

The NHPD Series is a factory programmed module available in any 1 of 12 standard dual functions. The time delays can be factory fixed, externally or onboard adjustable, or a combination of fixed and adjustable. The NHPD includes a high current solid-state output. It can switch motors, lamps and heaters directly without the addition of a contactor. It can switch up to 20A with up to 100 million operations typical. Its microcontroller timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The NHPD Series is a cost effective approach for OEM applications that require small size and long life.

See Appendix B, page 165, Figure 4 for dimensional drawing.

## Features:

- High load currents up to 20A, 200A inrush
  - Factory programmed
  - Choose 1 of 12 standard dual functions
  - Special time ranges & functions available
  - Microcontroller circuitry,  $\pm 0.5\%$  repeat accuracy
  - Fixed, external, or onboard adjustment
  - 24 to 240VAC
  - Delays from 0.1s - 1000h in 9 ranges
- Approvals:

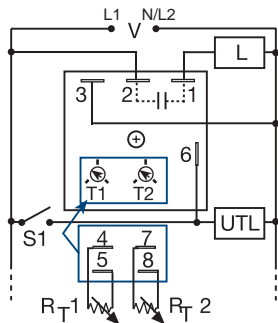
## Auxiliary Products:

- **External adjust potentiometer:**  
P/N: P1004-95  
P/N: P1004-95-X
- **Versa-knob:** P/N: P0700-7
- **Female quick connect:**  
P/N: P1015-13 (AWG 10/12)  
P/N: P1015-64 (AWG 14/16)
- **Quick connect to screw adaptor:**  
P/N: P1015-18

## Available Models:

There are no part numbers currently active. Please call Technical Support with your requirements.

## Connection:



Terminal Location for External Adjustment

- V = Voltage
- L = Load
- S1 = Initiate Switch
- UTL = Untimed Load
- T1 & R<sub>T1</sub> = First Adjustment
- T2 & R<sub>T2</sub> = Second Adjustment

## Order Table:

NHPD	X	X	X	X	X	X	X
	Output Rating	Input Voltage	First Adjustment (T1 or R <sub>T1</sub> )	First Time Delay*	Second Adjustment (T2 or R <sub>T2</sub> )	Second Time Delay*	Function
	A - 6A B - 10A C - 20A	A - 24 to 240VAC	1 - Fixed 2 - Onboard adjust 3 - External adjust	1 - 0.1 - 10s 2 - 1 - 100s 3 - 10 - 1000s 4 - 0.1 - 10m 5 - 1 - 100m 6 - 10 - 1000m 7 - 0.1 - 10h 8 - 1 - 100h 9 - 10 - 1000h	1 - Fixed 2 - Onboard adjust 3 - External adjust	1 - 0.1 - 10s 2 - 1 - 100s 3 - 10 - 1000s 4 - 0.1 - 10m 5 - 1 - 100m 6 - 10 - 1000m 7 - 0.1 - 10h 8 - 1 - 100h 9 - 10 - 1000h	Specify function  <b>Functions:</b> MB, MRE, MI, MS, IRE, BRE, SRE, RXE, RXD, IM, AMI, SL

\*If fixed delay is selected, insert delay (0.1-999) followed by (S) secs., or (M) mins., or (H) hrs.

For a complete list of functions with descriptions and diagrams, see Appendix A - Timer Functions, pages 156-164.

## Specifications

<b>Time Delay</b>	Microcontroller circuitry		
Type	0.1s - 1000h in 9 adjustable ranges or fixed (to 999)		
Range	$\pm 0.5\%$ or 20ms, whichever is greater		
Repeat Accuracy	$\leq \pm 2\%$		
Tolerance (Factory Calibration)	$\leq 150\text{ms}$		
Reset Time	$\leq 20\text{ms}; \leq 1500$ operations per minute		
Initiate Time	$\leq \pm 2\%$		
Time Delay vs Temp. & Voltage			
<b>Input</b>	24 to 240VAC		
Voltage	$\leq \pm 15\%$		
Tolerance	50/60Hz		
AC Line Frequency			
<b>Output</b>	Solid state		
Type	Output	Steady State	Inrush**
Rating	A	6A	60A
	B	10A	100A
	C	20A	200A
Minimum Load Current	100mA		

Voltage Drop	$\approx 2.5\text{V}$ @ rated current
OFF State Leakage Current	$\approx 5\text{mA}$ @ 230VAC
<b>Protection</b>	
Circuitry	Encapsulated
Dielectric Breakdown	$\geq 2000\text{V}$ RMS terminals to mounting surface
Insulation Resistance	$\geq 100\text{M}\Omega$
<b>Mechanical</b>	
Mounting**	Surface mt with one #10 (M5 x 0.8) screw
Dimensions	2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm)
Termination	0.25 in. (6.35 mm) male quick connects
<b>Environmental</b>	
Operating / Storage Temperature	-40° to 60°C / -40° to 85°C
Humidity	95% relative, non-condensing
Weight	$\approx 3.9$ oz (111 g)

\*\*Must be bolted to a metal surface using the included heat sink compound. The maximum mounting surface temperature is 90°C. Inrush: Non-repetitive for 16ms.