

Stress Meter

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Abstract

The purpose of stress meter is to assess the emotional pain of human being. The stress can cause hair to fall, acne to break out and many other problems. These manifestations of stress can cause even more anxiety. This stress monitor lets you assess your emotional pain. If the stress is very high, it gives visual indication through a light-emitting diode LED display along with warning beep. The gadget is small enough to be worn around the wrist. The LM3915 is a monolithic integrated circuit that senses analog voltage levels and drives ten LED's, LCD's or vacuum fluorescent displays, providing a logarithmic 3db/step analog display.

Keyword- Stress Meter, LED, Circuit Diagram, LCD

I. INTRODUCTION

Stress is the very common condition of every human being. Stress is nothing more than a socially acceptable form of mental illness. This Stress meter allows to assess the emotional pain. If the stress is very high, it gives visual indication on a LED display along with a beep.

This stress monitor lets you assess your emotional pain. If the stress is very high, it gives visual indication through a light-emitting diode LED display along with warning beep. The gadget is small enough to be worn around the wrist. The LM3915 is a monolithic integrated circuit that senses analog voltage levels and drives ten LED's, LCD's or vacuum fluorescent displays, providing a logarithmic 3db/step analog display. The gadget is based on the principle that the resistance of the skin varies in accordance with your emotional states. If the stress level is high the skin offers less resistance, and if the body is related the skin resistance is high. The low resistance of the skin.

During high stress is due to an increase in the blood supply to the skin. This increases the permeability of the skin and hence the conductivity for electric current. This property of the skin is used. Here to measure the stress level, the touch pads of the stress meter sense the voltage variations across the touch pads and convey the same to the circuit. The circuit is very sensitive and detects even a minute voltage variation across the touch pads.

II. PURPOSE OF THE PROJECT

The purpose of stress meter is to assess the emotional pain of human being. The stress can cause hair to fall, acne to breakout and many other problems. These manifestations of stress can cause even more anxiety. Stress causes cortisol levels to increase within the body, which increases oil production, which causes acne breakouts. So this stress meter is to solve all the problems caused due to stress by checking the stress of an individual and taking care before any serious problem occurs.

III. BLOCK DIAGRAM

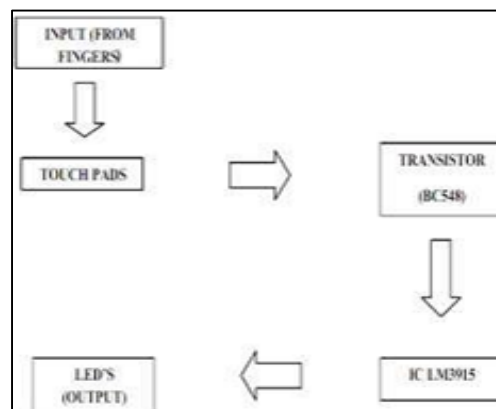


Fig. 1: Block Diagram

Figure above shows a block diagram of the Stress Indicator device. The touch pads of the stress meter sense the voltage variations across the touch pads and convey it to the signal amplifier, followed by LED display for visual indication and a warning beep. The circuit is very sensitive and detects even a minute voltage variation across the touch pads.

Touch pad- detects the changes on the skin resistance Transistor BC-548 amplify the signal produced at skin surface obtain from the touch pad. ICLM 3915 - is use to sense the analogue voltage level at pin & obtain from the transistor. LED- indicates the level of pain produce from the galvanic skin response.

IV. PRINCIPLE OF STRESS METER

The stress meter is based on the principle that the variations in the resistance of the skin due to blood pressure of one's body can be directly converted and transmitted into analog voltage levels to give the visual indication of human stress using a proper circuitry.

V. CIRCUIT DIAGRAM

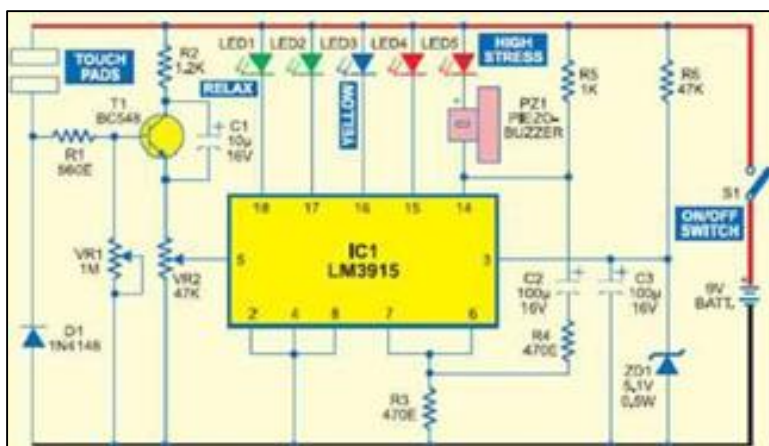


Fig. 2: Circuit Diagram

VI. CIRCUIT OPERATION

This stress monitor lets you assess your emotional pain. If the stress is very high, it gives visual indication through a light-emitting diode LED display along with a warning beep. The gadget is small enough to be worn on the fingers. The gadget is based on the principle that the resistance of the skin varies in accordance with your emotional states. If the stress level is high the skin offers less resistance, and if the body is relaxed the skin resistance is high. The low resistance of the skin during high stress is due to an increase in the blood supply to the skin. This increases the permeability of the skin and hence the conductivity for electric current. This property of the skin is used here to measure the stress level. The touch pads of the stress meter sense the voltage variations across the touch pads and convey the same to the circuit.

The circuit is very sensitive and detects even a minute voltage variation across the touch pads.

VII. APPLICATION

Each LED in stress meter operates with 3db difference from the previous one, and a jumper is provided to allow to or bar mode. This project is an essential part of the expandable analyser and one meter circuit is used for each frequency band. There are many other uses for a simple LED meter. They are ideal as power meters on amplifiers, can be used with (mixers including the high quality mixer) preamps and any other application where it is important to know the signal level. LM3915 3db/step display is suited for signals with wide dynamic range, such as audio level, power, light intensity or vibration. Audio applications include average or peak level indicators, power meters and 38 signal strength meters. Replacing conventional meters with an LED bar graph results in a faster responding, more rugged display with high visibility that retains the ease of interpretation of an analog display.

VIII. CONCLUSION

The stress meter thus detects the resistance of skin which is according to one's mental stress and gives a visual indication on a LED display. The LED's on the stress meter can be observed as stress level indicators from zero to & stress levels on a scale of five. The high stress of person is indicated through a warning beep.

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