Shimmer GSR+ Unit

INTRODUCTION

Shimmer GSR+ provides connections and front-end amplifications for one channel of Galvanic Skin Response (GSR) data acquisition (Electrodermal Resistance Measurement - EDR). Compatible with the Shimmer3 platform, the GSR+ also boasts an additional 3.5mm connector for 2 extra channels of analog or digital data capture.

PRODUCT OVERVIEW

The Shimmer GSR+ unit addresses challenges of mobility and provides high quality, scientifically reliable data. The Shimmer GSR+ monitors skin conductance between 2 residual electrodes attached to 2 fingers on one hand.

The 3.5mm jack 3V connector allows users to connect and power an external/third party device, supporting an extra 2 channels of analog or digital data acquisition. The GSR+ unit is compatible with the Shimmer3 platform and hardware. All development tools and enabling applications are compatible with the Shimmer3 platform.

KEY FEATURES

- 3.5mm jack connector for 2 extra channels of analog or digital data capture
- Dual channel GSR scientifically reliable data acquisition
- EEPROM storage device (on the GSR+ expansion board) enables expansion board detection and identification as well as 2032 bytes of data storage available to user
- Validated for use in biomedical-oriented research applications
- 4 digitally controlled measurement ranges which developers use to ensure accurate measurements across a variety of test subjects in real-world deployments
- Open system with no proprietary connectors, extensible software and data format

APPLICATIONS

GSR+ unit is compatible with the Shimmer3 platform and can be applied to a variety of applications such as:
- Affective computing and cognitive factors
- Connected/digital health solutions
- Stress detection and analysis
- Emotional engagement
- Psychological arousal (excitement, mental effort, shock etc.)
- Marketing research
- Weight and nutrition management

www.ShimmerSensing.com info@ShimmerSensing.com
Shimmer
GSR+ Module

TECHNICAL SPECIFICATIONS

Current Consumption: 60µA
Measurement Range: 10kΩ - 4.7kΩ (.2uS - 100uS) +/- 10%, 22kΩ - 680kΩ (.5-45uS) +/- 3%
Frequency Range: DC-15.9Hz
Connections:
- GSR Input 1 (Red): GSR Input 2 (Black): Hospital-Grade 1mm Touchproof IEC/FEN 62301-1 DIN40-802 jacks
- Auxiliary Analog/Digital Input: 3.5mm 4-position Jack
Bias voltage across GSR Input: 0.5V
Input Protection: RF/EMI filtering, Current limiting, GSR inputs include defibrillation protection (survive only not repeat)
Dimensions: 65mm x 32mm x 12mm

SHIMMERS UNIT SPECIFICATIONS

Processing: TI MSP 430 microcontroller (24MHz, 16Bit)
Communication: Bluetooth - RH42
Storage: Integrated 2GB microSD card slot
Battery: 450mAh rechargeable Li-ion
Integrated Motion Sensing:
- WideRange Accel: ±2g, ±4g, ±8g, ±16g
- LowNoise Accel: ±2g
- Digital Mag: ±49,152 gauss
- Gyro: ±250, ±500, ±1000, ±2000 dps
- Pressure Sensor: 300 - 1100 hPa

SUPPORTING HARDWARE & ACCESSORIES
- Optical Pulse Sensor Finger
- Optical Pulse Sensor Earlobe
- Biophysical Leads
- Straps, Documents, Charger, Case
- Fingers electrodes

SUPPORTING APPLICATIONS
- Shimmer ConsensysPRO & ConsensysBASIC Software
- Synchronisation of Data: Consensys Software
- Shimmersensing LabVIEW Instrument Driver
- Shimmer MATLAB Instrument Driver
- Shimmer Java / Android API
- Shimmer Capture - C# API / .NET Development
- Calibration: Shimmer 9DoF Calibration

CONTACT US
Shimmer
Dublin, Ireland  Tel: +353 1 848 6112
Boston, USA  Tel: +1 857 362 7254
info@ShimmerSensing.com
www.ShimmerSensing.com

© Copyright 2017 Shimmer
Specifications are subject to change without notice
S-S/GSR+V3.3