

## HRDB SERIES

### Delay-on-Break Timer



### Wiring Diagram



### Description

The HRDB Series combines an electromechanical, relay output with microcontroller timing circuitry. The HRDB offers 12 to 230V operation in five options and factory fixed, external, or onboard adjustable time delays with a repeat accuracy of  $\pm 0.5\%$ . The isolated output contact rating allows for direct operation of heavy loads, such as compressors, pumps, blower motors, heaters, etc. The HRDB is ideal for OEM applications where cost is a factor.

#### Operation (Delay-on-Break)

Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output relay energizes. The time delay begins when the initiate switch is opened. The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize if the initiate switch is closed when input voltage is applied.

**Reset:** Reclosing the initiate switch during timing resets the time delay. Loss of input voltage resets the time delay and output.

### Features & Benefits

FEATURES	BENEFITS
<b>Microcontroller based</b>	Repeat Accuracy $\pm 0.5\%$
<b>Compact, low cost design</b>	Allows flexibility for OEM applications
<b>Isolated, 30A, SPDT, NO output contacts</b>	Allows direct operation of heavy loads: compressors, pumps, blower motors, heaters.

### Accessories



**P1004-95, P1004-95-X Versa-Pot**  
Panel mountable, industrial potentiometer recommended for remote time delay adjustment.



**P1023-6 Mounting bracket**  
The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



**P0700-7 Versa-Knob**  
Designed for 0.25 in (6.35 mm) shaft of Versa-Pot. Semi-gloss industrial black finish.

### Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME TOLERANCE	TIME DELAY	MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME TOLERANCE	TIME DELAY
HRDB1110M	12VDC	Fixed	+ / -5%	10m	HRDB223	24VAC	Onboard	+ / -5%	0.1 - 10m
HRDB117S	12VDC	Fixed	+ / -5%	7s	HRDB321	24VDC	Onboard	+ / -5%	1 - 100s
HRDB120	12VDC	Onboard	+ / -5%	0.1 - 10s	HRDB324	24VDC	Onboard	+ / -5%	1 - 100m
HRDB121	12VDC	Onboard	+ / -5%	1 - 100s	HRDB423	120VAC	Onboard	+ / -5%	0.1 - 10m
HRDB124	12VDC	Onboard	+ / -5%	1 - 100m	HRDB623	230VAC	Onboard	+ / -5%	0.1 - 10m
HRDB21A65M	24VAC	Fixed	+ / -1%	65m					

If you don't find the part you need, call us for a custom product 800-843-8848

## HRDB SERIES

### Accessories



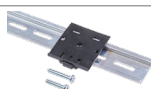
**P1015-13** (AWG 10/12), **P1015-64** (AWG 14/16)  
**Female Quick Connect**  
 These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



**P1015-18 Quick Connect to Screw Adapter**  
 Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.

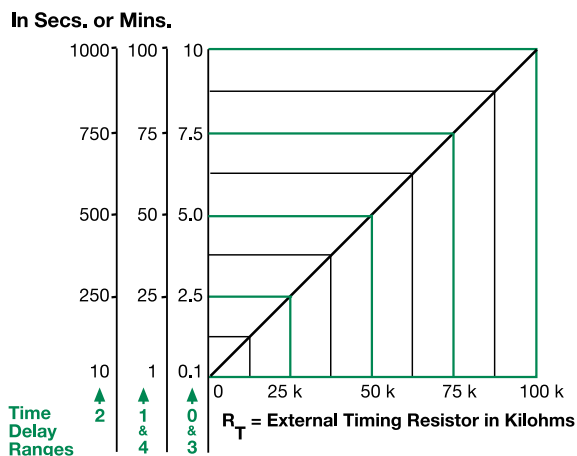


**C103PM (AL) DIN Rail**  
 35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



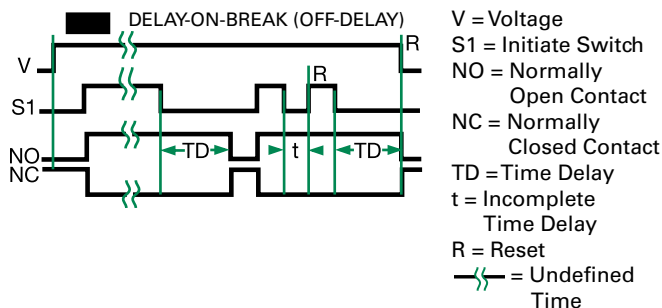
**P1023-20 DIN Rail Adapter**  
 Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

### External Resistance vs. Time Delay



This chart applies to externally adjustable part numbers. The time delay is adjustable over the time delay range selected by varying the resistance across the RT terminals; as the resistance increases the time delay increases. When selecting an external RT, add the tolerances of the timer and the RT for the full time range adjustment.  
**Examples:** 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm RT. For 1 to 100 S use a 100 K ohm RT.

### Function Diagram



### Specifications

<b>Time Delay</b>	Microcontroller circuitry
<b>Type</b>	0.1s - 100m in 5 adjustable ranges or fixed
<b>Range</b>	±0.5 % or 20ms, whichever is greater
<b>Repeat Accuracy</b>	
<b>Tolerance</b>	
<b>(Factory Calibration)</b>	±1%, ±5%
<b>Reset Time</b>	≤ 150ms
<b>Initiate Time</b>	≤ 20ms
<b>Time Delay vs Temp. &amp; Voltage</b>	±2%
<b>Input</b>	
<b>Voltage</b>	12 or 24VDC; 24, 120, or 230VAC
<b>Tolerance</b>	
<b>12VDC &amp; 24VDC</b>	-15% - 20%
<b>24 to 230VAC</b>	-20% - 10%
<b>AC Line Frequency</b>	50/60 Hz
<b>Power Consumption</b>	AC ≤ 4VA; DC ≤ 2W
<b>Output</b>	
<b>Type</b>	Electromechanical relay
<b>Form</b>	Isolated, SPDT
<b>Ratings</b>	
<b>General Purpose</b>	<b>SPDT-NO</b> <b>SPDT-NC</b>
<b>Resistive</b>	125/240VAC      30A      15A
	28VDC      20A      10A
<b>Motor Load</b>	125VAC      1 hp*      1/4 hp**
	240VAC      2 hp**      1 hp**
<b>Life</b>	Mechanical - 1 x 10 <sup>6</sup> ; Electrical - 1 x 10 <sup>5</sup> , *3 x 10 <sup>4</sup> , **6,000
<b>Protection</b>	
<b>Surge</b>	IEEE C62.41-1991 Level A
<b>Circuitry</b>	Encapsulated
<b>Dielectric Breakdown</b>	≥ 2000V RMS terminals to mounting surface
<b>Insulation Resistance</b>	≥ 100 MΩ
<b>Polarity</b>	DC units are reverse polarity protected
<b>Mechanical</b>	
<b>Mounting</b>	Surface mount with one #10 (M5 x 0.8) screw
<b>Dimensions</b>	<b>H</b> 50.8 mm (2"); <b>W</b> 50.8 mm (2"); <b>D</b> 38.1 mm (1.51")
<b>Termination</b>	0.25 in. (6.35 mm) male quick connect terminals
<b>Environmental</b>	
<b>Operating/Storage</b>	
<b>Temperature</b>	-40° to 60°C / -40° to 85°C
<b>Humidity</b>	95% relative, non-condensing
<b>Weight</b>	≈ 3.9 oz (111 g)

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкурентоспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: [org@lifeelectronics.ru](mailto:org@lifeelectronics.ru)