CARLO GAVAZZI

DPD

THREEPHASE MULTIFUNCTION MONITORING RELAY

with NFC Communication

CONFIGURATOR USER MANUAL

DPD is a threephase multifunction configurable monitoring relay suitable for both Delta and Star mains.

It protects loads from wrong phase sequence, neutral and phase loss, additionally voltage, frequency and asymmetry thresholds can be set and provide output signals.

DPD is delivered with a set of factory settings, among the 2 available ones, which are the most commonly used.

If factory default parameters are not completely suitable they can be modified according to own requirements, by Windows PC or Android tablet and smartphone.

A Desktop and an Android apps are available, allowing to select on screen the required settings, save them, for future use and send the new configuration to the device to be configured.

NFC communication can also be used, by means of the proper app, to download the configuration from one device and to send the same configuration to n devices.

About factory settings, see “DPD DEFAULT PARAMETERS” table on the last page.

NFC READER and
DPD DESKTOP CONFIGURATOR

INSTALLATION NFC READER AND DPD DESKTOP CONFIGURATOR

- System requirements for SW PC DESKTOP:

- OS : Windows 8 or higher

- FREE MEMORY : 100 Mb of free memory for installation, 50 to 100Mb for use

- COMMUNICATION : Built in NFC reader / writer

INSTALLATION NFC READER

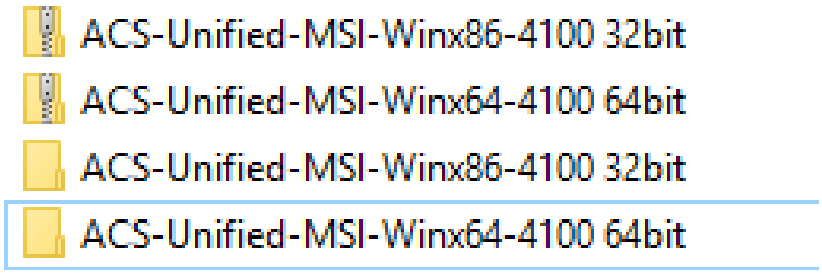
NFC READER INSTALLATION – Driver Installation for correct PC Operating System

- Download the NFC READER from following web site:

http://www.productselection.net/Download/UK/ACR1252_Winx86_32bit.zip

http://www.productselection.net/Download/UK/ACR1252_Winx64_64bit.zip

- Download the driver as your system requirements, 32bit or 64bit



- Select correct driver, 32bit or 64bit as your system requirements
- Extract the folder from the zip file

- Launch the setup file, in order to start the installation of the NFC reader sw (In this example, there is selected a 32bit driver)

INSTALLATION DPD DESKTOP CONFIGURATOR

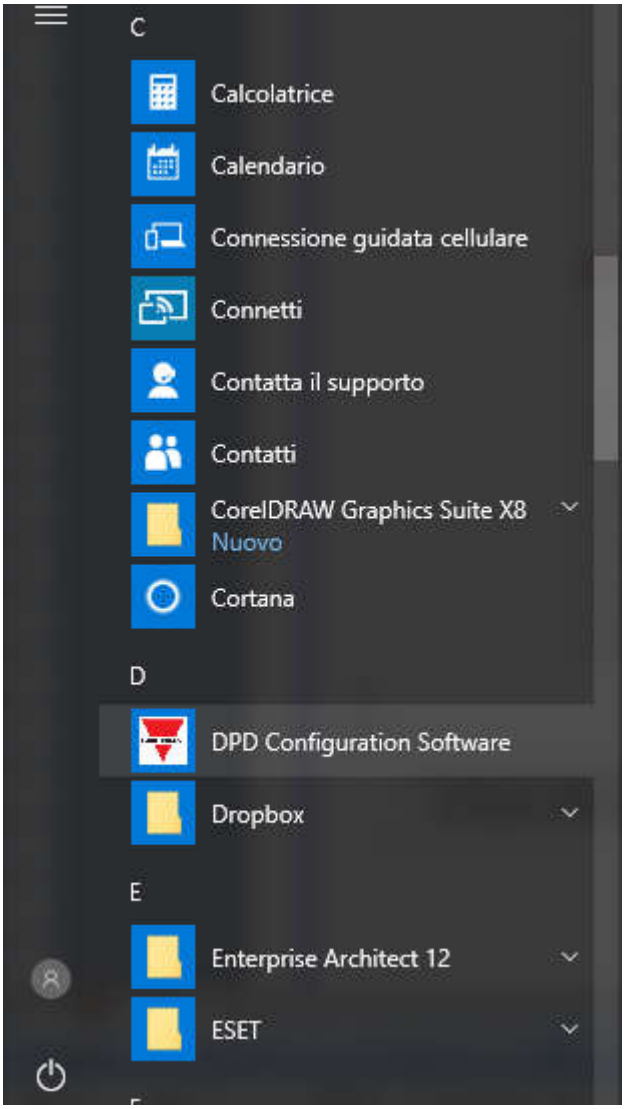
DPD DESKTOP CONFIGURATOR INSTALLATION – Application Download

- Download the DESKTOP APP from Carlo Gavazzi web site:

http://www.productselection.net/Download/UK/Setup_DPD.msi

- Open the downloaded folder

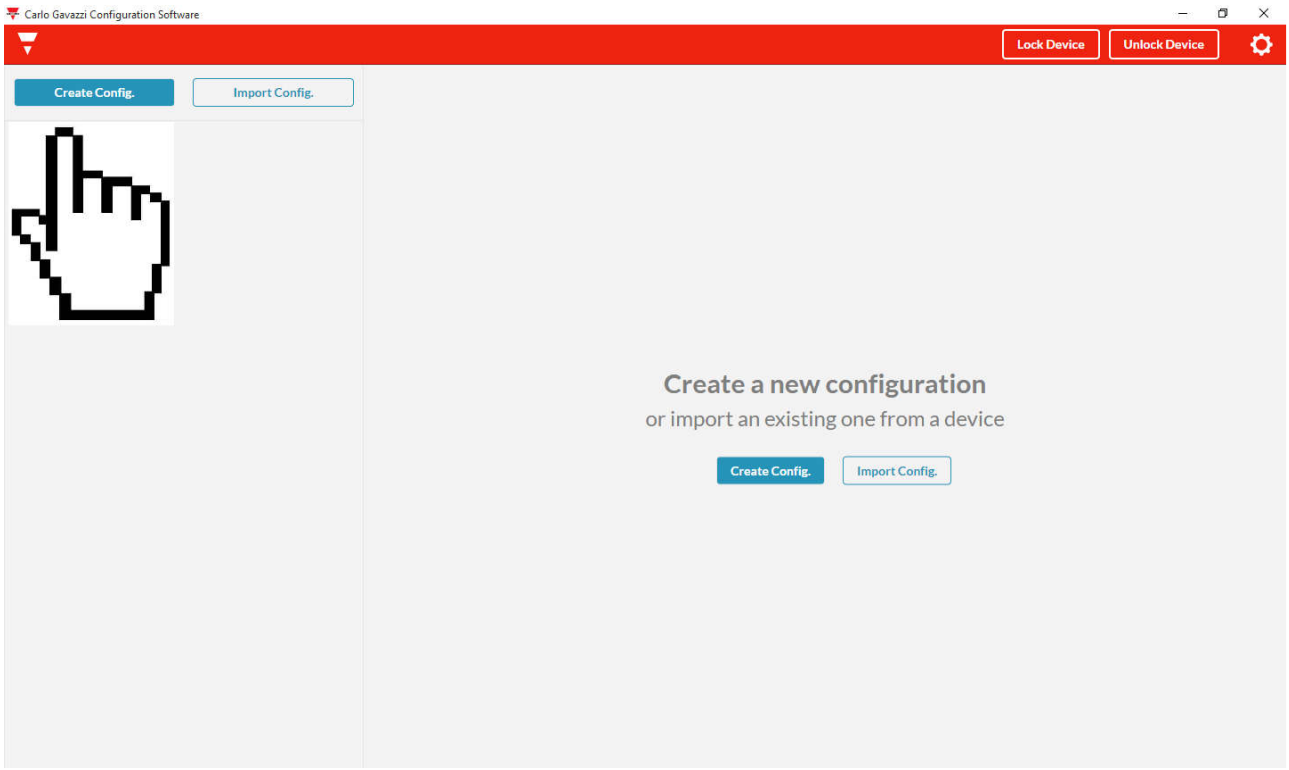
- Launch the application in order to launch the DPD installation configurator



- The application file is on Windows Start button
- Click the application in order to start the DPD configurator

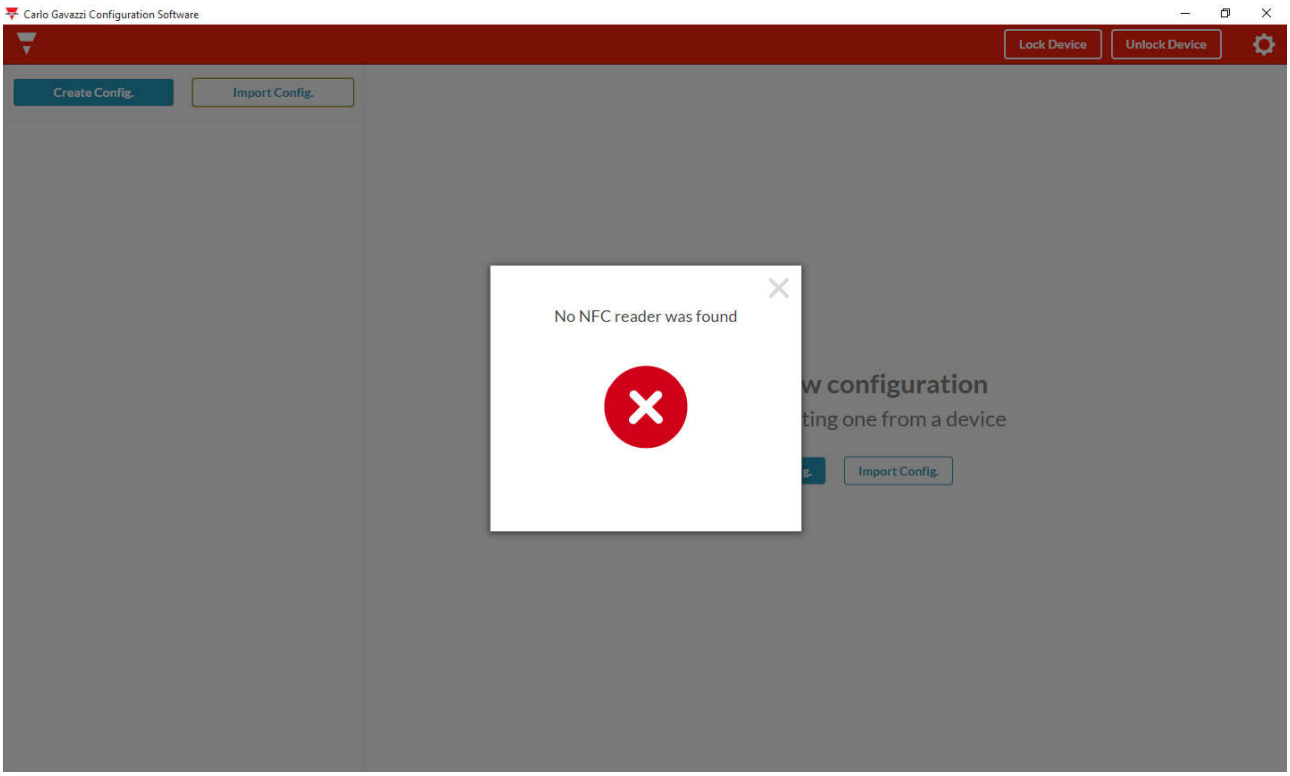
DPD DESKTOP CONFIGURATOR SETUP

CREATE A NEW CONFIGURATION - Start configuration



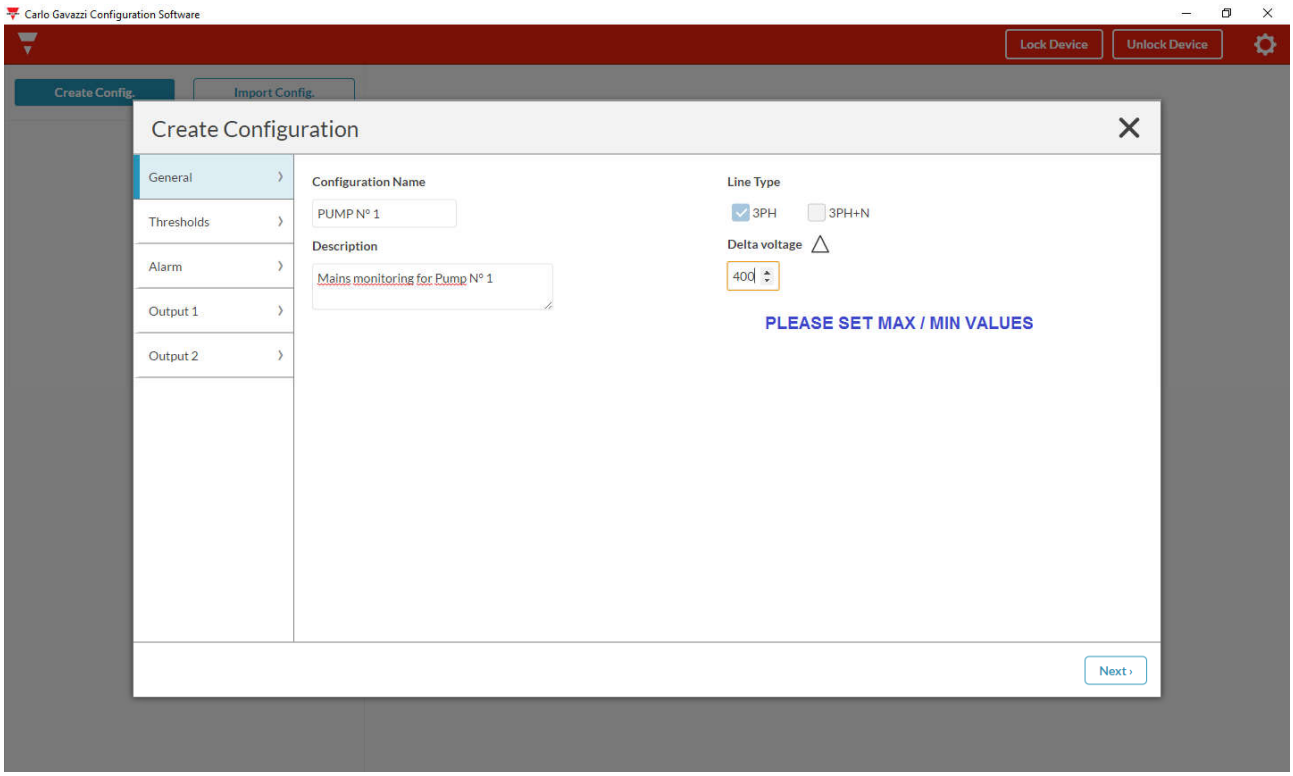
- Select “Create Config.” button in order to create a new configuration

IMPORT A CONFIGURATION – NFC reader for Import Configuration



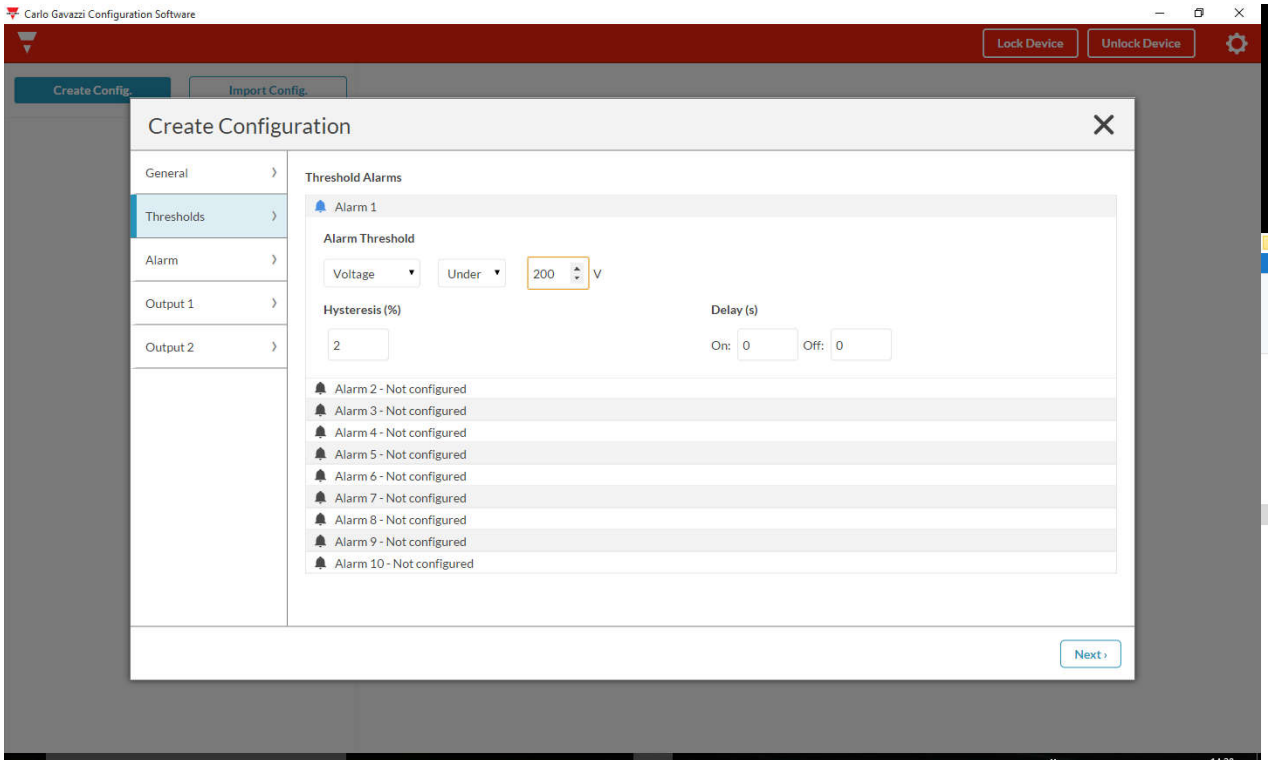
- Select "Import Config." button in order to import a configuration from an already configured device
- It is necessary a NFC reader, otherwise you can not proceed with configuration, and an error window will appear

CREATE NEW CONFIGURATION – Main settings

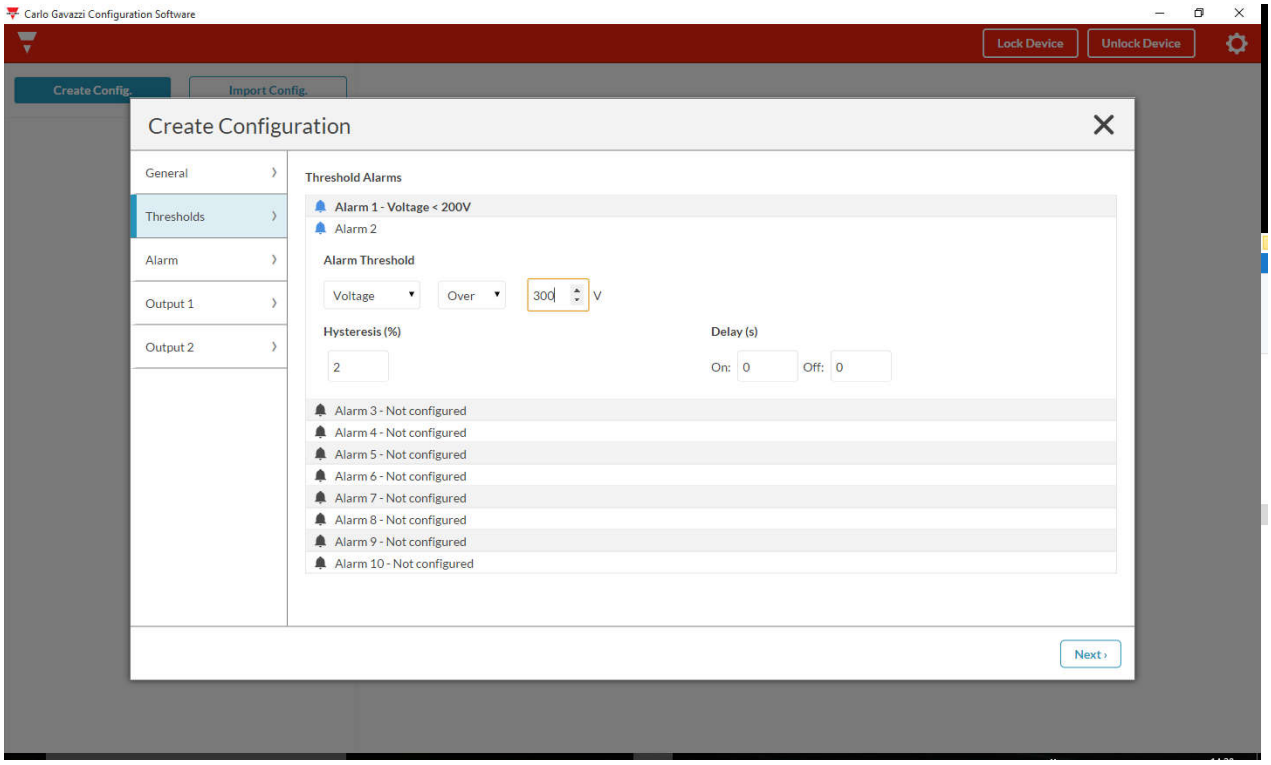


- Fill in the "Configuration Name" field
- Fill in the "Description" field
- Select the Line Type (3PH / 3PH+N)
- Select the voltage line nominal value
  - Voltage 3PH range: 208 to 480V
  - Voltage 3PH+N range: 120 to 277V

CREATE NEW CONFIGURATION – Setpoint thresholds setting

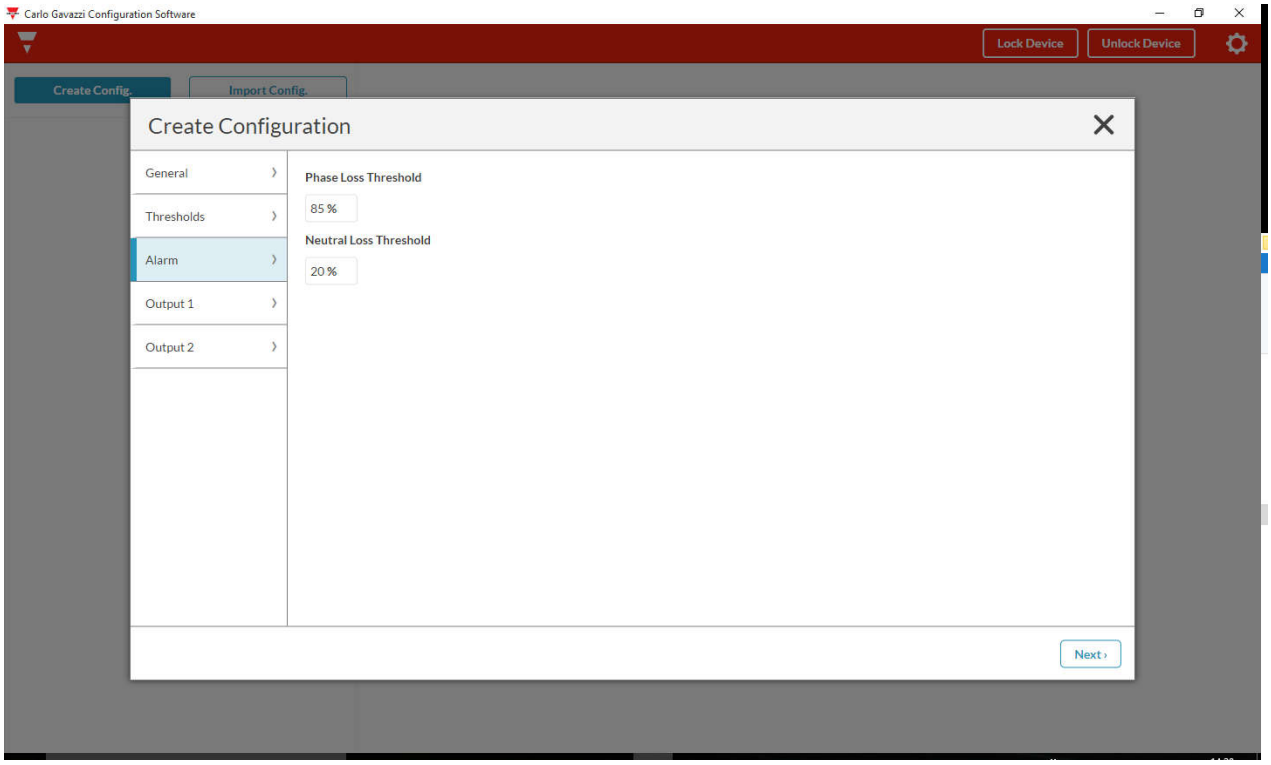


- Combine a Non priority alarm (for example Alarm1) with the variable to be monitored, so select “Voltage” or “Frequency” or “Asymmetry” in “Alarm Threshold”
- Select if the Non priority alarm1 is “Over” or “Under”
- Select the Non priority alarm1 Over/Under threshold value, in according to the following ranges:
  - Voltage 3PH range: 177 to 552V
  - Voltage 3PH+N range: 102 to 318V
  - Frequency range: 45 to 440Hz
  - Asymmetry range: 0-30%
- Select the Hysteresis Value
  - range: 2% to 5%
- Select the Delay Value
  - range: Delay ON 0 to 600, Delay OFF 0 to 600



- If it is required from the application, combine another Non priority alarm (for example Alarm2) with the variable to be monitored, so select “Voltage” or “Frequency“ or “Asymmetry” in “Alarm Threshold”
- Select if the Non priority alarm2 is “Over” or “Under”
- Select the Non priority alarm2 Over/Under threshold value
  - Voltage 3PH range: 77 to 552V
  - Voltage 3PH+N range: 102 to 318V
  - Frequency range: 45 to 440Hz
  - Asymmetry range: 0-30%
- Select the Hysteresis Value
  - range: 2% to 5%
- Select the Delay Value
  - range: Delay ON 0 to 600, Delay OFF 0 to 600
- If it is required from the application, combine another a Non priority alarm (for example Alarm3, there are a maximum of 10 Non priority alarms)

CREATE NEW CONFIGURATION – Priority Alarm thresholds

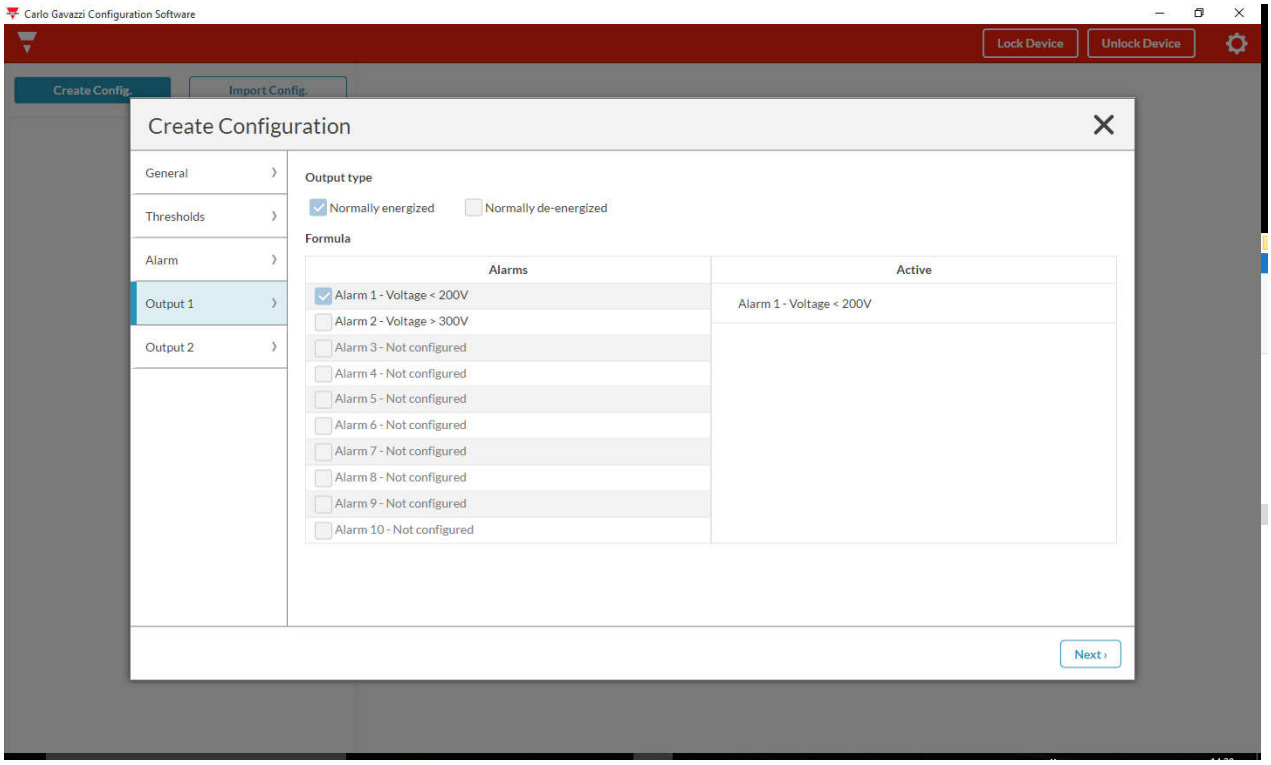


IMPORTANT NOTICE!

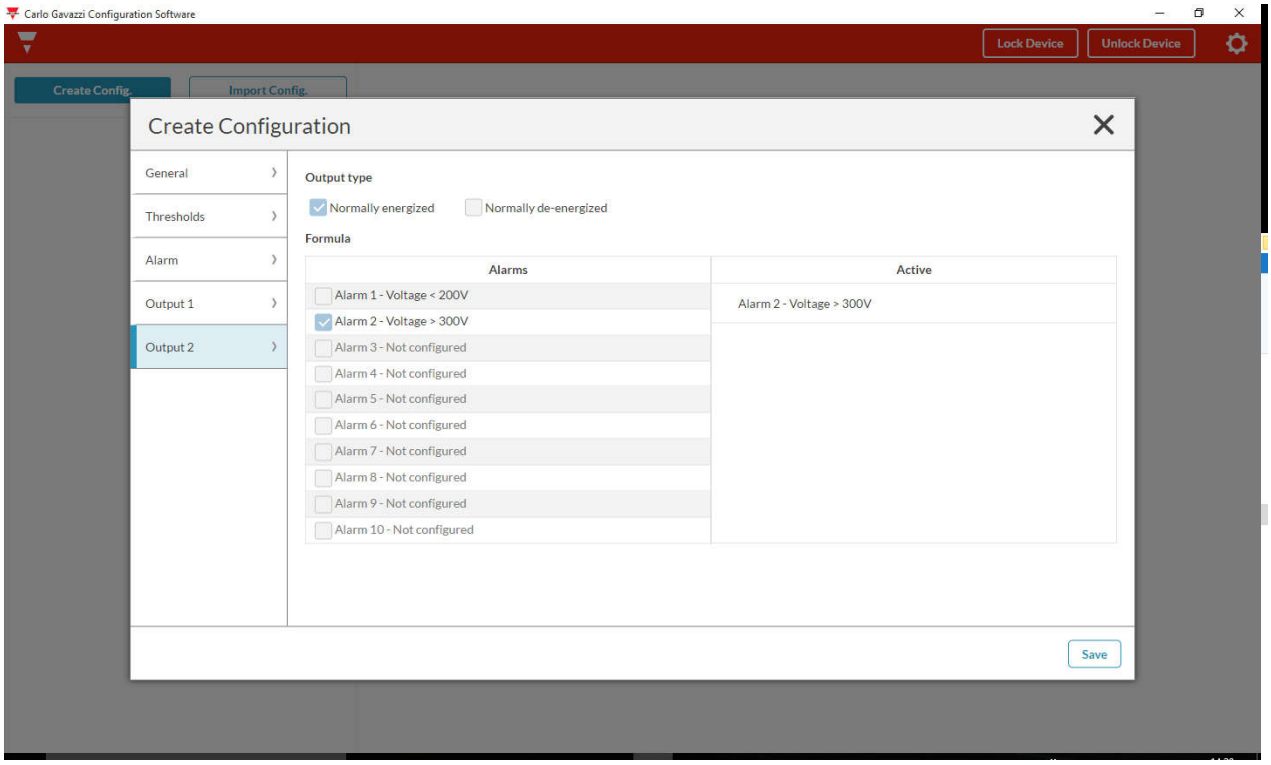
THESE FACTORY SETTINGS HAVE BEEN CAREFULLY SELECTED.
DO NOT MODIFY THEM IF YOU ARE UNSURE OF HOW THE SYSTEM BEHAVES IN RELATION TO REGENERATED ENERGY.
IF YOU WANT TO PROCEED WITH MODIFICATION, PLEASE FOLLOW THE INSTRUCTIONS BELOW:

- Select the Priority alarm “Phase Loss Threshold “value
  - range: 60 to 90%
- Select the Priority alarm “Neutral Loss Threshold “value
  - range: 10 to 30%

CREATE NEW CONFIGURATION – Outputs settings

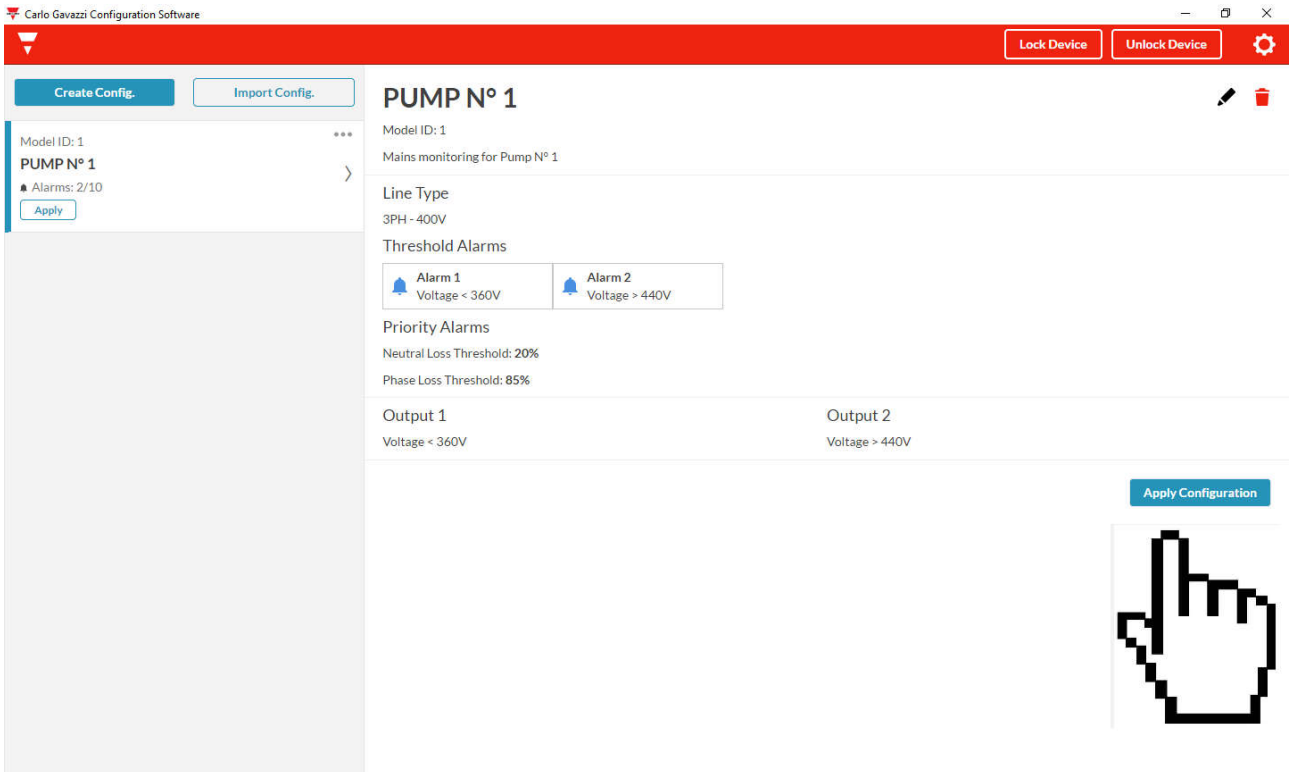


- Select the "Output type" for the Output1, so select if the Output1 is "Normally energized" or "Normally de-energized"
- Combine the Output1 to a Non-priority alarm

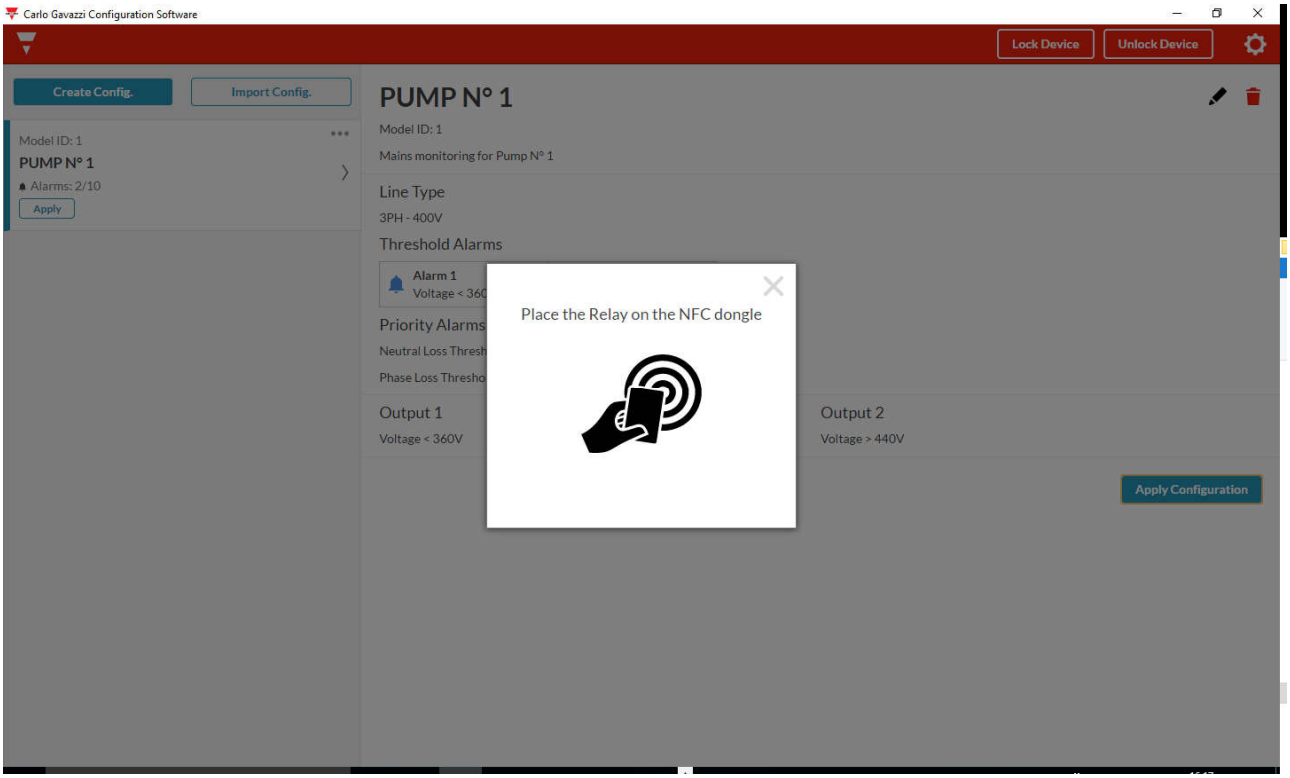


- Select the "Output type" for the Output2, so select if the Output 2 is "Normally energized" or "Normally de-energized"
- Combine the Output2 to a Non-priority alarm
- Select "Save" in order to save the configuration

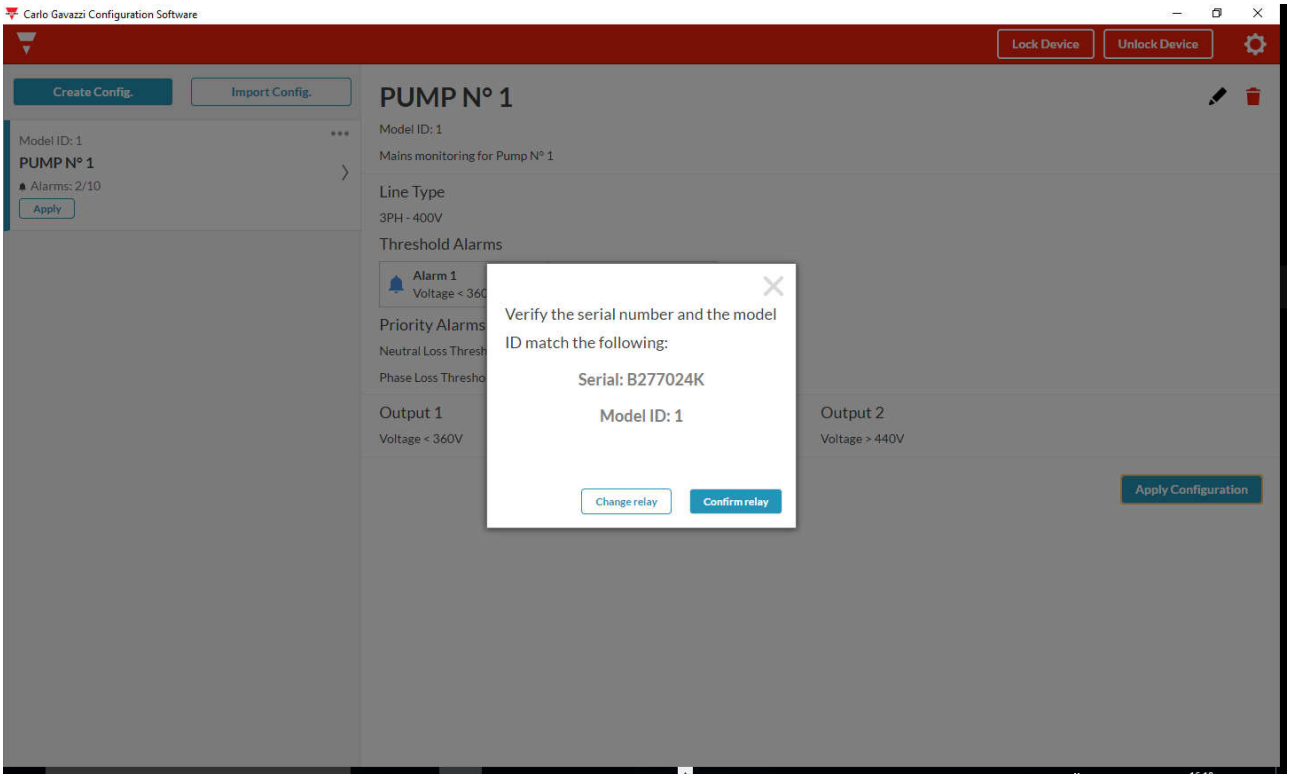
CREATE NEW CONFIGURATION – Apply configuration



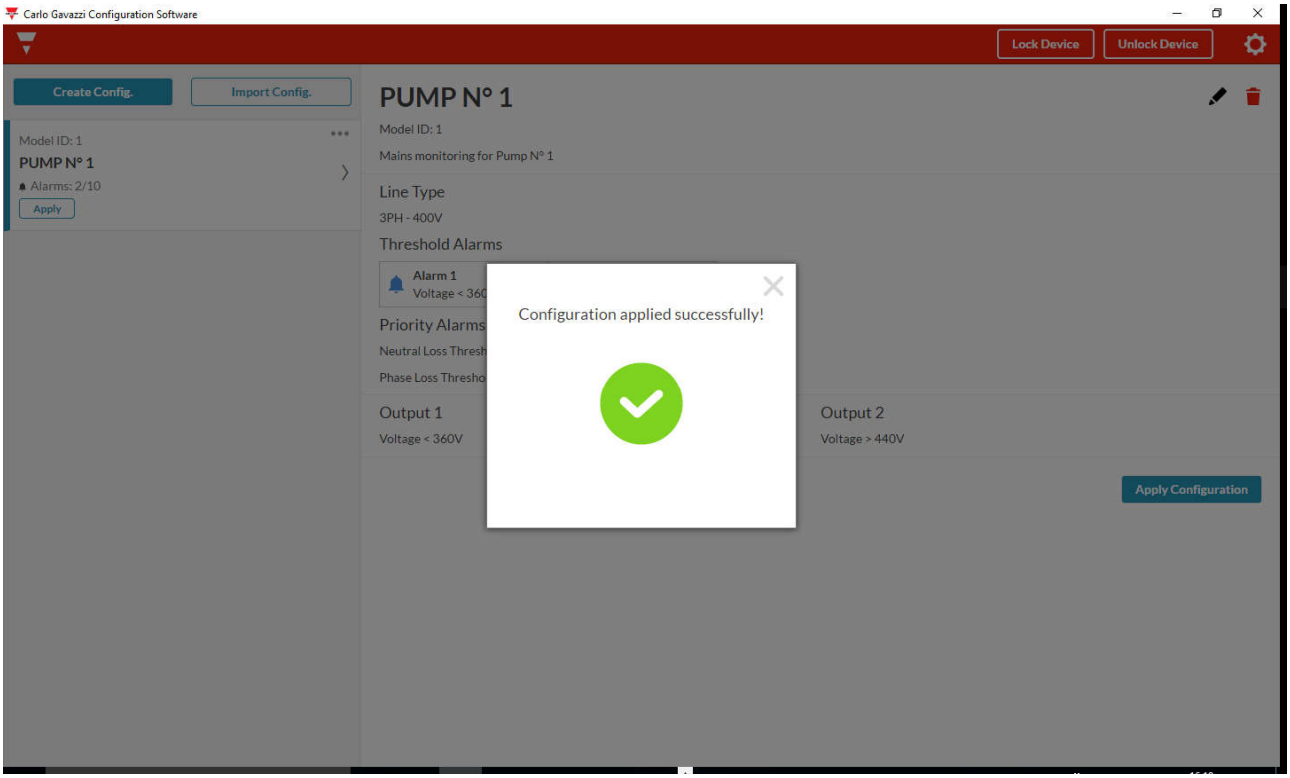
- Select “Apply Configuration” in order to apply the configuration to the device



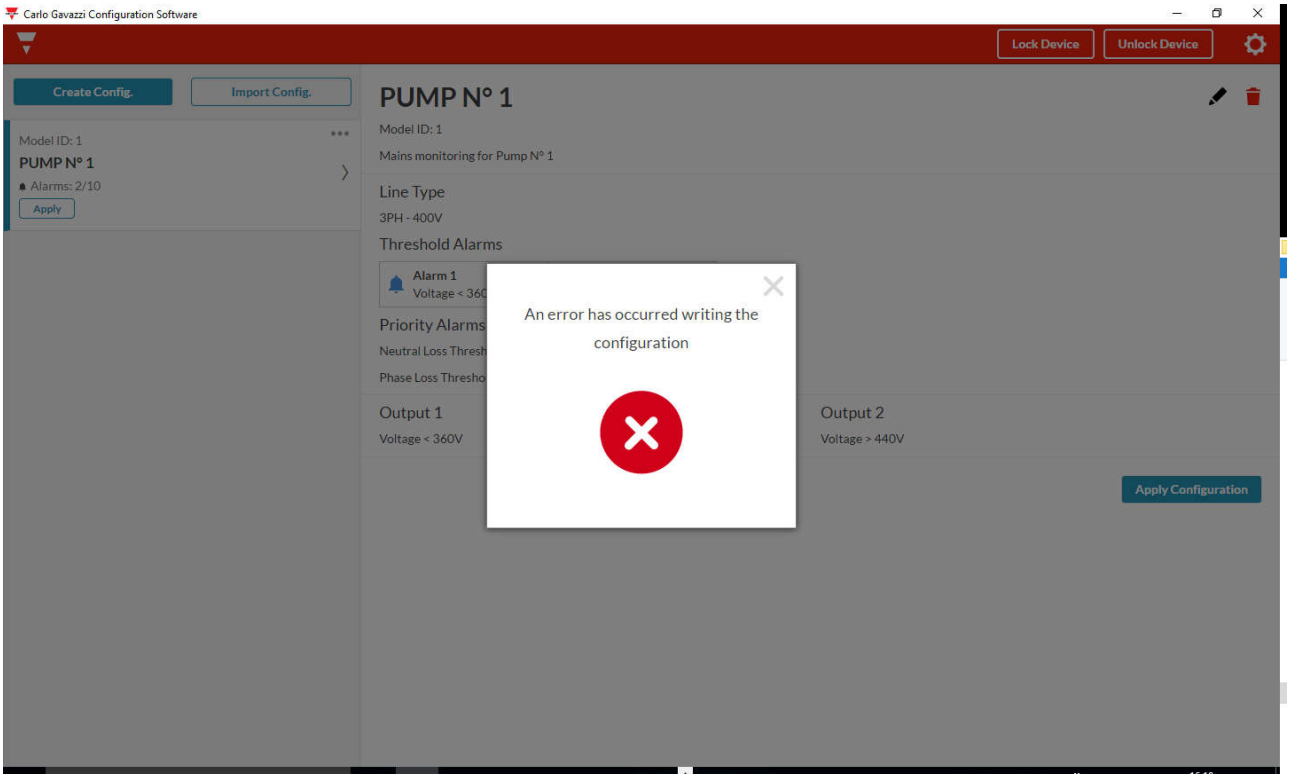
- Place the Relay on the NFC reader (dongle)



- Verify the serial number and the model of relay
- If they are ok, with the relay on the NFC reader, select " Confirm relay"

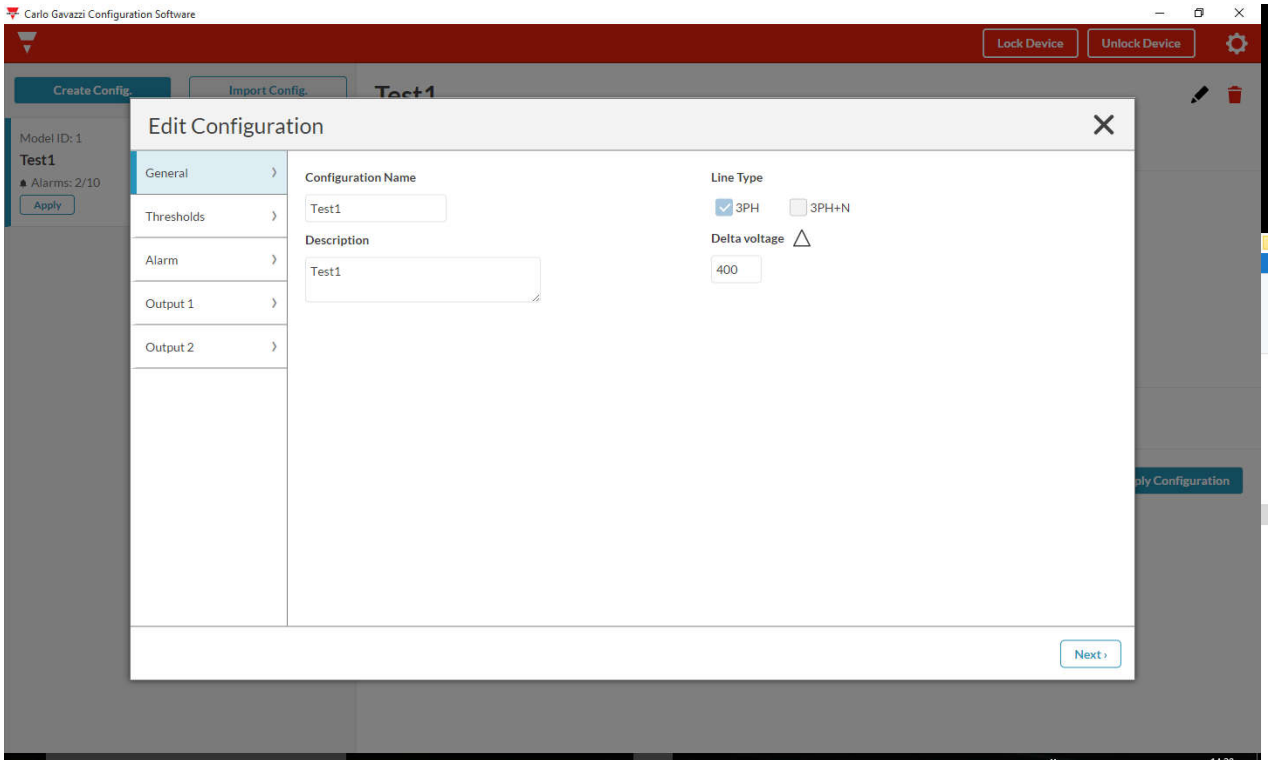


- The Configuration has been applied with success



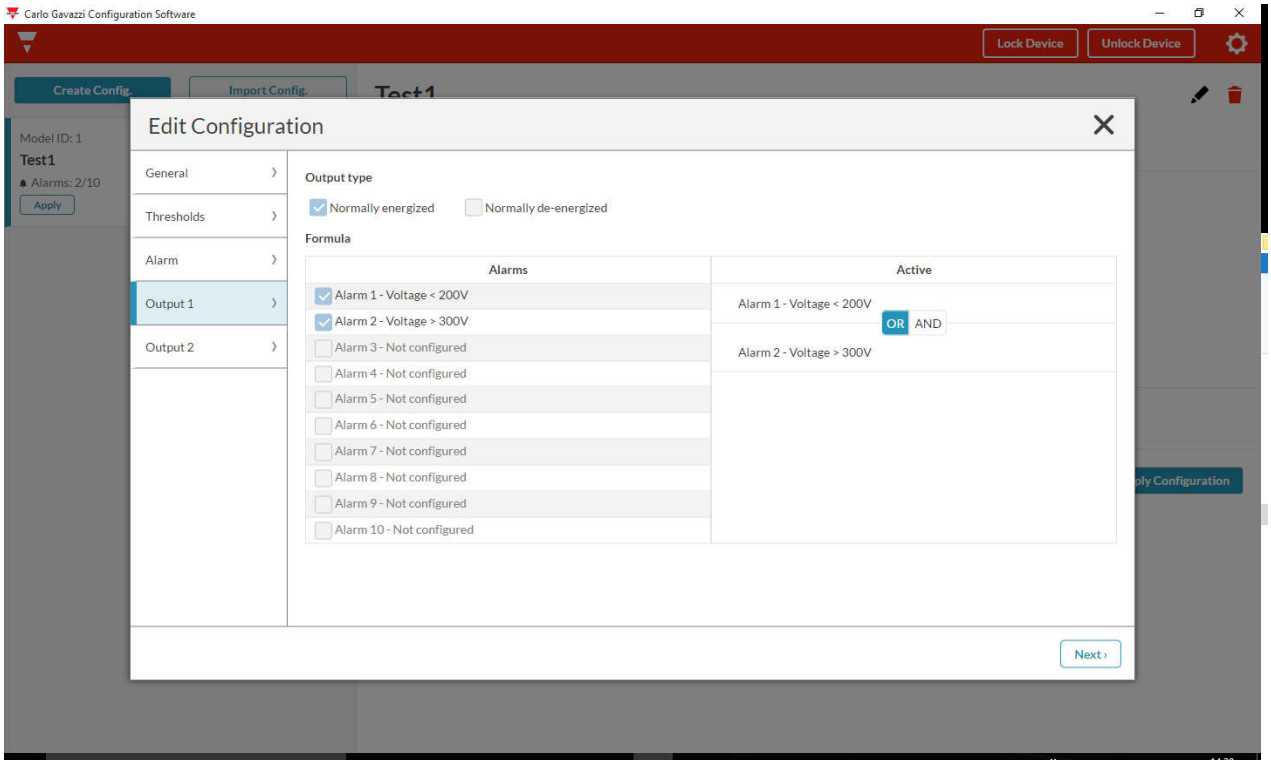
- If the relay is not on the NFC reader, you can not proceed with configuration, and an error window will appear

CREATE NEW CONFIGURATION – Edit a configuration

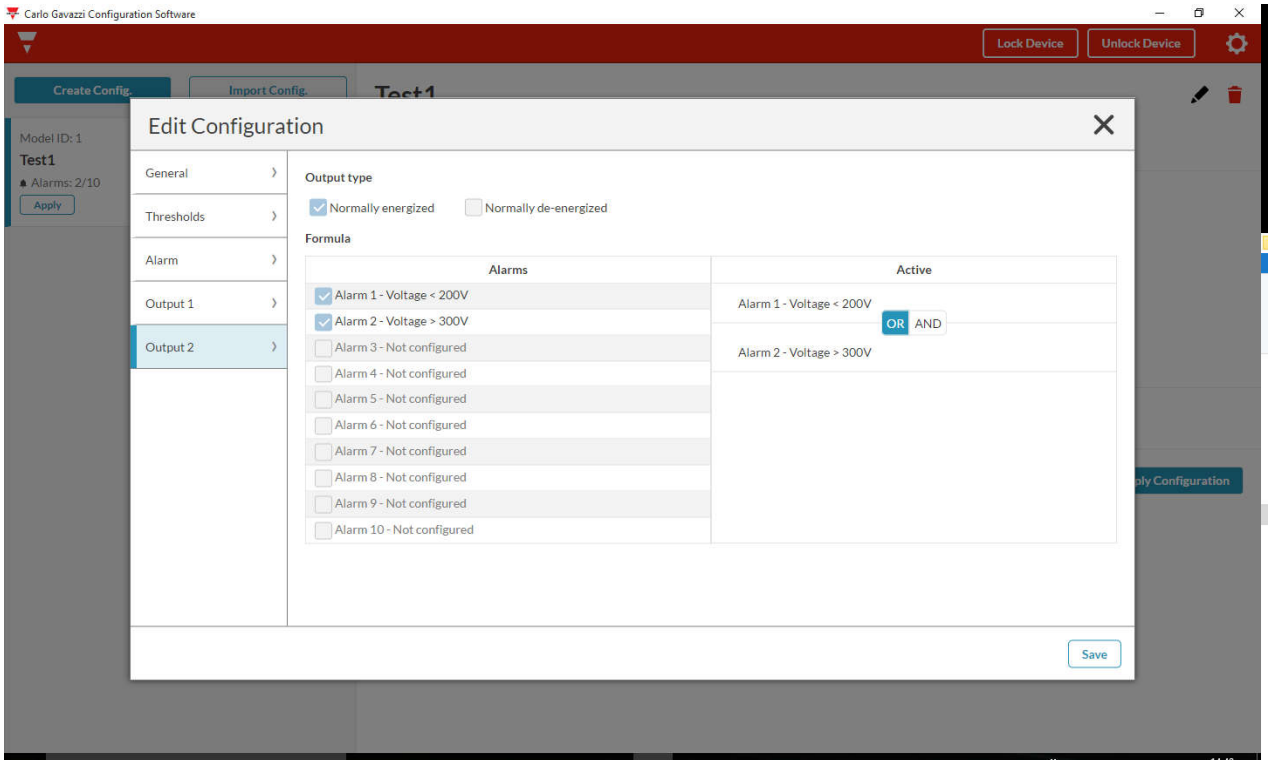


- Select "Edit configuration" in order to modify a configuration, as the application requires

CREATE NEW CONFIGURATION – Modify a configuration

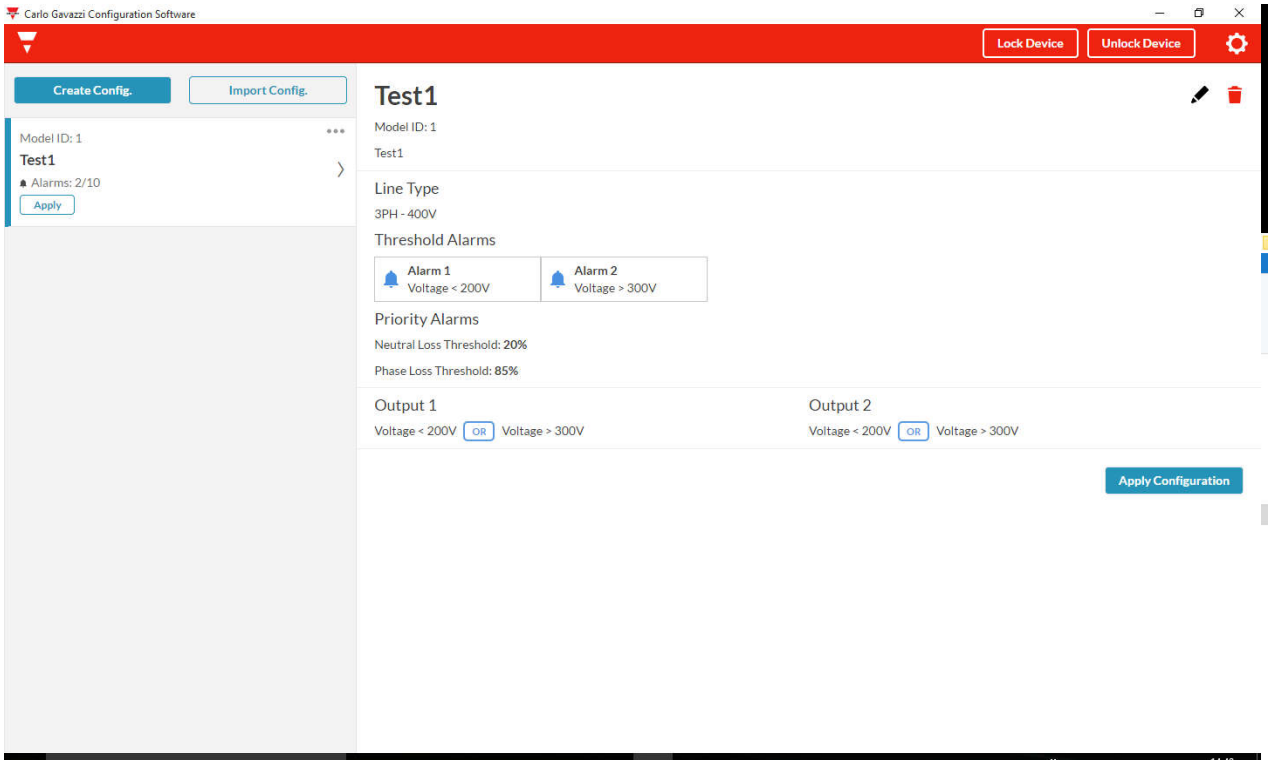


- Combine the Output1 also to another Non-priority alarm, with “OR/AND” logic operation, as the application requires (there are a maximum of 10 Non priority alarms)



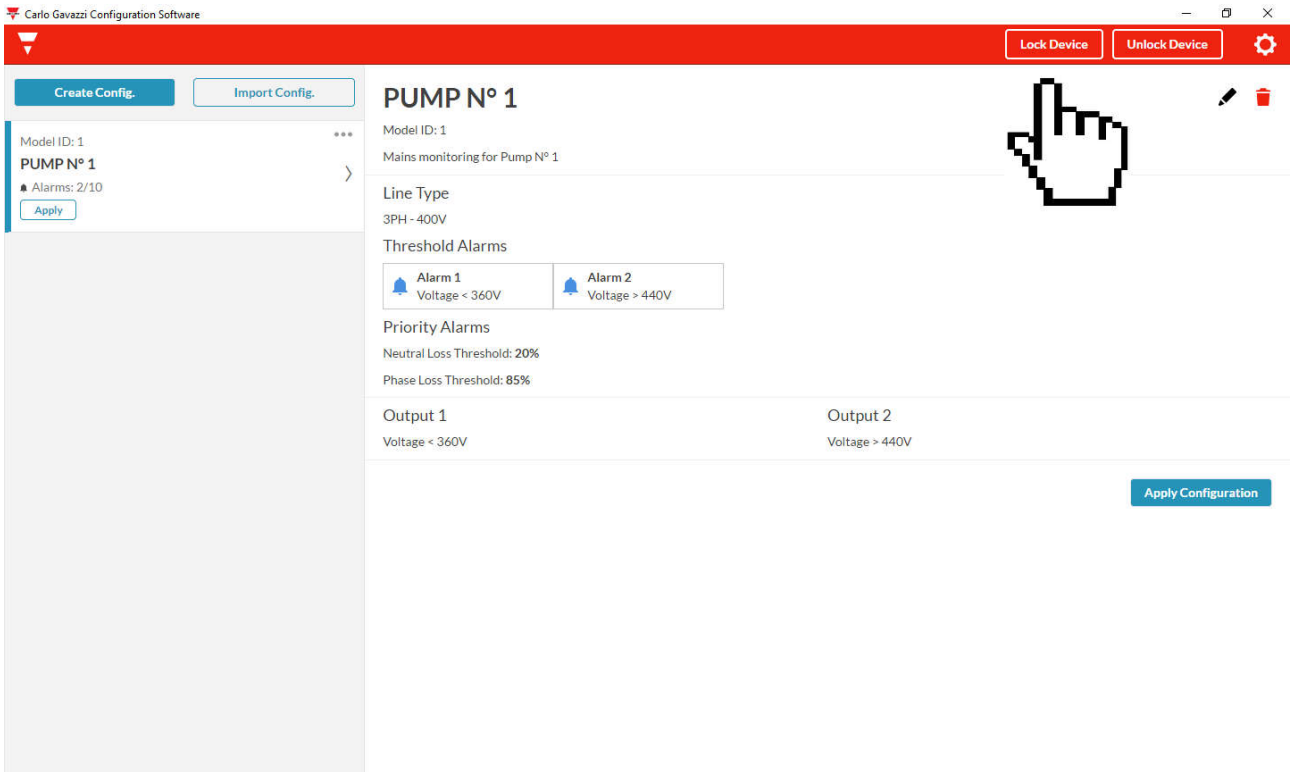
- Combine the Output2 also to another Non-priority alarm, with “OR/AND” logic operation, as the application requires (there are a maximum of 10 Non priority alarms)
- Select “Save” in order to save the configuration

CREATE NEW CONFIGURATION – Configuration setting summary



- Select "Apply Configuration" in order to apply the configuration to the device
- It is necessary a NFC reader

CREATE NEW CONFIGURATION – Lock/Unlock configurations



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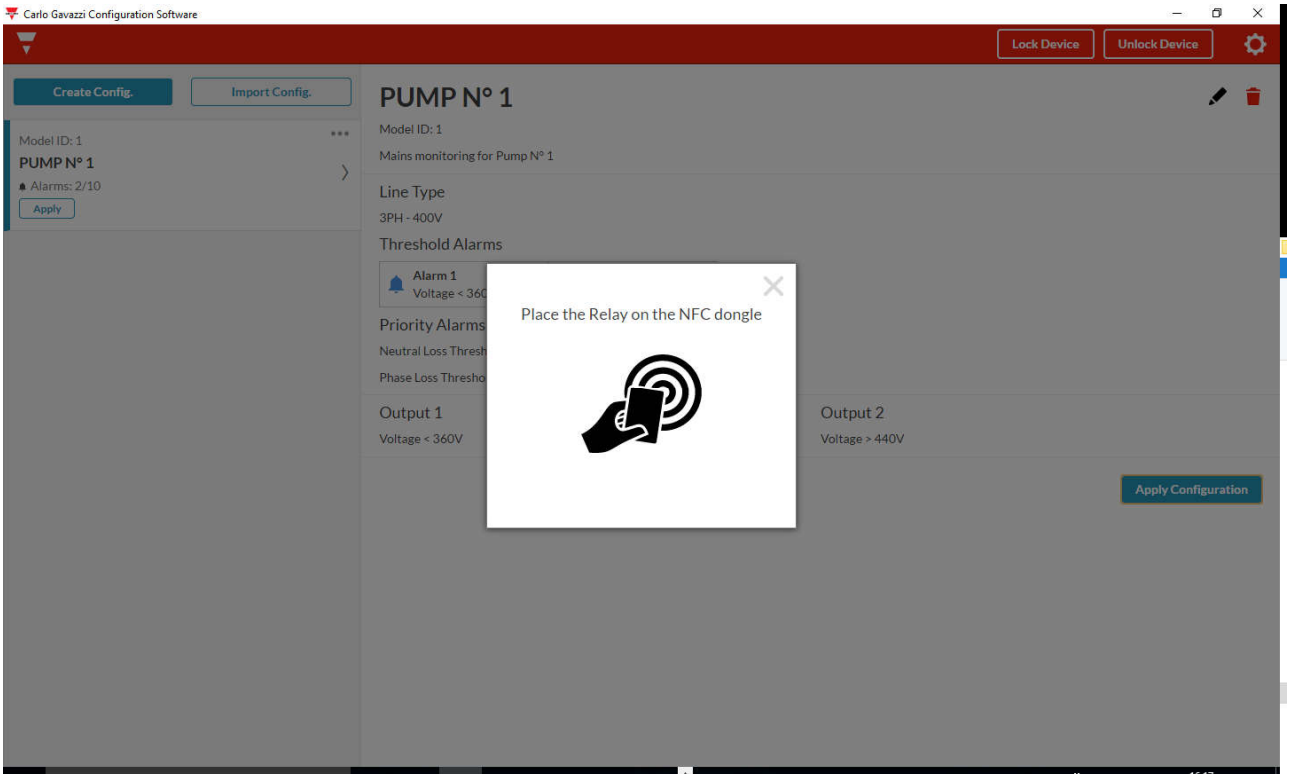
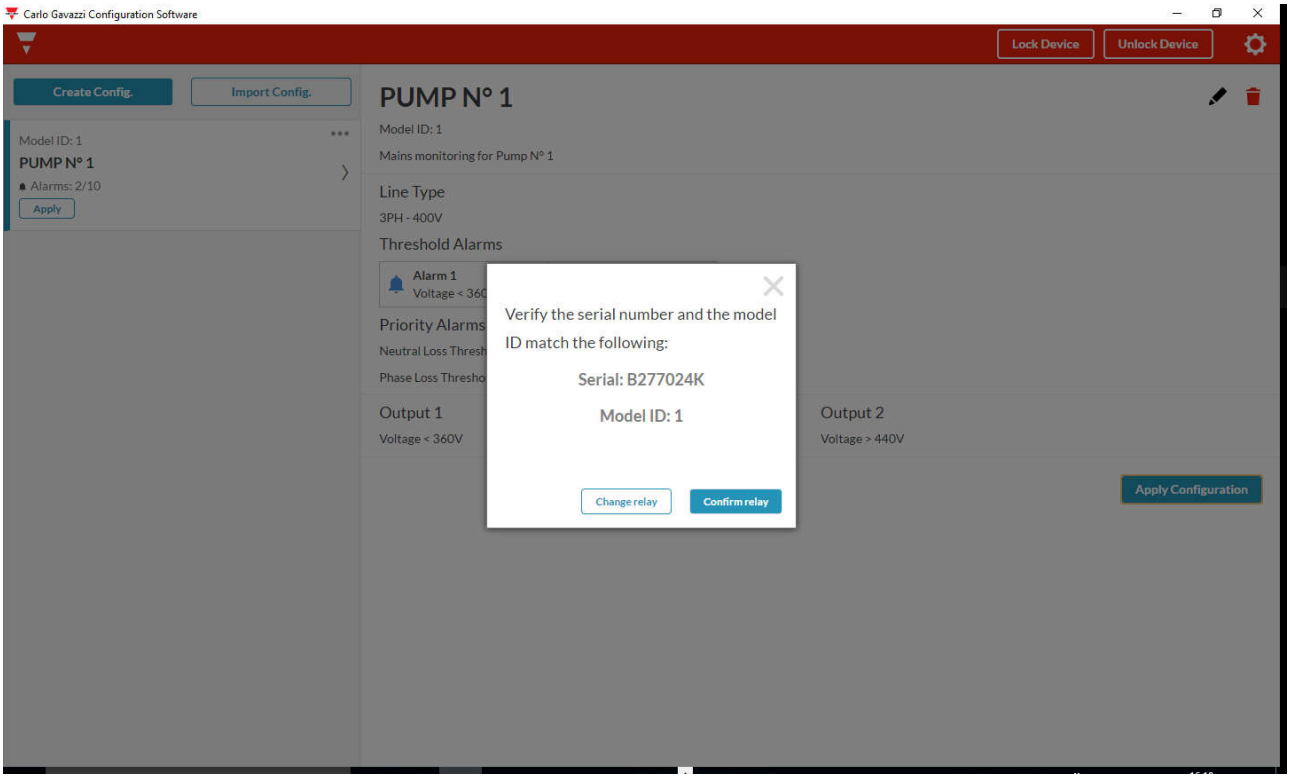
CREATE NEW CONFIGURATION – Lock/Unlock configurations



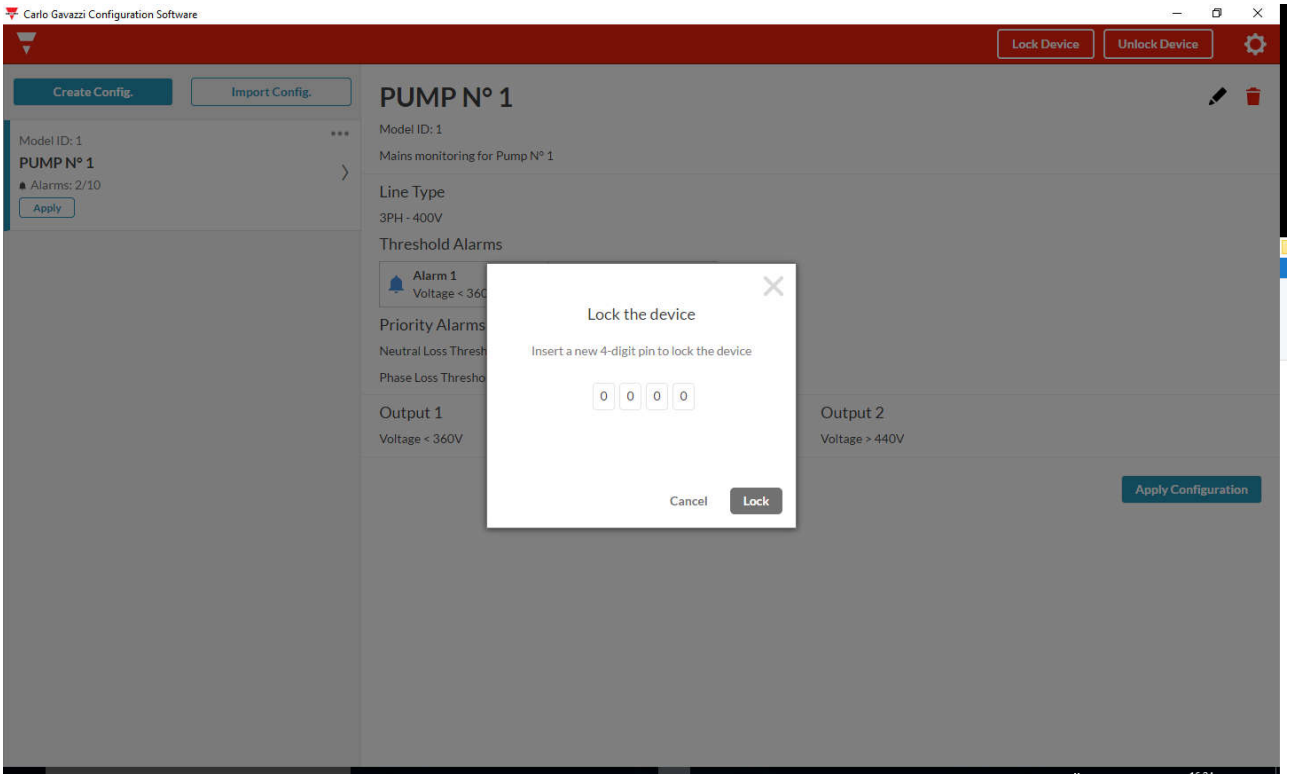
- Place the Relay on the NFC reader (dongle)

CREATE NEW CONFIGURATION – Lock/Unlock configurations



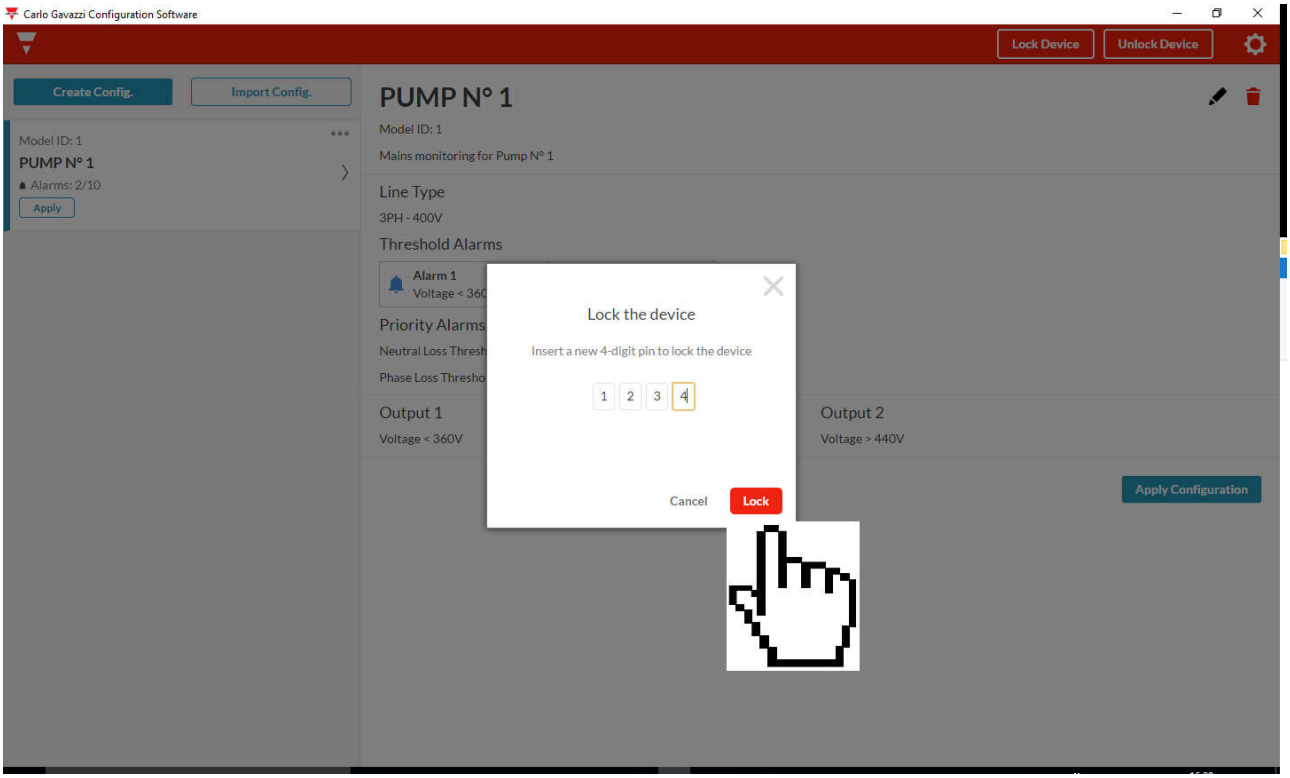
- Verify the serial number and the model of relay
- If they are ok, with the relay on the NFC reader, select " Confirm relay"

CREATE NEW CONFIGURATION – Lock/Unlock configurations



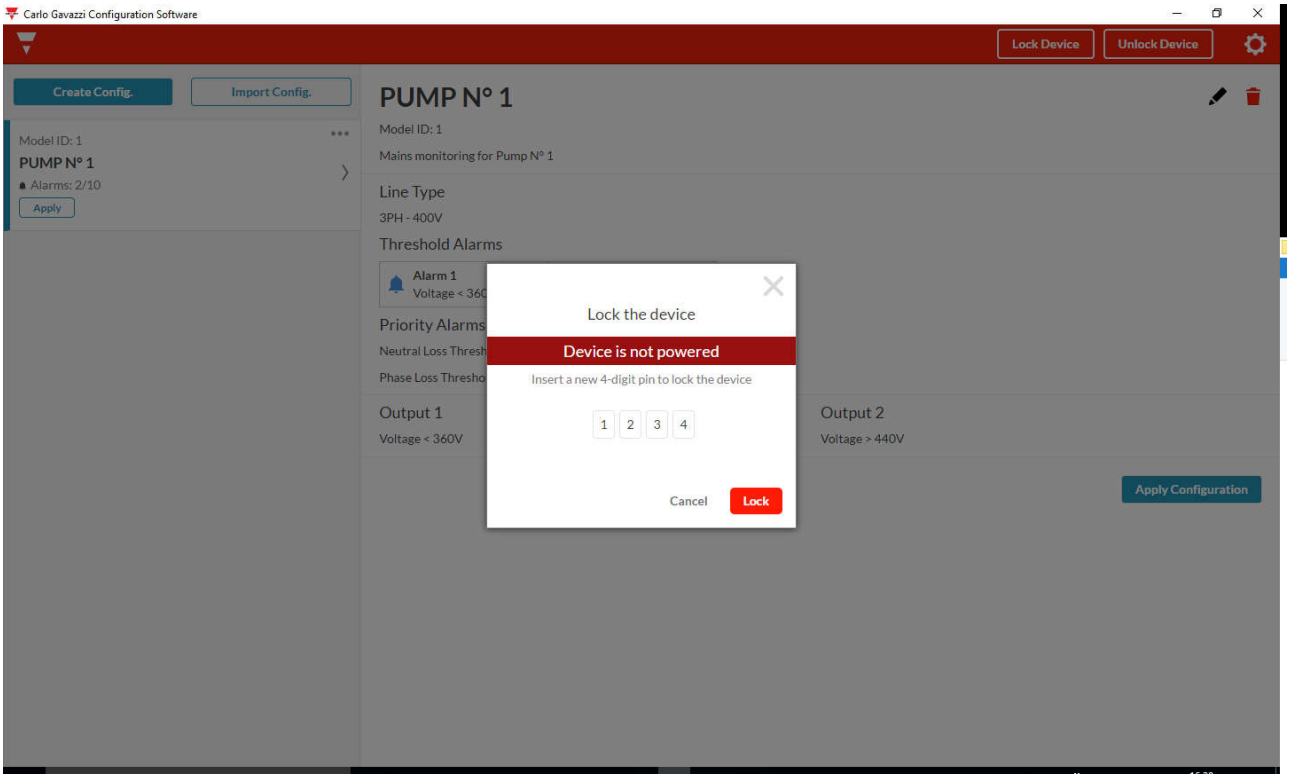
- Proceed to protect your configurations: to proceed you will have to input a 4 DIGIT password

CREATE NEW CONFIGURATION – Lock/Unlock configurations



- Click “Lock” button in order to lock DPD

CREATE NEW CONFIGURATION – Lock/Unlock configurations



- It is necessary to power the device, in order to proceed with Lock/Unlock procedures

DPD ANDROID CONFIGURATOR

INSTALLATION DPD ADROID CONFIGURATOR

- System requirements for ANDROID APP:

- OS : Android operating system 4.1 or higher

- COMMUNICATION : Built in NFC reader / writer

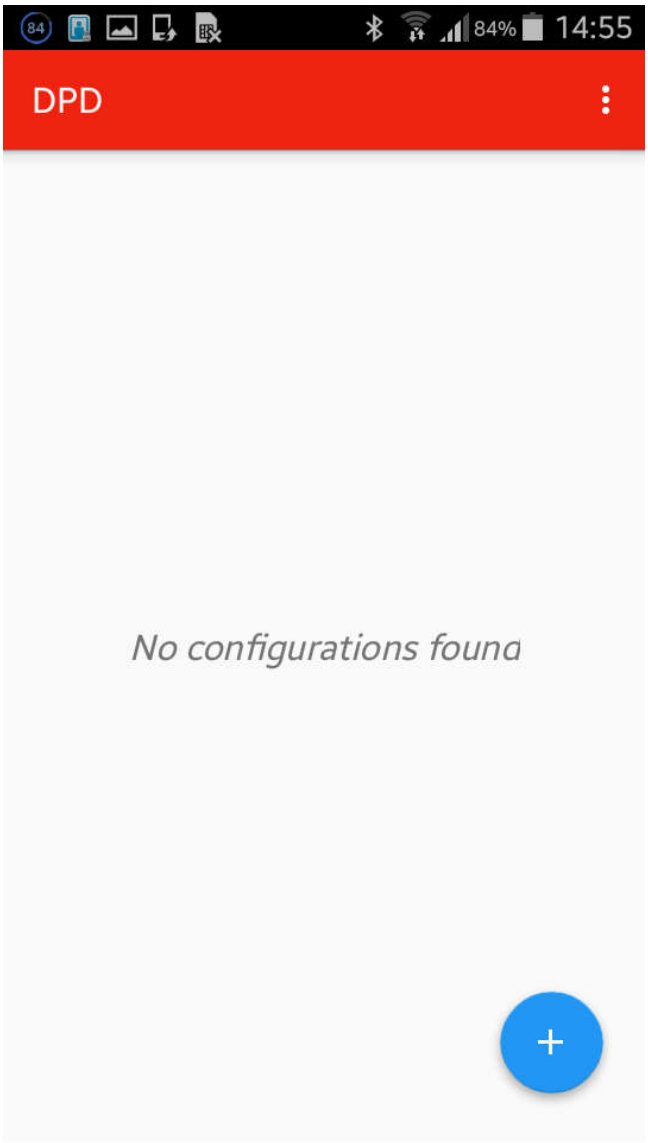
- Download the ANDROID APP from Google Store

https://play.google.com/store/apps/details?id=us.belka.dpd&hl

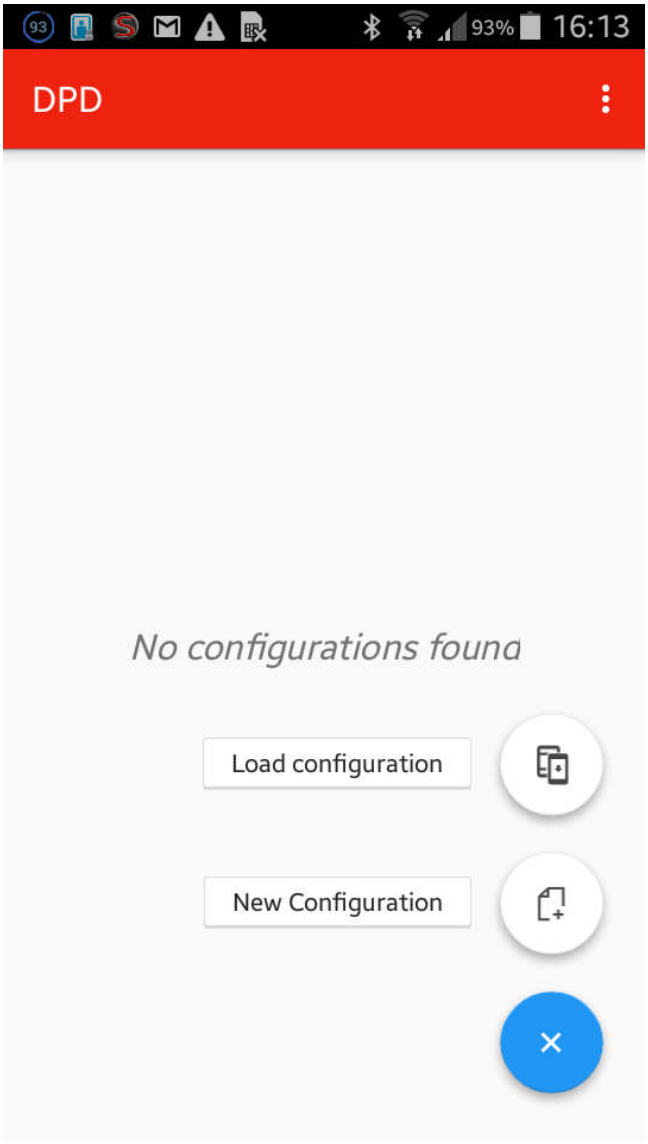
- Save the App on smartphone

DPD ANDROID CONFIGURATOR SETUP

CREATE A NEW CONFIGURATION - Start configuration

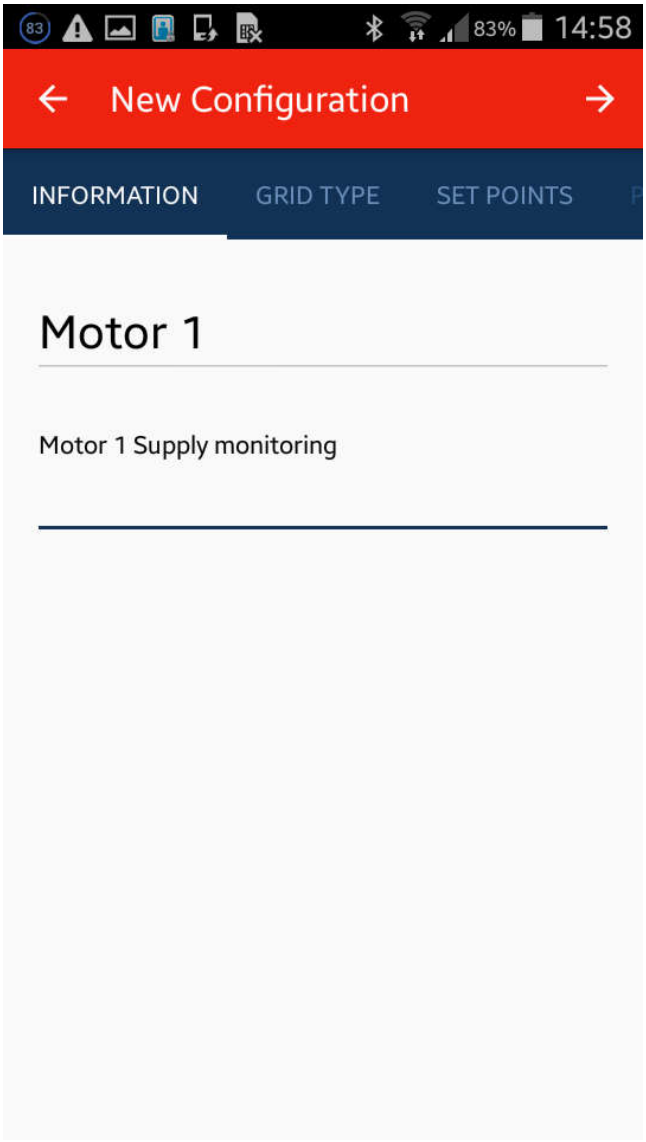


- Import an existing configuration
- Create a new one



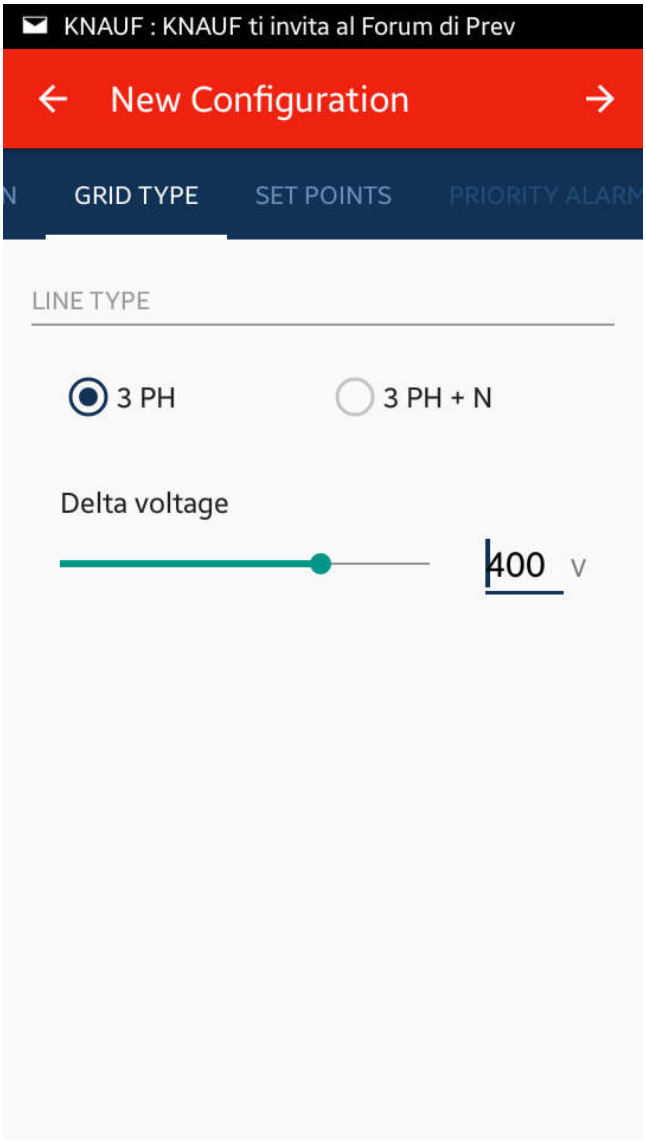
- Load an existing configuration
- Create a new configuration

CREATE NEW CONFIGURATION – Main settings

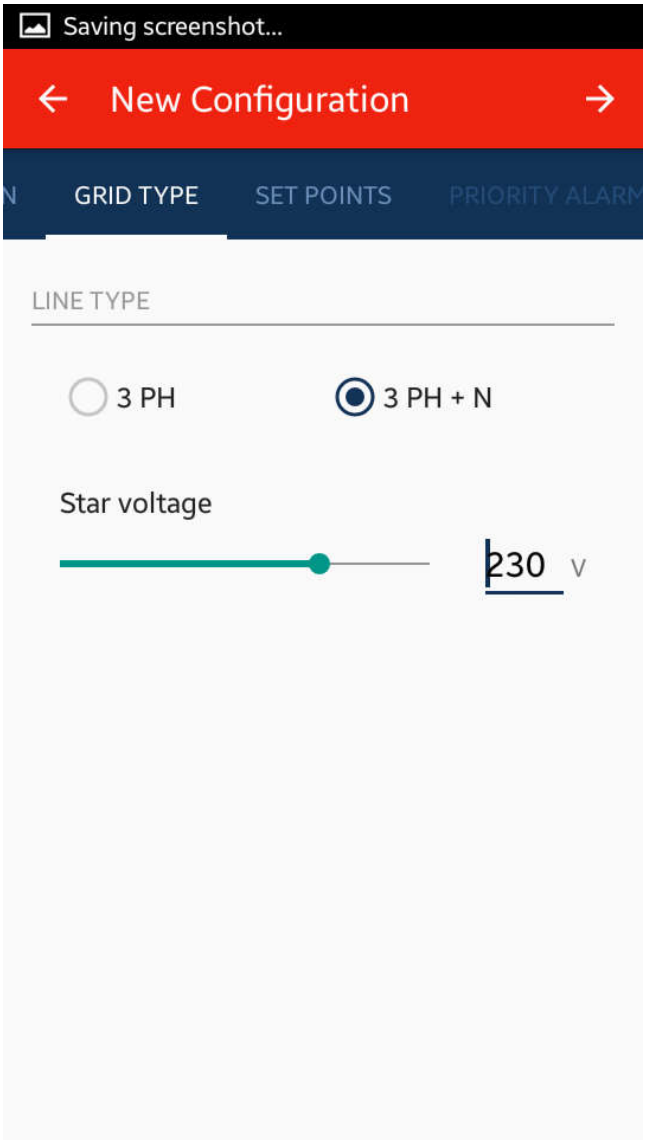


- Create a new configuration
- Fill in the “Configuration Name” field
- Fill in the “Description” field

CREATE NEW CONFIGURATION – Non Priority Alarm thresholds

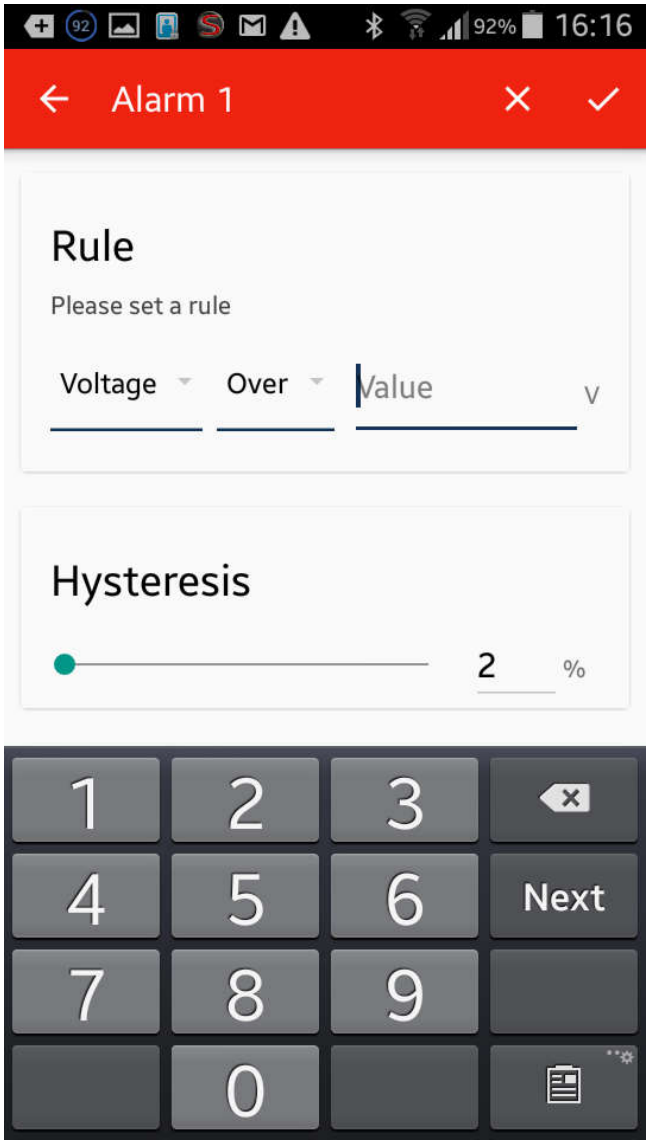


- Select the Line Type (3PH / 3PH+N)
- Select the voltage line nominal value for 3PH line
  - Voltage 3PH range: 208 to 480V

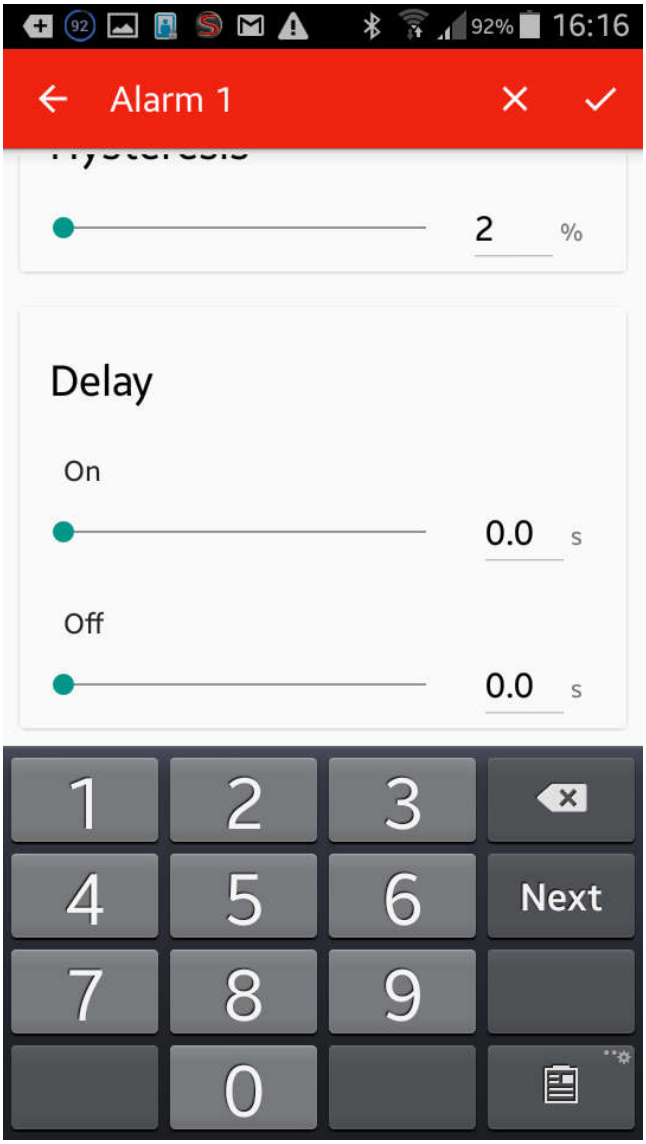


- Select the Line Type (3PH / 3PH+N)
- Select the voltage line nominal value for 3PH+N line
    - Voltage 3PH+N range: 120 to 277V

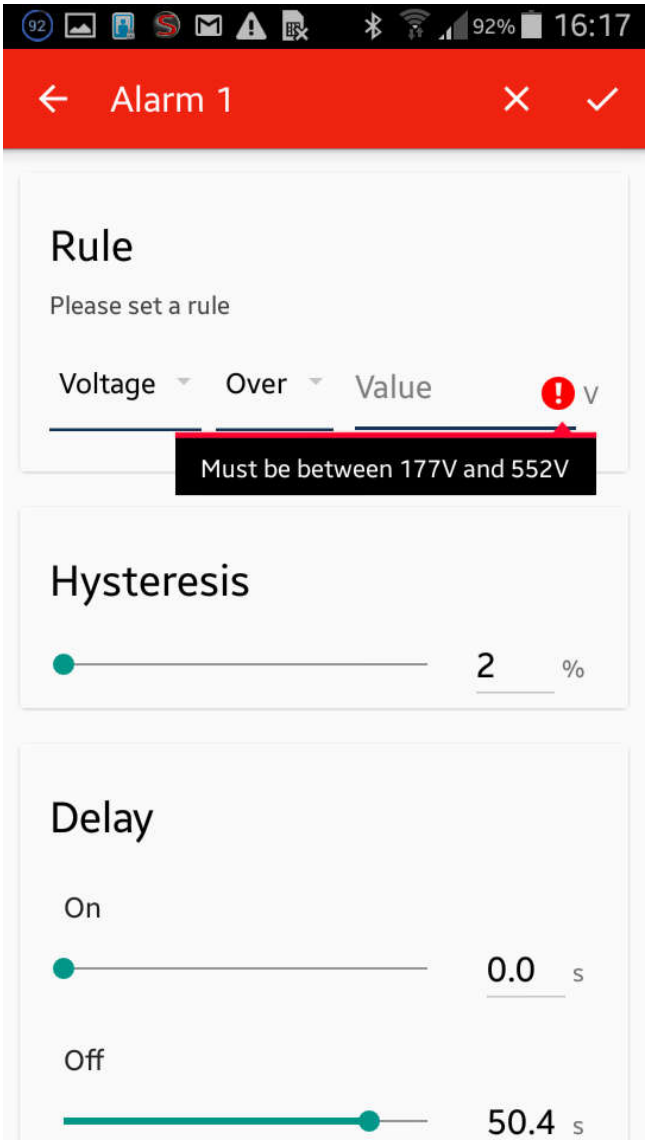
- Set up to 10 Non priority alarm, as required by application



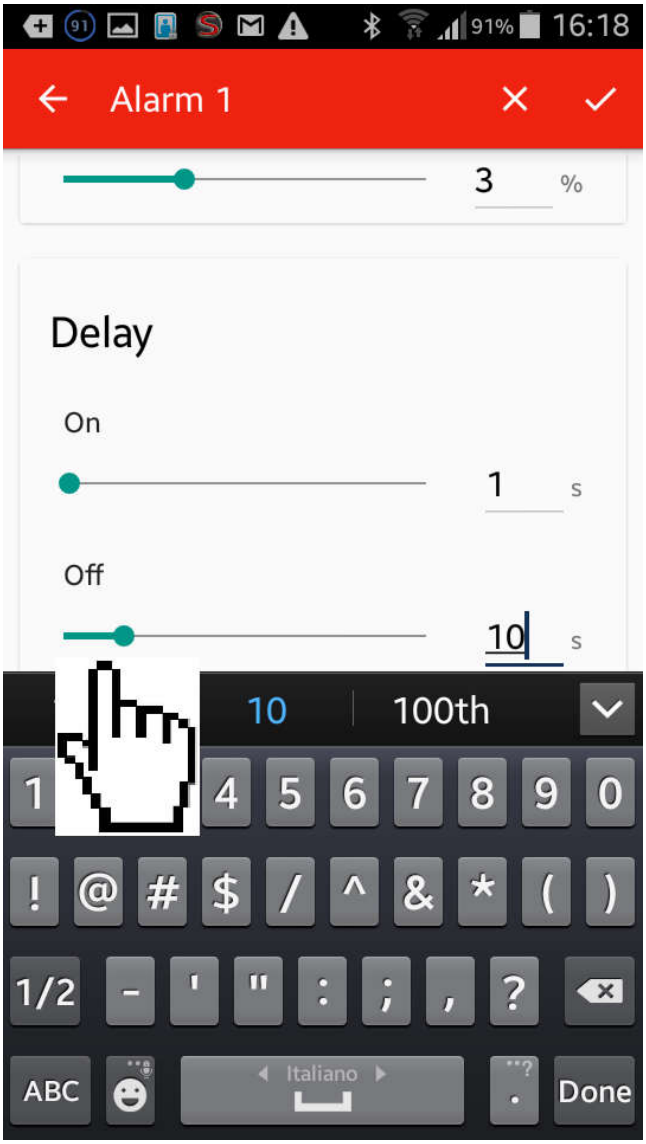
- Combine a Non priority alarm (for example Alarm1) with the variable to be monitored, so select “Voltage” or “Frequency” or “Asymmetry” in “Alarm Threshold”
- Select if the Non priority alarm1 is “Over” or “Under”
- Select the Non priority alarm1 Over/Under threshold value, in according to the following ranges:
  - Voltage 3PH range: 177 to 552V
  - Voltage 3PH+N range: 102 to 318V
  - Frequency range: 45 to 440Hz
  - Asymmetry range: 0-30%
- Select the Hysteresis Value
  - range: 2% to 5%



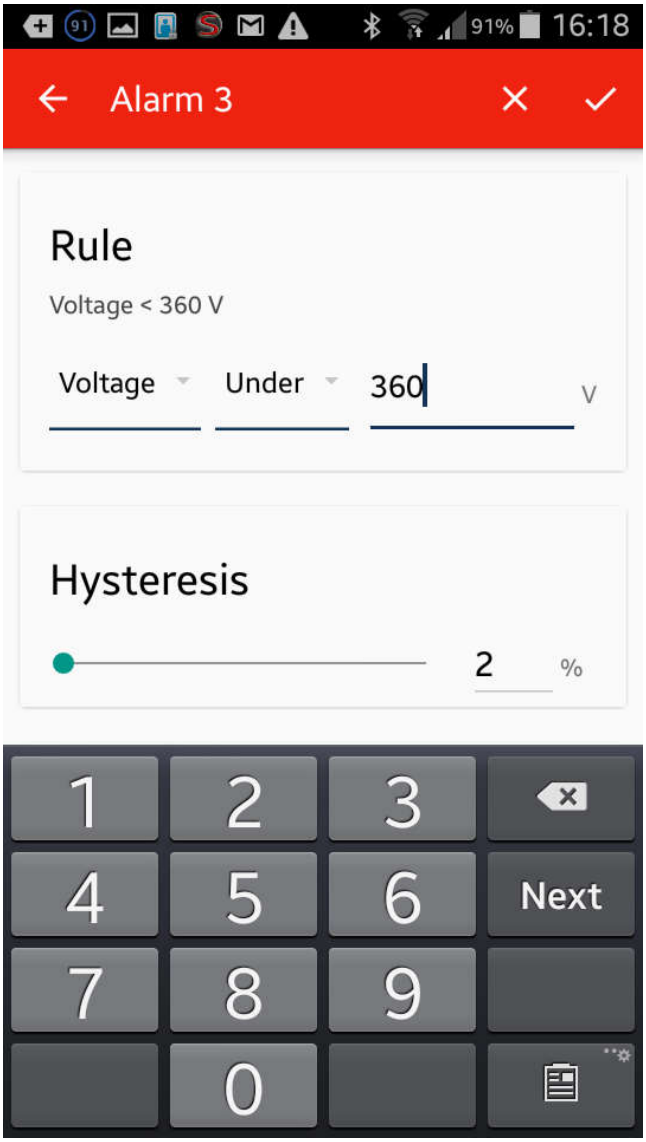
- Select the Delay Value
  - range: Delay ON 0 to 600, Delay OFF 0 to 600



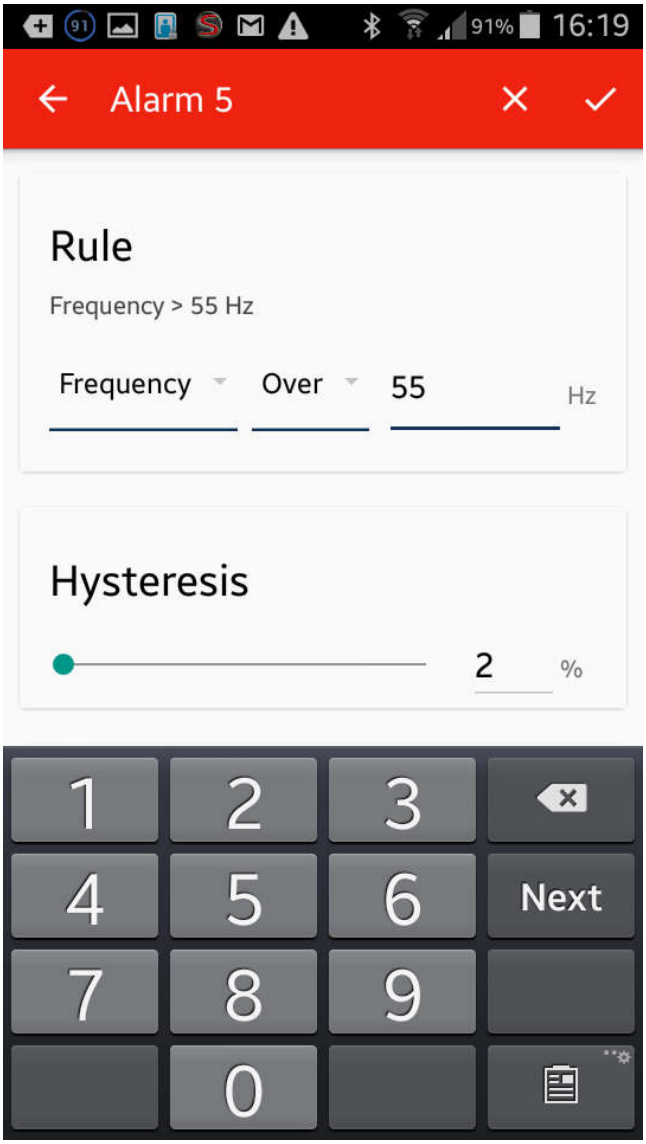
- Set correctly the values of the variable to be monitored

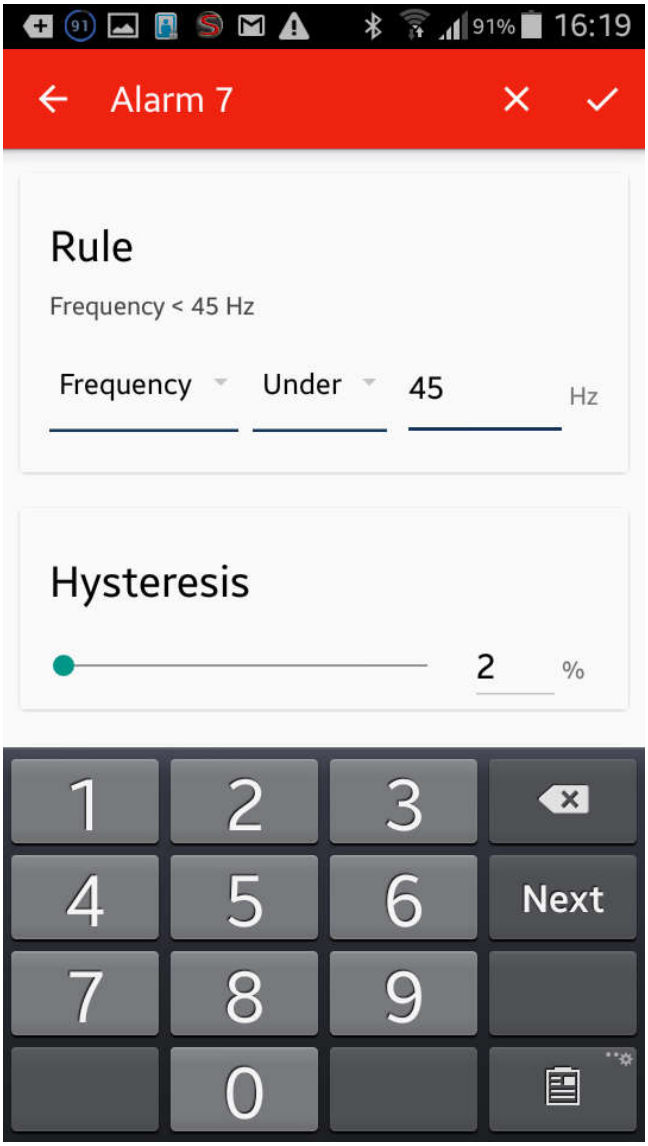


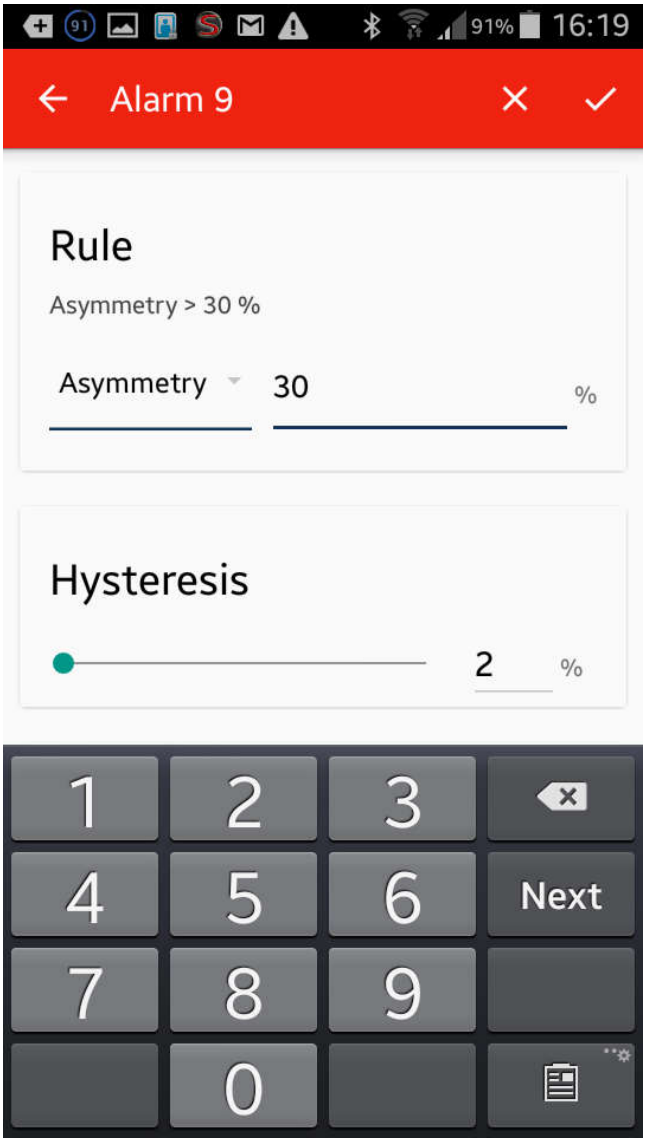
- Set correctly the values of the Delay for alarm

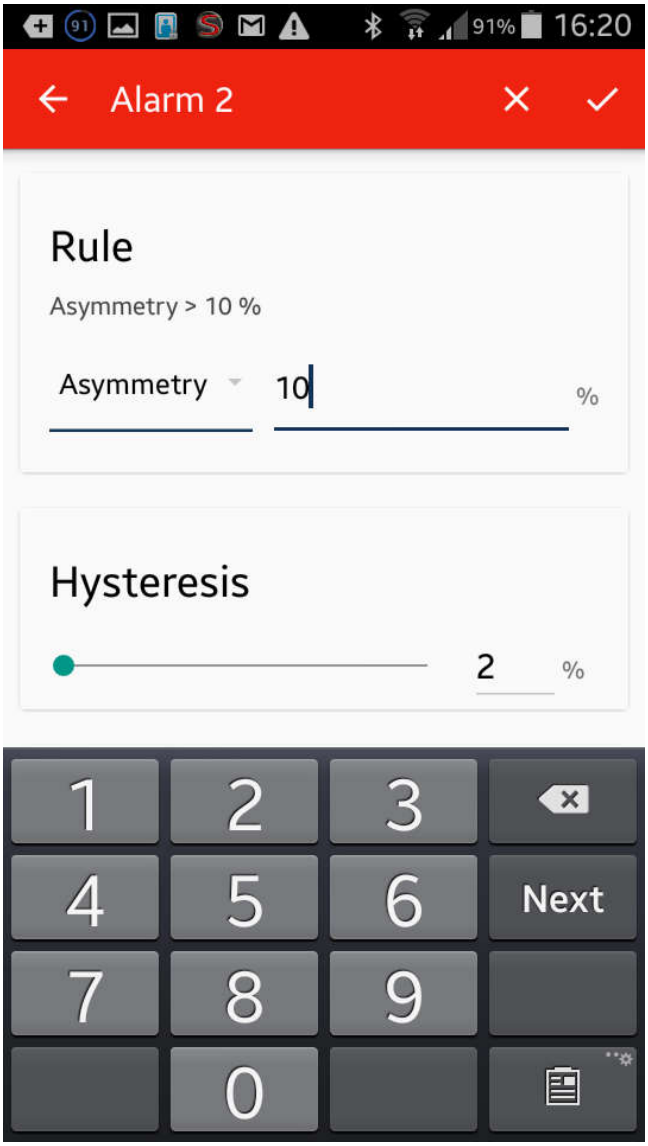


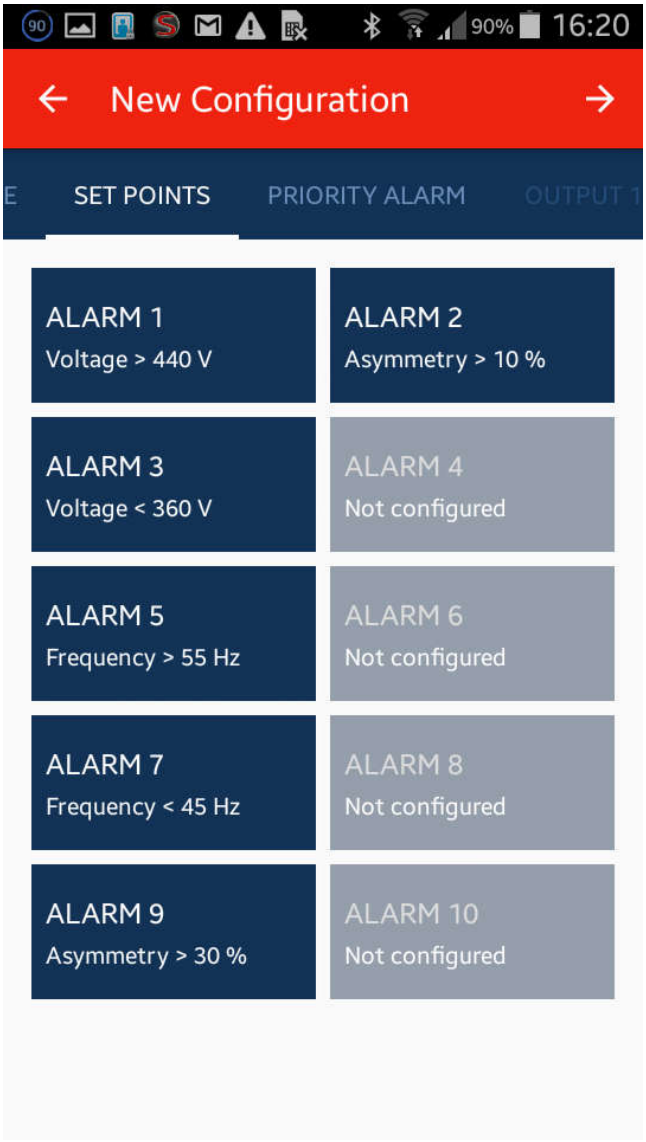
- If it is required from the application, combine another Non priority alarm (for example Alarm3) with the variable to be monitored, so select “Voltage” or “Frequency” or “Asymmetry” in “Alarm Threshold”
- Select if the Non priority alarm2 is “Over” or “Under”
- Select the Non priority alarm2 Over/Under threshold value
  - Voltage 3PH range: 77 to 552V
  - Voltage 3PH+N range: 102 to 318V
  - Frequency range: 45 to 440Hz
  - Asymmetry range: 0-30%
- Select the Hysteresis Value
  - range: 2% to 5%


91%
16:19
Alarm 5
Rule
Frequency > 55 Hz
Frequency
Over
55
Hz
Hysteresis
2
%
1
2
3
4
5
6
Next
7
8
9
0


91%
16:19
Alarm 7
Rule
Frequency < 45 Hz
Frequency
Under
45
Hz
Hysteresis
2
%
1
2
3
4
5
6
Next
7
8
9
0

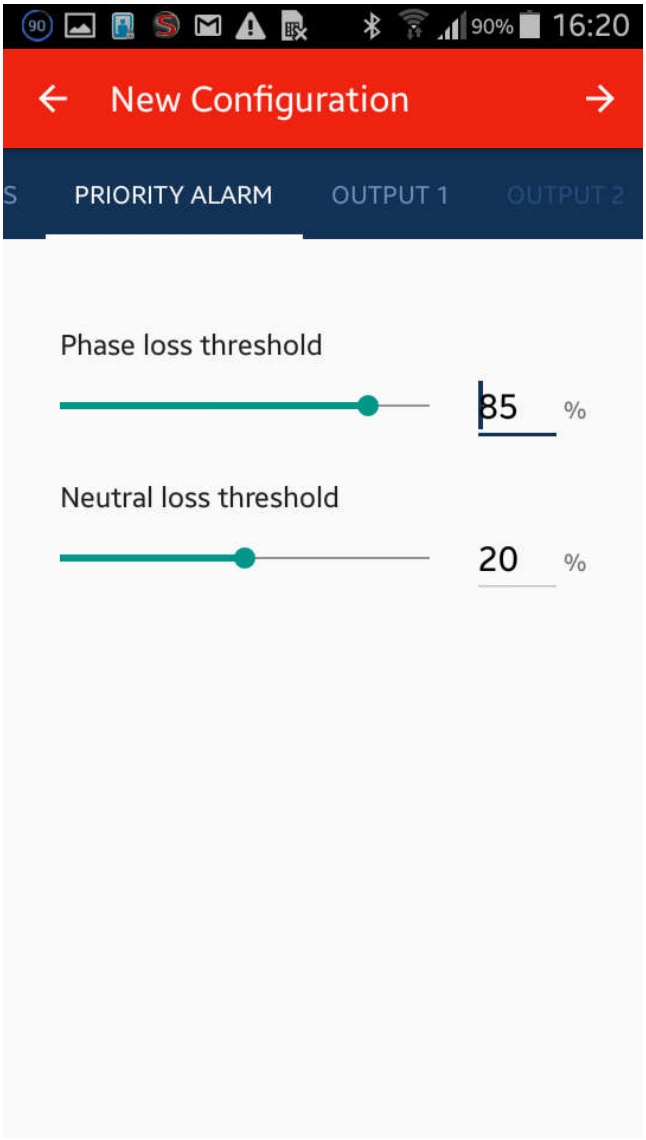

91%
16:19
Alarm 9
Rule
Asymmetry > 30 %
Asymmetry
30
%
Hysteresis
2
%
1
2
3
4
5
6
Next
7
8
9
0


91%
16:20
Alarm 2
Rule
Asymmetry > 10 %
Asymmetry
10
%
Hysteresis
2
%
1
2
3
4
5
6
Next
7
8
9
0



- Check all the configured Non priority alarms

CREATE NEW CONFIGURATION – Priority Alarm thresholds

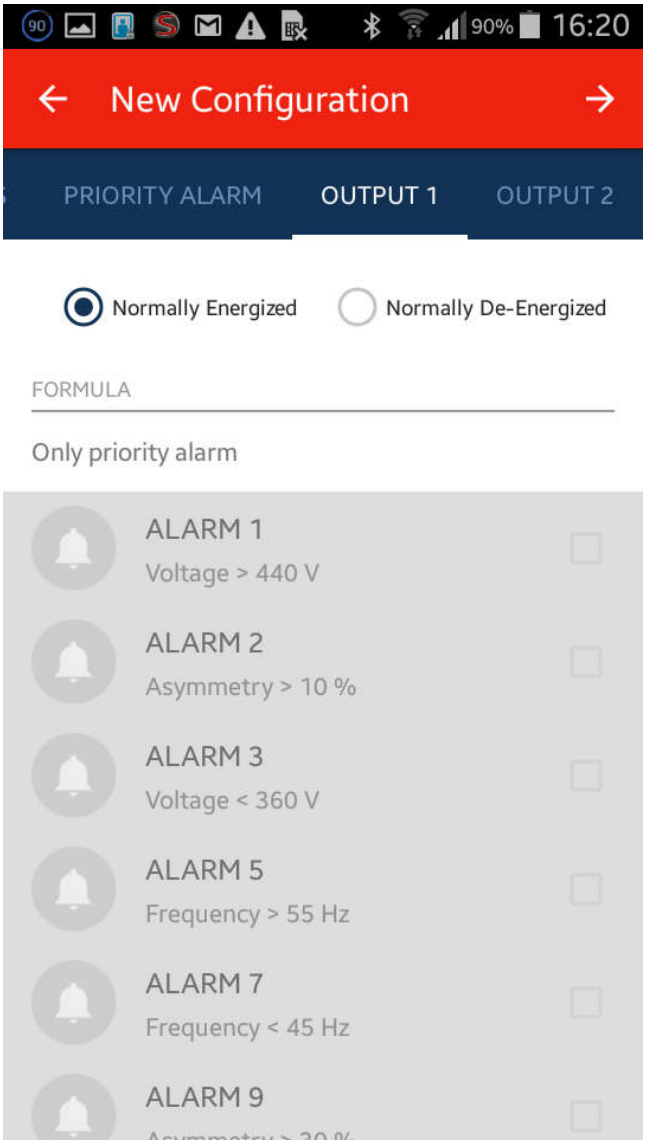


IMPORTANT NOTICE!

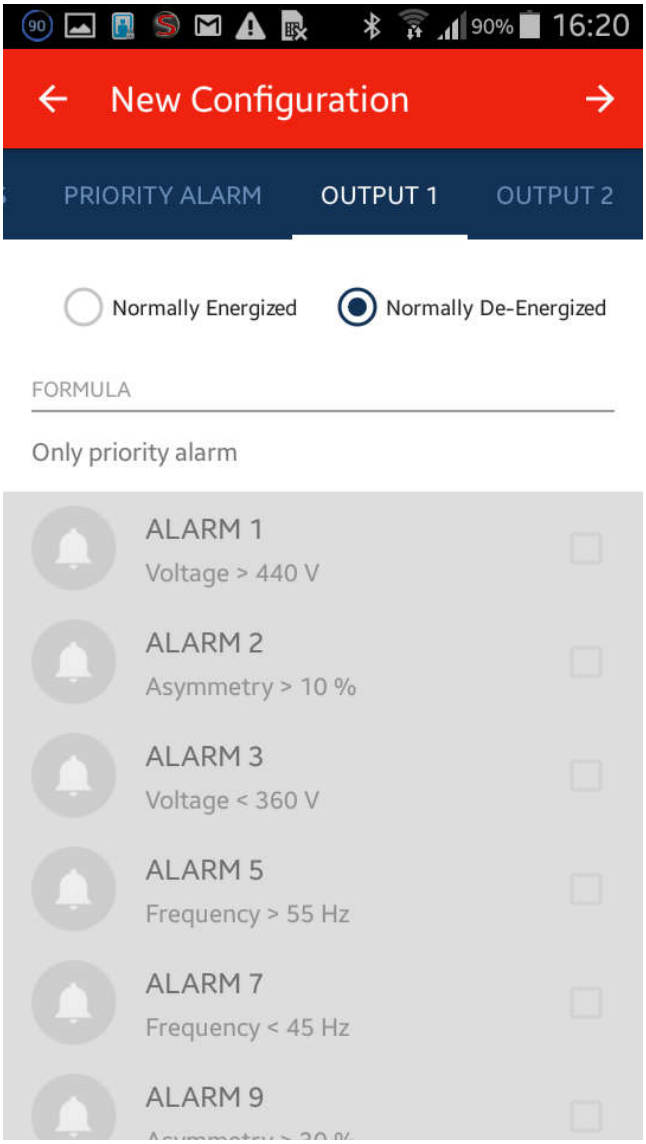
MODIFICATION OF THESE VALUES COULD CAUSE EXECESS OF SENSITIVITY DUE TO MAINS SLIGHT FLUCTUATIONS OR VICEVERSA INSENSITIVITY TO PHASE LOSS DUE TO REGENERATED ENERGY.

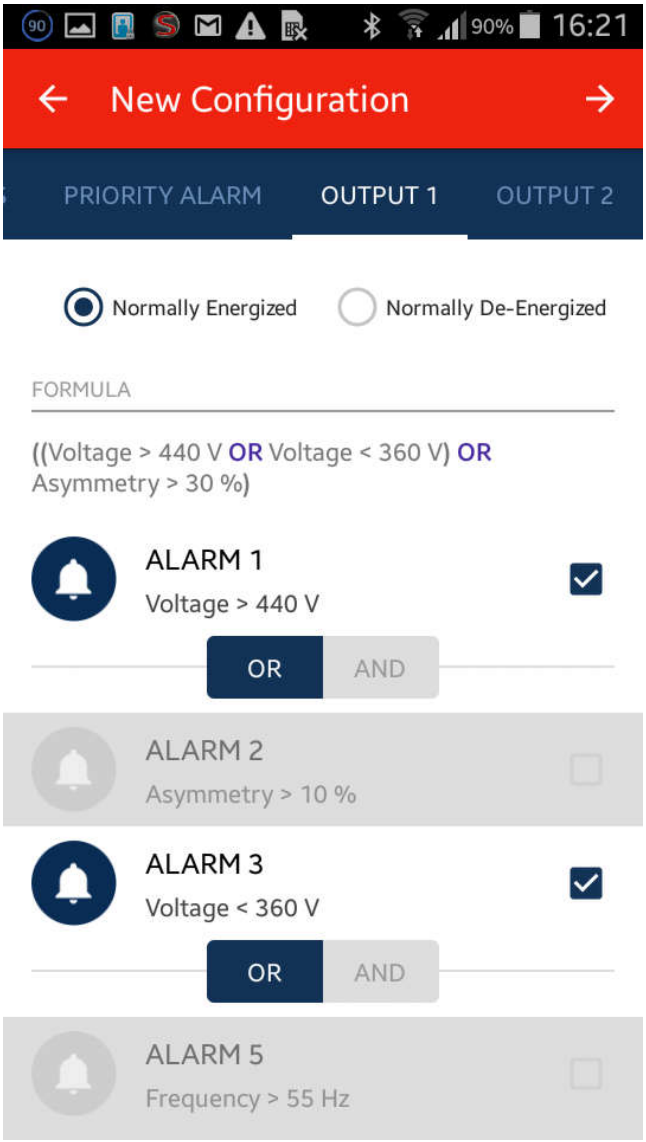
- Select the Priority alarm “Phase Loss Threshold “value
  - range: 60 to 90%
- Select the Priority alarm “Neutral Loss Threshold “value
  - range: 10 to 30%

CREATE NEW CONFIGURATION – Outputs settings

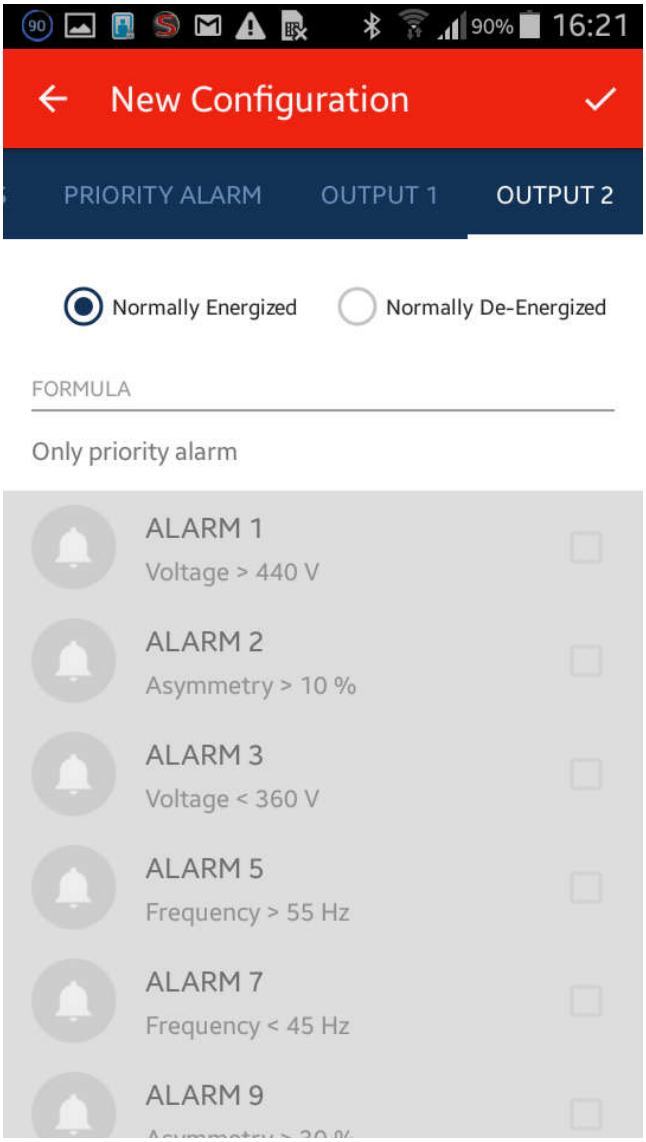


- Select the "Output type" for the Output1, so select if the Output1 is "Normally energized" or "Normally de-energized"
  (Normally Energized means: OUTPUT RELAY DE-ENERGIZED UPON ALARM)

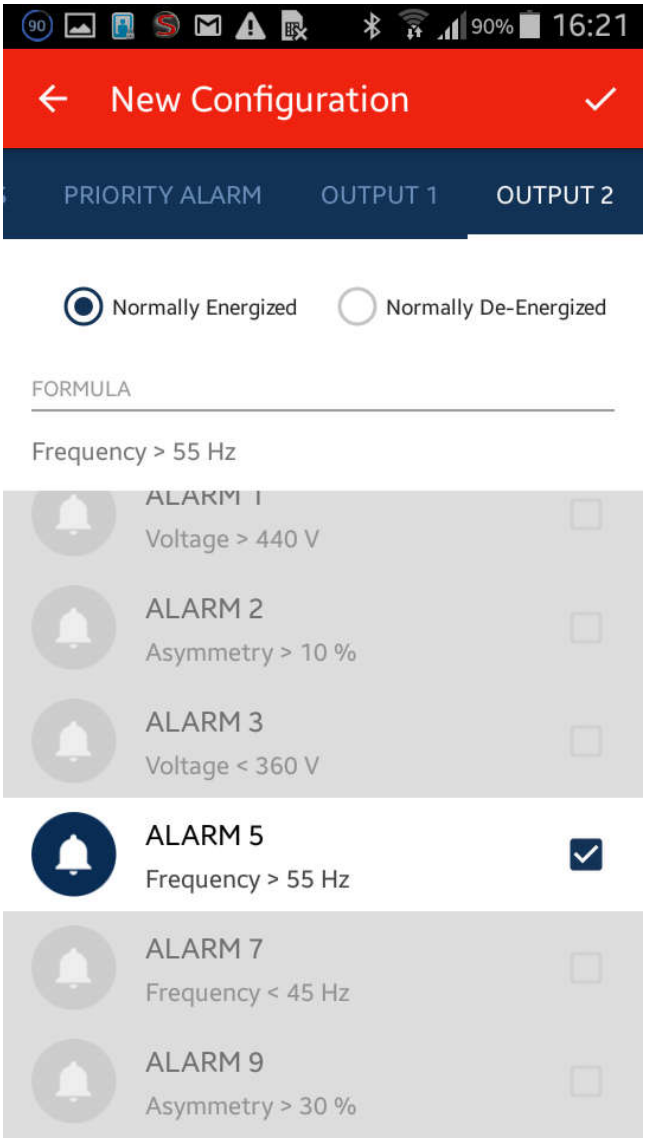

90%
16:20
New Configuration
PRIORITY ALARM
OUTPUT 1
OUTPUT 2
Normally Energized
Normally De-Energized
FORMULA
Only priority alarm
ALARM 1
Voltage > 440 V
ALARM 2
Asymmetry > 10 %
ALARM 3
Voltage < 360 V
ALARM 5
Frequency > 55 Hz
ALARM 7
Frequency < 45 Hz
ALARM 9



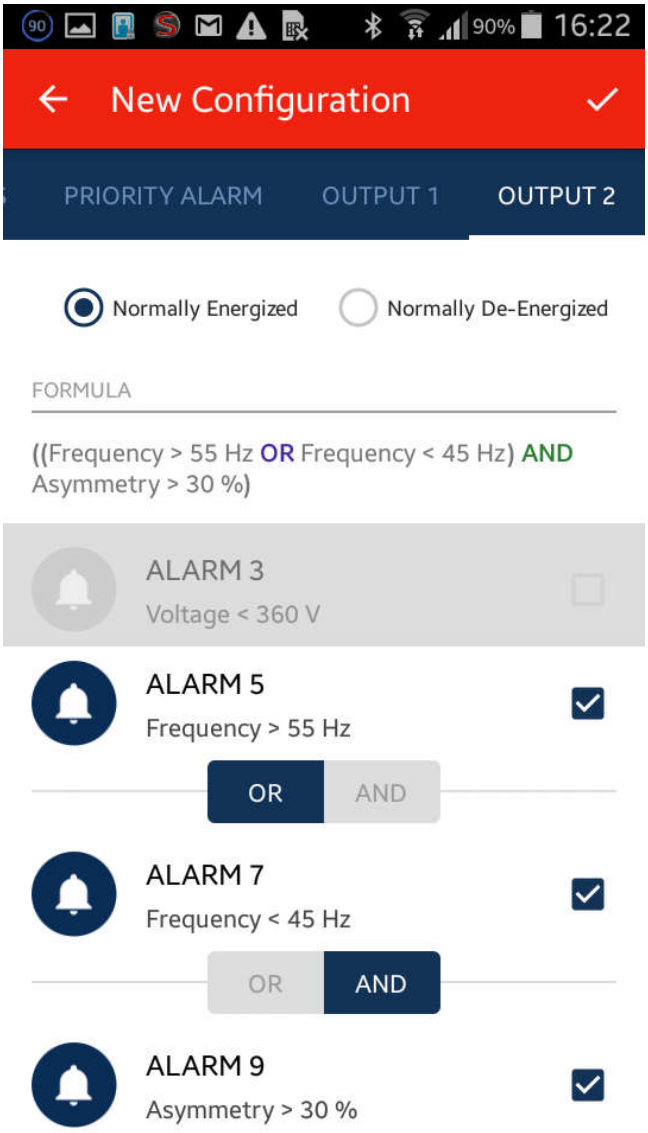
- Combine the Output1 to Non-priority alarm(s)

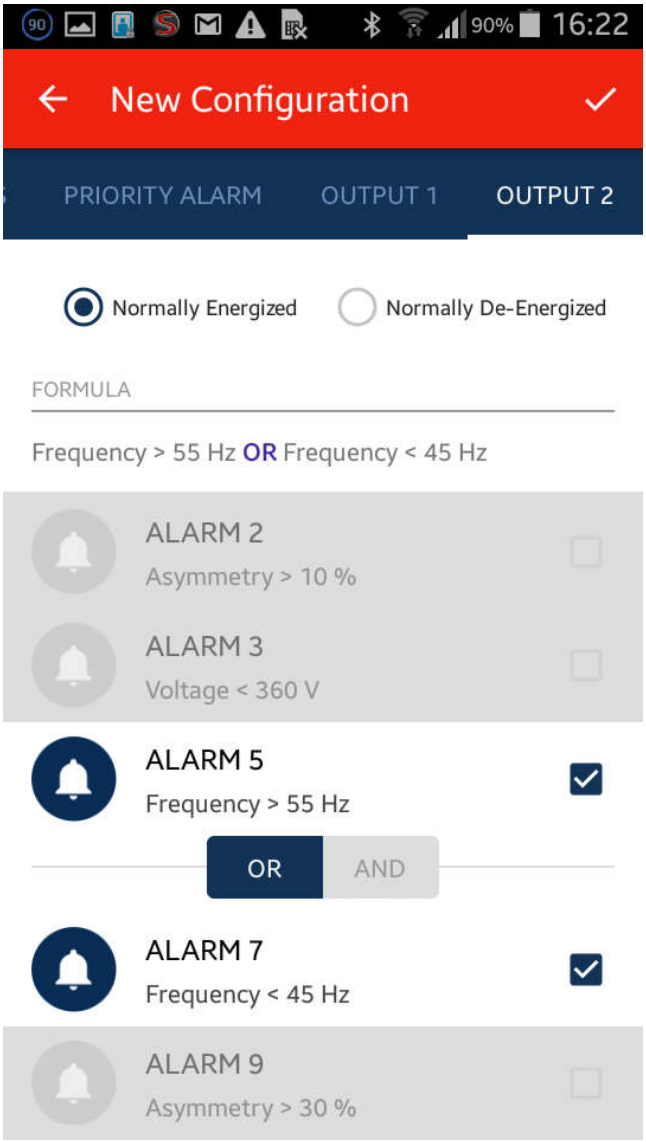


- Select the "Output type" for the Output2, so select if the Output1 is "Normally energized" or "Normally de-energized"
  (Normally Energized means: OUTPUT RELAY DE_ENERGIZED UPON ALARM)

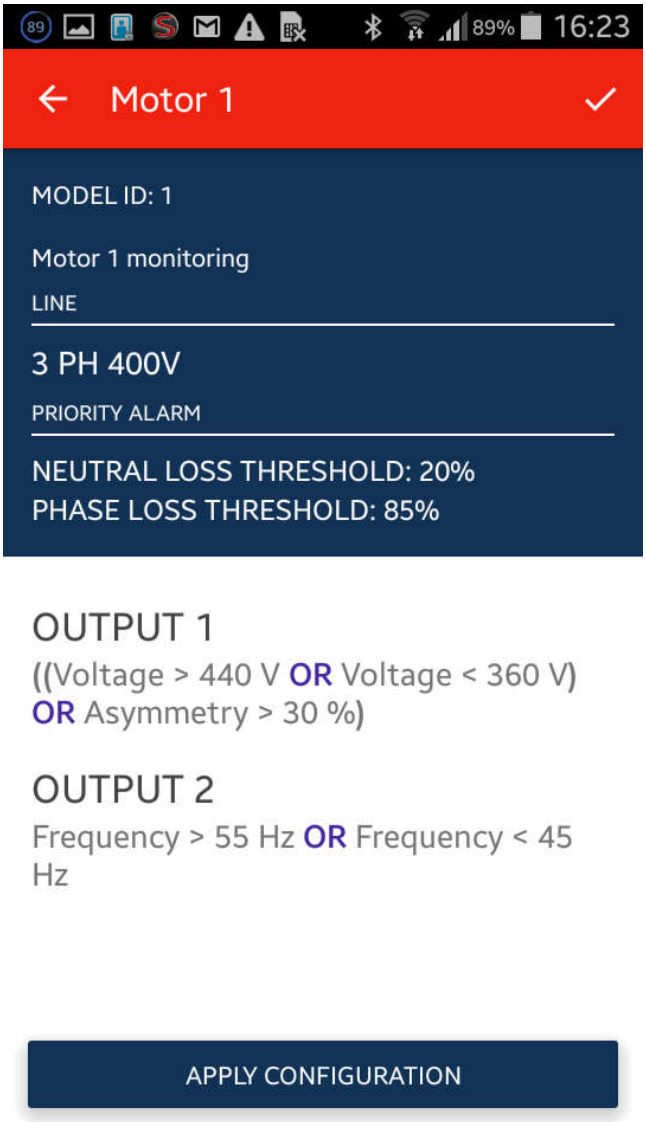


- Combine the Output2 to Non-priority alarm(s)


90%
16:22
New Configuration
PRIORITY ALARM
OUTPUT 1
OUTPUT 2
Normally Energized
Normally De-Energized
FORMULA
((Frequency > 55 Hz OR Frequency < 45 Hz) AND Asymmetry > 30 %)
ALARM 3
Voltage < 360 V
ALARM 5
Frequency > 55 Hz
OR
AND
ALARM 7
Frequency < 45 Hz
OR
AND
ALARM 9
Asymmetry > 30 %

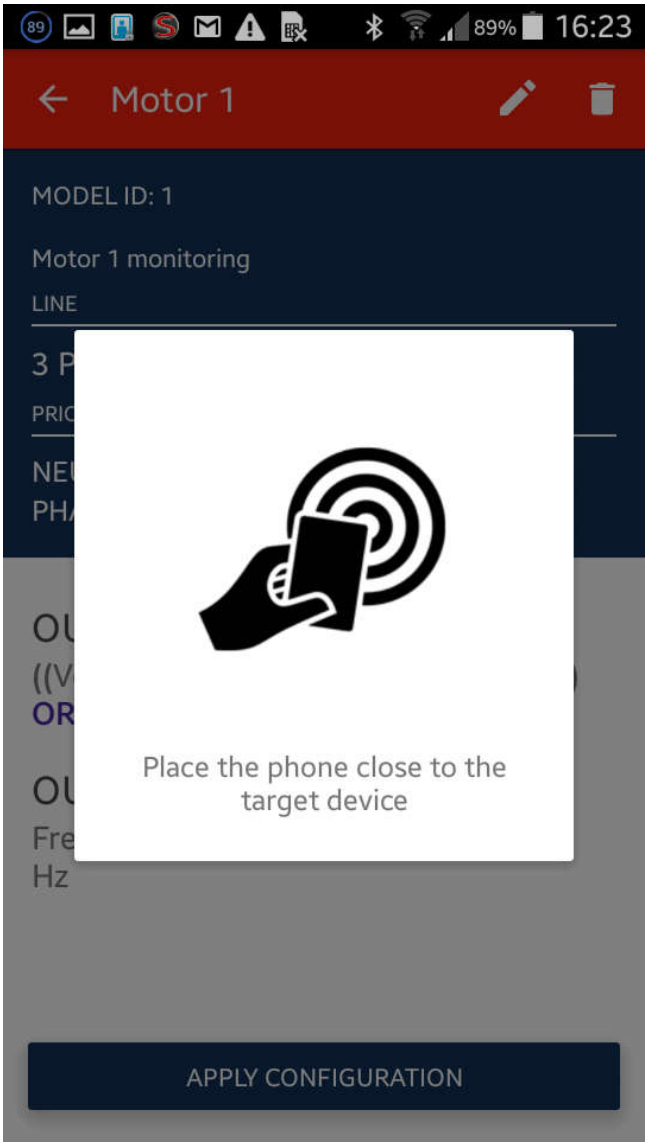

90%
16:22
New Configuration
PRIORITY ALARM
OUTPUT 1
OUTPUT 2
Normally Energized
Normally De-Energized
FORMULA
Frequency > 55 Hz OR Frequency < 45 Hz
ALARM 2
Asymmetry > 10 %
ALARM 3
Voltage < 360 V
ALARM 5
Frequency > 55 Hz
OR
AND
ALARM 7
Frequency < 45 Hz
ALARM 9
Asymmetry > 30 %

CREATE NEW CONFIGURATION – Configuration settings summary page

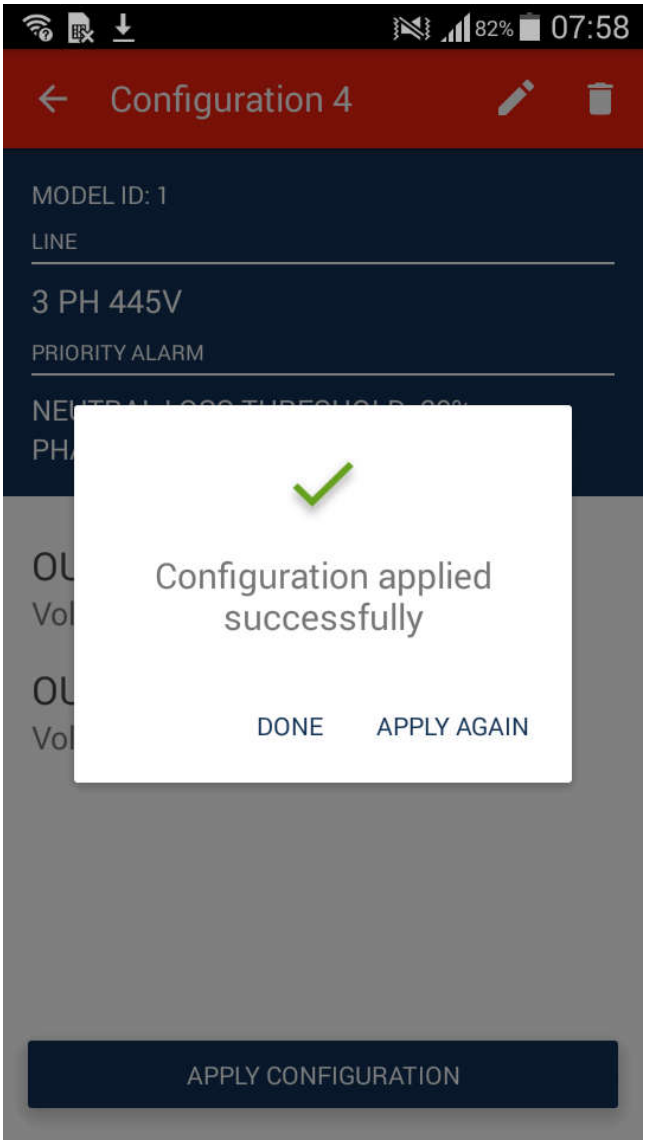


- Check the new configuration

CREATE A NEW CONFIGURATION – NFC reader for download configuration to device

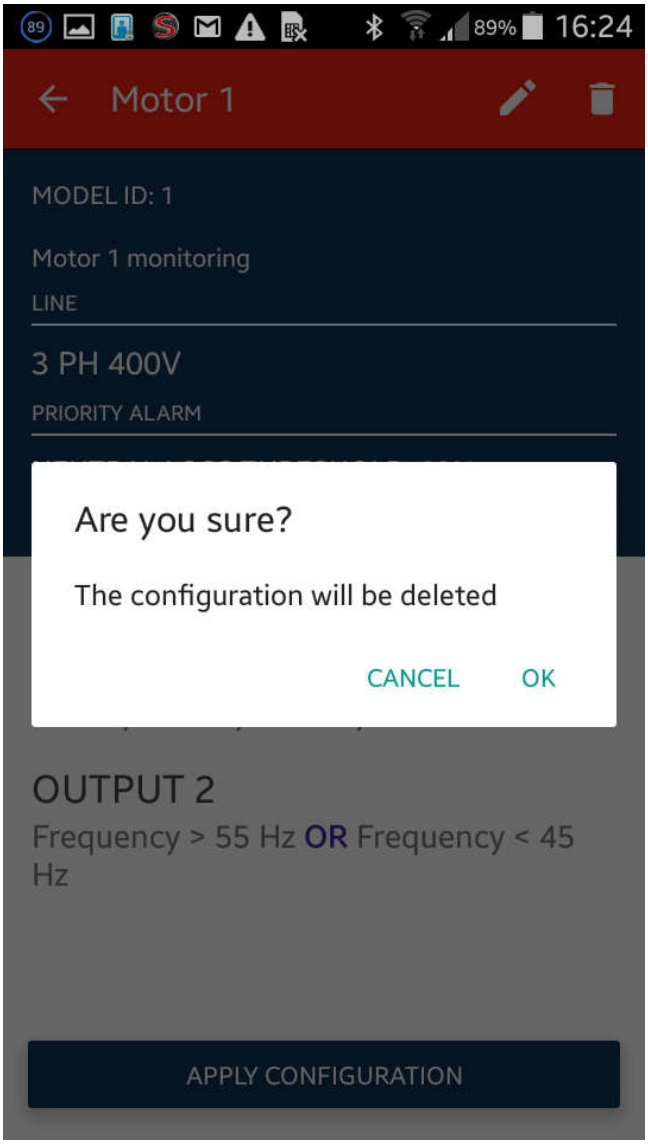


- Proceed to configure a DPD with a new configuration



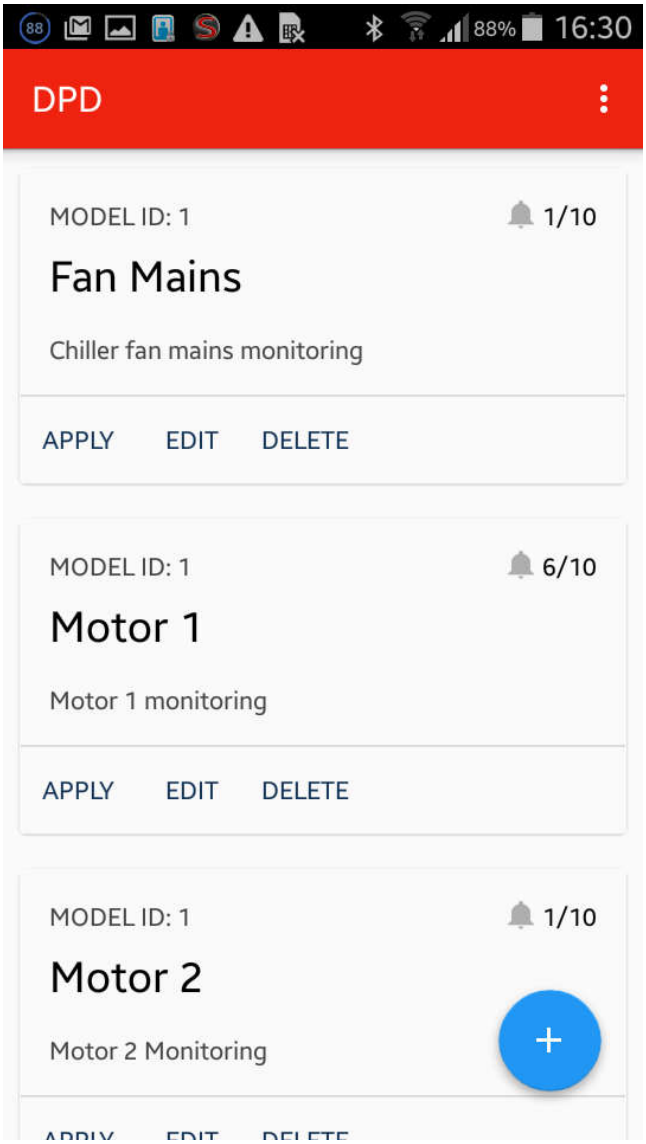
- The Configuration has been applied with success

CREATE A NEW CONFIGURATION – Delete a configuration



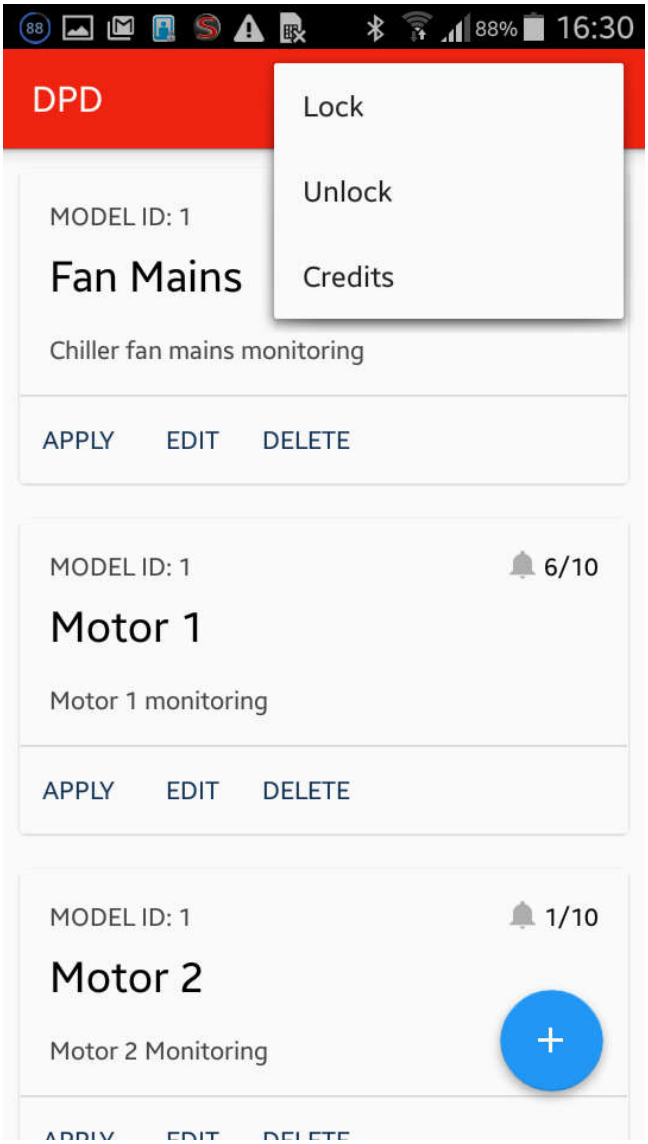
- Delete a configuration

CREATE A NEW CONFIGURATION – Modify a configuration



- Select a configuration and proceed with modifies

CREATE A NEW CONFIGURATION – Lock/Unlock configurations

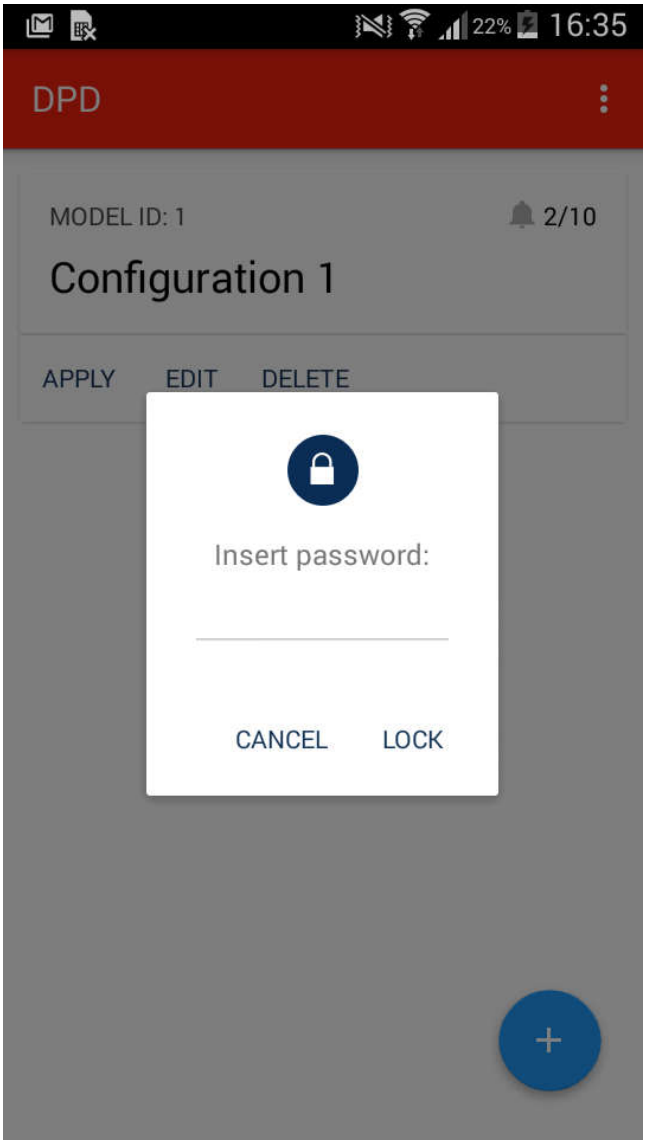


- Proceed to protect your configurations: to proceed you will have to input a 4 DIGIT password

IMPORTANT NOTICE!

AFTER THE DEVICE HAS BEEN LOCKED IT IS NOT POSSIBLE TO MAKE ANY CONFIGURATION WITHOUT POWERING THE DEVICE!!

CREATE A NEW CONFIGURATION – Lock/Unlock configurations



- Proceed to protect your configurations: to proceed you will have to input a 4 DIGIT password
- Click "Lock" button in order to lock DPD
- It is necessary to power the device, in order to proceed with Lock/Unlock procedures

DPD DEFAULT PARAMETERS

PARAMETER	VALUE	
PART NUMBER	DEFAULT 1	DEFAULT 2
	DPD02DM44	DPD02DM44B
LINE TYPE	DELTA	DELTA
RATED LINE VOLTAGE	400VAC	240VAC
ALARM 1	OVERVOLTAGE U>	OVERVOLTAGE U>
Voltage Value	440VAC	264VAC
Frequency	Disabled	Disabled
Asymmetry	Disabled	Disabled
ALARM 2	UNDERVOLTAGE U<	UNDERVOLTAGE U<
Voltage Value	360VAC	216VAC
Frequency	Disabled	Disabled
Asymmetry	Disabled	Disabled
HYSTERESYS	2%	2%
DELAY ON	0s	0s
DELAY OFF	0s	0s
PHASE LOSS	85%	85%
NEUTRAL LOSS	20% (NOT ACTIVE)	20% (NOT ACTIVE)
OUTPUT 1	ALARM 1	ALARM 1
OUTPUT 1 LOGIC	NORMALLY ENERGIZED	NORMALLY ENERGIZED
OUTPUT 2	ALARM 2	ALARM 2
OUPUT 2 LOGIC	NORMALLY ENERGIZED	NORMALLY ENERGIZED
LOGIC OPERATORS	NONE	NONE