



<http://waterheatertimer.org/Intermatic-timers-and-manuals.html#ET7000>



Certified under Title 24,  
Part 6, Section 131(D)  
of the California  
Code of Regulations

Next

generation  
ELECTRONIC TIME SWITCHES

## SPECIFIER GUIDE

### 1, 2, 4, 8 & 16 Load Electronic Time Switches

Powerful yet **Precise** Control

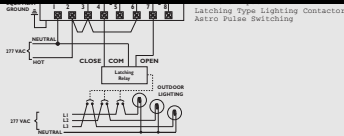
**Programmable** for any Load

Daily, Weekly or Yearly **Scheduling**

Fixed, **Astro**, **Pulse** and **Interval**

**Heavy-Duty** Direct Load Control

Ultimate Flexibility and **Simplicity**



#1

**Full Year or 7-Day**

These electronic time switches provide to-the-minute programming for 7-day or full year load control and reduced energy costs. A user selectable clock format for 12 hour AM/PM or 24 hour is provided. Full year control features include up to 99 different “holidays” each of which can be programmed for any duration. Any holiday or holiday duration can be left for “no load activity” or programmed for a unique load activity. Fully automatic daylight saving time adjustment, with user selectable override, and automatic leap year adjustment are also standard on the ET70000C series. Weekly programming provides single step weekday and weekend programming to simplify typical 5/2 day load control. An automatic review feature enables quick easy review of all programmed data.

Flexible load control is enhanced by Astro, Pulse (from 1 to 127 seconds) and Interval options as required for outdoor lighting control, bell ringing and after hours temporary override respectively. These options can be combined, for example, to provide Astro switching with a Pulse output for outdoor lighting using a latching contactor. Each of these options is selected and programmed by the installer using a unique “self-prompting” display with LED indicators dedicated to each option.

A non-volatile memory maintains all programmed switching times for the life of the time switch. A factory installed field replaceable lithium battery maintains accurate time keeping and calender information for a minimum of 8 years. The self contained logic board is shielded and utilizes advanced circuit board layout techniques and state of the art micro components to eliminate problems related to electrical noise interference. Transient protection for up to 6,000 volts is provided by the power board. These time switches are housed in a lockable steel enclosure. Both NEMA 1 and NEMA 3R enclosures are available for the 1 and 2 circuit models which also fit all standard Intermatic T100 series enclosures. The 4, 8 and 16 circuit models are standard in a NEMA 3R enclosure and include input terminals for wired remote 4 circuit override. Accessory #156ET9402A expands 8 circuit models to 8 circuits of override; accessory #156ET9043A expands 16 circuit models to 16 circuits of override.

**Applications**

- Parking lot lighting
- Gas stations
- Security systems
- Universities
- Fast food facilities
- Convenience stores
- Apartment complexes
- Correctional facilities
- Specialty applications

Model #	Circuit(s)	Switch	Clock Supply 50/60 Hz	Amps/ pole	Ballast	HP
ET70115C	1	SPDT	120/208/240/277V	20	20	1-2
ET70115CR	1	SPDT	120/208/240/277V	20	20	1-2
ET70115CR24	1	SPDT	24V 60Hz	20	20	1-2
ET70215C	2	SPDT	120/208/240/277V	20	20	1-2
ET70215CR	2	SPDT	120/208/240/277V	20	20	1-2
ET70215CR24	2	SPDT	24V 60Hz	20	20	1-2
ET70415CR	4	SPDT	120/208/240/277V	20	20	1-2
ET70415CR24	4	SPDT	24V 60Hz	20	20	1-2
ET70815CR	8	SPDT	120/208/240/277V	20	20	1-2
ET70815CR24	8	SPDT	24V 60Hz	20	20	1-2
ET71615CR	16	SPDT	120/208/240/277V	20	20	1-2
ET71615CR24	16	SPDT	24V 60Hz	20	20	1-2

Normally Open Contact Ratings (see specifications for complete ratings), per pole for multi-circuit models. “CR” Models Shipped in NEMA 3R Enclosure.



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**120/208/240/277V**  
**(Factory Preset for 120V)**  
**50/60 Hz Operation or**  
**24V 60 Hz Operation**

**1 & 2 Circuit Specifications**

**Case**—NEMA 1 Drawn steel; 7-3/4" (19.7 cm) high, 5" (12.7 cm) wide, 3" (7.6 cm) deep in gray finish.

NEMA 3R Drawn steel; 9-3/8" (23.8 cm) high, 5-1/2" (14.0 cm) wide, 3-5/8" (9.0 cm) deep in gray finish.

Both types include permanently attached side hinged door with lockable hasp. Mounting holes and/or mounting bracket included. Separate grounding terminal.

**Knockouts**—Combination 1/2"–3/4" nominal knockouts, one on back and each side and two on case bottom.

**Optional Enclosures**—Contact factory for availability of time switch in other enclosures. For flush enclosure order 2T2365GA.

**Special Voltages and Cycles**—All line voltage models 50 or 60 Hz; field selectable for 120 (factory shipped), 208, 240 or 277 volts. Low voltage models 24 volts, 60 Hz.

**Switch Rating**—(each pole for multi-circuit models)

Normally Open Contacts:

- 20 amp resistive/general purpose, 12–277 VAC
- 20 amp resistive/general purpose, 28 volts DC
- 20 amp ballast, 120–277 VAC
- 1 HP, 120 VAC 60 Hz
- 2 HP, 240 VAC 60 Hz
- 5 amp tungsten, 120–277 VAC
- 470 VA pilot duty, 12–240 VAC
- TV-5, 120–240 VAC

Normally Closed Contacts:

- 10 amp resistive/general purpose, 12–277 VAC
- 10 amp resistive/general purpose, 28 volts DC
- 3 amp ballast, 120–277 VAC
- 1/4 HP, 120 VAC 60 Hz
- 1/2 HP, 240 VAC 60 Hz
- 275 VA pilot duty, 12–240 VAC

**Carry-over**— Non-volatile memory requires no backup. Time keeping and calender data maintained within 0.01% accuracy for minimum of 8 years with one factory installed, field replaceable lithium coin cell; Panasonic or Ray-O-Vac BR2325 (or equivalent).

**Operating Temperature Range**— -40° F (-40° C) to 120° F (50° C).

**Shipping Weight**— 4.2 lbs. (1.91 Kg).

Please see following pages for more ET70000C Series information.



**Wired Remote  
ON/OFF or  
Timed Override**

**Full Year or 7-Day, continued  
4, 8, 16 Circuit Specifications**

**Case**—NEMA 3R Heavy duty .047" 18 gauge steel in gray finish;  
ET70415CR—12-1/2" (31.7 cm) high, 8-1/4" (21.0 cm) wide,  
4" (10.2 cm) deep.  
ET70815CR—10-3/4" (27.3 cm) high, 11-1/2" (29.2 cm) wide,  
4-3/4" (12.1 cm) deep.  
ET71615CR—20-5/8" (52.4 cm) high, 13-1/4" (33.7 cm) wide,  
5-1/8" (13.0 cm) deep.  
Side hinged door with gasket (removable for installation), riveted hinges  
and a positive locking hasp assembly, making the enclosure tamper-proof.  
Mounting holes and hanging bracket provided on back. Separate grounding  
terminal.

**Knockouts—**

ET70415CR—Combination 1/2"–3/4" nominal knockouts, two on back one  
on each side and two on bottom. Also one 1" nominal knockout on bottom  
center.  
ET70815CR—Combination 1/2"–3/4" nominal knockouts, four on bottom,  
plus two 1" on bottom.  
ET71615CR—Combination 1/2"–3/4" nominal knockouts, two on each side  
of case, six on bottom, plus one 1" on each side of case, four 1"  
on bottom.

**Optional Override for 8 and 16 Circuit Time Switches**—Provides over-  
ride capability for maximum available circuits; #156ET9402A for 8 circuit  
time switches or #156ET9403A for 16 circuit time switches.

**Optional Enclosures**—NEMA 3R only. Flush mount cover  
(#6ET1398GA) available for 4 circuit models.

**Special Voltages and Cycles**—All line voltage models 50 or 60 Hz;  
field selectable for 120 (factory shipped), 208, 240 or 277 volts. Low  
voltage models 24 volts, 60 Hz.

**Switch Rating**—(each pole)

Normally Open Contacts:

- 20 amp resistive/general purpose, 12–277 VAC
- 20 amp resistive/general purpose, 28 volts DC
- 20 amp ballast, 120–277 VAC
- 1 HP, 120 VAC 60 Hz 2 HP, 240 VAC 60 Hz
- 5 amp tungsten, 120–277 VAC
- 470 VA pilot duty, 12–240 VAC
- TV-5, 120–240 VAC

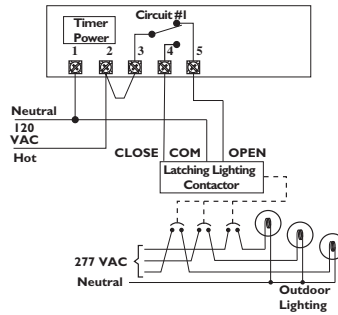
Normally Closed Contacts:

- 10 amp resistive/general purpose, 12–277 VAC
- 10 amp resistive/general purpose, 28 volts DC
- 3 amp ballast, 120–277 VAC
- 1/4 HP, 120 VAC 60 Hz 1/2 HP, 240 VAC 60 Hz
- 275 VA pilot duty, 12–240 VAC

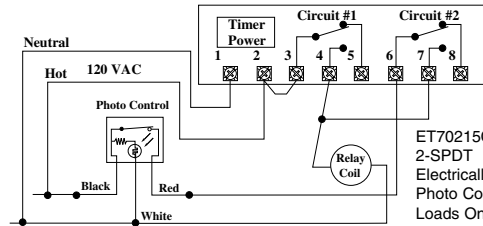
**Carry-over**—Non-volatile memory requires no backup. Time keeping and  
calendar data maintained within 0.01% accuracy for minimum of 8  
years with one factory installed, field replaceable lithium coin cell;  
Panasonic or Ray-O-Vac BR2325 (or equivalent).

**Operating Temperature Range**—–40° F (–40° C) to 120° F (50° C).

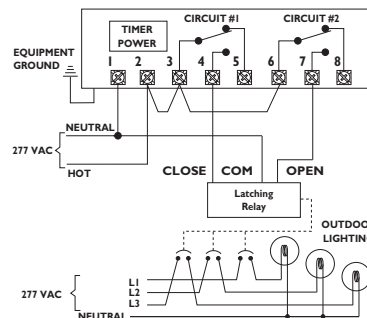
**Shipping Weight**— ET70415CR 6.2 lbs. (2.81 Kg)  
ET70815CR 12.5 lbs. (5.67 Kg)  
ET71615CR 25 lbs. (11.34 Kg)



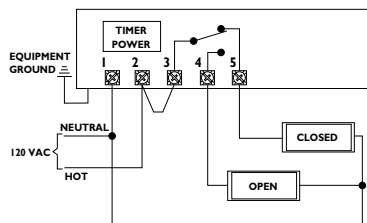
ET70115C  
SPDT  
120 volt input  
Latching Type Lighting Contactor  
(120V Coil)  
Switching 277 volt Lighting  
Lighting Contactor with Coil  
Clearing Contacts  
(Pulse Output Not Required)  
Astro Switching



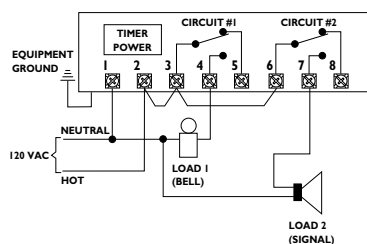
ET70215C  
2-SPDT  
Electrically Held Relay and  
Photo Control for Switching  
Loads On During Daylight  
Hours if Darkness  
Should Occur  
Program Circuit #2 To be On  
During Daylight Hours



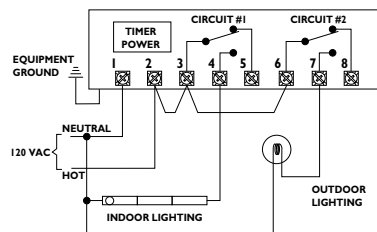
ET70215C  
2-SPDT  
277 Volt Input  
Latching Type  
Lighting Contactor  
Astro Pulse Switching



ET70115C  
SPDT  
277 Volt Input  
120 Volt Input  
Alternating  
Sign Control / Fixed  
Switching



ET70215C  
2-SPDT  
120 Volt Input  
Bell and Signal Controls /  
Plus And Interval Switching



ET70215C  
2-SPDT  
120 Volt Input  
Indoor and Outdoor  
Lighting / Astro Switching  
Circuit #2 Only

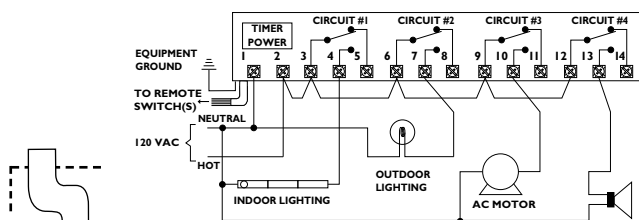
**ET70115C, ET70115CR, ET70215C, ET70215CR, ET70415CR, ET70815CR & ET71615CR**—The electronic time switch shall be a solid state digital type capable of distributing set points on independent daily schedules throughout a 7 day time period. The time switch shall provide for 5 weekday programming, 2 weekend day programming or all 7 day programming to simplify program entry for typical 5/2 day load control. A copy feature shall be provided for duplicating full daily schedules where the 5/2 day scheduling is not applicable. The time and set points shall be programmable to the nearest minute with a minimum ON duration of 1 minute and a maximum of 6 days, 23 hours and 59 minutes. The time switch shall have a digital LED readout and prompt LEDs for each function to further simplify program entry. Each load control shall include an ON/OFF pushbutton, an ENABLE/DISABLE switch and an LED load status indicator. The time switch shall provide an operating temperature range of -40° F (-40°C) to 122° F (50° C).

The time switch shall provide astronomic programming and momentary or interval programming for any or all circuits independently. Astronomic control shall automatically calculate “center of time zone” times for both sunrise and sunset, and allow user-selectable offset of actual times. Pulse output shall be programmable for any duration of 1–127 seconds and interval output for up to 6 days, 23 hours and 59 minutes. Interval output shall also provide for user selectable override to turn load(s) on for a limited programmed time period up to 6 days, 23 hours and 59 minutes. See additional specifications to follow.

The time switch shall provide full year control by providing automatic leap year and daylight saving time adjustment. A user selectable override shall be provided for states not observing daylight saving time. The time switch shall also provide holiday or special day control requirements by providing up to 99 holiday schedules. Each of the holiday schedules shall be programmable for a single day or any duration as required. Each holiday schedule shall provide automatic no load activity and shall be independently programmable for a unique load schedule if required.

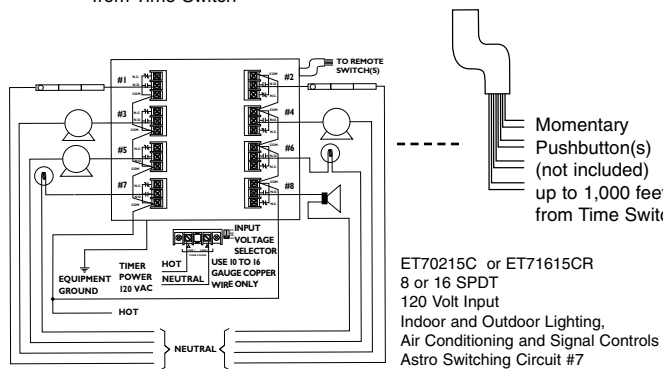
A non-volatile memory shall maintain all program data for the life of the time switch without the need for battery backup. The time switch shall include a factory installed lithium battery backup which shall maintain clock time and calendar data for 8 years minimum. The single coin cell backup shall be user replaceable without removing the field wiring.

The text above is available on diskette from your Intermatic Representative.



Momentary Pushbutton(s) (not included) up to 1,000 feet from Time Switch

ET70215C 4-SPDT 120 Volt Input Indoor and Outdoor Lighting, Air Conditioning and Signal Controls Astro Switching Circuit #2 Pulse Switching Circuit #4



Momentary Pushbutton(s) (not included) up to 1,000 feet from Time Switch

ET70215C or ET71615CR 8 or 16 SPDT 120 Volt Input Indoor and Outdoor Lighting, Air Conditioning and Signal Controls Astro Switching Circuit #7 Pulse Switching Circuit #8

The time switch logic control circuitry shall be isolated and shielded to prevent EMI and RFI interference, for reliable operation in electrically noisy environments. The power board circuitry shall provide protection for transients up to 6,000 volts. All control times shall be accurate to the minute and synchronized to the 50 or 60 Hz input. The time switch shall provide user-selectable 12 hour AM/PM or 24 hour clock formats.

The time switch shall be enclosed in a lockable steel \_\_\_\_\_ (NEMA 1) (NEMA 3R) enclosure. The time switch shall be powered by a \_\_\_\_\_ (user selectable 120, 208, 240 or 277 VAC 50 or 60 Hz) (24 VAC 60 Hz) source. Switch configuration to be SPDT for each circuit with a UL 916 Energy Management Equipment listed rating of:

Normally Open Contacts—

- 20 amp resistive/general purpose, 12–277 VAC;
- 20 amp resistive/general purpose, 28 volts DC; 20 amp ballast, 120–277 VAC;
- 1 HP, 120 VAC 60 Hz; 2 HP, 240 VAC 60 Hz.;
- 5 amp tungsten, 120–277 VAC;
- 470 VA pilot duty, 12–240 VAC
- TV-5, 120–240 VAC

Normally Closed Contacts—

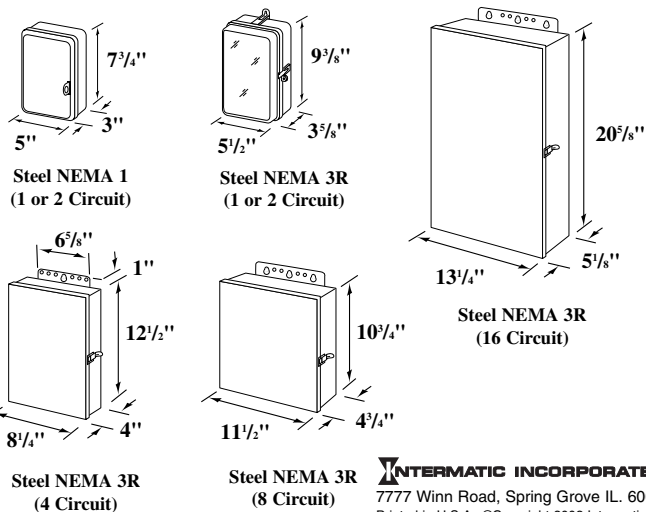
- 10 amp resistive/general purpose, 12–277 VAC;
- 10 amp resistive/general purpose, 28 volts DC; 3 amp ballast, 120–277 VAC; 1/4 HP, 120 VAC 60 Hz.; 1/2 HP, 240 VAC 60 Hz.;
- 275 VA pilot duty, 12–240 VAC

The time switch shall be INTERMATIC Model \_\_\_\_\_ (ET70115C, ET70115CR or ET70115CR24 single circuit) (ET70215C, ET70215CR or ET70215CR24 two independent circuits with 15 sec. soft start between circuits) (ET70415CR or ET70415CR24 four independent circuits with 15 sec. soft start between circuits) (ET70815CR or ET70815CR24 eight independent circuits with 15 sec. soft start between circuits) (ET71615CR or ET71615CR24 sixteen independent circuits with 15 sec. soft start between circuits).

**Additional Specifications for ET70415CR, ET70415CR24, ET70815CR, ET70815CR24, ET71615CR, ET71615CR24**—The time switch shall provide local or remote selection of load override. Remote override shall be initiated by a momentary or maintained switch closure connected to the time switch override connections using bell wire up to 1,000 feet. Four override terminals shall be provided to allow independent override selection in addition to independent to-the-minute override durations.

**Additional Specifications for ET70815CR, ET70815CR24, ET71615CR, ET71615CR24**—The time switch shall include a remote override for (4) (12) additional circuits and shall be Intermatic accessory \_\_\_\_\_ (#156ET9402A for ET70815CR or ET70815CR24) (#156ET9403A for ET71615CR or ET71615CR24).

Case Dimensions



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