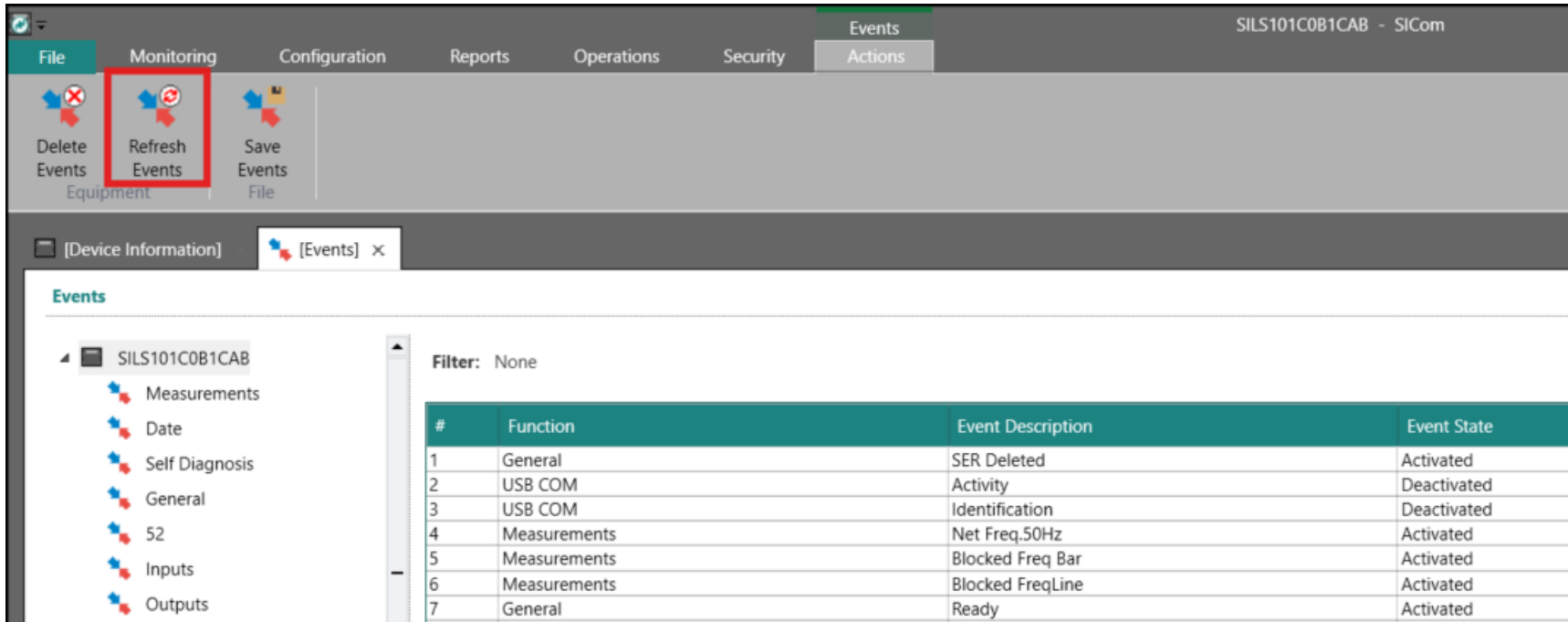
To return to all the events, press the complete model on the left of the screen:



The screenshot shows the FANOX software interface with the 'Events' tab selected. The left sidebar displays a tree view of the device structure, with 'SILS101C081CAB' highlighted. The main area shows a table of events with the following columns: #, Function, Event Description, Event State, Associated Measurement, and Date. The table contains 26 rows of event data.

#	Function	Event Description	Event State	Associated Measurement	Date
1	General	SER Deleted	Activated	0	12/5/2024 - 17:07:20.074
2	USB COM	Activity	Deactivated	0	12/5/2024 - 17:08:25.773
3	USB COM	Identification	Deactivated	10	12/5/2024 - 17:08:25.773
4	Measurements	Net Freq.50Hz	Activated	0	12/9/2024 - 08:04:56.000
5	Measurements	Blocked Freq Bar	Activated	0.00 V - V-B	12/9/2024 - 08:04:56.000
6	Measurements	Blocked FreqLine	Activated	0.00 V - V-L	12/9/2024 - 08:04:56.000
7	General	Ready	Activated	0	12/9/2024 - 08:04:56.001
8	General	Local	Activated	0	12/9/2024 - 08:04:56.001
9	General	SettingsG. 1	Activated	0	12/9/2024 - 08:04:56.001
10	52	Startup	Activated	0.0 ms - Internal	12/9/2024 - 08:04:56.001
11	79	79 Blocked	Activated	0	12/9/2024 - 08:04:56.001
12	SCM	Lockout	Activated	0	12/9/2024 - 08:04:56.001
13	SZM	Lockout	Activated	0	12/9/2024 - 08:04:56.001
14	Outputs	Output 1	Activated	0	12/9/2024 - 08:04:56.020
15	52	Error	Activated	0.0 ms - Internal	12/9/2024 - 08:04:56.101
16	HMI	Activity	Activated	0	12/9/2024 - 08:05:09.267
17	HMI	Activity	Deactivated	0	12/9/2024 - 08:08:09.269
18	USB COM	Activity	Activated	0	12/9/2024 - 08:20:15.930
19	USB COM	Identification	Activated	10	12/9/2024 - 08:20:16.511
20	USB COM	Activity	Deactivated	0	12/9/2024 - 08:24:09.814
21	USB COM	Identification	Deactivated	10	12/9/2024 - 08:24:09.814
22	USB COM	Activity	Activated	0	12/9/2024 - 08:24:15.926
23	USB COM	Identification	Activated	10	12/9/2024 - 08:24:16.526
24	USB COM	Activity	Deactivated	0	12/9/2024 - 08:30:22.619
25	USB COM	Identification	Deactivated	10	12/9/2024 - 08:30:22.619
26	USB COM	Activ	Activated	0	12/9/2024 - 08:31:56.752

While the events menu is open, if new events are generated in the relay, press “Refresh Events” key to visualize them:

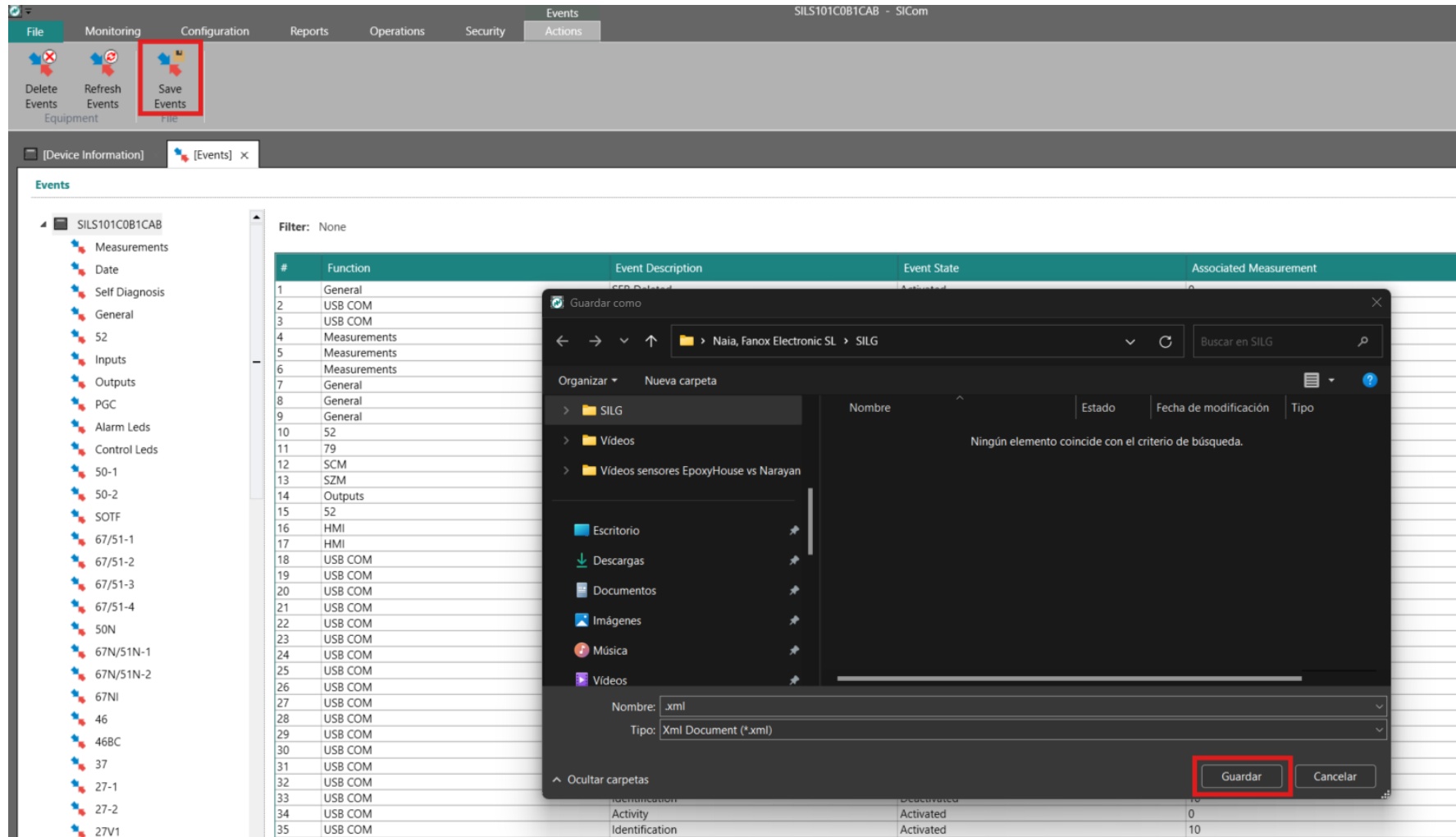


The screenshot shows the FANOX software interface with the 'Events' menu open. The 'Refresh Events' button is highlighted with a red box. Below the menu, the 'Events' section displays a list of events for device SILS101C0B1CAB. The events are listed in a table with columns: #, Function, Event Description, and Event State.

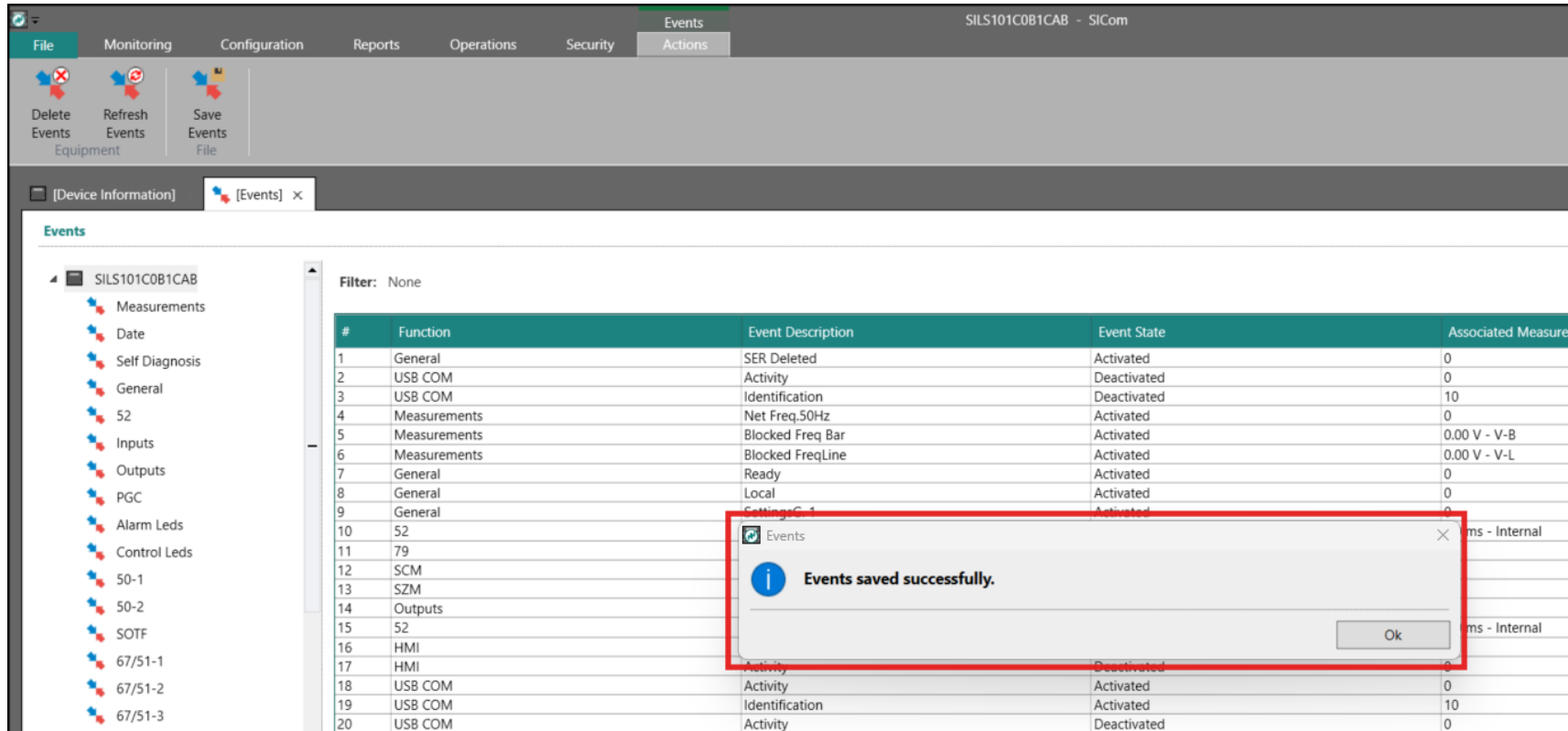
#	Function	Event Description	Event State
1	General	SER Deleted	Activated
2	USB COM	Activity	Deactivated
3	USB COM	Identification	Deactivated
4	Measurements	Net Freq.50Hz	Activated
5	Measurements	Blocked Freq Bar	Activated
6	Measurements	Blocked FreqLine	Activated
7	General	Ready	Activated

8.1.1. How to save the events

To save the events, press “Save Events” key. A window will be opened to choose the name of the file and the desired location:



To finalize the action, a message informing that the events have been saved will be shown on the screen:



The screenshot shows the FANOX software interface with the 'Events' window open. The window displays a table of events for device 'SILS101COB1CAB'. A message dialog box is overlaid on the table, indicating that the events have been saved successfully.

Events Window:

- Filter:** None
- Table:**

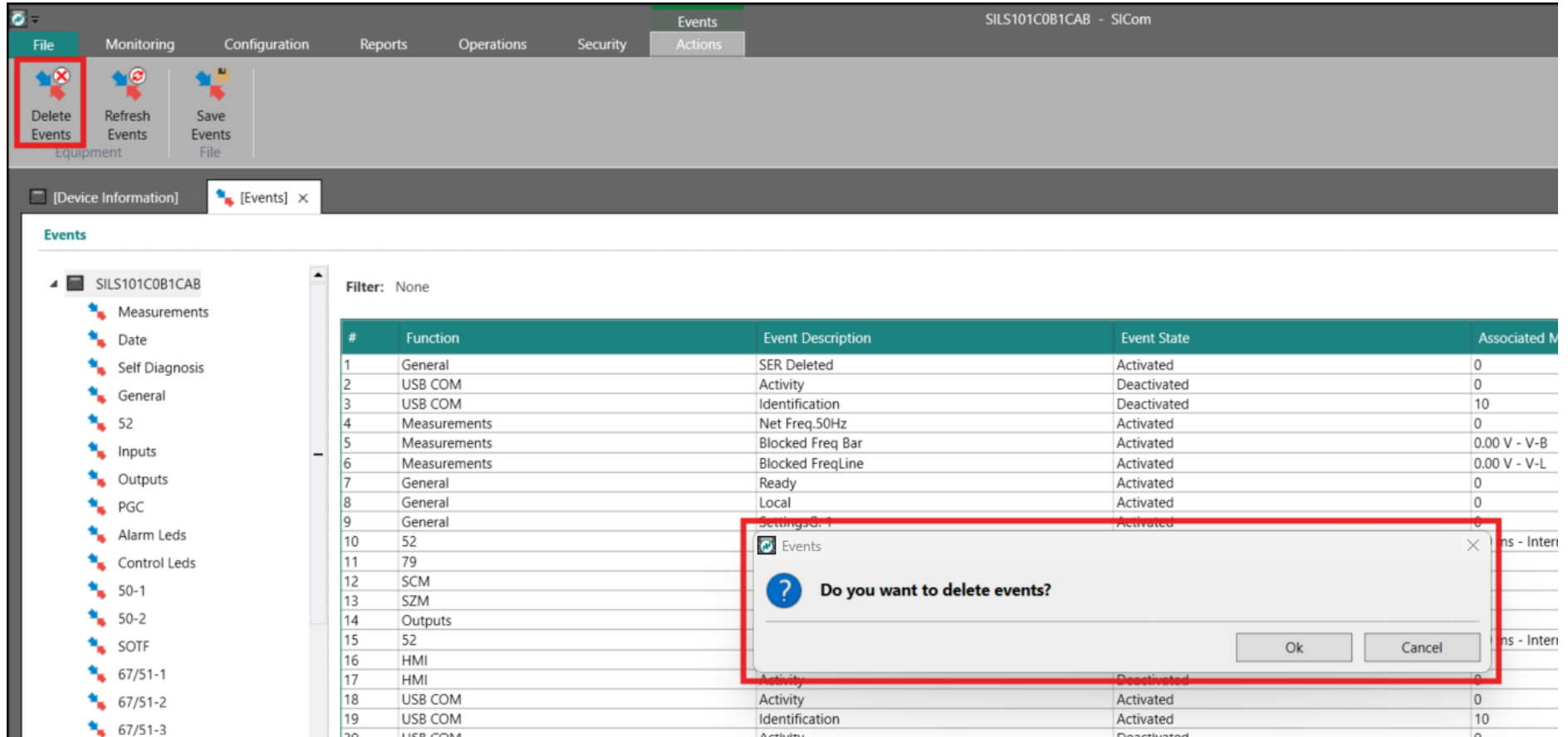
#	Function	Event Description	Event State	Associated Measure
1	General	SER Deleted	Activated	0
2	USB COM	Activity	Deactivated	0
3	USB COM	Identification	Deactivated	10
4	Measurements	Net Freq.50Hz	Activated	0
5	Measurements	Blocked Freq Bar	Activated	0.00 V - V-B
6	Measurements	Blocked FreqLine	Activated	0.00 V - V-L
7	General	Ready	Activated	0
8	General	Local	Activated	0
9	General	SettingsG-1	Activated	0
10	52			
11	79			
12	SCM			
13	SZM			
14	Outputs			
15	52			
16	HMI			
17	HMI			
18	USB COM	Activity	Deactivated	0
19	USB COM	Activity	Activated	0
20	USB COM	Identification	Activated	10
21	USB COM	Activity	Deactivated	0

Message Dialog:

- Icon:** Information (i)
- Text:** Events saved successfully.
- Button:** Ok

8.1.2. How to delete the events

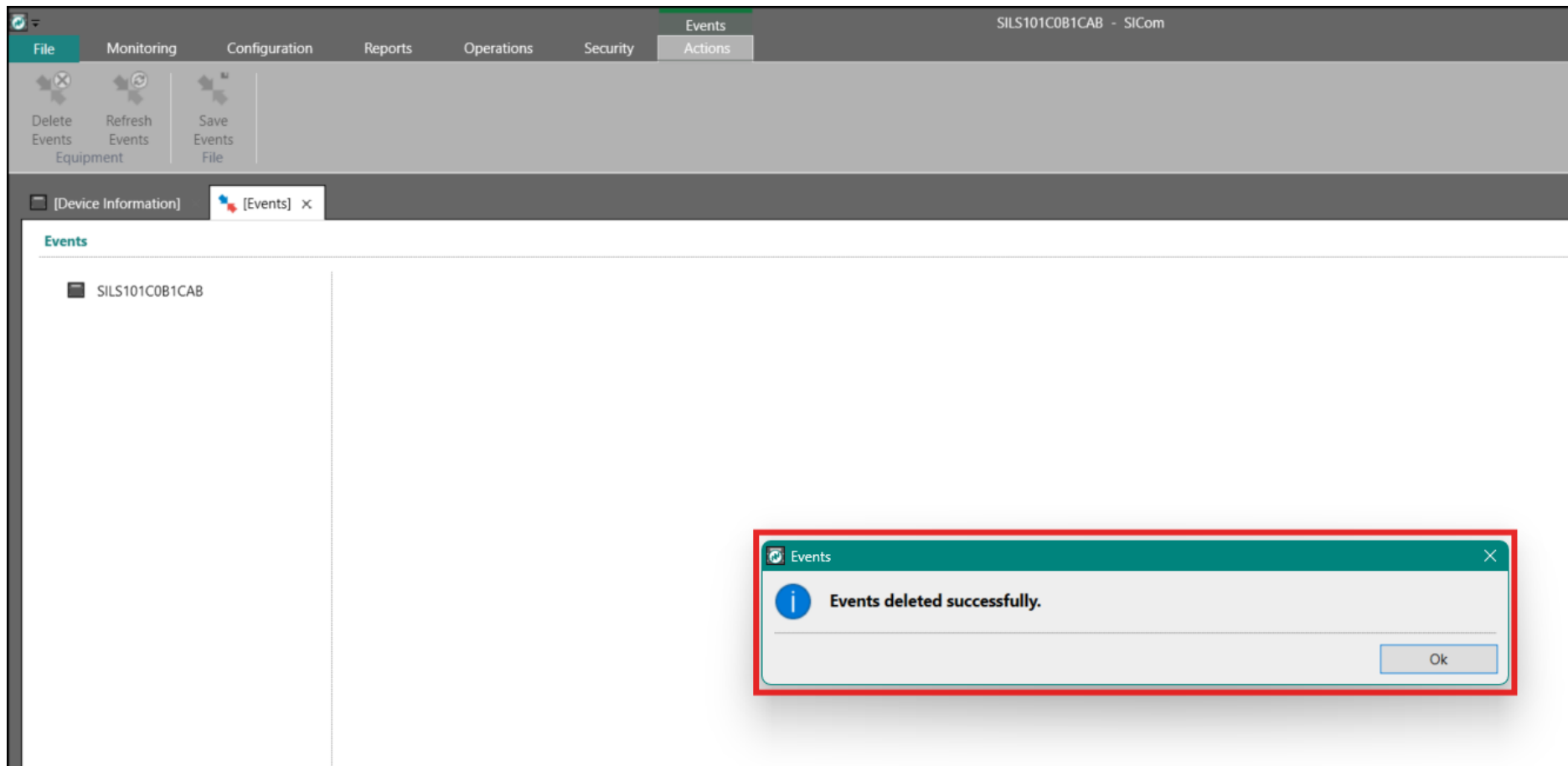
To delete the events of the relay, press “Delete Events” key. A question to confirm the erasing will be shown:



The screenshot shows the FANOX software interface with the 'Events' tab selected. The top toolbar contains buttons for 'Delete Events', 'Refresh Events', and 'Save Events'. The 'Delete Events' button is highlighted with a red box. Below the toolbar, the 'Events' section is visible, showing a list of events for device 'SILS101C0B1CAB'. A confirmation dialog box is displayed in the foreground, asking 'Do you want to delete events?' with 'Ok' and 'Cancel' buttons. The dialog box is also highlighted with a red box.

#	Function	Event Description	Event State	Associated M
1	General	SER Deleted	Activated	0
2	USB COM	Activity	Deactivated	0
3	USB COM	Identification	Deactivated	10
4	Measurements	Net Freq,50Hz	Activated	0
5	Measurements	Blocked Freq Bar	Activated	0.00 V - V-B
6	Measurements	Blocked FreqLine	Activated	0.00 V - V-L
7	General	Ready	Activated	0
8	General	Local	Activated	0
9	General	SettingsG. 1	Activated	0
10	52			
11	79			
12	SCM			
13	SZM			
14	Outputs			
15	52			
16	HMI			
17	HMI			
18	USB COM	Activity	Activated	0
19	USB COM	Identification	Activated	10
20	USB COM	Activity	Deactivated	0

If “OK” option is pressed the events will be erased in the relay and a message confirming it will appear on the screen:



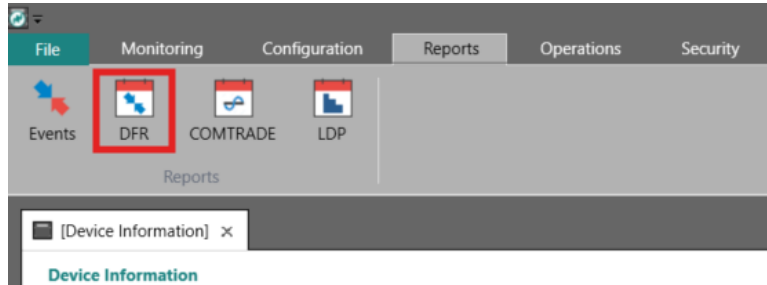
After this operation, only one event will be registered, this is, "SER Deleted" (events deleted).

The screenshot shows the FANOX SICom interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Events. The Events menu is active, showing a toolbar with Delete Events, Refresh Events, and Save Events. The main area displays a tree view on the left with 'SILS101C0B1CAB' expanded, showing sub-items like Measurements, Date, Self Diagnosis, and General. The right pane displays a table of events with one entry: 'SER Deleted'.

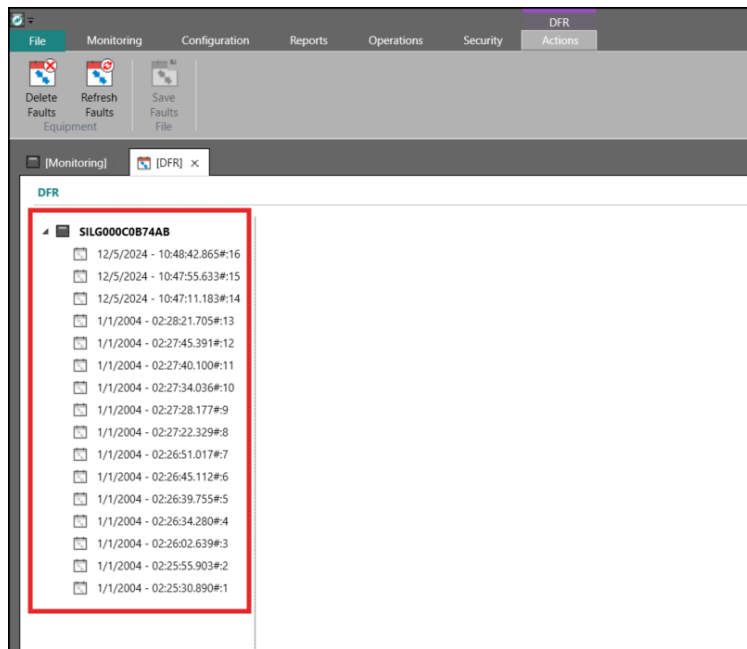
#	Function	Event Description	Event State	Associated Measurement	Date
1	General	SER Deleted	Activated	0	12/10/2024 - 12:28:09.547

8.2. FAULT REPORTS MENU

Press “Faults” option in the “Reports” tab:

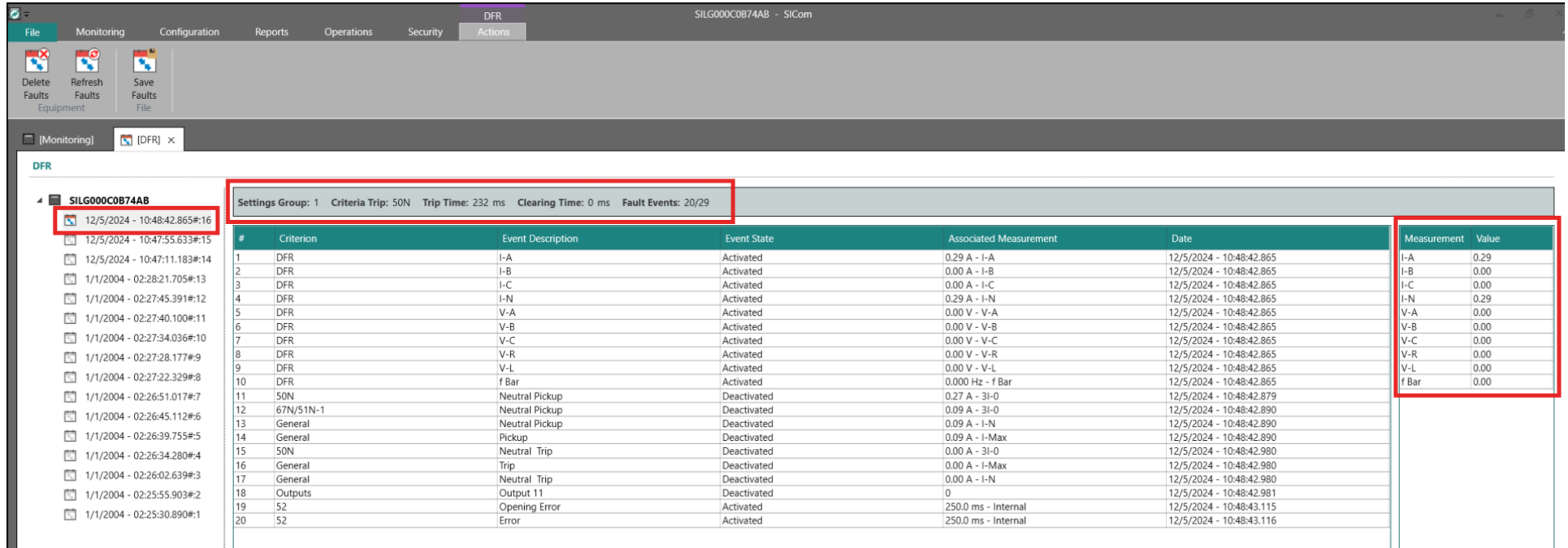


The following screen will open, with all the faults registered on the relay on the left:



If a fault report is selected, the events related to it will be displayed.

The same information as in “events” section can be checked, but in this case, there is also a heading to describe the fault and a record of the main measurements on the right of the screen.

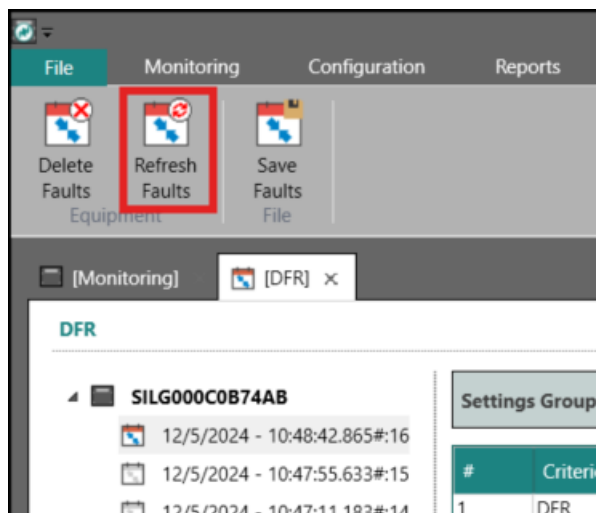


Settings Group: 1 Criteria Trip: 50N Trip Time: 232 ms Clearing Time: 0 ms Fault Events: 20/29

#	Criterion	Event Description	Event State	Associated Measurement	Date
1	DFR	I-A	Activated	0.29 A - I-A	12/5/2024 - 10:48:42.865
2	DFR	I-B	Activated	0.00 A - I-B	12/5/2024 - 10:48:42.865
3	DFR	I-C	Activated	0.00 A - I-C	12/5/2024 - 10:48:42.865
4	DFR	I-N	Activated	0.29 A - I-N	12/5/2024 - 10:48:42.865
5	DFR	V-A	Activated	0.00 V - V-A	12/5/2024 - 10:48:42.865
6	DFR	V-B	Activated	0.00 V - V-B	12/5/2024 - 10:48:42.865
7	DFR	V-C	Activated	0.00 V - V-C	12/5/2024 - 10:48:42.865
8	DFR	V-R	Activated	0.00 V - V-R	12/5/2024 - 10:48:42.865
9	DFR	V-L	Activated	0.00 V - V-L	12/5/2024 - 10:48:42.865
10	DFR	f Bar	Activated	0.000 Hz - f Bar	12/5/2024 - 10:48:42.865
11	50N	Neutral Pickup	Deactivated	0.27 A - 3I-0	12/5/2024 - 10:48:42.879
12	67N/51N-1	Neutral Pickup	Deactivated	0.09 A - 3I-0	12/5/2024 - 10:48:42.890
13	General	Neutral Pickup	Deactivated	0.09 A - I-N	12/5/2024 - 10:48:42.890
14	General	Pickup	Deactivated	0.09 A - I-Max	12/5/2024 - 10:48:42.890
15	50N	Neutral Trip	Deactivated	0.00 A - 3I-0	12/5/2024 - 10:48:42.980
16	General	Trip	Deactivated	0.00 A - I-Max	12/5/2024 - 10:48:42.980
17	General	Neutral Trip	Deactivated	0.00 A - I-N	12/5/2024 - 10:48:42.980
18	Outputs	Output 11	Deactivated	0	12/5/2024 - 10:48:42.981
19	52	Opening Error	Activated	250.0 ms - Internal	12/5/2024 - 10:48:43.115
20	52	Error	Activated	250.0 ms - Internal	12/5/2024 - 10:48:43.116

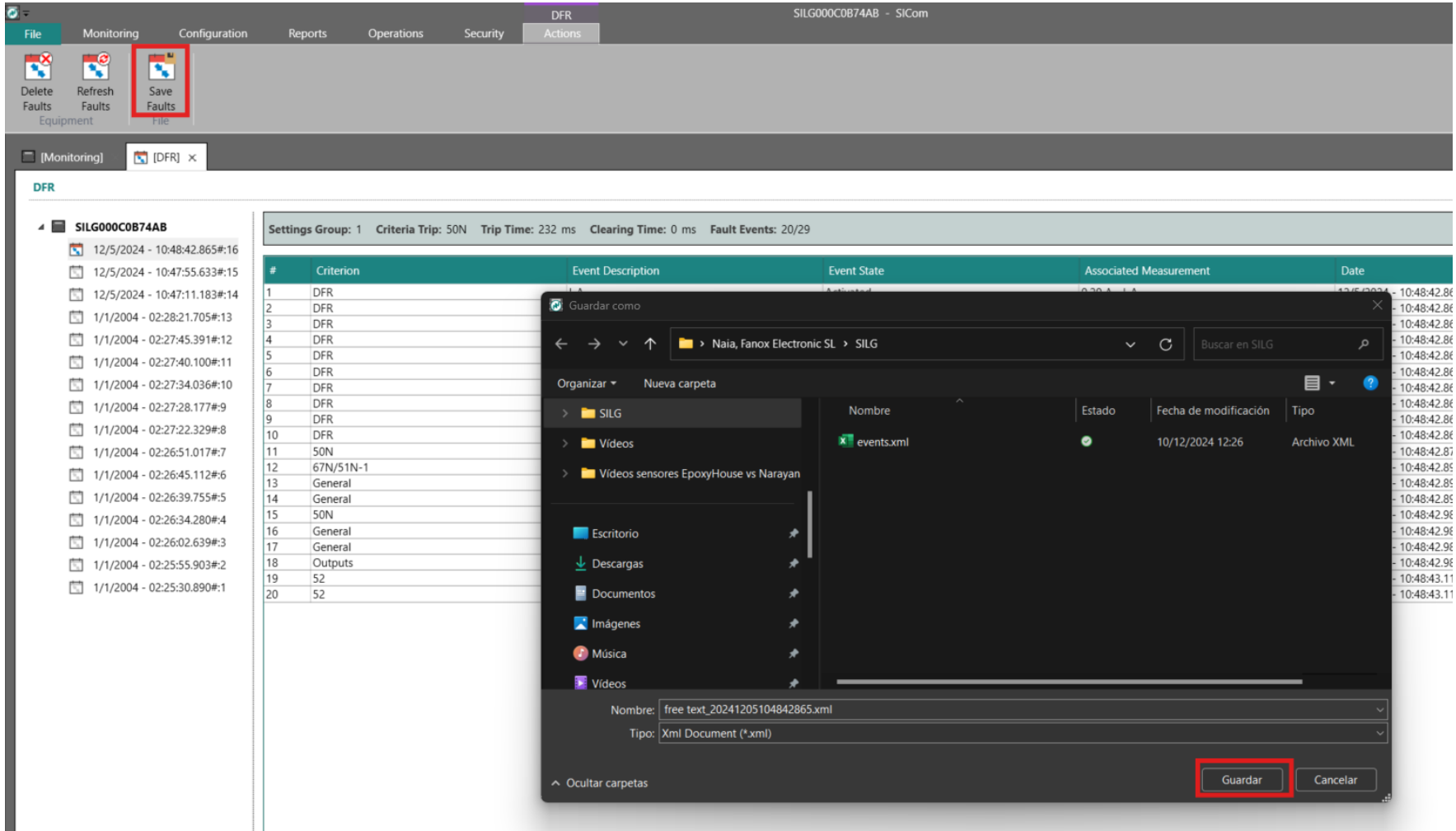
Measurement	Value
I-A	0.29
I-B	0.00
I-C	0.00
I-N	0.29
V-A	0.00
V-B	0.00
V-C	0.00
V-R	0.00
V-L	0.00
f Bar	0.00

If the “faults” menu is open and a new fault report is generated in the relay, press “Refresh Faults” key to visualize it:



8.2.1. How to save a fault report

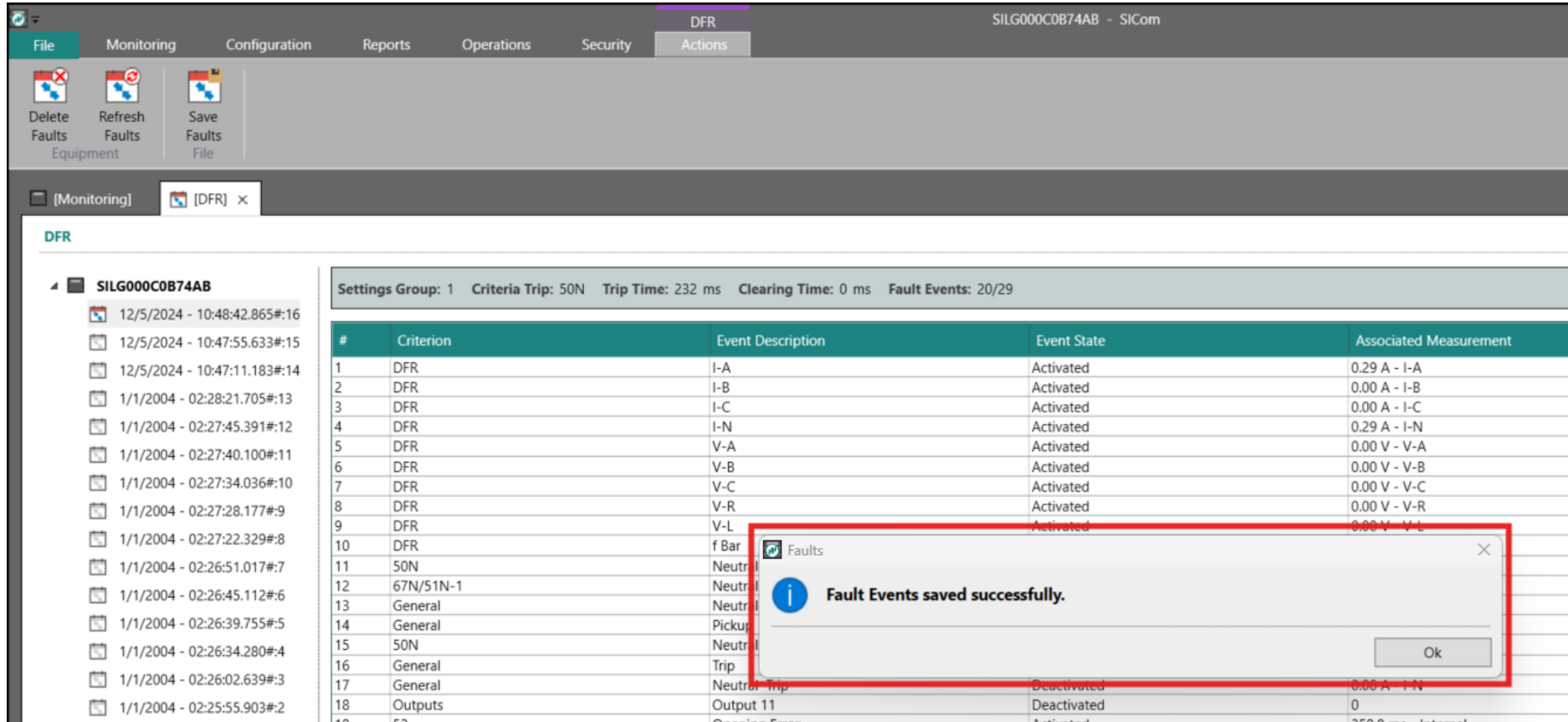
To save the events, press “Save Events” key. A window will be opened to choose the name of the file and the desired location:



The screenshot shows the FANOX software interface with the 'File' menu open. The 'Save Faults' option is highlighted. A file explorer window is open, showing the 'Naia, Fanox Electronic SL > SILG' directory. The file 'events.xml' is selected. The 'Guardar como' (Save As) dialog is open, showing the file name 'free text_20241205104842865.xml' and the file type 'Xml Document (*.xml)'. The 'Guardar' (Save) button is highlighted.

#	Criterion	Event Description	Event State	Associated Measurement	Date
1	DFR				12/5/2024 - 10:48:42.865#16
2	DFR				12/5/2024 - 10:47:55.633#15
3	DFR				12/5/2024 - 10:47:11.183#14
4	DFR				1/1/2004 - 02:28:21.705#13
5	DFR				1/1/2004 - 02:27:45.391#12
6	DFR				1/1/2004 - 02:27:40.100#11
7	DFR				1/1/2004 - 02:27:34.036#10
8	DFR				1/1/2004 - 02:27:28.177#9
9	DFR				1/1/2004 - 02:27:22.329#8
10	DFR				1/1/2004 - 02:26:51.017#7
11	50N				1/1/2004 - 02:26:45.112#6
12	67N/51N-1				1/1/2004 - 02:26:39.755#5
13	General				1/1/2004 - 02:26:34.280#4
14	General				1/1/2004 - 02:26:02.639#3
15	50N				1/1/2004 - 02:25:55.903#2
16	General				1/1/2004 - 02:25:30.890#1
17	Outputs				
18	52				
19	52				
20					

To finalize the action, a message informing that the events have been saved will be shown on the screen:



DFR

SILG000C0B74AB

Settings Group: 1 Criteria Trip: 50N Trip Time: 232 ms Clearing Time: 0 ms Fault Events: 20/29

#	Criterion	Event Description	Event State	Associated Measurement
1	DFR	I-A	Activated	0.29 A - I-A
2	DFR	I-B	Activated	0.00 A - I-B
3	DFR	I-C	Activated	0.00 A - I-C
4	DFR	I-N	Activated	0.29 A - I-N
5	DFR	V-A	Activated	0.00 V - V-A
6	DFR	V-B	Activated	0.00 V - V-B
7	DFR	V-C	Activated	0.00 V - V-C
8	DFR	V-R	Activated	0.00 V - V-R
9	DFR	V-L	Activated	0.00 V - V-L
10	DFR	f Bar	Activated	0.00 V - V-L
11	50N	Neutr		
12	67N/51N-1	Neutr		
13	General	Neutr		
14	General	Pickup		
15	50N	Neutr		
16	General	Trip		
17	General	Neutral Trip	Deactivated	0.00 A - I-N
18	Outputs	Output 11	Deactivated	0

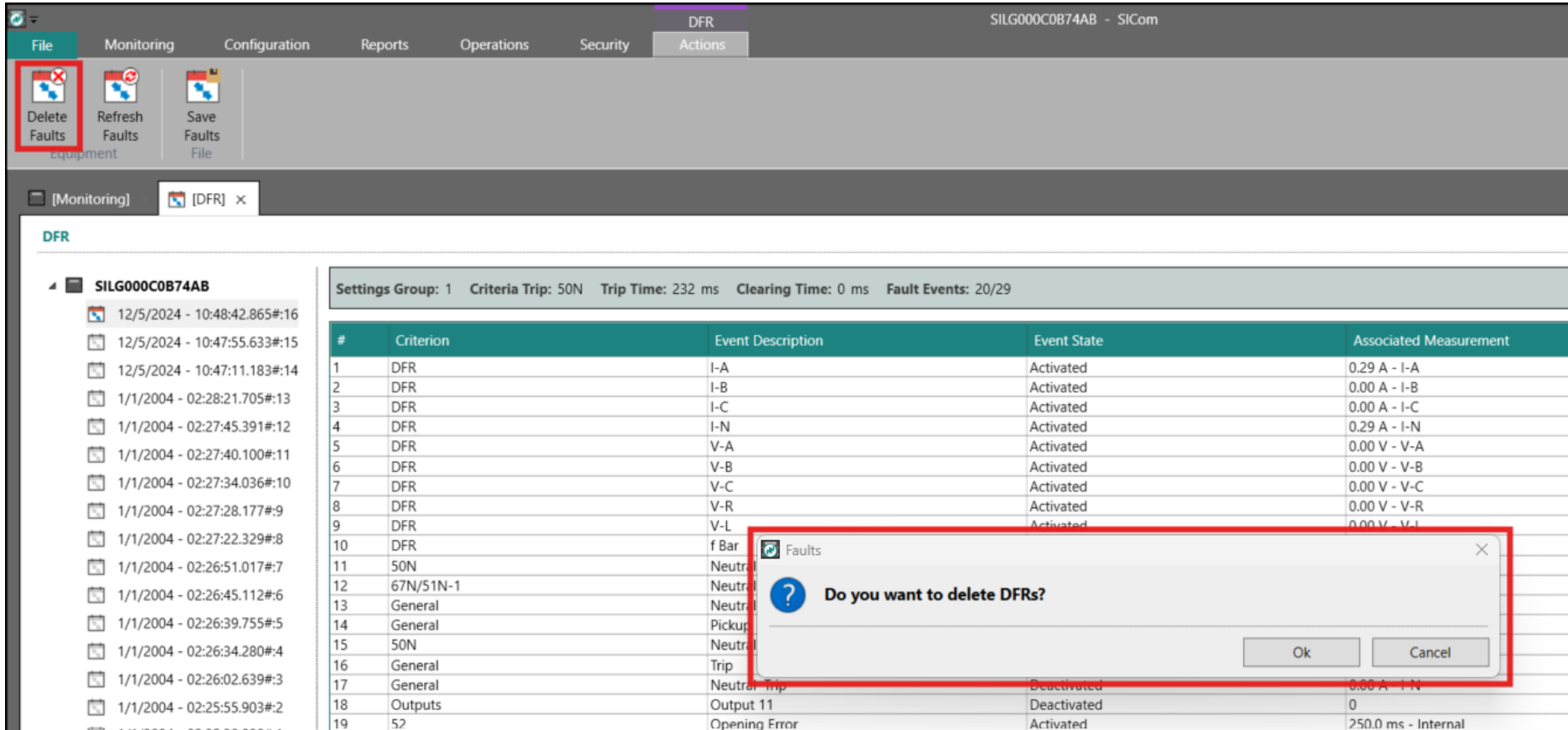
Faults

Fault Events saved successfully.

Ok

8.2.2. How to delete the fault report

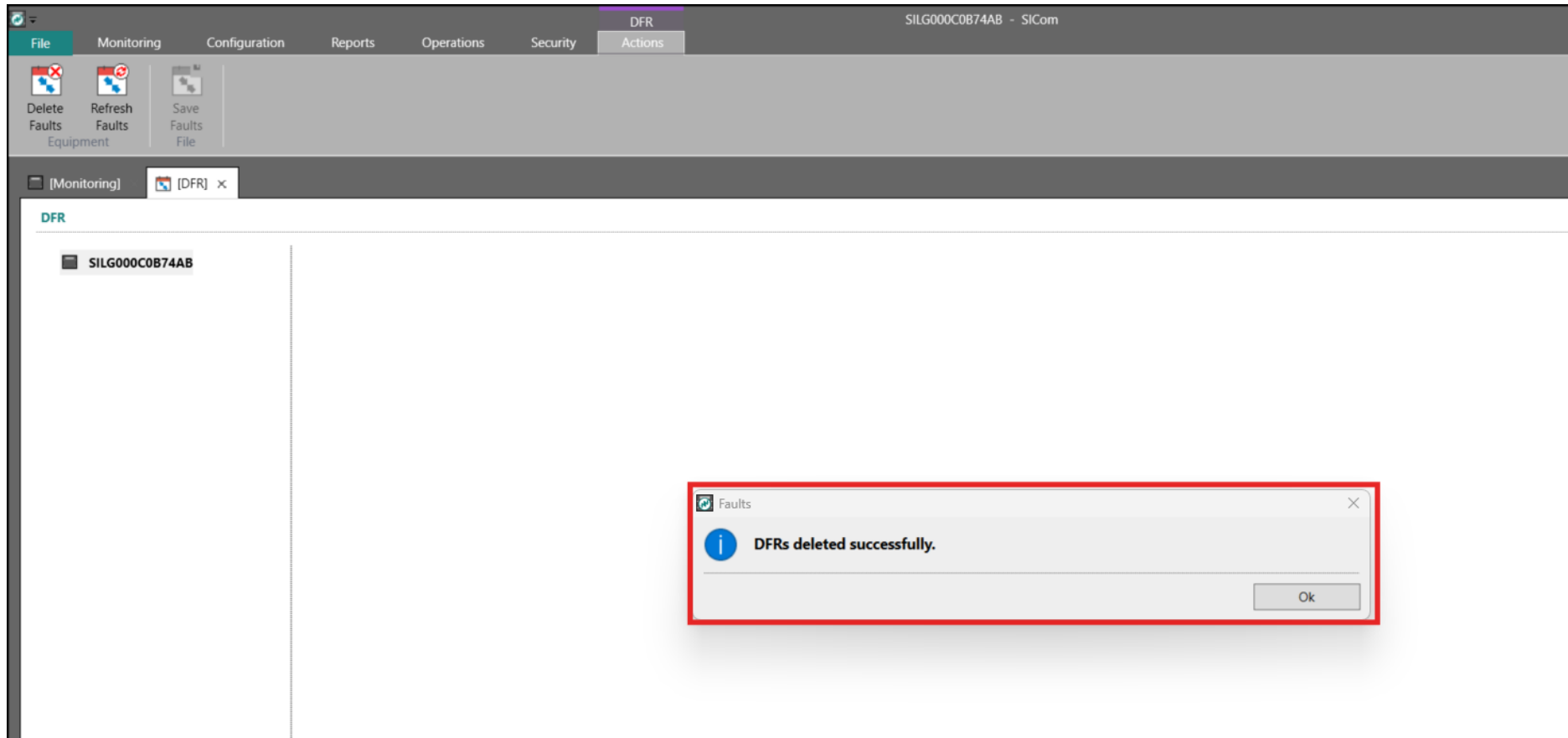
To delete the fault reports of the relay, press “Delete Faults” key. A question to confirm the erasing will be shown:



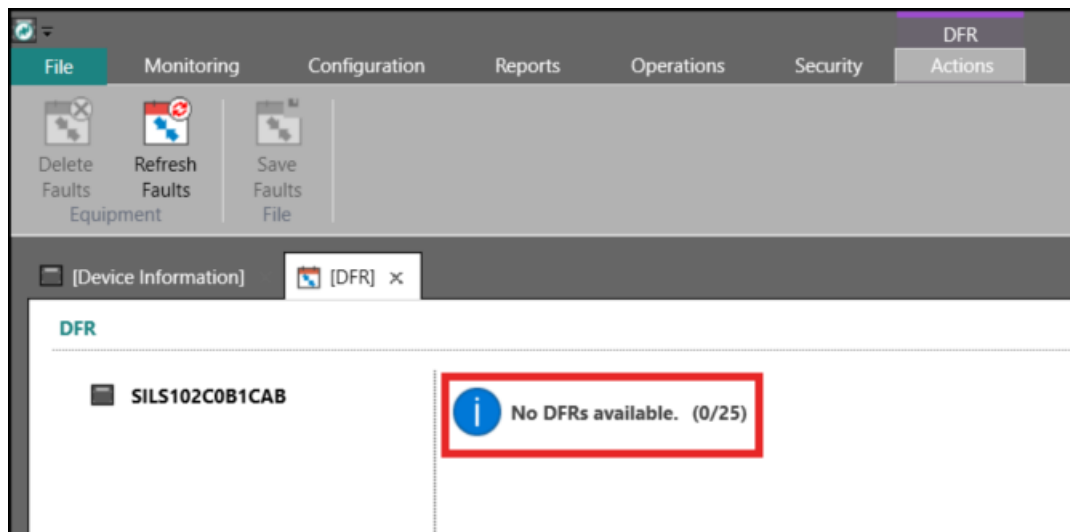
The screenshot displays the FANOX software interface for the device SILG000C0B74AB. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and DFR. The DFR menu is active, showing options: Delete Faults, Refresh Faults, and Save Faults. The 'Delete Faults' button is highlighted with a red box. Below the menu, the DFR section is visible, showing a list of fault events on the left and a detailed table on the right. A confirmation dialog box is overlaid on the table, asking 'Do you want to delete DFRs?' with 'Ok' and 'Cancel' buttons. The dialog box is also highlighted with a red box.

#	Criterion	Event Description	Event State	Associated Measurement
1	DFR	I-A	Activated	0.29 A - I-A
2	DFR	I-B	Activated	0.00 A - I-B
3	DFR	I-C	Activated	0.00 A - I-C
4	DFR	I-N	Activated	0.29 A - I-N
5	DFR	V-A	Activated	0.00 V - V-A
6	DFR	V-B	Activated	0.00 V - V-B
7	DFR	V-C	Activated	0.00 V - V-C
8	DFR	V-R	Activated	0.00 V - V-R
9	DFR	V-L	Activated	0.00 V - V-L
10	DFR	f Bar	Activated	0.00 V - V-L
11	50N	Neutr	Deactivated	0.00 A - I-N
12	67N/51N-1	Neutr	Deactivated	0
13	General	Neutr	Deactivated	250.0 ms - Internal
14	General	Pickup	Deactivated	
15	50N	Neutr	Deactivated	
16	General	Trip	Deactivated	
17	General	Neutr. Trip	Deactivated	
18	Outputs	Output 11	Deactivated	
19	52	Opening Error	Activated	

If “OK” option is pressed all the fault reports will be erased in the relay and a message confirming it will appear on the screen:

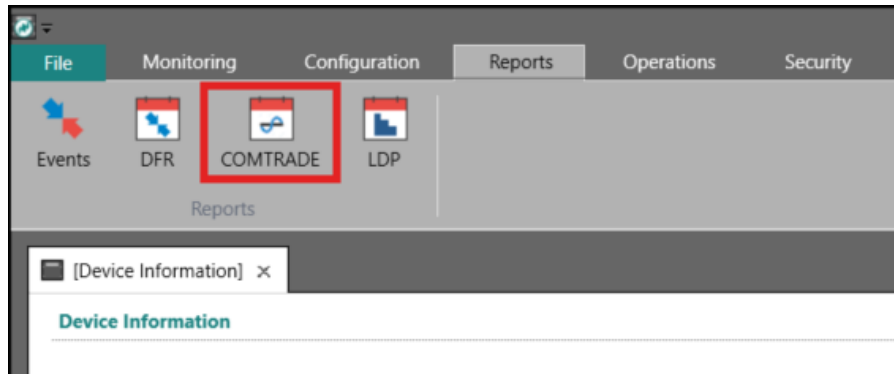


If the fault report is erased, the corresponding oscillographic record is also erased.

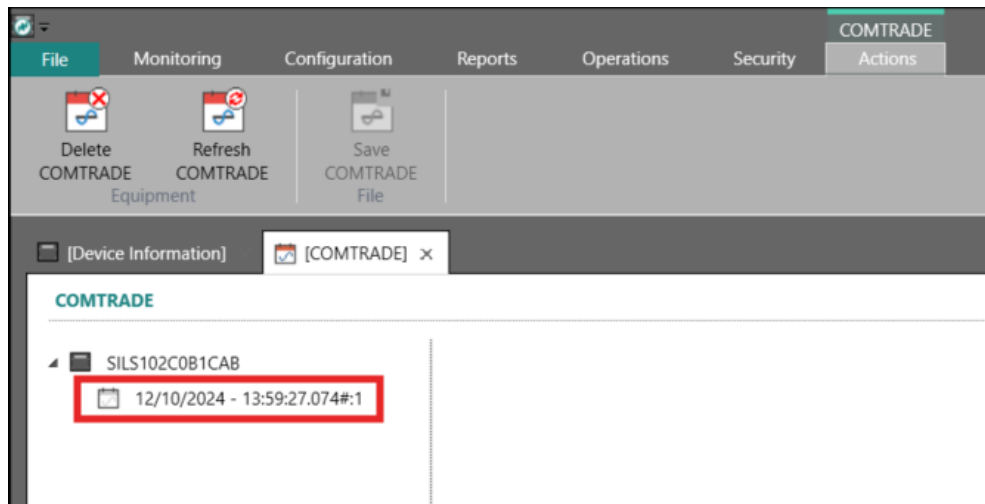


8.3. OSCILLOGRAPHIC RECORDS MENU

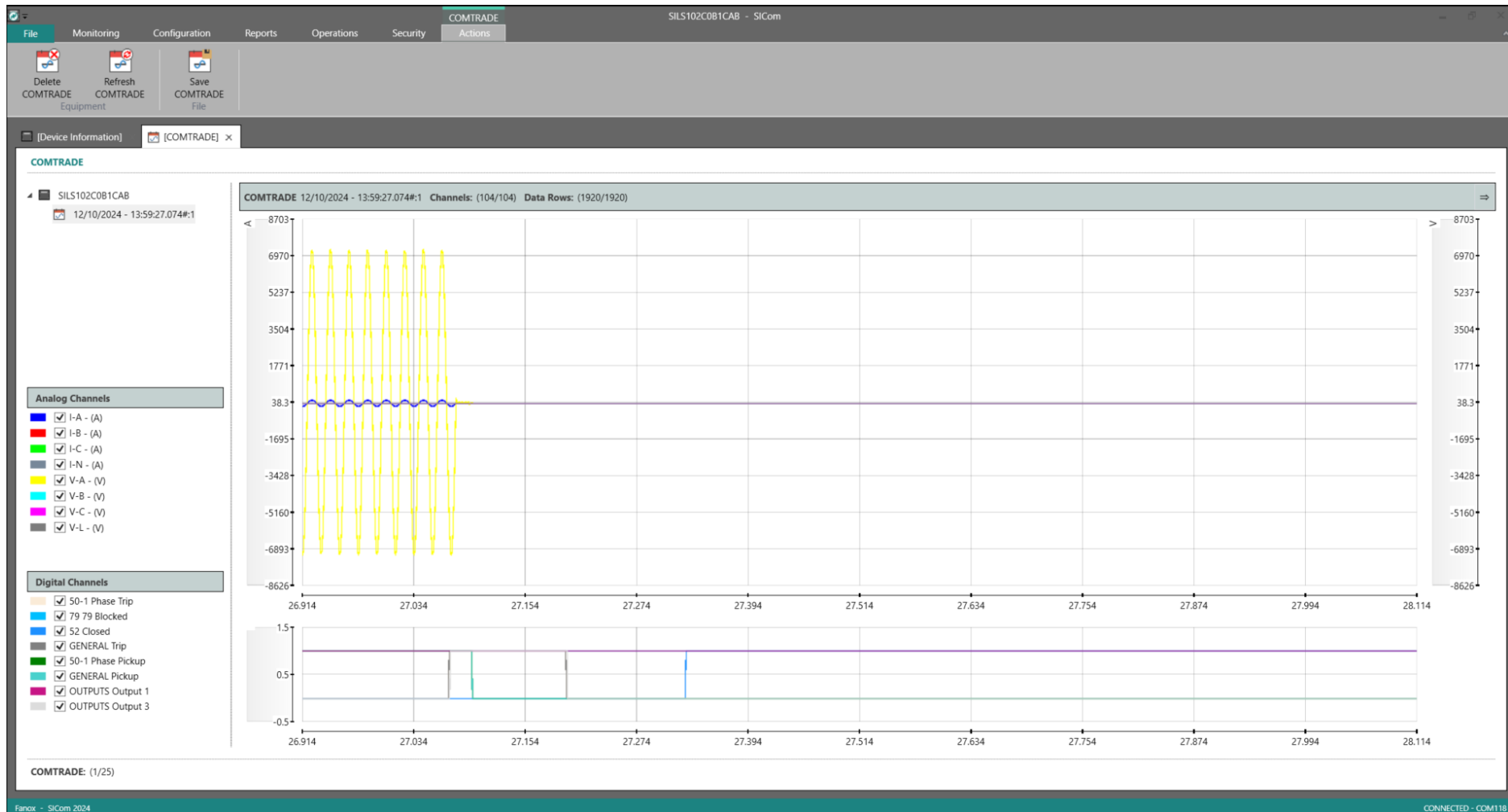
Press “COMTRADE” option in the “Reports” tab:



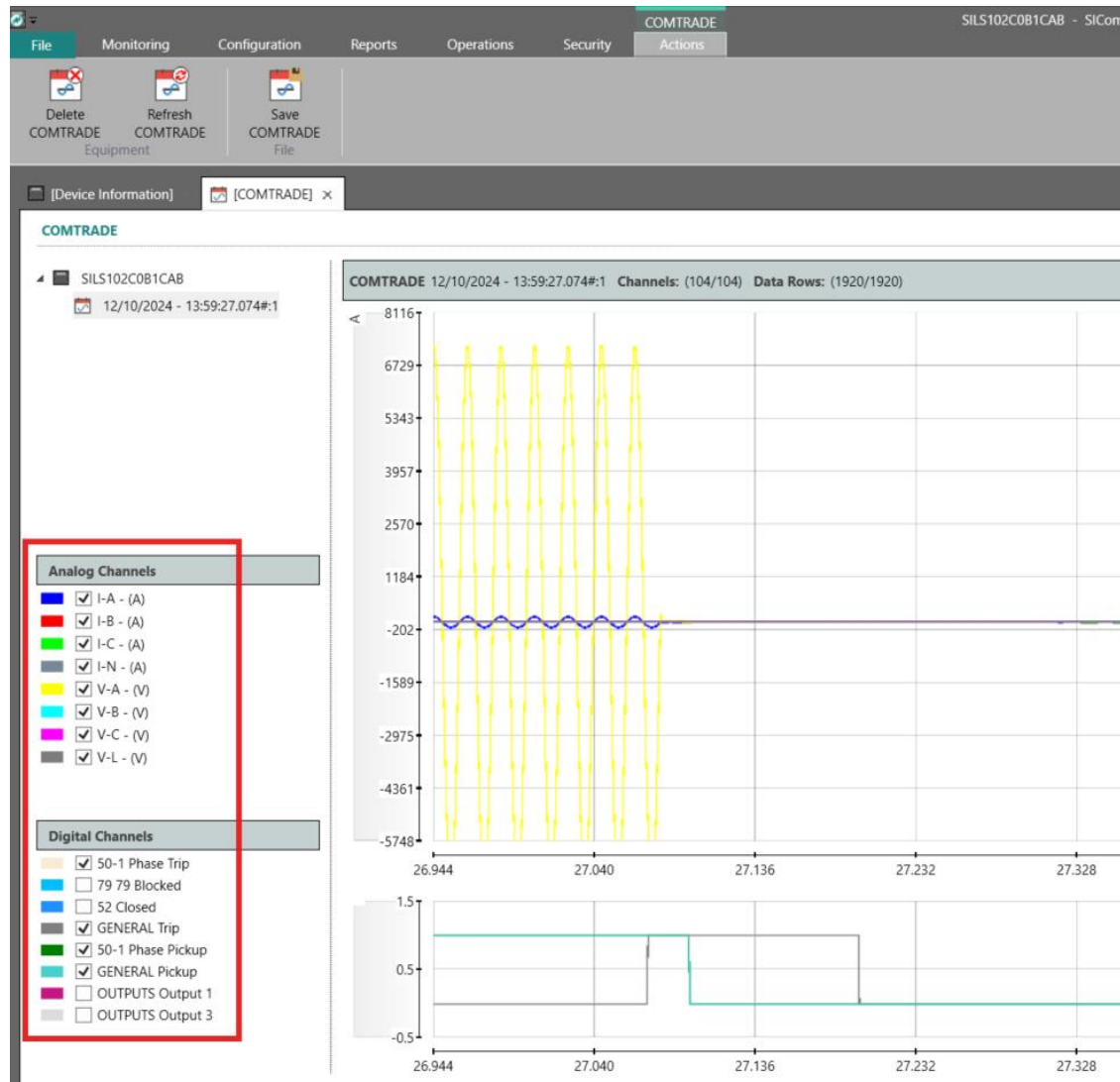
The following window will be opened. On the left of the screen the oscillographic records saved in the relay will appear:



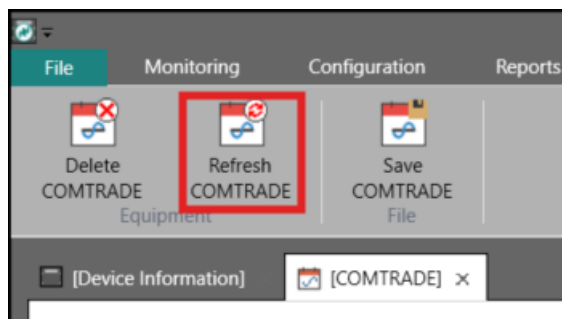
To visualize a record, select it:



The digital and analogue channels displayed can be chosen by clicking on the boxes on the bottom left of the screen:

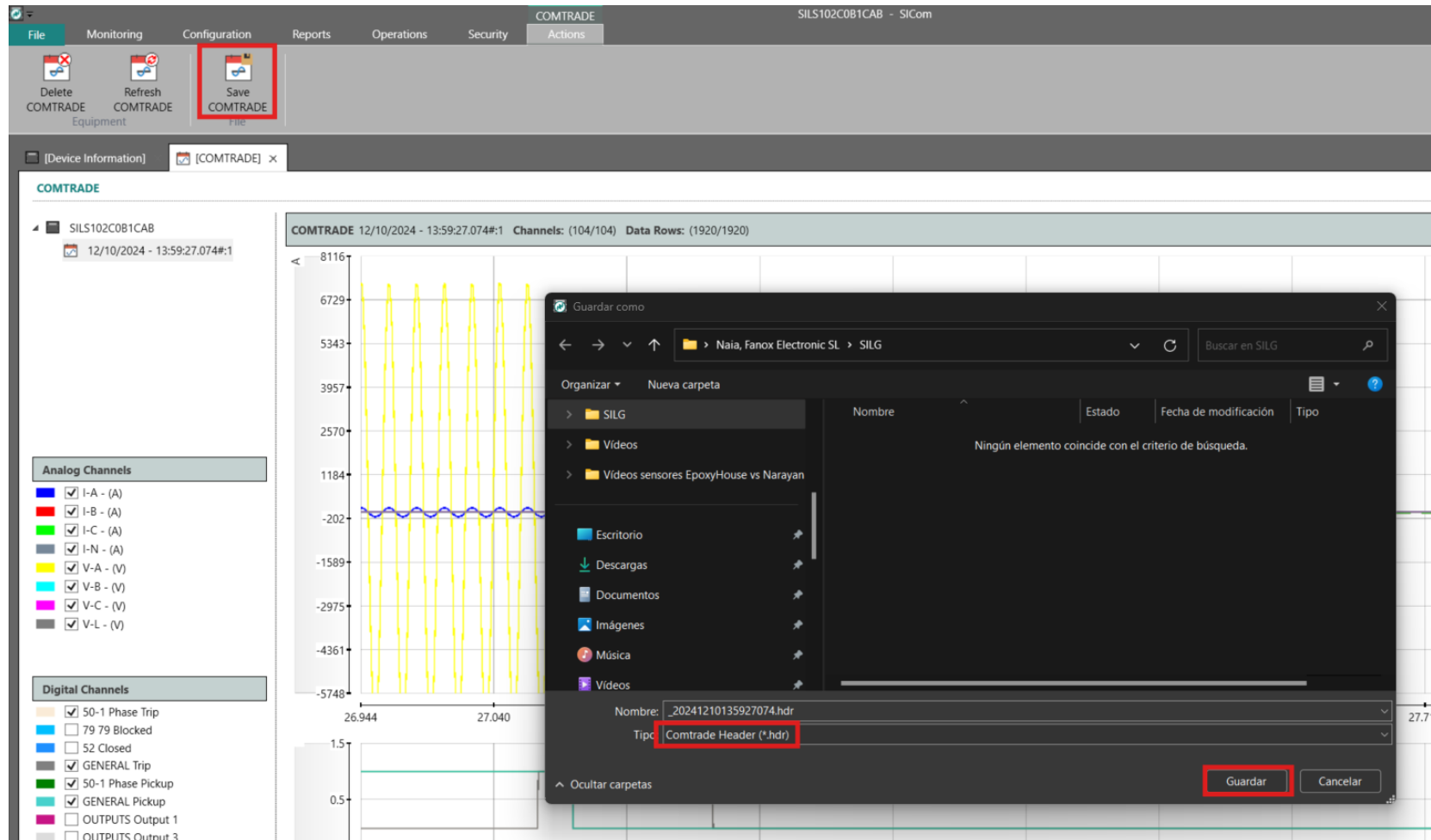


If the “COMTRADE” menu is open and a new record is generated in the relay, press “Refresh COMTRADE” key to visualize it:



8.3.1. How to save an COMTRADE record

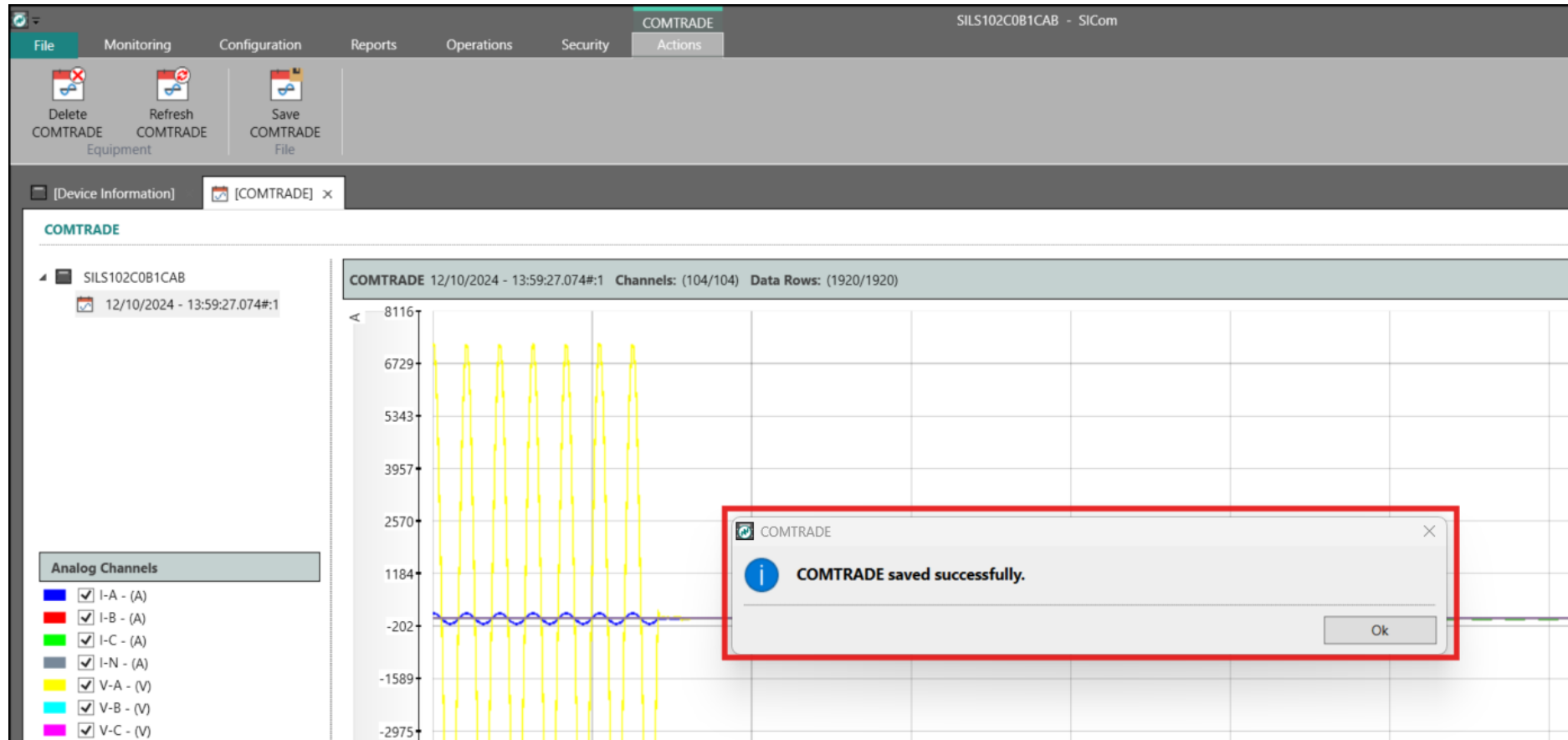
It is possible to save oscillographic records thanks to “Save COMTRADE” key. When this option is pressed a window to save the selected oscillographic record will be opened:



In this window it is possible to select a name for the file and the wanted location.

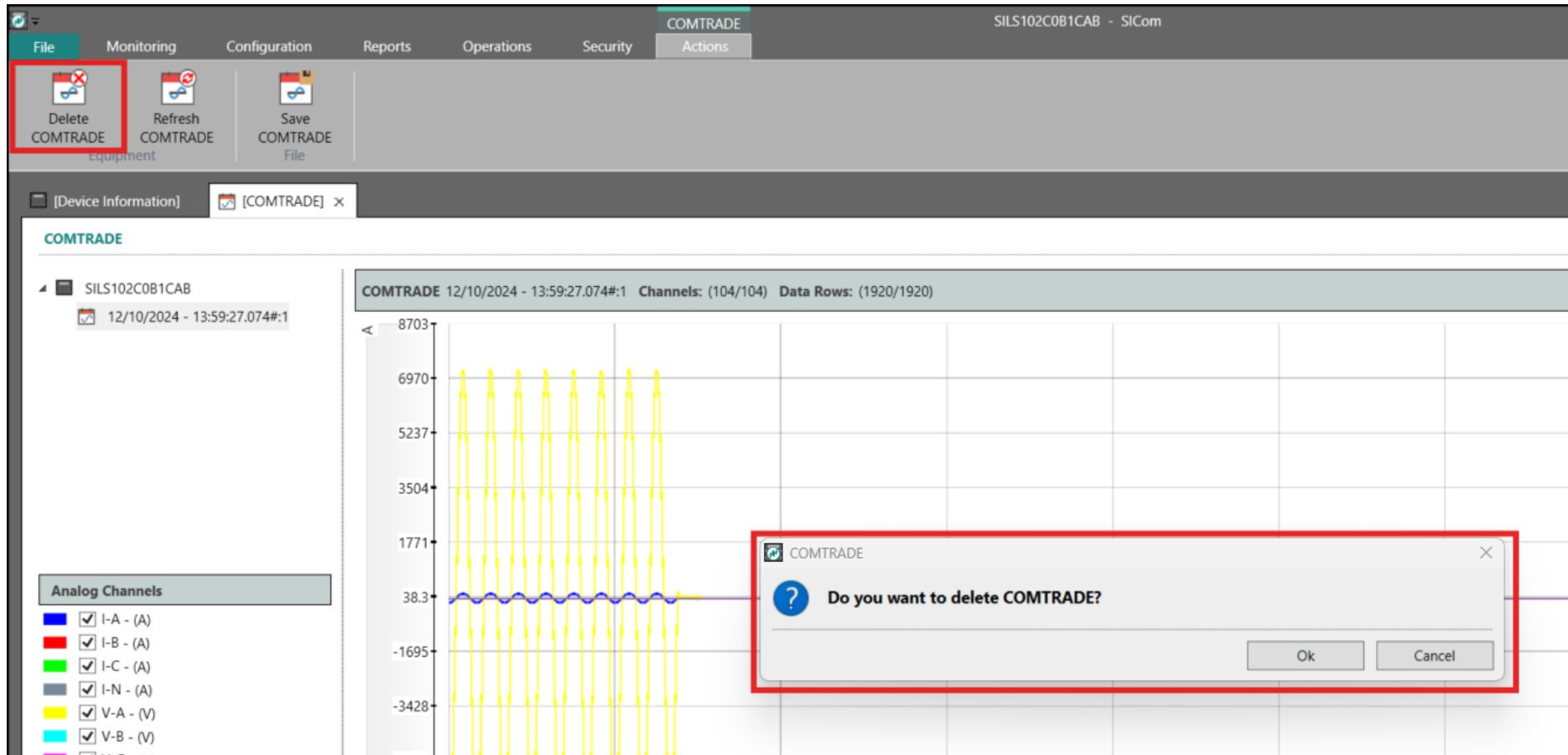
The oscillographic record will be saved in COMTRADE format. This universal format can be opened with most of the oscillography visualizers in the market:

When the oscillographic record is saved, a message informing about it will appear on the screen:

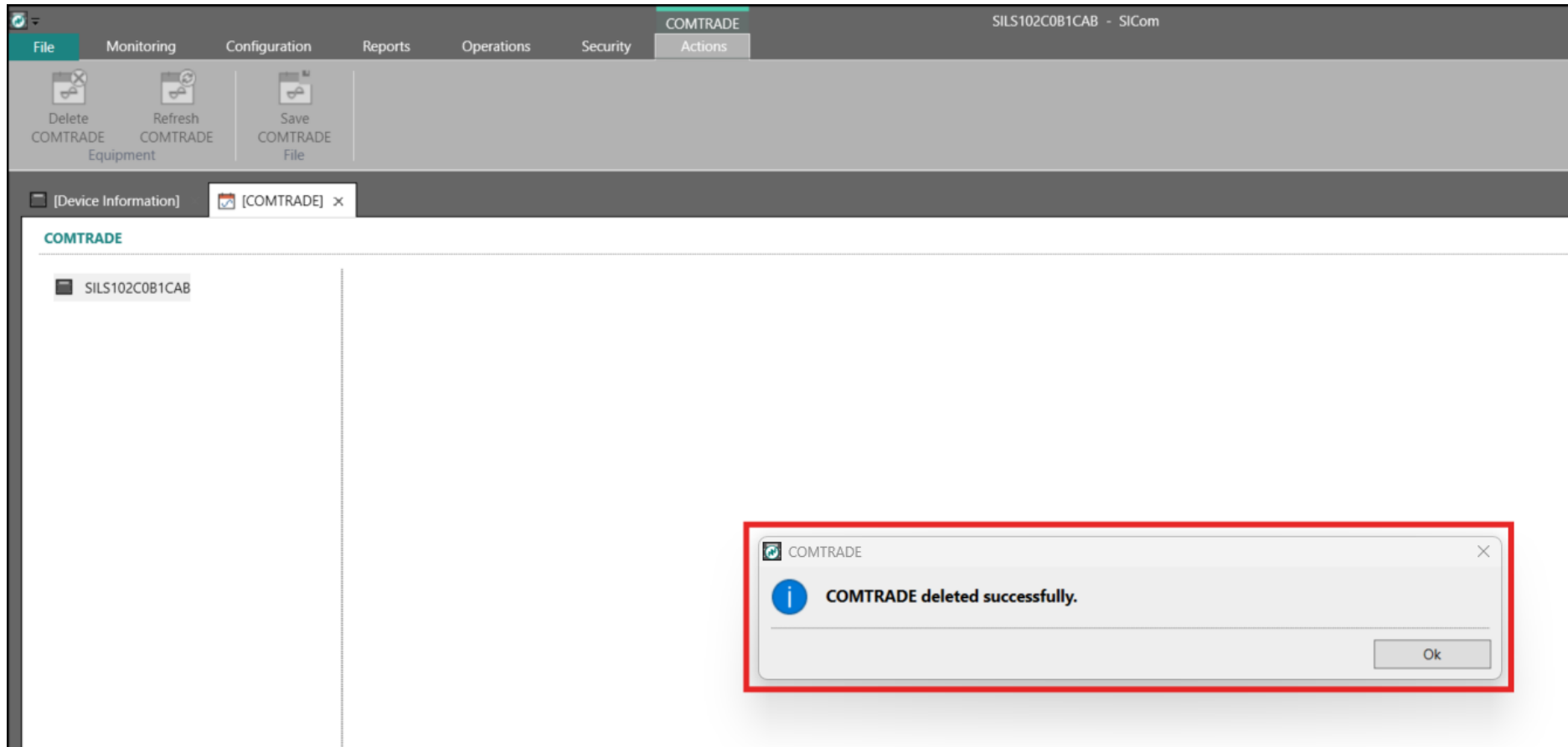


8.3.2. How to delete the COMTRADE records

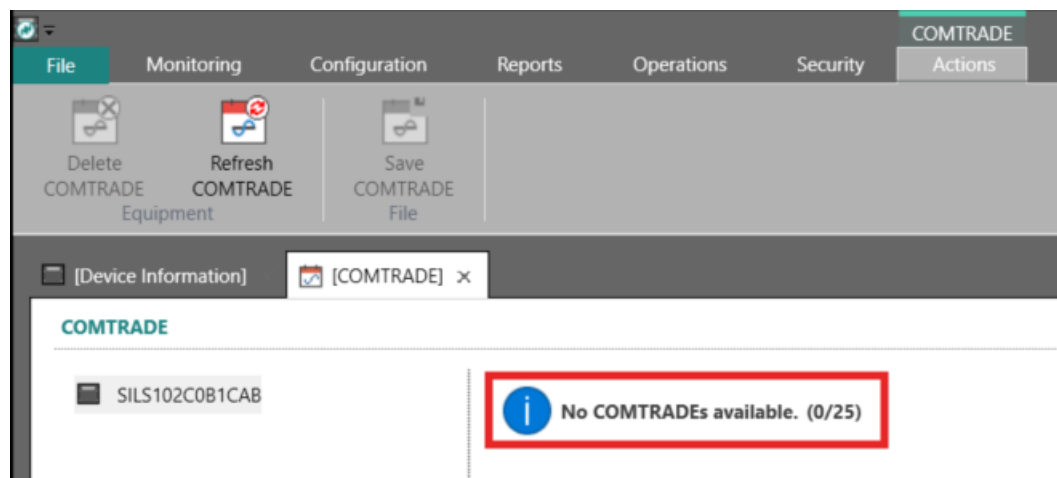
To delete the oscillographic records of the relay, press “Delete COMTRADE” key. A question to confirm the erasing will be shown:



If “OK” option is pressed all the COMTRADE records will be erased in the relay and a message confirming it will appear on the screen:

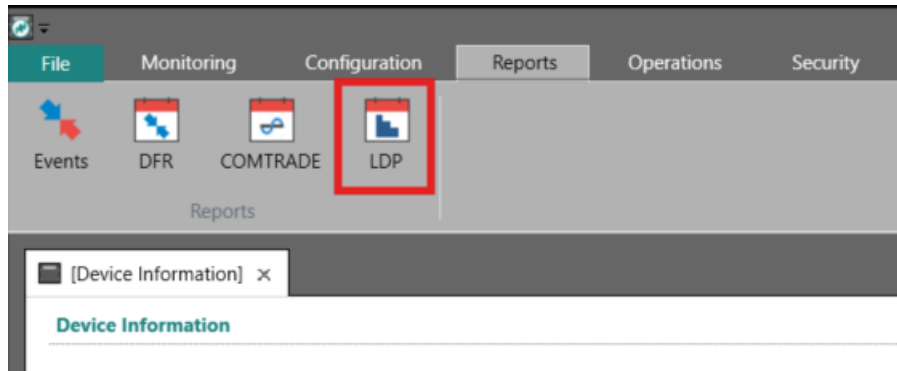


If the option “Delete COMTRADE” is selected, the corresponding fault reports are also deleted.

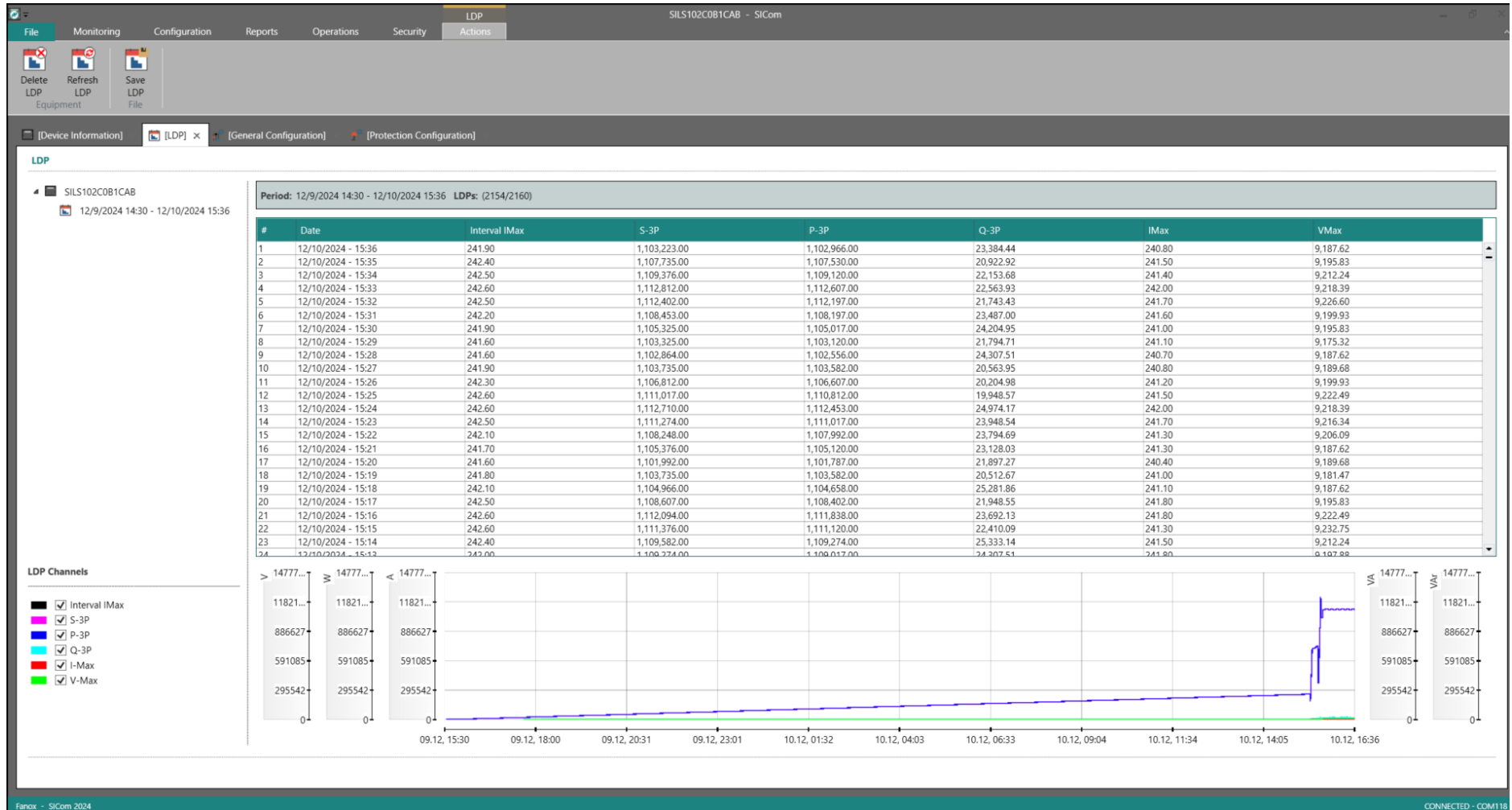


8.4. LOAD DATA PROFILING (LDP) MENU

If relay offers Demand of current (this feature will depend on the relay model), press “Demand” key:



A window with the register will be opened:



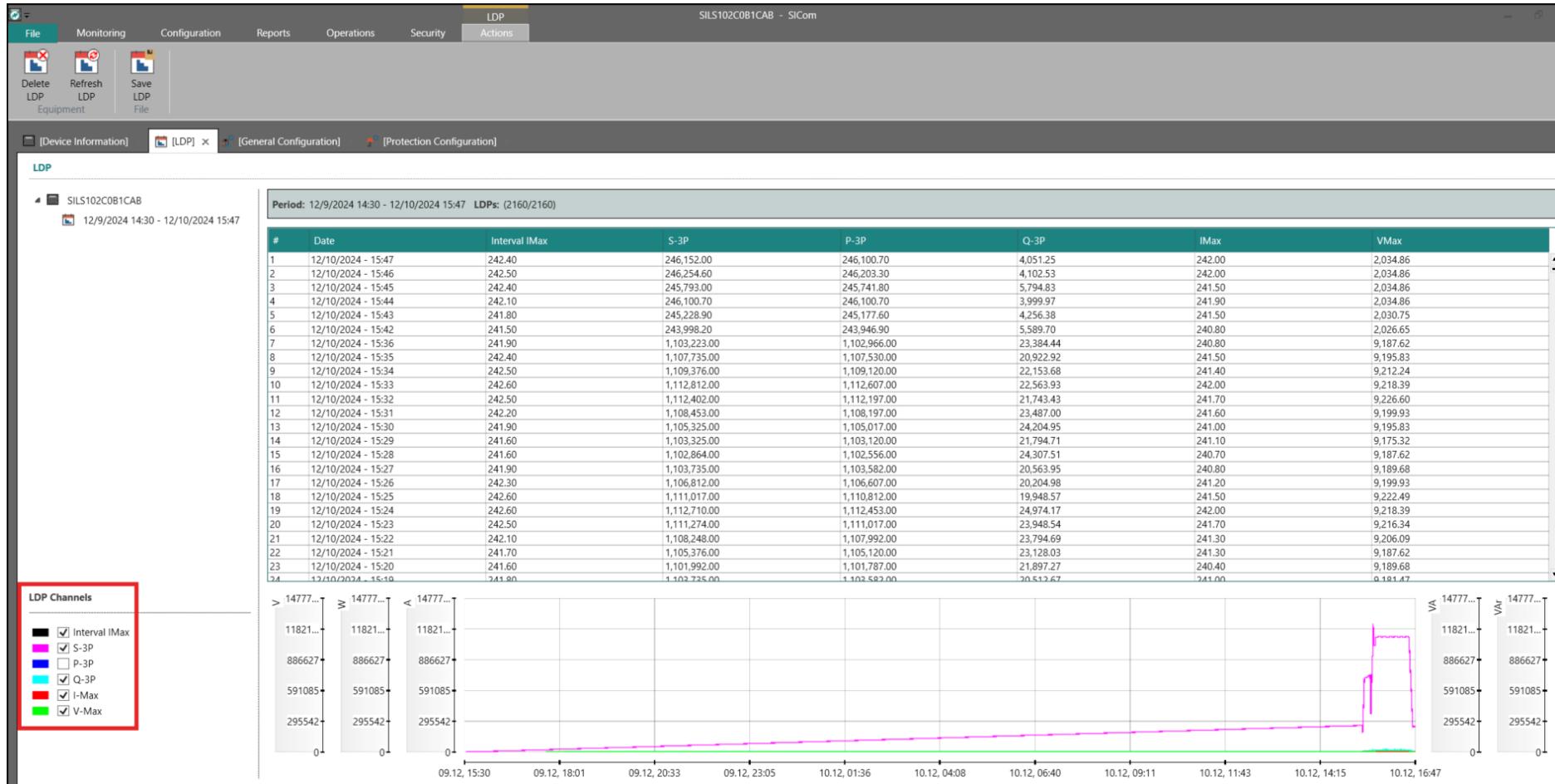
The available information is as follows (*):

- Date → Date and time of each register.
- Interval I_{max} → Maximum current during the interval (**).
- S-3P → 3 phase apparent power.
- P-3P → 3 phase active power.
- Q-3P → 3 phase reactive power.
- I_{max} → Maximum current at the end of the register.
- V_{max} → Maximum voltage at the end of the register.

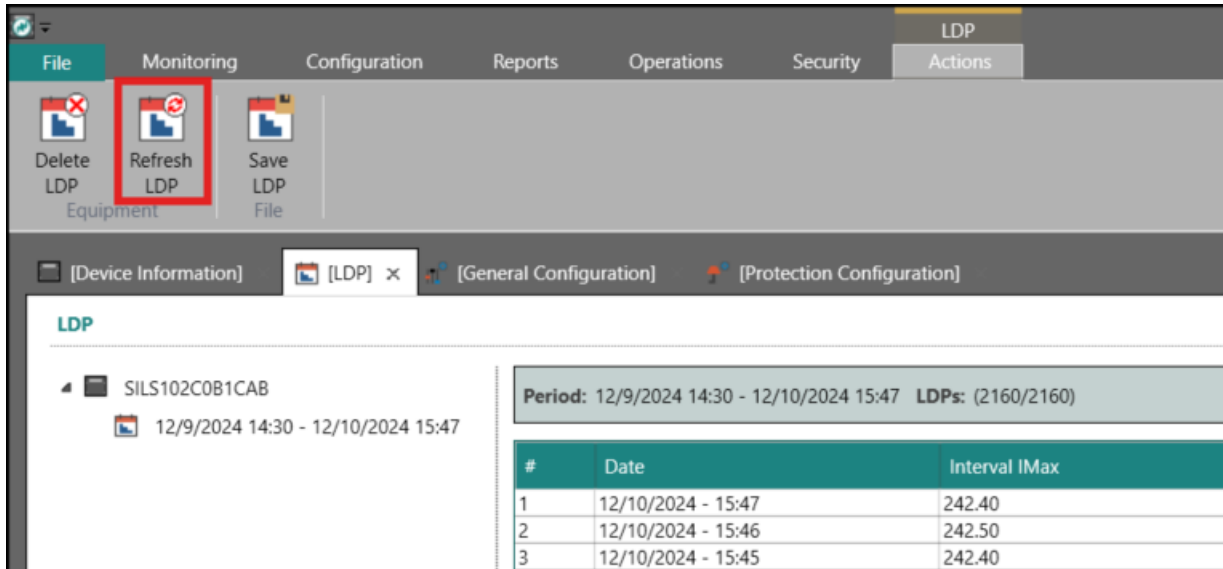
(*) *Information available depending on the relay model.*

(**) *Settings available in General settings section (LDP).*

Thanks to the options on the left of the screen (at the bottom); the signals to visualize can be selected:



If the registration of demand continues and this menu is open, press “Refresh LDP” to update the information:

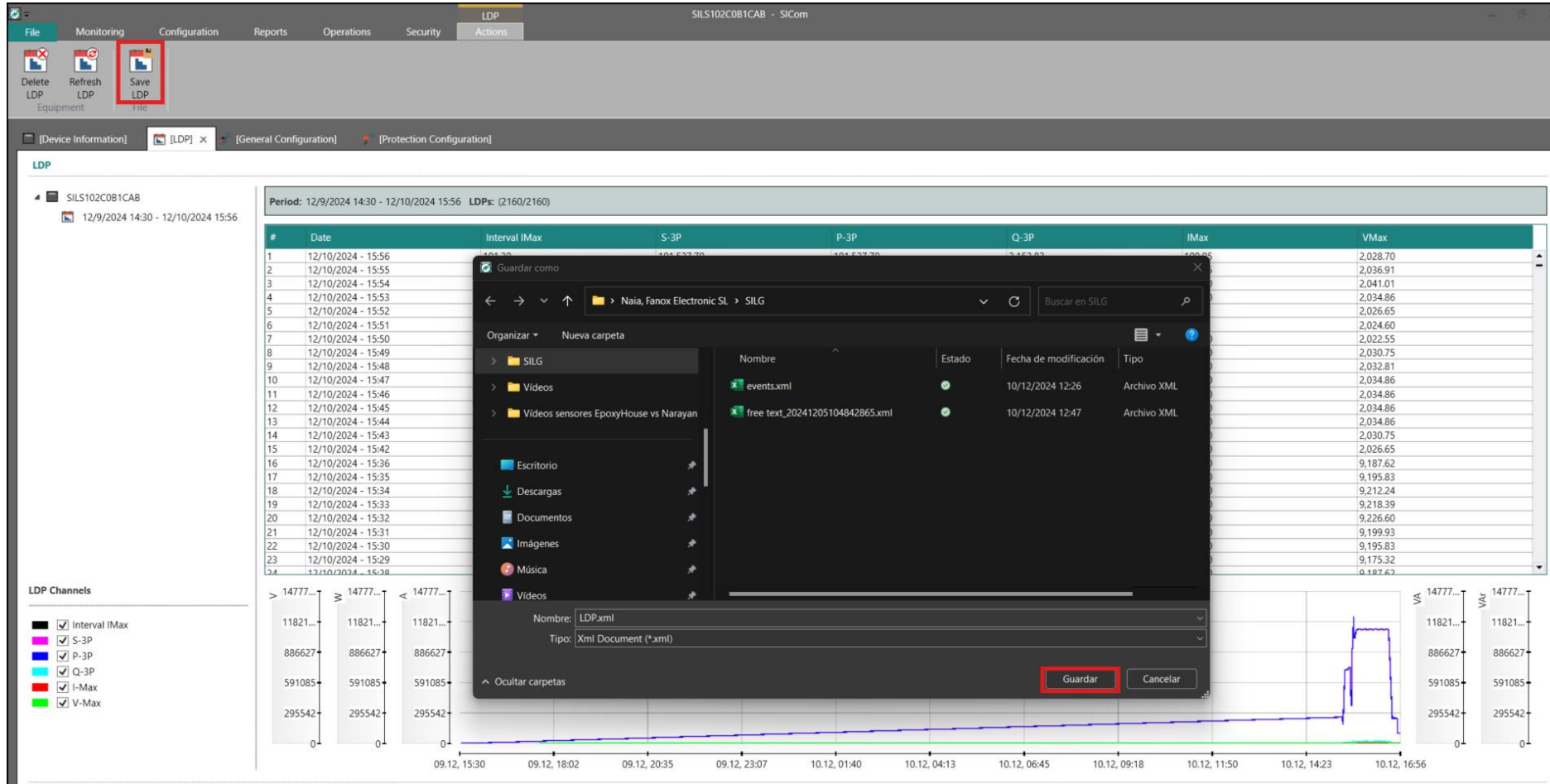


The screenshot shows the FANOX software interface with the 'LDP' menu open. The 'Refresh LDP' button is highlighted with a red box. Below the menu, the 'LDP' section displays a tree view with 'SILS102C0B1CAB' and a time range '12/9/2024 14:30 - 12/10/2024 15:47'. To the right, a table shows the LDP data for this period.

#	Date	Interval IMax
1	12/10/2024 - 15:47	242.40
2	12/10/2024 - 15:46	242.50
3	12/10/2024 - 15:45	242.40

8.4.1. How to save the LDP records

To save the demand, press “Save LDP” key. A window will be opened to choose the name and the desired location:



The screenshot shows the FANOX software interface with the LDP (Load Demand Profile) window open. The 'Save LDP' button is highlighted in the top menu. A 'Guardar como' (Save As) dialog box is open, showing the file name 'LDP.xml' and the location 'Naia, Fanox Electronic SL > SILG'. The background displays a table of LDP data and a corresponding line graph.

LDP Channels:

- ☒ Interval IMax
- ☒ S-3P
- ☒ P-3P
- ☒ Q-3P
- ☒ I-Max
- ☒ V-Max

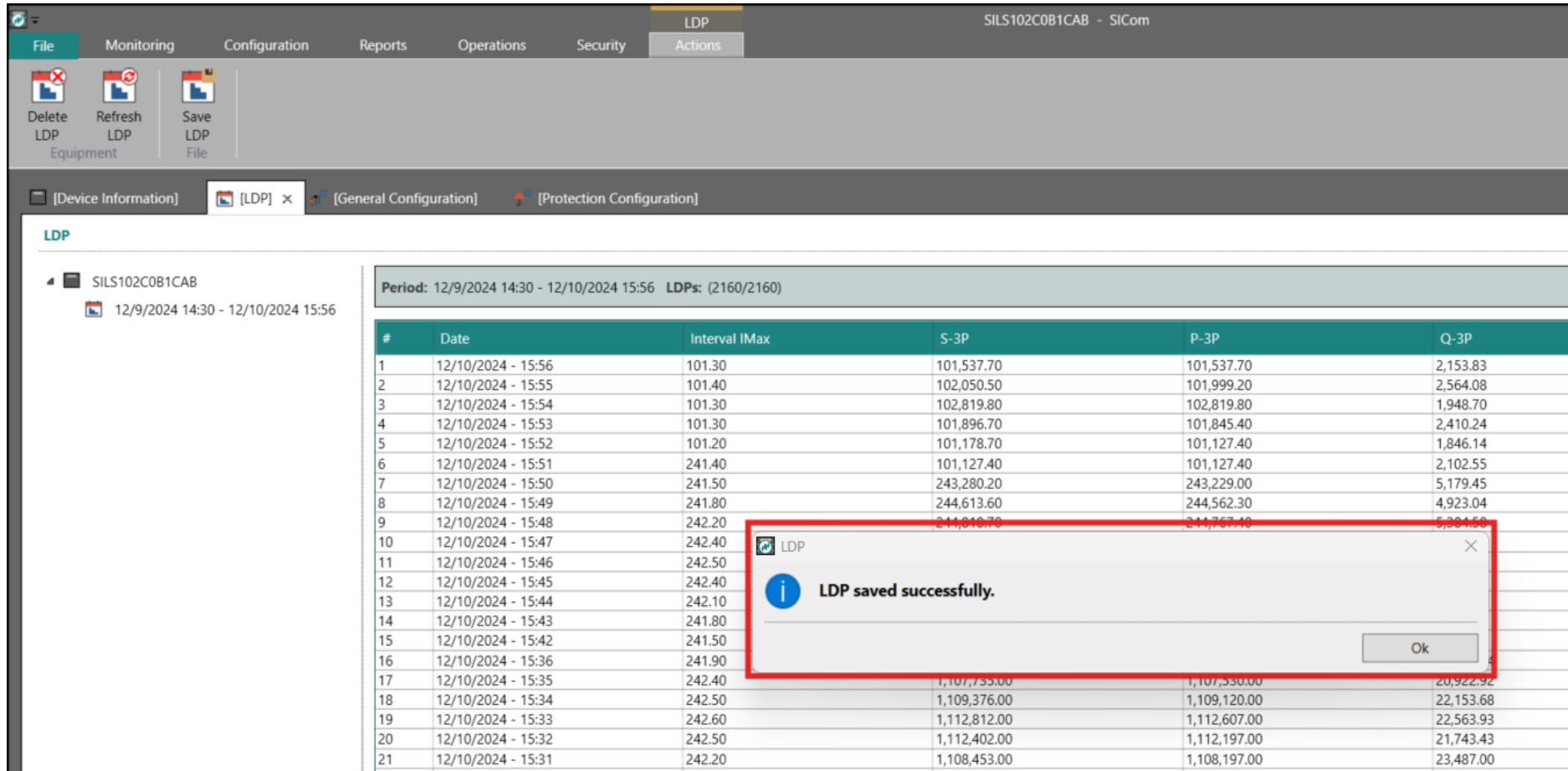
LDP Data Table:

#	Date	Interval IMax	S-3P	P-3P	Q-3P	IMax	VMax
1	12/10/2024 - 15:56					2,028.70	
2	12/10/2024 - 15:55					2,036.91	
3	12/10/2024 - 15:54					2,041.01	
4	12/10/2024 - 15:53					2,034.86	
5	12/10/2024 - 15:52					2,026.65	
6	12/10/2024 - 15:51					2,024.60	
7	12/10/2024 - 15:50					2,022.55	
8	12/10/2024 - 15:49					2,030.75	
9	12/10/2024 - 15:48					2,032.81	
10	12/10/2024 - 15:47					2,034.86	
11	12/10/2024 - 15:46					2,034.86	
12	12/10/2024 - 15:45					2,034.86	
13	12/10/2024 - 15:44					2,034.86	
14	12/10/2024 - 15:43					2,030.75	
15	12/10/2024 - 15:42					2,026.65	
16	12/10/2024 - 15:36					9,187.62	
17	12/10/2024 - 15:35					9,195.83	
18	12/10/2024 - 15:34					9,212.24	
19	12/10/2024 - 15:33					9,218.39	
20	12/10/2024 - 15:32					9,226.60	
21	12/10/2024 - 15:31					9,199.93	
22	12/10/2024 - 15:30					9,195.83	
23	12/10/2024 - 15:29					9,175.32	
24	12/10/2024 - 15:28					9,187.62	

Graph Data (Approximate):

Time	IMax	VMax
09.12, 15:30	~2,000	~9,000
09.12, 18:02	~2,000	~9,000
09.12, 20:35	~2,000	~9,000
09.12, 23:07	~2,000	~9,000
10.12, 01:40	~2,000	~9,000
10.12, 04:13	~2,000	~9,000
10.12, 06:45	~2,000	~9,000
10.12, 09:18	~2,000	~9,000
10.12, 11:50	~2,000	~9,000
10.12, 14:23	~2,000	~9,000
10.12, 16:56	~2,000	~9,000

If the action is finished correctly, a message informing the demand has been saved will be shown on the screen:

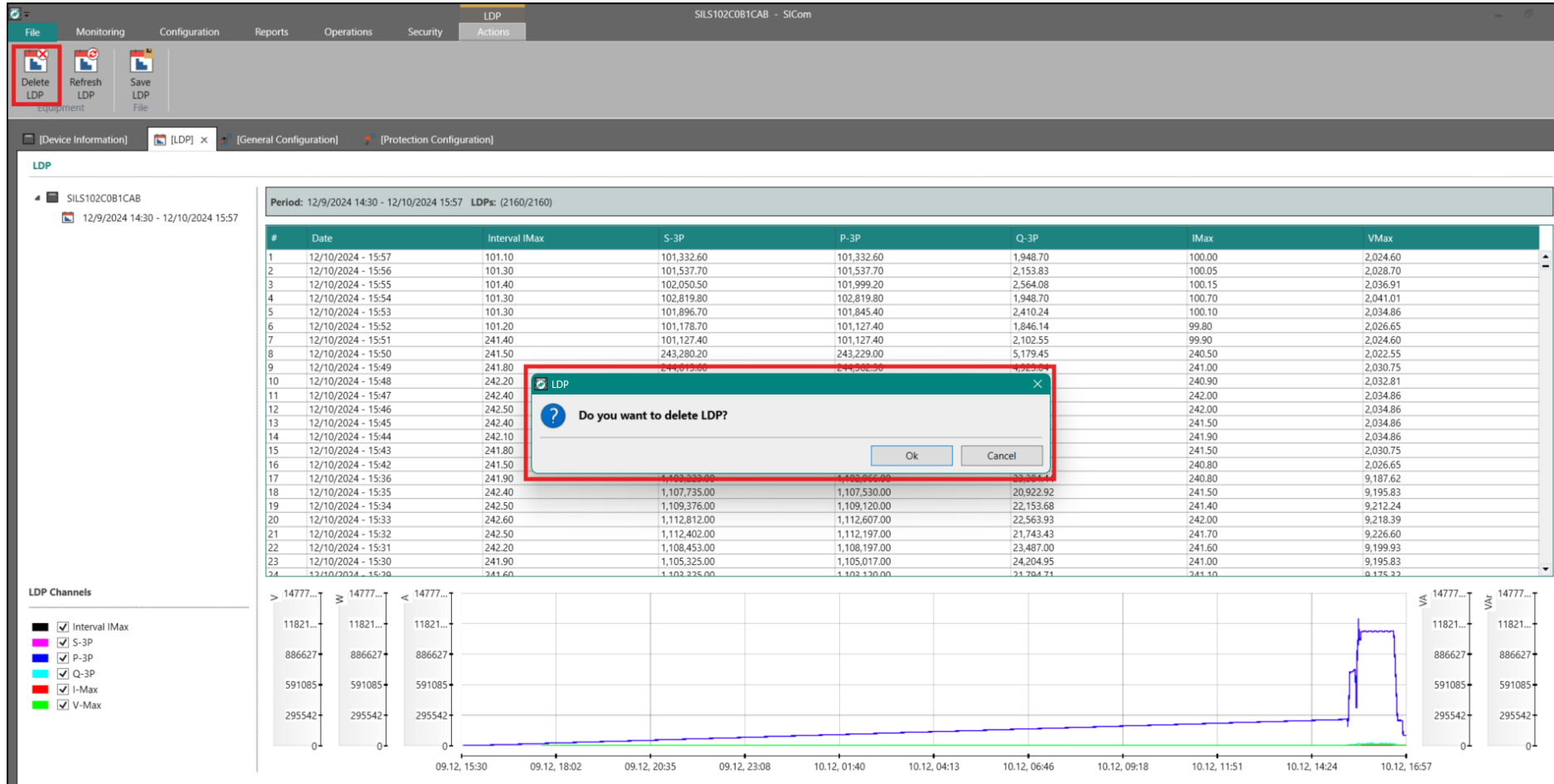


The screenshot displays the FANOX LDP configuration interface. The top navigation bar includes tabs for File, Monitoring, Configuration, Reports, Operations, Security, and LDP. The LDP tab is active, showing a sub-menu with File, Actions, and a toolbar with Delete LDP Equipment, Refresh LDP, and Save LDP File. The main content area shows the LDP configuration for device SILS102C0B1CAB, with a period of 12/9/2024 14:30 - 12/10/2024 15:56. A table of LDP data is displayed, with columns for #, Date, Interval IMax, S-3P, P-3P, and Q-3P. A success message dialog is overlaid on the table, stating "LDP saved successfully." with an "Ok" button.

#	Date	Interval IMax	S-3P	P-3P	Q-3P
1	12/10/2024 - 15:56	101.30	101,537.70	101,537.70	2,153.83
2	12/10/2024 - 15:55	101.40	102,050.50	101,999.20	2,564.08
3	12/10/2024 - 15:54	101.30	102,819.80	102,819.80	1,948.70
4	12/10/2024 - 15:53	101.30	101,896.70	101,845.40	2,410.24
5	12/10/2024 - 15:52	101.20	101,178.70	101,127.40	1,846.14
6	12/10/2024 - 15:51	241.40	101,127.40	101,127.40	2,102.55
7	12/10/2024 - 15:50	241.50	243,280.20	243,229.00	5,179.45
8	12/10/2024 - 15:49	241.80	244,613.60	244,562.30	4,923.04
9	12/10/2024 - 15:48	242.20	244,818.70	244,767.10	5,384.50
10	12/10/2024 - 15:47	242.40			
11	12/10/2024 - 15:46	242.50			
12	12/10/2024 - 15:45	242.40			
13	12/10/2024 - 15:44	242.10			
14	12/10/2024 - 15:43	241.80			
15	12/10/2024 - 15:42	241.50			
16	12/10/2024 - 15:36	241.90			
17	12/10/2024 - 15:35	242.40	1,107,733.00	1,107,530.00	20,922.92
18	12/10/2024 - 15:34	242.50	1,109,376.00	1,109,120.00	22,153.68
19	12/10/2024 - 15:33	242.60	1,112,812.00	1,112,607.00	22,563.93
20	12/10/2024 - 15:32	242.50	1,112,402.00	1,112,197.00	21,743.43
21	12/10/2024 - 15:31	242.20	1,108,453.00	1,108,197.00	23,487.00

8.4.2. How to delete the LDP records

To delete the demand of the relay, press “Delete LDP” key. A question to confirm the erasing will be shown:



The screenshot displays the FANOX software interface for the SILS102C0B1CAB device. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Actions. The 'Delete LDP' button is highlighted in the top toolbar. The main window shows the LDP configuration screen with a table of LDP data and a graph of the LDP channels.

LDP Data Table:

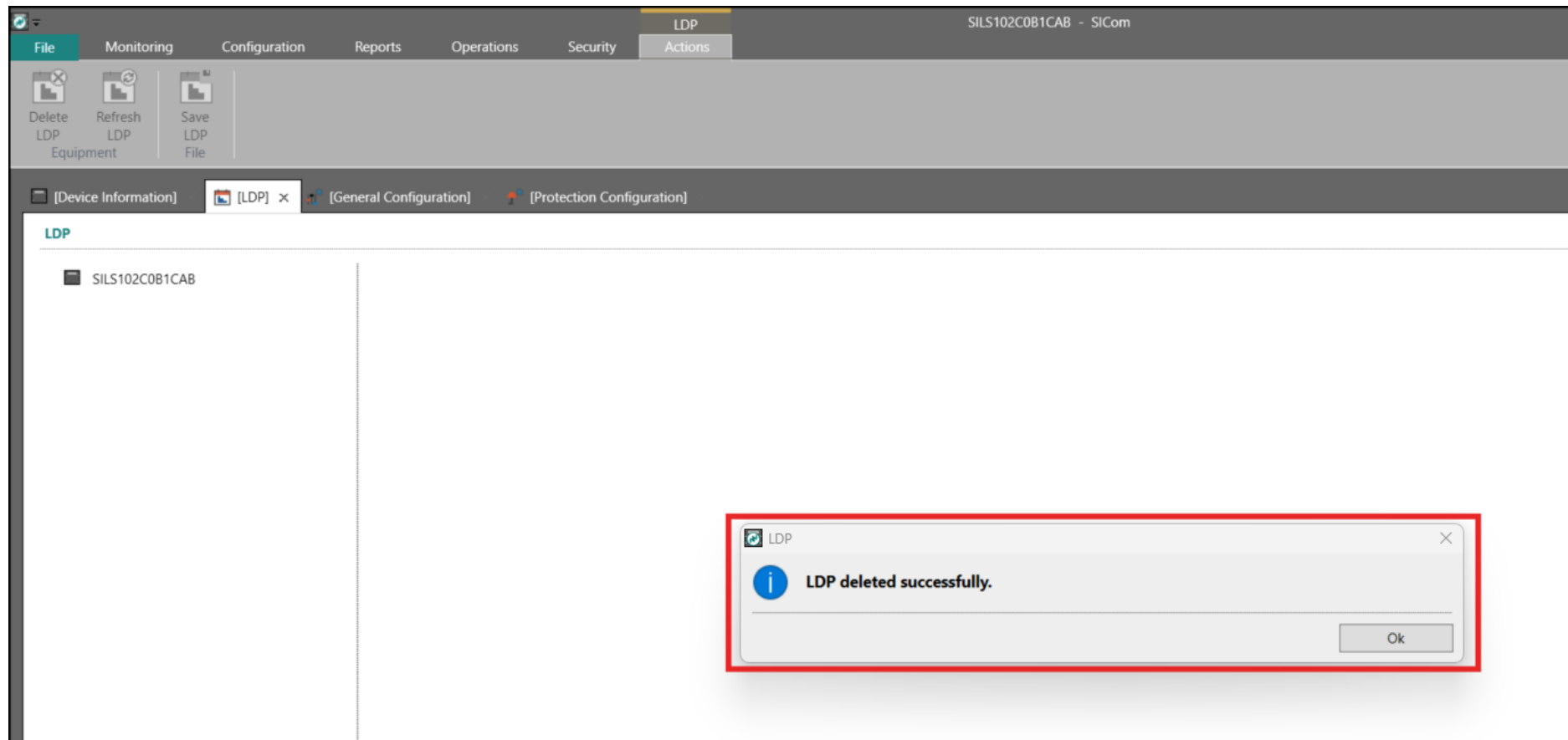
#	Date	Interval IMax	S-3P	P-3P	Q-3P	IMax	VMax
1	12/10/2024 - 15:57	101.10	101,332.60	101,332.60	1,948.70	100.00	2,024.60
2	12/10/2024 - 15:56	101.30	101,537.70	101,537.70	2,153.83	100.05	2,028.70
3	12/10/2024 - 15:55	101.40	102,050.50	101,999.20	2,564.08	100.15	2,036.91
4	12/10/2024 - 15:54	101.30	102,819.80	102,819.80	1,948.70	100.70	2,041.01
5	12/10/2024 - 15:53	101.30	101,896.70	101,845.40	2,410.24	100.10	2,034.86
6	12/10/2024 - 15:52	101.20	101,178.70	101,127.40	1,846.14	99.80	2,026.65
7	12/10/2024 - 15:51	241.40	101,127.40	101,127.40	2,102.55	99.90	2,024.60
8	12/10/2024 - 15:50	241.50	243,280.20	243,229.00	5,179.45	240.50	2,022.55
9	12/10/2024 - 15:49	241.80	244,813.00	244,506.50	4,925.60	241.00	2,030.75
10	12/10/2024 - 15:48	242.20	244,813.00	244,506.50	4,925.60	240.90	2,032.81
11	12/10/2024 - 15:47	242.40	244,813.00	244,506.50	4,925.60	242.00	2,034.86
12	12/10/2024 - 15:46	242.50	244,813.00	244,506.50	4,925.60	242.00	2,034.86
13	12/10/2024 - 15:45	242.40	244,813.00	244,506.50	4,925.60	241.50	2,034.86
14	12/10/2024 - 15:44	242.10	244,813.00	244,506.50	4,925.60	241.90	2,034.86
15	12/10/2024 - 15:43	241.80	244,813.00	244,506.50	4,925.60	241.50	2,030.75
16	12/10/2024 - 15:42	241.50	244,813.00	244,506.50	4,925.60	240.80	2,026.65
17	12/10/2024 - 15:36	241.90	1,103,333.00	1,103,333.00	35,384.40	240.80	9,187.62
18	12/10/2024 - 15:35	242.40	1,107,735.00	1,107,530.00	20,922.92	241.50	9,195.83
19	12/10/2024 - 15:34	242.50	1,109,376.00	1,109,120.00	22,153.68	241.40	9,212.24
20	12/10/2024 - 15:33	242.60	1,112,812.00	1,112,607.00	22,563.93	242.00	9,218.39
21	12/10/2024 - 15:32	242.50	1,112,402.00	1,112,197.00	21,743.43	241.70	9,226.60
22	12/10/2024 - 15:31	242.20	1,108,453.00	1,108,197.00	23,487.00	241.60	9,199.93
23	12/10/2024 - 15:30	241.90	1,105,325.00	1,105,017.00	24,204.95	241.00	9,195.83
24	12/10/2024 - 15:30	241.60	1,102,325.00	1,102,120.00	21,784.71	241.10	9,175.22

LDP Channels:

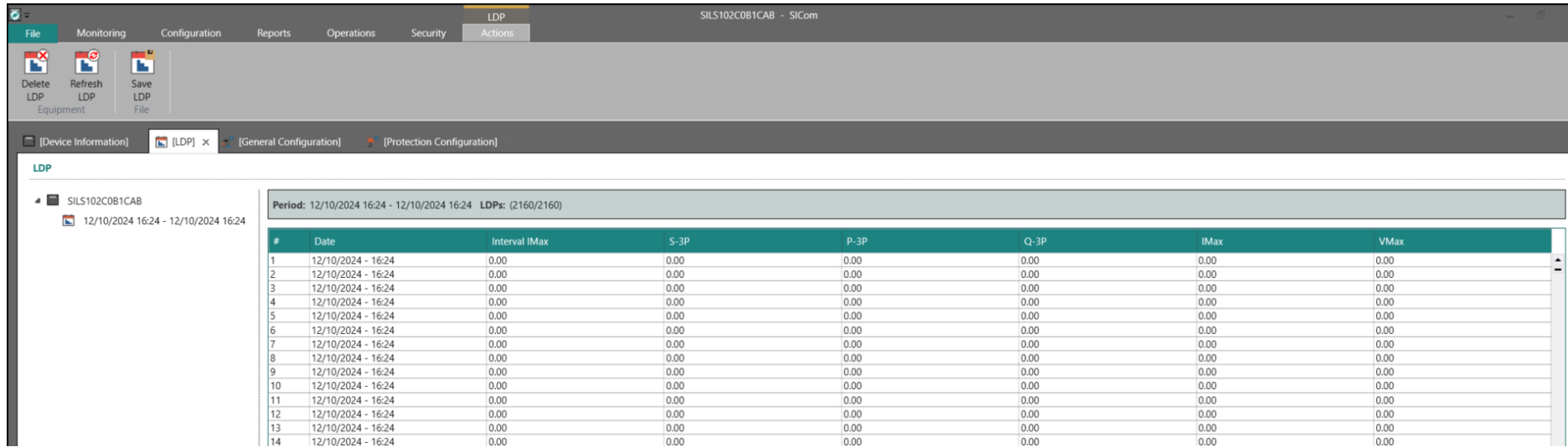
- ☒ Interval IMax
- ☒ S-3P
- ☒ P-3P
- ☒ Q-3P
- ☒ I-Max
- ☒ V-Max

The graph shows the LDP channels over time, with a significant spike in the I-Max channel around 10:12:24.

If “OK” option is pressed the LDP will be erased in the relay and a message confirming it will appear on the screen:



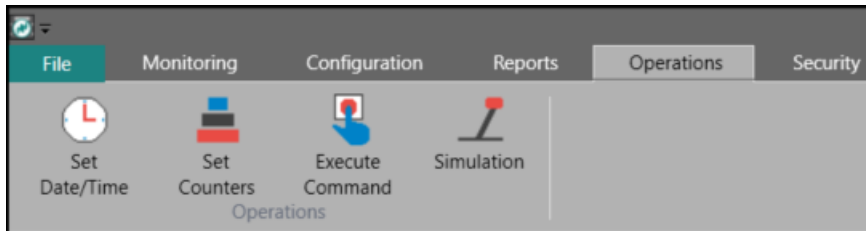
Once the LDP record is erased, all the registers will show the same date and measurements equal to 0:



#	Date	Interval IMax	S-3P	P-3P	Q-3P	IMax	VMax
1	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
2	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
3	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
4	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
5	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
6	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
7	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
8	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
9	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
10	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
11	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
12	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
13	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00
14	12/10/2024 - 16:24	0.00	0.00	0.00	0.00	0.00	0.00

9. OPERATIONS MENU

In the “Operations” menu the following tabs can be found (*):



(*) Some of them depend on the model, thus they might not be available in all the relays.

9.1. SET DATE/TIME MENU

It is possible to synchronize the relay using SICom program. To do so, press “Set Date/Time” option and a window with two options will appear. These options are:

- Current date and time
- Custom date and time.

SILS102C0B1CAB - SICom

File Monitoring Configuration Reports **Operations** Security

Set Date/Time Set Counters Execute Command Simulation

[Device Information] x

Device Information

Device

SILS102C0B1CAB -#2# || 12/10/2024-16:39

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27 SZM + HLT

Permissions

Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

Set Date/Time

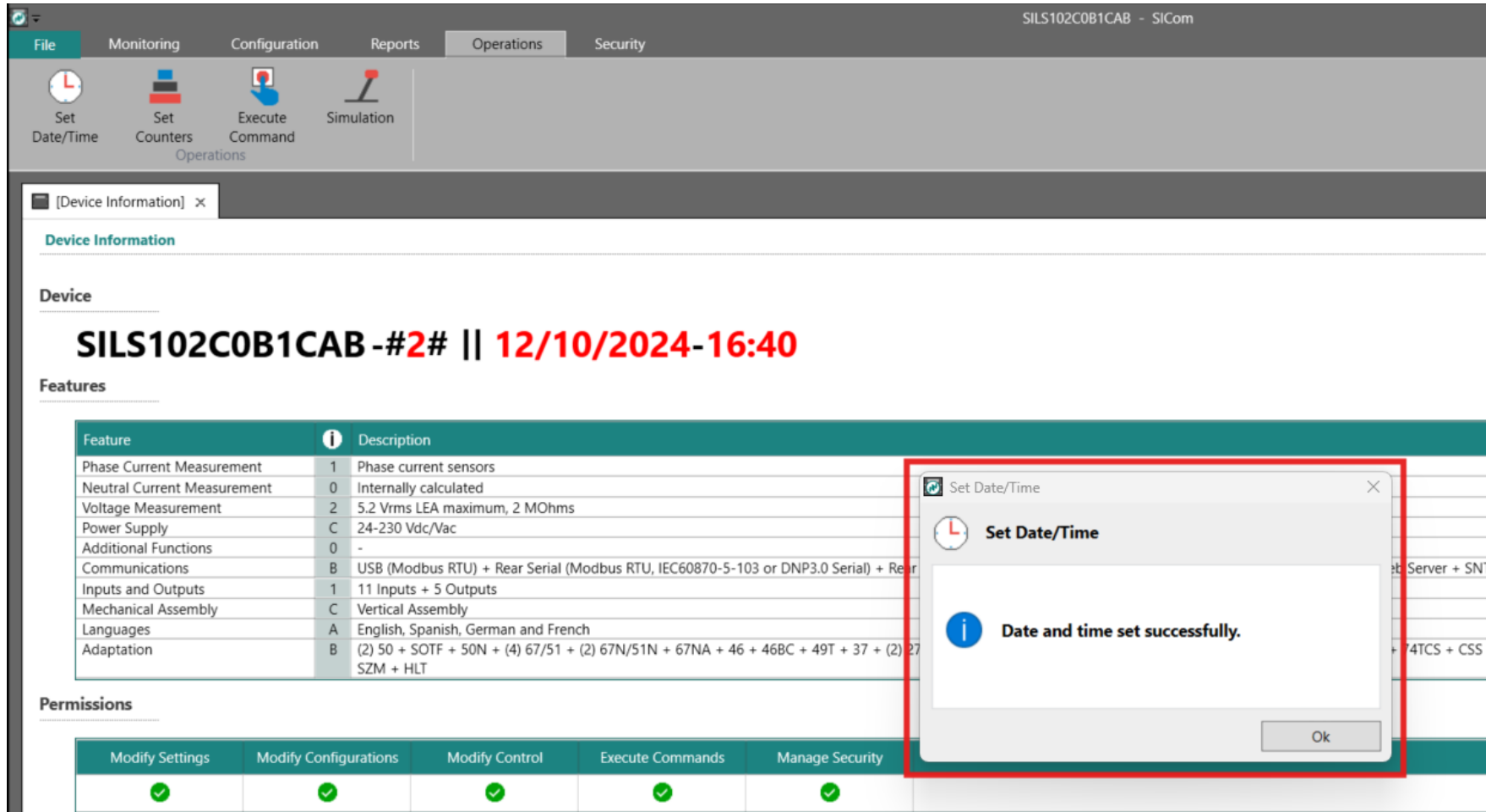
Select an option.

☒ Current Date/Time

☐ Custom Date/Time

Ok Cancel

If the first option is chosen, the relay date and time will synchronize with the date and time of the PC and a message confirming the change will appear:



The screenshot shows the FANOX SILS102C0B1CAB - SiCom interface. The 'Operations' tab is selected, and the 'Set Date/Time' option is highlighted. A dialog box titled 'Set Date/Time' is displayed, showing the message 'Date and time set successfully.' and an 'Ok' button.

Device Information

Device: **SILS102C0B1CAB -#2# || 12/10/2024-16:40**

Features

Feature	i	Description
Phase Current Measurement	1	Phase current sensors
Neutral Current Measurement	0	Internally calculated
Voltage Measurement	2	5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C	24-230 Vdc/Vac
Additional Functions	0	-
Communications	B	USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear
Inputs and Outputs	1	11 Inputs + 5 Outputs
Mechanical Assembly	C	Vertical Assembly
Languages	A	English, Spanish, German and French
Adaptation	B	(2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27 SZM + HLT

Permissions

Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

It is possible to check the date and time in the relay and SiCom is the same as in the PC:

Device

SILS102C0B1CAB-#2# || 12/10/2024-15:44

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear Ethernet Port (RJ45) (Modbus TCP or DNP3.0 TCP or IEC60870-5-104) + Web Server + SNMP Protocol + IRIG-B
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27 + 27V1 + (2) 59 + (2) 59N + 47 + (4) 32 + (4) 81U/O + (4) 81R + 78 + 79 + 74TCS + CSS + VSS + 50BF + SHB + CLP + 52 + 86 + SCM + SZM + HLT

Permissions

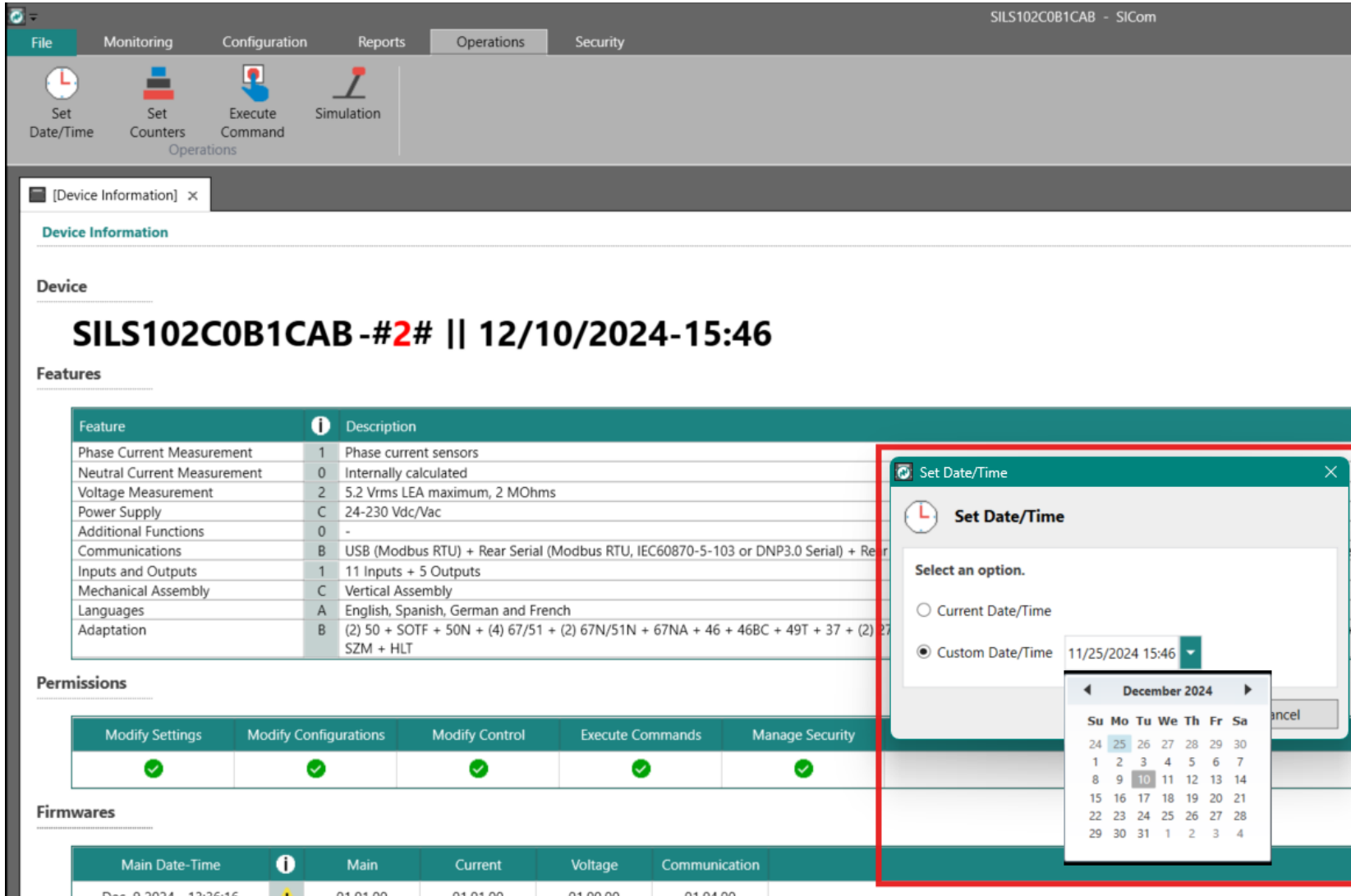
Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

Firmwares

Main Date-Time	Main	Current	Voltage	Communication
Dec 9 2024 - 13:36:16	01.01.00	01.01.00	01.00.00	01.04.00

15:44
10/12/2024

If the second option is chosen, the user can custom select the date and time and the following window will appear:



The screenshot shows the FANOX web interface for device management. The main window displays the 'Device Information' tab for a device named 'SILS102C0B1CAB -#2#'. The device's current date and time are '12/10/2024-15:46'. Below this, there is a 'Features' section with a table listing various features and their descriptions. A 'Permissions' section shows a table of permissions for different functions, all of which are enabled (indicated by green checkmarks). A 'Firmwares' section is partially visible at the bottom. Overlaid on the right side of the interface is a 'Set Date/Time' dialog box. This dialog box has a title bar with a clock icon and the text 'Set Date/Time'. Inside, there is a section titled 'Select an option.' with two radio buttons: 'Current Date/Time' and 'Custom Date/Time'. The 'Custom Date/Time' option is selected. To the right of the radio buttons, there is a date and time picker showing '11/25/2024 15:46'. Below this, there is a calendar for 'December 2024' with a grid of days. The 'Set Date/Time' dialog box is highlighted with a red border.

Device Information

Device

SILS102C0B1CAB -#2# || 12/10/2024-15:46

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27
	SZM + HLT

Permissions

Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

Firmwares

Main Date-Time	Main	Current	Voltage	Communication
Dec 10 2024 15:46	01.01.00	01.01.00	01.00.00	01.04.00

Set Date/Time

Select an option.

☐ Current Date/Time

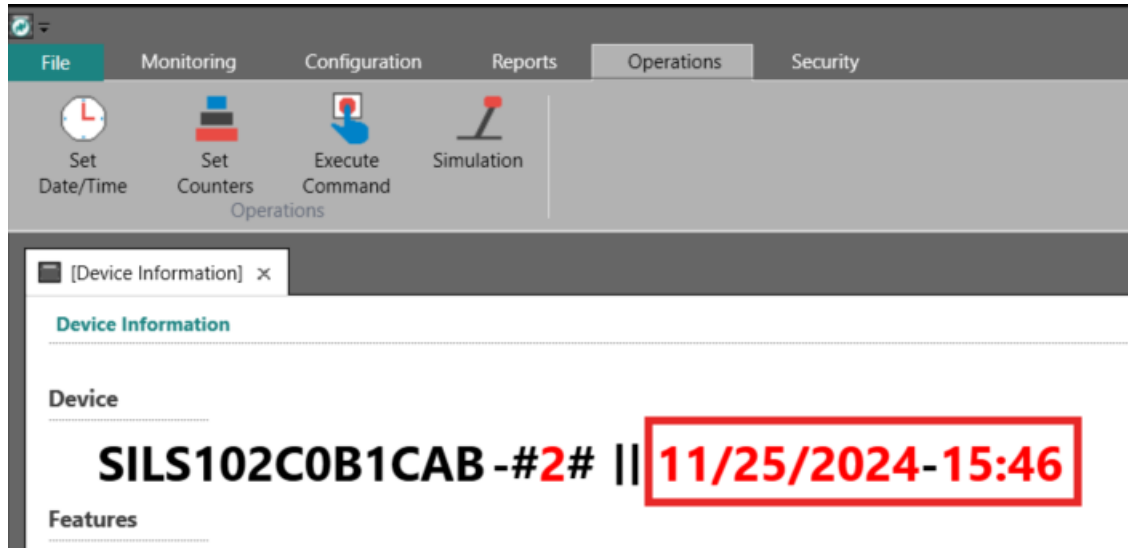
☒ Custom Date/Time 11/25/2024 15:46

December 2024

Su	Mo	Tu	We	Th	Fr	Sa
24	25	26	27	28	29	30
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

The same message as in “Current Date/Time” option confirming the change will appear.

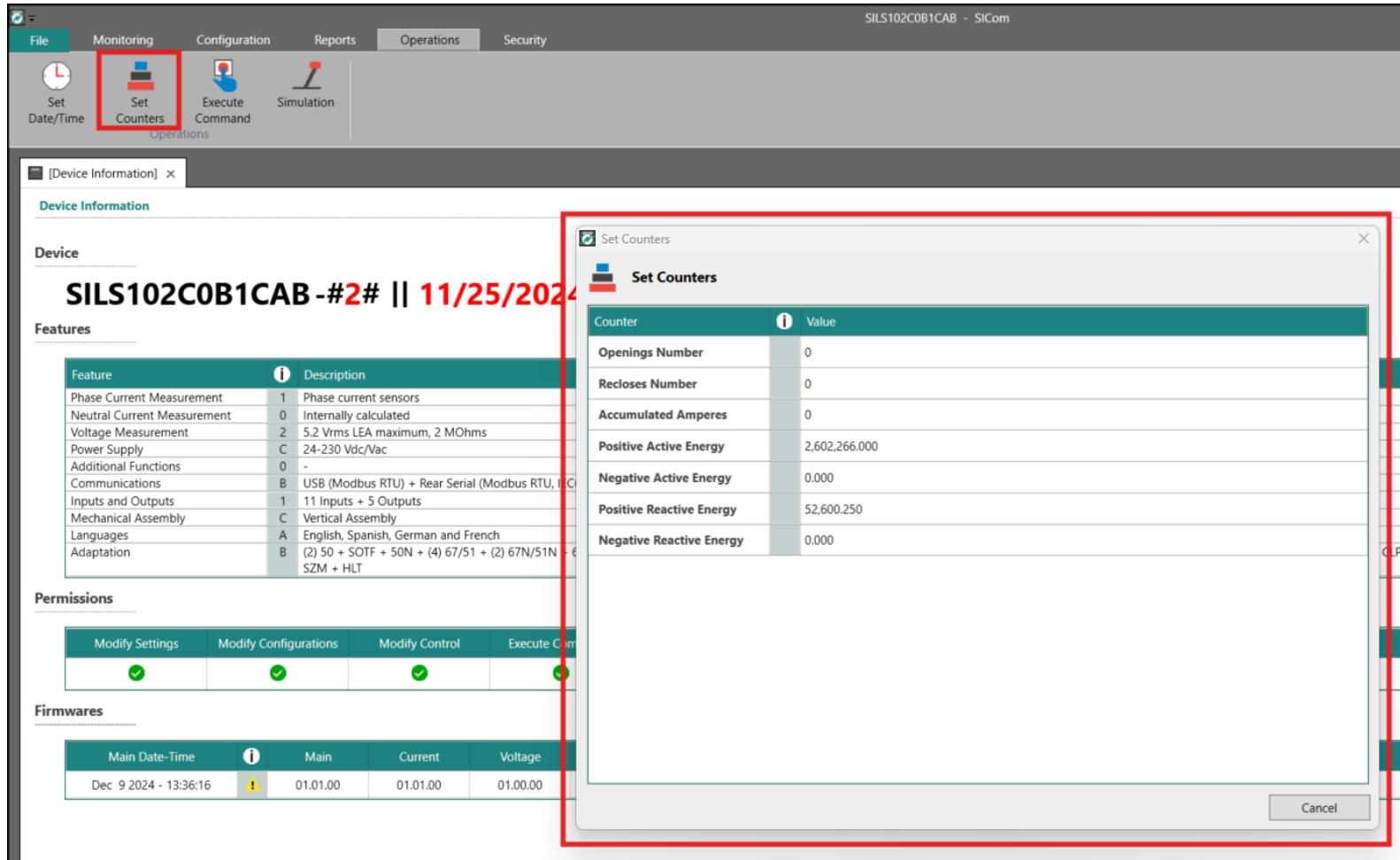
The relay will be updated with this new value:



9.2. SET COUNTERS MENU

If the relay is provided with counters, it is possible to adjust the wanted value with the SiCom software.

Press “Set counters” option in the “Operations” menu:



The screenshot displays the SiCom software interface for device SILS102C0B1CAB. The 'Operations' menu is active, and the 'Set Counters' option is highlighted. A dialog box titled 'Set Counters' is open, showing a table of counters and their current values.

Device Information: SILS102C0B1CAB -#2# || 11/25/2024

Features:

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC 60385-4-20)
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 6 SZM + HLT

Permissions:

Modify Settings	Modify Configurations	Modify Control	Execute Command
✓	✓	✓	✓

Firmwares:

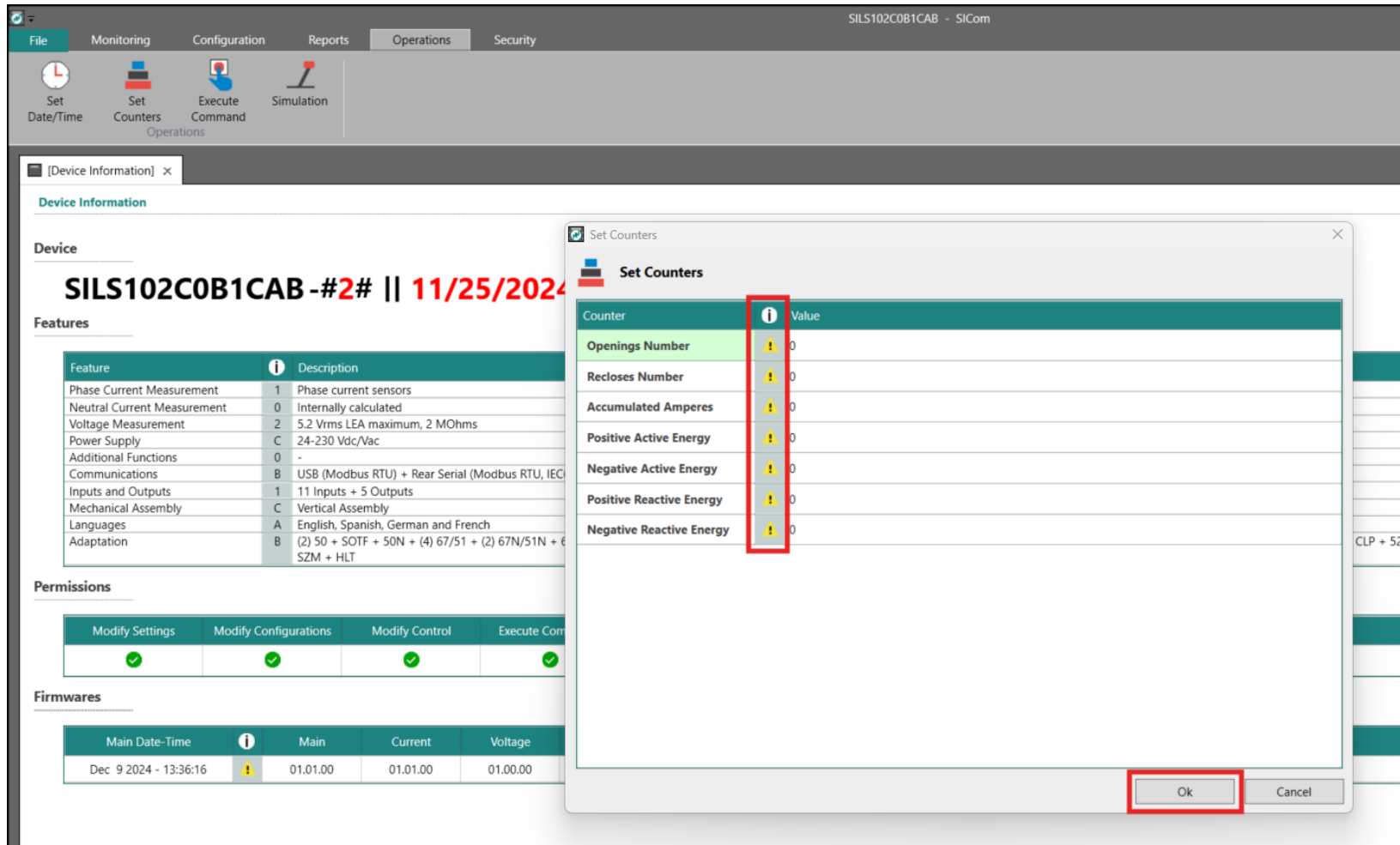
Main Date-Time	Main	Current	Voltage
Dec 9 2024 - 13:36:16	01.01.00	01.01.00	01.00.00

Set Counters Dialog:

Counter	Value
Openings Number	0
Recloses Number	0
Accumulated Amperes	0
Positive Active Energy	2,602,266.000
Negative Active Energy	0.000
Positive Reactive Energy	52,600.250
Negative Reactive Energy	0.000

Cancel

The value of the counters can be modified by the user. Simply change to the desired value and a yellow triangle will appear on column on its left to alert the user the changes have not been sent. Press “OK” to send the changes:

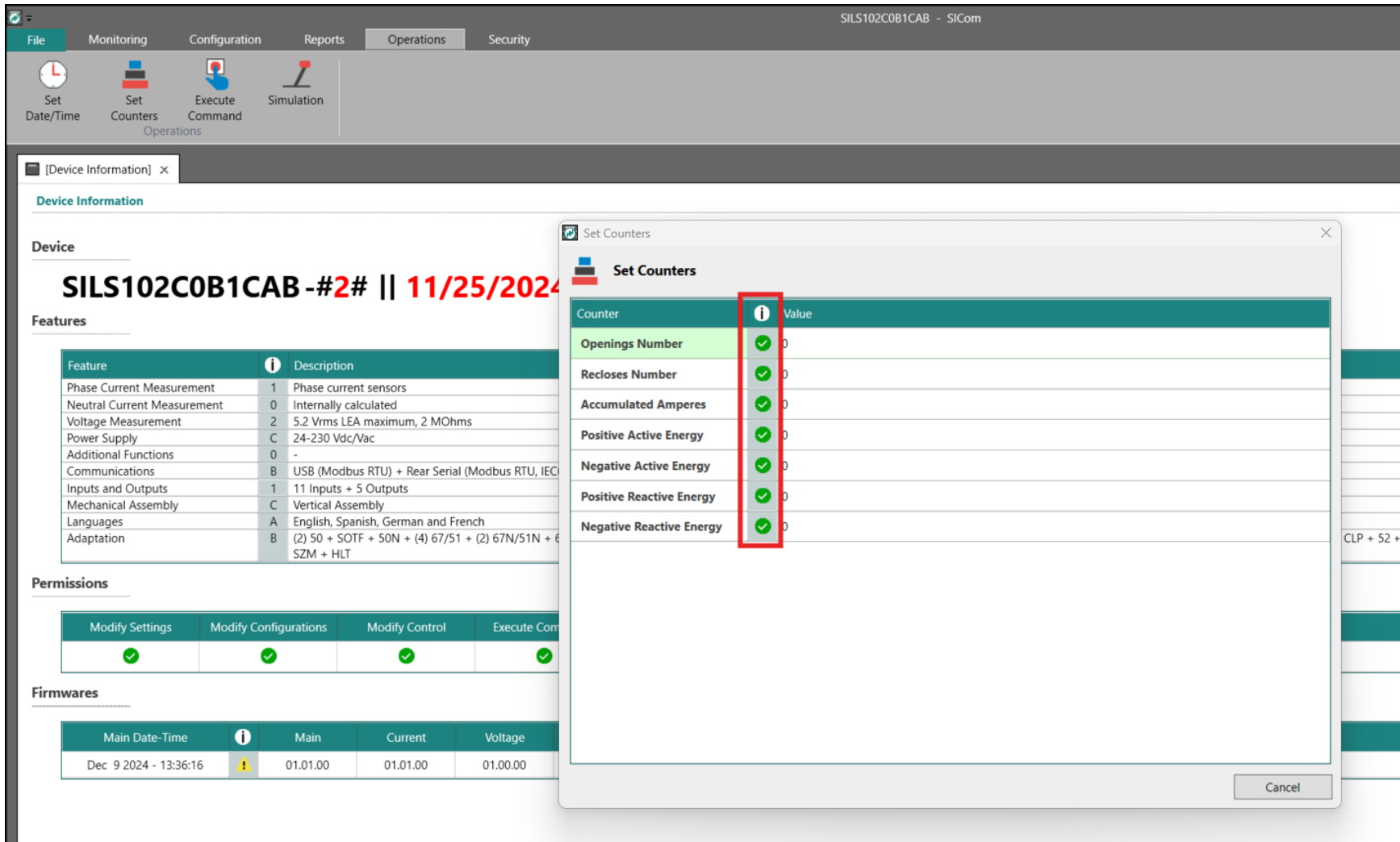


The screenshot shows the FANOX software interface with the 'Set Counters' dialog box open. The dialog box contains a table of counters and their values. A red box highlights the 'Ok' button at the bottom right of the dialog box.

Counter	Value
Openings Number	0
Recloses Number	0
Accumulated Amperes	0
Positive Active Energy	0
Negative Active Energy	0
Positive Reactive Energy	0
Negative Reactive Energy	0

The background window shows the 'Device Information' tab for device 'SILS102C0B1CAB - #2# || 11/25/2024'. It includes sections for Features, Permissions, and Firmwares.

After pressing “OK”, the new counters will be sent to the relay and a green symbol will appear in the column on the left of the values to inform that the counter has been successfully sent:



The screenshot displays the FANOX software interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, and Security. The 'Operations' tab is active, showing icons for Set Date/Time, Set Counters, Execute Command, and Simulation. The main window shows the 'Device Information' tab for device SILS102C0B1CAB. A 'Set Counters' dialog box is open, listing various counters with green checkmarks indicating successful status.

Device Information:

Device: SILS102C0B1CAB-#2# || 11/25/2024

Features:

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC)
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 6 SZM + HLT

Permissions:

Modify Settings	Modify Configurations	Modify Control	Execute Command
✓	✓	✓	✓

Firmwares:

Main Date-Time	Main	Current	Voltage
Dec 9 2024 - 13:36:16	01.01.00	01.01.00	01.00.00

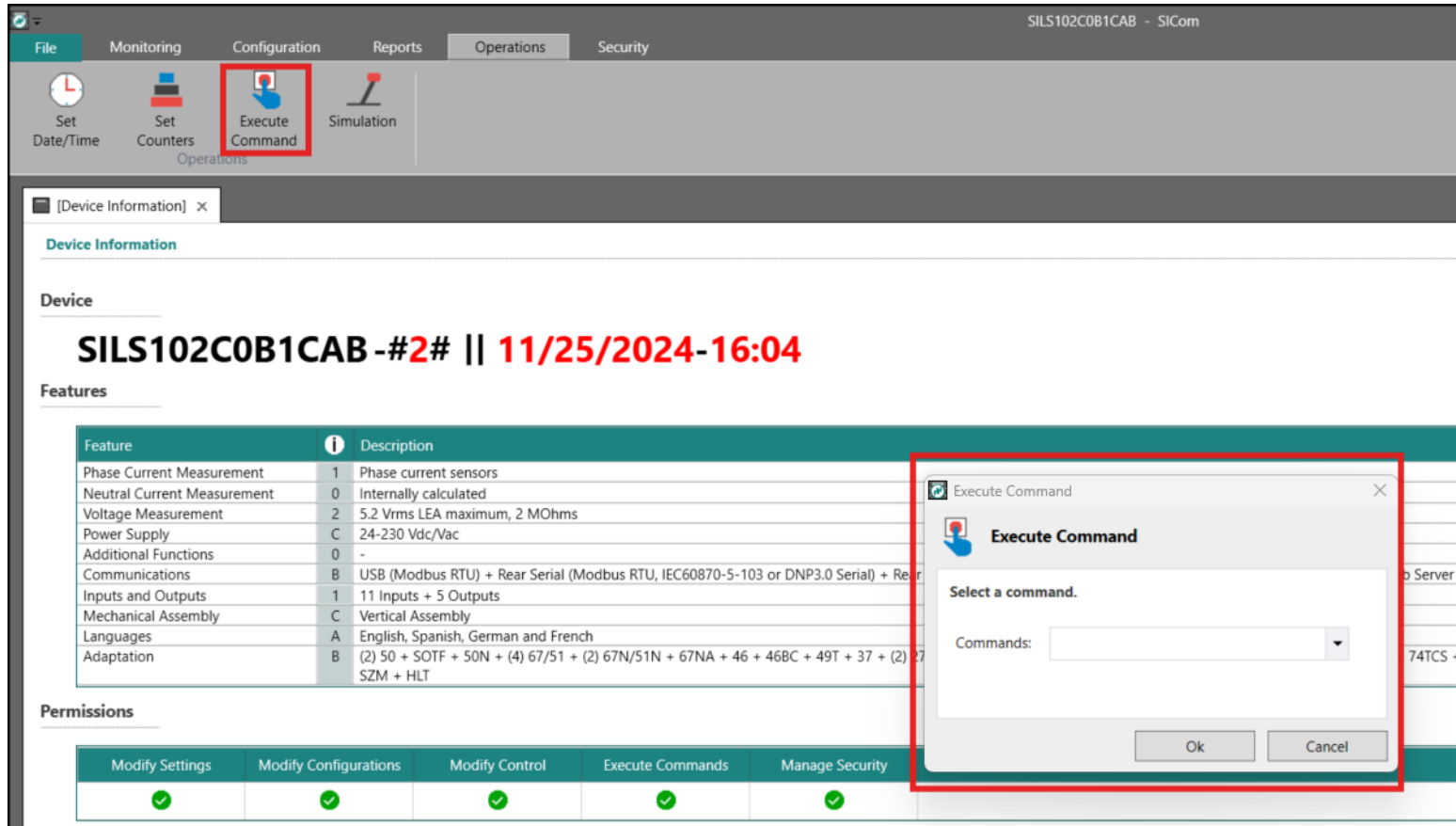
Set Counters Dialog:

Counter	Value
Openings Number	0
Recloses Number	0
Accumulated Amperes	0
Positive Active Energy	0
Negative Active Energy	0
Positive Reactive Energy	0
Negative Reactive Energy	0

9.3. EXECUTE COMMAND MENU

If the relay has commands, it is possible to execute them through the SiCom software:

Press “Execute Command” key in the “Operations” menu:

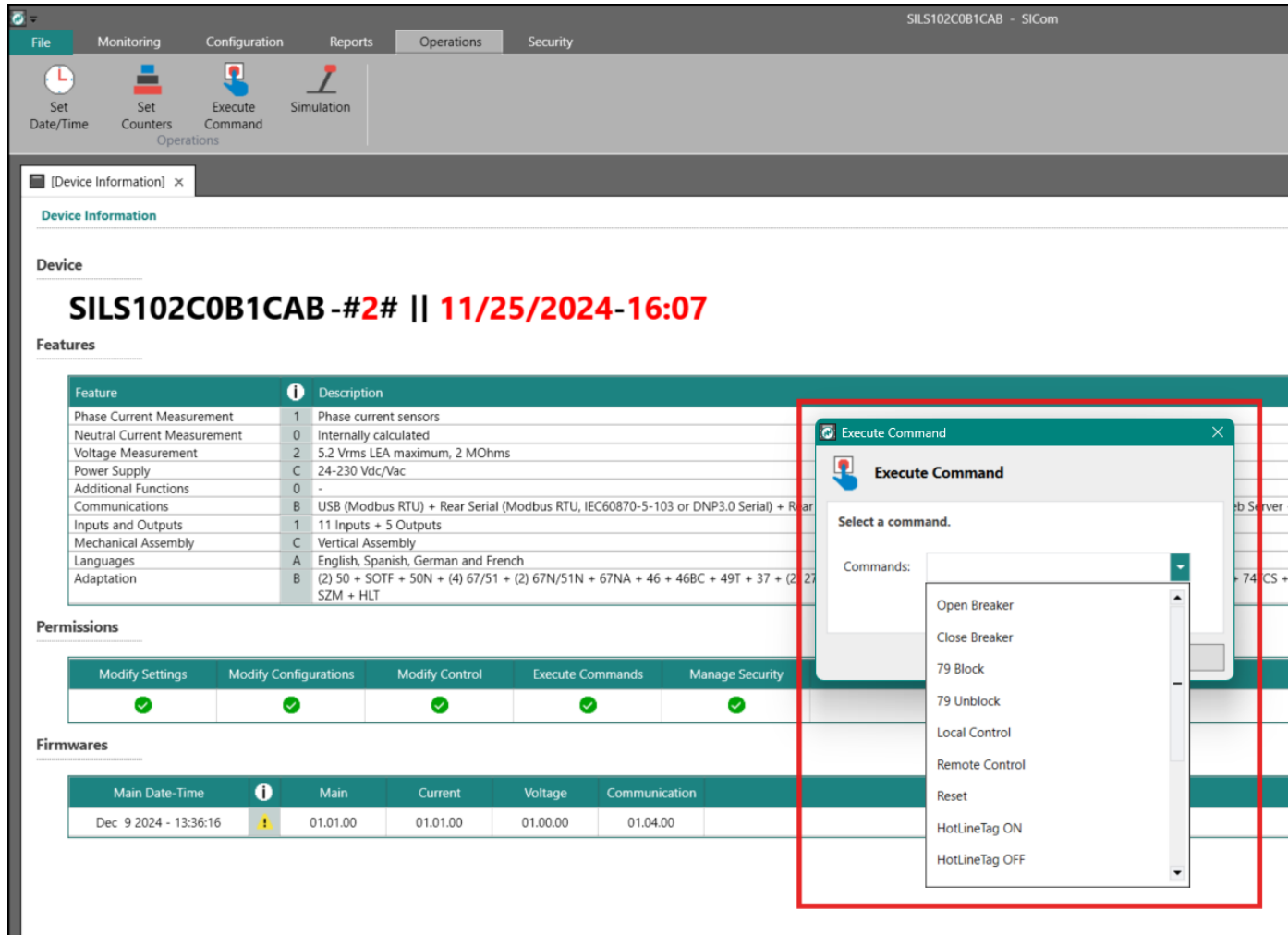


The screenshot displays the SiCom software interface for device SILS102C0B1CAB. The 'Operations' menu is active, and the 'Execute Command' button is highlighted with a red box. A dialog box titled 'Execute Command' is open, showing a 'Select a command.' dropdown menu and 'Ok' and 'Cancel' buttons. The background interface includes a top navigation bar with 'File', 'Monitoring', 'Configuration', 'Reports', 'Operations', and 'Security'. Below this, there are icons for 'Set Date/Time', 'Set Counters', 'Execute Command', and 'Simulation'. The main area shows 'Device Information' for SILS102C0B1CAB-#2# as of 11/25/2024-16:04. A table lists various features and their descriptions, and a 'Permissions' section at the bottom shows that all permissions are enabled with green checkmarks.

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 67TCS + 74TCS + SZM + HLT

Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

By clicking on the arrow on the right, a drop-down list with the different commands will appear (these commands will depend on the used relay):



The screenshot shows the FANOX web interface for device SILS102C0B1CAB - SiCom. The 'Operations' tab is active, and the 'Execute Command' dialog box is open, displaying a list of available commands.

Device Information

Device: **SILS102C0B1CAB -#2# || 11/25/2024-16:07**

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27

Permissions

Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

Firmwares

Main Date-Time	Main	Current	Voltage	Communication
Dec 9 2024 - 13:36:16	01.01.00	01.01.00	01.00.00	01.04.00

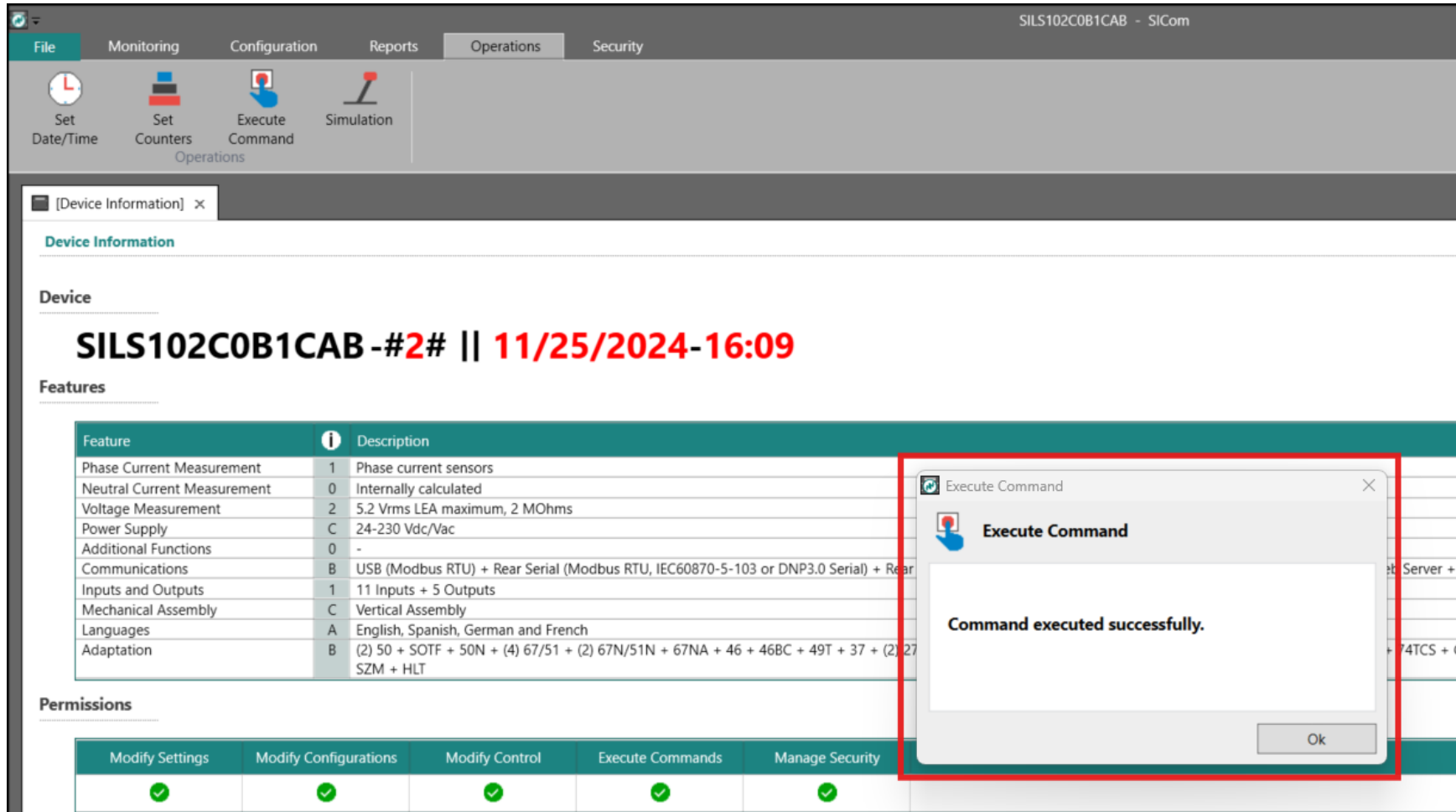
Execute Command Dialog Box

Select a command.

Commands:

- Open Breaker
- Close Breaker
- 79 Block
- 79 Unblock
- Local Control
- Remote Control
- Reset
- HotLineTag ON
- HotLineTag OFF

Select the desired command and press “OK” option to execute it. A message informing about this action will appear on the screen:



The screenshot displays the FANOX web interface for device management. The top navigation bar includes tabs for File, Monitoring, Configuration, Reports, Operations, and Security. The 'Operations' tab is active, showing icons for Set Date/Time, Set Counters, Execute Command, and Simulation. Below the navigation bar, a tab labeled '[Device Information] x' is selected. The main content area shows 'Device Information' for 'SILS102C0B1CAB - #2# || 11/25/2024-16:09'. A table lists various features and their descriptions. A 'Permissions' table at the bottom shows that all listed permissions are enabled with green checkmarks. A modal dialog box titled 'Execute Command' is overlaid on the right side, displaying the message 'Command executed successfully.' and an 'Ok' button.

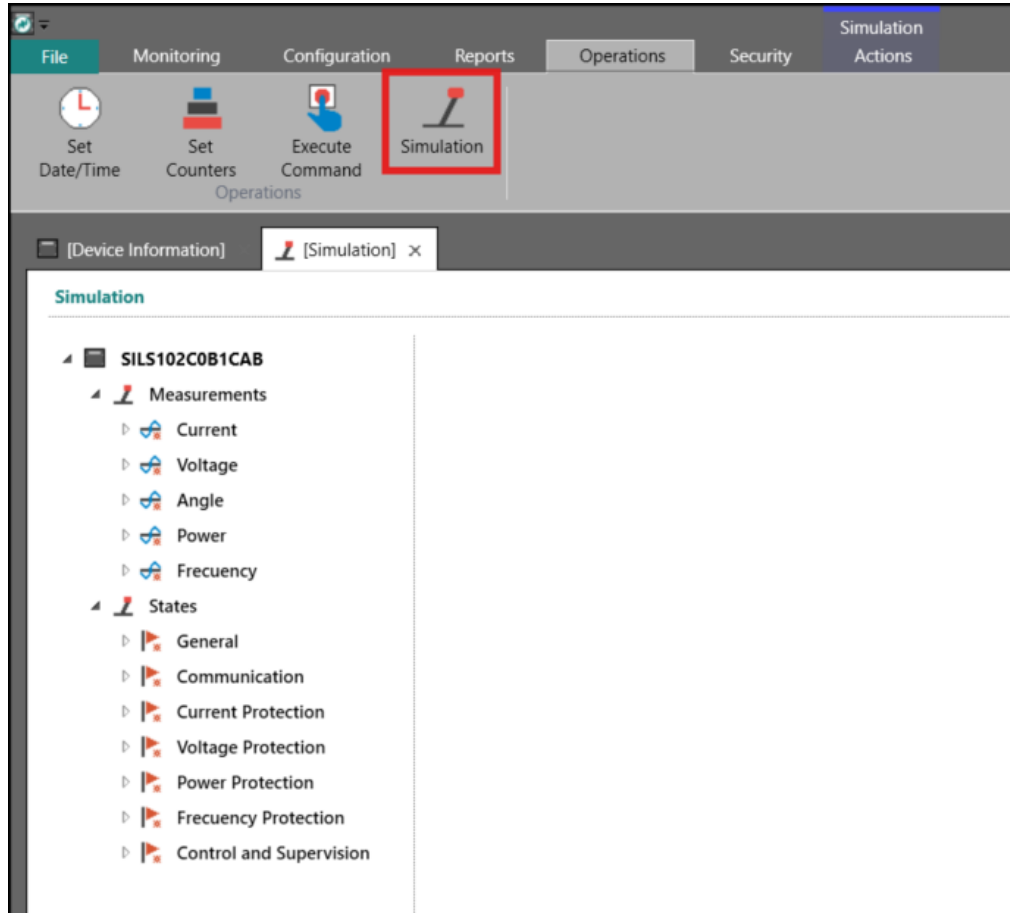
Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27 SZM + HLT

Permissions	Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
	✓	✓	✓	✓	✓

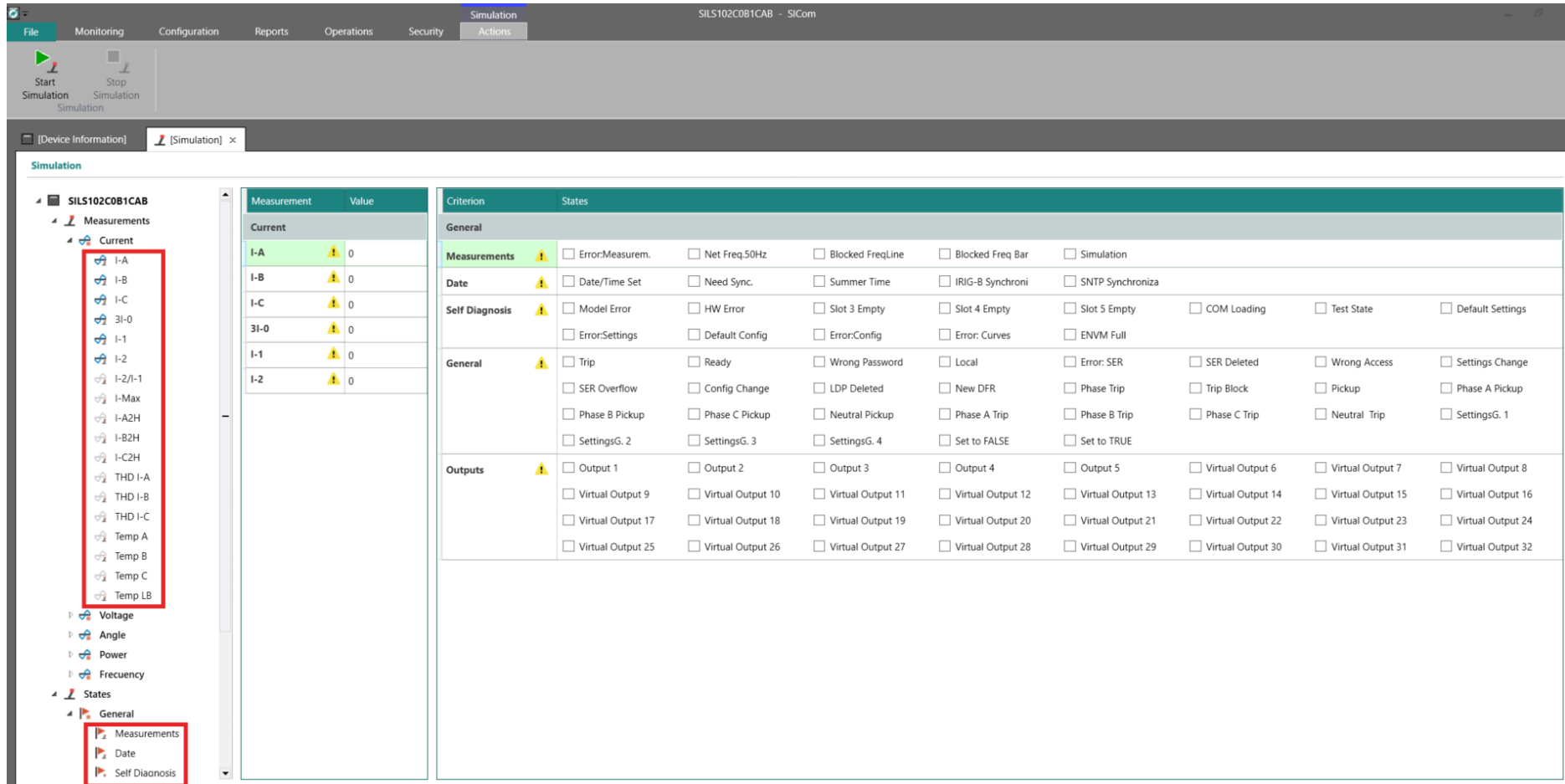
9.4. SIMULATION MENU

If the relay is provided with simulation option (available depending on the model), it is possible to simulate the desired values with the SICom software as if they were measured by the relay. The simulation of the activation or deactivation of the states is also available.

Press “Simulation” option in the “Operations” menu:



When clicking on each parameter, a list will be displayed so the parameters that want to be simulated can be selected.



The screenshot shows the FANOX simulation software interface. The 'Simulation' tab is active, displaying a list of parameters on the left and a table of simulation criteria on the right.

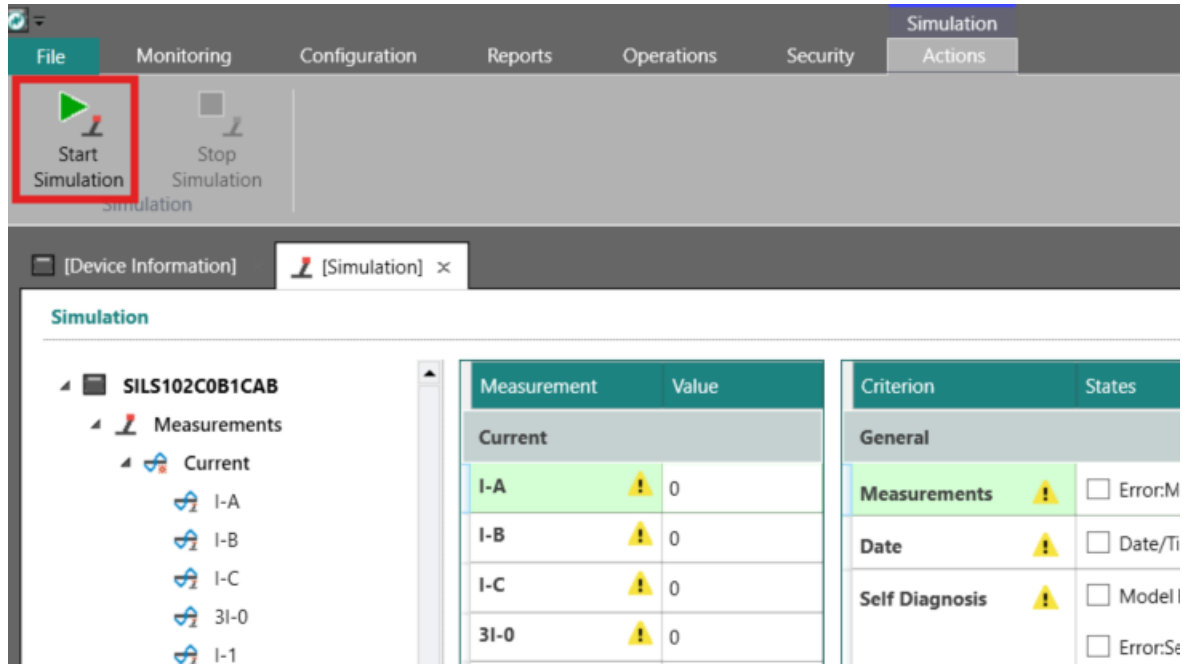
Left Panel: Parameters

- Measurements**
 - Current** (highlighted in a red box)
 - I-A
 - I-B
 - I-C
 - 3I-0
 - I-1
 - I-2
 - I-2/I-1
 - I-Max
 - I-A2H
 - I-B2H
 - I-C2H
 - THD I-A
 - THD I-B
 - THD I-C
 - Temp A
 - Temp B
 - Temp C
 - Temp LB
 - Voltage
 - Angle
 - Power
 - Frequency
- States**
 - General** (highlighted in a red box)
 - Measurements
 - Date
 - Self Diagnosis

Right Panel: Simulation Criteria Table

Criterion	States
General	☐ Error:Measur. ☐ Net Freq.50Hz ☐ Blocked FreqLine ☐ Blocked Freq Bar ☐ Simulation
Measurements	☐ Date/Time Set ☐ Need Sync. ☐ Summer Time ☐ IRIG-B Synchroni ☐ SNTP Synchroniza
Date	☐ Model Error ☐ HW Error ☐ Slot 3 Empty ☐ Slot 4 Empty ☐ Slot 5 Empty ☐ COM Loading ☐ Test State ☐ Default Settings
Self Diagnosis	☐ Error:Settings ☐ Default Config ☐ Error:Config ☐ Error: Curves ☐ ENVN Full
General	☐ Trip ☐ Ready ☐ Wrong Password ☐ Local ☐ Error:SER ☐ SER Deleted ☐ Wrong Access ☐ Settings Change ☐ SER Overflow ☐ Config Change ☐ LDP Deleted ☐ New DFR ☐ Phase Trip ☐ Trip Block ☐ Pickup ☐ Phase A Pickup ☐ Phase B Pickup ☐ Phase C Pickup ☐ Neutral Pickup ☐ Phase A Trip ☐ Phase B Trip ☐ Phase C Trip ☐ Neutral Trip ☐ SettingsG. 1 ☐ SettingsG. 2 ☐ SettingsG. 3 ☐ SettingsG. 4 ☐ Set to FALSE ☐ Set to TRUE
Outputs	☐ Output 1 ☐ Output 2 ☐ Output 3 ☐ Output 4 ☐ Output 5 ☐ Virtual Output 6 ☐ Virtual Output 7 ☐ Virtual Output 8 ☐ Virtual Output 9 ☐ Virtual Output 10 ☐ Virtual Output 11 ☐ Virtual Output 12 ☐ Virtual Output 13 ☐ Virtual Output 14 ☐ Virtual Output 15 ☐ Virtual Output 16 ☐ Virtual Output 17 ☐ Virtual Output 18 ☐ Virtual Output 19 ☐ Virtual Output 20 ☐ Virtual Output 21 ☐ Virtual Output 22 ☐ Virtual Output 23 ☐ Virtual Output 24 ☐ Virtual Output 25 ☐ Virtual Output 26 ☐ Virtual Output 27 ☐ Virtual Output 28 ☐ Virtual Output 29 ☐ Virtual Output 30 ☐ Virtual Output 31 ☐ Virtual Output 32

To start the simulation, press the “Start Simulation” button:

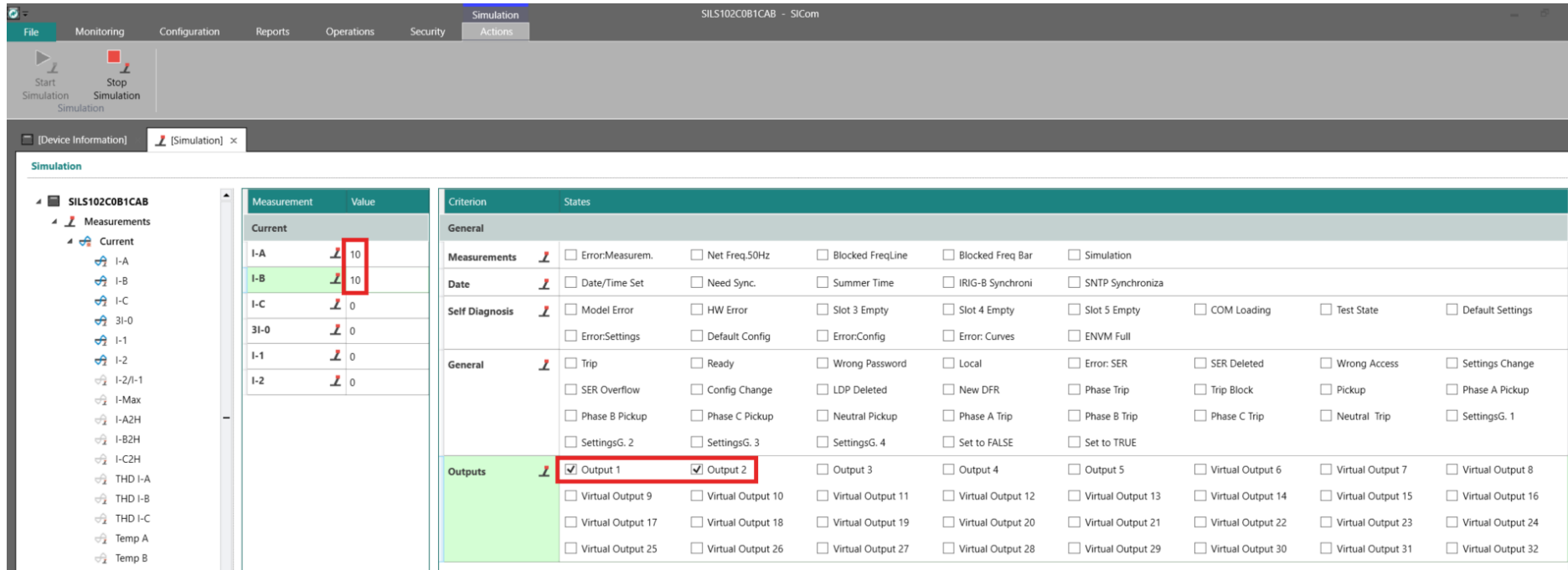


The screenshot shows the FANOX simulation interface. The 'Start Simulation' button is highlighted with a red box. The interface includes a menu bar with 'File', 'Monitoring', 'Configuration', 'Reports', 'Operations', 'Security', and 'Simulation'. Below the menu bar, there are tabs for '[Device Information]' and '[Simulation]'. The 'Simulation' tab is active, showing a tree view on the left with 'SILS102C0B1CAB' expanded to 'Measurements' and 'Current'. The main area displays two tables: 'Measurement' and 'Value', and 'Criterion' and 'States'.

Measurement	Value
Current	
I-A	0
I-B	0
I-C	0
3I-0	0

Criterion	States
General	
Measurements	☐ Error:M
Date	☐ Date/Ti
Self Diagnosis	☐ Model I
	☐ Error:Se

While in simulation mode, modify the values that want to be simulated, they will update automatically.



The screenshot displays the FANOX simulation interface. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Simulation. The Simulation tab is active, showing a list of measurements and a table of states.

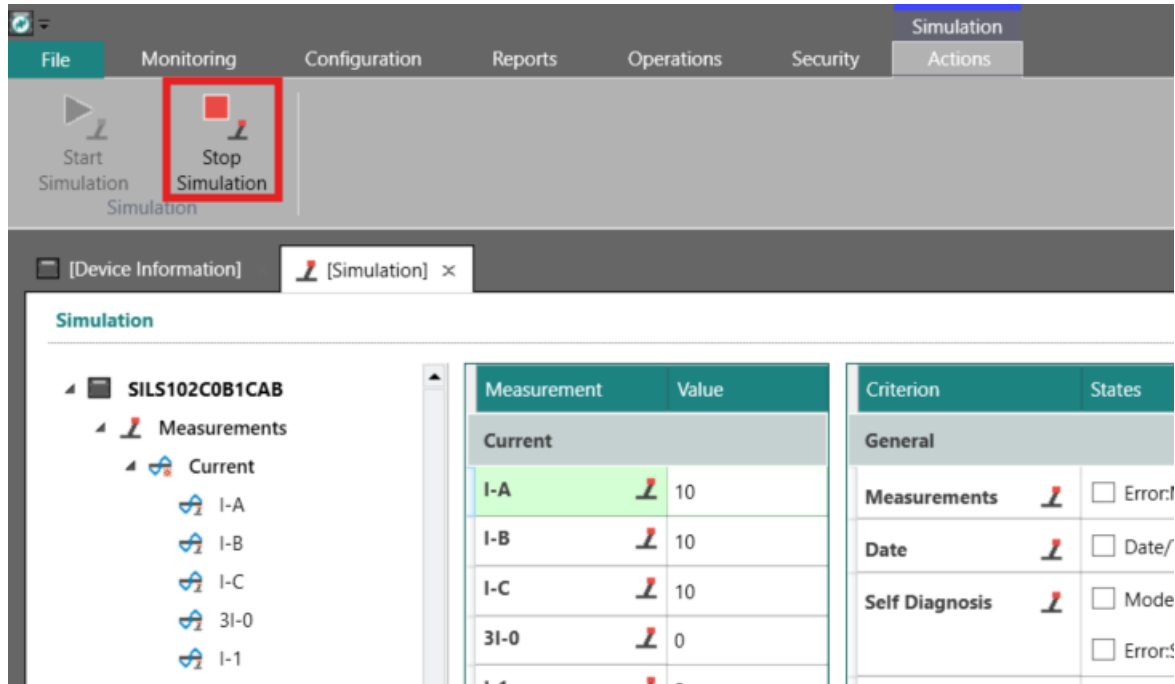
Measurements Table:

Measurement	Value
I-A	10
I-B	10
I-C	0
3I-0	0
I-1	0
I-2	0

States Table:

Criterion	States
General	☐ Error:Measur. ☐ Net Freq.50Hz ☐ Blocked FreqLine ☐ Blocked Freq Bar ☐ Simulation
Date	☐ Date/Time Set ☐ Need Sync. ☐ Summer Time ☐ IRIG-B Synchroni ☐ SNTP Synchroniza
Self Diagnosis	☐ Model Error ☐ HW Error ☐ Slot 3 Empty ☐ Slot 4 Empty ☐ Slot 5 Empty ☐ COM Loading ☐ Test State ☐ Default Settings
General	☐ Trip ☐ Ready ☐ Wrong Password ☐ Local ☐ Error: SER ☐ SER Deleted ☐ Wrong Access ☐ Settings Change
Outputs	☒ Output 1 ☒ Output 2 ☐ Output 3 ☐ Output 4 ☐ Output 5 ☐ Virtual Output 6 ☐ Virtual Output 7 ☐ Virtual Output 8

To stop the simulation, press the “Stop Simulation” button.



Simulation

Measurement

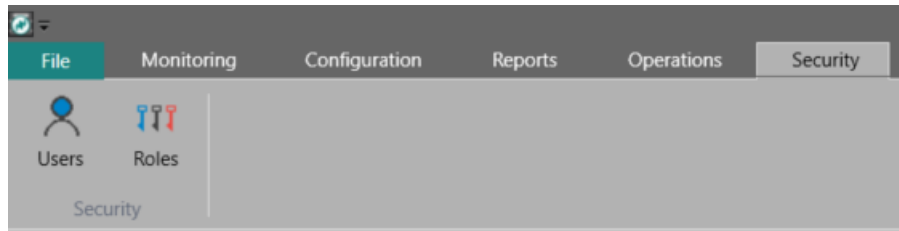
Measurement	Value
Current	
I-A	10
I-B	10
I-C	10
3I-0	0

Criterion

Criterion	States
General	
Measurements	☐ Error!
Date	☐ Date/
Self Diagnosis	☐ Mode
	☐ Error!

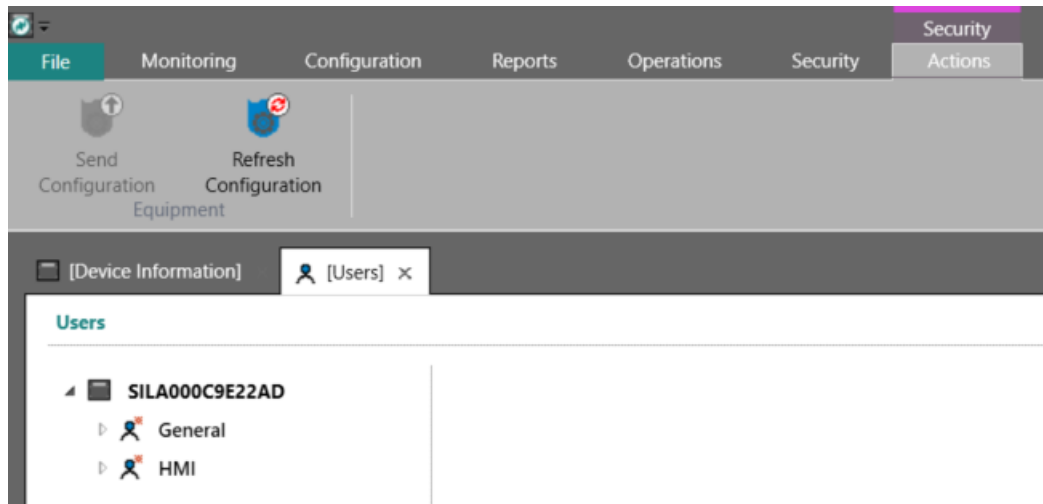
10. SECURITY MENU

In the relays that have the “Security” menu available, the following tabs can be found:

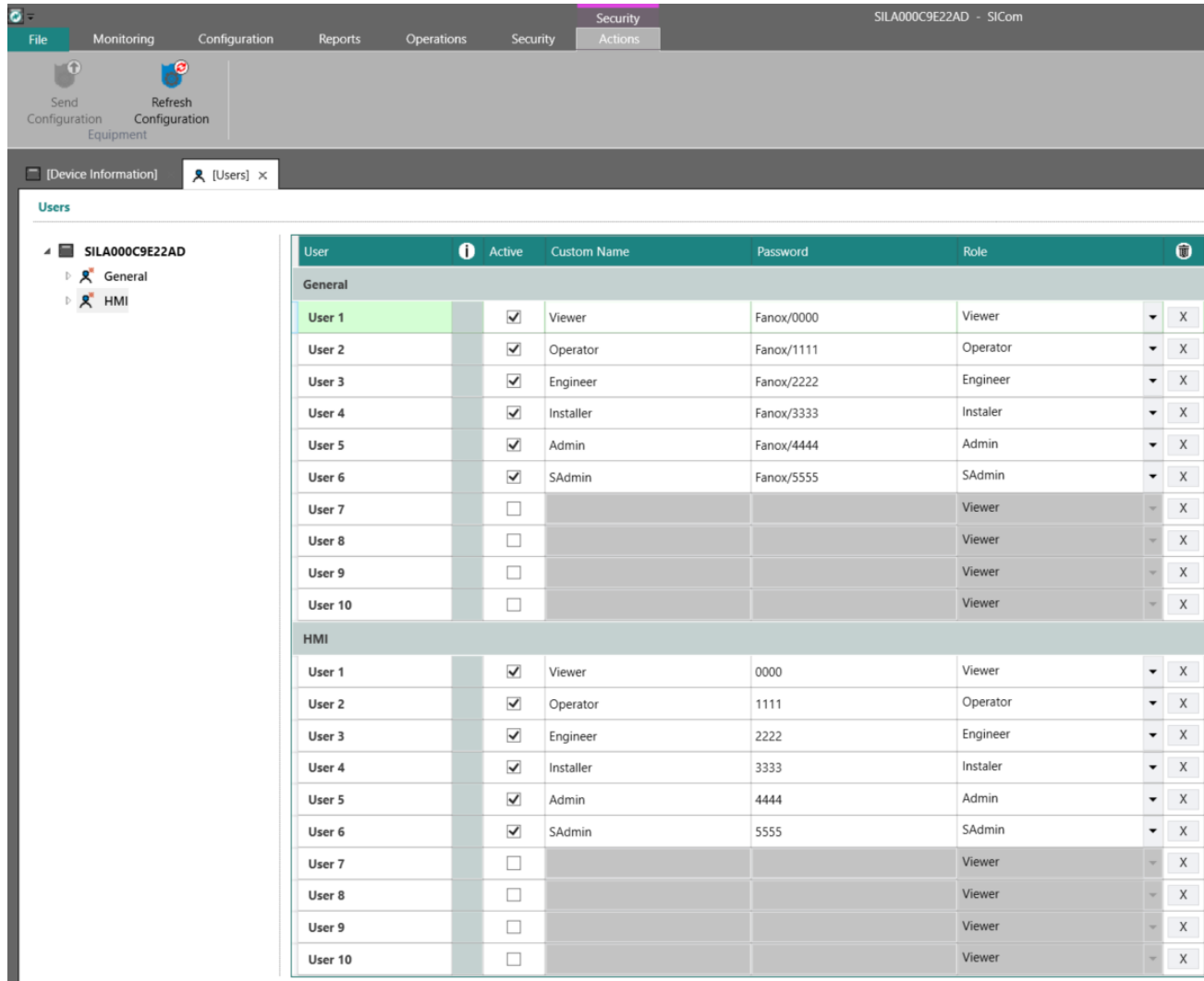


10.1. USERS MENU

The different users and their corresponding passwords can be changed pressing “Users” menu.

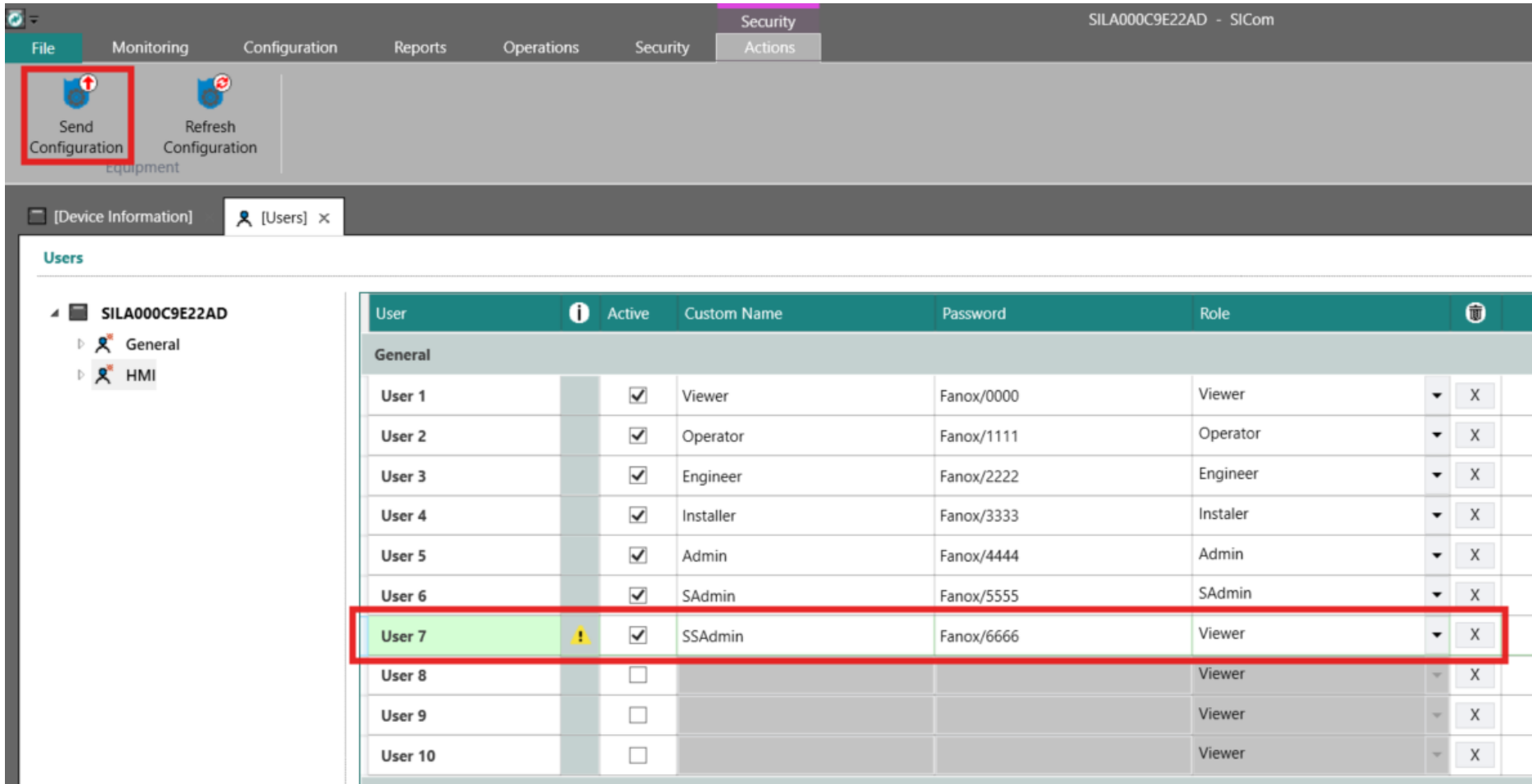


Pressing “General” and “HMI” the activation, designation, password and role of each user can be defined:



User	Active	Custom Name	Password	Role	
General					
User 1	☒	Viewer	Fanox/0000	Viewer	X
User 2	☒	Operator	Fanox/1111	Operator	X
User 3	☒	Engineer	Fanox/2222	Engineer	X
User 4	☒	Installer	Fanox/3333	Instaler	X
User 5	☒	Admin	Fanox/4444	Admin	X
User 6	☒	SAdmin	Fanox/5555	SAdmin	X
User 7	☐			Viewer	X
User 8	☐			Viewer	X
User 9	☐			Viewer	X
User 10	☐			Viewer	X
HMI					
User 1	☒	Viewer	0000	Viewer	X
User 2	☒	Operator	1111	Operator	X
User 3	☒	Engineer	2222	Engineer	X
User 4	☒	Installer	3333	Instaler	X
User 5	☒	Admin	4444	Admin	X
User 6	☒	SAdmin	5555	SAdmin	X
User 7	☐			Viewer	X
User 8	☐			Viewer	X
User 9	☐			Viewer	X
User 10	☐			Viewer	X

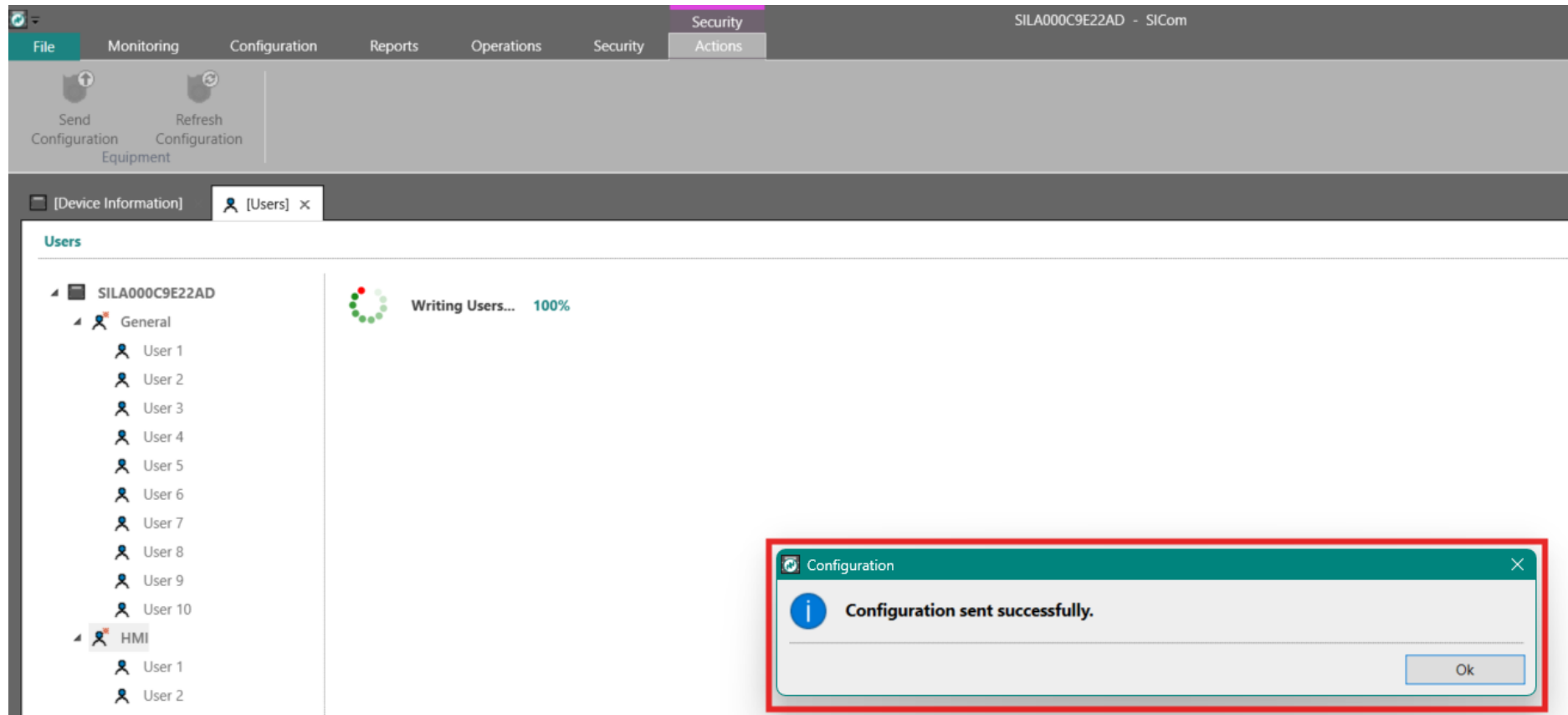
When a parameter is modified it must be saved by pressing the “Send Configuration” button:



The screenshot shows the FANOX Security configuration interface. The top navigation bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Actions. The 'Send Configuration' button is highlighted with a red box. The 'Users' table is displayed, showing a list of users with their roles and active status. User 7 is highlighted with a red box, indicating a configuration change.

User	Active	Custom Name	Password	Role	
General					
User 1	☒	Viewer	Fanox/0000	Viewer	X
User 2	☒	Operator	Fanox/1111	Operator	X
User 3	☒	Engineer	Fanox/2222	Engineer	X
User 4	☒	Installer	Fanox/3333	Instaler	X
User 5	☒	Admin	Fanox/4444	Admin	X
User 6	☒	SAdmin	Fanox/5555	SAdmin	X
User 7	☒	SSAdmin	Fanox/6666	Viewer	X
User 8	☐			Viewer	X
User 9	☐			Viewer	X
User 10	☐			Viewer	X

A window confirming the changes will show:



Please, consider that the new password must fulfill the following requirements:

User		Active	Custom Name	Password	Role	
General						
User 1		☒	Viewer	Fanox/0000	Viewer	X
User 2		☒	Operator	Fanox/1111	Operator	X
User 3		☒	Engineer	Fanox/2222	Engineer	X
User 4		☒	Installer	Fanox/3333	Installer	X
User 5		☒	Admin	Fanox/4444	Admin	X
User 6		☒	SAdmin	Fanox/5555	SAdmin	X

Password Rules: Has a minimum length of 8 characters.
 Has a maximum length of 10 characters.
 Contains at least one uppercase letter.
 Contains at least one lowercase letter.
 Contains at least one digit.
 Contains at least one special character.

HMI						
User 1		☒	Viewer	0000	Viewer	X
User 2		☒	Operator	1111	Operator	X
User 3		☒	Engineer	2222	Engineer	X
User 4		☒	Installer	3333	Instaler	X

Password Rules: Has a lenght of 4 characters.

NOTE: In relay version M1.20 for SIRA and SIRC the user “Custom Names” by default are the following:

SIRC001C201DAB - SICom

File Monitoring Configuration Reports Operations Security **Security** Actions

Send Configuration Equipment Refresh Configuration Equipment

[Device Information] [Users] x

Users

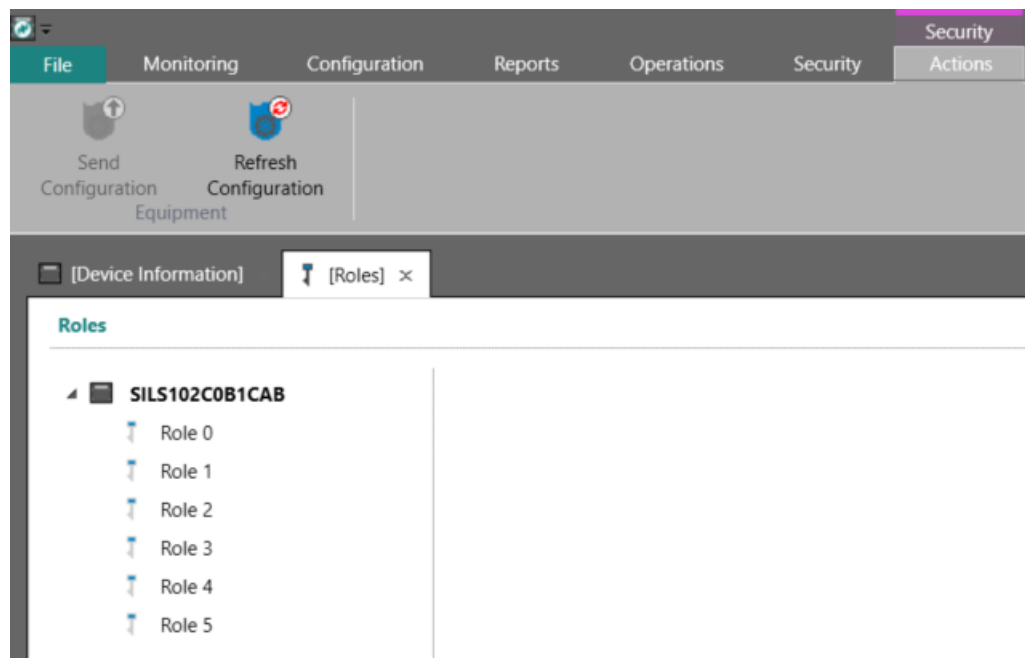
SIRC001C201DAB

- General
- HMI

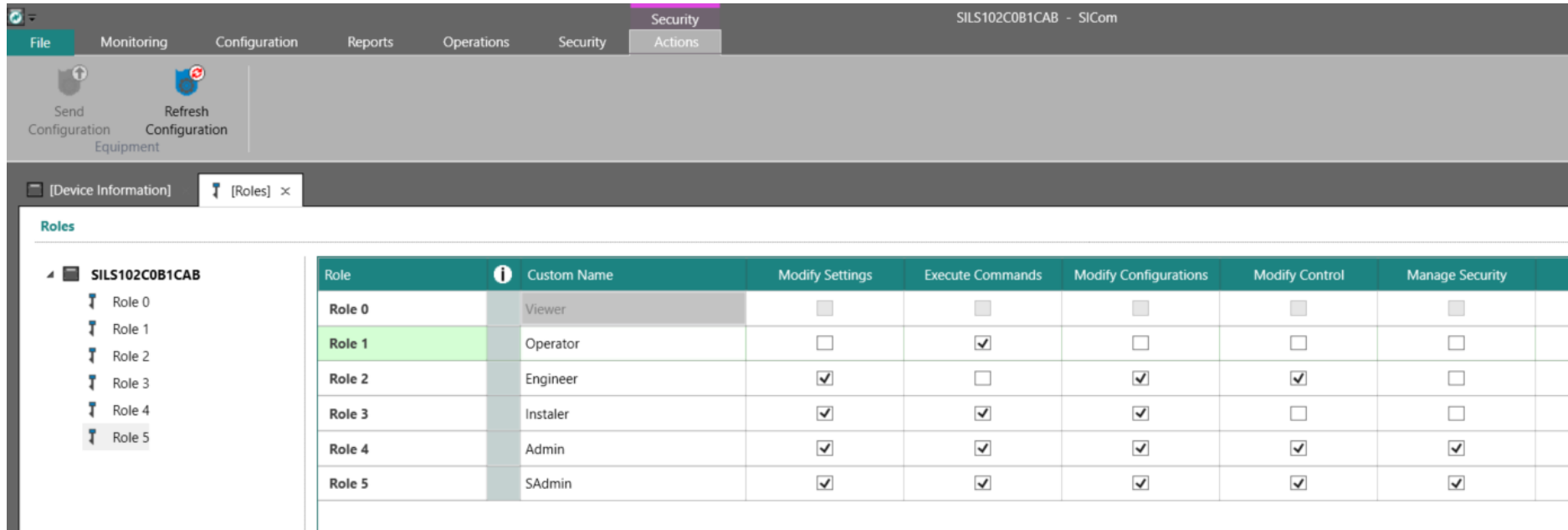
User	Active	Custom Name	Password	Role	
General					
User 1	☒	FanoxUser0	Fanox/0000	Viewer	X
User 2	☒	FanoxUser1	Fanox/1111	Operator	X
User 3	☒	FanoxUser2	Fanox/2222	Engineer	X
User 4	☒	FanoxUser3	Fanox/3333	Instaler	X
User 5	☒	FanoxUser4	Fanox/4444	Admin	X
User 6	☒	FanoxUser5	Fanox/5555	SAdmin	X
User 7	☐			Viewer	X
User 8	☐			Viewer	X
User 9	☐			Viewer	X
User 10	☐			Viewer	X
HMI					
User 1	☒	HMIUser0	0000	Viewer	X
User 2	☒	HMIUser1	1111	Operator	X
User 3	☒	HMIUser2	2222	Engineer	X
User 4	☒	HMIUser3	3333	Instaler	X
User 5	☒	HMIUser4	4444	Admin	X
User 6	☒	HMIUser5	5555	SAdmin	X
User 7	☐			Viewer	X
User 8	☐			Viewer	X
User 9	☐			Viewer	X
User 10	☐			Viewer	X

10.2. ROLES MENU

In this menu the different roles available and their permits can be found.



When clicking in each role the permissions can be viewed or modified depending on the user used to start the SiCom session.



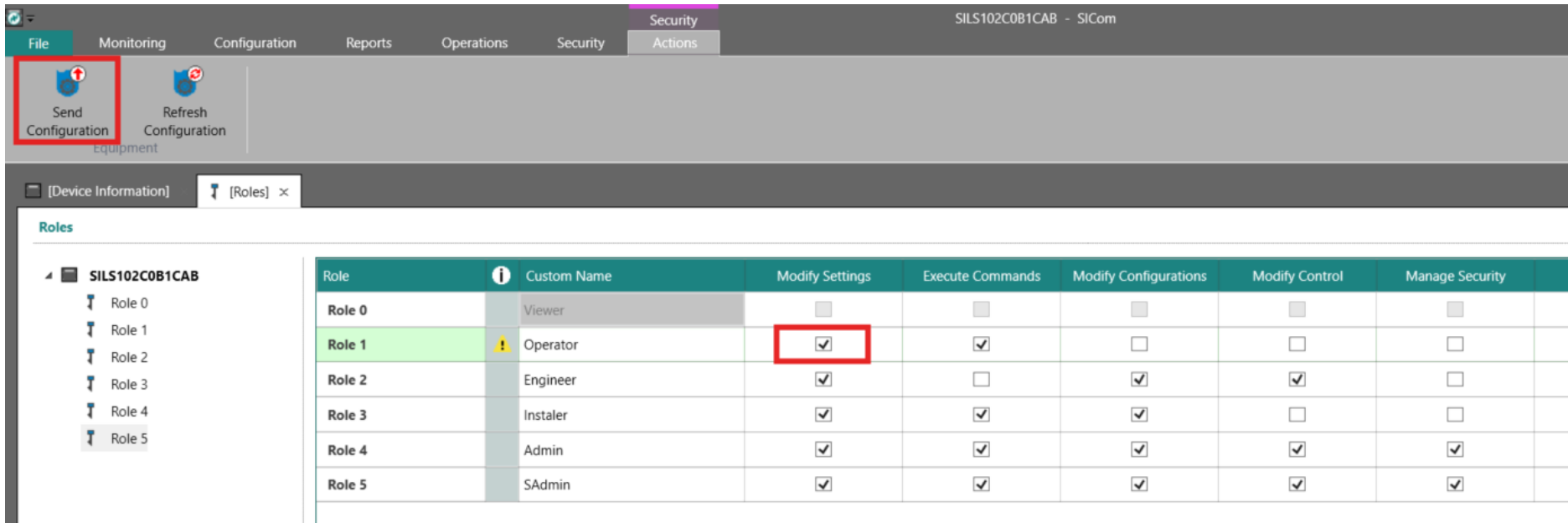
Roles

SILS102C0B1CAB

- Role 0
- Role 1
- Role 2
- Role 3
- Role 4
- Role 5

Role	Custom Name	Modify Settings	Execute Commands	Modify Configurations	Modify Control	Manage Security
Role 0	Viewer	☐	☐	☐	☐	☐
Role 1	Operator	☐	☒	☐	☐	☐
Role 2	Engineer	☒	☐	☒	☒	☐
Role 3	Instaler	☒	☒	☒	☐	☐
Role 4	Admin	☒	☒	☒	☒	☒
Role 5	SAdmin	☒	☒	☒	☒	☒

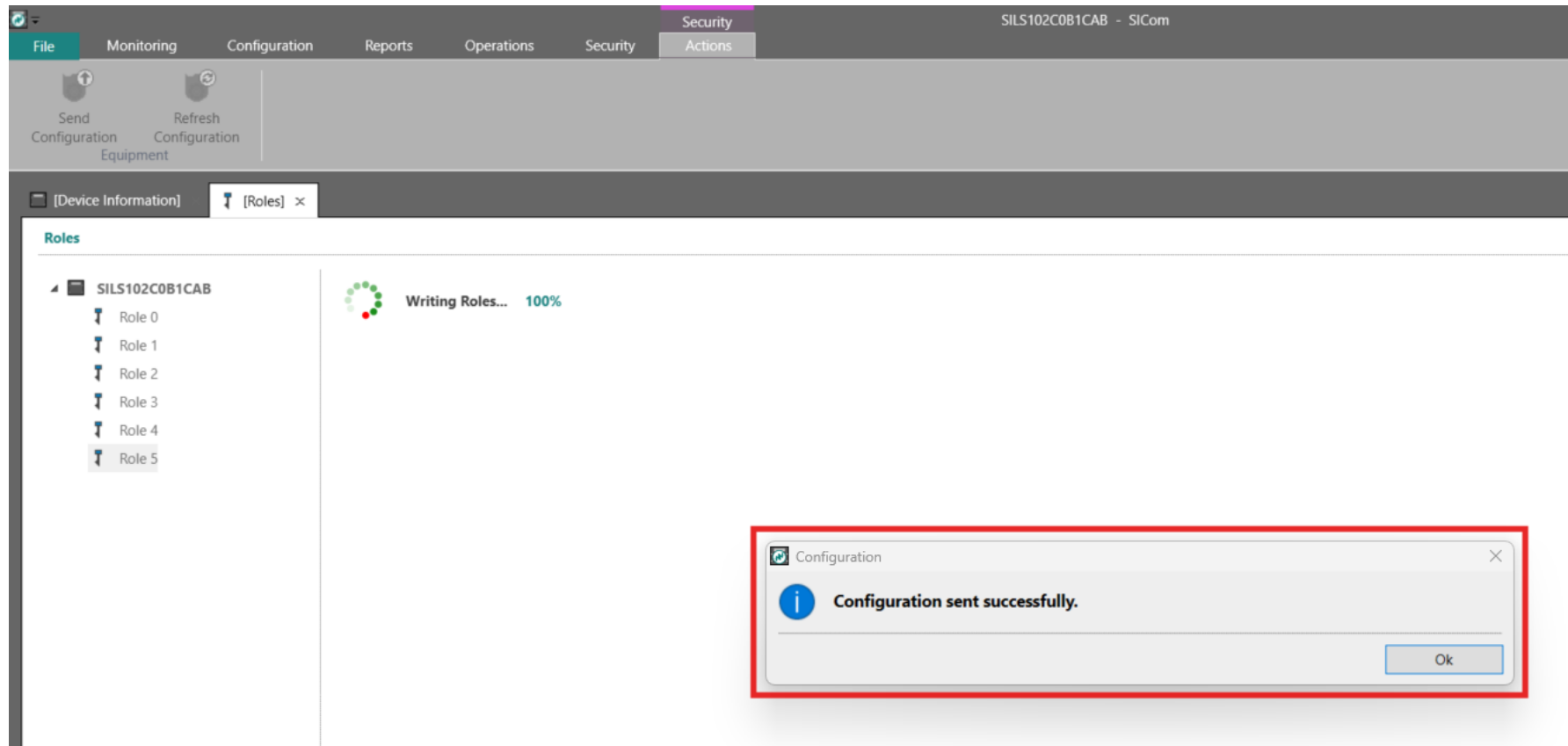
To modify the permissions, the role used must have the “Manage Security” box ticked. If so, select the permission that wants to be changed and click on “Send Configuration” button:



The screenshot shows the FANOX Security Actions interface. The top navigation bar includes File, Monitoring, Configuration, Reports, Operations, Security, and Actions. The 'Send Configuration' button is highlighted in the top left. The 'Roles' tab is selected, showing a list of roles for device SILS102C0B1CAB. The table below lists the roles and their permissions. The 'Manage Security' checkbox for Role 1 is highlighted.

Role	Custom Name	Modify Settings	Execute Commands	Modify Configurations	Modify Control	Manage Security
Role 0	Viewer	☐	☐	☐	☐	☐
Role 1	Operator	☒	☒	☐	☐	☐
Role 2	Engineer	☒	☐	☒	☒	☐
Role 3	Instaler	☒	☒	☒	☐	☐
Role 4	Admin	☒	☒	☒	☒	☒
Role 5	SAdmin	☒	☒	☒	☒	☒

A message showing that the modification has been correctly performed:



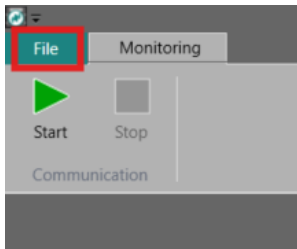
11. CREDENTIALS AND IPS MANAGERS

SICOM includes a feature that allows users to store usernames, passwords, and IP addresses, making it easier to access devices quickly and securely.

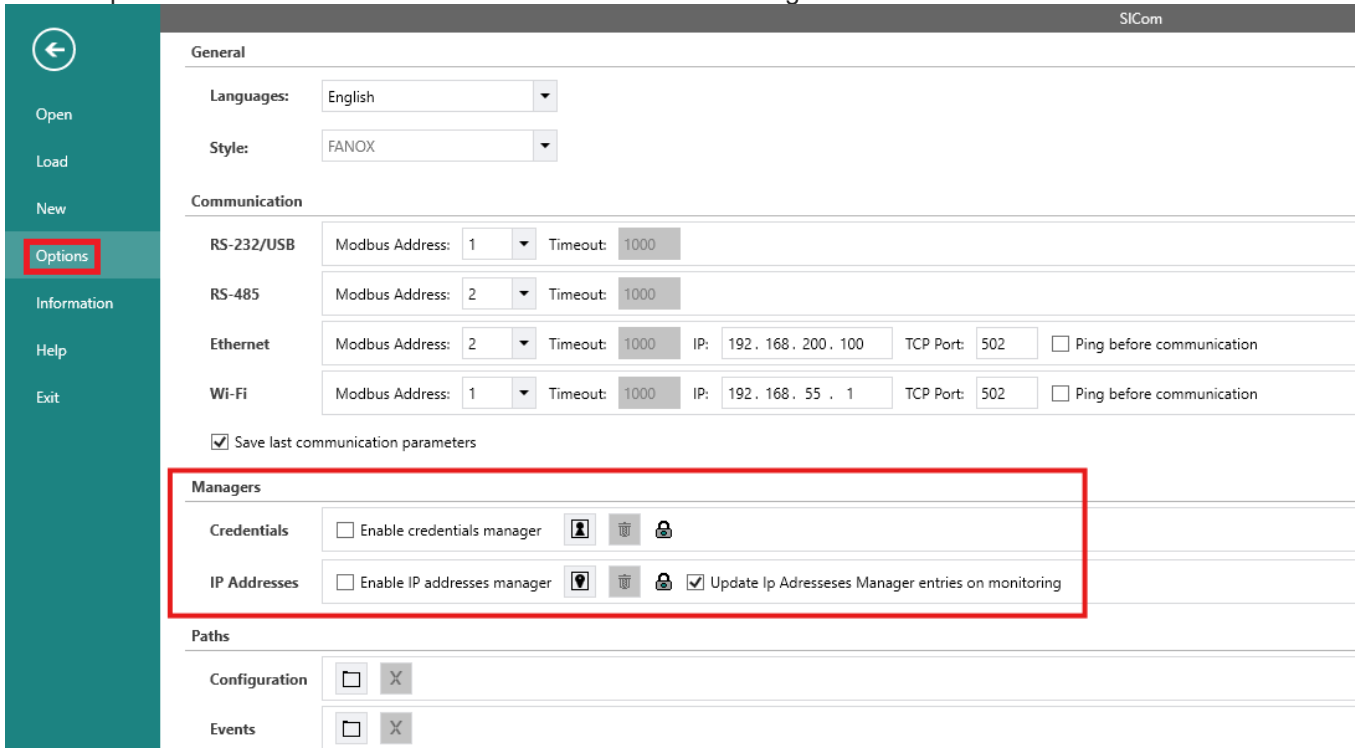
11.1. HOW TO CONFIGURE THE CREDENTIALS AND IP ADDRESS MANAGER

To enable this feature and save credentials and IP addresses, follow the next steps:

1. Open SICOM software.
2. Press “File”.



3. Press “Options” and enable credentials and/or IP addresses manager.



SICom

General

Languages: English

Style: FANOX

Communication

RS-232/USB: Modbus Address: 1 Timeout: 1000

RS-485: Modbus Address: 2 Timeout: 1000

Ethernet: Modbus Address: 2 Timeout: 1000 IP: 192 . 168 . 200 . 100 TCP Port: 502 ☐ Ping before communication

Wi-Fi: Modbus Address: 1 Timeout: 1000 IP: 192 . 168 . 55 . 1 TCP Port: 502 ☐ Ping before communication

☒ Save last communication parameters

Managers

Credentials: ☐ Enable credentials manager

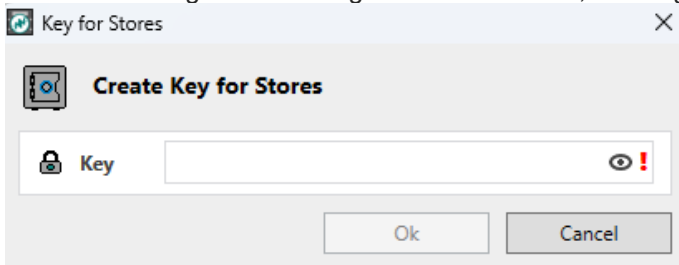
IP Addresses: ☒ Enable IP addresses manager ☒ Update Ip Addresses Manager entries on monitoring

Paths

Configuration: ☐ X

Events: ☐ X

4. When accessing either manager for the first time, creating a key for the stores will be required.



Key for Stores

Create Key for Stores

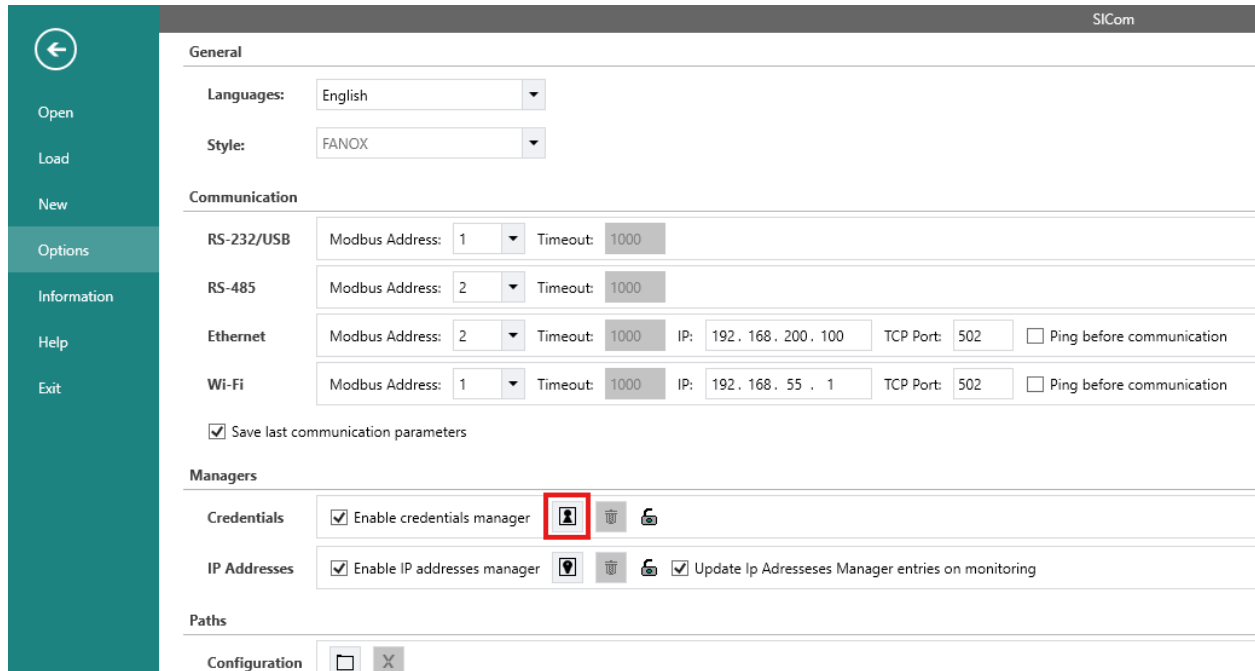
Key

Ok Cancel

This key must be 8 characters long and it must be introduced every time SICom is opened in order to be able to use the stored credentials and IP addresses.

11.1.1. Credentials manager

1. Press “Show credentials manager”.



The screenshot shows the SICom configuration interface. On the left is a teal sidebar with navigation options: Open, Load, New, Options (highlighted), Information, Help, and Exit. The main area is titled 'SICom' and contains several sections: General, Communication, Managers, and Paths. In the 'Managers' section, the 'Credentials' row has a checkbox 'Enable credentials manager' which is checked, and a red box highlights the user icon button next to it. Other rows in 'Managers' include 'IP Addresses' with a checked 'Enable IP addresses manager' and an 'Update Ip Addresses Manager entries on monitoring' checkbox. The 'Communication' section lists RS-232/USB, RS-485, Ethernet, and Wi-Fi with their respective Modbus addresses, timeouts, and IP addresses. The 'General' section shows language and style settings. The 'Paths' section has a 'Configuration' row with a folder icon and a close button.

General

Languages: English

Style: FANOX

Communication

RS-232/USB: Modbus Address: 1, Timeout: 1000

RS-485: Modbus Address: 2, Timeout: 1000

Ethernet: Modbus Address: 2, Timeout: 1000, IP: 192.168.200.100, TCP Port: 502, ☐ Ping before communication

Wi-Fi: Modbus Address: 1, Timeout: 1000, IP: 192.168.55.1, TCP Port: 502, ☐ Ping before communication

☒ Save last communication parameters

Managers

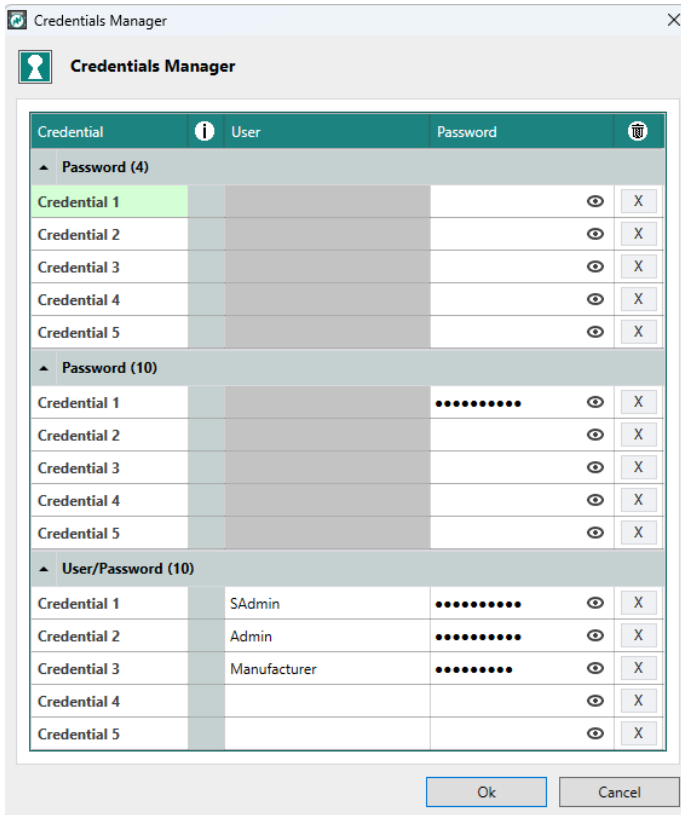
Credentials: ☒ Enable credentials manager   

IP Addresses: ☒ Enable IP addresses manager    ☒ Update Ip Addresses Manager entries on monitoring

Paths

Configuration:  

2. Add and save the passwords or the users/passwords.



Credential	User	Password		
▲ Password (4)				
Credential 1			👁	X
Credential 2			👁	X
Credential 3			👁	X
Credential 4			👁	X
Credential 5			👁	X
▲ Password (10)				
Credential 1		••••••••	👁	X
Credential 2			👁	X
Credential 3			👁	X
Credential 4			👁	X
Credential 5			👁	X
▲ User/Password (10)				
Credential 1	SAdmin	••••••••	👁	X
Credential 2	Admin	••••••~•	👁	X
Credential 3	Manufacturer	••••••~•	👁	X
Credential 4			👁	X
Credential 5			👁	X

Depending on the equipment and the version of firmware, different types of credentials are required. There are 3 different cases:

- Password of up to 4 characters
- Password of up to 10 characters
- User/Password

🔔 **NOTE:** The users and passwords should be the ones found in “Users Menu”.

11.1.2. IP addresses manager

1. Press "Show IP addresses manager".

←
SICom

Open

Load

New

Options

Information

Help

Exit

General

Languages: English
Style: FANOX

Communication

RS-232/USB	Modbus Address: 1	Timeout: 1000		
RS-485	Modbus Address: 2	Timeout: 1000		
Ethernet	Modbus Address: 2	Timeout: 1000	IP: 192 . 168 . 200 . 100	TCP Port: 502 ☐ Ping before communication
Wi-Fi	Modbus Address: 1	Timeout: 1000	IP: 192 . 168 . 55 . 1	TCP Port: 502 ☐ Ping before communication

☒ Save last communication parameters

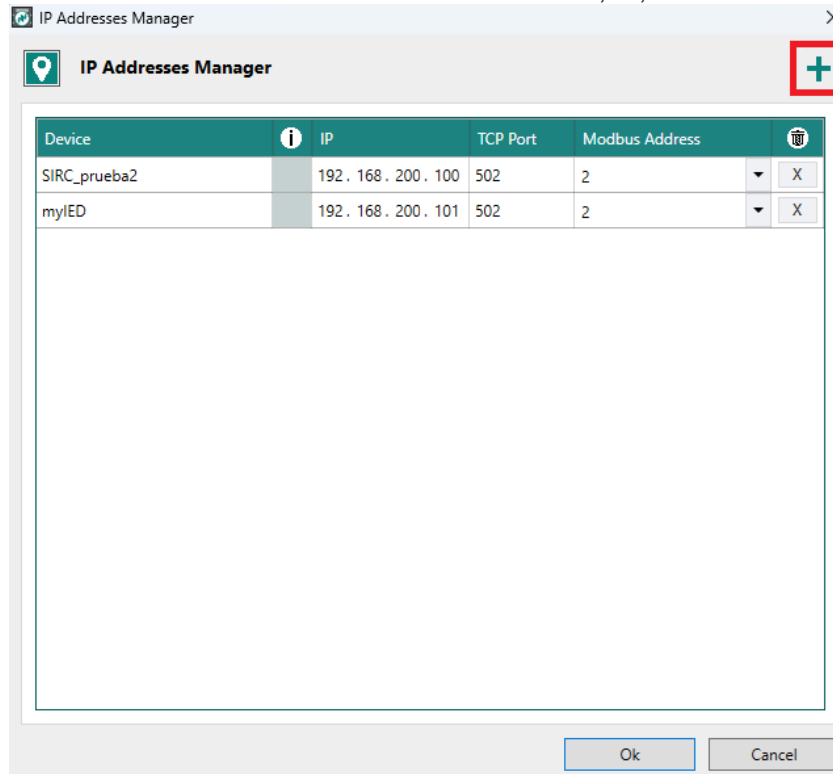
Managers

Credentials	☒ Enable credentials manager
IP Addresses	☒ Enable IP addresses manager ☒ Update Ip Adresses Manager entries on monitoring

Paths

Configuration

2. Press the “Add” button and save the Device name, IP, TCP Port and Modbus Address.



Device	IP	TCP Port	Modbus Address
SIRC_prueba2	192.168.200.100	502	2
myIED	192.168.200.101	502	2

NOTE: If the option “Update IP Addresses Manager entries on monitoring” is enabled, the IP address of any accessed relay will be automatically saved in the IP Addresses Manager.

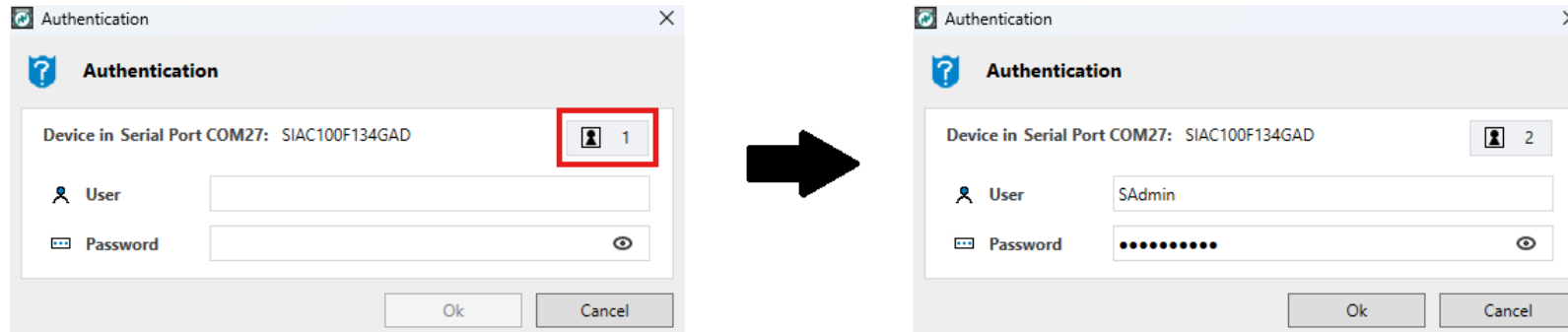
Managers

Credentials	☒ Enable credentials manager	  
IP Addresses	☒ Enable IP addresses manager	   ☒ Update Ip Addressses Manager entries on monitoring

11.2. USING STORED CREDENTIALS AND IPS

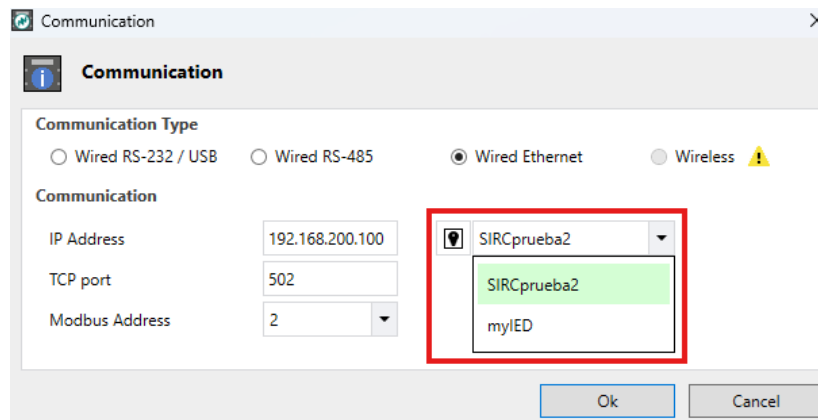
11.2.1. Credentials

When accessing the relay, during the “Authentication” step, press the “Credentials manager” button to cycle through the saved credentials.



11.2.2. IP Addresses

When accessing the relay, select the desired IP Address.



12. SICOM OFFLINE – CONFIGURATION FILE

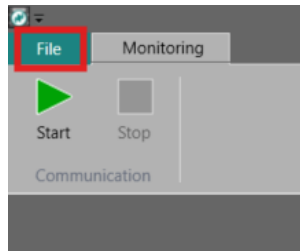
In the most recent relay versions, the settings and configuration files have been merged into one single configuration file. This file includes settings, configuration and protocols parameters. If information is needed for the previous separated files, contact aplicacion@fanox.com.

12.1. How to create a new configuration file from offline mode

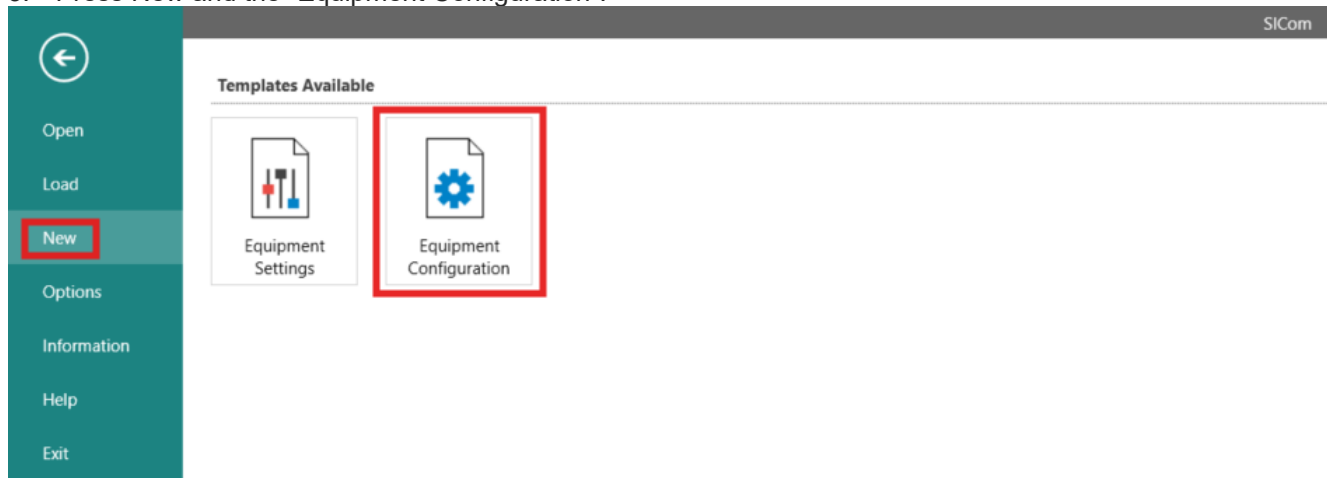
To create a new configuration file in offline mode, follow the next steps:

1. Open SICOM software.

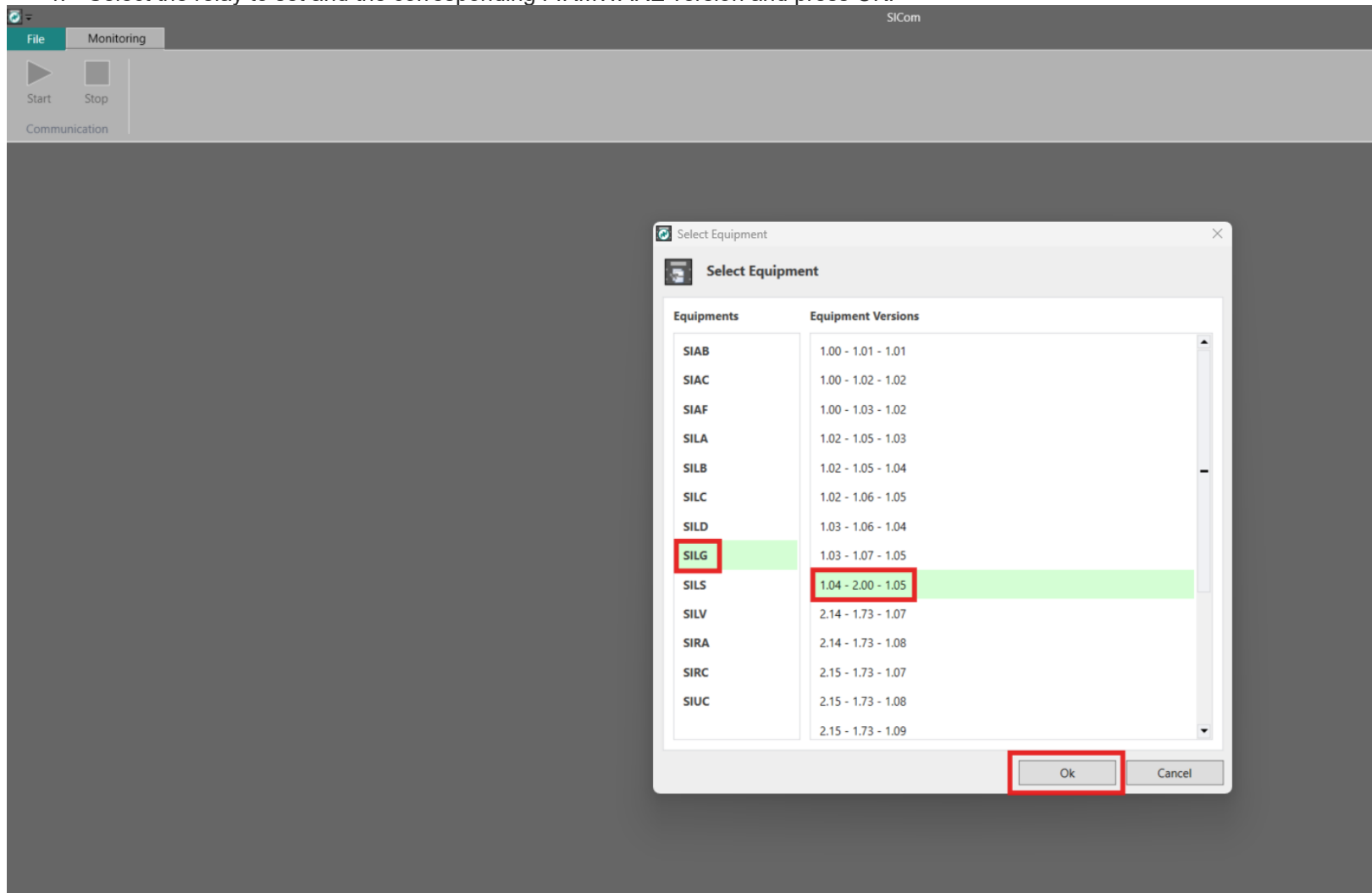
2. Press “File”.



3. Press New and the “Equipment Configuration”.

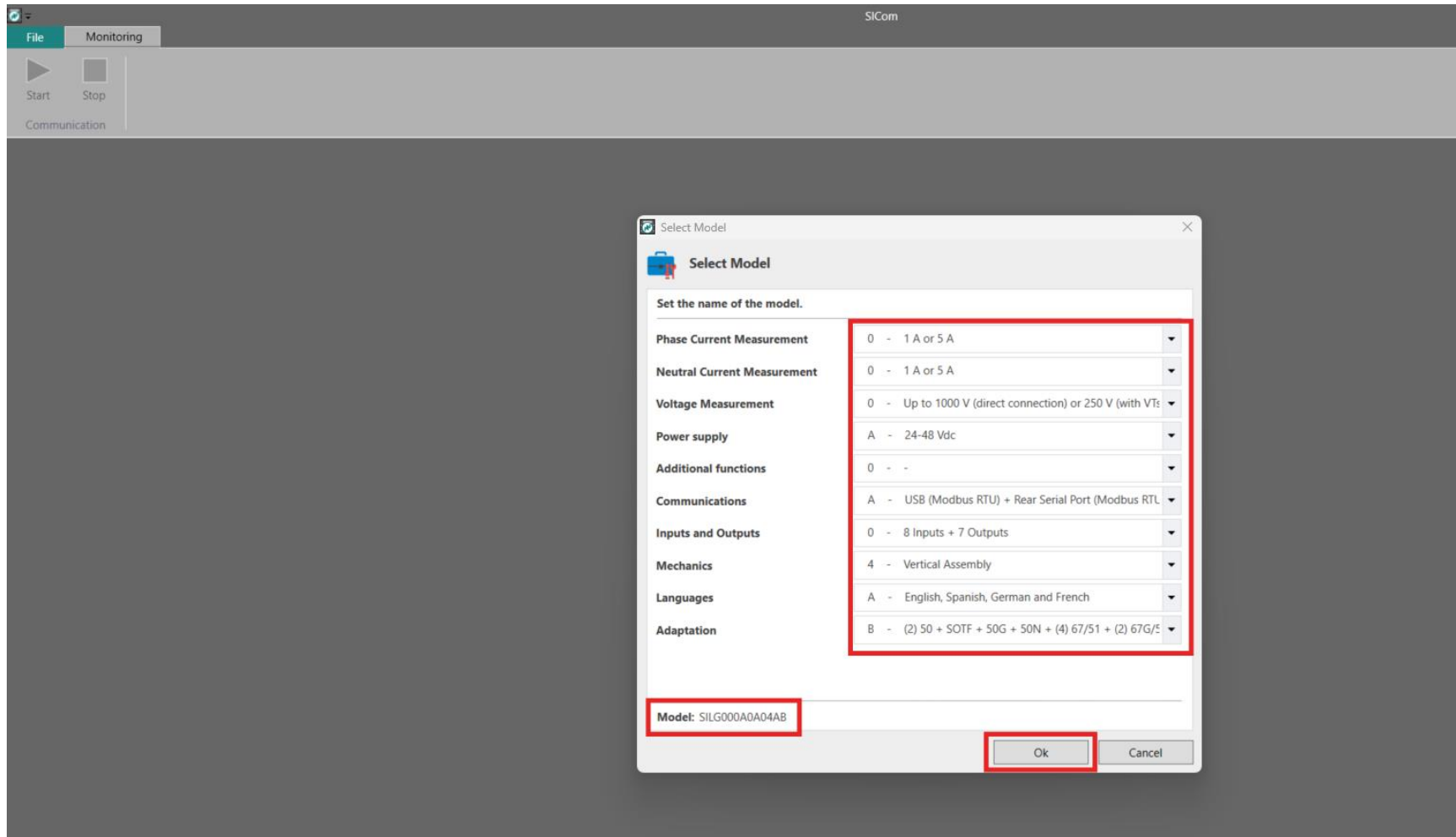


4. Select the relay to set and the corresponding FIRMWARE version and press OK:



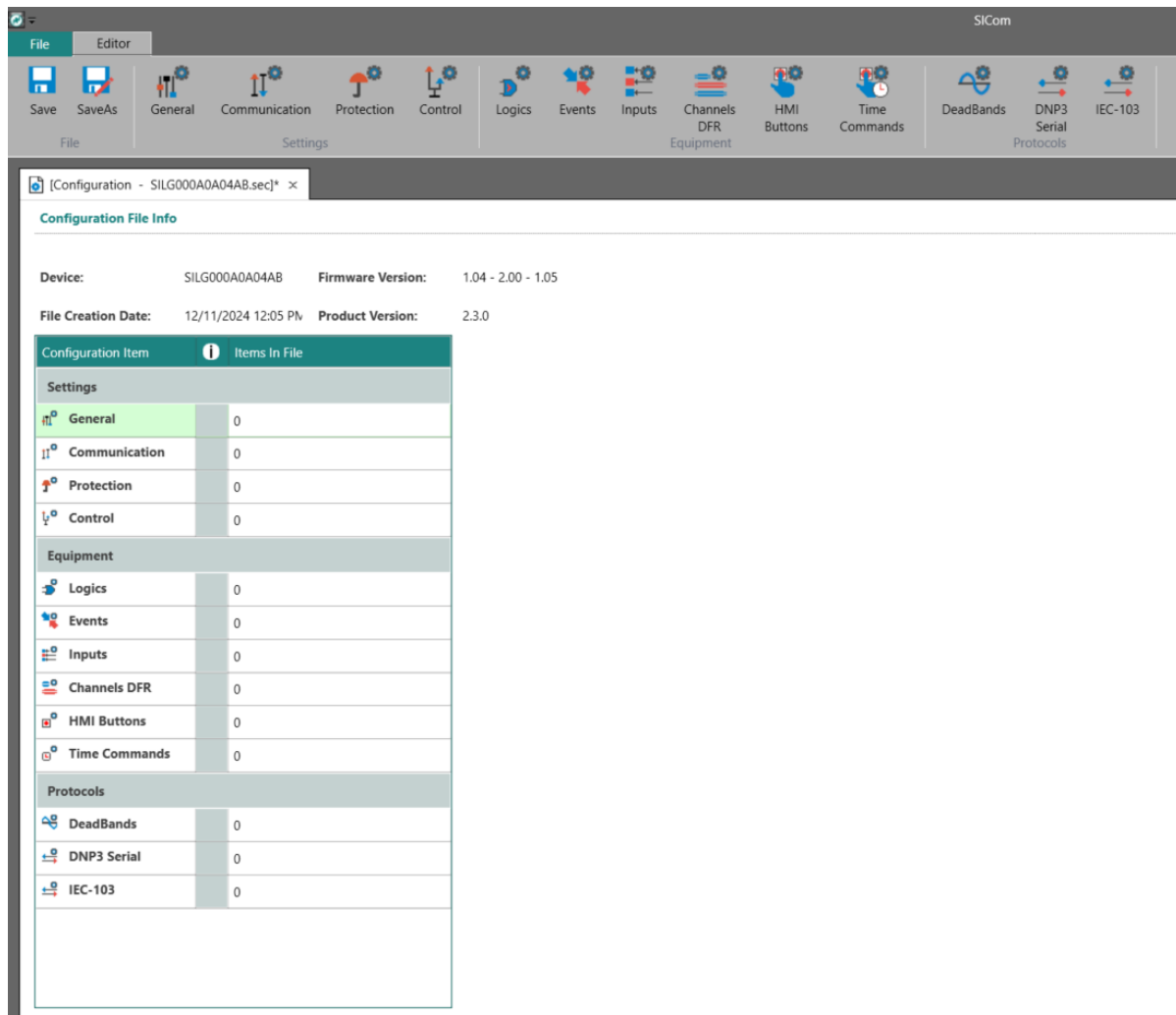
NOTE: Be careful when the Firmware version is selected, because depending on the version different settings are available.

5. Select the complete model of the relay and press OK to access to the settings file:

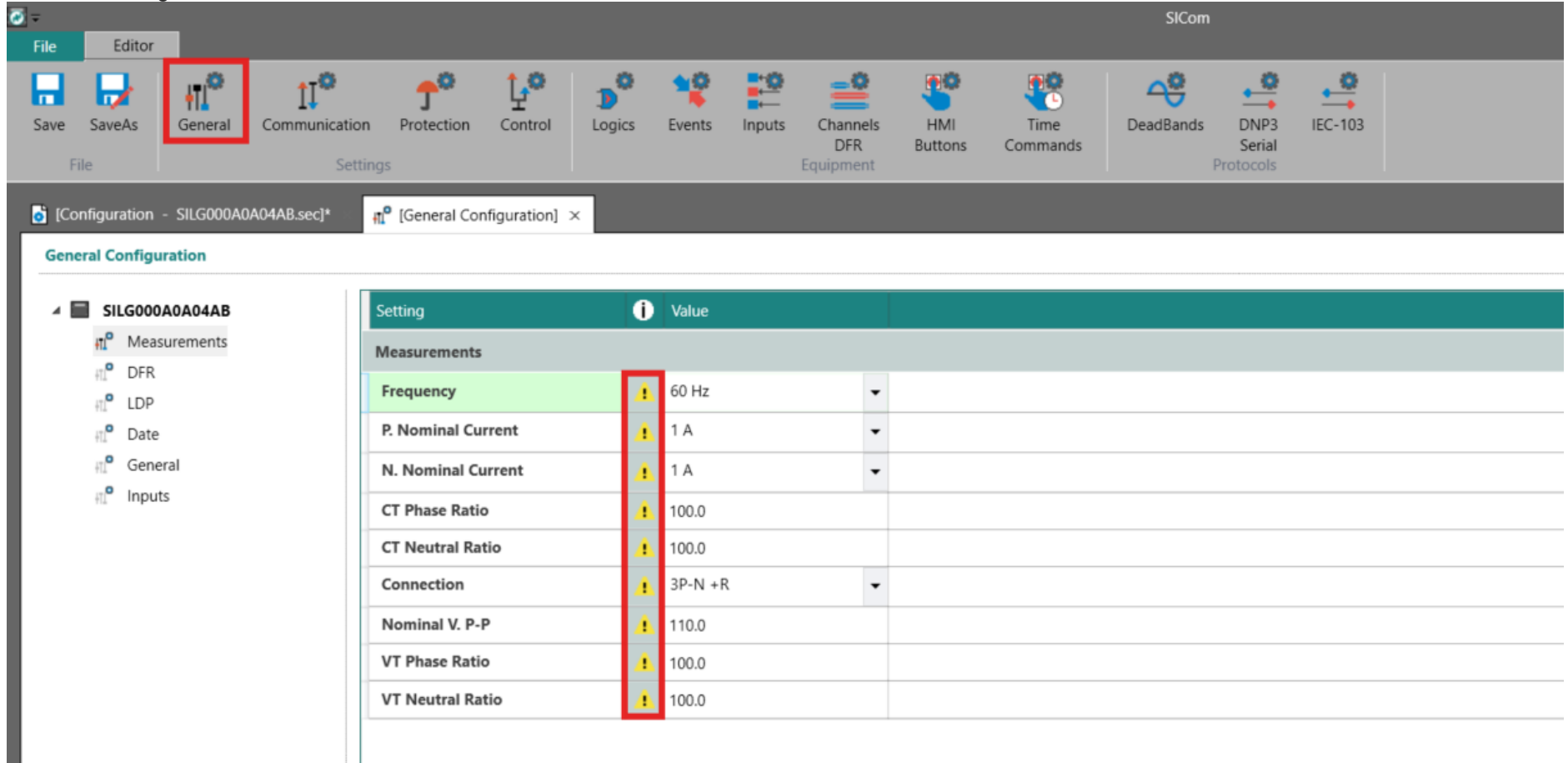


NOTE: It is very important to select the model correctly. Although in Offline mode all the combinations are accepted, to send the file to the relay in Online mode the correct model is mandatory.

6. A window with all the characteristics of the relay and of the file will be opened. Also, the different menus can be seen, these are, File, Settings, Configuration and Protocols.



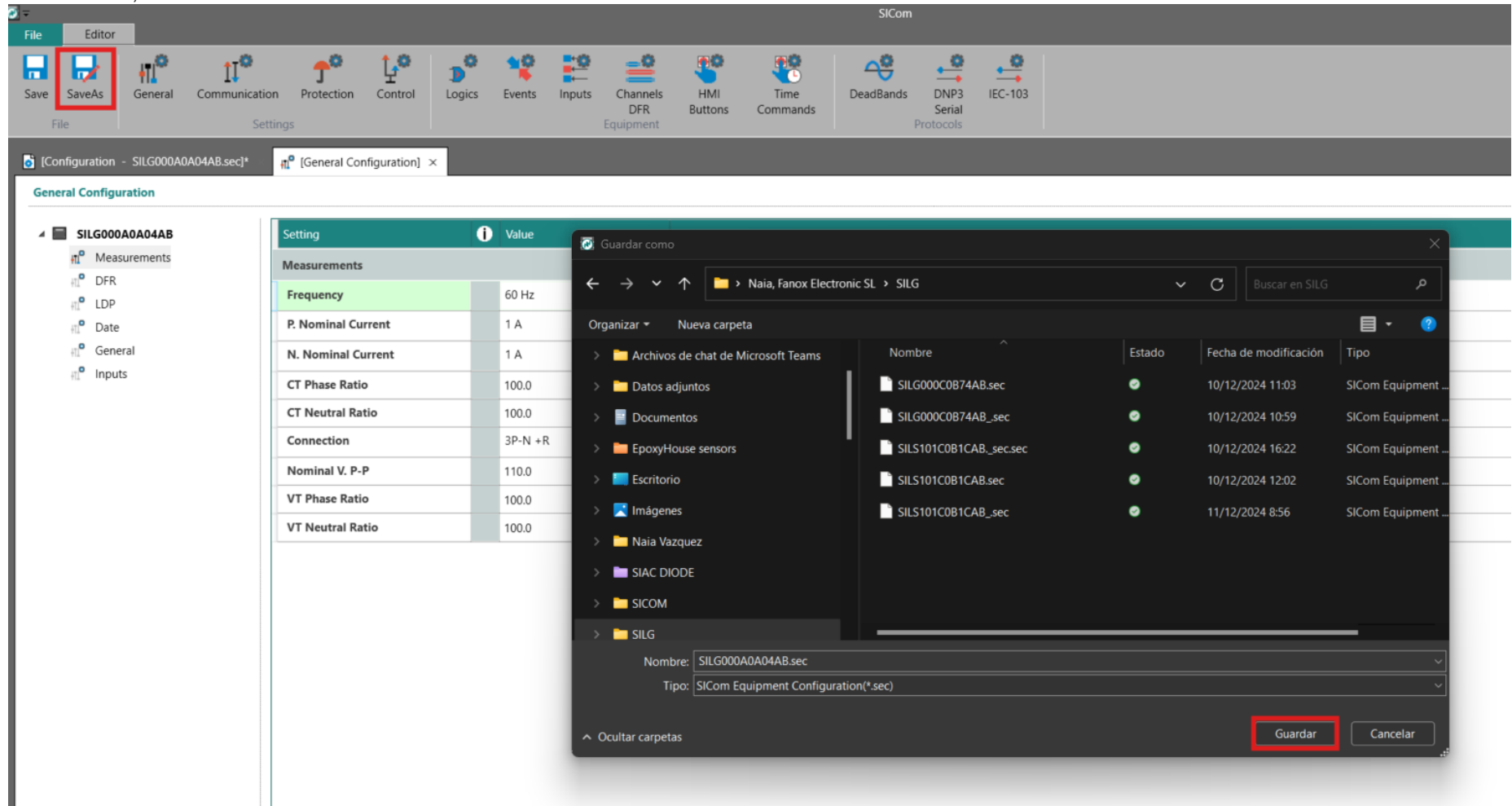
7. Select a tab in one of the menus to make the desired modification in the file. Each change will be shown with a yellow triangle on the column on the left of the setting.



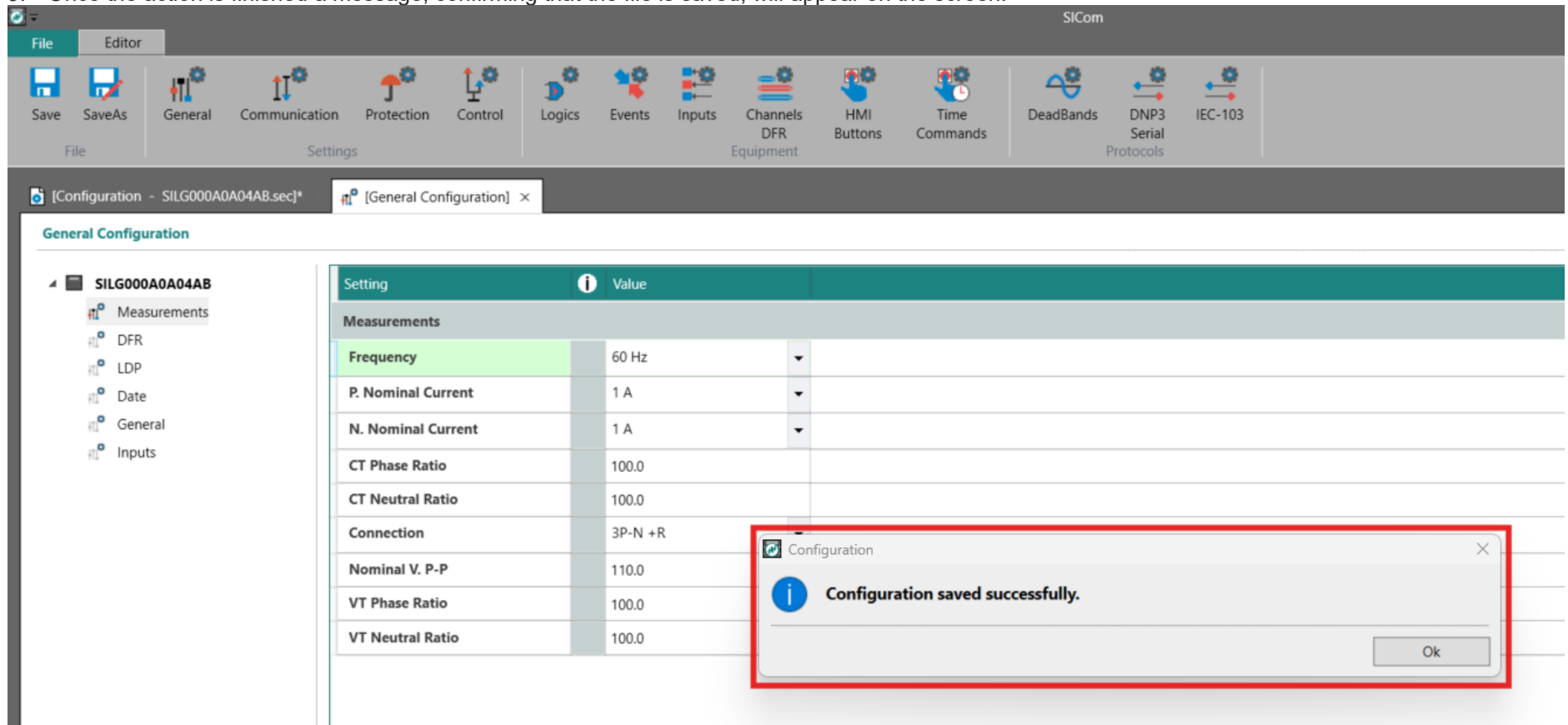
The screenshot shows the FANOX configuration software interface. The top menu bar includes 'File', 'Editor', and 'SICom'. The 'General' tab is selected in the 'Editor' menu. Below the menu bar, there are icons for various settings categories: File, Settings, Equipment, HMI Buttons, Time Commands, Protocols, and IEC-103. The 'General Configuration' window is open, showing a list of settings for device 'SILG000A0A04AB'. The 'General' setting is selected in the left sidebar. The settings table has two columns: 'Setting' and 'Value'. A red box highlights the 'General' tab in the top menu and the 'General' setting in the left sidebar. Another red box highlights the 'Value' column in the settings table, which contains yellow warning triangles for all settings.

Setting	Value
Measurements	
Frequency	60 Hz
P. Nominal Current	1 A
N. Nominal Current	1 A
CT Phase Ratio	100.0
CT Neutral Ratio	100.0
Connection	3P-N +R
Nominal V. P-P	110.0
VT Phase Ratio	100.0
VT Neutral Ratio	100.0

8. Press “Save As” to save the settings file. This settings file will be prepared to be sent to the relay in online mode. It is possible to select where the file will be saved, and its name:



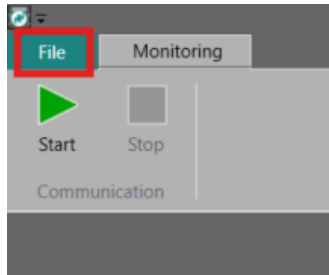
9. Once the action is finished a message, confirming that the file is saved, will appear on the screen:



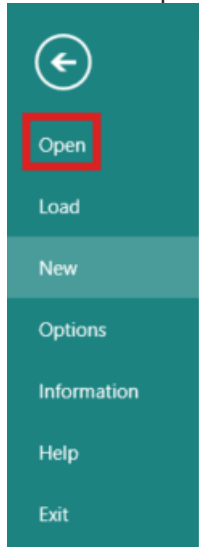
12.2. How to open a configuration file in offline mode

1. Open SICOM software

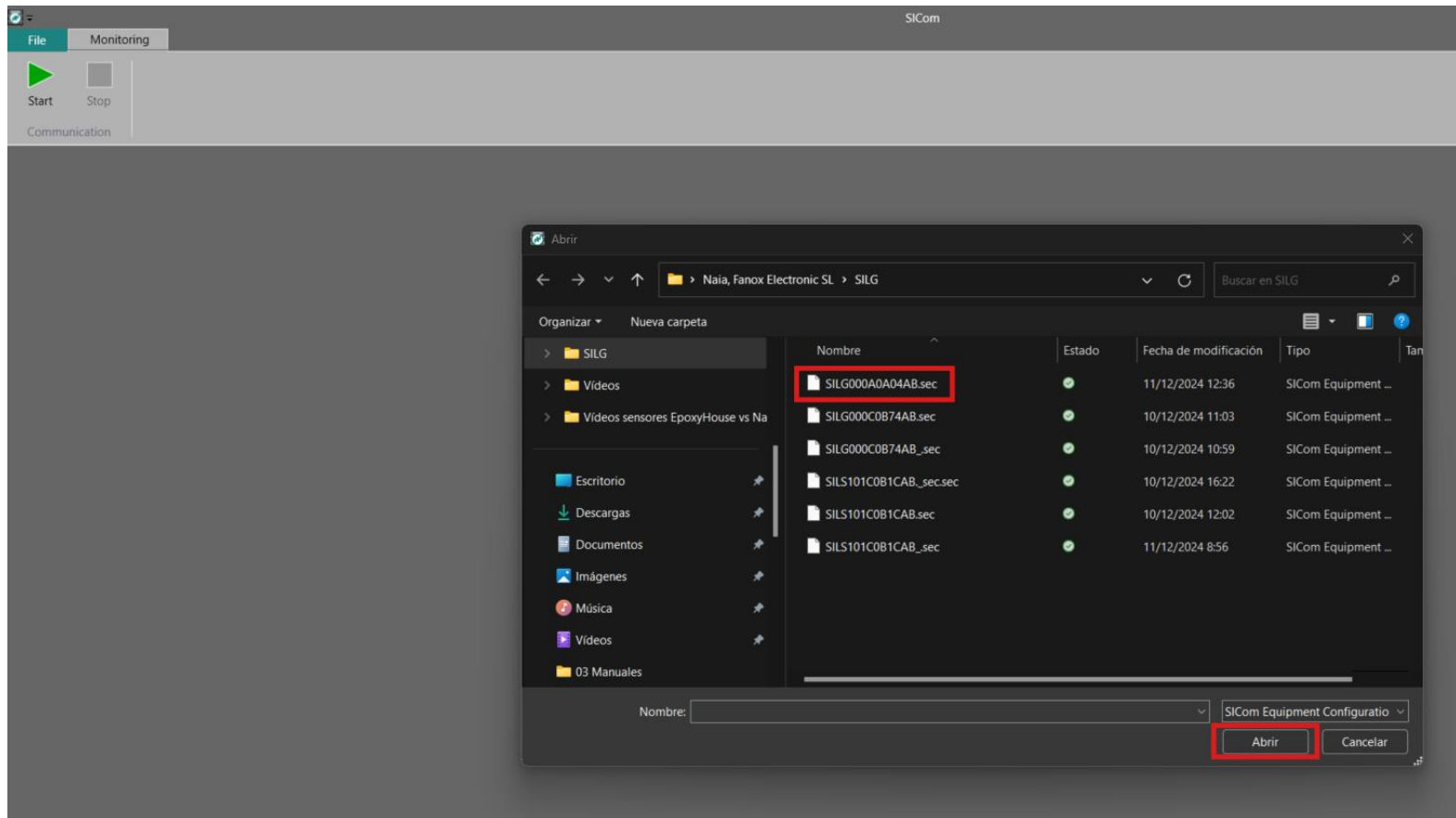
2. Press "File"



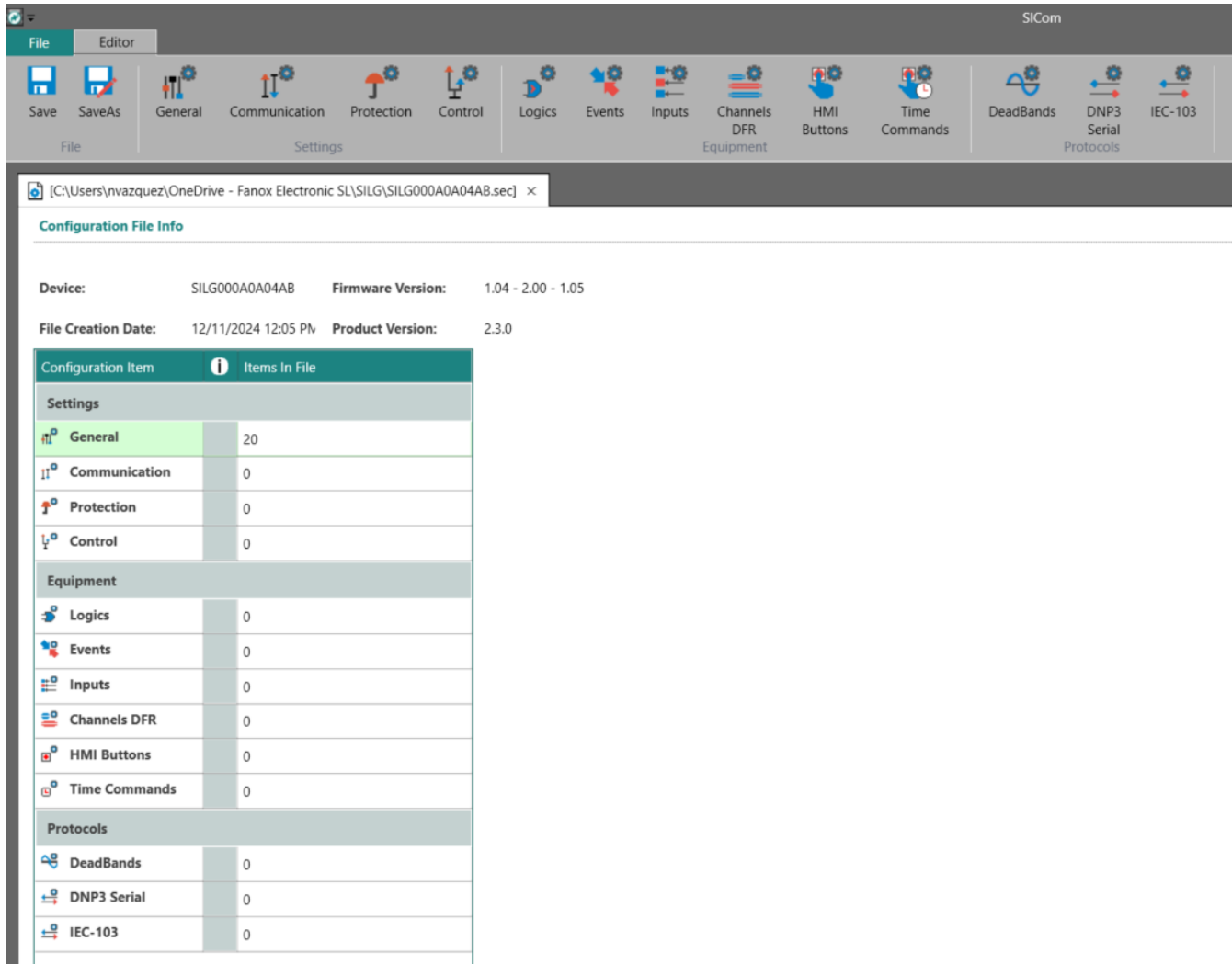
3. Press "Open" or double click directly on a saved settings file (both options are valid).



4. Select the corresponding settings file and press Open:



5. The file will be opened. It is possible to make modifications in the parameters if it is necessary. To save the new file follow the steps previously explained.



The screenshot shows the SICOM software interface with the 'Configuration File Info' window open. The window displays the following information:

- Device:** SILG000A0A04AB
- Firmware Version:** 1.04 - 2.00 - 1.05
- File Creation Date:** 12/11/2024 12:05 PM
- Product Version:** 2.3.0

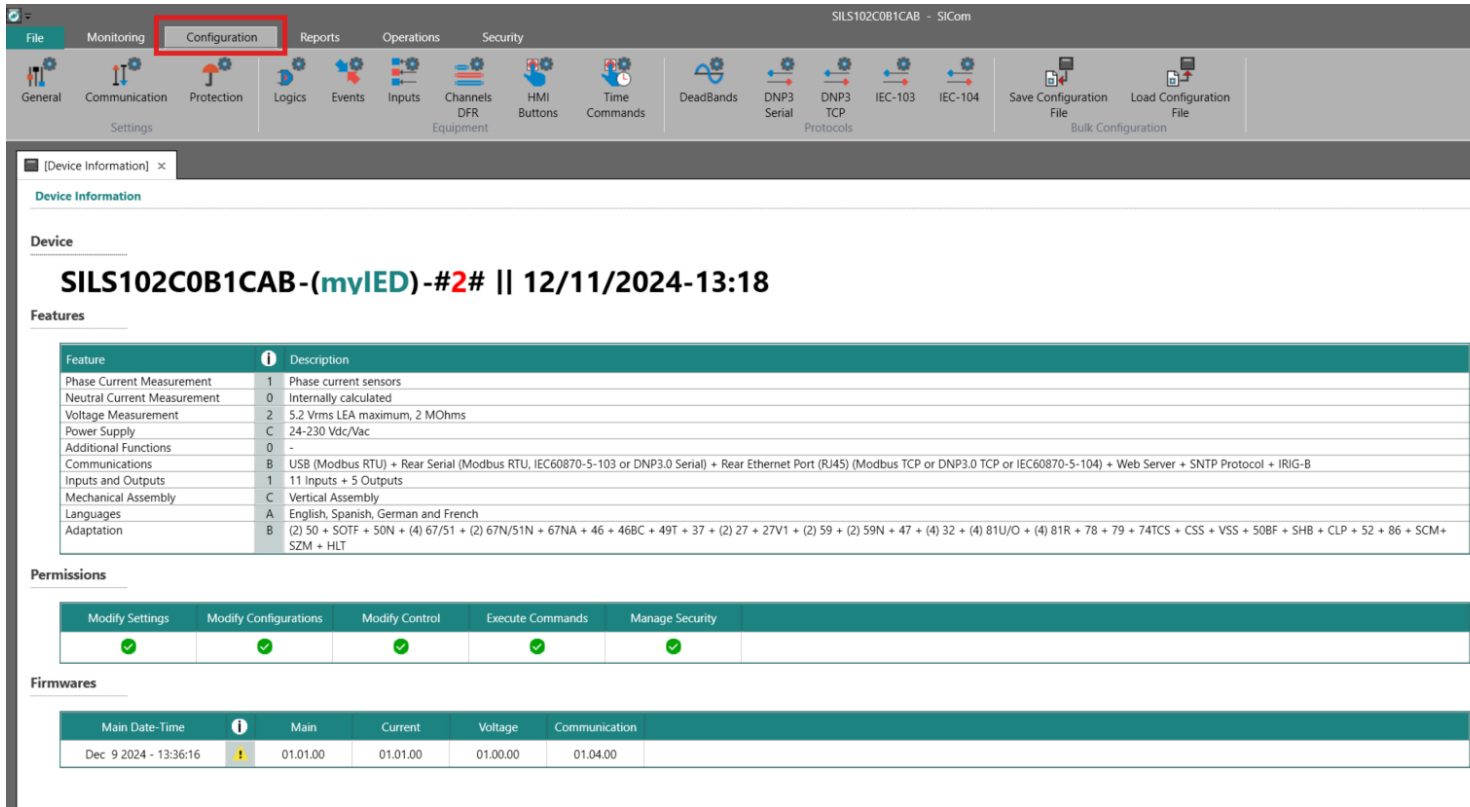
Below this information is a table listing configuration items and the number of items in the file:

Configuration Item	Items In File
Settings	
General	20
Communication	0
Protection	0
Control	0
Equipment	
Logics	0
Events	0
Inputs	0
Channels DFR	0
HMI Buttons	0
Time Commands	0
Protocols	
DeadBands	0
DNP3 Serial	0
IEC-103	0

12.3. How to send a configuration file

Once the relay is connected to the PC it is possible to send the configuration file previously saved I offline mode. To send this file to the relay follow the next steps:

1. Connect the relay to the PC and start the session. Press “Configuration” to access to the corresponding window:



Device Information

SILS102C0B1CAB-(myIED)-#2# || 12/11/2024-13:18

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	2 5.2 Vrms LEA maximum, 2 MOhms
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 or DNP3.0 Serial) + Rear Ethernet Port (RJ45) (Modbus TCP or DNP3.0 TCP or IEC60870-5-104) + Web Server + SNMP Protocol + IIRIG-B
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46BC + 49T + 37 + (2) 27 + 27V1 + (2) 59 + (2) 59N + 47 + (4) 32 + (4) 81U/O + (4) 81R + 78 + 79 + 74TCS + CSS + VSS + 50BF + SHB + CLP + 52 + 86 + SCM + SZM + HLT

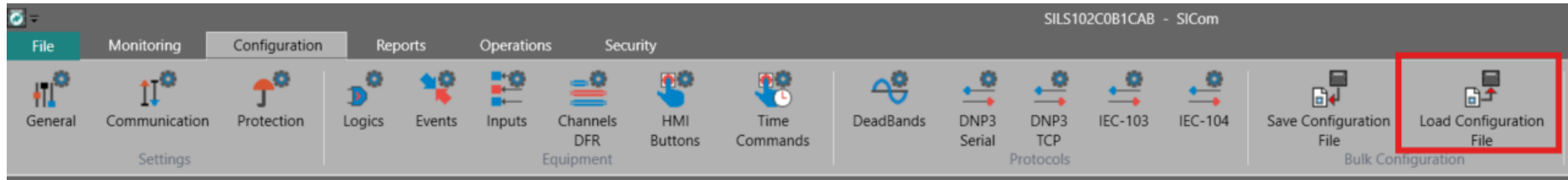
Permissions

Modify Settings	Modify Configurations	Modify Control	Execute Commands	Manage Security
✓	✓	✓	✓	✓

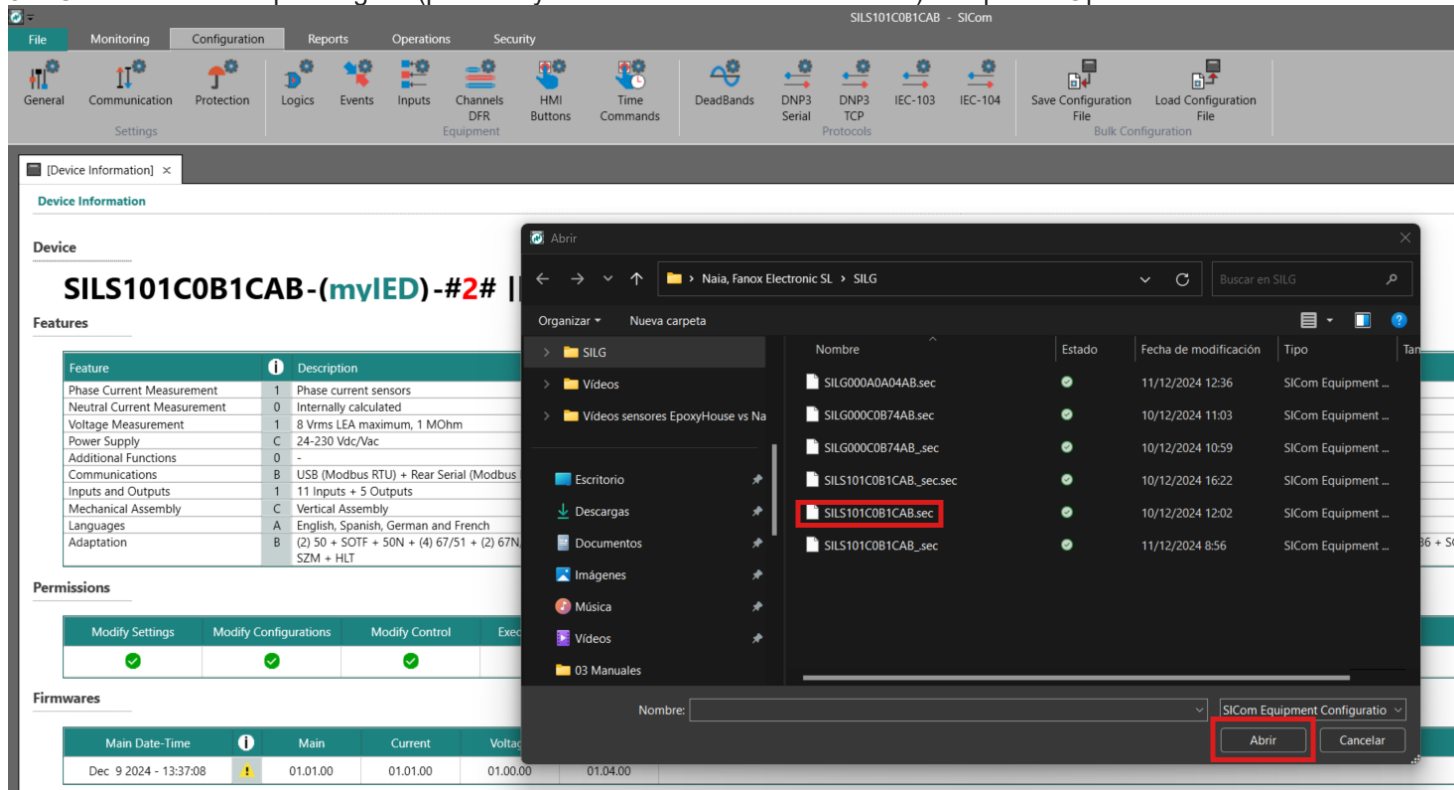
Firmwares

Main Date-Time	Main	Current	Voltage	Communication
Dec 9 2024 - 13:36:16	01.01.00	01.01.00	01.00.00	01.04.00

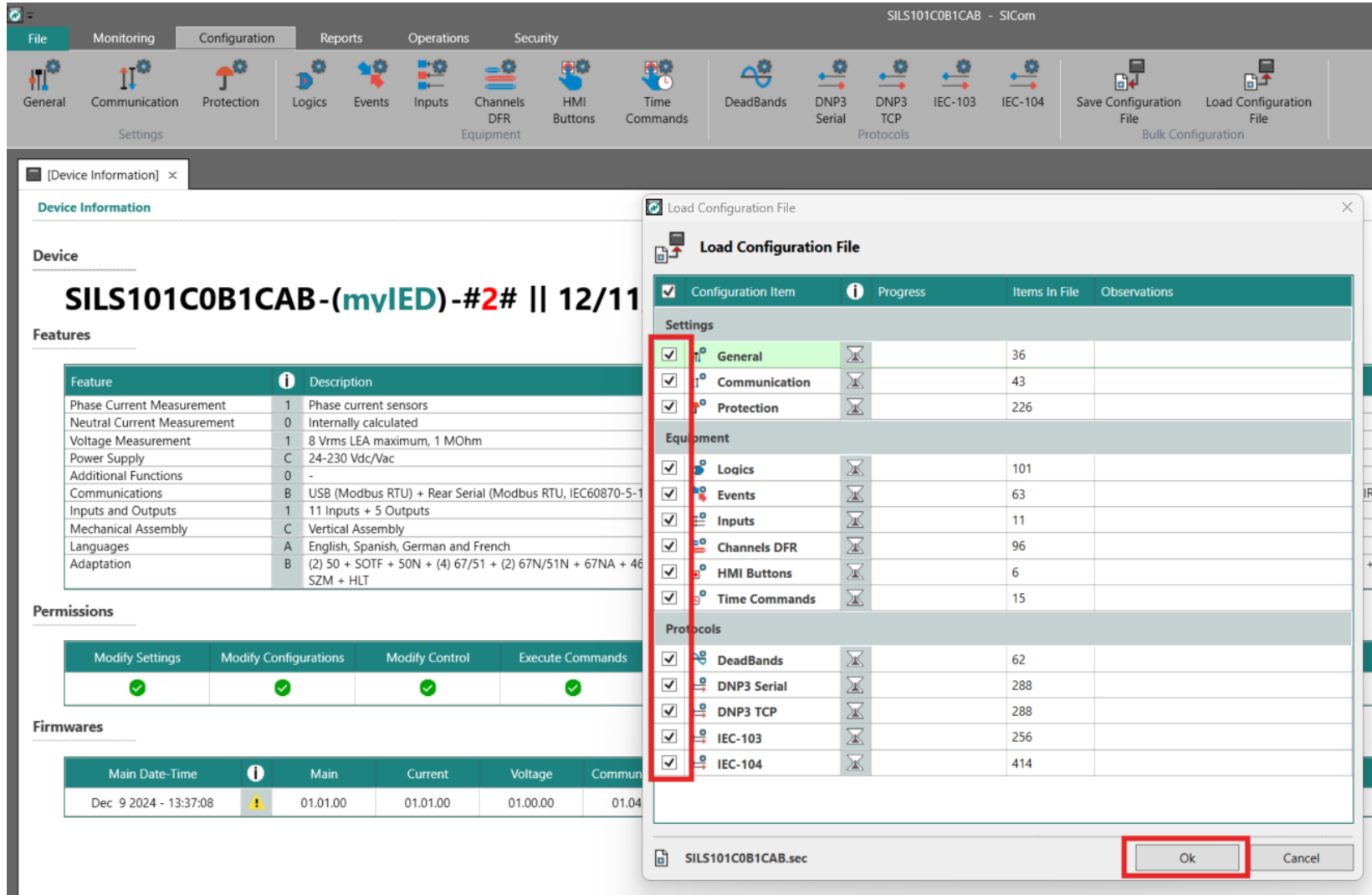
2. Press “Load Configuration File” option:



3. Choose the corresponding file (previously saved in online or offline mode) and press “Open”:



4. If the file is correct, the following window will appear. Choose which items want to be loaded and click “OK” to send them to the relay: “



Device Information

Device

SILS101C0B1CAB-(myIED)-#2# || 12/11

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	1 8 Vrms LEA maximum, 1 MOhm
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-1)
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 SZM + HLT

Permissions

Modify Settings	Modify Configurations	Modify Control	Execute Commands
✓	✓	✓	✓

Firmwares

Main Date-Time	Main	Current	Voltage	Comm
Dec 9 2024 - 13:37:08	01.01.00	01.01.00	01.00.00	01.04

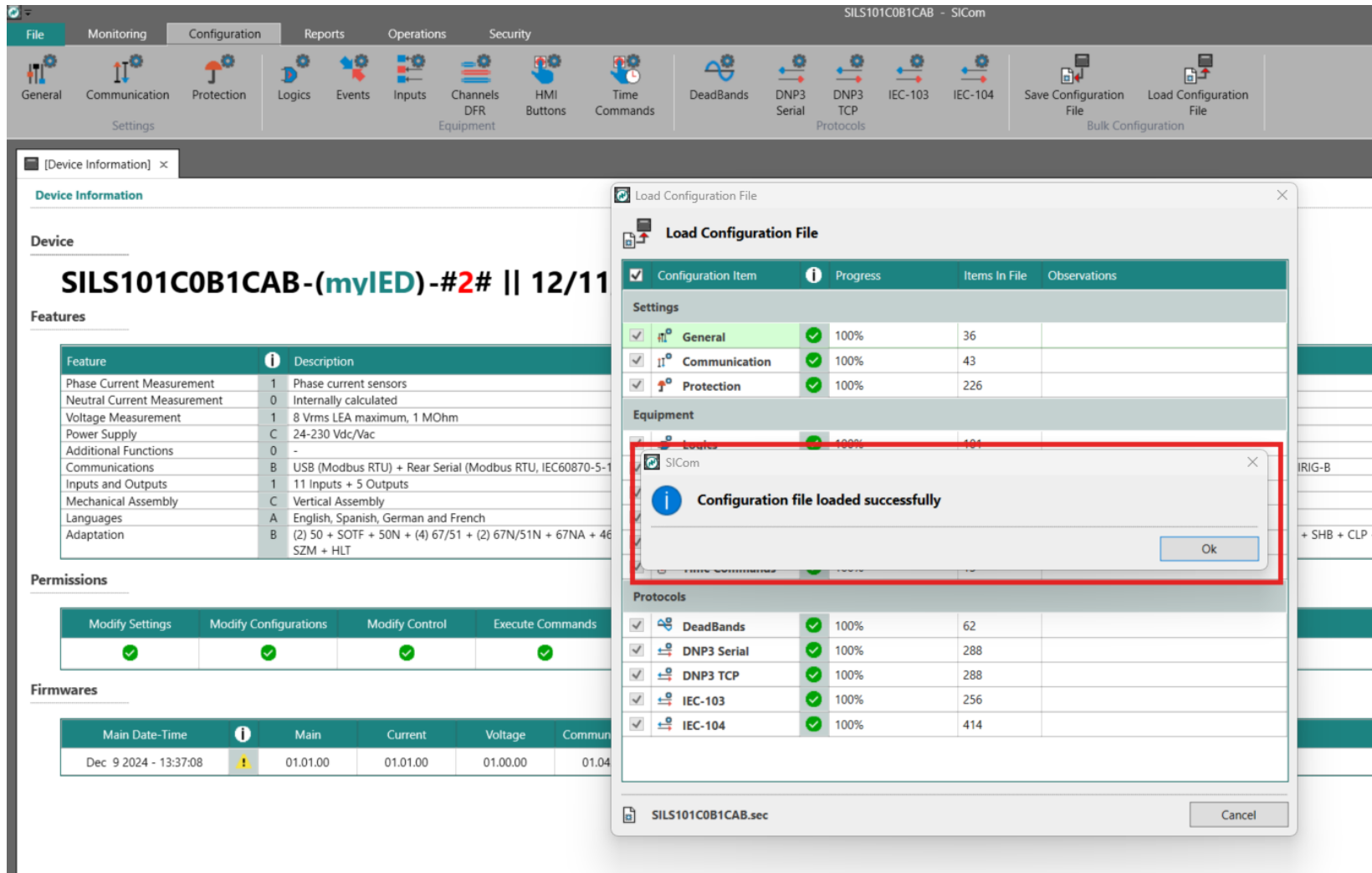
Load Configuration File

Configuration Item	Progress	Items In File	Observations
Settings			
☒ General		36	
☒ Communication		43	
☒ Protection		226	
Equipment			
☒ Logics		101	
☒ Events		63	
☒ Inputs		11	
☒ Channels DFR		96	
☒ HMI Buttons		6	
☒ Time Commands		15	
Protocols			
☒ DeadBands		62	
☒ DNP3 Serial		288	
☒ DNP3 TCP		288	
☒ IEC-103		256	
☒ IEC-104		414	

SILS101C0B1CAB.sec

Ok **Cancel**

5. If all the process is correct a message informing about it will be shown on the screen:



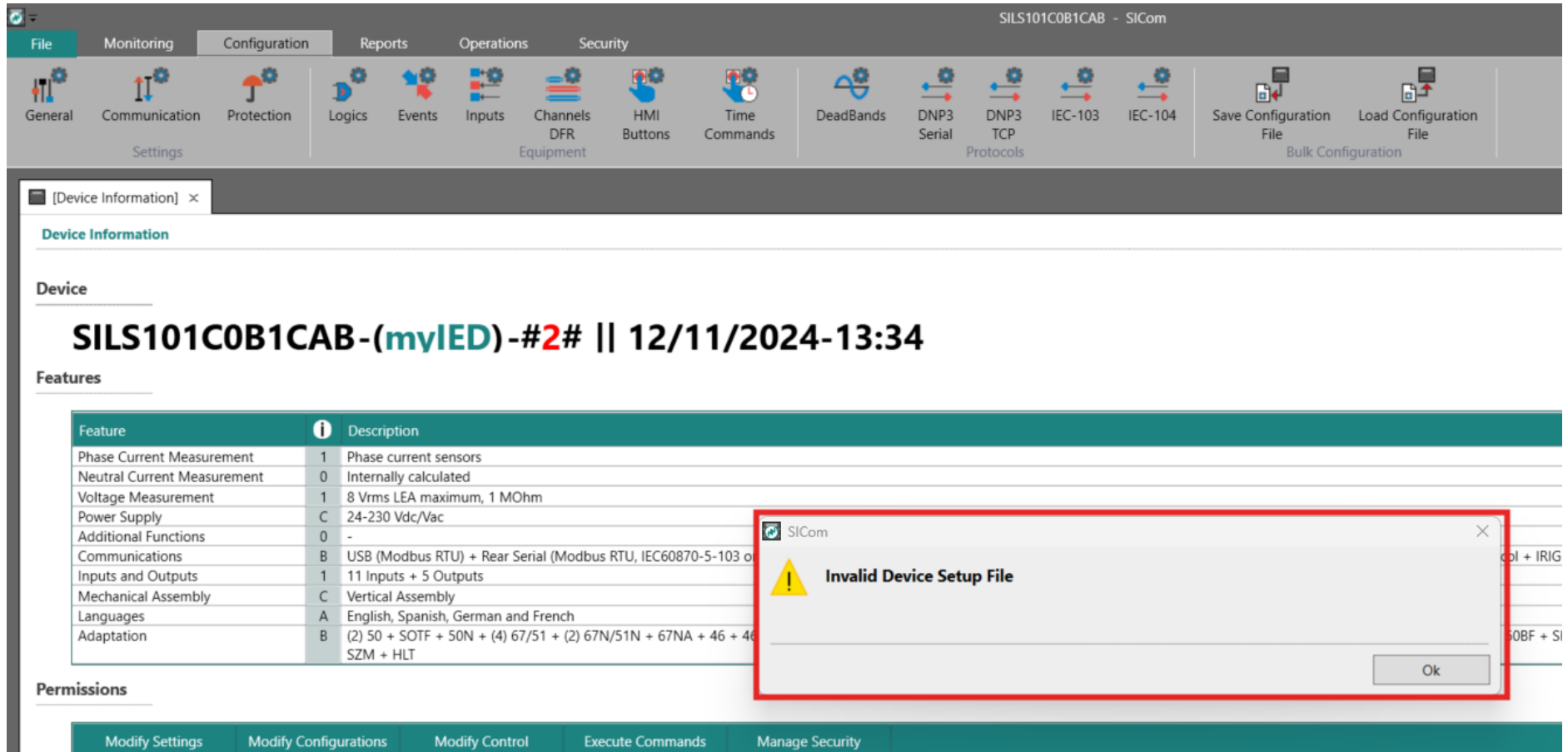
The screenshot displays the 'SILS101C0B1CAB - SiCom' software interface. The main window shows the 'Device Information' tab with details for the device 'SILS101C0B1CAB-(myIED)-#2# || 12/11'. The 'Features' section lists various capabilities like Phase Current Measurement, Neutral Current Measurement, Voltage Measurement, Power Supply, Additional Functions, Communications, Inputs and Outputs, Mechanical Assembly, Languages, and Adaptation. The 'Permissions' section shows checkboxes for Modify Settings, Modify Configurations, Modify Control, and Execute Commands, all of which are checked. The 'Firmwares' section shows a table with columns for Main Date-Time, Main, Current, Voltage, and Communication, with a row for Dec 9 2024 - 13:37:08.

Overlaid on the main window is the 'Load Configuration File' dialog box. It contains a table with columns for Configuration Item, Progress, Items In File, and Observations. The table lists the following items:

Configuration Item	Progress	Items In File	Observations
Settings			
General	100%	36	
Communication	100%	43	
Protection	100%	226	
Equipment			
SiCom	100%	101	
Protocols			
DeadBands	100%	62	
DNP3 Serial	100%	288	
DNP3 TCP	100%	288	
IEC-103	100%	256	
IEC-104	100%	414	

A red box highlights a message box that says 'Configuration file loaded successfully' with an 'Ok' button. The file name 'SILS101C0B1CAB.sec' is visible at the bottom of the dialog box.

6. If the file does not correspond to the connected relay, when “Load Configuration File” is pressed, the following window will be shown:



The screenshot shows the FANOX SICom interface for device SILS101C0B1CAB. The top menu bar includes File, Monitoring, Configuration, Reports, Operations, and Security. The Configuration menu is active, showing options like General, Communication, Protection, Logics, Events, Inputs, Channels DFR Equipment, HMI Buttons, Time Commands, DeadBands, DNP3 Serial, DNP3 TCP Protocols, IEC-103, IEC-104, Save Configuration File, and Load Configuration File. The Load Configuration File option is highlighted.

The main window displays the following information:

Device Information

Device: **SILS101C0B1CAB-(myIED)-#2# || 12/11/2024-13:34**

Features

Feature	Description
Phase Current Measurement	1 Phase current sensors
Neutral Current Measurement	0 Internally calculated
Voltage Measurement	1 8 Vrms LEA maximum, 1 MOhm
Power Supply	C 24-230 Vdc/Vac
Additional Functions	0 -
Communications	B USB (Modbus RTU) + Rear Serial (Modbus RTU, IEC60870-5-103 o
Inputs and Outputs	1 11 Inputs + 5 Outputs
Mechanical Assembly	C Vertical Assembly
Languages	A English, Spanish, German and French
Adaptation	B (2) 50 + SOTF + 50N + (4) 67/51 + (2) 67N/51N + 67NA + 46 + 46 SZM + HLT

Permissions

Modify Settings Modify Configurations Modify Control Execute Commands Manage Security

An error dialog box titled "Invalid Device Setup File" is displayed, indicating that the loaded configuration file does not match the connected relay. The dialog box has a yellow warning icon and an "Ok" button.



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