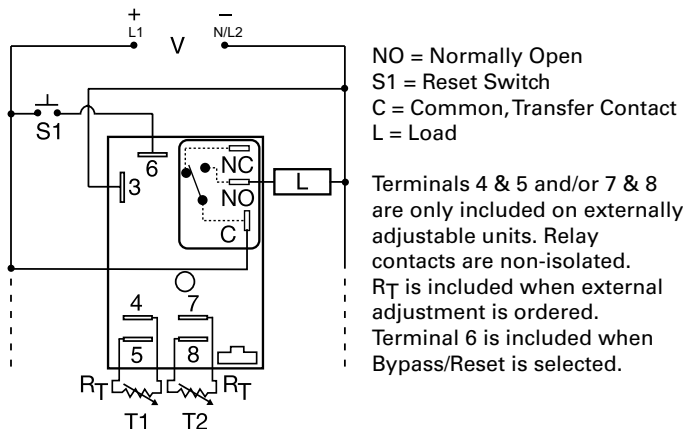


HRDR SERIES

Recycling Timer



Wiring Diagram



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 $\pm 0.5\%$
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.
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.

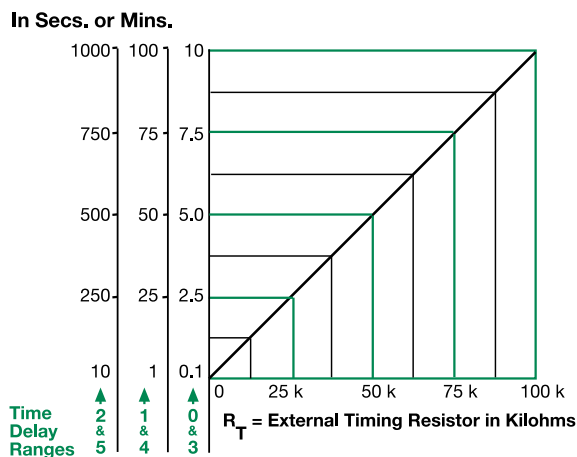


C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



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



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
Repeat Accuracy $\pm 0.5\%$ or 20ms, whichever is greater

Tolerance $\pm 5\%$
(Factory Calibration)
Reset Time $\leq 150\text{ms}$

Time Delay vs Temp. & Voltage $\leq \pm 2\%$

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 SPDT, non-isolated

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** 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

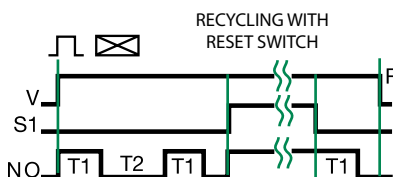
Operating/Storage

Temperature -40° to 60°C / -40° to 85°C

Humidity 95% relative non-condensing

Weight $\approx 3.9\text{ oz}$ (111 g)

Function Diagram



S1 = Reset Switch