HRPS / HRIS SERIES



Description

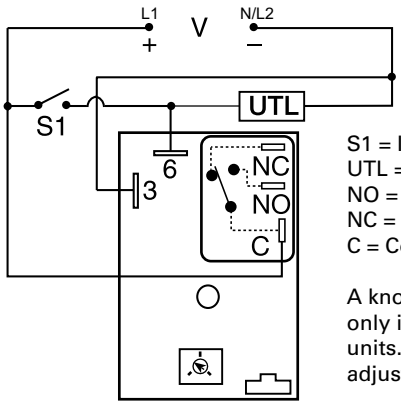
The HRPS/HRIS Series combines an electromechanical relay output with microcontroller timing circuitry. It is a factory programmed module available in any 1 of 13 standard functions. It offers 12 to 240V operation in two universal ranges and factory fixed, onboard, or external adjustable time delays with 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. The HRPS has non-isolated SPDT relay contacts, and the HRIS has isolated SPDT relay contacts. Both offer the most popular timer functions in the industry.

Operation (Interval)

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

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

Wiring Diagram

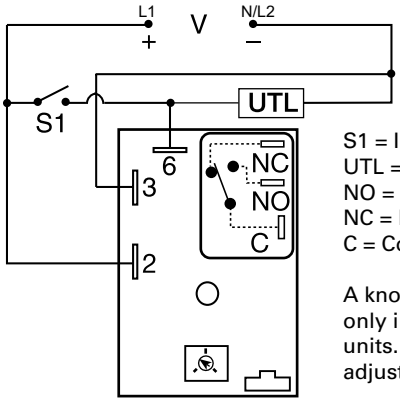


HRPS

Relay contacts are non-isolated.

S1 = Initiate Switch
UTL = Untimed Load (optional)
NO = Normally Open
NC = Normally Closed
C = Common

A knob, or terminals 4 & 5 are only included on adjustable units. R_T is used when external adjustment is ordered.



HRIS

Relay contacts are isolated.

S1 = Initiate Switch
UTL = Untimed Load (optional)
NO = Normally Open
NC = Normally Closed
C = Common

A knob, or terminals 4 & 5 are only included on adjustable units. R_T is used when external adjustment is ordered.

Features & Benefits

FEATURES	BENEFITS
Microcontroller based	Repeat Accuracy + / - 0.5% , factory calibration +/- 2%
Compact design	Allows flexiblility for OEM applications
30A, SPDT, Normally Open output contacts	Allows for direct operation of heavy loads
Encapsulated	Protects against shock, vibration, and humidity

Ordering Information

MODEL	INPUT VOLTAGE	ADJUST.	TIME DELAY	FUNCTION
HRISW21FT	24 - 240VAC/24 - 110VDC	Onboard	0.1 - 10s	Alternating
HRISW27I	24 - 240VAC/24 - 110VDC	Onboard	0.1 - 10h	Interval
HRPSD12HI	12 - 48VDC	Fixed	2h	Interval
HRISW25B	24 - 240VAC/24 - 110VDC	Onboard	1 - 100m	Delay on break

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

© 2016 Littelfuse Protection Relays & Controls

HRPS / HRIS 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.



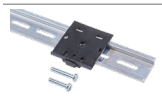
P1015-64 (AWG 14/16), **P1015-13** (AWG 10/12) **Female Quick Connect**
These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



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.

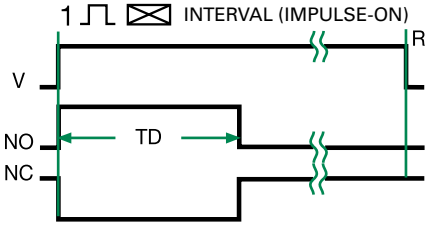


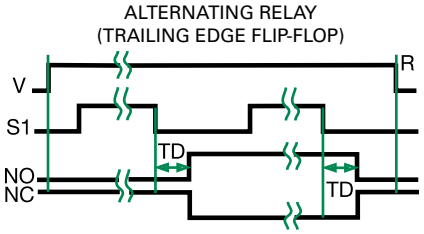
C103PM (AL) DIN Rail
35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



P1023-20 DIN Rail Adapter
Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

Function Diagrams





V = Voltage
S1 = Initiate Switch
NO = Normally Open Contact
NC = Normally Closed Contact
TD = Time Delay
R = Reset
—⟋— = Undefined Time

Specifications

Time Delay

Type	Microcontroller circuitry
Range	0.1s - 1000h in 9 adjustable ranges or fixed
Repeat Accuracy	±0.5% or 20ms, whichever is greater
Tolerance (Factory Calibration)	±2%
Reset Time	≤ 150ms
Initiate Time	≤ 20ms
Time Delay vs Temp. & Voltage	±2%

Input

Voltage	12 to 48VDC; 24 to 240VAC/24 to 110VDC
Tolerance	
12 to 48VDC	-15% - 20%
24 to 110VDC/240VAC	-20% - 10%
AC Line Frequency	50/60Hz
Power Consumption	AC ≤ 4VA; DC ≤ 2W

Output

Type	Electromechanical relay	
Form	SPDT	
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 x 10^6	
	Electrical - 1 x 10^5, *3 x 10^4, **6,000	

Protection

Surge Circuitry	IEEE C62.41-1991 Level A Encapsulated
Isolation Voltage	≥ 1500V RMS input to output; isolated units
Insulation Resistance	≥ 100 MΩ
Polarity	DC units are reverse polarity protected

Mechanical

Mounting	Surface mt. with one #10 (M5 x 0.8) screw
Dimensions	**H** 76.2 mm (3.0"); **W** 50.8 mm (2.0"); **D** 38.1 mm (1.5")
Termination	0.25 in. (6.35 mm) male quick connects

Environmental

Operating/Storage Temperature	-40° to 60°C / -40° to 85°C
Humidity	95% relative, non-condensing
Weight	≅ 3.9 oz (111 g)

© 2016 Littelfuse Protection Relays & Controls