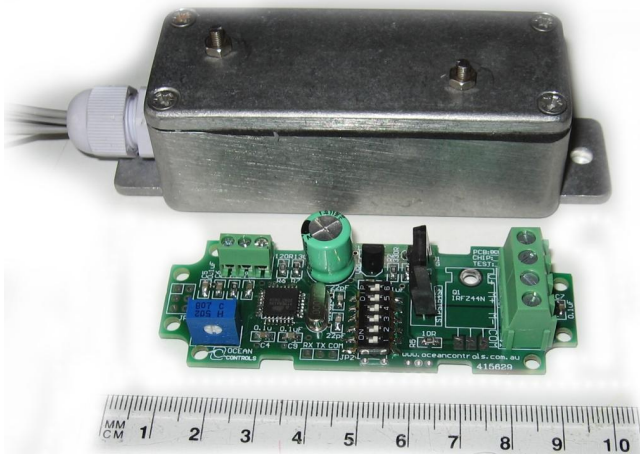


## Ocean Controls KTA-246 Mini DC Motor Controller



- Controls DC Motors up to 8A
- Accepts up to 35VDC
- Adjustable Acceleration Time
- Potentiometer, 0-5V or 4-20mA control signal
- Adjustable PWM Frequency
- Sturdy Die Cast Metal Case
- Small Case 89<sub>L</sub> x 35<sub>W</sub> x 30<sub>H</sub> mm

The KTA-246 is a Small DC Motor Speed controller housed in a die cast metal flange mounting case suitable for controlling the speed of DC motors up to 8A.

### Connections:

Name	Description
V+	Power supply positive connection
M+	Motor positive connection
M-	Motor negative connection
COM	Power supply negative connection
5V	5V output for potentiometer
AN	Analog input
COM	Common connection

### DIP Settings:

	SW1	SW2	SW3	SW4	SW5	SW6
<b>ON</b>	SW1 and SW2 Control PWM Frequency		Ramp Trimpot 0-102.3 sec	No Function	1-5V / 4-20mA	Enable 250Ω Resistance (for current signals)
<b>OFF</b>			Ramp Trimpot 0-10.23 sec	No Function	0-5V / 0-20mA	No Resistance (for voltage / potentiometer signals)

### PWM Frequency:

DC motors behave differently depending on the switching frequency of the PWM signal. If high pitched whining from the motor is a concern, try a different motor frequency. Lower frequencies generally allow a motor to start turning at lower speeds, which can be useful in some instances.

The PWM frequency can be set using switches SW1 and SW2.

SW1	SW2	Frequency
OFF	OFF	9.77 KHz
OFF	ON	1.22 KHz
ON	OFF	152 Hz
ON	ON	38 Hz

### Ramp Rate:

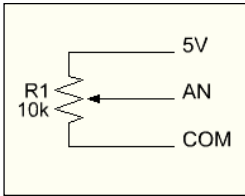
The motor controller has an inbuilt acceleration and deceleration ramp rate which is set by the R3 Trimpot and the SW3 switch. When SW3 is in the OFF position the R3 Trimpot will adjust the time it takes the output to increase to full speed from 0 to 10.23 seconds, and when in the ON position the Trimpot adjusts the time from 0 to 102.3 seconds. The ramp rate affects any change in output speed made by the input signal.

An increased ramp rate will reduce inrush current as it allows the motor to be brought up to speed gradually.

**Input Signal:**

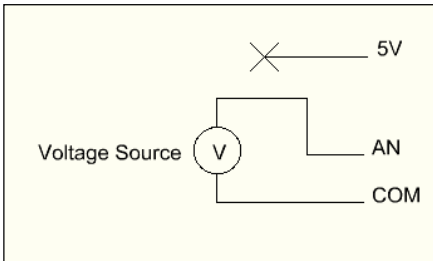
To set the speed of the motor the controller can take a Potentiometer input, 0-5V or 1-5V Voltage input or 0-20mA or 4-20mA current signal.

When using a Potentiometer, connect it as in Fig 1. A 10K Potentiometer is recommended.



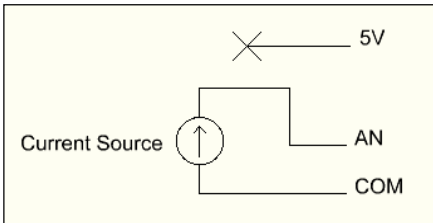
**Fig 1**  
When using a potentiometer ensure that both SW5 and SW6 are in the OFF position.

When using a Voltage signal, connect it as in Fig 2.



**Fig 2**  
For 0-5V signals set both SW5 and SW6 to the OFF position.  
For 1-5V signals set SW5 to ON and SW6 to OFF.

When using a Current signal connect it as in Fig 3.



**Fig 3.**  
For 0-20mA signals set SW5 to OFF and SW6 to ON.  
For 4-20mA signals set both SW5 and SW6 to ON.