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## FEATURES

- C/MOS Digital Circuitry
- Time Delays to 1000 Minutes
- No First Cycle Effect
- Fully Solid State and Encapsulated
- 0.5% Repeat Accuracy
- Six Modes of Operation
- Output Current Ratings to 25 Amp Steady State, 250 Amp Inrush
- Low Cost Mounting and Termination
- Fixed or Adjustable Time Delays
- UL/cUL Recognized

## SPECIFICATIONS

### 1. Time Delay

- 1.1 Type: C/MOS Digital Circuitry
- 1.2 Range: From 0.05 Seconds to 1000 Minutes  
Fixed Delays Available
- 1.3 Repeat Accuracy:  $\pm 0.5\%$  Under Fixed Conditions
- 1.4 Setting Accuracy:  $\pm 10\%$
- 1.5 Reset Time: 50 Milliseconds Maximum
- 1.6 Recycle Time: 100 Milliseconds During Timing  
50 Milliseconds After Timing
- 1.7 Time Delay vs. Voltage and Temperature:  $\pm 2\%$
- 1.8 External Resistance (Remote Adjust Only): 1 Megohm  
Equals Maximum Delay

### 2. Input

- 2.1 Operating Voltage: 24, 120, & 230 VAC
- 2.2 Tolerance:  $\pm 20\%$  of Nominal
- 2.3 Frequency 50 - 60 Hertz

### 3. Output

- 3.1 Type: Solid State
- 3.2 Form: SPST
- 3.3 Ratings:
  - A - 6 Amp Steady State, (60 Amp Inrush, 200 mA min.)●
  - B - 10 Amp Steady State, (100 Amp Inrush, 225 mA min.)●
  - C - 15 Amp Steady State, (150 Amp Inrush, 250 mA min.)●
  - D - 2.5 Amp Steady State, (50 Amp Inrush, 150 mA min.)●
  - H - 25 Amp Steady State, (250 Amp Inrush, 500 mA min.)□
  - Maximum Plate Temperature: 85°C
  - Maximum Plate Temperature: 60°C
- 3.4 Life: 10,000,000 Operations Minimum Under Full Load

### 4. Protection

- 4.1 Transient:  $\pm 1500$  Volts for 150 Microseconds
- 4.2 Dielectric Breakdown: 1500 Volts RMS Minimum

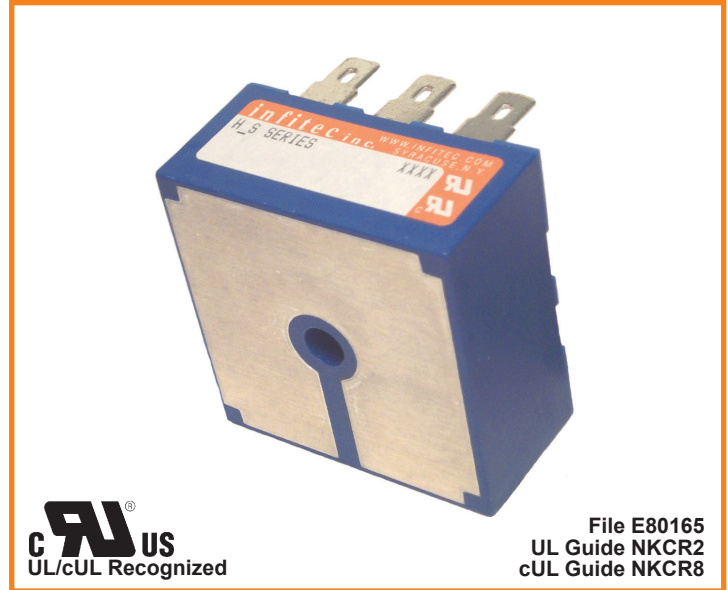
### 5. Mechanical

- 5.1 Mounting: One #8 or #10 Screw
- 5.2 Termination: 1/4" Quick Connect Terminals
- 5.3 Style: Surface Mount/Encapsulated with Heat Sink Surface  
(See Dimension Diagram)

### 6. Environmental

- 6.1 Operating Temperature: -20°C to +80°C
- 6.2 Storage Temperature: -30°C to +85°C
- 6.3 Humidity: 95% Relative, Non Condensing

# H SERIES DIGITAL ENCAPSULATED POWER TIME DELAY MODULES



## MODE OF OPERATION

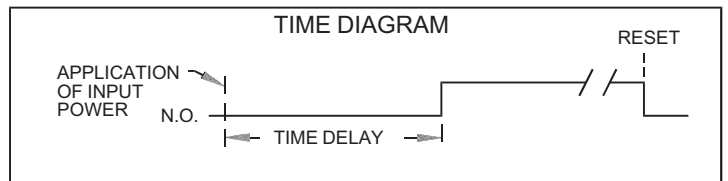
## SERIES

Normally Closed Outputs Available. See Ordering Information.

### DELAY ON MAKE

### HMS

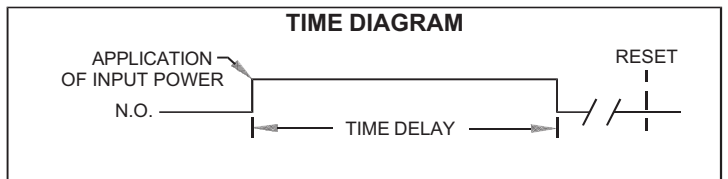
Upon application of power to the input terminals, the time delay begins. At the completion of the pre-selected time delay, the output contact transfers. Reset is accomplished by removal of input power. There is no false output when reset during timing.



### INTERVAL

### HIS

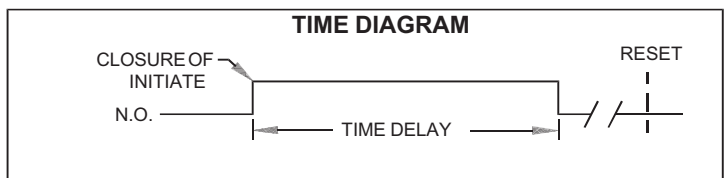
Upon application of power to the input terminals, the output contact immediately transfers and the time delay begins. At the completion of the pre-selected time delay, the output contact reverts to its original position. Reset is accomplished by removal of input power.



### SINGLE-SHOT

### HSS

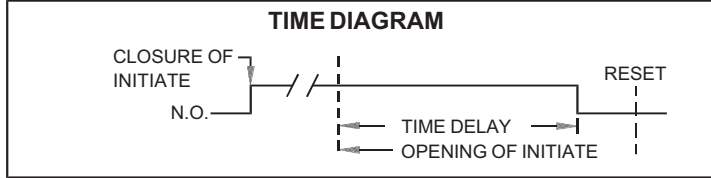
Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch (momentary or maintained) the output contact transfers and the time delay begins. At the completion of the pre-selected delay period, the output contact reverts to its original position. Removal of input power will reset the control.



## DELAY ON BREAK

HBS

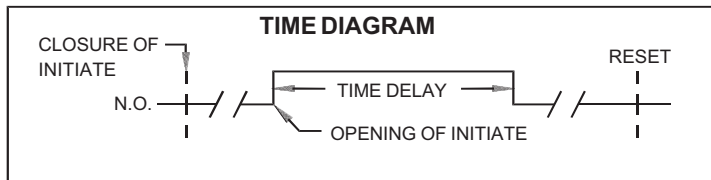
Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch, the output contact transfers and remains transferred if no further action is taken. When the initiate switch is opened, the time delay begins. At the completion of the pre-selected delay period the contact reverts to its original position. Removal of input power will reset the control. If the initiate switch is closed during timing, the output remains transferred and the time delay is reset.



## TRAILING EDGE TRIGGERED

HTS

Power must be applied to the input at all times prior to and during timing. Upon closure of the initiate switch, nothing happens. When the initiate switch is opened, the time delay begins and the output contact transfers. At the completion of the pre-selected delay period the contact reverts to its original position. Removal of input power will reset the control. If the initiate switch is closed during timing, the output contact reverts to its original position and the time delay is reset.



## ON/OFF RECYCLE

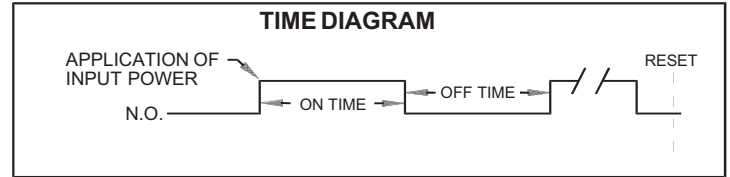
HRS

Upon application of power to the input terminals, the ON time delay begins and the output contact transfers. Upon completion of the ON time delay, the output contact reverts back to its original position and the OFF time delay begins. Upon completion of the OFF delay, the output contact again transfers and the cycle repeats. Reset is accomplished by removal of input power.

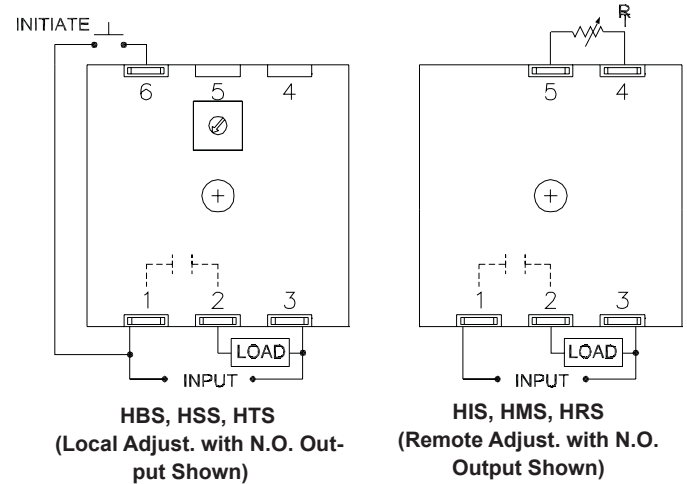
## ON/OFF RECYCLE

HRS

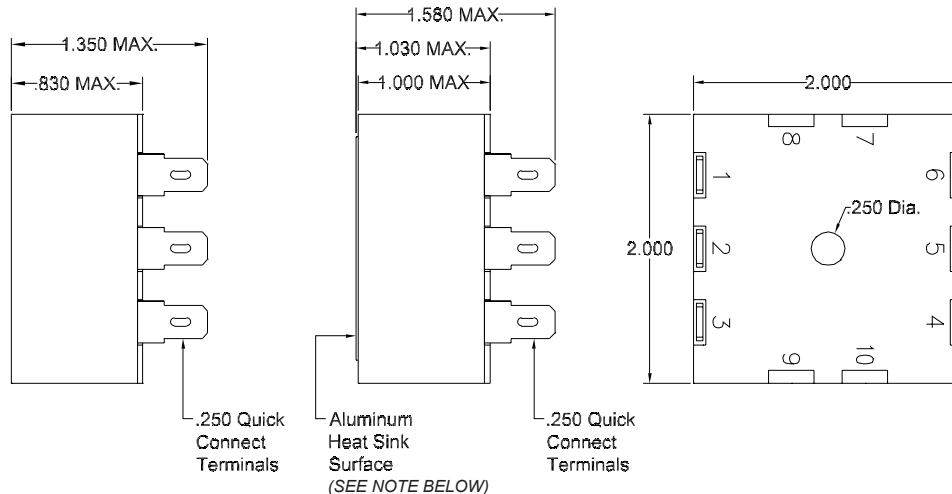
This is the inverse of ON/OFF RECYCLE above, and diagram below.



## CONNECTION DIAGRAMS



## DIMENSIONS



2.5 Ampere Version

6, 10, 15 & 25 Ampere Versions

### NOTE:

For maximum current rating the unit's metal backing must be installed against an aluminum surface of at least 1/16" thickness. A suitable thermal compound should be applied to the unit's metal surface prior to mounting. Refer to Application Note #AN1001 HEATSINKING HIGH CURRENT SOLID STATE CONTROLS

## ORDERING INFORMATION

SERIES	FORM	INPUT VOLTAGE	OUTPUT RATING	ADJUSTMENT	TIME DELAY RANGE
HBS HIS HMS HRS HSS HTS	Blank - N.O. C - N.C.	4 - 24 VAC 5 - 120 VAC 6 - 230 VAC	A - 6 Amp B - 10 Amp C - 15 Amp D - 2.5 Amp H - 25 Amp	0 - Local Adjust 1 - Fixed 2 - Remote Adjust	See Time Delay Range Chart
					<b>HRS SERIES ONLY</b>
					<b>CYCLE</b>
					<b>TIME DELAY</b>
					1 - On Time First 2 - Off Time First
					See Time Delay Range Chart Note: 1st & 2nd delays are equal