



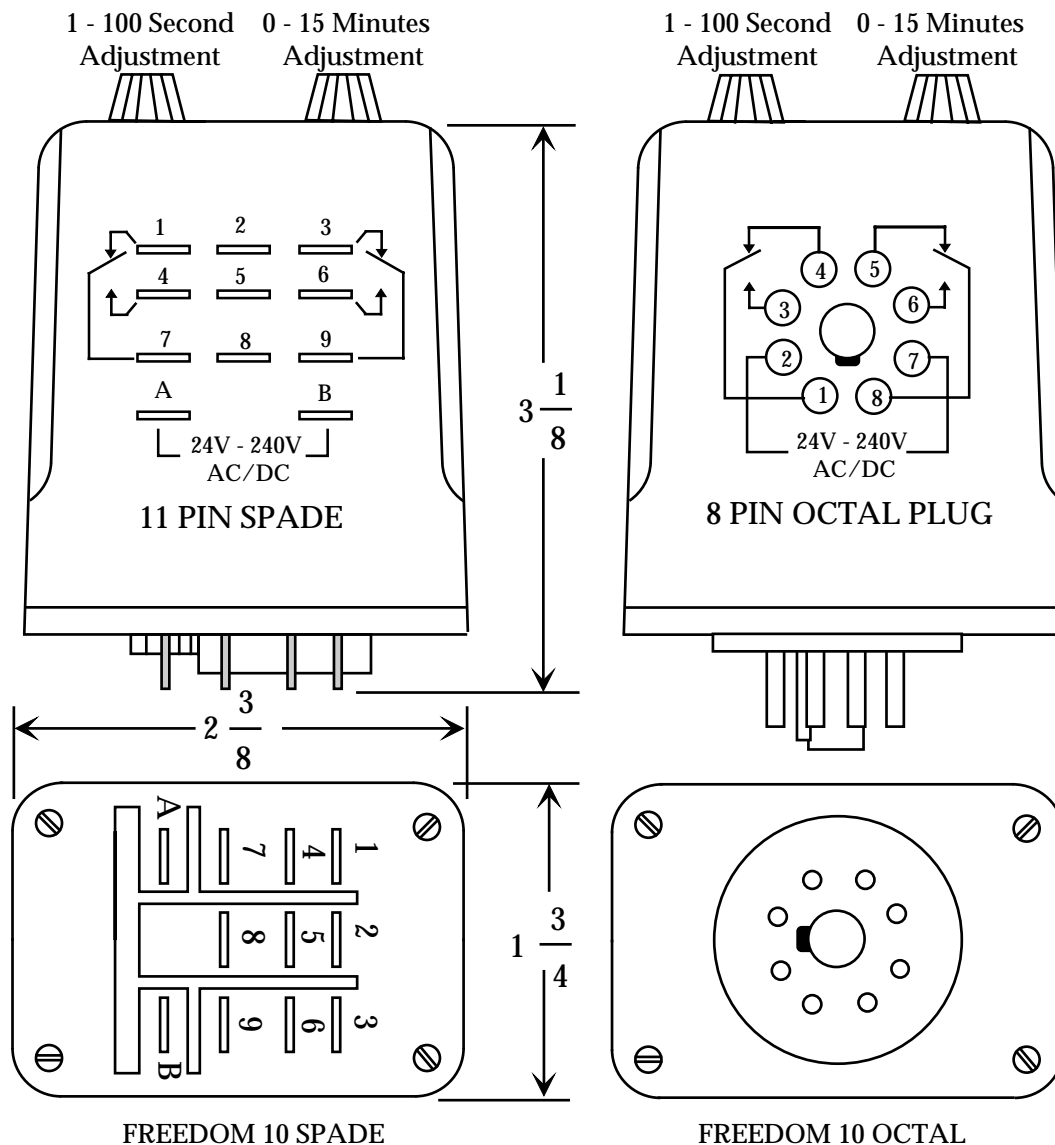
Solid State Timers and Controllers



Freedom 10[®] Time Delay Relay

The FREEDOM 10[®] is a time delay relay which provides delay-on-make digital timing control of a load circuit operating from any supply voltage between 24 to 240 volts AC or DC. Delay time is set by means of two integral potentiometers. One "fine" adjustment allows the setting of the timing period from 1 to 100 seconds. The second adjustment provides timing adjustment from 0 to 15 minutes. An accurate delay can be achieved by combining the adjustments of both potentiometers. The FREEDOM 10[®] is available in standard octal or spade terminations. There is no degradation of performance over the entire operating voltage range of 24V to 240V AC or DC, nor is there an increase in operating current over the broad voltage range.

Mechanical & Wiring





Solid State Timers and Controllers

Specifications

Operating Voltage: 24V to 240V AC 50/60 Hz or 24V to 240V DC. No need to observe polarity of operating voltage when wiring. Operating voltage must be applied with less than 5 milliseconds rise time at any operating voltage.

Operating Current: 25 milliamperes at any operating voltage AC or DC.

Timing Mode: Delay-On-Make.

Adjustable Timing Range: 1 - 100 seconds, and 0 - 15 minutes.

Timing Adjustment: Two (2) integral potentiometers.

Timing Tolerance: ±10% of scale set point.

Timing Variation: ±15% worst case at any combination of operating voltage and temperature based on potentiometer setting.

Repeatability Of Timing Period: ±1% at stabilized operating voltage temperature.

Recycle Time: If recycled during a timing period (contacts de-energized), the operating voltage must be removed for a minimum of 200 milliseconds, if after a timing cycle (contacts energized), the operating voltage must be removed for a minimum of 50 milliseconds.

Output: DPDT relay contacts.

Contact Material: Gold-clad silver nickel.

Output Rating Resistive Load: 5A 125, 250V AC 1/20 HP 125, 250V AC, 5A 30V DC.

Max. Switching Power: 1,250 VA

Max. Switching Voltage: 250V AC

Max. Switching Current: 5A

Min. Switching Power: 100 microamperes @ 1V DC.

Expected Life: 100,000 at 5A 125V AC, 3A 250V AC, 50,000 at 5A 30V DC.

Dielectric: 1,000V rms between open contact sets, 1,500V rms between contacts and operating voltage terminals.

Transient Protection: Solid state timing circuits protected by silicon transient suppressors responding to transients within 1×10^{-12} seconds to a peak pulse power dissipation of 1500 watts, with transient surge currents to 200 amperes for durations up to 1/120 second at 25° C. Maximum transient voltage protection is 6000 volts as delivered through a source resistance of 30 ohms with a maximum duration of 8.3ms.

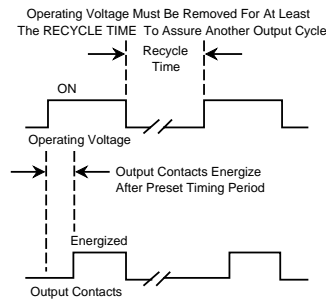
Operating Temperature: -20°C to +55°C

Terminations: 11 terminal Spade or 8 pin octal plug in.

Agency Recognitions: UL File #E47858 (Component Appliance Controls #ATNZ2),

Data Sheet Revision Date: May 16, 1995

Timing Diagram:



Ordering Information

Part Number	Operating Voltage	Adjustable Timing Range
Freedom 10 - Octal	24V - 240V AC or DC	1 Sec. through 15 min.
Freedom 10 - Spade	24V - 240V AC or DC	1 Sec. through 15 min.