



## ***EQi – ST Intelligent Stepper Controller***

### **TCS MICROPUMPS: EQi ST**

*Suitable for use with all versions of the R404-STEP, MG2000-STEP and FIS3K Micropumps (Patents Pending, Quality Assured ISO 9001, RoHS compliant)*

#### ***INTRODUCTION***

The TCS EQi ST Control board is a highly efficient, small and lightweight device and can be quickly and easily installed into the smallest spaces, in a vast range of laboratory, prototype and production equipment.

The EQi ST will accept an input voltage of up to 30v DC. The EQi ST requires an external analogue input to function, this can either be an input from a potentiometer or an external 0-5V dc voltage.

The motor direction can be reversed. The board can be switched on and off by an Enable function.

The controller is preset to 0-1000RPM operating range.

#### ***ELECTRICAL CONNECTION***

Voltage: up to 30 DC  
Input: 2 screw terminal : UP to 30v/GND  
Output: 4 screw terminal : 2B, 2A, 1B, 1A

1. Connect the 4 wires of the Micropump to the 4 screw terminals marked '2B, 2A, 1B, 1A'. Refer to the wiring diagram on reverse page.
2. Connect the Input power to the 2 screw terminals marked 'Up to 30V (+) & GND (-)'.
3. Connect Analogue In to the Analogue In pin, this can be either an external potentiometer (10K) or a 0-5Vdc input.
4. If you require to reverse the flow of the pump, connect the 'Reverse pin' to 'GND', this will reverse the motor direction. When the pin is disconnected it will revert to the original motor direction.
5. If you require to use the enable function (ON/OFF Switch) connect the 'Enable pin' to 'GND' this will turn the pump off. When the pin is disconnected the pump will be on.

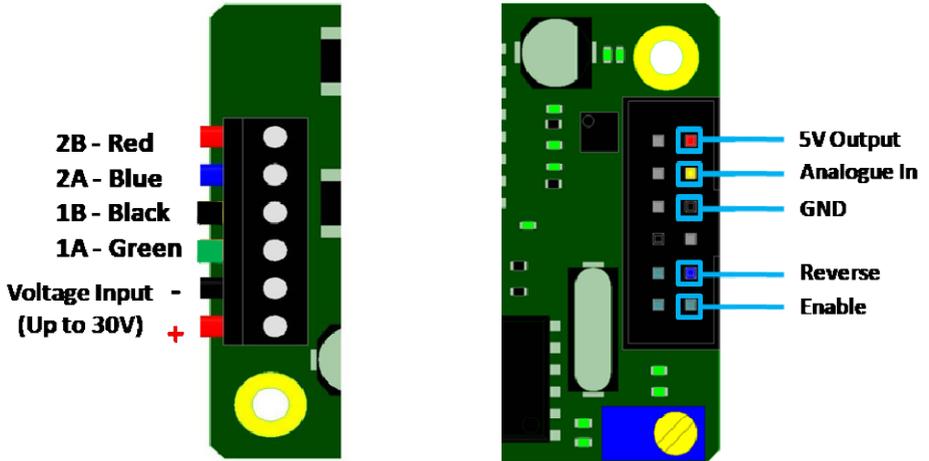
TCS suggest that you begin testing with a supply voltage of 24v.

In the case of stepper drivers, the higher the input voltage the higher the torque capability of the stepper motor.

In pumping terms this means more capable differential pressure and less chance of motor stalling.

## Wiring Diagram

Always make all connections before powering the EQi ST.



## **CAUTION**

Do not exceed 5Vdc on the analogue input pin.

Do not exceed 35Vdc on the Voltage Input.

Exceeding maximum Input voltages will cause irreversible damage to the EQi – ST controller