

# HRPS/HRIS Power-Time Time Delay Relay

3



US Patent 6708135



- 30 A SPDT N.O. Output Contacts
- Factory Programmed
- 12 ... 240 V Operation in 2 Ranges
- Special Time Ranges and Functions Available
- Encapsulated Circuitry
- Delays from 100 ms...1000 h in 9 ranges
- +/-0.5% Repeat Accuracy
- +/-2% Factory Calibration
- Fixed, External, or Onboard Adjustment

Approvals:

### Accessories



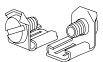
External adjust potentiometer  
P/Ns:  
P1004-95 (fig A)  
P1004-95-X (fig B)



Mounting bracket  
P/N: P1023-6



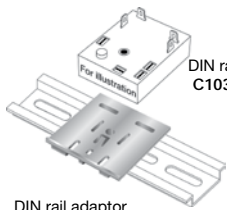
Female quick connect P/Ns:  
P1015-64 (AWG 14/16)  
P1015-13 (AWG 10/12)



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



Versa-knob  
P/N: P0700-7



DIN rail P/Ns:  
C103PM (AI)

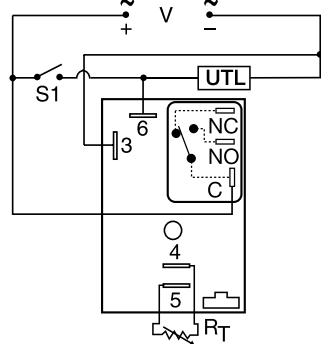
DIN rail adaptor  
P/N: P1023-20

See accessory pages for specifications.

### Description

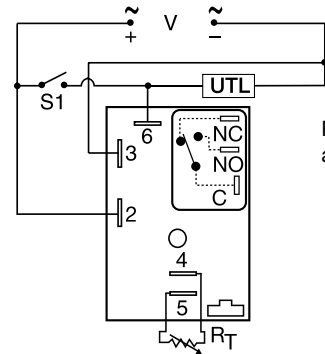
The HRPS/HRIS Series combines an electromechanical relay output with microcontroller timing circuitry. It is a factory programmed module available in any 1 of 13 standard functions. Modules are manufactured without the function assigned. When an order is received, the function software is added. It offers 12 to 240 V operation in two universal 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. HRPS has non-isolated SPDT relay contacts, and HRIS has isolated SPDT relay contacts. Both offer the most popular timer functions in the industry.

### Connection



HRPS  
Relay contacts are not isolated.

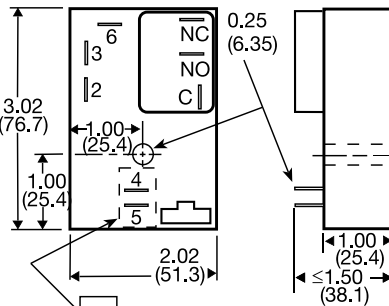
S1 = Initiate Switch C = Common  
UTL = Optional Untimed Load  
NO = Normally Open NC = Normally Closed



HRIS  
Relay contacts are isolated.

NOTE: A knob, or terminals 4 & 5 are only included on adjustable units.  $R_T$  is used when external adjustment is ordered. Dashed lines are internal connections.

### Mechanical View



Inches (Millimeters)

Onboard Adjust Detail  
Replaces Terminals if Ordered

### Available Models-

HRPSD22TS  
HRISW21FT  
HRISW27I

HRPSD27B  
HRISW22M

HRISW10.3SS  
HRISW25B

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### Ordering Table

HRPS/  
HRIS

Series

Input  
-W - 24 ... 240 V AC  
24 ... 110 V DC  
-D - 12 ... 48 V DC

Adjustment  
-1 - Fixed  
-2 - Onboard Adjust  
-3 - External Adjust

Time Delay \*  
-1 - 0.1 ... 10 s  
-2 - 1 ... 100 s  
-3 - 10 ... 1000 s  
-4 - 0.1 ... 10 m  
-5 - 1 ... 100 m  
-6 - 10 ... 1000 m  
-7 - 0.1 ... 10 h  
-8 - 1 ... 100 h  
-9 - 10 ... 1000 h

X

Function\*\*  
Specify Function  
(Refer to Function Chart for Code)

Example P/N: **HRPSW23S** Fixed - **HRISD10.5SB**

\*If Fixed Delay is selected, insert delay [0.1 ... 1000] followed by (S) secs., (M) mins., or (H) hrs.

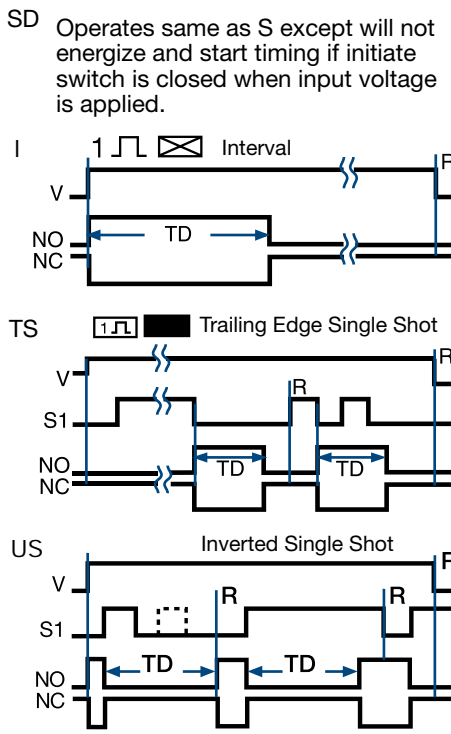
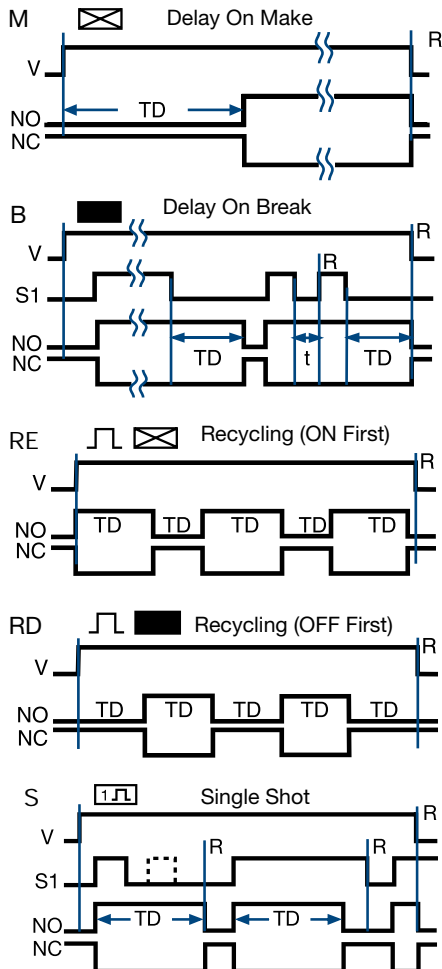
# HRPS/HRIS Power-Time Time Delay Relay

## Technical Data

<b>Time Delay</b>		<b>Protection</b>	
Type	Microcontroller circuitry	Surge	IEEE C62.41-1991 Level A
Range	100 ms ... 1000 h in 9 adjustable ranges or fixed	Circuitry	Encapsulated
Repeat Accuracy	+/-0.5% or 20 ms, whichever is greater	Isolation Voltage	≥ 1500 V RMS input to output; isolated units
Tolerance (Factory Calibration)	+/-2%	Insulation Resistance	≥ 100 MΩ
Reset Time	≤ 150 ms	Polarity	DC units are reverse polarity protected
Initiate Time	≤ 20 ms		
Time Delay vs. Temp. & Voltage	+/-2%		
<b>Input</b>		<b>Mechanical</b>	
Voltage	24 ... 240 V AC/24 ... 110 V DC; 12 ... 48 V DC	Mounting	Surface mt. with one #10 (M5 x 0.8) screw
Tolerance 12 ... 48 V DC	-15% ... +20%	Package	3 x 2 x 1.5 in (76.7 x 51.3 x 38.1 mm)
24 ... 110 V DC/240 V AC	-20% ... +10%	Termination	0.25 in. (6.35 mm) male quick connects
Line Frequency	50 ... 60 Hz		
Power Consumption	AC ≤ 4 VA; DC ≤ 2 W		
<b>Output</b>		<b>Environmental</b>	
Type/Form	Electromechanical relay/SPDT	Operating Temp.	-40°C ... +60°C
Ratings:	SPDT-N.O. SPDT-N.C.	Storage Temp.	-40°C ... +85°C
General Purpose	125/240 V AC 30 A 15 A	Humidity	95% relative, non-condensing
Resistive	125/240 V AC 30 A 15 A	Weight	≈ 3.9 oz (111 g)
	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 <sup>6</sup>		
	Electrical -- 1 x 10 <sup>5</sup> , *3 x 10 <sup>4</sup> , **6,000		

## Function Diagrams

For a Complete List of Functions with Descriptions, see Timer Function Section.



Note: If S1 is closed when input voltage is applied, the function starts and the time delay begins. (B, S, TS, US, UB, AM, PSD, FT)

## Legend

V	Voltage	t	Incomplete Time Delay
R	Reset	NO	Normally Open
S1	Initiate Switch	NC	Normally Closed
TD1, TD2	Time Delay	—	Undefined time