

**DROPSENS**

**e-ELISA**  
**96-well plate**  
**connector**



MANUAL

# The logo for DROPSENS features the word "DROPSENS" in a bold, blue, italicized sans-serif font. To the left of the letter "D" is a graphic element consisting of five vertical blue bars of varying heights, resembling a barcode or a stylized signal.

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## 1. INTRODUCTION

96-well plate connector is a portable **connector** for use with DropSens Electrochemical ELISA plates. The instrument contains 1 contact for each electrode (WE, CE and RE) printed in the bottom of each well. These contacts are gold plated retractile pins that are pressed against the gold contact paths printed in the electronic board. In the front panel 2mm female connections and two different displays are presented. The instrument can work within two different options: A) eight channel option. Eight (8) independent electrochemical instruments or an 8 channel multipotentiostat can be connected to 8x4 units of 2mm female connections. A manual control and a column display will show which column number is being tested. B) single well option. A single channel potentiostat is used to measure just one well of the microtiter plate. This well can be selected with two rotating manual controls: column number from 1 to 12 and row letter from A to H.

With  $\mu$ Stat 8000 you can perform **up to 8 different electrochemical measurements (8 wells of the same column) at the same time.**

96-well plate connector system can be connected to any potentiostat and it is powered by means.

## 2. HARDWARE DESCRIPTION



Figure 1 – 96-well plate connector

### 2.1. Front Panel

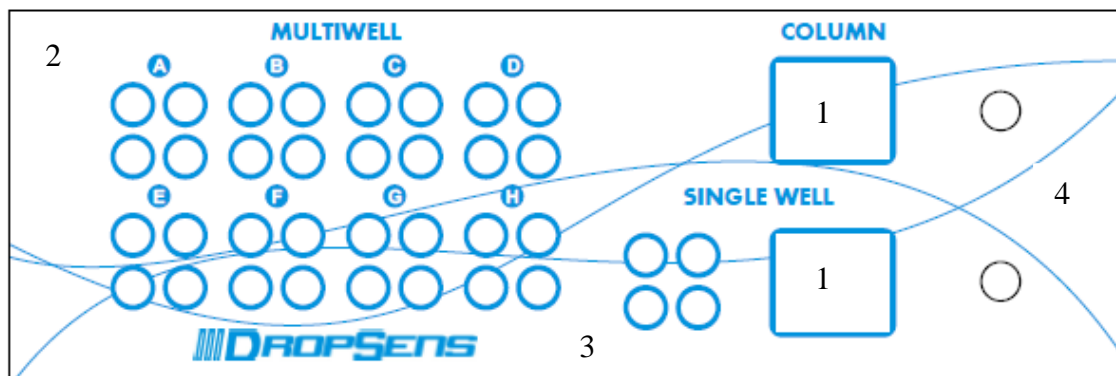


Figure 2 – Front Panel

(1) – LCD COLUMN display. It shows the column number (between 1 and 12) selected to be measured through the MULTIWELL option.

LCD SINGLE WELL display. It shows the row letter (between A and H) selected in combination with column number of the other display to be measured through the SINGLE WELL option.

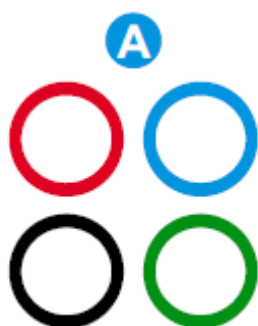
(2) – MULTIWELL option, in the left side of the front panel 8x4 2mm female connectors are available to measure the 8 wells of the same column at the same time. A

multichannel potentiostat or 8 single channel potentiostats can be used in this configuration.

(3) – SINGLE WELL option, in the right side of the front panel 4 units of 2mm female connectors are available to measure any selected well of the 96 possibilities. A single channel potentiostat can be used in this configuration.

(4) – Two manual rotating controllers are available to select the column and the row to be measured (as it is shown in the 2 LCD displays).

(5) – 2 mm female connectors present the following colour code. In the MULITIWELL option the letter indicates the row of the 96-well plate.



Electrode female connector colour codes

- Red** - working electrode (WE)
- Black** - auxiliary electrode (AE)
- Blue** - reference electrode (RE)
- Green** - ground ( $\perp$ )

Figure 3 – Electrode Female connectors

## 2.2. Rear Panel



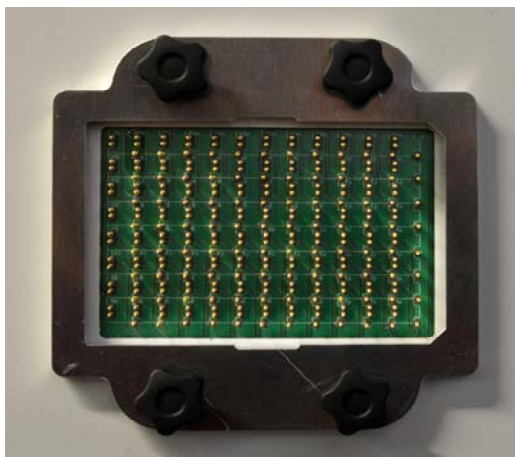
Figure 4 – Rear Panel

**+12VDC** – Connection used to connect the **power adapter** (included) to the 96-well plate connector.

**ON/OFF** – On/Off switch for power adapter connection.

**SPI**– Remote control through Serial Peripheral Interface Bus.

### 2.3. Top Panel



**Figure 5 – Top Panel**

(1) – 96x3 retractile gold pins are used as connectors with each screen-printed electrode present in the Electrochemical ELISA plate. In the bottom of each well a whole three electrode cell with WE, CE and RE is printed so three gold pins are pressed against three gold paths. Retractable gold pins are fixed to a PCB board in the top panel of the instrument.



**Figure 5 – Squared metallic accessory**

(2) – A squared metallic accessory is used as a mark for the 96-well plate to be placed in the gold pin connector area. Four holes in the bottom side of this device makes easy an adequate placement of the same in the top panel of the instrument.

(3) – 4 black coloured manual screws in the corners of the squared metallic accessory helps to press the Electrochemical ELISA plate against the retractile gold pins.

## 2.4. Power supply

96-well plate connector is powered by a **power adapter** (connected to the means).

Switch ON position in the back panel is required to start to work.

## 3. INSTRUMENT SPECIFICATIONS

- Power	<b>DC charger adapter compatible (12 V)</b>
- Potentiostat interface	<b>2mm female connector</b>
- Operating modes	<b>MULTIWELL OPTION: Used to measure eight wells in the same column SINGLE WELL OPTION: Used to measure one single well selected from the 96 possibilities of the well plate.</b>
- SPI	<b>Serial Peripheral Interface Bus.</b>
- Indicators	<b>2 LCD displays in front panel</b>
- Dimensions	<b>25 cm x 26 cm x 9 cm (L x W x H)</b>

## 4. RECOMENDATIONS OF USE

-Working under **MULTIWELL** option using 8 channels imply to leave free the four 2mm female connections specified as single well option in the right side of the front panel.

-Working under **SINGLE WELL** option using one channel imply to leave free the 8x4 female connections present in the left side of the front panel.

-Avoid any liquid to be spilled on the top panel in the area of the gold plated retractile pins.

-When using the connector please press tightly the screws on the metallic squared to obtain an adequate connection between the retractile pins and the 96-well plate.

-When not in use place the top cover to protect the area of the gold plated retractile pins.



### **Processing of electric and electronic equipment at the end of their service**

This symbol, affixed to the product or its packaging, indicates that the product must not be processed with household waste. It must be brought to an electric and electronic waste collection point for recycling and disposal. By ensuring the appropriate disposal of this product you also help in preventing potentially negative consequences for the environment and human health. The recycling of materials helps preserve our natural resources. For further information regarding the recycling of this product, please contact your municipality or local waste disposal centre.