User Manual

Galvanic Skin Response Instrument

Biosonic BF01

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Study and Demonstration of GSR Technique

Objective: 1] To Assemble and Operate GSR Unit

2] To Trial on Subject for Psychological Study

Introduction:-

What is GSR:-

The galvanic skin response (GSR) is one of several electrodermal responses (EDR), EDR are changes in electrical properties of a person's skin caused by an interaction between environmental events and the individual psychological state . Human skin is a good conductor of electricity and when a weak electrical current delivered to the skin, changes in skin conductance of that signal can be measured. The variable that is measured is either skin resistance or its reciprocal.

How GSR master works.

This device applies a constant voltage to the skin through the electrode .The voltage is so small that it can not be felt and perceived by the individual. In another electrode we sense the voltage and the circuit generates a pulse accordingly and an embedded microcontroller decodes the pulse and convert it to visible mV value .when the subject is active the body will generate electrical pulse so sensor will detect more voltage and over all mV value will increase and if the subject gets relaxed the body impedance will get high and sensor will not sense any voltage so mV will become less or 0.we will attach mv value with respect to resistor value .

Types of skin conductance .

There are 2 types of skin conductance tonic and phasic. Tonic skin(SCL) conductance is the baseline level of skin conductance in the absence of any environmental event, it varies over time in individuals depending on nervous system regulation.

Phasic skin(SCR) conductance is that type that changes when events take place and can be easily stimulated by smell ,sounds etc ,this SCR gets changed and will last for 10-20 sec followed by return to base line level and these phasic changes are called GSR. Individuals will have spontaneous GSR that are not even realted to varying degrees, some are highly reactive to generation of GSR,some are steady in tonic level.

Apparatus:-

The Model GSR BF01 Is Table top model for GSR Technique Its construction is As shown in figure Below,

With User friendly Locations of Connections.Combination of ALPHA & EMG, Live Value 7 segment LED Display,Audio Feedback.

Specifications:-

Operating voltage: 230v AC,50 Hz

Sensors: 1] Red wire: +ve electrode with 1000mm length

2] Black Wire: -ve electrode with 1000mm length

Connectors: Welcro Tapes

Gel: Skin conductance Electrode Paste0.5% saline in a neutral base. It is supplied in a 1 oz. bottle with a convenient flip top reclosable cap.



Sensor Input

Figure: GSR Unit BF01



Figure: GSR Sensors

Working :-

- 1] Place the two electrode in two finger with small amount of conductive gel.
- 2] Ask the subject to get relaxed not to move.[subject muscular activity can increase GSR value]
- 3] When the subject will get relax the mV value will decrease if the value 0 then the subject got infinite impedance value .
- 4] In case the subject parameters are out of our set range you can adjust or access the display Parameter's by using balancer.

> Operating Instruction:-

- 1. Conduct the experiment and slowly switch over to other application closing the previous one.
- 2. Avoid sudden operating of any button.

> Maintenance of the Equipment

- 1. Wipe with a clean moist cloth.
- 2. Do not use any type of acid, alcohol or detergents to clean the apparatus.
- 3. Contact the service station for any malfunction.

Caution

- 1. Do not attempt to open the instrument.
- 2. Warranty voids if the instrument is attempted to open except at Authorized service station.

NOTES