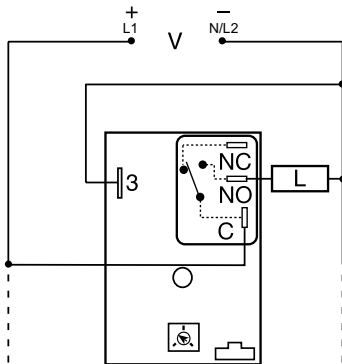


HRDM SERIES

Delay-on-Make Timer



Wiring Diagram



NO = Normally Open
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.

Ordering Information

MODEL	INPUT VOLTAGE	ADJUSTMENT	TIME DELAY
HRDM120	12VDC	Onboard	0.1 - 10s
HRDM3112S	24VDC	Fixed	12s
HRDM413M	120VAC	Fixed	3m
HRDM415M	120VAC	Fixed	5m

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

Description

The HRDM Series combines an electromechanical relay output with microcontroller timing circuitry. It offers 12 to 230V operation in five ranges and factory fixed, onboard, or external adjustable time delays with a repeat accuracy of $\pm 0.5\%$. 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 (Delay-on-Make)

Upon application of input voltage, the time delay begins. The output is de-energized before and during the time delay. At the end of the time delay, the output relay energizes and remains energized until input voltage is removed.

Reset: Removing input voltage resets the time delay and output.

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

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.



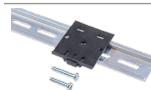
P1015-18 Quick Connect to Screw Adapter

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.

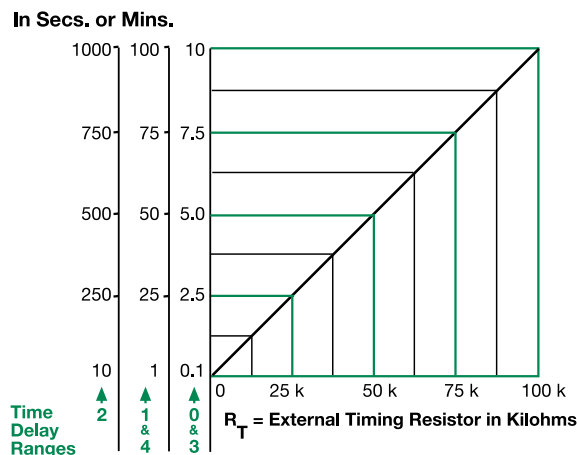


P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

HRDM SERIES

External Resistance vs. Time Delay



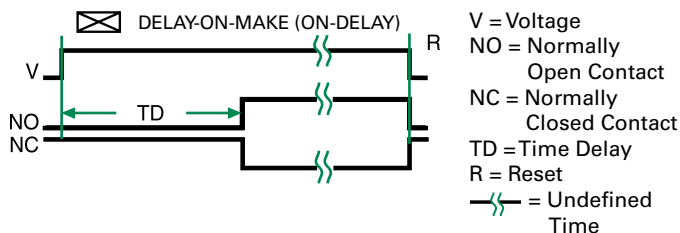
This chart applies to externally adjustable part numbers.

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 .

Function Diagram



Specifications

Time Delay

Type

Microcontroller circuitry

Range

0.1s - 100m in 5 adjustable ranges or fixed

Repeat Accuracy

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

Tolerance

(Factory Calibration)

$\pm 1\%$, $\pm 5\%$

Reset Time

$\leq 150\text{ms}$

Time Delay vs Temp.

& Voltage

$\pm 2\%$

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

Non-isolated, SPDT

Ratings

General Purpose 125/240VAC

SPDT-NO

30A

SPDT-NC

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

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° to 60°C / -40° to 85°C

Humidity

95% relative, non-condensing

Weight

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