

Simtelic



Analog Servo Motor Driver

Thank you for purchasing this Simtelic DIY Electronic Kit.

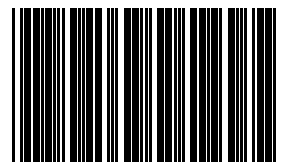
No part of this book shall be reproduced by any means; electronic, photocopying, or otherwise without written permission from the Simtelic (Pvt) Ltd.



Revision: 1.0.0-EN

Copyright © 2024 Simtelic (Pvt) Ltd.

Web Site: <https://simtelic.com>



KT0005

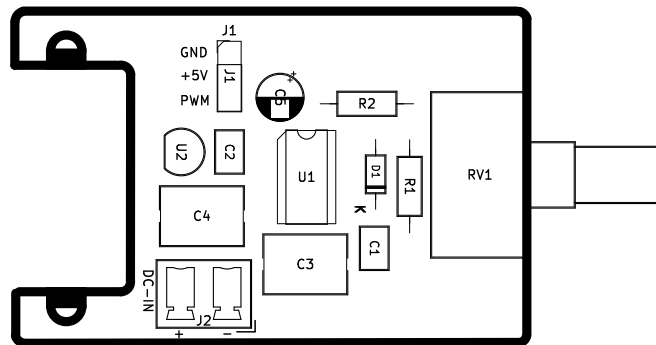
Introduction

This module offers a practical and versatile solution for controlling small servo motors, specifically the popular DG90 9g servos. Leveraging the capabilities of the 555 timer IC, it generates Pulse-Width Modulation (PWM) signals that regulate the servo motor's rotation angle.

- **Flexible Control:** An onboard potentiometer provides granular control over the servo motor's rotation angle, allowing for precise adjustments to suit various applications..
- **Integrated Servo Mounting:** The PCB is designed to accommodate the direct mounting of servo motors, streamlining the assembly process and ensuring a secure connection.
- **Versatile Applications:** This module is ideal for a wide range of projects, including entry-level robotics, toys, and model-making. It's perfect for testing servo motor behavior and implementing basic servo-based mechanisms.
- **Compact design:** The small and compact module is ideal for space-constrained applications.
- **Applications:**
 - Entry-level robotics
 - Toys
 - Robotic experiments
 - STEM kits

Identify connectors and adjustments

Top Side



J1 - Serco Motor Connection

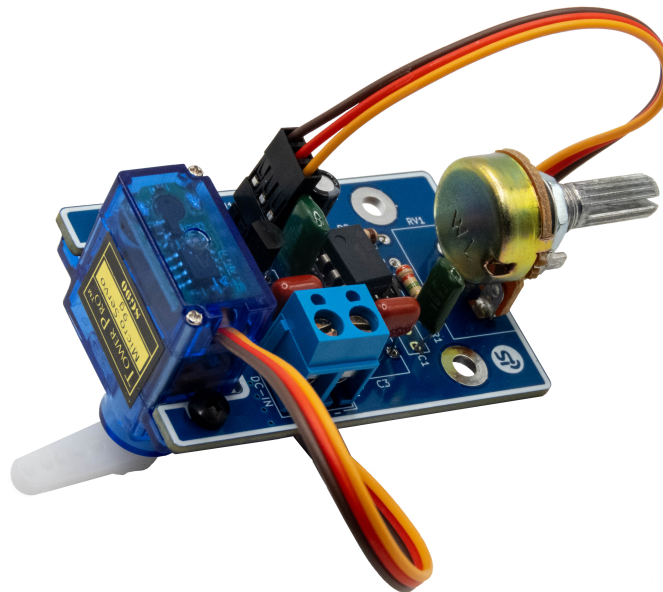
J2 - DC In.

RV1 - Controller

C1	.....	0.01μF/50V	(THT)
C2	.....	0.022μF/50V	(THT)
C3,C4	.....	0.1μF/50V	(THT)
C5	.....	10μF	(THT)
D1	.....	1N4148	(THT)
J1	.....	2.54mm - 3Pin	
J2	.....	5.08mm - 2Pin	
R1	.....	2.2MΩ	(THT)
R2	.....	15KΩ	(THT)
RV1	.....	100kΩ (LOG) Potentiometer	
U1	.....	NE555P	(THT)
U2	.....	L78L05	(THT)

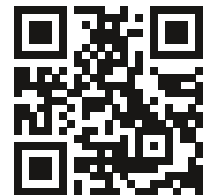
How to use

1. Connect the DG90 9g with J1 pin header.
2. Connect DC power source to J2 screw terminal.
3. Control the Servo motor with RV1 potentiometer.



Servo motor can be mounted to the PCB with 2 M3 screws

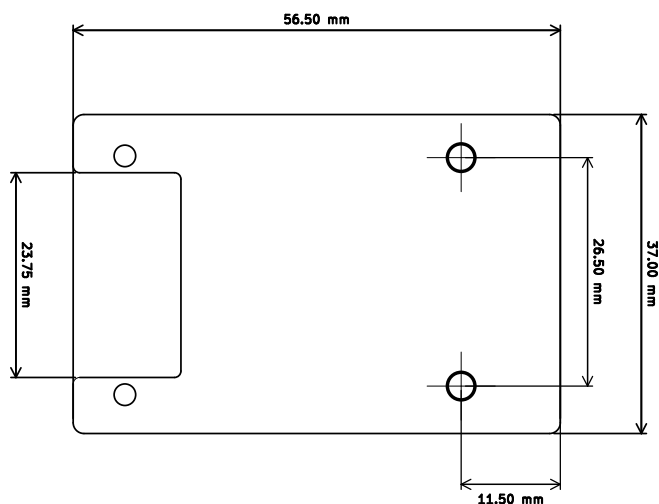
PCB assembly video : <https://youtu.be/hn3tPHBnibk>



Scan for the video

Kit specifications

Control interface.....	Analog
Power.....	DC 5V - 7V / 1000mA
Type of the actuator.....	DG90 9g or equivalent servo
Output.....	PWM
Dimensions.....	56.50×37.0mm



**Simtelic (Pvt) Ltd cannot be held responsible in the event of damage or injury resulting from
(incorrect) use of this electronic kit.**

The continuous improvement of its products is the policy of Simtelic (Pvt) Ltd who reserve the right to
improve design without notice.

Simtelic (Pvt) Ltd.

Phone: +094 76 831 5048

Web Site: simtelic.com

E-mail: info@simtelic.com

