



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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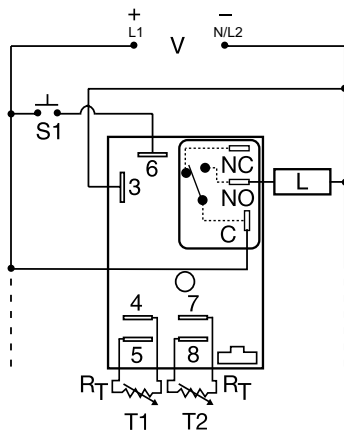


HRDR SERIES

Recycling Timer



Wiring Diagram



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

Terminals 4 & 5 and/or 7 & 8 are only included on externally adjustable units. Relay contacts are non-isolated. RT is included when external adjustment is ordered. Terminal 6 is included when Bypass/Reset is selected.

Description

The HRDR Series combines an electromechanical relay and microcontroller timing circuitry. It offers 12 to 230V operation in five ranges and factory fixed, onboard or externally adjustable time delays with a repeat accuracy of $\pm 0.5\%$. The high switching capacity of the output contacts allow for direct control of heavy loads like compressors, pumps, motors, heaters and lighting. A bypass/reset switch option allows operator to interrupt normal recycling sequence and energize output relay. An excellent choice for OEM applications.

Operation (Recycling with Reset Switch)

Upon application of input voltage, the ON time T1 begins and output relay energizes. At the end of the ON time, the output relay de-energizes and the OFF time T2 begins. At the end of the OFF time, the output relay energizes and the cycle repeats as long as input voltage is applied. Some recycling timers have the OFF time as the first delay.

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

Bypass/Reset Switch: Closing the normally open bypass/reset switch energizes the output relay and resets the time delays. Opening the switch restarts recycling operation with the first delay.

Features & Benefits

| FEATURES | BENEFITS |
|--|---|
| Microcontroller based | Repeat Accuracy +/- 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. |
| Encapsulated | Protects against shock, vibration, and humidity |
| Independent adjustment of On and Off delays | Provides greater flexibility of timing options |
| Bypass/Reset switch option | Allows operator to interrupt the timing sequence and energize the output relay |

Ordering Information

| MODEL | INPUT VOLTAGE | EXTERNAL ADJUSTMENT | T1 ON TIME | OPERATING SEQUENCE | T2 OFF TIME | BYPASS / RESET OPTION |
|---------------|---------------|-------------------------|------------|--------------------|-------------|-----------------------|
| HRDR121A4R | 12VDC | Both time onboard adj | 1 - 100s | On time first | 1 - 100m | Yes |
| HRDR321A4R | 24VDC | Both time onboard adj | 1 - 100s | On time first | 1 - 100m | Yes |
| HRDR322B2R | 24VDC | Both time onboard adj | 10 - 1000S | Off time first | 10 - 1000S | Yes |
| HRDR330A0R | 24VDC | Both time external adj | 0.1 - 10s | On time first | 0.1 - 10s | Yes |
| HRDR331A1 | 24VDC | Both time external adj | 1 - 100s | On time first | 1 - 100s | No |
| HRDR411SB30MR | 120VAC | Both times fixed | 1s | Off time first | 30m | Yes |
| HRDR431A1R | 120VAC | Both times external adj | 0.1 - 100s | On time first | 0.1 - 100s | Yes |

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

HRDR SERIES

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.



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.



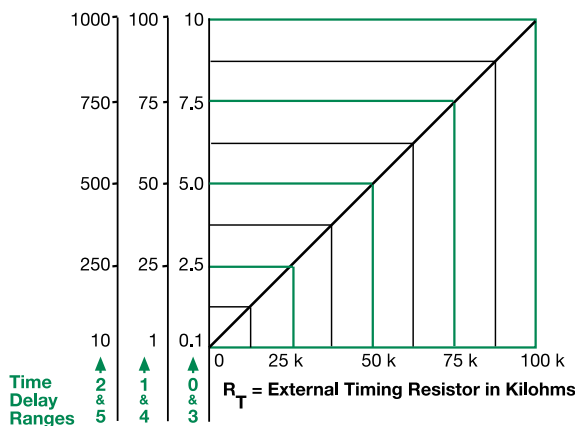
C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



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

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.

Specifications

| | | |
|--|---|----------------|
| Time Delay Range | 100ms - 1000m in 6 adjustable ranges or fixed ±0.5% or 20ms, whichever is greater | |
| Repeat Accuracy Tolerance (Factory Calibration) | ±5% | |
| Reset Time | ≤ 150ms | |
| Time Delay vs Temp. & Voltage | ≤ ±2% | |
| Input Voltage Tolerance | 12 or 24VDC; 24, 120, or 230VAC | |
| 12VDC & 24VDC 24 to 230VAC | -15% - 20% | |
| AC Line Frequency | 50/60 Hz | |
| Power Consumption | AC ≤ 4VA; DC ≤ 2W | |
| Output Type | Electromechanical relay | |
| Form | SPDT, non-isolated | |
| Ratings | SPDT-NO | SPDT-NC |
| General Purpose | 125/240VAC | 30A |
| Resistive | 125/240VAC | 30A |
| | 28VDC | 20A |
| Motor Load | 125VAC | 1 hp* |
| | 240VAC | 2 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 | ≥ 2000V RMS terminals to mounting surface | |
| Insulation Resistance | ≥ 100 MΩ | |
| Polarity | DC units are reverse polarity protected | |
| Mechanical Mounting Dimensions | Surface mount with one #10 (M5 x 0.8) screw H 76.7 mm (3"); W 51.3 mm (2"); D 38.1 mm (1.5") | |
| 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 | ≈ 3.9 oz (111 g) | |

Function Diagram

