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Sensorsimulator and tester

X-431 S2-2 Sensorbox

Introduction

- S2-2 Sensorbox is specially developed for diagnosing/simulating sensor faults. It mainly includes “Sensor”, “ Actuator”, “Defined/Drawn”, “Timing Waveform“ and “ multimeter”.
- Sensor: Is used to simulate the input signals of the automobile electronic control system, and the automobile computer adjusts the running state of the engine according to these parameters.
- Actuator: Is used to simulate the output control signal of automobile electronic control system, so as to judge the working conditions of automobile actuators such as idle motor, EGR solenoid valve, etc.
- Multimeter: Through this function, users can test voltage, resistance, and capacitance.
- The module cannot be used separately, it only works as accessory for LAUNCH X-431 EURO TAB2 diagnostic tools.

Introduction

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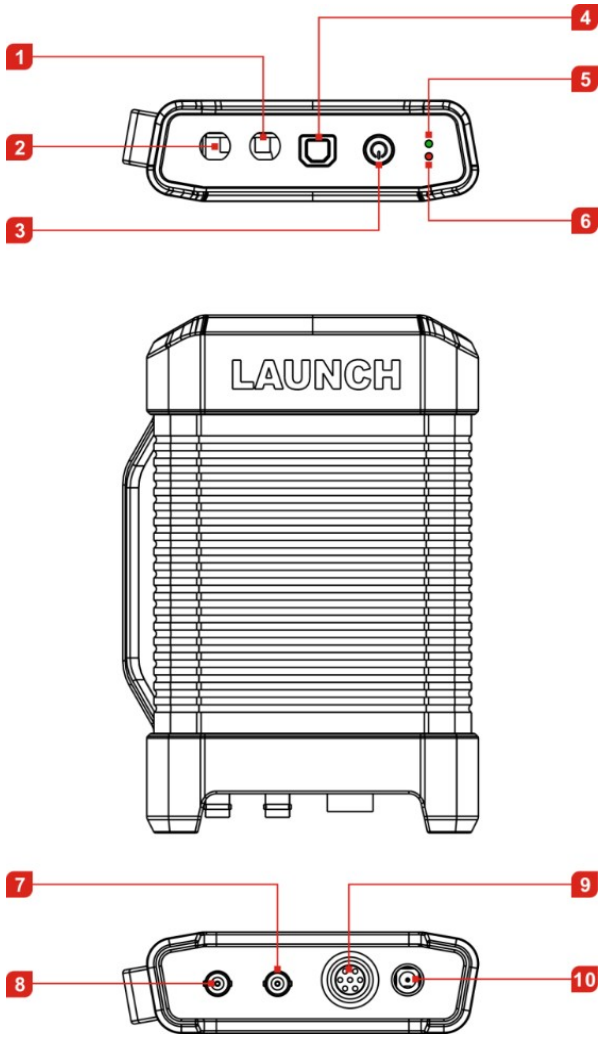


1	**COM**	Multimeter common
2	**V/Ω/C**	Multimeter measuring terminal
3	**Power button**	Press this button to start up and shut down.
4	**USB interface**	connected to the diagnostic device
5	**Battery status indicator(green)**	If the green lamp is steady on, the battery electric quantity is normal. If the green lamp is flashing at an intermediate speed, the electric quantity is low (regardless of whether the red lamp flashes). If the green lamp is flashing at a low speed, charging is in progress.
6	**Battery status indicator(red)**	If the red lamp is steady on, the diagnostic tool is connected. If the red lamp is flashing, the diagnostic tool is disconnected. It will enter the charging status only when the red lamp is flashing. The green lamp is flashing at a low speed during charging (if the electric quantity is full, it will stay on).
7	**CH2**	Channel 2
8	**CH1**	Channel 1
9	**7-pin interface**	Used to connect 7-pin interface (to six 4mm safety banana head lines) to measure the actuator. When measuring the actuator, it is necessary to connect the module to the car
10	**Power interface**	Power the module through the battery clamps cable.

Technical Parameters

Sensor module:

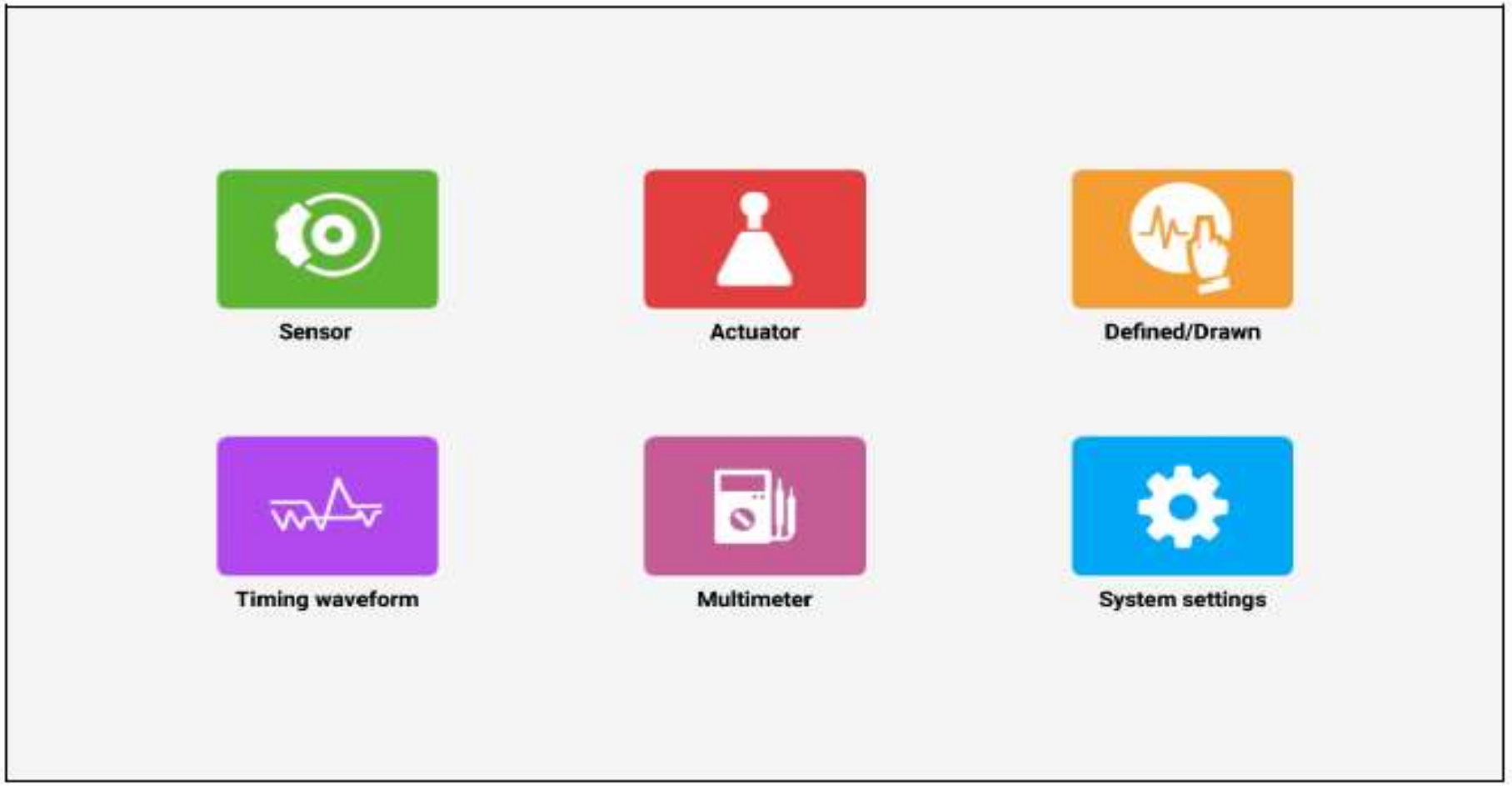
Parameter	Range
Number of channels	2
Precision	1 %
Amplitude range	0 – 20 V
Max output current	20 mA
Predefined frequency range	0 – 20 kHz
Square wave signal pulse frequency	0 – 15 kHz
Square wave signal duty cycle	0 – 100 %
Power supply	Simulator sensor output/max current 20mA (output is powered by battery)
	Drive solenoid, ignition coil/output current 2A (external power supply)
USB	USB2.0 Type B (with charging and power supply function/5V)
DC voltage simulation	Support
Fixed frequency simulation	Support
Predefined waveform simulation	Support
Hand-drawn waveform simulation	Support
Signal generator interface	2
External power supply port	1
Solenoid interface	1
Multimeter interface	2
Working temperature	0 ° C – 50 ° C
Storage temperature	-30 ° C – 70 ° C

Technical Parameters

Multimeter

Parameter	Range
DC voltage	0 V – 700 V
AC voltage	0 V – 700 V
Resistance	0 Ω – 40 MΩ
Capacitance	0 F – 100 μF (maximum 30 s measurement time)
Diode	0 V – 1,5 V
Continuity detection	Sounds below 30 Ω

Main menu



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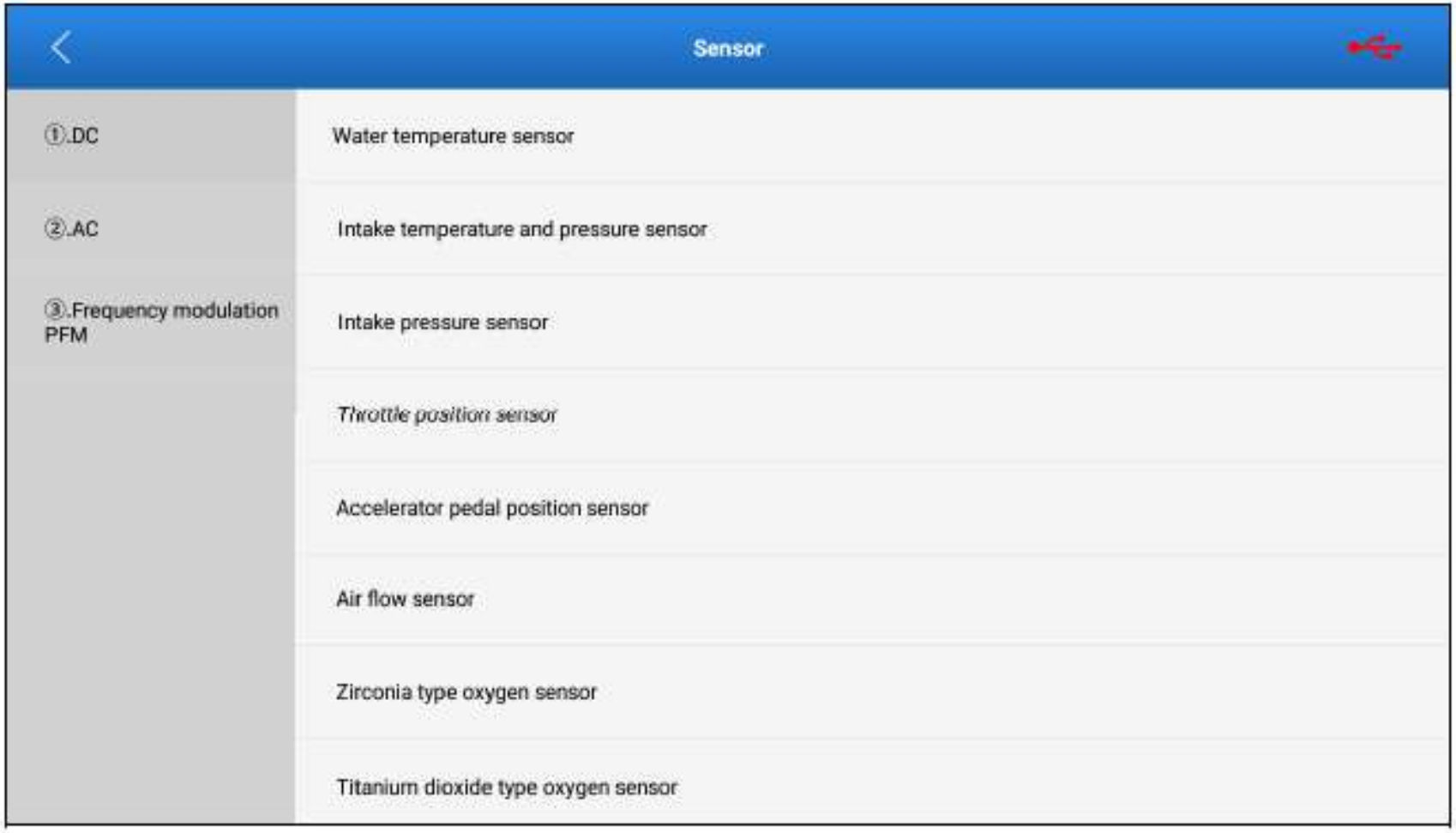
Sensor types



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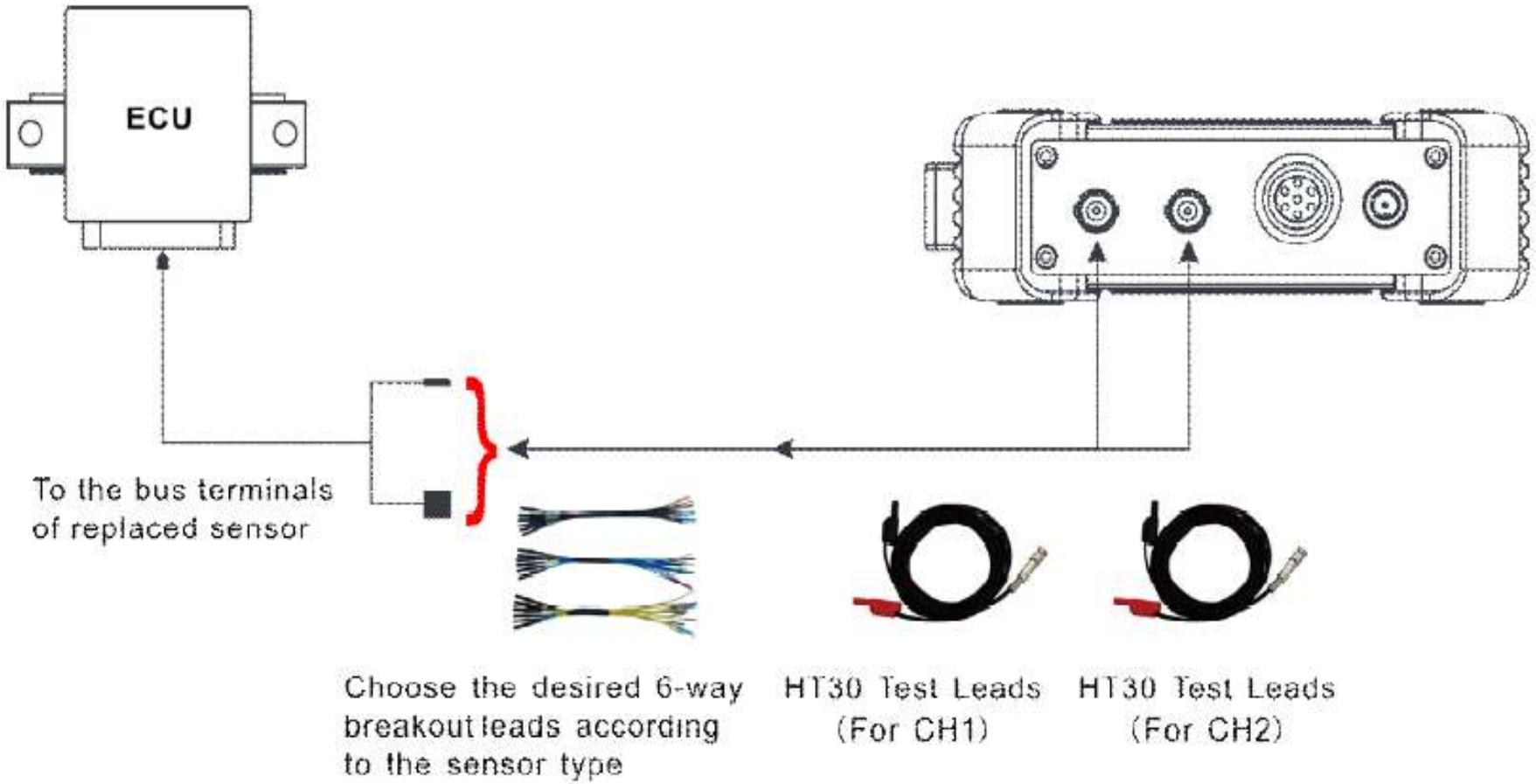
How to connect



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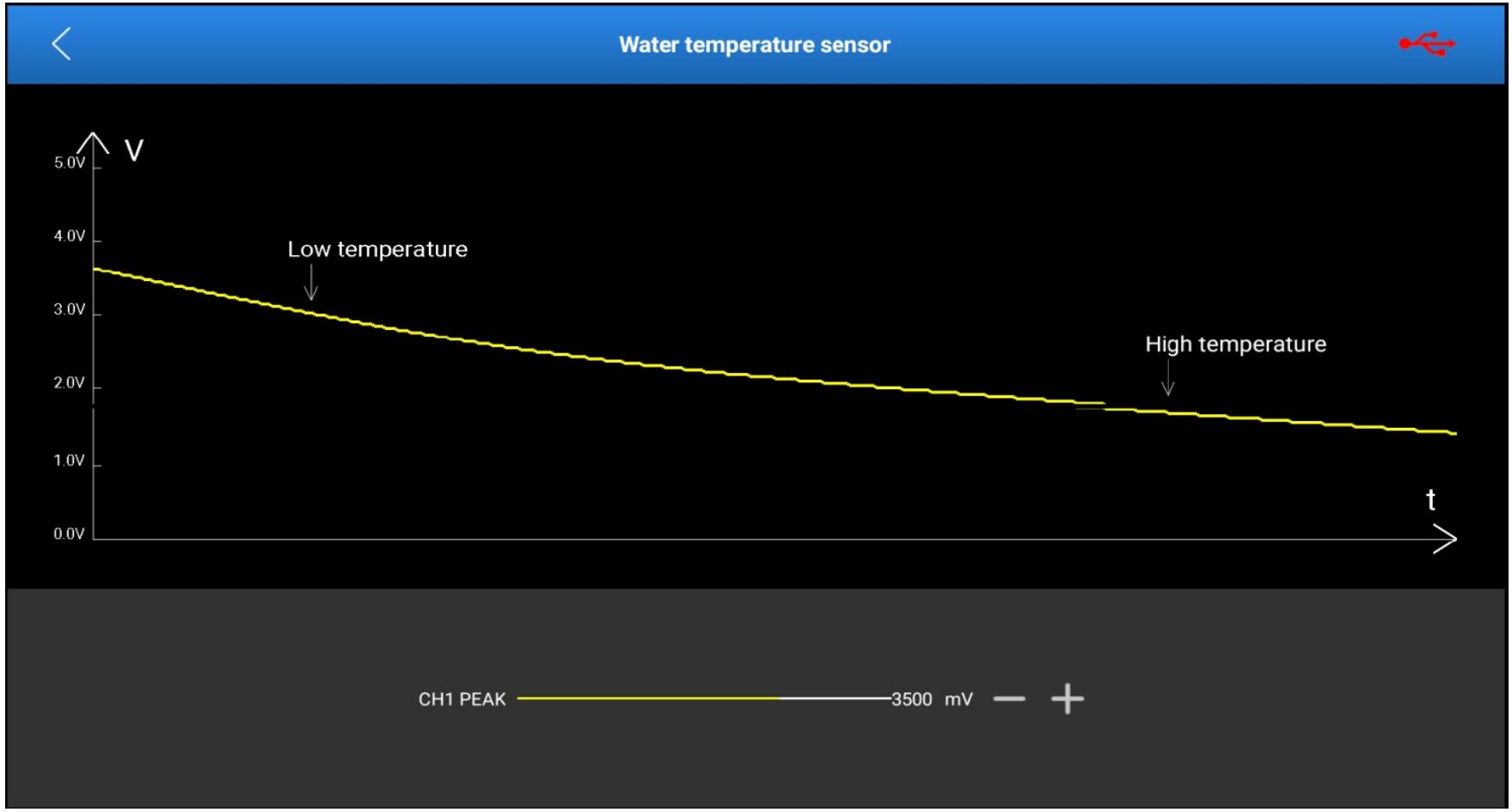
Adjustment interface



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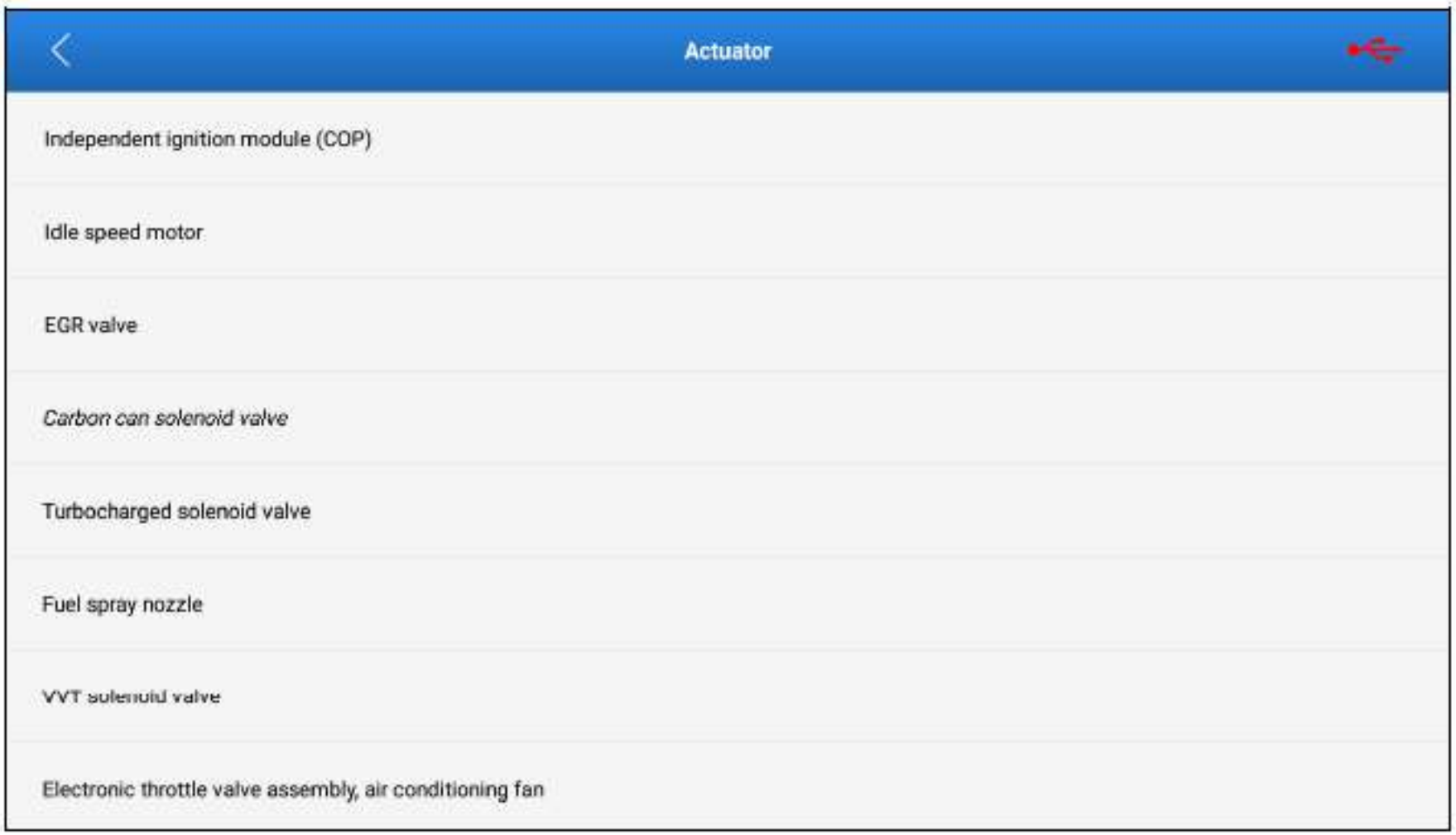
Actuator types



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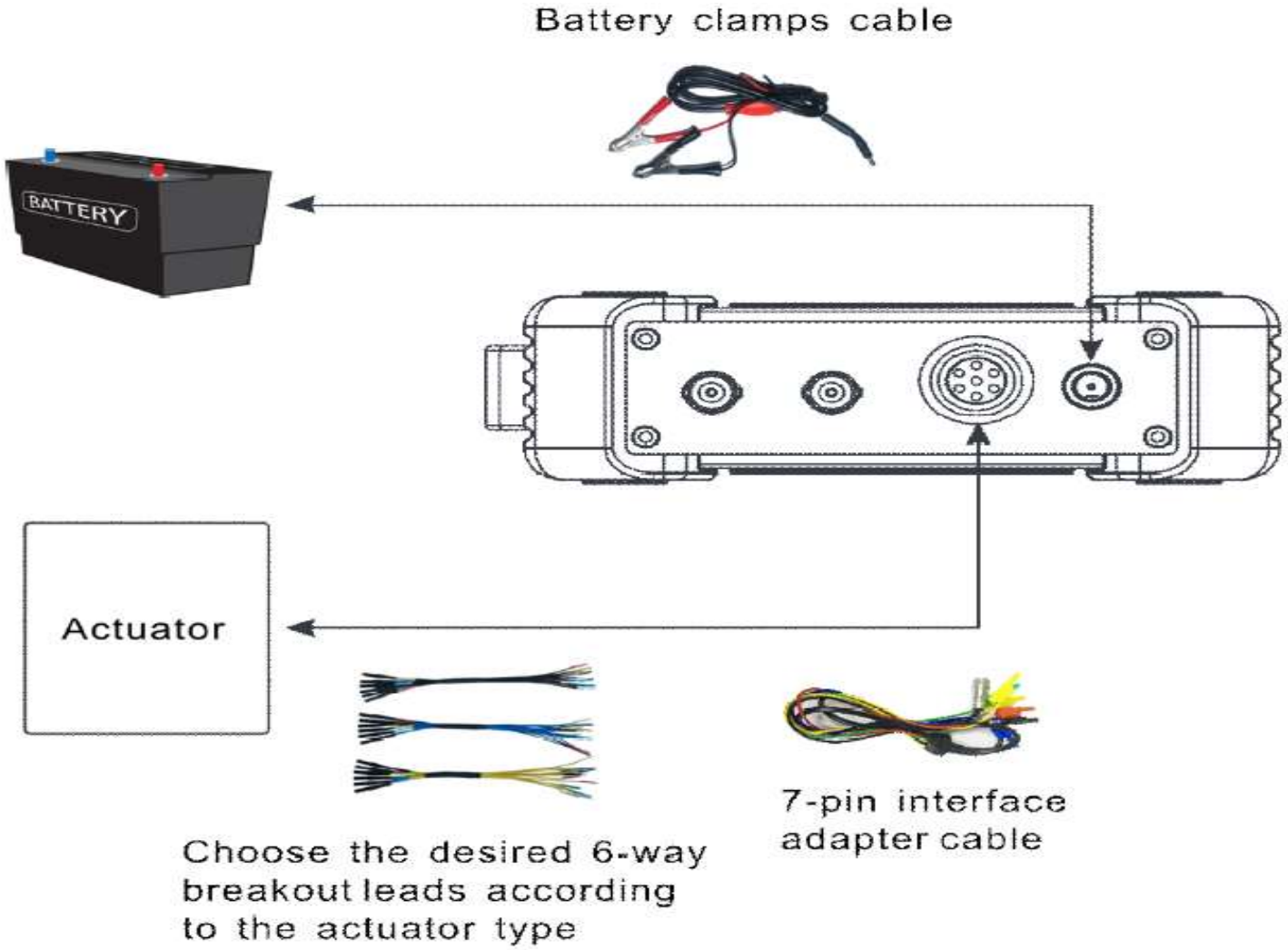
How to connect



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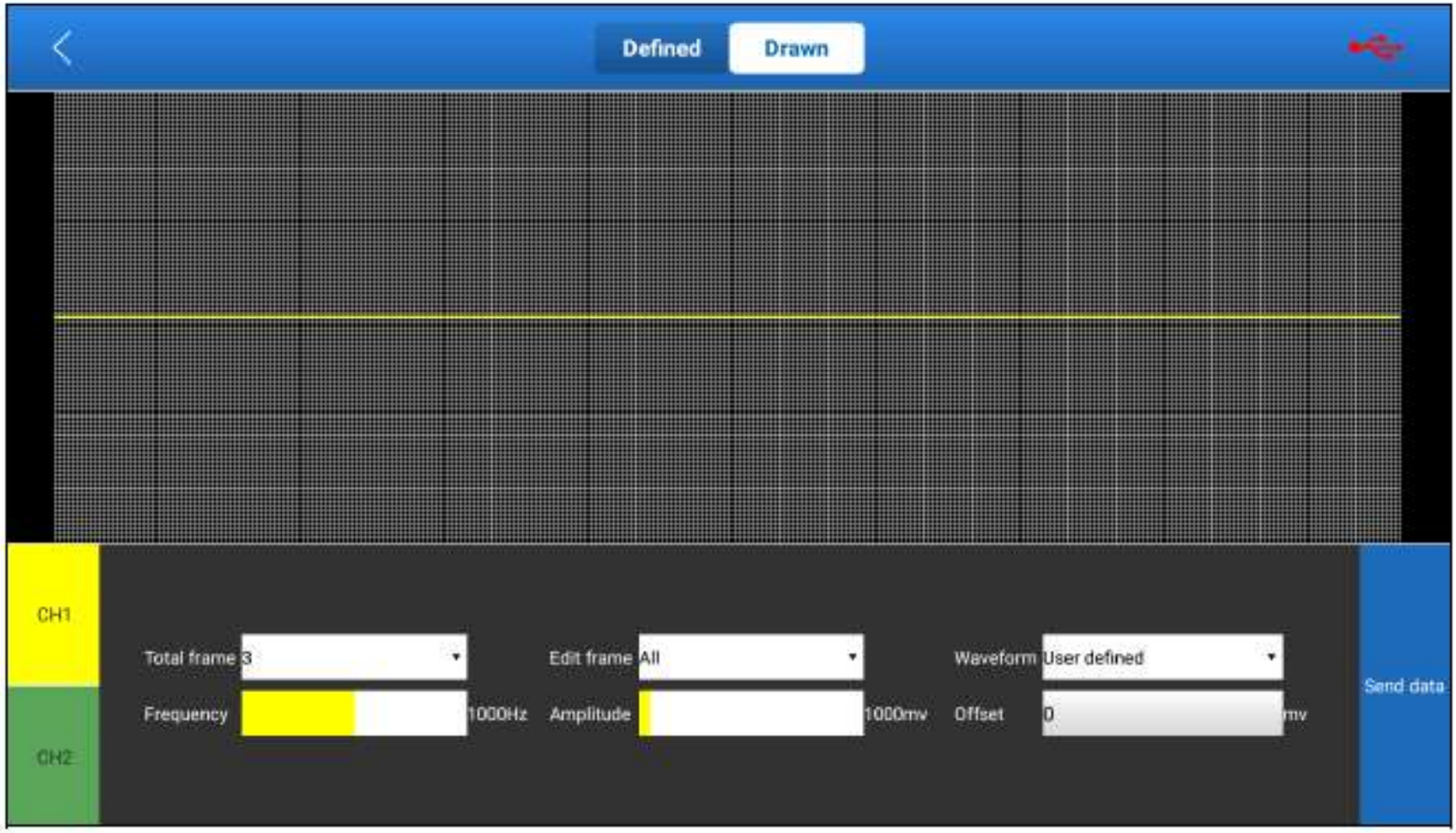
Defined / Drawn

Defined

- Waveform: There are 9 waveforms to choose; Forward sine wave, reverse sine wave, forward square wave, reverse square wave, medium voltage, straight line, high / low voltage straight line, triangle wave, and trapezoidal wave.
- Frequency: Set the frequency of the selected waveform.
- Amplitude: Set the amplitude of the selected waveform.
- Offset: Set the offset of the selected waveform.
- Phase: Set the phase of the selected waveform.
- Duty cycle: Set the duty cycle of the selected waveform.
- Signal sync: Can cause CH1 and CH2 to output signals at the same time.

Hand-drawn



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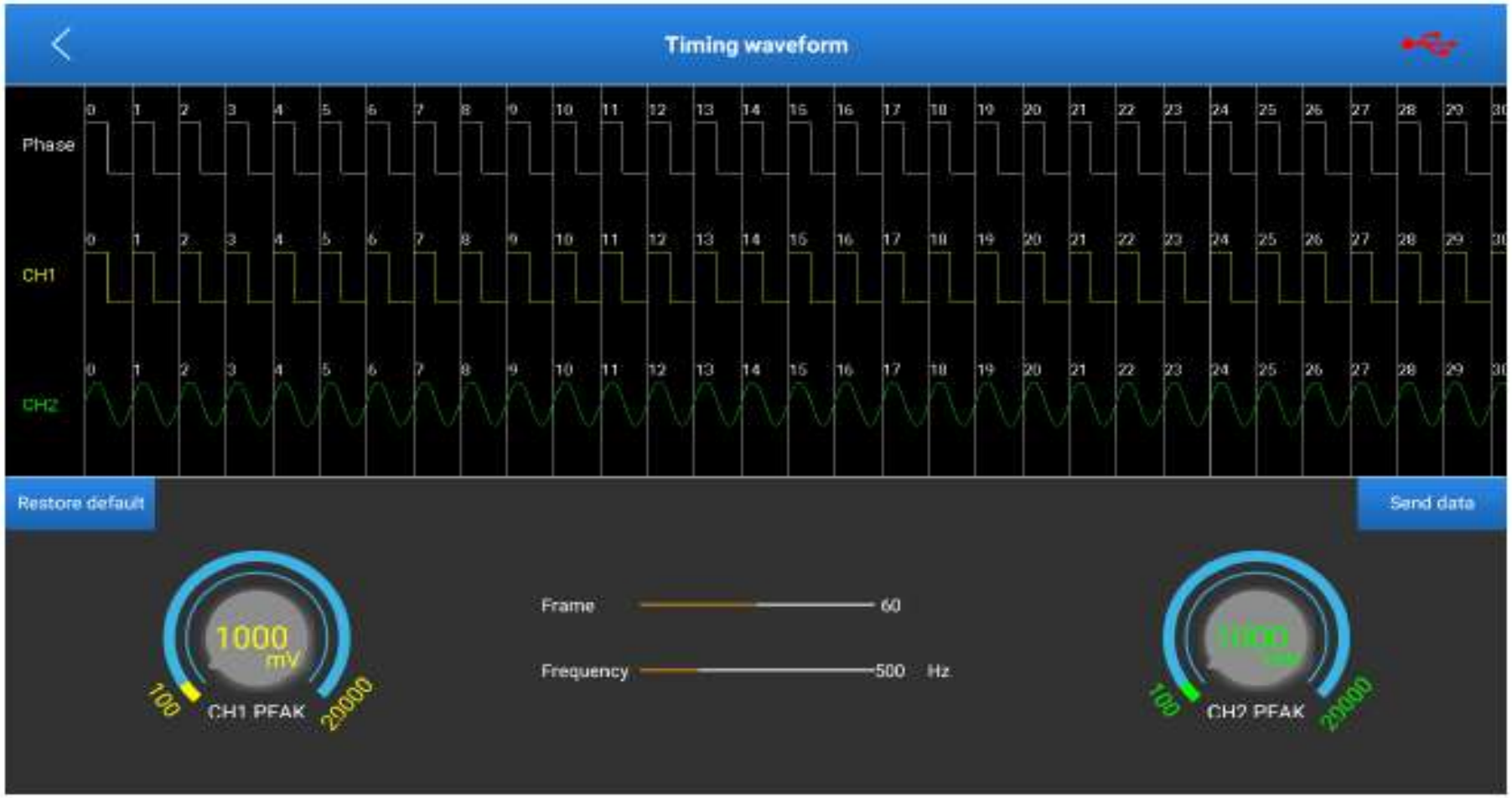
Hand-drawn

- Total frame: 1-3 (optional). Indicate the total number of output points
- Generally, one waveform is composed of 100 points. The values 1-3 indicate that you can select 100, 200, or 300 points to form a waveform.
- Edit frame: You can edit a single frame or edit all
- Waveform: You can select a preset waveform and place it in the hand-drawing area
- Frequency: Frequency of a single frame (for 3-frame output, the total frequency is the set frequency/3)
- Amplitude: Amplitude of the output waveform
- Offset: Offset of the output waveform

Timing Waveform



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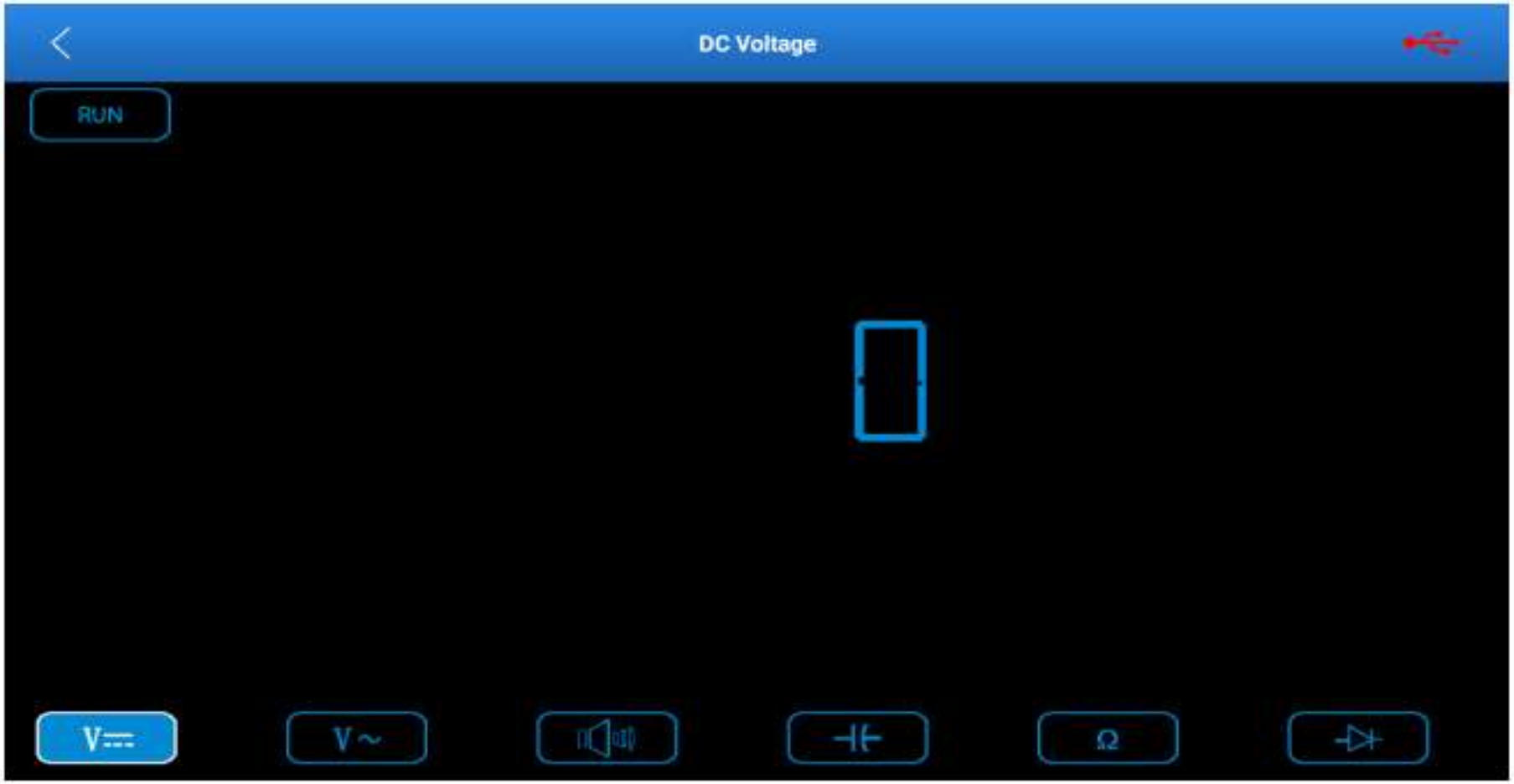
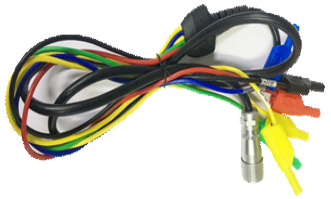
Multimeter



Accessory list

HT30 test leads
A kind of special line used to connect sensors and test various types of signals



7-pin interface adapter cable
Used to connect the sensor module and actuator to test the actuator

Battery clamps cable
Used to connect the sensor module to the car battery only using the Actuator module

USB Cable
Connects the Sensor module to the diagnostic tool

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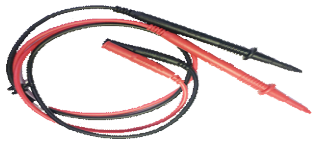
Accessory list

6-way breakout lead
is available in 3 joint sizes:
1.0mm, 1.6mm, 2.8mm

Back Probe Pins Suite

Used for piercing the insulation of wires to allow for automotive electrical measurements without causing damage to the wires.



Multimeter test pen
(black + red)

Power adaptor

Order Info

Product Name:	X-431 S2-2 Sensorbox
Article Number:	LE-S2-2-301180847
List Price:	399,00 € + VAT
Package Information:	Size: 422 x 123 x 354 mm Weight: 4,5 kg

Thank you!

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