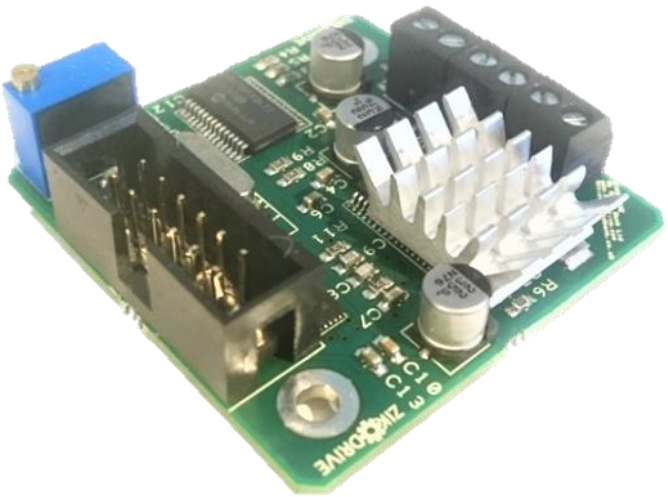


Zikodrive ZDSP Stepper Motor Controller Quick Start Guide

Contents

Introduction	3
Wiring Motor Phase Wires	4
Using the potentiometer input	4
Digital Inputs	5
Controlling the ZDSP with 0-5V signal input	5
ZDSP Pin Outs	6
Connecting the Power Wires	8
IMPORTANT NOTE	8
Terms of Sale	9

Introduction

The Zikodrive ZDSP is a compact and highly capable stepper motor controller which can be setup in a range of ways. This startup guide is intended for those who have purchased the ZDSP for use in analogue mode. If you have purchased a custom programmed version of the controller then you should consult the guide that you were sent with this as IOs and other connections could have been moved. Similarly, if you purchased the controller to use via UART then please download the ZDSPUART User guide.

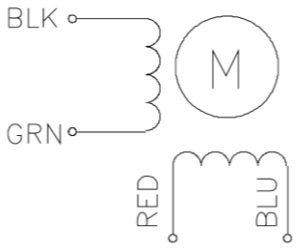
This guide provides all the fundamental instructions required to get started with the ZDSP and how to make simple connections such as the power ins and analogue pot connections. Please take note of the configuration that you bought your ZDSP Stepper Motor Controller in as the microstep setting and onboard pot function will vary depending on the options that you selected when purchasing the unit.

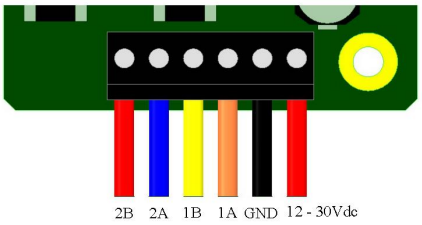
If you are unsure of what you are doing or have any problems at any point please contact us directly via www.zikodrive.com and we will be happy to advise.

Wiring Motor Phase Wires

Wire up the Motor phase wiring according to the motor manufacturers data sheet. Below is a common example but it is always important to check with the specific model that you have as there is variation between manufacturers on the wire colouring.

Terminal	Wire
1A	Black
1B	Green
2A	Red
2B	Blue

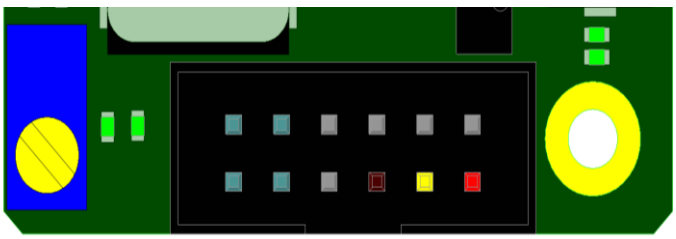




Potentiometer Input

The ZikoDrive board is fitted with a 12 way Box header for all IO. The pins required for the External Potentiometer input are the ones coloured below:

Pin Colour	Function
Black	GND
Yellow	Analogue In
Red	+5V

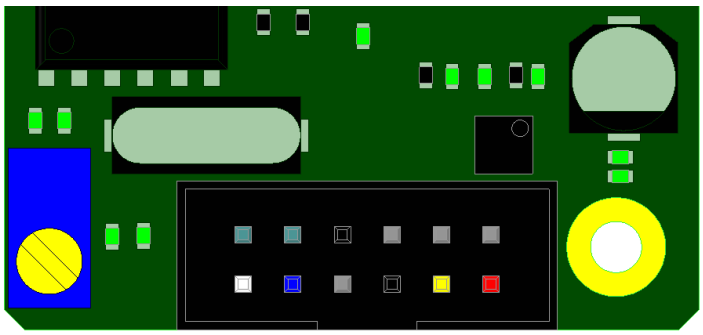


If Zikodrive Motor Controllers have manufactured the loom this should just plug in directly to the Box header.

Digital Inputs

The functional pin input has an internal pull up resistor to 5V. To switch the user must bring this pin down to GND. The diagram below shows the input pins, as well as an additional GND pins.

Pin Colour	Function
Black	GND
Blue	Direction
White	Enable



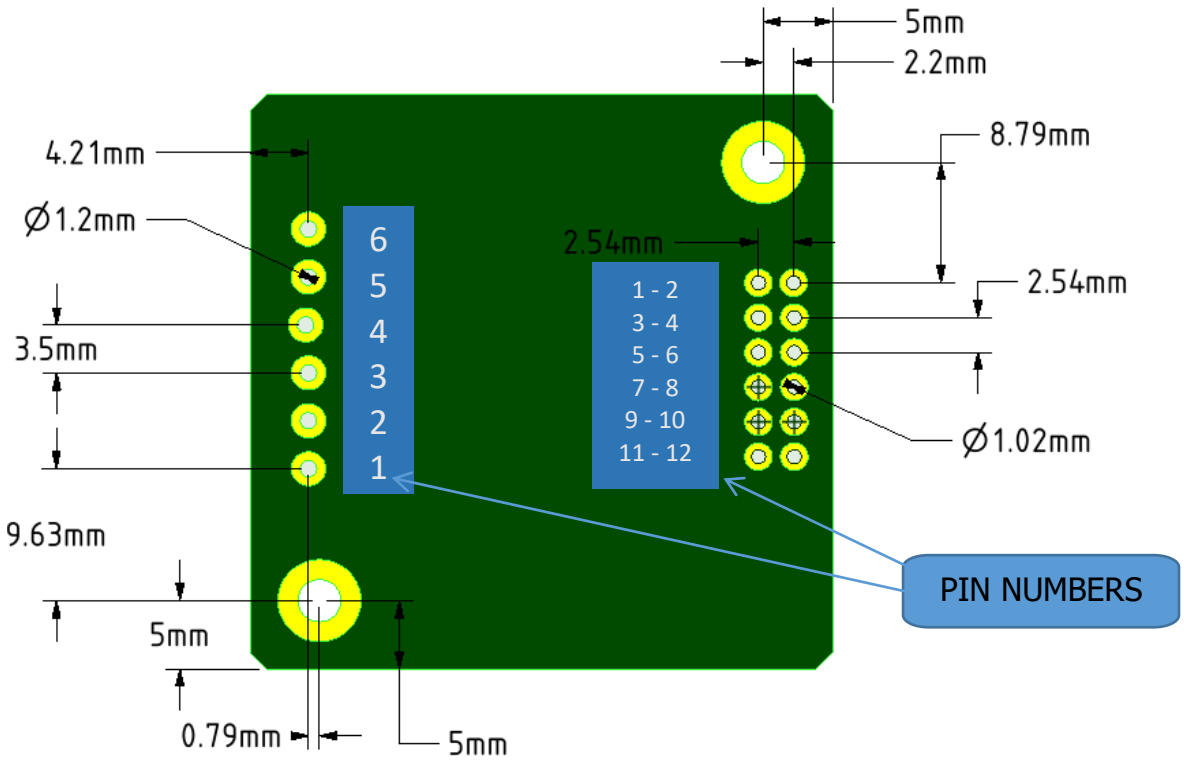
To change the direction of the motor simply pull the blue pin down to ground. With the pin up the motor will turn in a clockwise direction. When pulled down this is reversed into a counter clockwise direction.

The white pin acts as an stop/go switch for the motor. With this pin pulled up the motor will not turn. When this is pulled down to GND the controller will operate.

Controlling the ZDSP with an analogue signal voltage

If you are wanting to control the ZDSP using an analogue signal input voltage then this must be connected to Pin 4 on the box header (see page 7).

Pin Outs

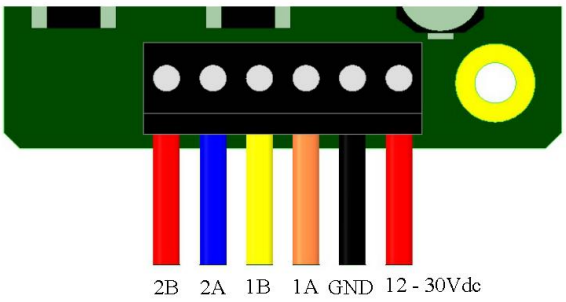


See page 7 for details of pin functions.

6 Way Terminal Block (High Power Terminals) (See diagram for numbering)	
Pin Number	Function
1	+V Power (Positive Voltage between 12Vdc up to 29Vdc)
2	GND Power
3	1A (Typically Black Motor Wire)
4	1B (Typically Green Motor Wire)
5	2A (Typically Red Motor Wire)
6	2B (Typically Blue Motor Wire)
12 Way Box header (Signal Terminals) (See Diagram for Numbering)	
Pin Number	Function
1	Pulse Output (Step Frequency for every microstep)
2	5V Supply (Can not be used to power External components)
3	UART TX
4	Analogue Input (0-5V input)
5	UART RX
6	GND (Signal)
7	GND (Signal)
8	NC (Not connected internally)
9	5V Supply (Can not be used to power External components)
10	IO pin (programmable for either Input or Output)
11	Output pin (programmable for feature Output)
12	IO pin (programmable for either Input or Output)

Connecting the Power Wires

12-29Vdc must be applied to the board next to the motor phase wires on the 6 way terminal Block/ The Ground position is marked with 0V and the DC voltage marked with a +V (see below).



Once all these connections are complete, the Motor can be powered up.

IMPORTANT NOTE: If you are unsure about any aspect of the setup process with the ZDSP Stepper Motor Controller then please visit www.zikodrive.com and contact one of our technical advisors either via online chat or phone.

Terms of Sale

All Zikodrive Motor Controllers are designed to be a component incorporated within equipment manufactured by our customers and are not suitable for use by an end user. As such, none of our motor controllers are CE marked. It is entirely the buyer's responsibility to ensure that all Zikodrive Motor Controllers and other related products meet the required specification and safety requirements for applications in which they are used.

The use of Zikodrive products in safety critical applications is entirely at the buyers risk, and the buyer agrees to defend, indemnify and hold harmless Round Bank Engineering ltd from any and all damages, claims, suits, or expenses resulting from such use. Round Bank Engineering ltd. is not responsible for injury or damage of any kind, including but not limited to, injury, death, damage, property damage/loss or any other type of loss which may arise in whole or in part from the use of Zikodrive Motor Controllers.

RETURNS

Subject to the terms provided herein, all returns for exchange, refund or credit must be made within fourteen (14) days from the date of delivery All questions or comments relating to returns should be sent directly to enquiries@zikodrive.com or by calling us direct on +44 (0) 333 123 7130.

In order to qualify for an exchange, refund or credit, the product must be in re-sellable condition, which shall be determined at Zikodrive Motor Controller's sole discretion. Factors affecting the re-sellable condition of a controller/motor/accessory include, but are not limited to: obvious signs of use or abuse; customer negligence; excessive wear and tear and/or damaged/missing product or parts.

Where it is determined, at Zikodrive Motor Controller's sole discretion, that the controller/accessory is, in fact, re-sellable, Customer will be given a full refund or credit for the product, less the cost of shipping. Customer should expect a refund within 30 business days of Zikodrive Motor Controller's receipt of the controller/accessory.

CUSTOM PARTS AND PRODUCTS DO NOT QUALIFY FOR REFUND OR CREDIT.

WARRANTY

Zikodrive Motor Controllers warrants to the original purchaser that any part of its controller/accessory purchased will be free of defects in workmanship and parts for a period of twelve (12) months from the date of delivery (hereinafter "Warranty Period"). During the Warranty Period, Zikodrive Motor Controllers will, at its option: (1) provide replacement parts necessary to repair the product; (2) replace the product with a comparable product; or (3) refund the amount Customer paid for the product upon its return.

Replacement parts or products will be new or serviceably used, comparable in function and performance to the original part or product, and warranted for the longer of thirty days for the US or the remainder of the warranty period. Any additional purchases or upgrades will not extend this warranty. This product warranty covers normal use only.

This product warranty does not cover damage caused during shipment and any damage caused by: actions that are beyond Zikodrive Motor Controller's control, including (but not limited to) impacts, fluids, fire, flood, wind, earthquake, lightning or similar disaster, war, lockout, epidemic, destruction of production facilities, riot, insurrection, or material unavailability; unauthorized modifications, attachments or peripherals; improper use, environment, installation or electrical supply; improper maintenance; any other misuse, abuse or mishandling.

EXCEPT FOR THE WARRANTIES EXPRESSED IN THIS AGREEMENT, ZIKODRIVE MOTOR CONTROLLERS DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING IMPLIED WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THOSE WARRANTIES IMPLIED BY AND INCAPABLE OF EXCLUSION, RESTRICTION OR MODIFICATION UNDER THE APPLICABLE LAW. THE TERM OF ANY IMPLIED WARRANTIES THAT CANNOT BE DISCLAIMED ARE LIMITED TO THE TERM OF THIS AGREEMENT.