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1005-SCR

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Second Generation 2-Stage Timer

Instructions

The second generation *2-Stage Timer* is the latest in a full line of electronic racing products from Digital Delay, Inc.. Designed to be more reliable and user friendly than any other timer on the market. The *2-Stage Timer* has a 12 digit keypad for fast and precise entry of stage times into the unit while a single illuminated multi-segment liquid crystal display is used to display all relative information.

The second generation *2-Stage Timer* also includes two outputs, one that switches from on to off, while the other switches from off to on allowing the unit to control any throttle stop.

Features, Applications, and Specifications

Features:

- Discrete solid state construction
- Crystal controlled oscillator for extreme accuracy
- Easy selection of either first or second stage time
- Easy and fast time entry from 0.00 to 9.99 seconds
- Both Off/On and On/Off outputs
- Very high current output (30 Amps)
- Dust and splash proof keypad with detent
- Illuminated liquid crystal display for both day and night use
- Low voltage warning indication
- Full status indication
- Large display for easy reading of times
- Instant timing cycle reset

Applications:

- Controls all throttle stops
- Controls nitrous solenoids
- Controls 2-Steps for down track stuttering

Specifications:

- Input Voltage Range: 11 to 18 volts DC
- Timing Range: 0.00 to 9.99 seconds each stage
- Time Selection Increments: 0.01 seconds
- Off/On Output Current: 30 Amps. continuous
- On/Off Output Current: 30 Amps. continuous
- Signal Current Draw: 0.1 Amps. at 12 volts DC
- Operating Temperature Range: 0 to 150 degrees F

The Terminal Strip

Signal Terminal: When the Signal terminal goes from +12 to zero volts, the first stage time followed by the second stage time starts counting down.

Ground Terminal: Connect the Ground terminal to the Neg. terminal on the battery or to a good steel ground, not aluminum.

Off/On Terminal: Use the Off/On terminal for any device up to 30 amps, that you want zero volts applied for the first stage and +12 volts applied for the second stage.

On/Off Terminal: Use the On/Off terminal for any device up to 30 amps, that you want +12 volts applied for the first stage and zero volts applied for the second stage.

+12VDC Terminal: Connect the +12VDC terminal to a fused and switched +12 volt source that is capable of supplying 30 amps.

The Display

The display is used to show all relative information about the 2-Stage Timer. If +12VDC is applied to the unit the decimal point will turn on to indicate the unit is on. To indicate low voltage the numbers on the display will flash. The display also indicates, if the timers are running by turning on the colon, if there is an input signal by turning on the signal active bar, and which stage time is being displayed by turning on the arrow for the first stage time or turning off the arrow for the second stage time.

The Keypad

The keypad is made up of numerical and function keys that are used to control the information that is entered or displayed. The numerical keys 0-9 are only used to enter new stage times. There are two function keys, Enter (*) and View (#). The Enter key is used in conjunction with the numerical keys to enter new stage times. The View key is used to switch between the first and second stage times.

Setting Stage Times

To set a new time into either the first or second stage push the View key on the keypad until the stage you want is displayed. Next, push the Enter key on the keypad, the numbers on the display will go blank indicating that the unit is ready to accept a new time. Once the display is blank you can type in a new time, starting with the seconds place use the numerical keys on the keypad to enter the desired time. As the numbers are entered they are shown on the display, indicating the numbers are accepted and stored into memory. All three digits must be entered for the timer to function properly. After the third number has been entered the numerical keys will be disabled and further pressing of numerical keys will have no affect on the unit. This is to keep the stage times from accidentally being changed due to the keypad inadvertently being hit. At any time when entering a number, you can start over by simply pressing the Enter key again, the numbers on the display will go blank indicating the unit is once again ready for a new time.

The Timing Cycle

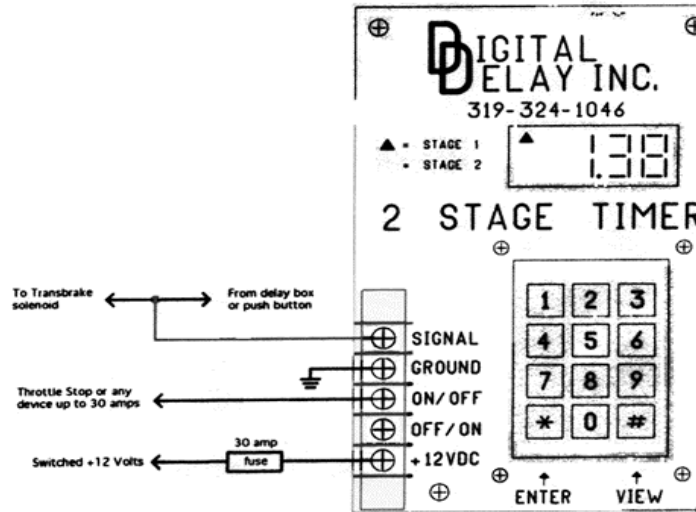
With the 2-Stage Timer turned on and having entered the first and second stage times into memory, the unit is ready to start a timing cycle. A new timing cycle will start every time +12 volts is applied to the Signal terminal. When a timing cycle starts, the signal active bar and the first stage time will be displayed. At this point the View key is disabled and only the first stage time can be changed by pressing the Enter key, then the numerical keys for the desired time. When the +12 volts is removed from the Signal terminal the signal active bar will turn off and the colon will turn on, indicating the unit is now counting down the first stage time. Once the first stage time has counted down to zero the On/Off and Off/On terminals will change states and the display will switch from the first stage time to the second stage time. The unit will now start counting down the second stage time to zero. When the second stage

time reaches zero the colon will turn off indicating the unit is finished counting and the On/Off and Off/On terminals will reset to their original states completing the timing cycle.

While the unit is counting down the first or second stage time, the keypad is completely disabled and pressing the keys will have no effect on the unit. This is to avoid the first or second stage time accidentally being changed during the pass.

NOTE: At any time, you may restart the entire timing cycle by simply reapplying +12 volts to the Signal terminal.

Utilizing the On/Off Terminal



Utilizing the Off/On Terminal

