ELECTRIMOTION INC.
1484 DALE FORD RD.
DELAWARE, OH 43015
740.362.0251
www.electrimotion.com

Programmable Clutch Pressure Regulator
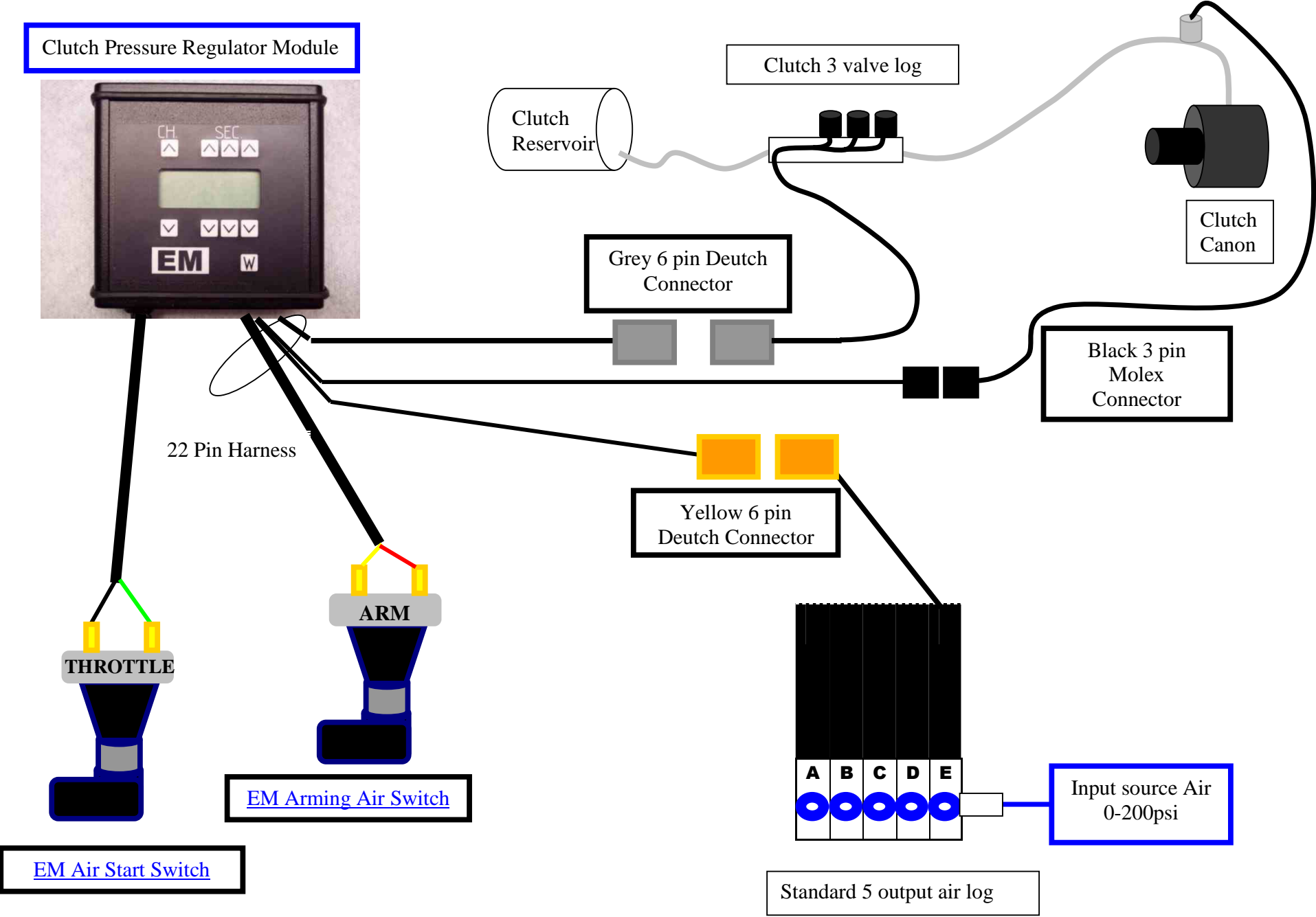
Connections

Power Input connector:	Start Switch connector:
	2 pin green connector
2 pin plug (red-black) wires	Short wires together to start regulator
9-16 volt input	(blk wire is ground). The unit is
	ground to start.

Outputs:	22 pin conn:									

R	B	ARM	B	7	8	Add Fast		B	R	A
psi	Add Slow	Add Med	5		R	6	E	D	C	B

Red=Pos
Black=Neg

Hookup Diagram:

Clutch Pressure Regulator Module

Clutch 3 valve log

Clutch Reservoir

Clutch Canon

Grey 6 pin Deutch Connector

Black 3 pin Molex Connector

22 Pin Harness

Yellow 6 pin Deutch Connector

ARM

THROTTLE

EM Arming Air Switch

A	B	C	D	E

Input source Air 0-200psi

EM Air Start Switch

Standard 5 output air log

Overview:

The Electrimotion Clutch Pressure regulator is specifically designed to control the Clutch cannon pressure in a top fuel car. The system consists of a 3 valve hydraulic log with a built in pressure transducer, a controller module, arming switch and a custom wiring harness. The system has the capability to store 3 separate clutch pressure curves (each curve has 8 points). The system also has an initial delay function, which allows you to shift a curve in or out in time. The system also has 5 timed outputs that can be used to turn on and off events electrically or with our optional air log, pneumatically. The system has a built in arming mode which when activated, opens all the valves so the system can be armed without the need for an additional check valve.

Channel Assignments:

Channel 1 Time: (Channel 1 time is the Initial Delay time). This value is added to the points in your curve. See example below.

> If Channel 1, (initial Delay) is 0.00 and channel 2 is 100psi @ 0.05 sec.
> ## The regulated pressure will be 100psi at 0.050 sec

> If Channel 1, (initial Delay) is 0.01 and channel 2 is 100psi @ 0.05 sec.
> ## The regulated pressure will be 100psi at 0.06 sec

Channel 1 Pressure: (Channel 1 pressure value is the initial pressure at the step)
> Needs more details.

Channels 2-9: (These channels make up the times and pressures of the pressure curve.)   **(Enter values for time and Pressure)**

Channels A-E: (These channels can be programmed to turn on and off at specific times.)
> **(Enter on and off times)** Off times are denoted by a ":" colon between the channel number and the time.

Clutch Pressure Regulator Operation:

Startup:

1. Connect unit to +12V, (2 wire Deutch connector with red and black wires)

2. The display will sequence through 3 screens. The first screen shows "1 cur" this indicates which of the 3 pressure curves is currently selected. The second screen is the current battery voltage and the third screen is the current measured system pressure. Each time you scroll to channel 0 this sequence will be repeated.   Channel 0 is the starting screen for the timer. (Fig 1,2,3)

Pressure Curve number   Current battery voltage   Current Pressure

| Fig. 1 | Fig. 2 | Fig.3 |

Programming the initial delay and pressure:

The initial delay is the time value stored in channel 1. This time is added to all the pressure curve points (2-9)

1. Press the CH. ^ button once. The display will read "1 0.00". This indicates that the initial delay is 0.00 sec. To change the initial delay, use any of the 6 SEC up and down buttons, then press the "W" button to save the value.

2. Press the CH. ^ button once again. The display will read "1 450". This indicates that the initial regulated pressure is 450 psi. To change the initial pressure, use any of the 6 SEC up and down buttons, then press the "W" button to save the value.

Programming the time/pressure curve points:

1. The system has 8 programmable (time/pressure) channels (2 – 9) that can be individually programmed.

The first entry is the **"Time that the pressure becomes active"** (Fig. 4)
The second entry is the **"Pressure value for that time"** (Fig. 5)

Channel 2 Time

Fig. 4

Channel 2 Pressure

Fig. 5

1. By pressing the any of the 6 SEC buttons you can change the time or pressure for the channel that is selected.

2. As you change the time or pressure, the display value begins to blink. This indicates that you have not saved the value. Press the "W" button to save the time value.

3. The regulator will interpolate the pressure values in between time points.

Example.

> Channel 2 is set to 1.00 seconds and 200 psi.
> Channel 3 is set to 2.00 seconds and 100 psi

The regulated pressure value at 1.50 seconds will be 150 psi.

Timer operation (On times and Off times):

1. The pressure regulator also has 5 programmable timer outputs (Channels A-E) that can be programmed to turn on and off at specific times.

2. To enter the on time for channel A, press "CH ∧" until the display shows "A 4.50", this indicates that channel A will turn on 4.50 seconds from the time the timer is activated.

3. To enter the off time for channel A, press "CH ∧" until the display shows "A : 7.99", this indicates that channel A will turn off 7.99 seconds from the time the timer is activated.

4. By pressing the any of the 6 SEC buttons you can change the on or off time for the channel that is selected.

5. As you change the on time, the display time value begins to blink. This indicates that you have not saved the value. Press the "W" button to save the time value.

Channel A on time 4.50 seconds   **Channel A off time 7.99 seconds**

Changing to a different Pressure Curve:

While in channel 0, press the "W" write button 5 times in a row. The display will change to a blinking "1 cur". By pressing the arrows above and below the number, the display will switch to "2 cur" and then "3 cur". If you then press "W" write again the blinking will stop and all the points of the curve (and the 5 timer values) will now contain the values for the selected curve.

Pressure Curve 1

Pressure Curve 2