

HRDB SERIES

Delay-on-Break Timer



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)

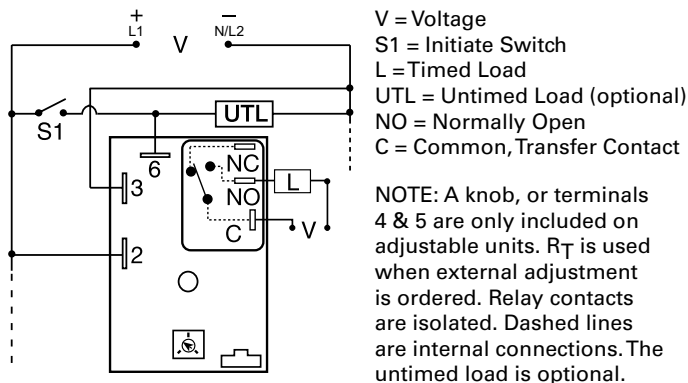
Input voltage must be applied before and during timing. Upon closure of the initiate switch, the output relay energizes. The time delay begins when the initiate switch is opened. The output remains energized during timing. At the end of the time delay, the output de-energizes. The output will energize 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
Microcontroller based	Repeat Accuracy $\pm 0.5\%$
Compact, low cost design	Allows flexibility for OEM applications
Isolated, 30A, SPDT, NO output contacts	Allows direct operation of heavy loads: compressors, pumps, blower motors, heaters.

Wiring Diagram



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

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Accessories



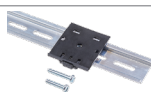
P1015-13 (AWG 10/12), **P1015-64** (AWG 14/16)
Female Quick Connect
 These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



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.

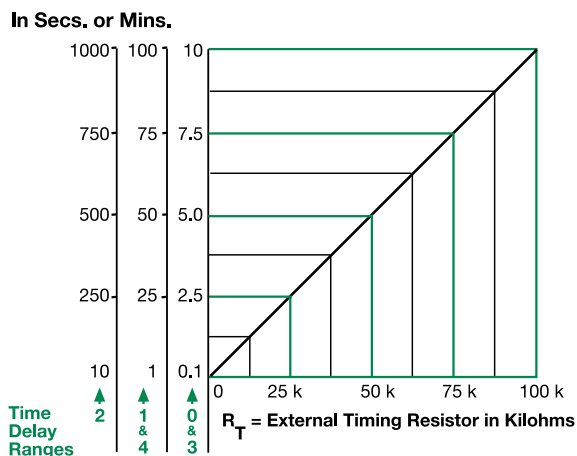


C103PM (AL) DIN Rail
 35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



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 R_T terminals; as the resistance increases the time delay increases. When selecting an external R_T , add the tolerances of the timer and the R_T for the full time range adjustment.
Examples: 1 to 50 S adjustable time delay, select time delay range 1 and a 50 K ohm R_T . For 1 to 100 S use a 100 K ohm R_T .

Function Diagram



Specifications

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

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- 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.

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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.

