



**CARLO GAVAZZI**

# **SCTL55**

## **Smart Configurator**

**for IO-Link devices**

**Instruction manual**

**Manuale d'istruzione**

**Betriebsanleitung**

**Manuel d'instructions**

**Manual de instrucciones**

**Brugervejledning**

**使用手册**

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# 1. Introduction

This manual is a reference guide for Carlo Gavazzi Smart Configurator. It describes how to set up and use the product for its intended use.

## 1.1 Validity of documentation

This manual is valid only for SCTL55 and until any new documentation is published. It describes the function and operation of the product for its intended use.

## 1.2 Who should use this documentation

This manual contains all the information you need for commissioning and operating the SCTL55 and must be read and completely understood by specialized personnel dealing with Configurator.

We highly recommend that you read the manual carefully before starting to use the SCTL55. Save the manual for future use. The installation manual is intended for qualified technical personnel.

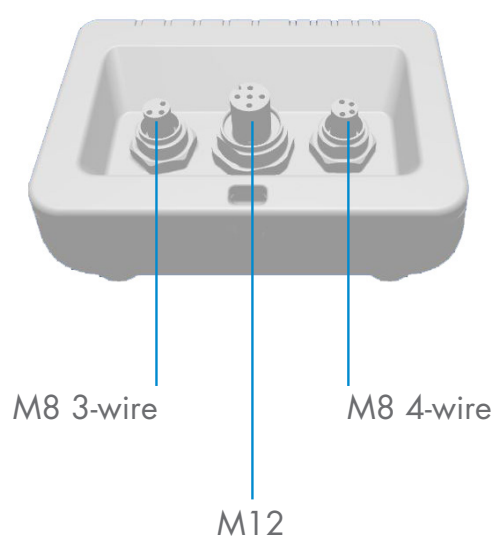
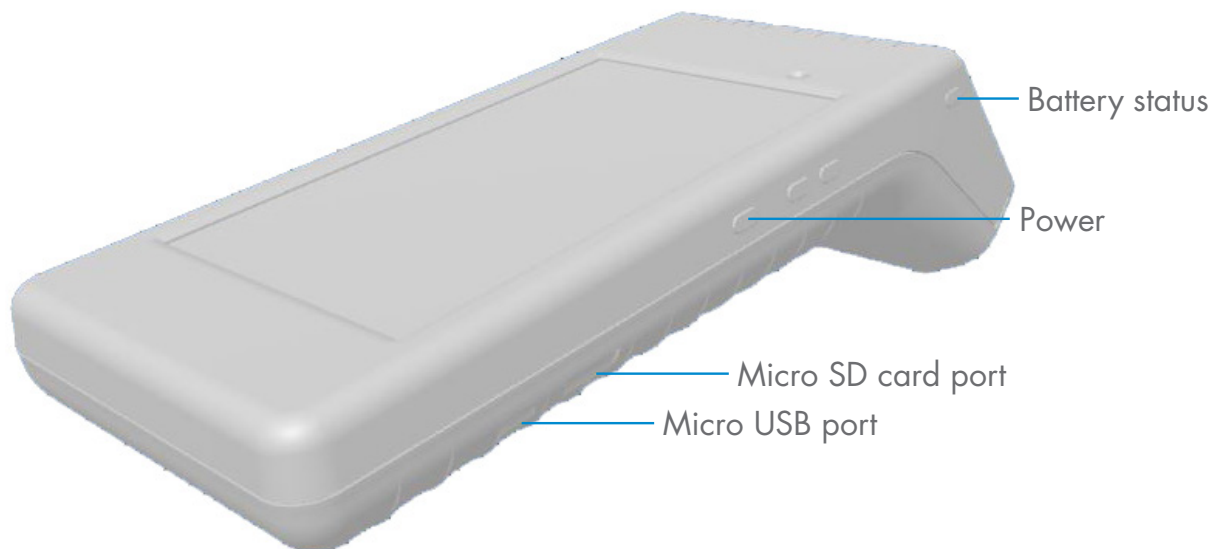
## 1.3 Safety information

<b>Hospitals, electronic implants and pacemakers</b>	Do not use or place device near any medical device. Anyone who is fitted with an electronic implant or pacemaker must hold the device on the opposite side as a precaution when the device is on.
<b>Radio Interference</b>	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area can cause harmful interference, in which case the user will be required to correct the interference at his own expense.
<b>Fire hazard</b>	Do not leave your device near heat sources such as radiators or cookers. Do not leave your device charging near flammable materials as there is a risk of fire.
<b>Contact with liquid</b>	Do not expose the device to liquid or touch it with wet hands. Any damage caused by liquid may be irreparable.
<b>Batteries</b>	The device contains Li-ion batteries. Do not disassemble the device. Do not destroy the batteries. Never use battery that have been damaged. Leave batteries away from magnetic objects as the latter might cause a short circuit (between the positive and negative terminals of the batteries) and destroy battery and device. As a general rule, you should not expose the batteries to very high or low temperatures, (below 0°C or above 45°C).
<b>Shock and impact</b>	Handle and use your device with the utmost care. Protect your device. Shocks and impacts may damage it. Part of the device is made of glass and might break if the device is dropped or is subject to severe impact. Do not touch the display with sharp objects.
<b>Maintenance</b>	Cleaning: dry cloth only. Do not disassemble device.
<b>General</b>	Protection provided by the equipment may be impaired if used in a manner not specified by the manufacturer

## 1.4 Service and warranty

Not everybody is authorized to open the Smart Configurator. This operation is reserved exclusively for CARLO GAVAZZI technical service personnel. Tampering of the SCTL55 by unauthorized personnel voids the warranty.

## 2. Structure



## 3. Description

The SCTL55 is the Industry 4.0 portable, self-powered and user friendly smart configurator for IO-Link sensors that accesses your sensor data and manages its parameters. There is no need for a PC and dedicated software.

Through a 5.5" HD touchscreen display and dedicated Apps you can now:

- Have access to an advanced diagnostic, showing operating hours, number of detections, operating cycles and alarms
- Verify your sensor status, including current temperature, quality of run and process data
- Easily change the operating sensor parameters to better meet the process requirements (switchpoint mode, sensing distance, timing functions, PNP/NPN/push-pull, NO/NC). It is also possible to add favourite parameters to the homepage and create different user profiles (observer, maintainer, specialist).
- Automatically download IODD files, through Wi-fi. As soon as you plug the sensor to one of the 3 connectors on the top of the device, if the IODD file is not already on the device memory, it automatically connects to the download area and shows all the data of the sensor.

Thanks to these innovations you can now manage and optimize your sensor very quickly and improve your processes and predictive maintenance.

### 3.1 Contents of the box



## 4. Features

### 4.1 General

<b>Manufacturer</b>	Carlo Gavazzi UAB Industri Kaunas
<b>Model number</b>	SCTL55
<b>Body</b>	Polycarbonate
<b>Dimensions (H x L x W)</b>	62 x 222 x 90 [mm]
<b>Weight</b>	600 g
<b>Screen size</b>	5.5"
<b>Shipping weight (including bag etc.)</b>	800 g

### 4.2 IO-Link interface

<b>Supply voltage</b>	24VDC +/- 20%
<b>Max load</b>	80mA/Short circuit protected
<b>SIO2 output test</b>	Led indicated SIO2 (Standard Input Output 2) logic state (pull down only)
<b>Incorrect polarity protection</b>	Yes
<b>Connectors to sensor</b>	Plug types: M8 3-wire, M8 4-wire, M12
<b>IO-Link protocol support</b>	IO-link v1.1

### 4.3 IODD file administration

<b>Wifi</b>	Download IODD file via Configure App
<b>Micro SD card (not included)</b>	Import IODD file from Micro SD card

### 4.4 Configuration file administration

<b>Micro SD card (not included)</b>	Save and load device configuration files
<b>Internal memory</b>	Save and load device configuration files

### 4.5 Button function

<b>Battery status</b>	Short press will indicate battery level for 5 sec.
<b>+ (plus)</b>	Reserved for future use
<b>- (minus)</b>	
<b>Power button</b>	Hold for 3 sec to power on / off your Smart Configurator Short press to switch on / off the screen


### 4.6 Electrical ratings

<b>Standard charger via micro USB</b>	5V/1A or PC USB port
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### 4.7 Battery info

<b>Operating time (connected to sensor)</b>	Full operation: > 5 hours
	Screen off: > 22 hours
<b>Standby time</b>	Device completely off: 6 months
<b>Internal batteries</b>	3.8V/10Ah (2x3,5Ah + 3Ah) (LI-ION)
<b>Charge time</b>	5V/1A standard charger via USB mini connector: <10 hours
<b>Battery expected lifetime</b>	60% capacity after 500 cycles






## 4.8 LED function

	Battery LEDs (green)		
	<b>Flashing</b>		When the device is connected to power, it flashes from the first LED on the left to the other LEDs on the right and indicates that the main battery is being charged.
	<b>Steady on</b>		After briefly pressing the battery status button, it indicates the status of the charge of the main battery. Each LED indicates around 20% of the charge.
	<b>Flashing</b>		The main battery is almost discharged. Please recharge your device
	Power LED (green)		
	<b>Steady on</b>		The device is switched on
	IO-Link LED (green)		
	<b>Flashing</b>		IO-Link communication is ready, the sensor is not connected or it does not have IO-Link communication enabled
	<b>Steady on</b>		IO-Link communication is established with the IO-Link sensor connected
	Error LED (red)		
	<b>Flashing</b>		Error (short circuit, data transmission error, overload)
	SIO2 LED (orange)		
	<b>Steady</b>		Status of the switching input output 2 of the sensor
	USB LED (orange)		
	<b>Steady</b>		Micro USB port is connected to a PC

## 4.9 Environmental

<b>Operational environment</b>	To be used in indoor applications only
<b>IP-rating</b>	IP30
<b>Ambient air temperature</b>	Charging: 10 to + 35°C Operating: 0 to + 40°C
<b>Storage temperature</b>	0 to + 50°C
<b>Ambient humidity range</b>	Operating: 0 to + 90% non condensing Storage: 0 to + 90% non condensing
<b>Transportation test</b>	EN60068-2-31
<b>Drop test</b>	EN62368-1:2014, T.7
<b>Pollution degree</b>	2

## 4.10 Approval and markings

<b>General reference</b>	EN62368-1 Radio ETSI EN 300 328 v2.1.1
<b>FCC, IC</b>	EMC CFR 47 Parts 15.107 & 15.109 Radio CFR 47 Part 15 Subpart C Contains FCC ID: 2ADINNUUM3, IC: 20782-NUUM3 or Contains FCC ID: 2AH8Q-HT17
<b>Approvals</b>	     <b>IO-Link</b>

## 4.11 Accessories

<b>Micro USB power adapter (not included)</b>	DC 5V/1A (current limited). Only suitably rated and approved USB charger should be used with the equipment as per the National Regulations for the country of use. Marked as LPS (according to IEC 60950-1) or PS2 (according to IEC 62368-1). Using any other may affect the safety of the equipment. Contact the manufacturer if in doubt
<b>Extension cable</b>	0.5m M12 to 4 hooks, included
<b>Protective holster</b>	Included
<b>Lanyard</b>	Included
<b>Micro USB cable</b>	Included
<b>Quick start guide</b>	Included



## 5. Unboxing

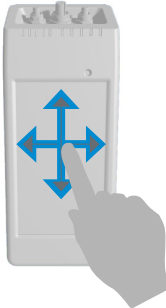
### 5.1 Switch ON your SCTL55

To switch on your smart configurator, press and hold the power key button for 3 seconds.

### 5.2 Screen gestures



**Touch:** touch an item once. For example, touch to select an option



**Swipe:** swipe your finger on the screen vertically to scroll through a list or horizontally to change a value

### 5.3 General info



**This device has two separate batteries:**

1. The MAIN battery
  - Powers the complete device, including the sensor connected
  - Is charged by connecting a charger to the micro USB port
  - Status is indicated on the 5 green LEDs on the device
2. The DISPLAY battery
  - Powers the touchscreen display
  - Is charged automatically by the MAIN battery but ONLY when the device is switched OFF!
  - Status is indicated on the battery icon on the Launcher home screen

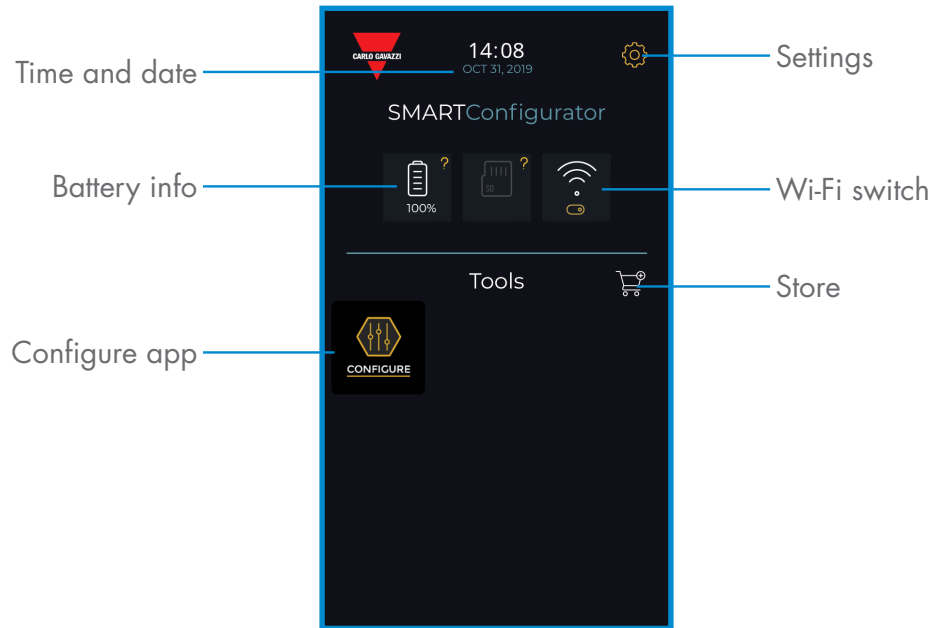


**This device has a built-in micro SD card reader:**

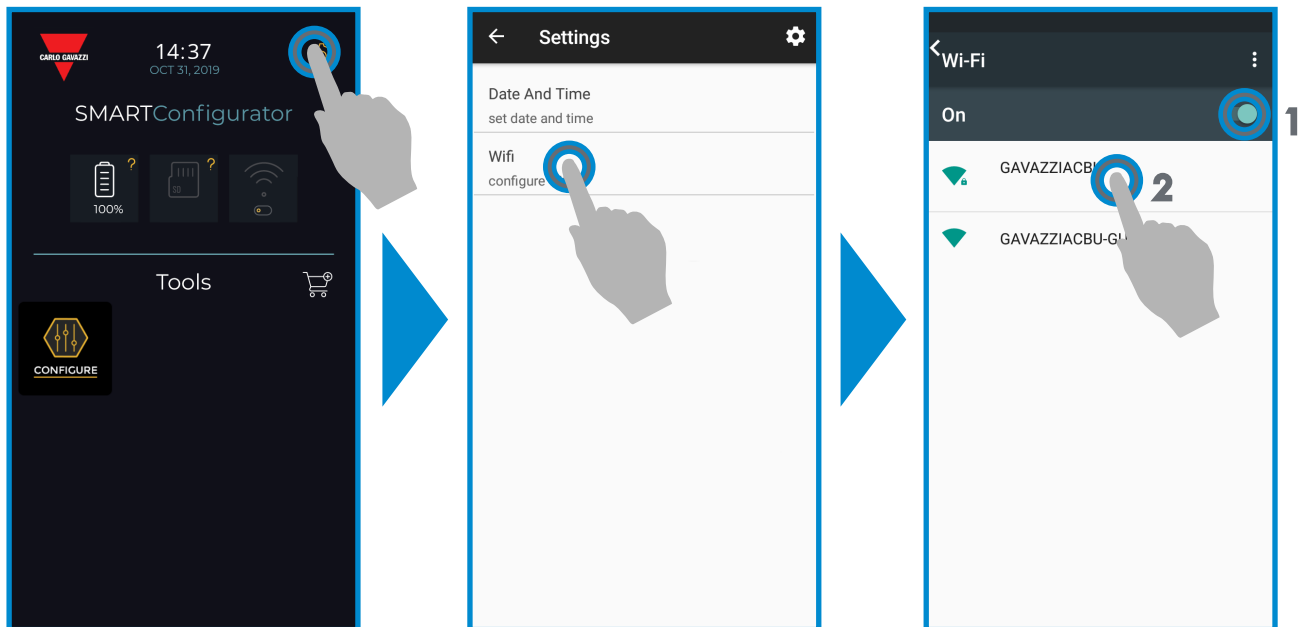
- A micro SD card can be used to upload IODD (.ZIP) files to the device and transfer Project files to/from the device.
- The micro SD card is detected on power-up, thus it must be inserted BEFORE the device is switched on!

## 6. Software

### Home screen




### STEP 1: settings > Wi-Fi

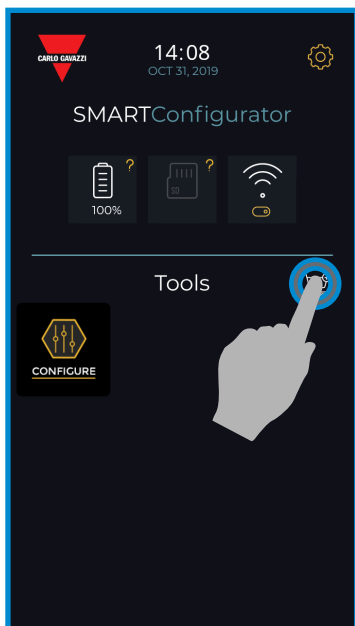



Select settings 

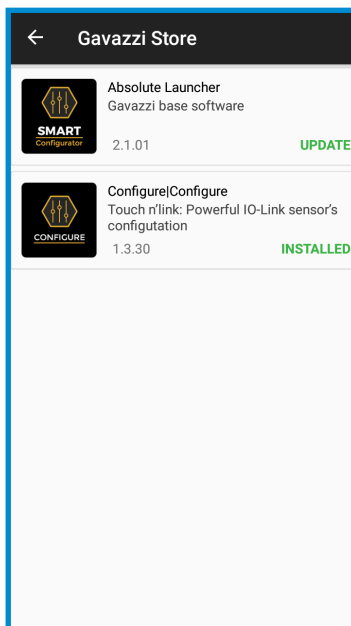
Select WiFi

Select  to turn on the Wi-Fi and select one of the networks available from the list, to connect the device to internet. If requested, insert the password

## STEP2: store > update



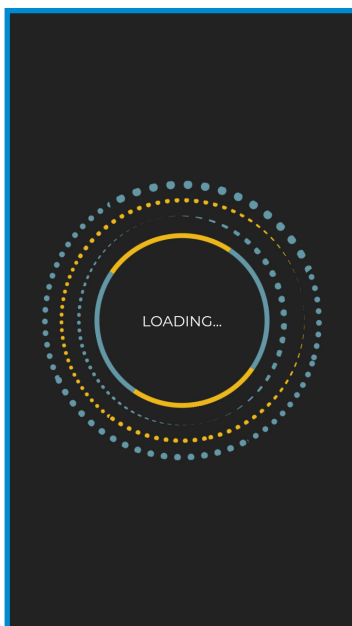
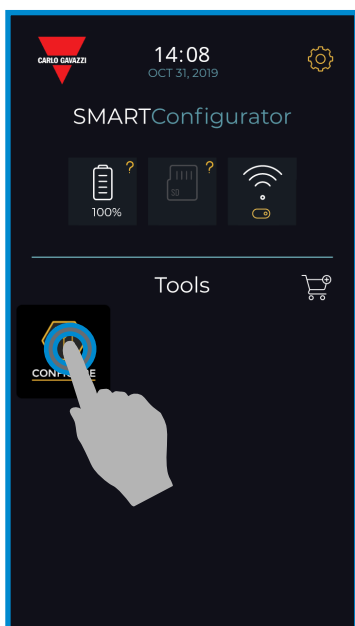
Select the store 



Keep your smart configurator up to date and accept available software updates to get new and enhanced features

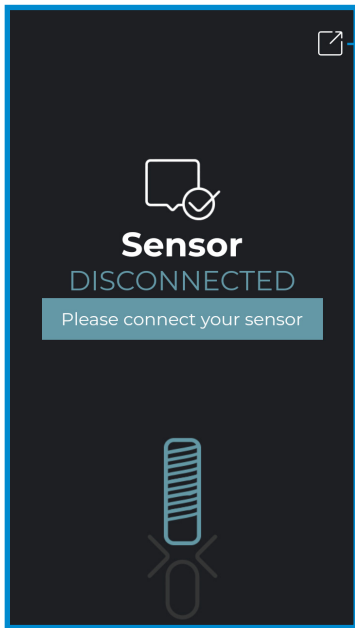
## 7. Configure app

### How to start



Select the icon  to start

## Connect your sensor



Back to home screen

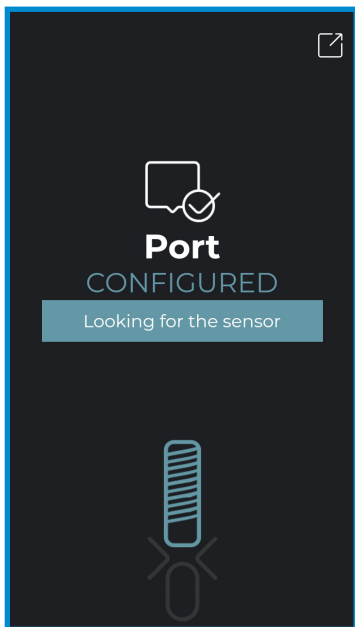


Sensor not connected



**IODD file not found in the device**  
Press the icon to download it automatically from internet

Sensor unrecognized

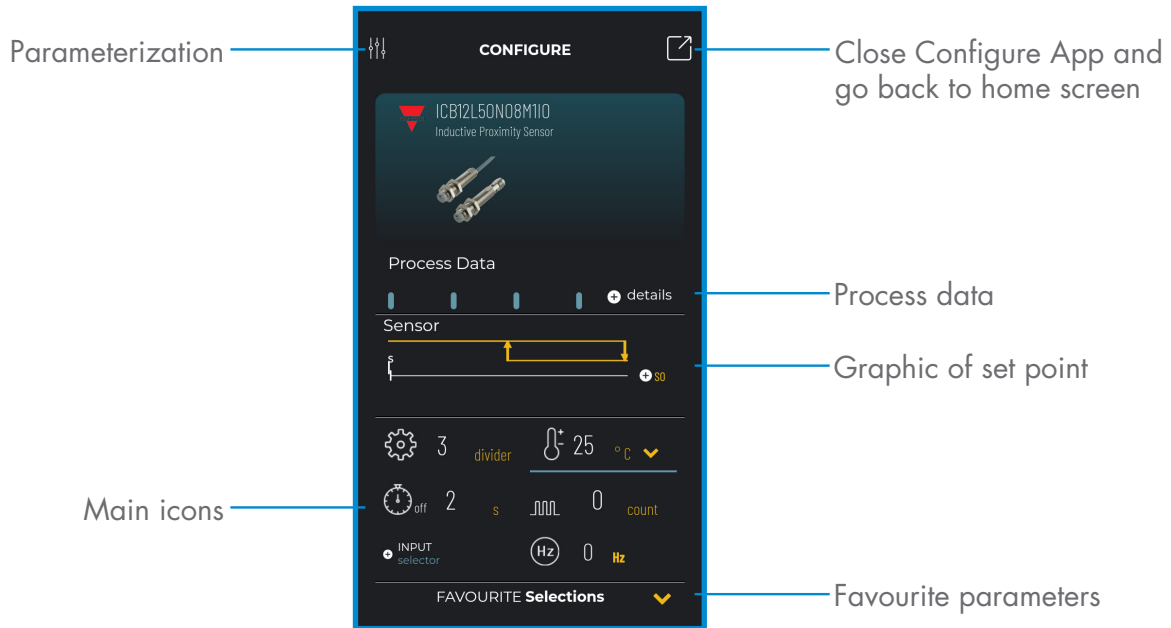


IODD file editable, wait..

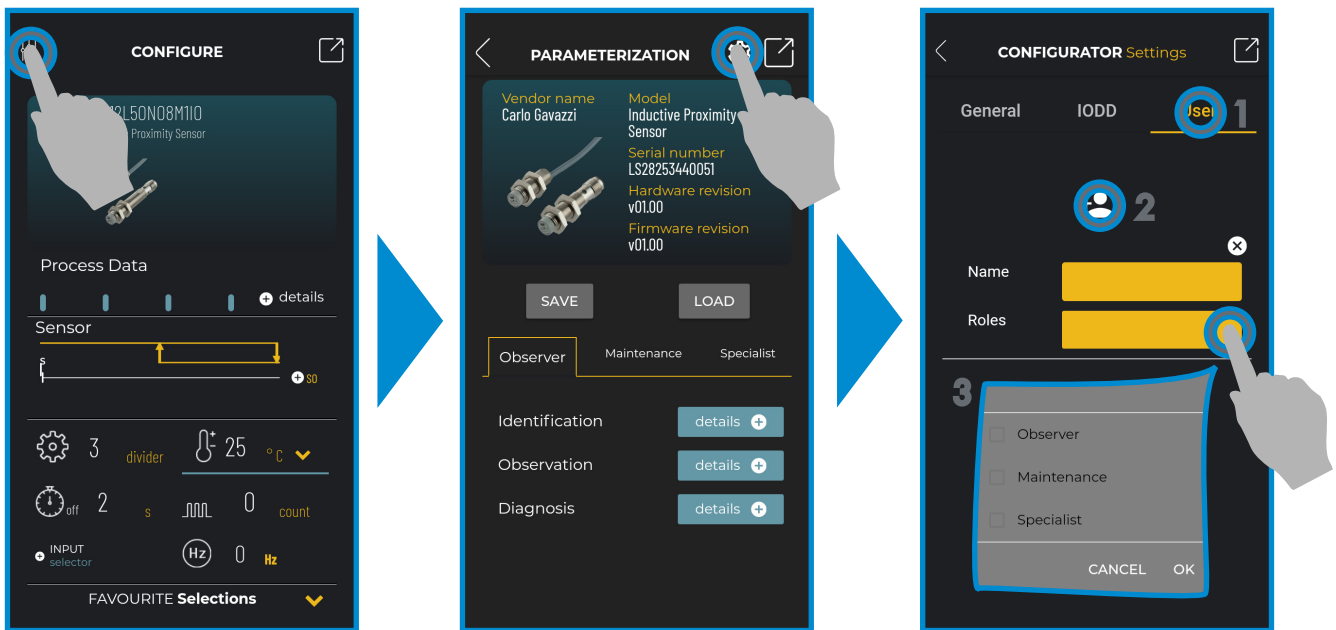


**Warning:**  
It is possible to connect only one sensor at a time

## 7.1 Example of inductive sensor connected



### Create a user: parameterization > settings > users



Select parameterization

Select settings

Select users, then to add a user with a specific role

Functions		Roles		
		Observer	Maintenance	Specialist
Identification		✓	✓	✓
Observation		✓	✓	✓
Diagnosis		✓	✓	✓
Parameter	Basic		✓	✓
	Advanced			✓

## Project options: parameterization > save or load

Save or load a project

Touch **LOAD** to open a saved project

Delete, rename or load a project

List of projects

Select the project to open and touch **LOAD**

## IODD options: parameterization > settings > IODD

Select settings

Select IODD

Delete or update the existing IODD file

## Process data

Example of SO active

Example of SO active

Select + details



### Information:

Please scan the QR code on the right or press the link below to understand all the possible settings via IO-Link for our inductive sensors

<http://cga.pub/?4ed3ef>



## Switching output setup

Select ▼ to change

Select + to change

Command icons

Select + SO

Scroll vertically to find the desired parameter

## Command icons



Touch this to activate the live mode   
When the live mode is turned on, the changes are written automatically into the sensor

Touch this to read the parameters of the sensor

Touch this to write the changes into the sensor



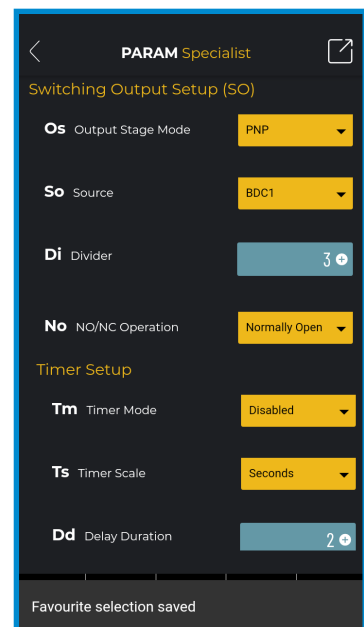
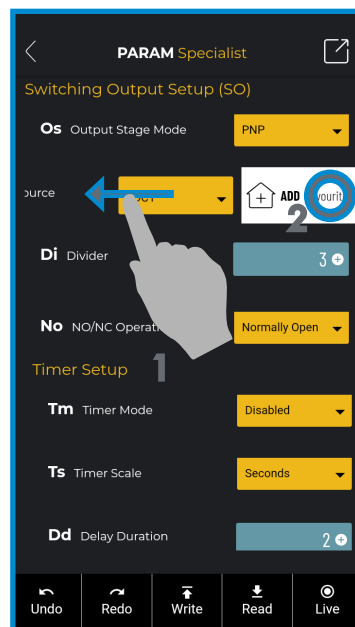
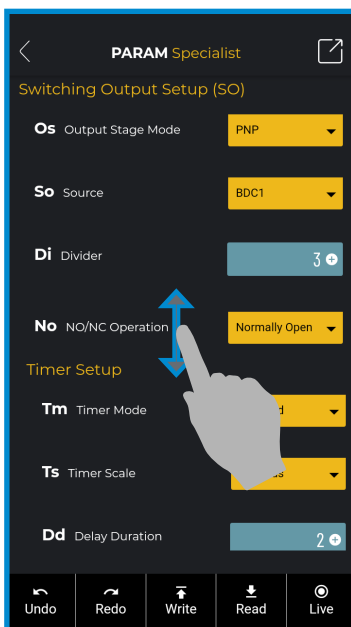
### Attention:

Remember to push  after each change if  mode is not 

Touch this to go ahead


Touch this to go back to the previous parameter

## Add a parameter to the favourite list



Scroll vertically to find the desired parameter, for example "So" (source)



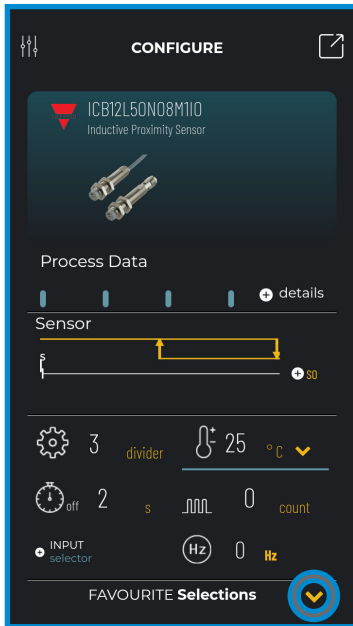
Swipe left and press  to add it to the favourites list



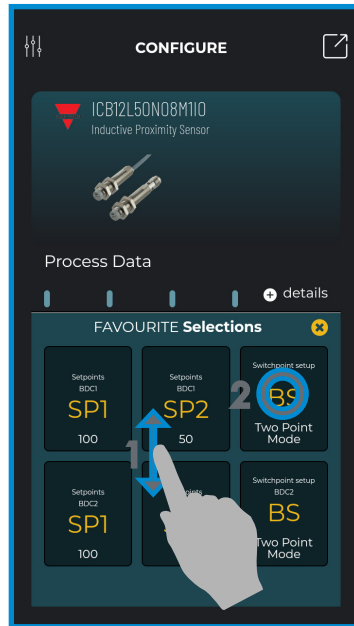
Favourite selection saved



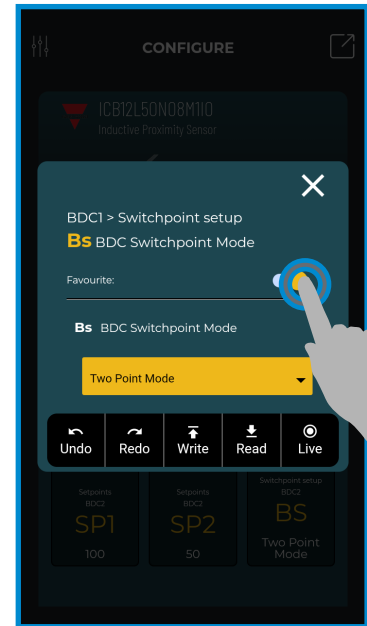
## Delete a favourite parameter



Touch the arrow ▼ to open the list

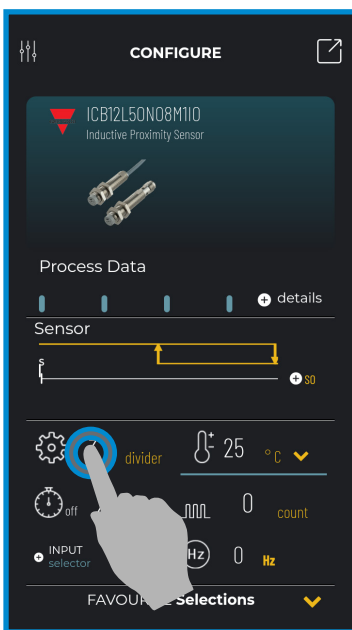


Scroll vertically to find the icon, then touch it

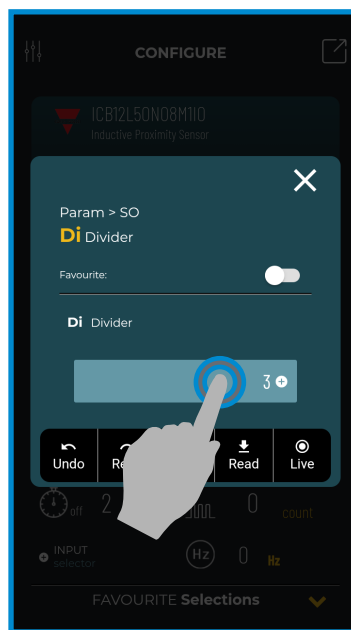


Touch  to delete it

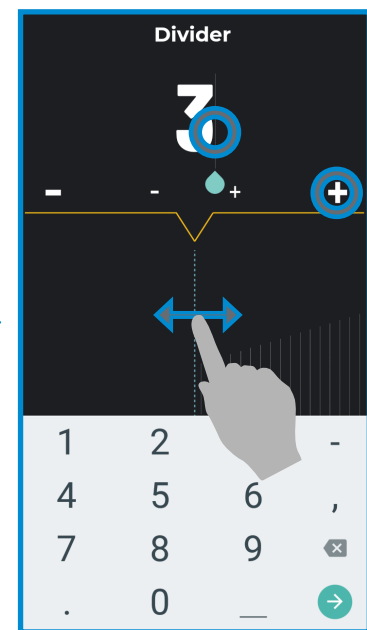
## Use a main icon





Touch the number to change, for example "3" of divider



Select the icon



To change the value:  
Touch "3" and digit via keypad the correct value, or...  
Swipe horizontally, or...  
Touch + or - to change by 1, or  
touch  or  to change by 10



### Attention:

Remember to push  after each change if  mode is not 

## 7.2 Example of capacitive sensor connected

Options

Close Configure App and back to home screen

Process data

Graphics of set point

Main icons

Favourite parameters



### Information:

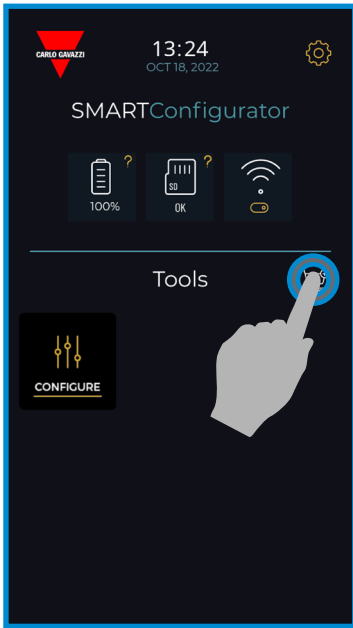
Please scan the QR code on the right or press the link below to understand all the possible settings via IO-Link for our capacitive sensors


<http://cga.pub/?cbfe4c>

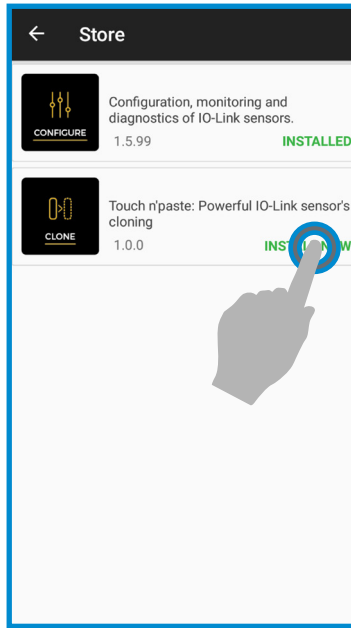


# 8. Clone app

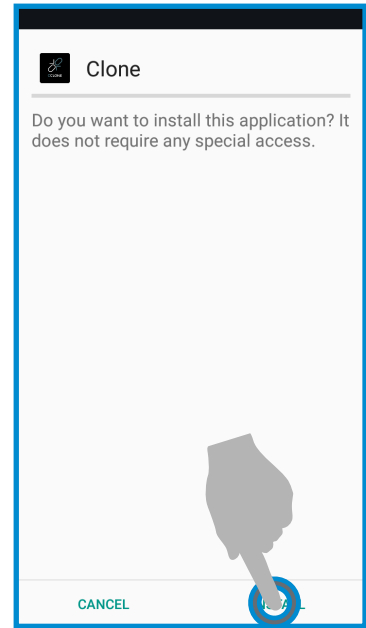
## How to install it



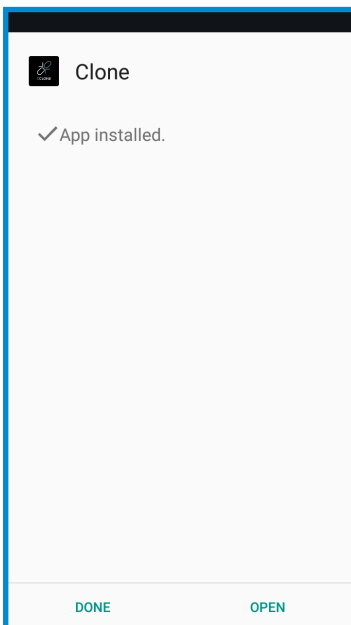
Select the store 



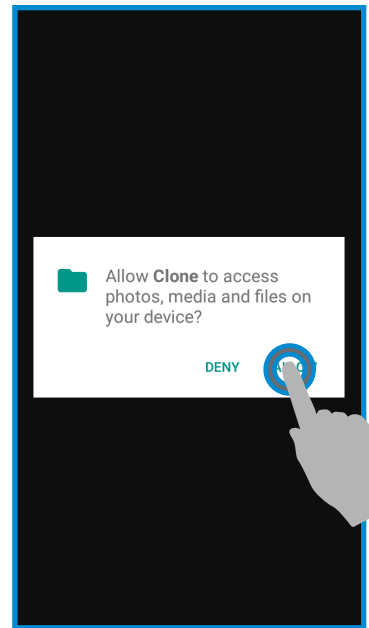
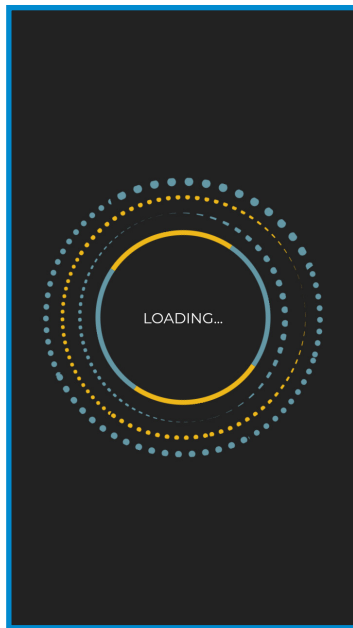
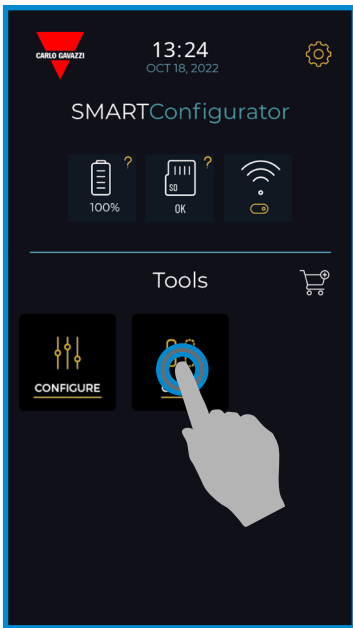
Touch **INSTALL NOW**



Touch **INSTALL**

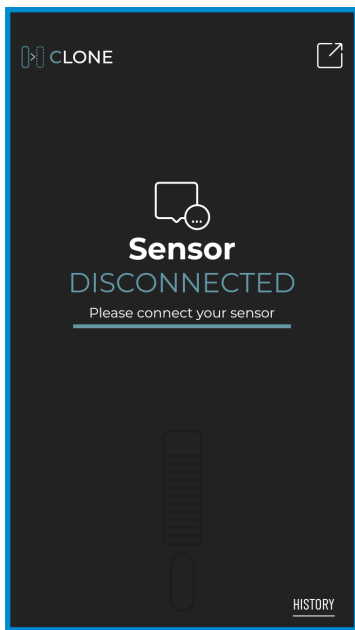


## How to start (S/N > LT3100149)

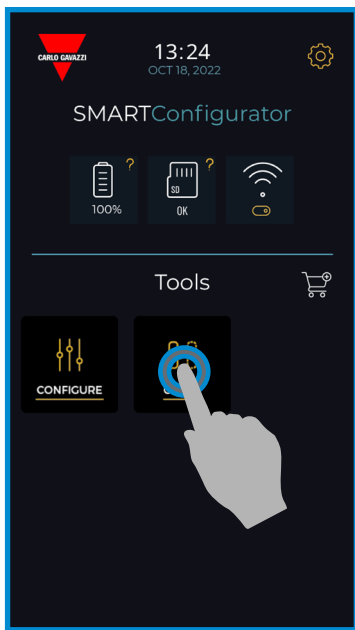


Select the icon  to start

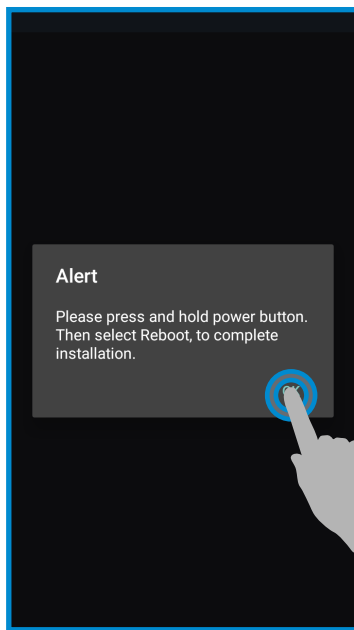
Touch **ALLOW**



## How to start (S/N ≤ LT3100149)



Select the icon  to start



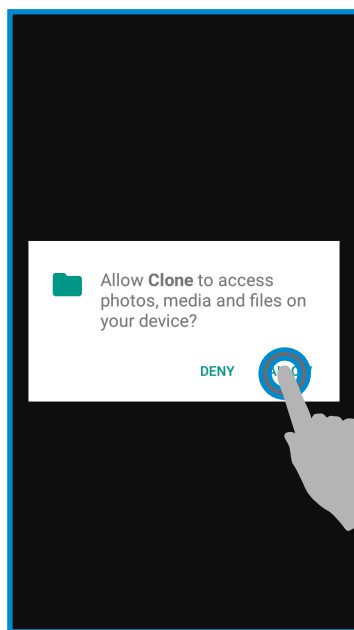
Touch 



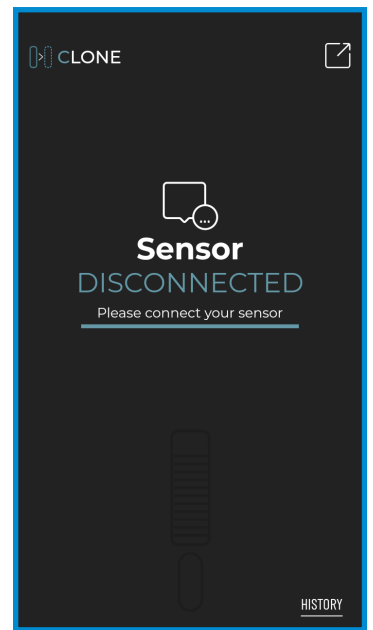
Touch  Reboot



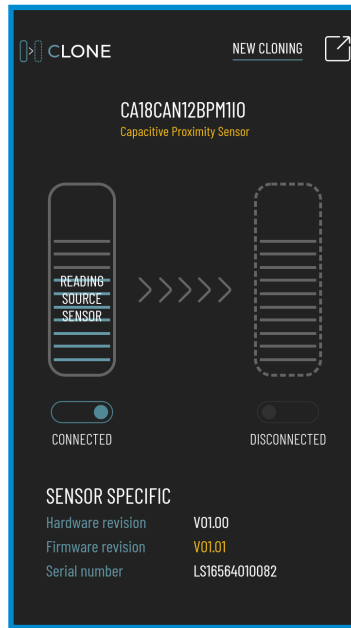
Select the icon  to start



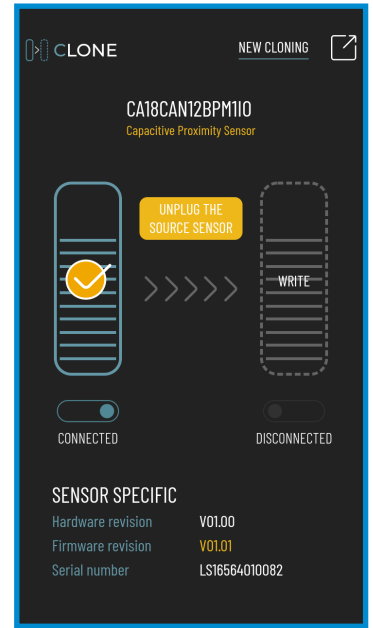
Touch 



# How to clone



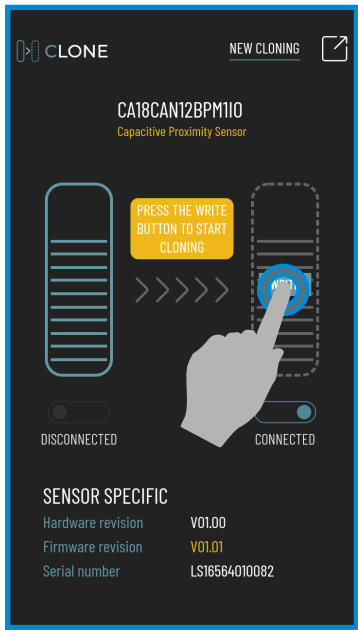
Reading source sensor



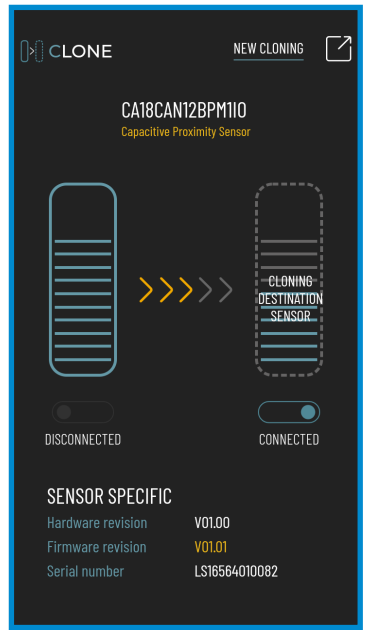
Source ready



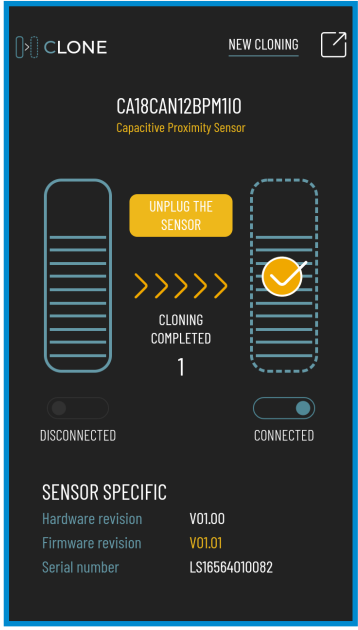
Source unplugged



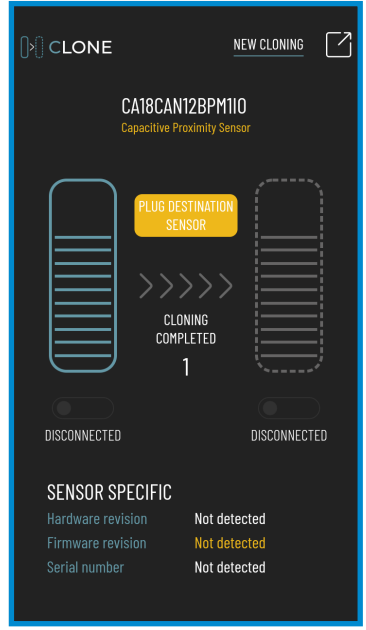
Compatible sensor for cloning, touch **WRITE** to start



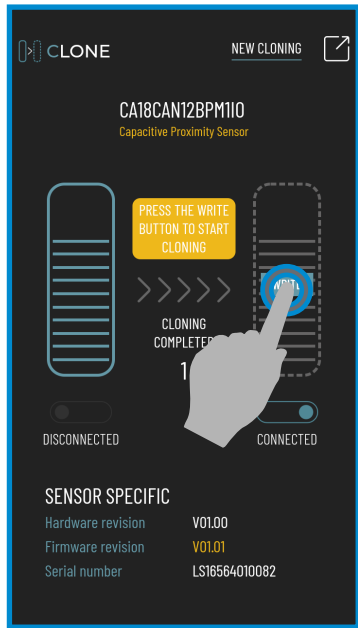
Cloning destination sensor



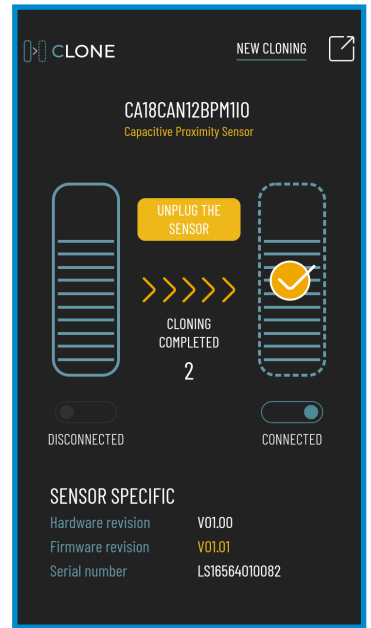
Cloning completed



Ready for a second cloning



Compatible sensor for cloning, touch **WRITE** to start

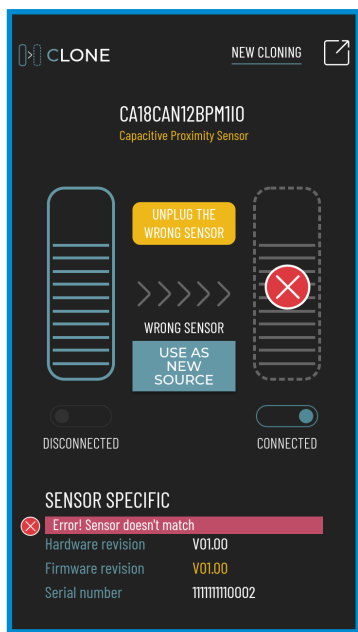


Second cloning completed



This operation can be repeated  $\infty$  times

### 8.1 Example of wrong sensor connected





## Solution 1

Unplug the wrong sensor and plug the correct one

The diagram illustrates the process of selecting a compatible sensor for cloning. On the left, a grey sensor is shown being inserted into a device's port, with a blue arrow pointing to it. Below it are three other sensors. The main part of the diagram consists of two screenshots of the 'CLONE' software interface. The first screenshot shows the 'NEW CLONING' screen for a 'CA18CAN12BPM110' sensor. A yellow box says 'PRESS THE WRITE BUTTON TO START CLONING'. A hand icon is shown touching the 'WRITE' button. The interface shows 'CLONING COMPLETED 2' and 'DISCONNECTED' on the left and 'CONNECTED' on the right. The 'SENSOR SPECIFIC' information is: Hardware revision V01.00, Firmware revision V01.01, and Serial number LS16564010082. The second screenshot shows the same screen after the sensor is unplugged. A yellow box says 'UNPLUG THE SENSOR'. A checkmark is shown on the right side. The interface shows 'CLONING COMPLETED 3' and 'DISCONNECTED' on the left and 'CONNECTED' on the right. The 'SENSOR SPECIFIC' information remains the same.

*Compatible sensor for cloning, touch **WRITE** to start*

*Third cloning completed*

## Solution 2

Use the wrong sensor as a new source

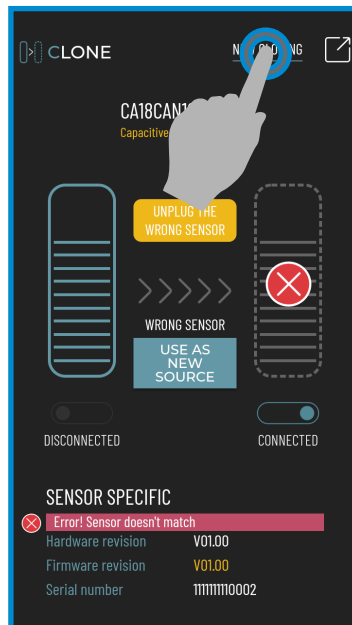
The diagram illustrates the process of using an incompatible sensor as a new source. On the left, a silver sensor is shown being inserted into a device's port, with a blue arrow pointing to it. Below it are three other sensors. The main part of the diagram consists of two screenshots of the 'CLONE' software interface. The first screenshot shows the 'NEW CLONING' screen for a 'CA18CAN12BPM110' sensor. A yellow box says 'UNPLUG THE WRONG SENSOR'. A red 'X' is shown on the right side. The interface shows 'WRONG SENSOR' and 'DISCONNECTED' on the left and 'CONNECTED' on the right. A hand icon is shown touching the 'NEW SOURCE' button. The 'SENSOR SPECIFIC' information is: Hardware revision V01.00, Firmware revision V01.00, and Serial number TTTTTT0002. A red error message says 'Error! Sensor doesn't match'. The second screenshot shows the same screen after the sensor is unplugged. A yellow box says 'UNPLUG THE SOURCE SENSOR'. A checkmark is shown on the left side. The interface shows 'CONNECTED' on the left and 'DISCONNECTED' on the right. The 'SENSOR SPECIFIC' information is: Hardware revision V01.00, Firmware revision V01.00, and Serial number LS17163850013.

*Sensor not compatible for cloning, touch **USE AS NEW SOURCE** to start cloning it*

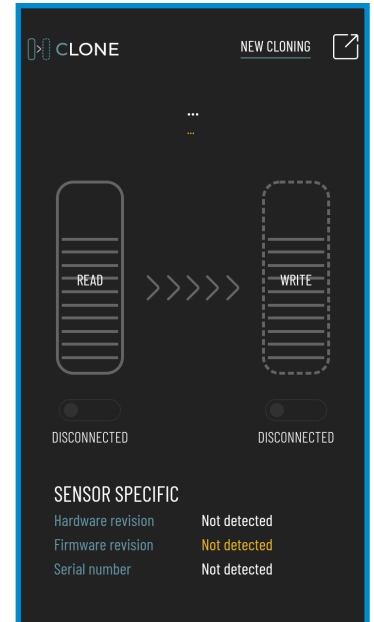
*New source ready*

### Solution 3

Unplug the wrong sensor and reset all

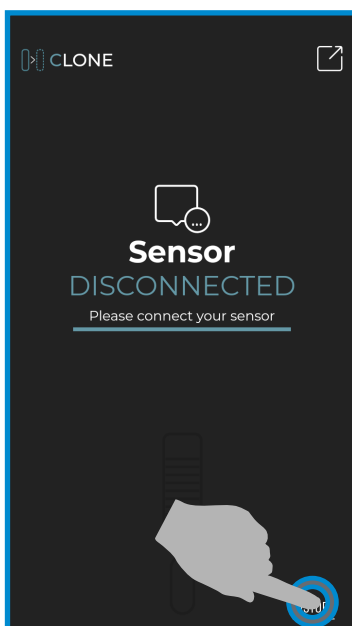


Touch **NEW CLONING** to start a new cloning

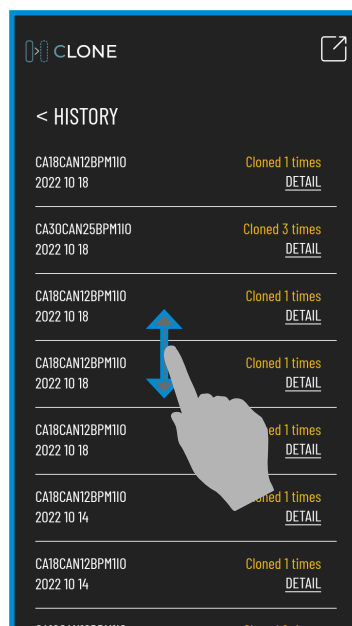


Ready for a new source, clone counter reset

## 8.2 History



Touch **HISTORY** to open the list of cloning done



Scroll vertically to find the desired cloning and touch **DETAIL** for more info

Close Clone App and go back to home screen