ARTISAN *Solid State Timers and Controllers*

4970 Interval Countdown Timer With Programmable Time Base

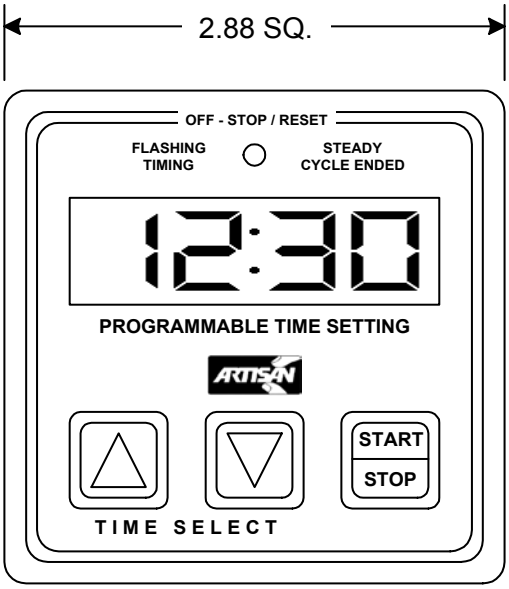
The 4970 is a microcontroller based countdown interval timer with digital display of timing controlling a high current set of output contacts. During a timing cycle the output relay is energized and the display will countdown to zero, at which time the output relay de-energizes. The time base can be programmed to countdown the time in the following ranges: 000.1 - 999.9 seconds, 0001 - 9999 seconds, 00:01 - 59:59 minutes : seconds, and 00:01 - 23:59 hours : minutes. Prior to the start of a cycle an LED on the front panel will be OFF. When running a timing cycle the LED will flash, and at the end of the cycle the timer will beep for five seconds, the LED will turn ON steady and the display will reset to the preset starting time. Two arrow buttons on the front panel are used to set the time. Hold the UP ARROW button down to increase the time . The longer the button is held down, the faster the rate at which the time will increase. The DOWN ARROW button is used in the same manner as the UP ARROW button except it will cause the time to decrease. Using the UP ARROW and DOWN ARROW buttons in this manner permits accurate setting of countdown time. The START/STOP button performs three functions. Pressing the START/STOP button while the timer is not active, will cause the timer to begin counting down the time on the display and activate the output power relay contacts. Pressing the START / STOP button while the timer is active, will stop the timer and de-energize the output power relay, turning OFF the LED. The timer will display the time remaining in the cycle when it is interrupted by the START/STOP button. If the START/STOP button is pressed again the output power relay will energize and the timer will continue timing from the point it was stopped. Should the START/STOP switch be held down for longer than two seconds while it is in the STOP mode the timer will reset and the display will return to the original starting time and the LED will turn OFF. Should power fail during a timing cycle the internal memory will backup the time to the last five second tick and upon restoration of power the timer will complete the preset timing cycle. The 4970 always remembers the last interval time selected and when first powered up resets to that time.

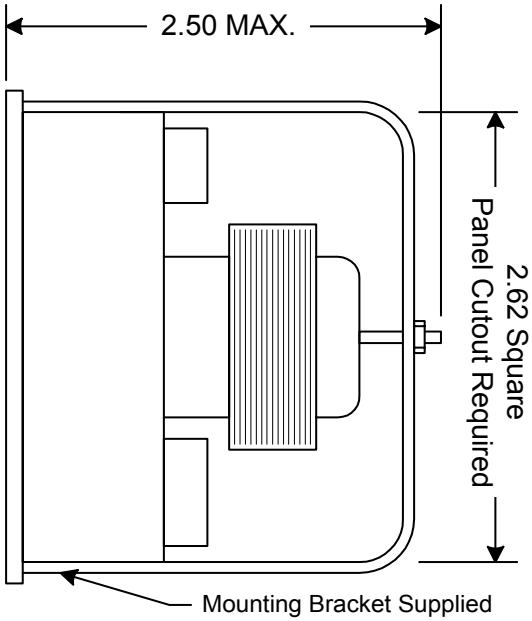
Specifications

Timing Mode: Interval - Countdown.
Operating Voltage: 12V DC ±15% @ 0.4A max. (-1), 115V AC ±15% 50/60 Hz. (-2) @ 7W max., 230V AC ±10% 50/60 Hz. (-3) @ 7W max., 24V AC ±10% 50/60 Hz. (-4) @ 7W max.
Programmable Time Base: 000.1 - 999.9 seconds (Code 0), 00:01 - 59:59 minutes : seconds (Code 1) 0001 - 9999 seconds (Code 2), 00:01 - 23:59 hours : minutes (Code 3).
Timing Accuracy: ±.5% of setting.
Digital Display: Four (4) digit red LED, 0.5 inch high characters displays remaining timing interval.
Timing Cycle Memory: Preset time kept in non-volatile memory, Timing backed up to the 5 second tick.
Front Panel Indicator: An LED indicates the timer state.
Front Panel Switches: Two (2) for setting the time. One (1) for starting and stopping the timer.
Audible Alarm: A solid state alarm will sound for five (5) seconds at the end of a timing cycle.
Output Contact Rating: SPDT Power relay contacts. Normally Open Contacts: Rated for 20A inductive or resistive at 125 or 240 VAC and 30V DC, 6A inductive or resistive at 277 VAC. 2 HP motor load at 240 VAC, 1 HP motor load at 125 VAC, 6A ballast load at 125 or 277 VAC, 60A LRA at 240 VAC, 20A FLA at 240 VAC. Normally Closed Contacts: rated for 10A inductive or resistive at 125 or 240 VAC, 3A inductive or resistive at 277 VAC, 10A inductive or resistive at 30 VDC, 1/2 HP motor load at 240 VAC, 1/4 HP motor load at 125 VAC, 3A ballast load at 125 or 277 VAC, 33 LRA at 240 VAC, 10A FLA at 240 VAC.
Operating Temperature: 0°C to 70°C.
Mounting: 2.62 sq. cutout accepts timer which is secured with rear attached bracket & nut. Nut must not be tightened greater than 3 inch pounds, or product may be damaged.
Wiring: Three (3) .25" Quick Connect terminals for power relay connections, two (2) #18 AWG wires, 12 inches long for operating voltage connections.
Agency Certification: UL File E47858: Appliance Controls - Component ATNZ2 (US), ATNZ8 (Can)
Data Sheet Revision Date: January 3, 2006

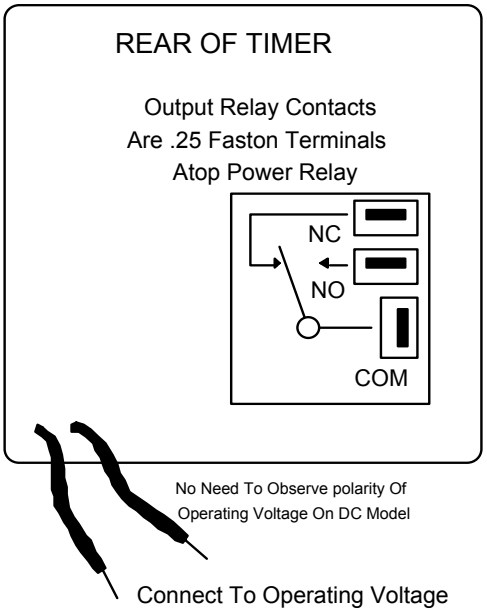
Solid State Timers and Controllers

Mechanical





Wiring



Ordering Information

Part Number	Operating Voltage
4970 - 1	12V DC
4970 - 2	115V AC
4970 - 3	230V AC
4970 - 4	24V AC

Programming The Initial Timebase

The model 4970 is shipped from the factory preset to the Code 3 time base of 23:59 Hours : Minutes. To program another time base perform the following steps:

1. Turn OFF the power.
2. Press the ▼ button while turning the power ON.
3. Release the button after the display turns ON.
4. A number from 0 to 3 will appear. This number corresponds to:
   - 0 = 000.1 - 999.9 seconds
   - 1 = 00:01 - 59:59 minutes : seconds
   - 2 = 0001 - 9999 seconds
   - 3 = 00:01 - 23:59 hours : minutes
5. Use the ▲ button to select the desired time base.
6. Turn OFF the power.
7. Wait 2 seconds.
8. Turn ON the power and the model 4970 will remain in the new time range until reprogrammed as above.

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The 4970 is a microcontroller based countdown interval timer with digital display of timing controlling a high current set of output contacts. During a timing cycle the output relay is energized and the display will countdown to zero, at which time the output relay de-energizes. The time base can be programmed to countdown the time in the following ranges: 0001 - 9999 seconds, 00:01 - 99:59 minutes : seconds, and 00:01 - 99:59 hours : minutes. Prior to the start of a cycle an LED on the front panel will be OFF. When running a timing cycle the LED will flash, and at the end of the cycle the timer will beep for five seconds, the LED will turn ON steady and the display will reset to the preset starting time. Two arrow buttons on the front panel are used to set the time. Hold the UP ARROW button down to increase the time . The longer the button is held down, the faster the rate at which the time will increase. The DOWN ARROW button is used in the same manner as the UP ARROW button except it will cause the time to decrease. Using the UP ARROW and DOWN ARROW buttons in this manner permits accurate setting of countdown time. The START/STOP button performs three functions. Pressing the START/STOP button while the timer is not active, will cause the timer to begin counting down the time on the display and activate the output power relay contacts. Pressing the START / STOP button while the timer is active, will stop the timer and de-energize the output power relay, turning OFF the LED. The timer will display the time remaining in the cycle when it is interrupted by the START/STOP button. If the START/STOP button is pressed again the output power relay will energize and the timer will continue timing from the point it was stopped. Should the START/STOP switch be held down for longer than two seconds while it is in the STOP mode the timer will reset and the display will return to the original starting time and the LED will turn OFF. Should power fail during a timing cycle the internal memory will backup the time to the last five second tick and upon restoration of power the timer will complete the preset timing cycle. The 4970 always remembers the last interval time selected and when first powered up resets to that time.

Specifications

Timing Mode: Interval - Countdown.

Operating Voltage: 12V DC ±15% @ 0.2A max. (-1), 115V AC ±15% 50/60 Hz. (-2) @ 5W max., 230V AC ±10% 50/60 Hz. (-3) @ 5W max., 24V AC ±10% 50/60 Hz. (-4) @ 5W max.

Programmable Time Base: 00:01 - 99:59 minutes : seconds (Code 1) , 0001 - 9999 seconds (Code 2), 00:01 - 99:59 hours : minutes (Code 3).

Timing Accuracy: ±.5% of setting.

Digital Display: Four (4) digit red LED, 0.56 inch high characters displays remaining timing interval.

Timing Cycle Memory: Preset time kept in non-volatile memory, Timing backed up to the 5 second tick.

Front Panel Indicator: An LED indicates the timer state.

Front Panel Switches: Two (2) for setting the time. One (1) for starting and stopping the timer.

Audible Alarm: A solid state alarm will sound for five (5) seconds at the end of a timing cycle.

Output Contact Rating: SPDT Power relay contacts. Normally Open Contacts: Rated for 20A inductive or resistive at 125 or 240 VAC and 30V DC, 6A inductive or resistive at 277 VAC. 2 HP motor load at 240 VAC, 1 HP motor load at 125 VAC, 6A ballast load at 125 or 277 VAC, 60A LRA at 240 VAC, 20A FLA at 240 VAC. Normally Closed Contacts: rated for 10A inductive or resistive at 125 or 240 VAC, 3A inductive or resistive at 277 VAC, 10A inductive or resistive at 30 VDC, 1/2 HP motor load at 240 VAC, 1/4 HP motor load at 125 VAC, 3A ballast load at 125 or 277 VAC, 33 LRA at 240 VAC, 10A FLA at 240 VAC.

Operating Temperature: 0°C to 70°C.

Mounting: 2.62 sq. cutout accepts timer which is secured with rear attached bracket & nut. Nut must not be tightened greater than 3 inch pounds, or product may be damaged.

Wiring: Three (3) .25" Quick Connect terminals for power relay connections, two (2) #18 AWG wires, 12 inches long for operating voltage connections.

Agency Certification: UL File E47858: Appliance Controls - Component ATNZ2 (US), ATNZ8 (Can)

Data Sheet Revision Date: December 12, 2007

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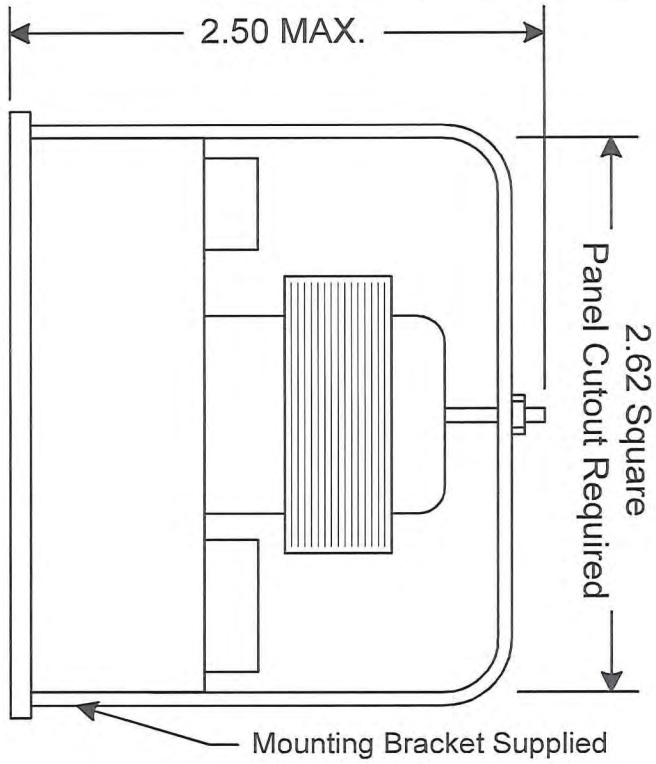
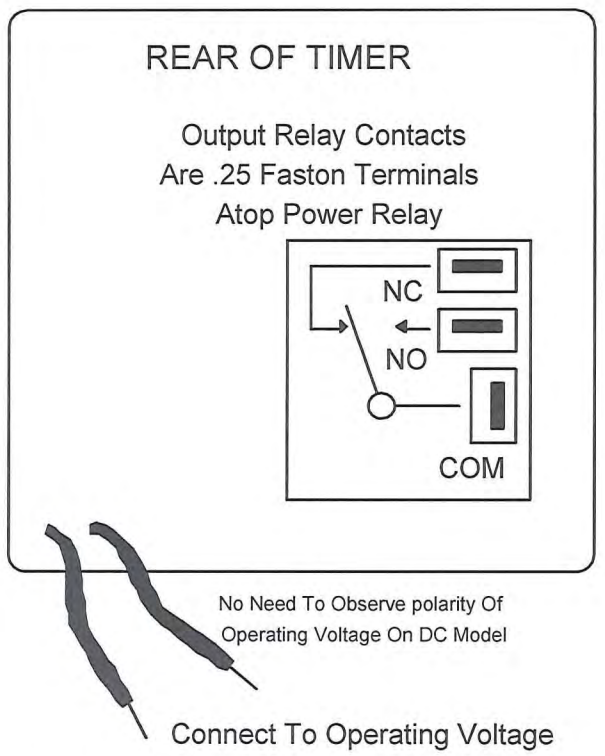
Mechanical



Wiring



Ordering Information

Part Number	Operating Voltage
4970 - 1	12V DC
4970 - 2	115V AC
4970 - 3	230V AC
4970 - 4	24V AC

Programming The Initial Timebase

The model 4970 is shipped from the factory preset to the Code 3 time base of 99:59 Hours : Minutes. To program another time base perform the following steps:

1. Turn OFF the power.
2. Press the ▼ button while turning the power ON.
3. Release the button after the display turns ON.
4. A number from 1 to 3 will appear. This number corresponds to:
   1 = 00:01 - 99:59 minutes : seconds
   2 = 0001 - 9999 seconds
   3 = 00:01 - 99:59 hours : minutes
5. Use the ▲ button to select the desired time base.
6. Turn OFF the power.
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