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.
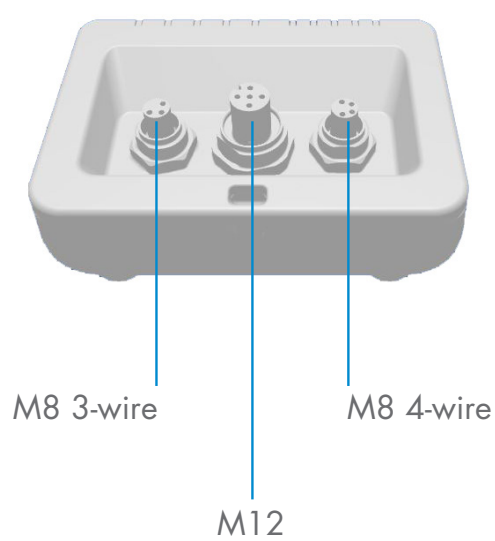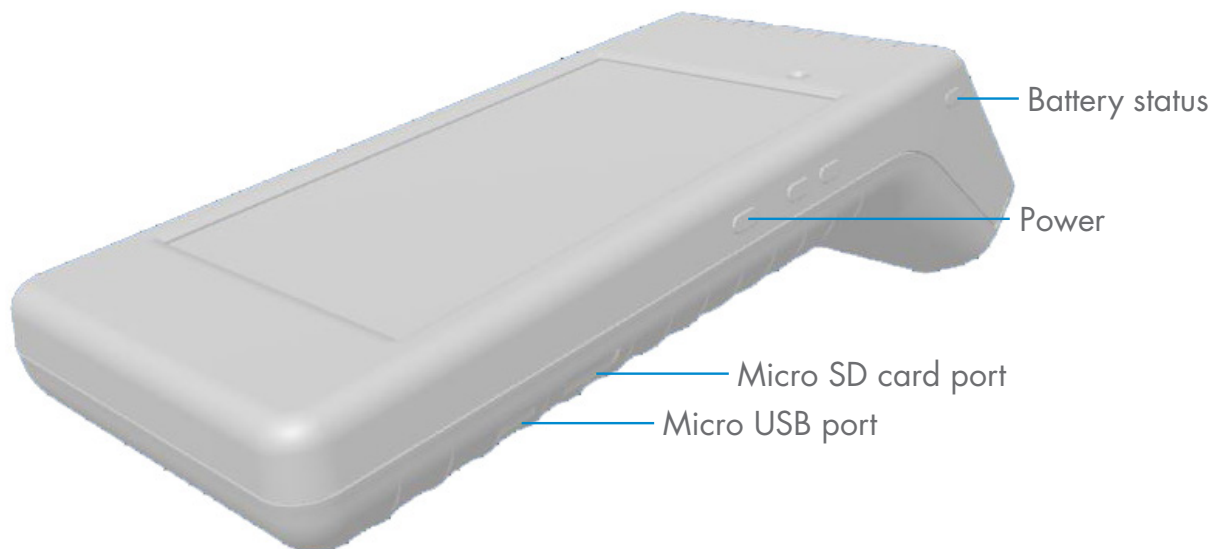
1.3 Safety information

Hospitals, electronic implants and pacemakers	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.
Radio Interference	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.
Fire hazard	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.
Contact with liquid	Do not expose the device to liquid or touch it with wet hands. Any damage caused by liquid may be irreparable.
Batteries	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 shoud not expose the batteries to very high or low temperatures, (below 0°C or above 45°C).
Shock and impact	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.
Maintenance	Cleaning: dry cloth only. Do not disassemble device.
General	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

Battery status

Power

Micro SD card port

Micro USB port

M8 3-wire

M12

M8 4-wire

LEDs battery indication

LEDs state indication

5.5″

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

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

4.2 IO-Link interface

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

4.3 IODD file administration

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

4.4 Configuration file administration

Micro SD card (not included)	Save and load device configuration files
Internal memory	Save and load device configuration files

4.5 Button function

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

4.6 Electrical ratings

Standard charger via micro USB	5V/1A or PC USB port

4.7 Battery info

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

4.8 LED function

Battery LEDs (green)

Flashing	/ / / / /	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.
Steady on	I I I I I	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.
Flashing	/ I I I I	The main battery is almost discharged. Please recharge your device

Power LED (green)

Steady on	I	The device is switched on

IO-Link LED (green)

Flashing	/	IO-Link communication is ready, the sensor is not connected or it does not have IO-Link communication enabled
Steady on	I	IO-Link communication is established with the IO-Link sensor connected

Error LED (red)

Flashing	/	Error (short circuit, data transmission error, overload)

SIO2 LED (orange)

Steady	I	Status of the switching input output 2 of the sensor

USB LED (orange)

Steady	I	Micro USB port is connected to a PC

4.9 Environmental

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

4.10 Approval and markings

General reference	EN62368-1
	Radio ETSI EN 300 328 v2.1.1
FCC, IC	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
Approvals	CE RoHS COMPLIANT FC 🗑 ⊘ IO-Link

4.11 Accessories

|	
Micro USB power adapter (not included)	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
Extension cable	0.5m M12 to 4 hooks, included
Protective holster	Included
Lanyard	Included
Micro USB cable	Included
Quick start guide	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
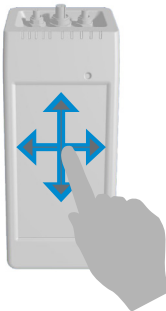
Swipe: swipe your finger on the screen vertically to scroll through a list or horizontally to change a value

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

Time and date

Battery info

Configure app

Settings

Wi-Fi switch
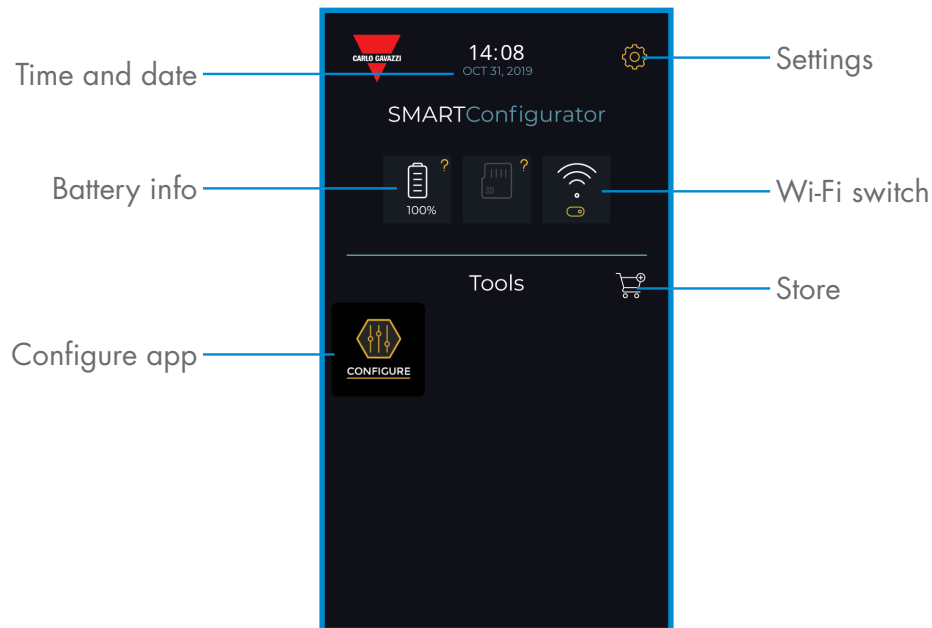
Store

STEP 1: settings > Wi-Fi
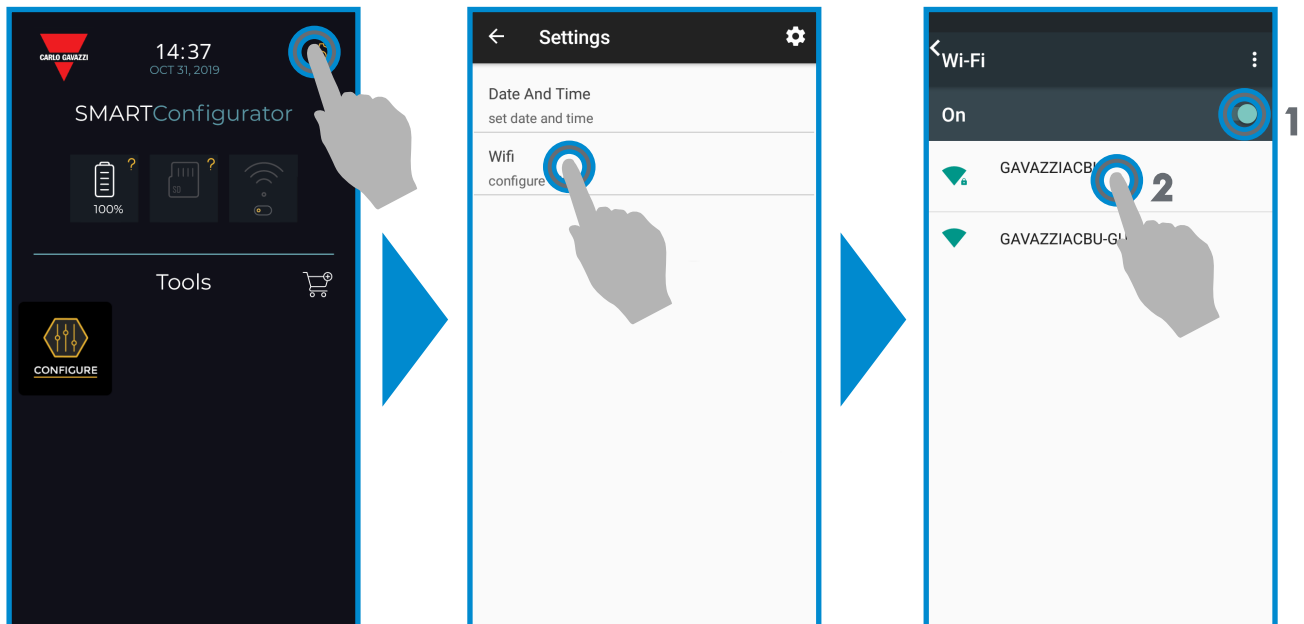
Select settings ⚙

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

STEP**2**: store > update
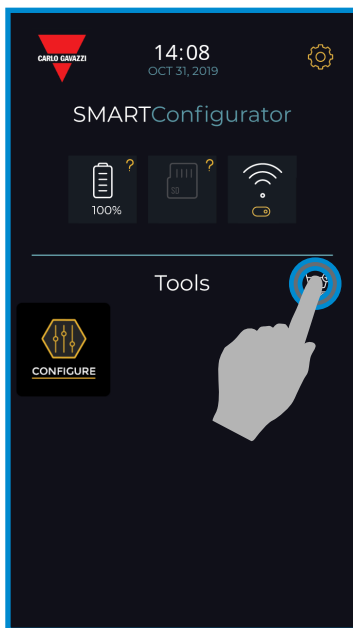
Select the store 🛒
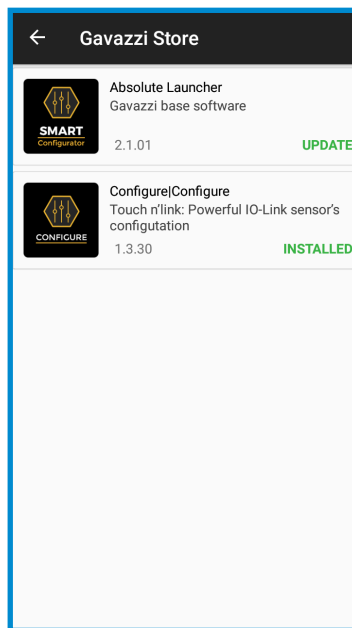
Keep your smart configurator up to date and accept available software updates to get new and enhanced features

SMART Configurator	Absolute Launcher Gavazzi base software 2.1.01 **UPDATE**
CONFIGURE	Configure|Configure Touch n'link: Powerful IO-Link sensor's configutation 1.3.30 **INSTALLED**

STEP**3**: configure app
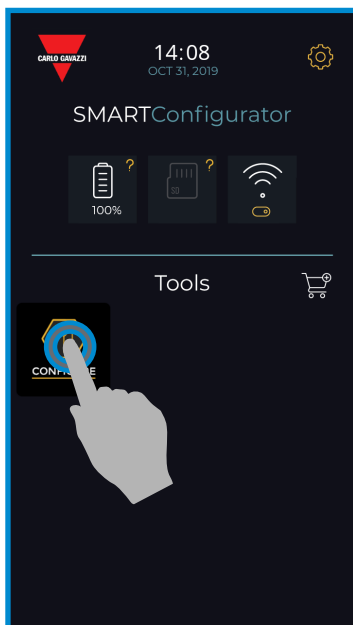
Select the icon CONFIGURE *to start*
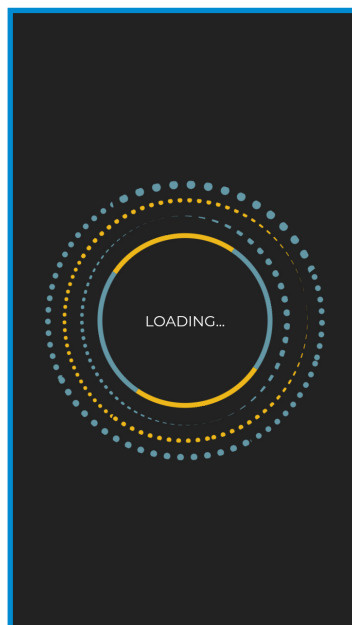
STEP4: connect your sensor

Sensor
DISCONNECTED
Please connect your sensor

— Back to home screen
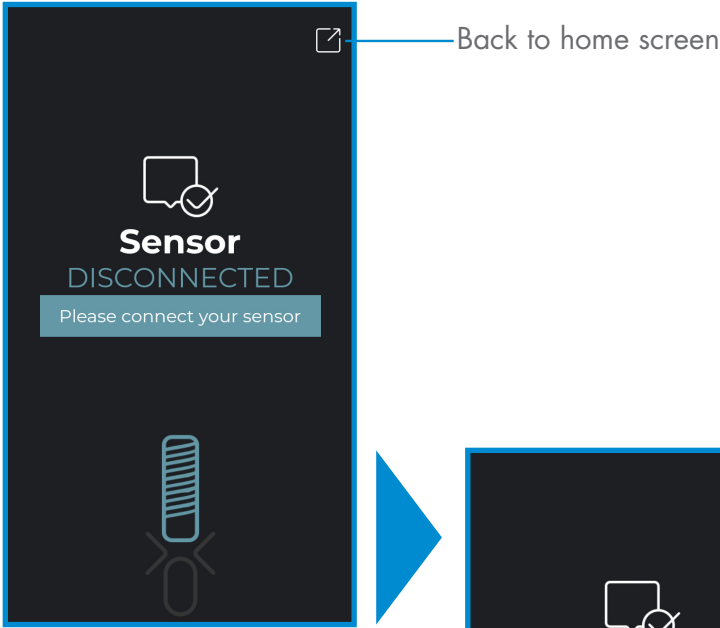
Sensor not connected

Sensor
UNRECOGNIZED
IODD file not found, click HERE to download from IODDfinder
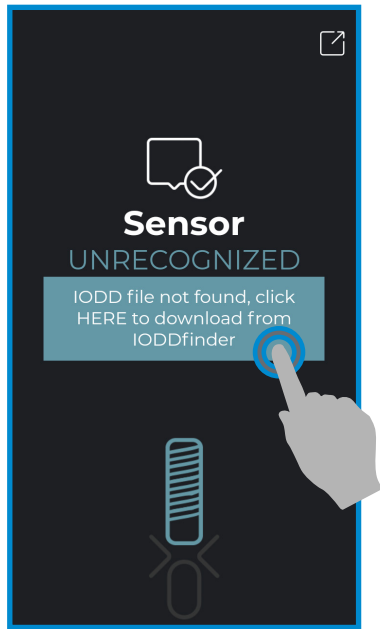
Sensor unrecognized

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

Port
CONFIGURED
Looking for the sensor
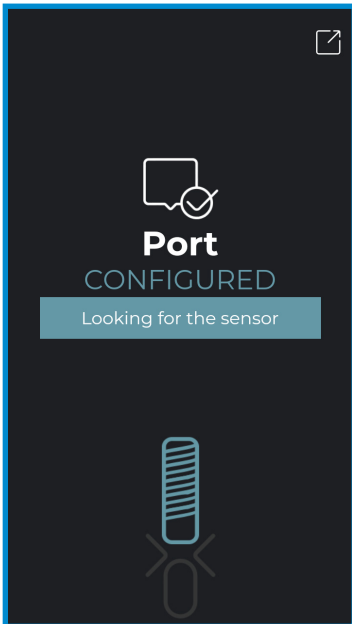
IODD file editable, wait..

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

6.1 Example of inductive sensor connected

Parameterization —

Close Configure App and go back to home screen

Process data

Graphic of set point

Main icons —

Favourite parameters
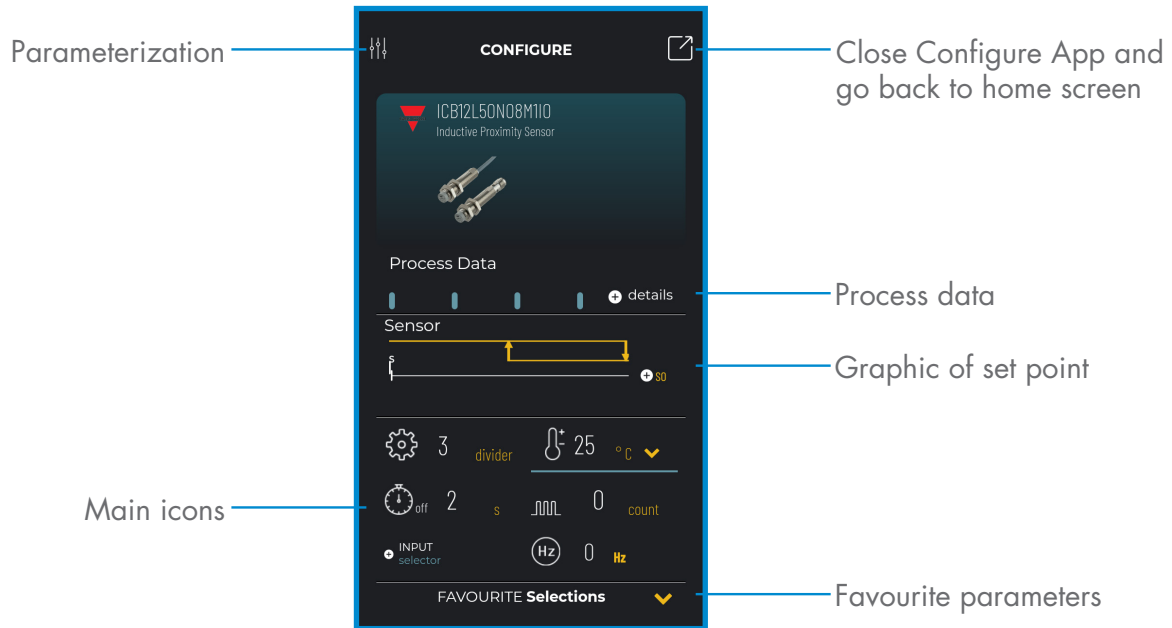
Create a user: parameterization > settings > users
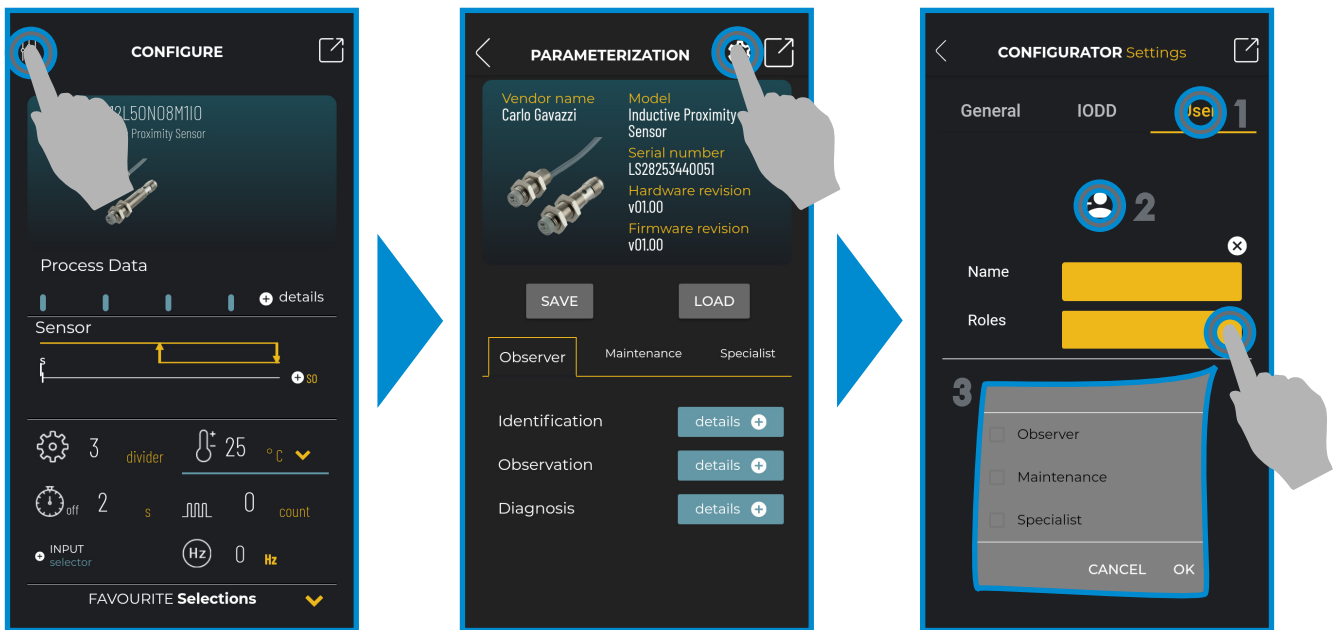
Select parameterization ⸻ *Select settings* ⚙ ⸻ *Select users, then 🔼 to add a user with a specific role*

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

Project options: parameterization > save or load

PARAMETERIZATION

Vendor name
Carlo Gavazzi

Model
Inductive Proximity Sensor

Serial number
LS28253440051

Hardware revision
v01.00

Firmware revision
v01.00

SAVE

Observer   Maintenance

Identification   details

Observation   details +

Diagnosis   details +

PROJECT Library

Search

DELETE   RENAME   LOAD

☐   Project1.xml

Save or load a project

Delete, rename or load a project

List of projects

Touch LOAD *to open a saved project*

Select the project to open and touch LOAD

IODD options: parameterization > settings > IODD

PARAMETERIZATION

Vendor name
Carlo Gavazzi

Model
Inductive Proximity Sensor

Serial number
LS28253440051

Hardware revision
v01.00

Firmware revision
v01.00

SAVE   LOAD

Observer   Maintenance   Specialist

Identification   details +

Observation   details +

Diagnosis   details +

CONFIGURATOR Settings

General   IODD   Users

Copyright   Copyright 20... ...azzi Industri

Release date   2019-02-12

Version   V1.1

DELETE   UPDATE

Delete or update the existing IODD file

Select settings ⚙

Select IODD

Process data

CONFIGURE

ICB12L50N08M1IO
Inductive Proximity Sensor

Process Data

Sensor

3 divider 23 °C

off 2 s 6 count

INPUT selector Hz 0 Hz

FAVOURITE **Selections**

Select + details

PROCESS Data

So Switching Output (SO) — Active
Pd Presence Detection (BDC1) — Inactive
Fd Frequency Detection (BDC2) — Inactive
Ta Temperature Alarm (TA) — Inactive

Example of SO active

Example of SO active

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://www.productselection.net/MANUALS/UK/IOL_IM.pdf

Switching output setup

CONFIGURE

ICB12L50N08M1IO
Inductive Proximity Sensor

Process Data

details

Sensor

3 divider 25 °C

off 2 s 0 count

INPUT selector Hz 0 Hz

FAVOURITE **Selections**

Select + SO

PARAM Specialist

Switching Output Setup (SO)

Os Output Stage Mode — PNP
So Source — BDC1
Di Divider — 3
No NO/NC Operation — Normally Open

Timer Setup

Tm Timer Mode
Ts Timer Scale
Dd Delay Duration — 2

Undo Redo Write Read Live

Select ▼ to change
Select **+** to change
Command icons

Scroll vertically to find the desired parameter

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Command icons

| Undo | Redo | Write | Read | Live |

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

Touch this to read the parameters of the sensor
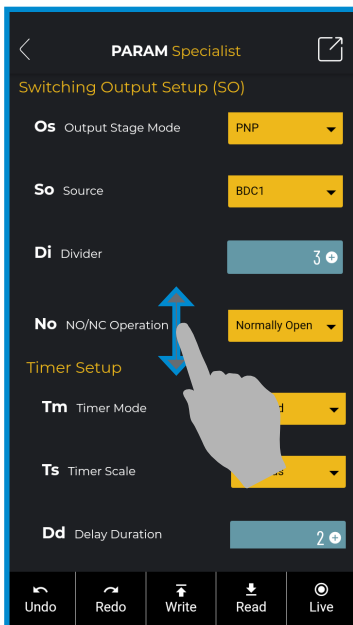
Touch this to write the changes into the sensor

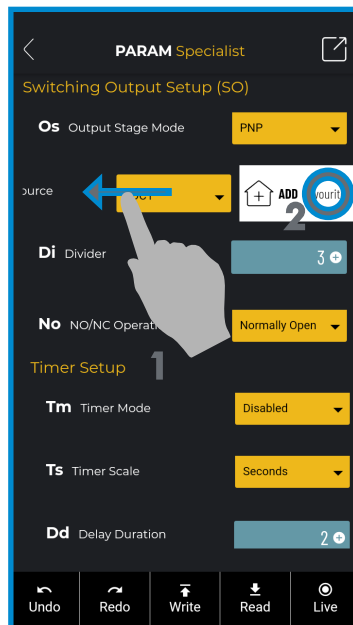**Attention:**

Remember to push [Write] after each change if [Live] mode is not [Live]

Touch this to go ahead

Touch this to go back to the previous parameter

Add a parameter to the favourite list

PARAM Specialist
Switching Output Setup (SO)

Os	Output Stage Mode	PNP
So	Source	BDC1
Di	Divider	3
No	NO/NC Operation	Normally Open

Timer Setup

Tm	Timer Mode	
Ts	Timer Scale	
Dd	Delay Duration	2

| Undo | Redo | Write | Read | Live |

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

PARAM Specialist
Switching Output Setup (SO)

Os	Output Stage Mode	PNP
ource		
Di	Divider	3
No	NO/NC Operat	Normally Open

ADD Favourit

Timer Setup

Tm	Timer Mode	Disabled
Ts	Timer Scale	Seconds
Dd	Delay Duration	2

| Undo | Redo | Write | Read | Live |

Swipe left and press ⊕ ADD Favourite to add it to the favourites list

PARAM Specialist
Switching Output Setup (SO)

Os	Output Stage Mode	PNP
So	Source	BDC1
Di	Divider	3
No	NO/NC Operation	Normally Open

Timer Setup

Tm	Timer Mode	Disabled
Ts	Timer Scale	Seconds
Dd	Delay Duration	2

Favourite selection saved
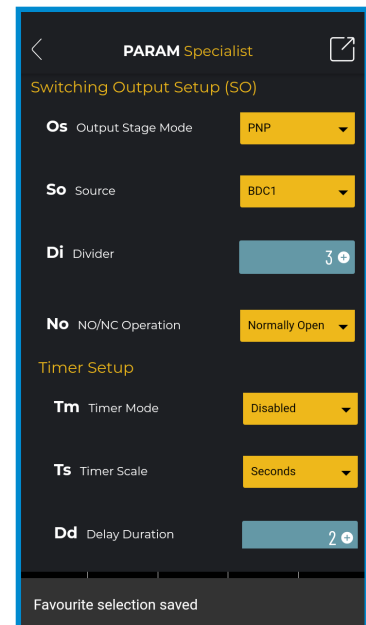
Favourite selection saved
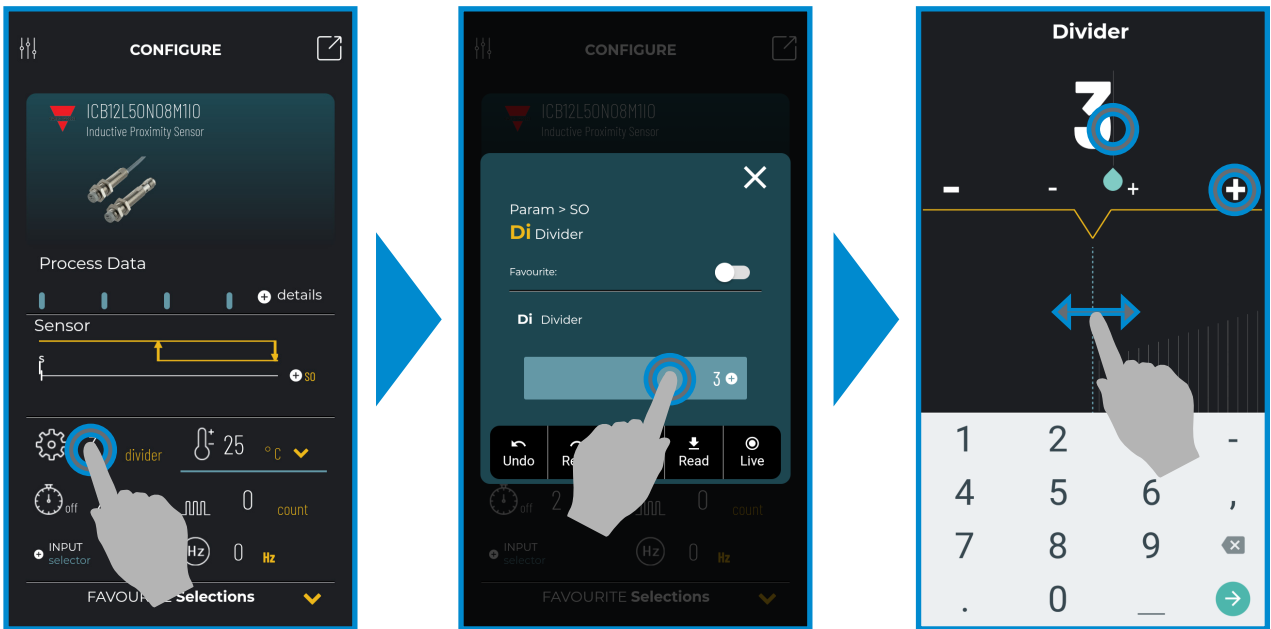
Delete a favourite parameter

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 [Write] after each change if [Live] mode is not [Live]

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6.2 Example of capacitive sensor connected

Options —

CONFIGURE

CA18CAN12BPM1IO
Capacitive Proximity Sensor

Analogue Value
0

Process Data

Sensor

⊕ SSC1

⊕ SSC2

1 Filter scaler

21 °C ⌄

off 0 ms

off 0 ms

⊕ INPUT selector   ⊕ LOGIC functions   ⊕ OUTPUT functions

FAVOURITE **Selections** ⌄

— 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://www.productselection.net/MANUALS/UK/MAN%20CA18-30%20IO-LINK%20MUL.pdf