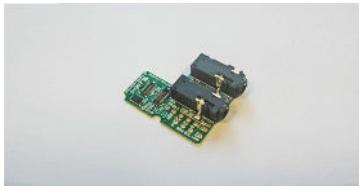
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Specifications

Shimmer3/3R PROTO3 Series





Key Features

Four channels of analog or two channels of digital input allow users to attach external devices: through-hole connections on every board, and two 3.5 mm jacks on the PROTO3 Deluxe

Analog inputs from 0 V to 3 V

Power supplied to external devices via 3V connection enabled/disabled via firmware

EEPROM for board identification, with 2032 of its 2048 bytes free for user data

PWM option for the PROTO3 Deluxe available upon factory request

The Boards

PROTO3 Mini, for Shimmer3: connects to the Shimmer3 via its internal expansion connectors and fits within the standard Shimmer3 enclosure, which may need modifying for wires. On a newer Shimmer3 IMU (SR31-7), its board version is set once in Consensys

PROTO3 Deluxe, for Shimmer3: connects via the internal expansion connectors and requires an extended Shimmer3 enclosure; its two jacks can be reached from outside

Shimmer3R PROTO3 Deluxe: one board, the prototyping circuit and the Shimmer3R's own electronics together, with two 3.5 mm jacks reachable from outside the enclosure. There is no Shimmer3R PROTO3 Mini

Introduction

The PROTO3 series of boards enables users to incorporate additional functionality to the Shimmer, providing an outlet to develop their specific application to meet their own user requirements.

Product Overview

The PROTO3 boards allow easy prototyping of 3rd party sensors or custom sensing solutions with Shimmer. On a Shimmer3, a PROTO3 board can be used to interface an Analogue Output Sensor, a Digital Output Sensor, a Serial UART or a Parallel Bus Interface. The Shimmer3R PROTO3 Deluxe gives analogue inputs on its jacks, and SPI, I2C and general-purpose I/O on its wire holes.

Compatible Accessories

Optical Pulse Probe, on a PROTO3 Deluxe jack

Other analog or digital sensor with 0-3V signals

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Shimmer3/3R Specifications

	Shimmer3R	Shimmer3
Processor	ST STM32U5A5 (32-bit Arm Cortex-M33), runs at 48 MHz 2.5 MB RAM, 4 MB flash	TI MSP430F5437A (16-bit), up to 24 MHz 16 KB RAM, 256 KB flash
Radio	Bluetooth Classic and Bluetooth Low Energy: Ezurio Vela IF820 module (453-00171C), integrated chip antenna	Class 2 Bluetooth: Roving Networks RN-42 (Classic), or Microchip RN4678 (Classic and Bluetooth Low Energy) on later units
Storage	microSD slot: microSDHC and microSDXC cards, FAT32 or exFAT Read by a PC through a *Shimmer Dock* or *Consensys Base*, or over USB-C as a removable drive Files can be listed, read and deleted over Bluetooth	microSD slot: microSD and microSDHC cards up to 32 GB, not microSDXC; an 8 GB SanDisk card is supplied Full-speed transfer to a PC through a *Shimmer Dock* or *Consensys Base*
Battery and power	3.7 V rechargeable lithium battery, 400 mAh, with a safety circuit Battery voltage monitoring, on a converter of its own Soft power control of the Bluetooth radio and the sensor supplies	3.7 V rechargeable lithium battery: 450 mAh, or 400 mAh on current units, with a safety circuit Battery voltage monitoring Soft power control of the Bluetooth radio and the microSD card Designed for EN 60601-1 compliance

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