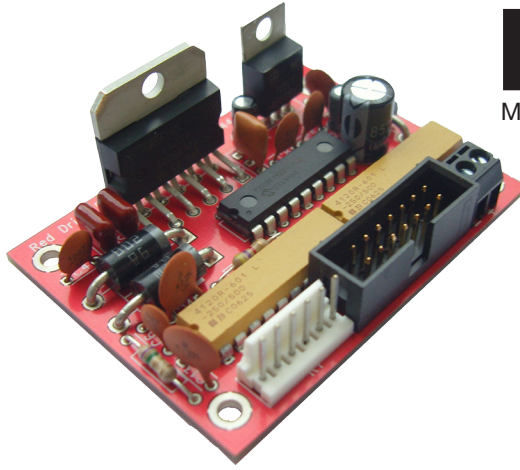


# RED DRIVE

Issue 05



**Rotalink**  
Miniature Motors, Transmission and Control

The Red Drive Controller is a compact yet powerful motor driver and controller. It is designed to be used in conjunction with our dual channel encoder and wide range of low cost DC motors and gearboxes.

In combination with our unique flowchart graphical software and Serial Adapter units the Red Drive controller is easily programmed by the user. Both simple and complex sequences of motion can be undertaken with the user specifying how and when their motor will move. Full control is available over speeds, distances and direction. The unit is able to interact with both analogue and digital inputs, such as potentiometers, simple switches and many other sensors. Digital outputs are available to control LEDs, buzzers and other user defined outputs.

The Red Drive software provides the user with an incredibly easy to use interface for defining all aspects of the controller. No complex programming is required, just a simple drag and drop flowchart style interface which uses real world values such as rpm and seconds.

Manual and PC software are available for download and evaluation from our website. [www.rotalink.com](http://www.rotalink.com)

## Functions

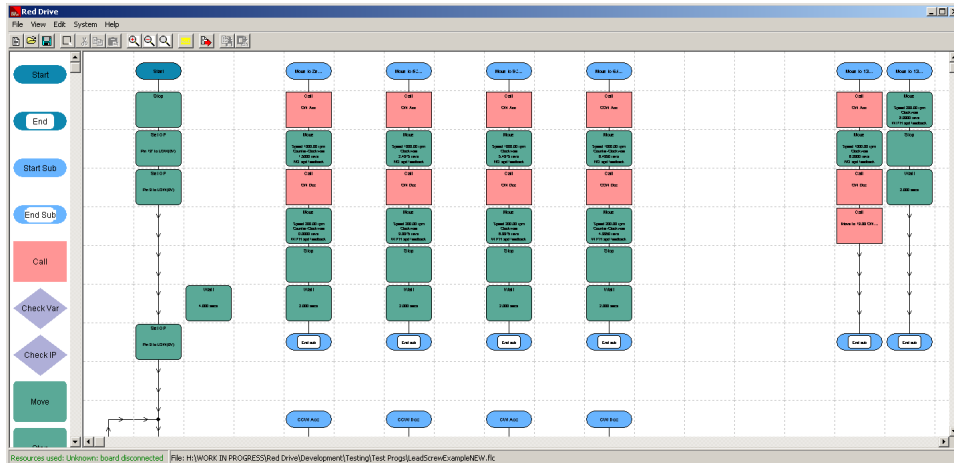
- Speed control: output speed will remain stable running against a variable load.
  - Position control: unit can be moved set distances. For example: move 20 revolutions at 200 rpm. Maximum movement from start position is 44,000,000 motor revs.
  - Home: the unit can have one of its inputs defined as a 'home' input, (switch etc.) this provides a reference point for all other movements.
  - Acceleration: unit features a 'straight line' acceleration profile, defined as X rpm to Y rpm in Z seconds. Acceleration is available from 'as fast as motor', to a maximum acceleration time of 1967 seconds (This can be increased by sequential accelerations).
  - Wait: unit can wait (either while motor is running or while stationary) for up to 549500 seconds. (This can be increased by sequential waits).
  - Global fail safe: external input can trigger Red Drive shutdown.
  - Variable calculations: Various calculations can be made on variables, +, -, \*, <, >. Useful for counting in sequences.
- The total number of functions that can be used will vary from application to application, but the unit should allow for a repeatable sequence of over 100 functions.

## General Specification

Supply Voltage	9 - 30Vdc (DC1A/2A) 15 - 30Vdc (DC10A)
Supply Current	1A (DC1A) 2A (DC2A) 10A (DC10A)
Inputs/Outputs	9 I/O pins + 1 input pin (All TTL level) (5 i/o pins are suitable for analogue signals)

## Connectors

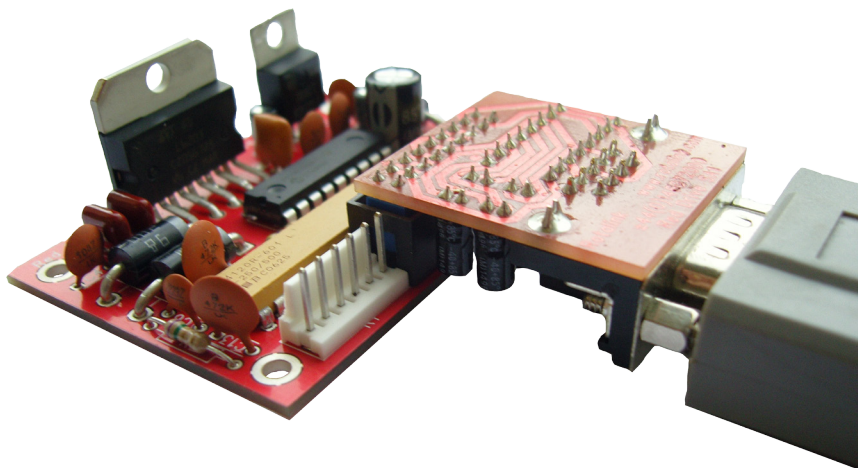
Power	2 pin screw terminal
Inputs/Outputs	0.1"14 pin IDC header
Motor/Encoder	0.1"6 pin snap lock header



**Contact:**  
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Somerset TA18 7HQ, UK

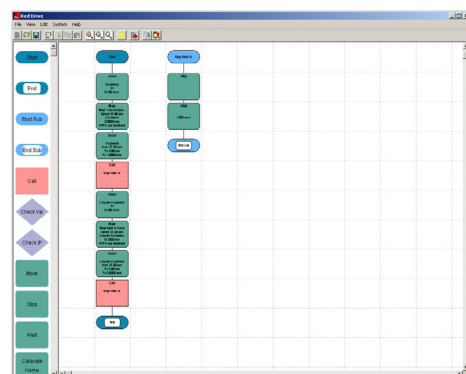
[www.rotalink.com](http://www.rotalink.com)



The Red Drive SA1 Serial Adapter is the key to using our Red Drive controllers. This small board and accompanying software contain all the ingredients required for the customer to program their own sequences onto the Red Drive controller.

The unit only needs to be connected to the Red Drive during programming and is therefore ideally suited to the production environment. Using the SA1 Serial Adapter at end of line, customers can manufacture their products with unprogrammed Red Drive controllers and then program just before shipping. This ensures the very latest program features on any product leaving the factory.

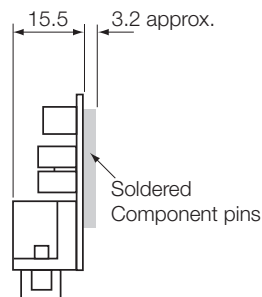
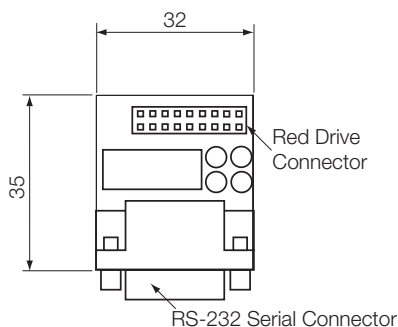
A flying lead option is available for use where directly connecting the SA1 and Red Drive controller is impractical.



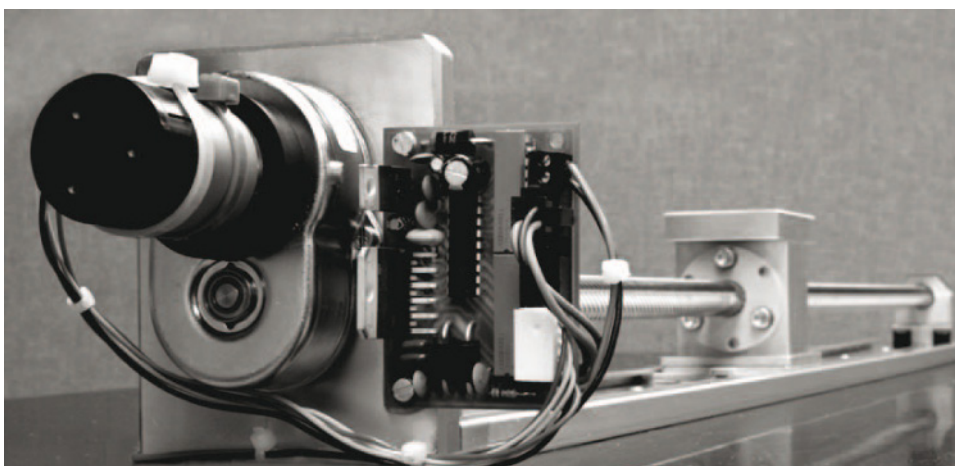
Programs are drawn as flowcharts

### SA1 General Specification

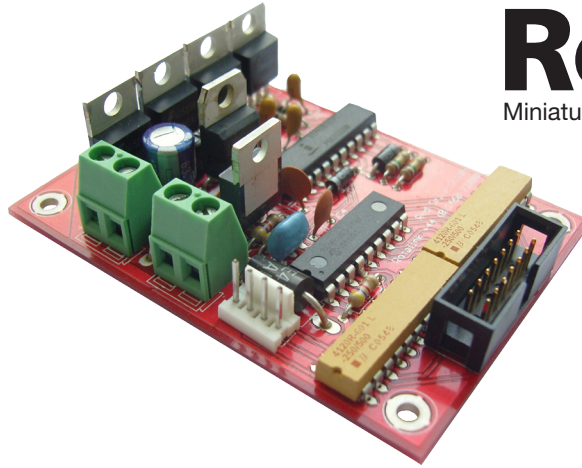
Serial Port Connector	RS-232 (Female)
Red Drive Connector	0.1" 18 way
Red Drive Supply Voltage	7-30Vdc



SA1

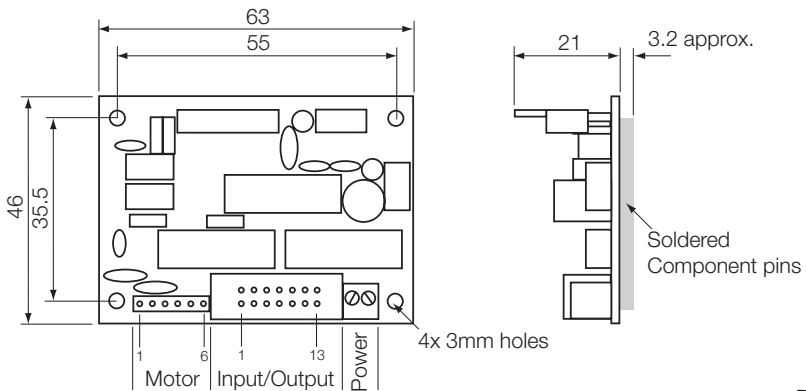


# RED DRIVE



# Rotalink

Miniature Motors, Transmission and Control



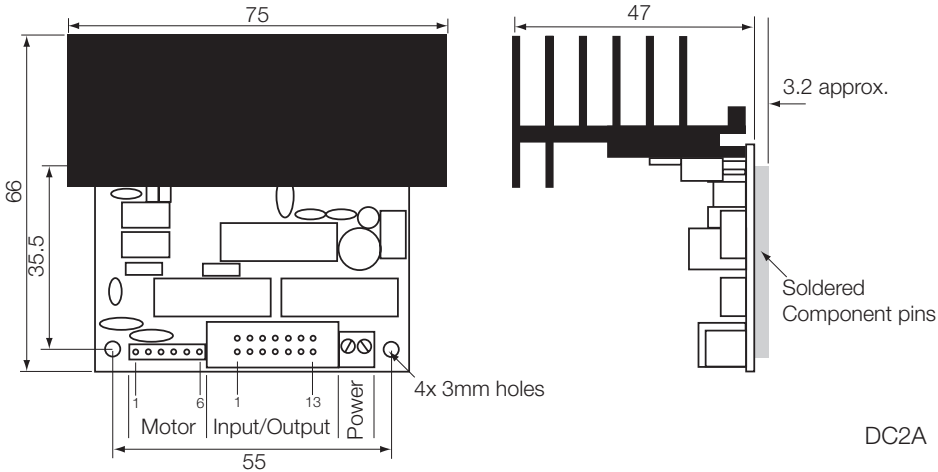
DC1A

### DC1A General Specification

Supply Voltage	9 - 30Vdc
Supply Current	1A
Inputs/Outputs	9 I/O pins 1 input pin (All TTL level)

### Connectors

Power	2 pin screw terminal
Inputs/Outputs	0.1" 14 pin IDC header
Motor/Encoder	0.1" 6 pin snap lock header



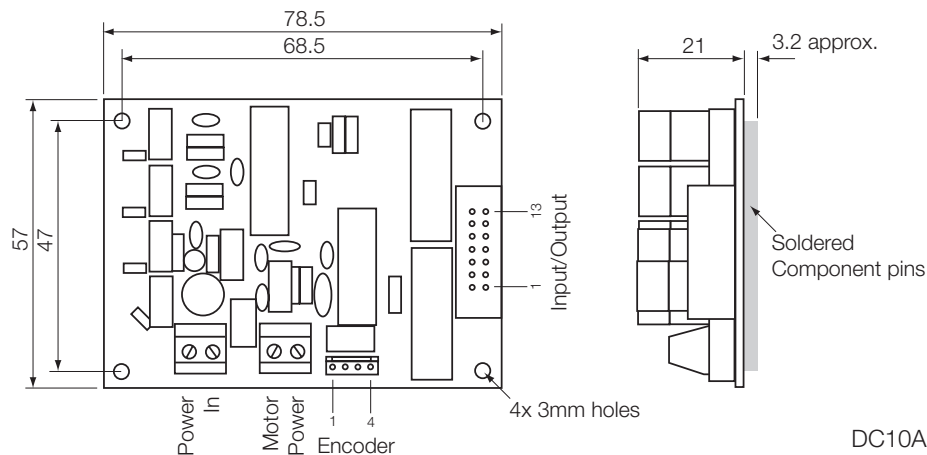
DC2A

### DC2A General Specification

Supply Voltage	9 - 30Vdc
Supply Current	2A
Inputs/Outputs	9 I/O pins 1 input pin (All TTL level)

### Connectors

Power	2 pin screw terminal
Inputs/Outputs	0.1" 14 pin IDC header
Motor/Encoder	0.1" 6 pin snap lock header



DC10A

### DC10A General Specification

Supply Voltage	15 - 30Vdc
Supply Current	10A
Inputs/Outputs	9 I/O pins 1 input pin (All TTL level)

### Connectors

Power	2 pin screw terminal
Inputs/Outputs	0.1" 14 pin IDC header
Motor	2 pin screw terminal
Encoder	0.1" 4 pin snap lock header

# RED DRIVE



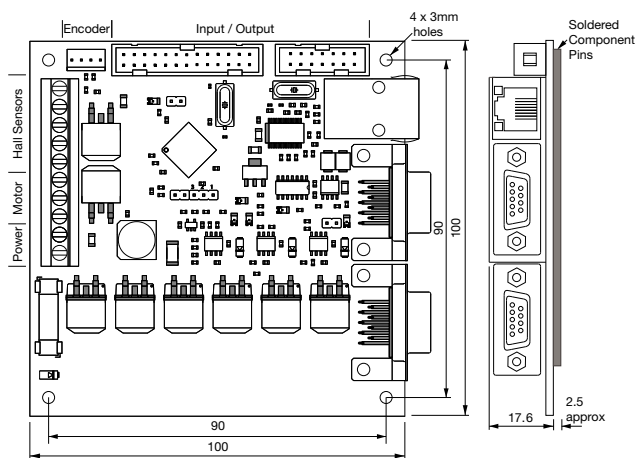
## Brushless Red Drive

### BLDC10A General Specification

Supply Voltage	12 - 24Vdc
Supply Current	10A
Inputs/Outputs	27 I/O pins (TTL)
	(8 I/O pins are suitable for 5V analogue inputs)

### Connectors

Power	2 pin screw terminal
Inputs/Outputs	0.1" 14 + 26 pin IDC header
Motor	8 pin screw terminal
Encoder	0.1" 4 pin with snap lock header

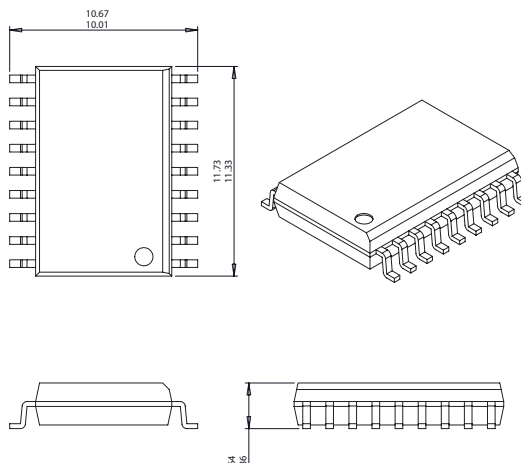


BLDC10A

## Red Drive Chip

The power of the Red Drive controller for direct integration into your PCB. Allows you to specify and design optimum power components and input/output features for your product.

The standard Red Drive Chip is available as an 18 pin SOIC, 20 pin SSOP and 28 pin QFN chips are available as options.



Red Drive Chip