

Versatile Time Delay Relay



Viking's model **TDR-1** is a time delay relay device designed to be easily configured to fit a wide variety of applications. The **TDR-1** has (2) different modes of operation:

1) In the Time Delay Mode, the **TDR-1** can be programmed to produce one of 8 closure times. The Trigger 1 input can be programmed to accept either a dry contact closure or positive/negative going logic level voltage.

2) The Delay on Operate mode delays an input trigger by a programmed interval. Eight delay times are available, from 1 to 30 seconds.

Applications

Controlled closure times

Features

- 1 Double Pole, Double Throw relay output
- 8 selectable closure times
- DIP switch programming
- Accepts positive or negative going logic level voltage or contact closure
- · Selectable time delay
- Screw terminal connections
- LED relay status indicator

http://www.vikingelectronics.com

- Delayed closures
- Convert closures between N/O and N/C

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Made in the U.S.A.

Specifications

Power: 120V AC to 12V DC adapter provided Dimensions: 74mm x 53mm x 25mm (2.9" x 2.1" x 1.0") Shipping Weight: 0.4 kg (0.86 lbs) Environmental: 0° C to 32° C (32° F to 90° F) with 5% to 95% non-condensing humidity Input: Logic level voltage (+ 5 VDC) or contact closure Relay: 1A@30VDC, 0.3A@110 VDC, 0.5A@125VAC Connections: 10 position cage clamp terminal strip

Installation

A. Mounting

- 1. Remove the cover from the TDR-1.
- 2. Mount the unit on a wall, using either screws or the included foam tape. Make sure there is easy access to the internal terminal block. To facilitate mounting, the internal board of the **TDR-1** can be rotated exposing the two mounting holes in the chassis.
- 3. Once mounted, swing the board back into position.
- 4. Wire unit as shown below.
- 5. Replace the cover, making sure the wires pass through the wiring cutout.





Programming

A. Trigger Inputs

Referring to the diagram in **Installation**, section **B**, configure shunt **JP1** to set up the trigger input for the proper input polarity. For a positive going input, put the shunt on the (+) side. For a negative going input or dry contact closure, leave the shunt on the (-) side (factory default).

B. Time Delay Relay Mode

Choose the DIP switch setting for the desired activation time using the diagram shown to the right.

Note: See section "A. Trigger Inputs" to set proper input polarity.

Switch 1	Switch 2	Switch 3	Trigger 1
OFF	OFF	OFF	.5 sec
OFF	OFF	ON	1 sec
OFF	ON	OFF	2 sec
OFF	ON	ON	4 sec
ON	OFF	OFF	7 sec
ON	OFF	ON	10 sec
ON	ON	OFF	15 sec
ON	ON	ON	20 sec

Switch 1	Switch 2	Switch 3	Trigger 1
OFF	OFF	OFF	1 sec
OFF	OFF	ON	2 sec
OFF	ON	OFF	4 sec
OFF	ON	ON	7 sec
ON	OFF	OFF	10 sec
ON	OFF	ON	15 sec
ON	ON	OFF	20 sec
ON	ON	ON	30 sec

C. Delay on Operate Mode

To put the **TDR-1** into the "Delay on Operate Mode", strap Trigger 2 to ground by wiring terminal 2 to terminal 3. Refer to the diagram to the right to set the dip switches for the desired delay time.

Note: See section "A. Trigger Inputs" to set proper input polarity.

Operation

A. Trigger 1 Input

The Trigger 1 input can be set up to accept a contact closure to ground or to a positive/negative going logic level voltage. The trigger may be a momentary pulse or continuous trigger. If the trigger is held, it will not re-trigger the input until it has been cleared. Examples are shown below.

Momentary Positive Going Trigger Momentary Negative Going Trigger or Push Button to Ground.	│
Positive Trigger Held Continuous.	
Negative Trigger or Push Button to ————	
* Denotes Trigger Starting Point	 *

B. Time Delay Relay Mode

When the **TDR-1** receives a valid Trigger 1, the relay will activate for the programmed time. The **TDR-1** does not look at Trigger 1 again until the relay activation time is over.



C. Delay on Operate Mode

The **TDR-1** mimics any closure it sees at trigger 1, delayed by the amount of time programmed using the DIP switches as shown in **Programming**, section **B**.



Other Contact Closure Products

Contact Closure and Warble from a Ringing Line

The **K-600D** eliminates the installation of multiple bells, relays and power supplies, whenever night bells, loud ringing or emergency tones are required. The **K-600D** provides an existing paging amplifier with a pleasant electronic warble tone each time it receives ring voltage from a C.O. line or analog PABX/KSU extension.

The **K-600D** requires no external power supply and provides a floating 600 ohm audio output. Auxiliary N.O./N.C. relay contacts



K-600D

are provided during ring signal for muting, switching or operation of external signaling devices. Volume and tone controls are also provided. For more information on the **K-600D**, retrieve **Fax Back Document 475**.

Control Relay Contacts Remotely



The **RC-2A** Remote Controller provides single remote relay operation from any standard Touch Tone telephone. The controller is designed to be installed either locally or remotely. For local installations the **RC-2A** can be installed in series on any analog line, such as **Viking**'s Doorboxes.

For off-premise applications, the **RC-2A** can be installed on a line shared by a key system, PABX, single line phone or on a dedicated line. The **RC-2A** will answer C.O. lines or analog PABX/KSU station ports (after the programmable number of rings) and allow remote relay operation. A field programmable security code may

also be programmed to prevent unauthorized usage. For more information, retrieve Fax Back Document 160.

Control up to 3 Relay Contacts Remotely

The **RC-3** Remote Controller provides remote relay operation for up to 3 relays from any Touch Tone telephone. The controller is designed to be installed either locally or remotely. For local installations the **RC-3** can be installed in series on any analog line, such as **Viking**'s Doorboxes.

For off-premise applications, the **RC-3** can be installed on a line shared by a key system, PABX, single line phone or on a dedicated line. The **RC-3** will answer C.O. lines or analog PABX/KSU station ports (after programmable number of rings) and allow remote relay operation. A field programmable security code can also be pro-



grammed to prevent unauthorized usage. Three **RC-3**'s may be cascaded to provide up to 9 relay closures from a single line. For more information on the **RC-3**, retrieve **Fax Back Document 165**.

Loop and Ring Detect Relay Closure



The **LDB-2** Ring/Loop Detector monitors an analog phone line for ringing or an in-use condition. A built-in relay can be activated when either of these conditions are detected. This is ideal for monitoring line status or for providing a visual indication of such.

When monitoring for ring, an internal pot can be adjusted to allow the relay closure to stay on steady, or follow standard ring cadence.

The **LDB-2** comes complete with a 12 VDC power adapter, and can also provide 12V DC power through its auxiliary 12V DC output terminals. For more information on the **LDB-2**, retrieve **Fax Back Document 408**.

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