

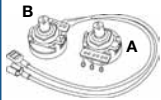
Single Shot HRDS Power-Time Time Delay Relay



- 30 A SPDT N.O. Output Contacts
- 12 ... 230 V Operation in 5 Ranges
- Encapsulated Circuitry
- Delays from 100 ms ... 100 m in 5 ranges
- +/-0.5% Repeat Accuracy
- Fixed, External, or Onboard Adjustment

Approvals:

Accessories



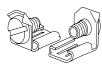
External adjust potentiometer
P/Ns:
P1004-95 (fig A)
P1004-95-X (fig B)



Mounting bracket
P/N: P1023-6



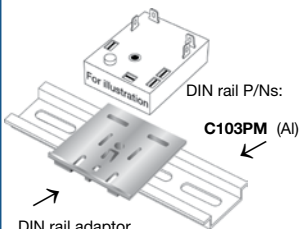
Female quick connect P/Ns:
P1015-64 (AWG 14/16)
P1015-13 (AWG 10/12)



Quick connect to screw adaptor
P/N: P1015-18



Versa-knob
P/N: P0700-7



DIN rail adaptor
P/N: P1023-20

See accessory pages for specifications.

Description

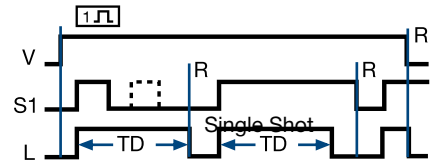
The HRDS Series combines an electromechanical relay output with microcontroller timing circuitry. It offers 12 to 230 V operation in five ranges and factory fixed, external, or onboard adjustable time delays with a repeat accuracy of +/-0.5%. The output contact rating allows for direct operation of heavy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

Operation

Input voltage must be applied before and during timing. Upon momentary or maintained closure of the initiate switch, the output relay energizes for a measured interval of time. At the end of the delay, the output de-energizes. Opening or reclosing the initiate switch during timing has no effect on the time delay. The output will energize if the initiate switch is closed when input voltage is applied.

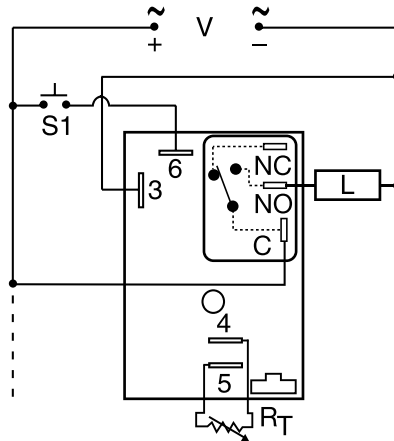
Reset: Reset occurs when the time delay is complete and the initiate switch is opened. Loss of input voltage resets the time delay and output.

Function



V = Voltage S1 = Initiate Switch L = Load
R = Reset TD = Time Delay

Connection



NO = Normally Open S1 = Initiate Switch
L = Load C = Common, Transfer Contact

NOTE: A knob, or terminals 4 & 5 are only included on adjustable units. R_T is used when external adjustment is ordered. Relay contacts are not isolated. Dashed lines are internal connections.

Available Models-

HRDS113S	HRDS120	HRDS210.3S
HRDS21120S	HRDS224	HRDS313M
•HRDS421	HRDS430	

Don't see what you need? Call us for a minimum quantity and price quote!

Ordering Table

HRDS Series	X Input	X Adjustment	X Time Tolerance	X Time Delay *
	-1 - 12 V DC	-1 - Fixed	-A - +/-1%	-0 - 0.1 ... 10 s
	-2 - 24 V AC	-2 - Onboard Knob	Blank - +/-5%	-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: HRDS421 Fixed – HRDS41A0.5S

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

Single Shot HRDS Power-Time Time Delay Relay

Dedicated
timers

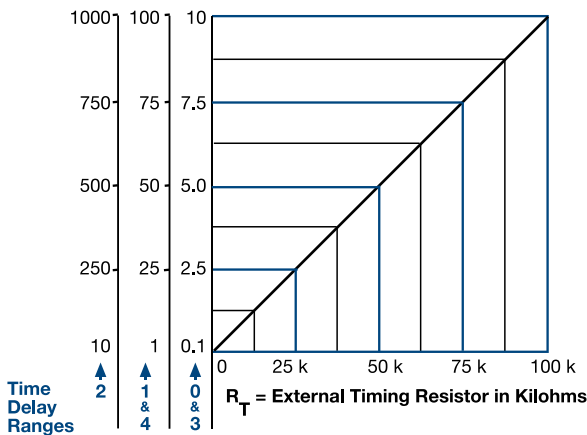
Technical Data

Time Delay		Microcontroller circuitry	
Type		100 ms ... 100 m in 5 adjustable ranges or fixed	
Range		+/-0.5% or 20 ms, whichever is greater	
Repeat Accuracy		+/-1%, +/-5%	
Tolerance (Factory Calibration)		≤ 150 ms	
Reset Time		≤ 20 ms	
Initiate Time		+/-2%	
Time Delay vs. Temperature & Voltage			
Input			
Voltage		12 or 24 V DC; 24, 120, or 230 V AC	
Tolerance		12 V DC & 24 V DC: -15% ... +20%	
		24 ... 230 V AC: -20% ... +10%	
Line Frequency		50 ... 60 Hz	
Power Consumption		AC ≤ 4 VA; DC ≤ 2 W	
Output			
Type		Electromechanical relay	
Form		SPDT, non-isolated	
Ratings:		SPDT-N.O. SPDT-N.C.	
General Purpose		125/240 V AC	30 A 15 A
Resistive		125/240 V AC	30 A 15 A
		28 V DC	20 A 10 A
Motor Load		125 V AC	1 hp* 1/4 hp**
		240 V AC	2 hp** 1 hp**
Life		Mechanical -- 1 x 10 ⁶ ; Electrical -- 1 x 10 ⁵ , *3 x 10 ⁴ , **6,000	
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/Storage Temperature		-40°C ... +60°C/-40°C ... +85°C	
Humidity		95% relative, non-condensing	
Weight		≈ 3.9 oz (111 g)	

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External Resistance vs Time Delay

In Secs. or Mins.



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.

Mechanical View

