UNIVERSAL
IO-LINK HANDHELD MASTER
IOL-PORTABLE
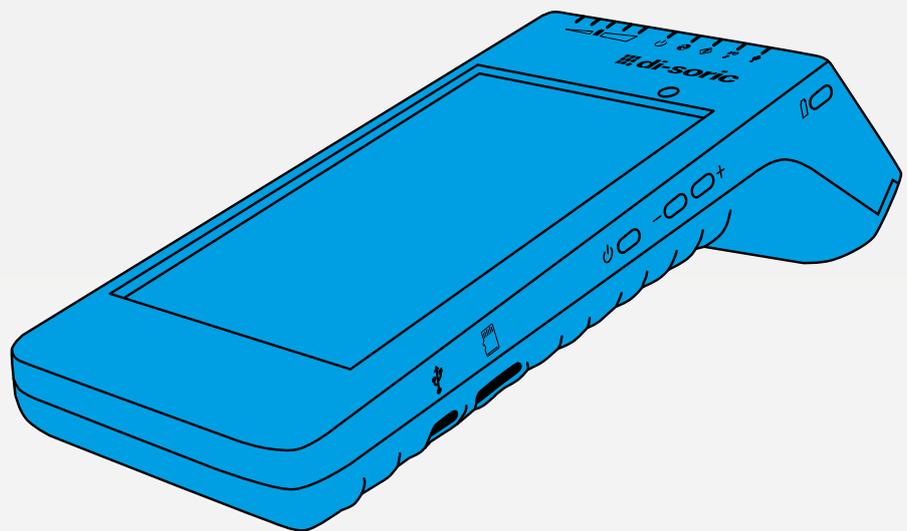
USER MANUAL

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TABLE OF CONTENTS

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1 INTRODUCTION

This manual is a reference guide for IOL-Portable. 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 IOL-Portable 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 IOL-Portable and must be read and completely understood by specialized personnel dealing with IOL-Portable.
We highly recommend that you read the manual carefully before starting to use the IOL-Portable. 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.
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 WARRANTY AND REPAIR

di-soric warrants that the product is free from material and manufacturing defects.
The product may be repaired by the manufacturer only.
The product must be sent to di-soric for repair.

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2 STRUCTURE

LEDs indication main battery

LEDs state indication

5.5"

Status Main battery

Power

Micro SD card port

Micro USB port

M8 3-wire

M8 4-wire

M12

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3 DESCRIPTION

The IOL-Portable is the Industry 4.0 portable, self-powered and user friendly 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 in 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.
- 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

- IO-Link Hand Held Master
- Cable with hooks 0.3 m with connector M12, 4 poles
- Protective holster
- Micro-USB Cable
- Quick Start Guide

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4 FEATURES

4.1 GENERAL

Product description	IOL-Portable
Body	Polycarbonate
Dimensions (H x L x W)	62 x 222 x 90 [mm]
Weight	600 g
Screen size	5.5 in
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

Wi-Fi	Import IODD file via IODDfinder
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 IOL-Portable 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)	Normal 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

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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		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		The main battery is almost discharged. Please recharge your device

Power LED (green)		
Steady on		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		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		Status of the switching input output 2 of the sensor

USB LED (orange)		
Steady		Micro USB port is connected to a PC

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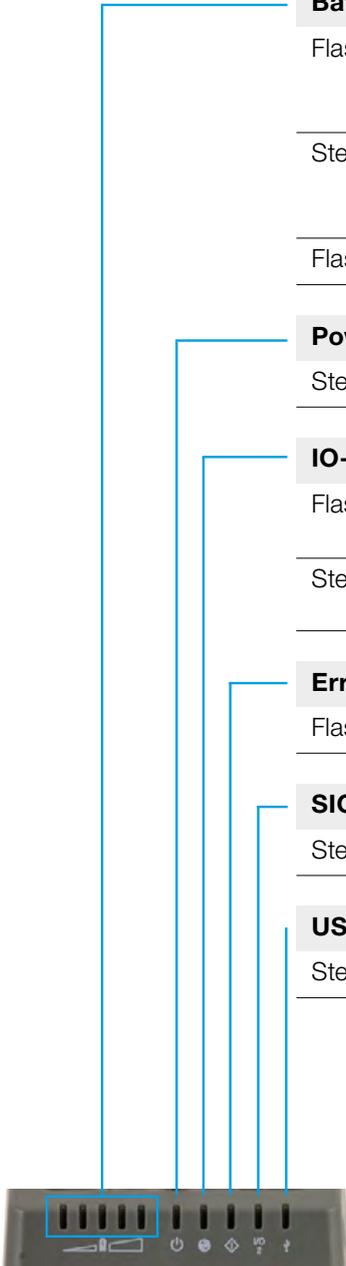
4.9 ENVIRONMENTAL

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
Approvals	CE RoHS COMPLIANT ⌧ ⊘ 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
Cable	with hooks 0.3 m and connector M12, 4 poles, included
Protective holster	Included
Micro USB cable	Included
Quick start guide	Included

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5 UNBOXING

5.1 SWITCH ON YOUR IOL-PORTABLE

To switch on your IOL-Portable, 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!

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6 SOFTWARE

6.1 FUNCTION

Home screen

Settings

Battery info

Wi-Fi switch

Time and date

Store

Configuration Icon

IOL-PORTABLE

99%

10:17   06.05.2020

TOOLS

CONFIGURE
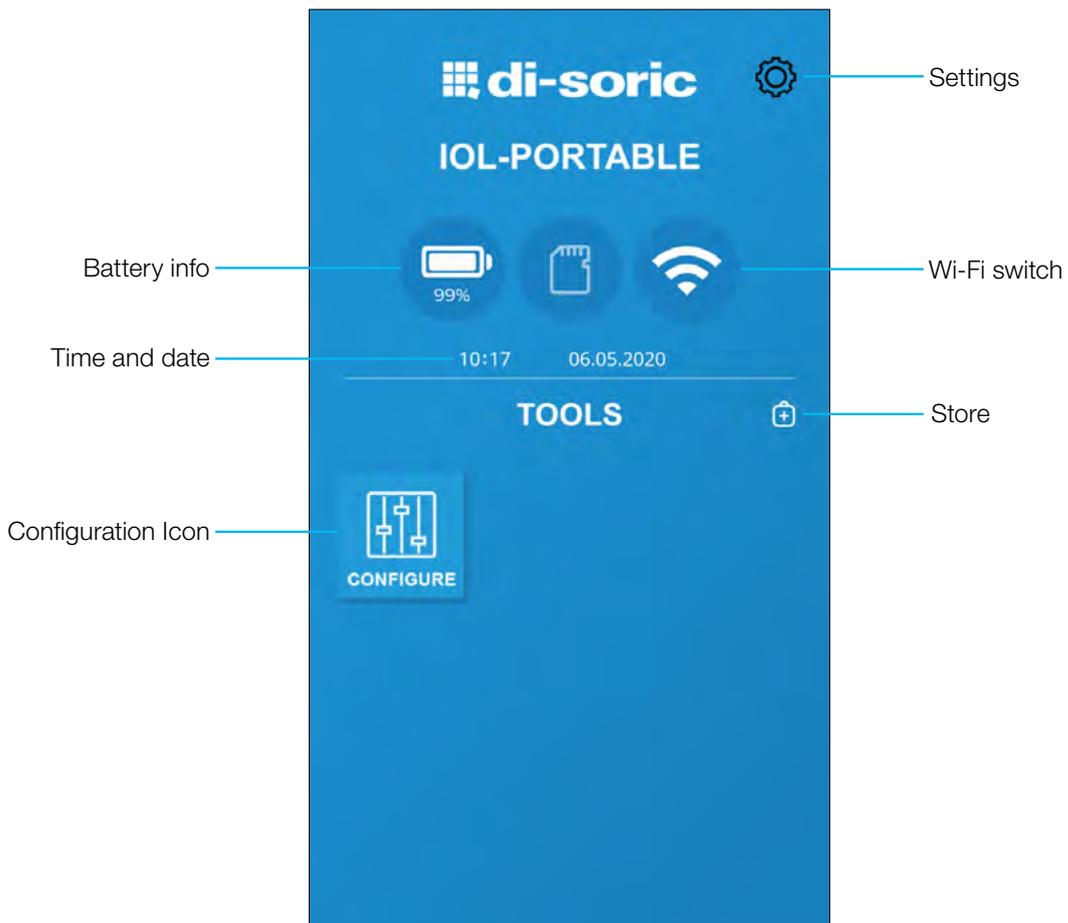
Step 1: settings > Wi-Fi
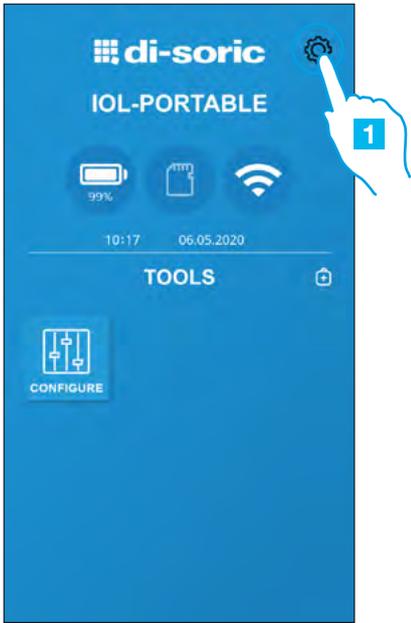

1 Select settings ⚙
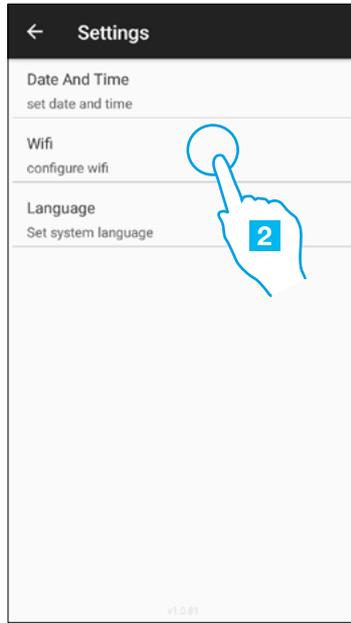
2 Select Wi-Fi
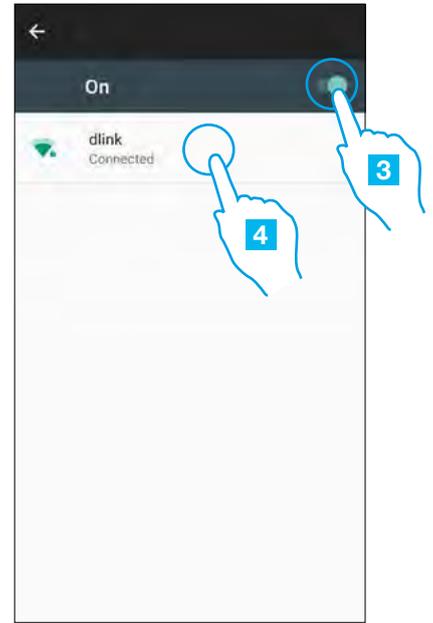
3 Select ⬤ to turn on the Wi-Fi.

4 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 IOL-Portable up to date and accept available software updates to get new and enhanced features

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Step 3: start configure app with sensor

1 Connect your sensor

2 Select the icon to start
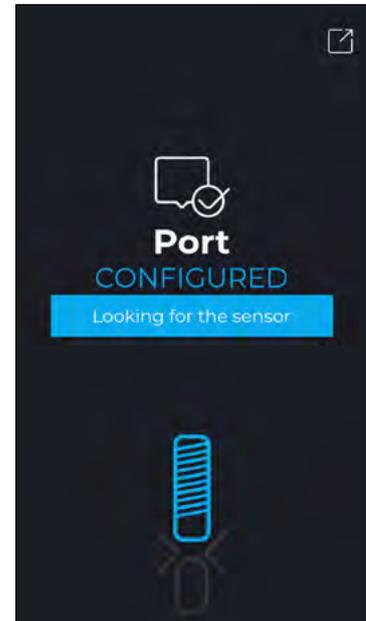
3 Loading IODD

Icon Details IO-Link:
Parameterization
Identification
Observation
Diagnosis
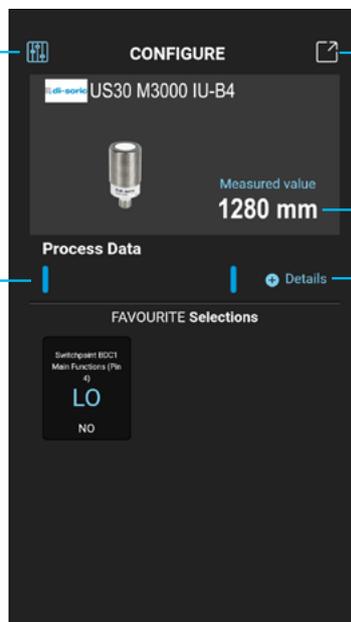
Close Configure App and go back to home screen

Measurement value (mm)

All process data

Example: activated switching output

CONFIGURE

US30 M3000 IU-B4

Measured value
1280 mm

Process Data

Details

FAVOURITE Selections

Switchpoint BDC1 Main Functions (Pin 4)
LO
NO

Sensor connected successfully

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

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Error messages

Back to home screen
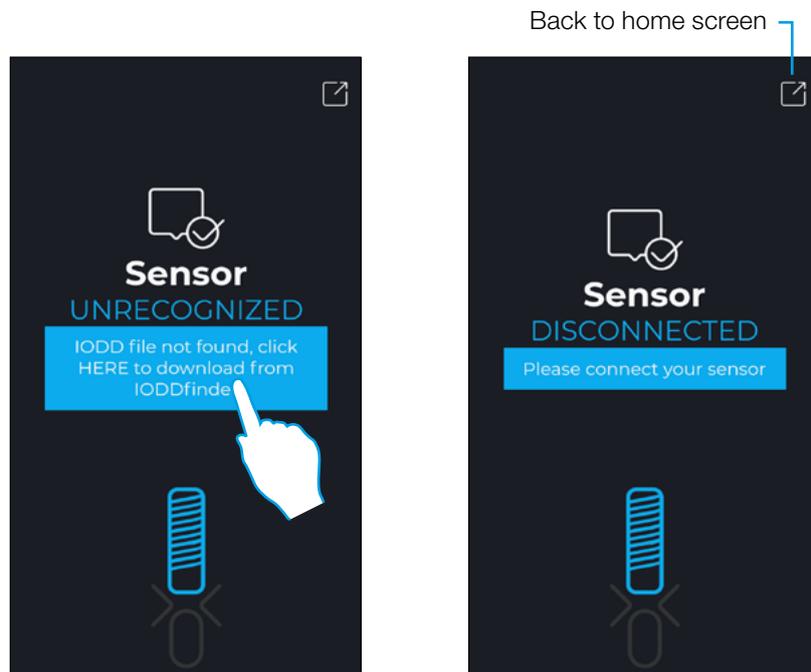
Sensor unrecognized   Sensor not connected

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

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## Create a user: parameterization > settings > users
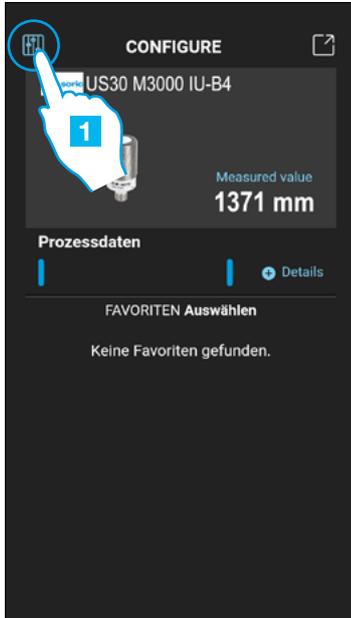
1 Select icon 🔲
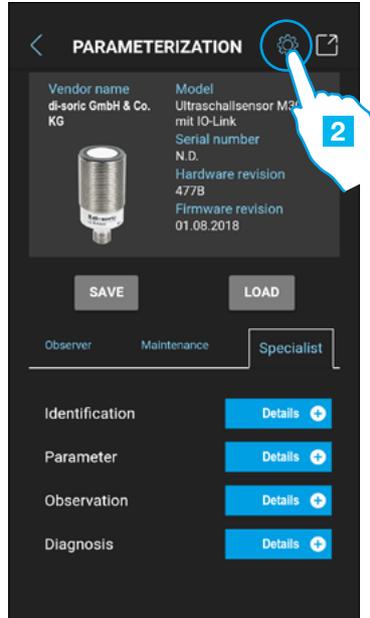
2 Select Settings ⚙
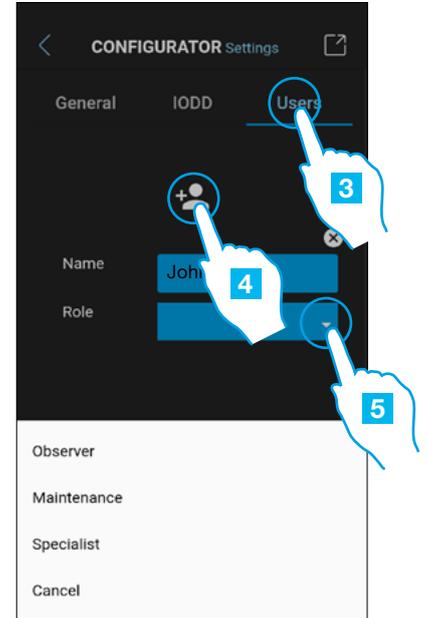
3 Select tab Users
4 Select 👤 to add an user
5 Select the new users role via the drop down menu

	Rollen		
Functions	**Observer**	**Maintenance**	**Specialist**
Identification	✓	✓	✓
Observation	✓	✓	✓
Diagnosis	✓	✓	✓
Parameter Basic		✓	✓
All			✓

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Project options: parameterization > save or load

Save or load a project
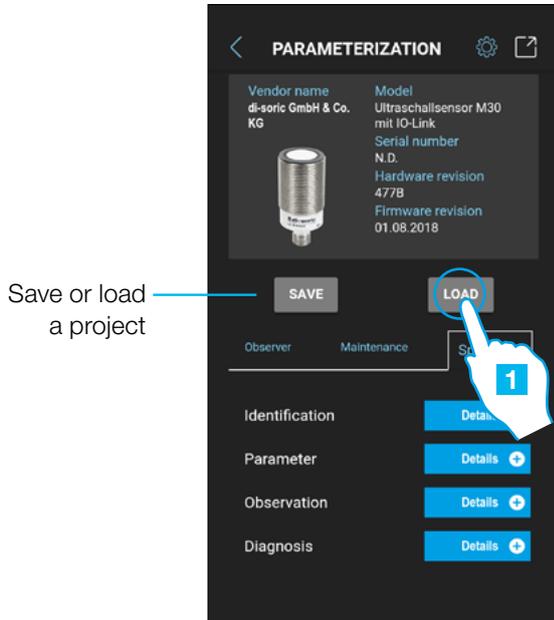
1 Touch LOAD to open a saved project

Delete, rename or load a project

List of projects
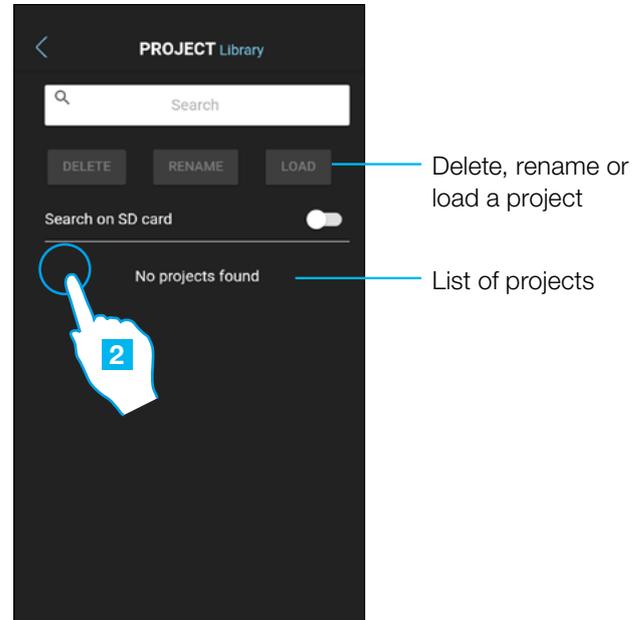
2 Select the project to open and touch LOAD

IODD options: parameterization > settings > IODD

1 Select Settings ⚙

Delete or update the existing IODD file

2 Select IODD

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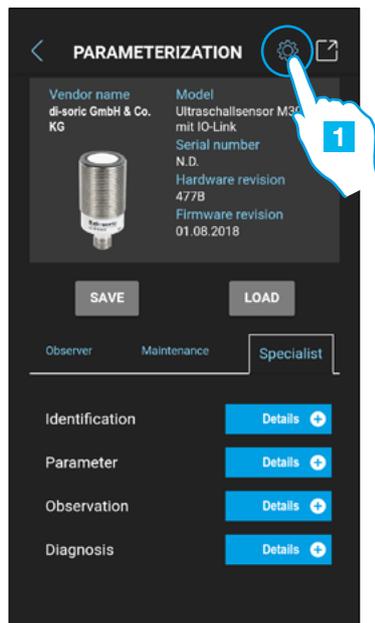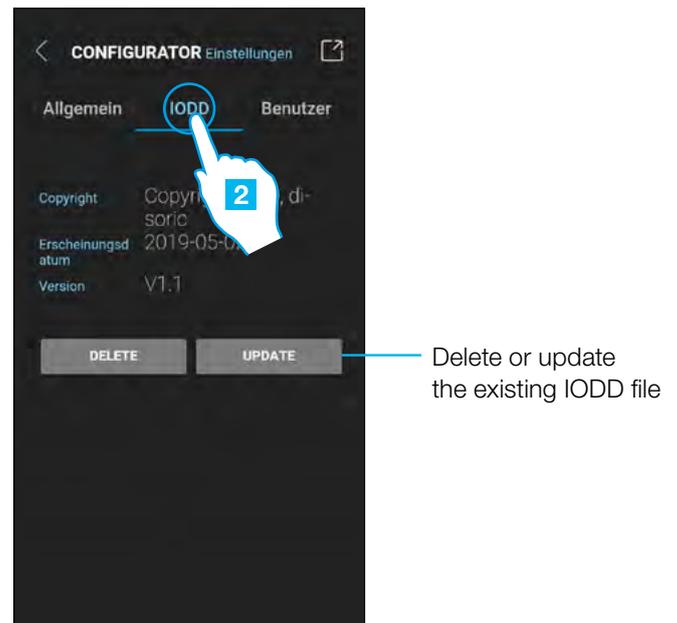
6.2 EXAMPLE OF CONNECTED ULTRASONIC SENSOR

Process data

Measurement value (mm)

Example: activated switching output

All process data

Example: activated switching output

Selct ⊕ Details
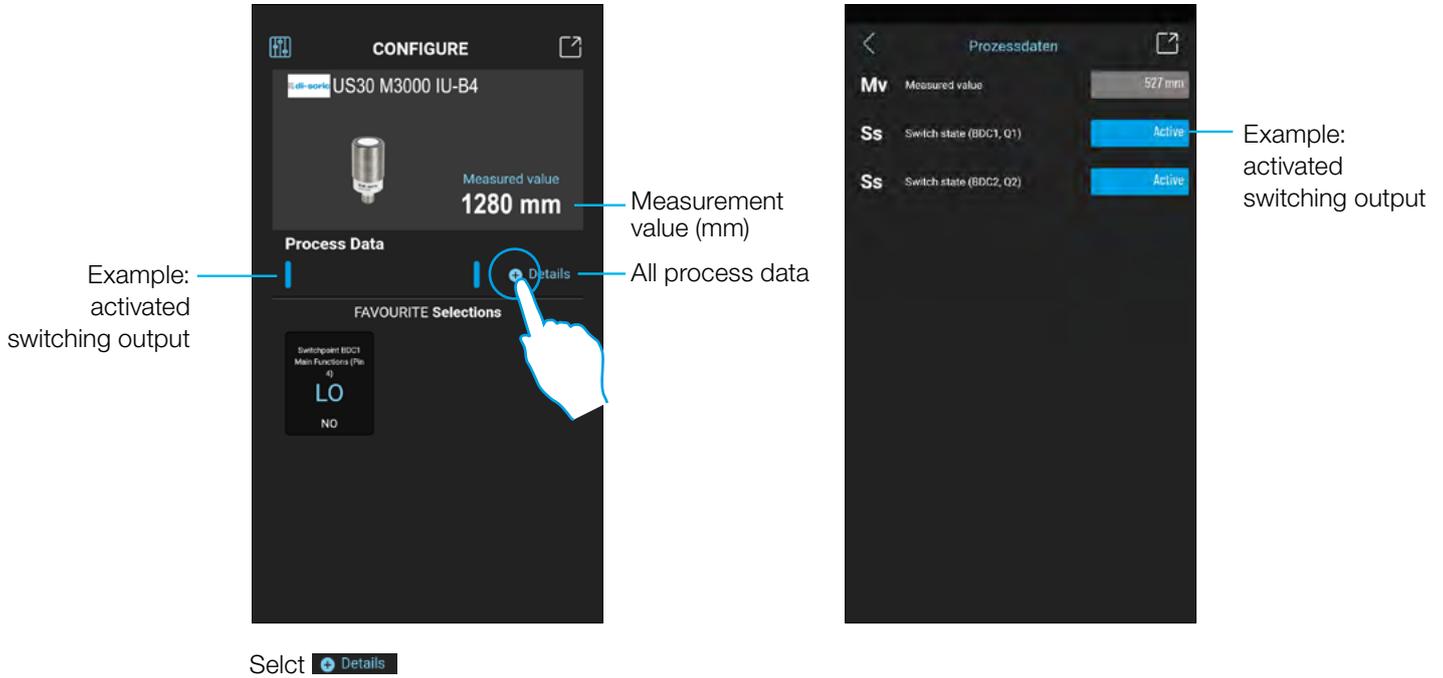
Configuration of switching output for a ultrasonic sensor

1 Select icon

2 Select parameter details

3 Scroll verticallly to find the parameter

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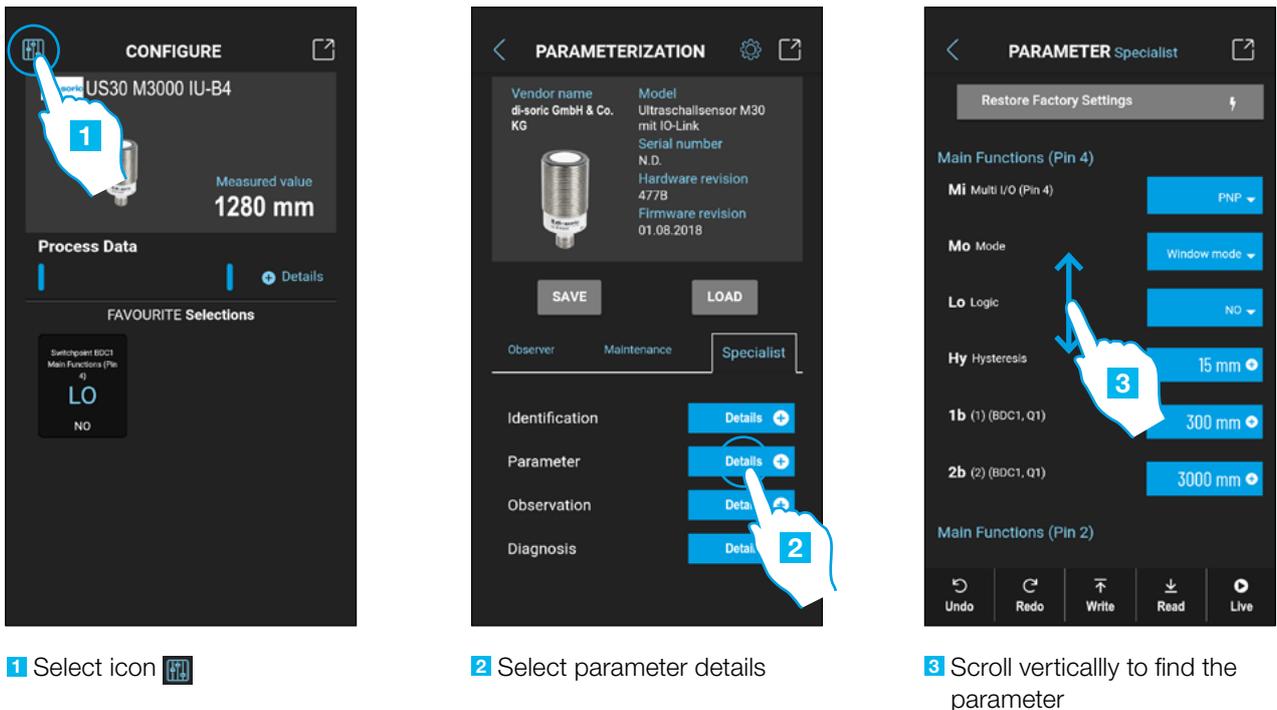
Parameter ultrasonic sensor

Reset sensor to factory settings

Configure switchpoint mode
(Window mode, Reflex mode, Single point mode)

Configure switchpoint logic NO/NC

Configure switchpoint 1 (mm)
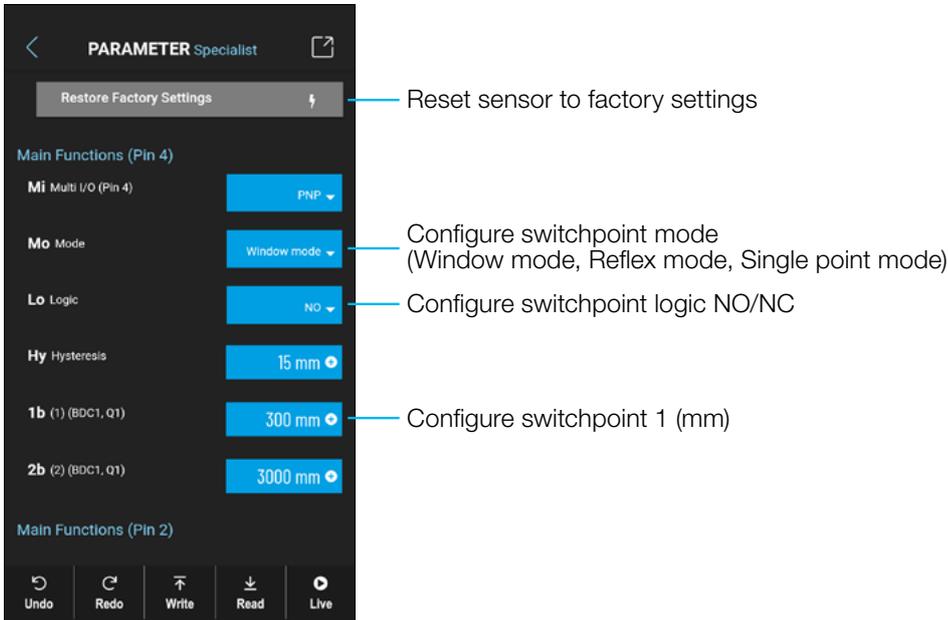
Command icons

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:
Don't forget: Push Write if live mode is not active Live

Touch this to go ahead

Touch this to go back to the previous parameter

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Add a parameter to the favourite list
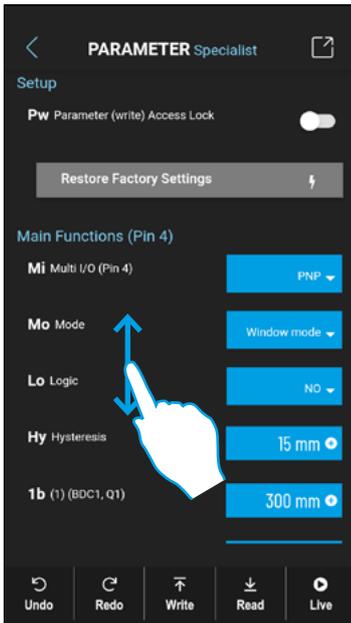
Scroll vertically to find the desired parameter, for example NO/NC configuration (LO Logic)
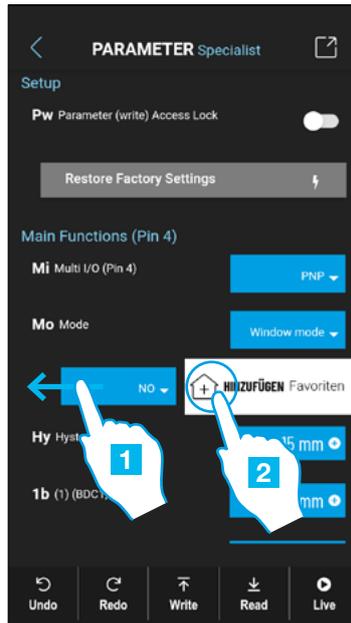
**1** Swipe left
2 Press ⊕ to add it to the favourites list
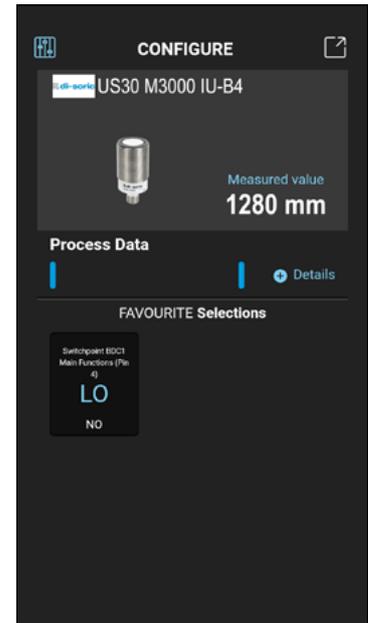
Favourites list

Delete a favourite parameter

Example of SO active

1 Scroll vertically to find the icon
2 then touch it
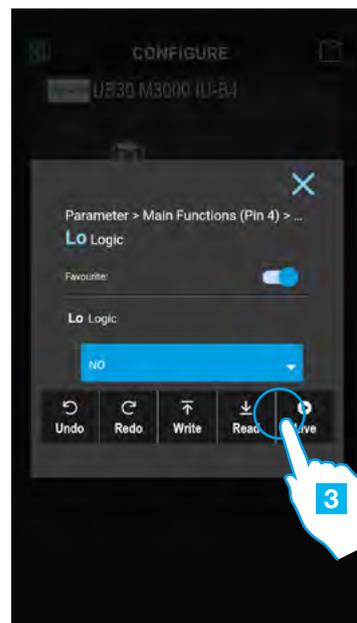
3 Touch ◉ to delete it

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