

# Recycling (Flasher) HRD3 Power-Timer Time Delay Relay



TEN YEAR  
WARRANTY

**Obsolete Specification**  
Redesigned product is available  
see new specifications at:  
[www.ssac.com/standard/standard.htm](http://www.ssac.com/standard/standard.htm)

- 15 A (UL) / 20 A (IEC)
- 12 ... 230 V AC
- Encapsulated
- Delays 200 ms ... 100 m
- +/-0.5% Repeatability Accuracy
- Fixed, External Knob Adjustment

## Description

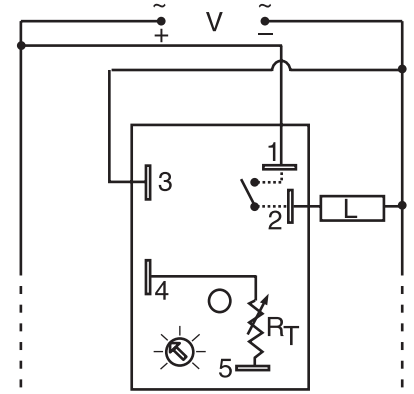
The HRD3 Series combines an electromechanical relay output with digital timing circuitry. It offers 12 to 230 V operation in five ranges and factory fixed, external, or knob adjustable time delays with a repeat accuracy of +/-0.5%. The output contact rating allows for direct operation of heavy loads such as compressors, pumps, blower motors, heaters, etc. This series is ideal for OEM applications where cost is a factor.

## Operation

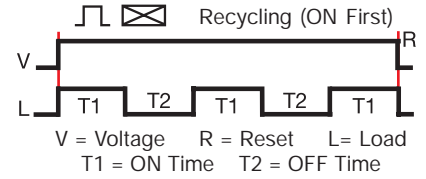
Upon application of input voltage, the output relay is energized and the ON time begins. At the end of the ON time, the output de-energizes and the OFF time begins. At the end of the OFF time, the output relay is energized and the cycle repeats as long as input voltage is applied. The OFF time may be the first delay in some recycling timers.

**Reset:** Removing input voltage resets the output and time delays, and returns the sequence to the first delay.

■ Approvals:



NOTE: A knob, or terminals 4 & 5 are only included on adjustable units.



## Ordering Table

HRD3 Series	X Input	X Adjustment	X Time Tolerance	X Time Delay *	X Operating Sequence
	-1 - 12 V DC	-1 - Fixed	-A - +/-1%	-0 - 0.2 ... 10 s	-A - ON
	-2 - 24 V AC	-2 - Onboard Knob	Blank - +/-10%	-1 - 1 ... 100 s	Time First
	-3 - 24 V DC	-3 - External		-2 - 10 ... 1000 s	-B - OFF
	-4 - 120 V AC			-3 - 0.1 ... 10 m	Time First
	-6 - 230 V AC			-4 - 1 ... 100 m	

Example P/N: **HRD3421A** Fixed - **HRD341A30SA**

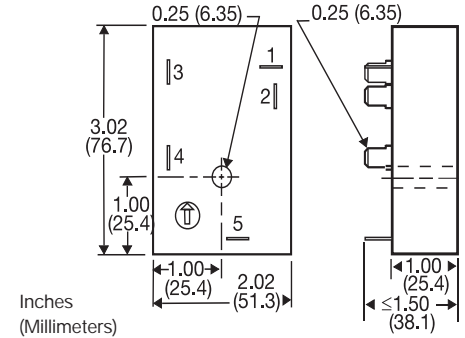
\* If Fixed Delay is selected, insert delay [0.2 ... 1000] followed by (S) sec. or [0.1 ... 100] (M) min.

Desired Time Delay*	Seconds				Minutes		R <sub>T</sub> 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<sub>T</sub> add at least 20% for tolerance of unit and the R<sub>T</sub>.

## Technical Data

Time Delay		Digital integrated circuitry	
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		≤ 150 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, non-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 <sup>6</sup> Electrical -- 1 x 10 <sup>5</sup>	
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		3.02 x 2.02 x 1.50 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

<p>Mounting bracket P/N: P1023-6</p>	<p>External adjust potentiometer P/N: P1004-XX</p>
<p>Female quick connect P/N: P1015-64 (AWG 14/16)</p>	<p>DIN rail adaptor P/N: P1023-20</p>
<p>Quick connect to screw adaptor P/N: P1015-18</p>	<p>Versa-knob P/N: P0700-7</p>

For illustration: DIN rail P/Ns: C103PM (Al) 17322005 (Steel)

See accessory pages at the end of this section.