

Delay On Break (Release) HRDB Power-Time Time Delay Relay



TEN YEAR
WARRANTY

Obsolete Specification
Redesigned product is available
see new specifications at:
www.ssc.com/standard/standard.htm

- 15 A (UL)
- 12 ... 24 V AC
- Delays 200 ms ... 100 m
- +/-0.5% Accuracy
- Fixed, External Knob Adjustment

Description

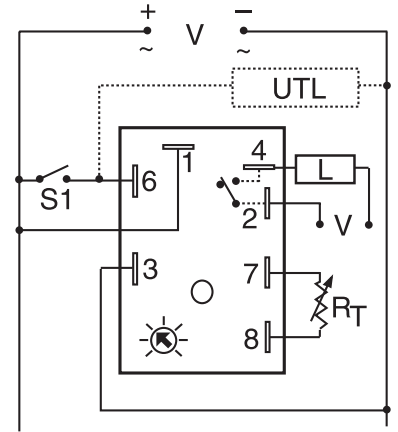
The HRDB Series combines an electromechanical relay output with digital timing circuitry. The HRDB offers 12 to 230 V operation in five ranges and factory fixed, external, or knob adjustable time delays. The isolated output contact rating allows for direct operation of heavy loads such as compressors,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

Operation

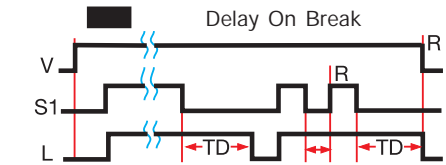
Input voltage must be applied to the input before and during timing. Upon closure of the initiate switch, the output relay is energized. The time delay begins when the initiate switch is opened. The output remains energized during timing. At the end of the time delay, the output is de-energized. The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

Approvals:



NOTE: A knob, or terminals 7 & 8 are only included on adjustable units. Relay contacts are isolated.



V = Voltage UTL = Untimed Load L = Load
S1 = Initiate Switch TD = Time Delay R = Reset
— = Undefined time

Ordering Table

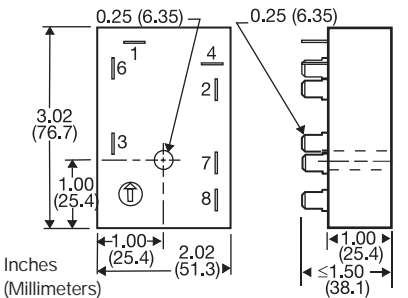
HRDB Series	X Input	X Adjustment	X Time Tolerance	X Time Delay*
	-1 - 12 V DC	-1 - Fixed	-A - +/-1%	-0 - 0.2 ... 10 s
	-2 - 24 V AC	-2 - Onboard Knob	Blank - +/-10%	-1 - 1 ... 100 s
	-3 - 24 V DC	-3 - External Adjust		-2 - 10 ... 1000 s
	-4 - 120 V AC			-3 - 0.1 ... 10 m
	-6 - 230 V AC			-4 - 1 ... 100 m

Example P/N: **HRDB421** Fixed - **HRDB4130S**

* If Fixed Delay is selected, insert delay [0.2 ... 1000] followed by (S) sec. or [0.1 ... 100] (M) min.

Desired Time Delay*	Seconds				Minutes		R _T Megohm
	0	1	2	3	4		
0.2	1	10	0.1	1	0.0		
1	10	100	1	10	0.1		
2	20	200	2	20	0.2		
3	30	300	3	30	0.3		
4	40	400	4	40	0.4		
5	50	500	5	50	0.5		
6	60	600	6	60	0.6		
7	70	700	7	70	0.7		
8	80	800	8	80	0.8		
9	90	900	9	90	0.9		
10	100	1000	10	100	1.0		

* When selecting an external R_T add at least 20% for tolerance of unit and the R_T.



Technical Data

Time Delay	
Type	Digital integrated circuitry
Range	200 ms ... 100 m in 5 adjustable ranges or fixed
Repeat Accuracy	+/-0.5 %
Tolerance (Factory Calibration)	+/-1%, +/-10%
Recycle Time	≤ 500 ms
Initiate Time	200 ms
Time Delay vs. Temperature & Voltage	+/-2%
Input	
Voltage	12, or 24 V DC; 24, 120, or 230 V AC
Tolerance	12 V DC & 24 V DC/AC: -15% ... +20% 120 & 230 V AC: -20% ... +10%
Line Frequency	50 ... 60 Hz
Power Consumption	AC units: ≤ 4 VA; DC units: ≤ 2 W
Output	
Type	Electromechanical relay
Form	Single pole, normally open, isolated
Contact Ratings	General Purpose 125 V AC UL: 15 A CSA: 30 A
Contact Ratings	General Purpose 240 V AC UL: 10 A CSA: 10 A
Contact Ratings	Resistive 30 V DC UL: 20 A CSA: 20 A
Contact Ratings	Motor Load 125 V AC UL: 1 Hp CSA: 1 Hp
Contact Ratings	Motor Load 240 V AC UL: 1 Hp CSA: 1 Hp
Contact Ratings	Definite Purpose 125 V AC UL: 90 LRA, 15 FLA
Contact Ratings	Definite Purpose 240 V AC UL: 60 LRA, 10 FLA
Life	Mechanical -- 1 x 10 ⁶ Electrical -- 1 x 10 ⁵
Protection	Surge IEEE C62.41-1991 Level A
Circuitry	Encapsulated
Dielectric Breakdown	≥ 2000 V RMS terminals to mounting surface
Insulation Resistance	≥ 100 MΩ
Polarity	DC units are reverse polarity protected
Mechanical	
Mounting	Surface mount with one #10 (M5 x 0.8) screw
Package	3 x 2 x 1.5 in. (76.7 x 51.3 x 38.1mm)
Termination	0.25 in. (6.35 mm) male quick connect terminals
Environmental	
Operating Temperature	-20°C ... +60°C
Storage Temperature	-40°C ... +85°C
Humidity	95% relative, non-condensing
Weight	≈ 3.9 oz (111 g)

Accessories

- Mounting bracket
P/N: P1023-6
- Female quick connect
P/N: P1015-64 (AWG14/16)
- Quick connect to screw adaptor
P/N: P1015-18
- Versa-knob
P/N: P0700-7
- External adjust potentiometer
P/Ns: P1004-16 (fig A) P1004-16 X (fig B)
- DIN rail adaptor
P/N: P1023-20
- DIN rail P/Ns: C103PM (Al) 17322005 (Steel)

See accessory pages at the end of this section.