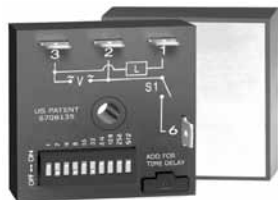


NHPU Series Power Timing Module

3



US Patent 6708135



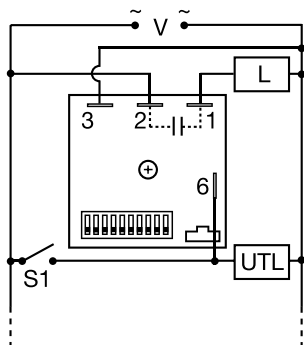
- High Load Currents up to 20 A, 200 A Inrush
- Factory Programmed
- Choose 1 of 14 Standard Functions
- Special Time Ranges and Functions Available
- Microcontroller Circuitry, +/-0.1% Repeat Accuracy
- Accurate Switch Adjustment
- 24 ... 240 V AC
- Delays from 100 ms...1023 h in 6 Ranges
- Counts to 1023 in 3 Ranges

Approvals:

Description

The NHPU Series is a factory programmed module available in any 1 of 14 standard functions. The NHPU offers a single adjustable timer or counter function. Modules are manufactured without the function assigned. When an order is received, the function software is added, making the modules complete. This approach provides fast delivery on all part numbers. Switch adjustment allows accurate selection of the time delay or number of counts, the first time and every time. The NHPU 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 20 A with up to 100 motor operations, typical. Its microcontroller timing circuit provides excellent repeat accuracy and stability. Encapsulation protects against shock, vibration, and humidity. The NHPU Series is a cost effective approach for OEM applications that require small size, solid state reliability, and accurate switch adjustment. Special time ranges and functions are available; contact Technical Assistance (see below) for more information.

Connection



V = Voltage L = Load
UTL = Untimed Load S1 = Initiate Switch

The untimed load is optional. S1 is not used for some functions. Dashed lines are internal connections.

Switch Adjustment

Adjustment Switch Operation			
TIME DELAY		COUNTER	
0.1...102.3	1...1023	1...165	1...63
OFF ▶ ON	OFF ▶ ON	OFF ▶ ON	OFF ▶ ON
6.3	544	57 counts	44 s Delay 2 counts to Start

One or more switches must be ON for proper operation.

Available Models-

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

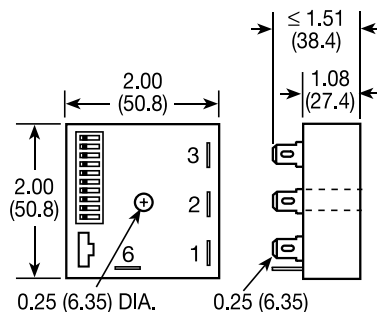
Don't see what you need? Call us for a minimum quantity and price quote!

Ordering Table

NHPU Series	X Output/Rating	X Input	X Time Delay/Counts	X Function**
	A - 6 A	A - 24 ... 240 V AC	-1 - 0.1 ... 102.3 s	- Specify Function (Refer to Function Chart for Code)
	B - 10 A		-2 - 1 ... 1023 s	
	C - 20 A		-3 - 0.1 ... 102.3 m	
			-4 - 1 ... 1023 m	
			-5 - 0.1 ... 102.3 h	
			-6 - 1 ... 1023 h	
			-7 - 1 ... 165 counts (straight) w/pulsed output	
			-8 - 1 ... 1023 counts (binary) w/pulsed output	
			-9 - 1 ... 7 counts to start 1 ... 63 s or m interval time	

Example P/N: **NHPUBA3TS, NHPUCA7C**

Mechanical View



Inches (Millimeters)

**Function Chart

Code	Function
M	Delay on Make
B	Delay on Break
RE	Recycle (ON Time First, Equal Times)
RD	Recycle (OFF Time First, Equal Times)
S, SD	Single Shot
I	Interval
TS	Trailing Edge Single Shot
US	Inverted Single Shot
UB	Inverted Delay on Break
AM	Accumulative Delay on Make
	Motion Detector/Retriggerable
	Single Shot
PSD	Counter/Pulsed Output
C	Counter/Interval Output
CI	Counter/Interval Output

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

Accessories



Female quick connect P/Ns:
P1015-13 (AWG 10/12)
P1015-64 (AWG 14/16)
P1015-14 (AWG 18/22)



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

See accessory pages for specifications.

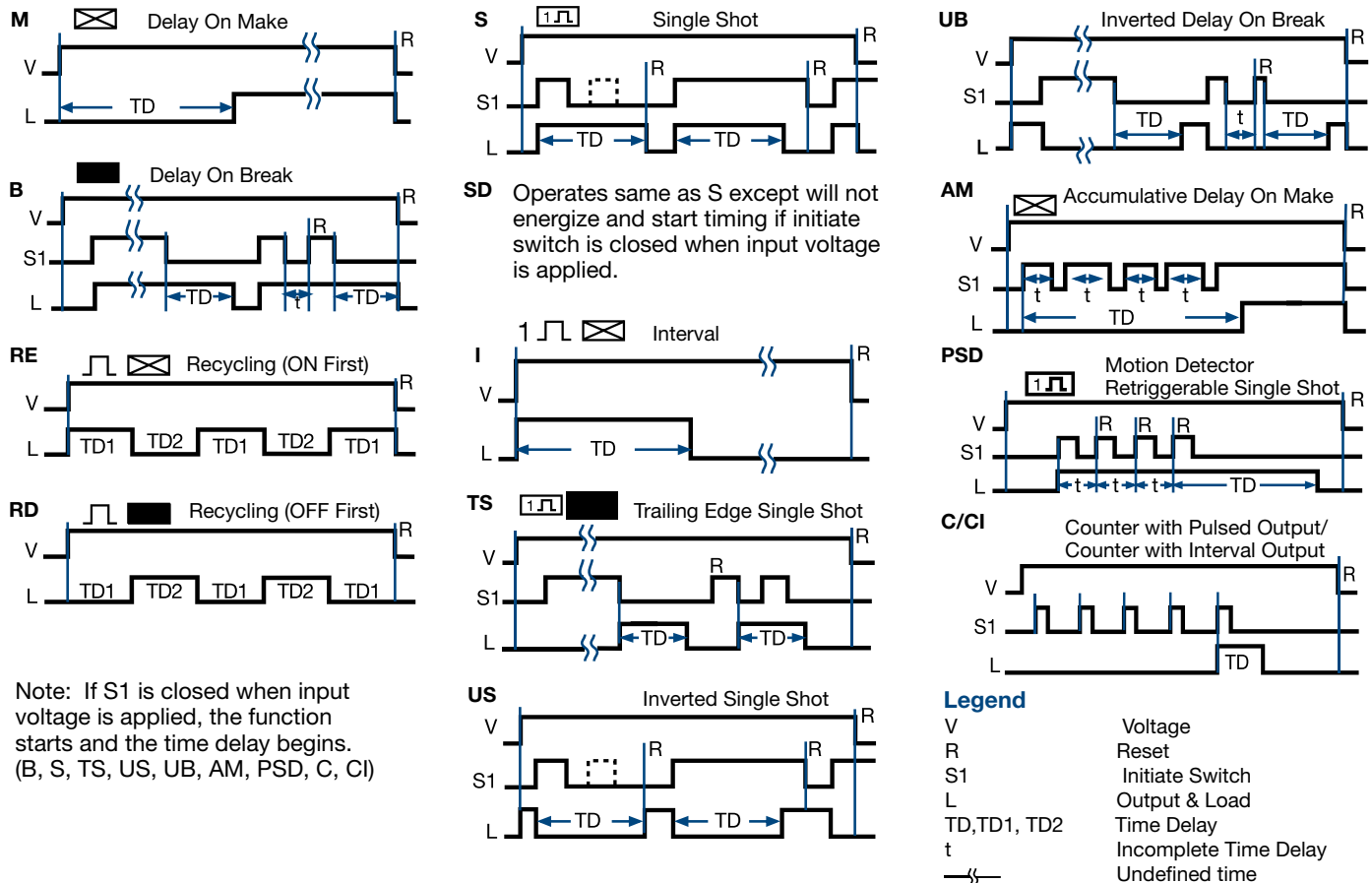
NHPU Series Power Timing Module

Technical Data

Time Delay Type Range Repeat Accuracy Setting Accuracy Reset Time Initiate Time Time Delay vs. Temp. & Voltage Count Range Count Rate		Microcontroller circuitry 0.1 ... 102.3 s, m or h in 0.1 s, m or h increments 1 ... 1023 s, m or h in 1 s, m or h increments 1 ... 63 s or m in 1 s or m increments +/-0.1% or 20 ms, whichever is greater +/-1% or 20 ms, whichever is greater ≤ 150 ms ≤ 20 ms ≤ +/-2% 1 ... 1023 in 3 ranges ≤ 25 counts per second	Protection Circuitry Dielectric Breakdown Insulation Resistance	Encapsulated ≥ 2000 V RMS terminals to mounting surface ≥ 100 MΩ
Input Voltage Tolerance Line Frequency		24 ... 240 V AC ≤ +/-15% 50 ... 60 Hz	Mechanical Mounting*** Package Termination	Surface mt. with one #10 (M5 x 0.8) screw 2 x 2 x 1.51 in. (50.8 x 50.8 x 38.4 mm) 0.25 in. (6.35 mm) male quick connects
Output Type Rating		Solid state Output Steady State Inrush*** A 6 A 60 A B 10 A 100 A C 20 A 200 A	Environmental Operating Temp. Storage Temp. Humidity Weight	-40°C ... +60°C -40°C ... +85°C 95% relative, non-condensing ≅ 3.9 oz (111 g)
Minimum Load Current Voltage Drop OFF State Leakage Current Counter Output (P/N Variable 7 & 8)		100 mA ≅ 2.5 V at 1 A ≅ 5 mA at 230 V AC Pulse width: 300 ms +/-20%	***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 16 ms.	

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, C, CI)