

<http://waterheatertimer.org/Paragon-timers-and-manuals.html>

QUAD CONTROLS

The EL71 and EL72 Series has it all. This two-relay series has single-handedly replaced up to 5 controls and has every feature an industrial, commercial or municipal application could possibly require. The EL71 and EL72 can be used as 24-hour, 7-day, 365-day controls with daylight savings time, leap year adjustment and selectable SunTracker™ controls. Y2K compatible, they are easy to program with each control allowing up to 128 ON or OFF events, 34 holidays and 32 sensor events.

FEATURES & BENEFITS:

- ▶ 96-Hour Carryover, unique to Paragon, protects scheduled events from power interruptions via a capacitor-more reliable than batteries.
- ▶ Resolution enhancements allow 4 user-defined duty cycle patterns; 4 user-defined durations are available from 1 second to 23 hours, 59 minutes, 59 seconds.
- ▶ ON/OFF events can be controlled by temperature, light or other sensors.
- ▶ Enabler switch allows an ON event to be selected without pre-programming the event.
- ▶ Pecosoft.EL software and CIM1 Adaptor (each sold separately) allow remote programmability.
- ▶ User-friendly keypad and easy-to-read digital time display take the frustration out of programming.
- ▶ Remote override allows immediate reaction to unexpected events without affecting pre-programming or visiting the clock site.
- ▶ UL and CSA listed means quality and durability are built into every time control.
- ▶ Title 24 certified.



WHY ▶ *Specify Paragon*

Since 1903, Paragon has been the leader in time and process control technology. As inventor of the 24-hour time switch, Paragon's heritage of patents, unparalleled quality and solutions-driven innovations have made us one of the most recognized names in time control products.

ELECTRICAL SPECIFICATIONS

Model No.	Channels	Voltage
EL71/120	Single Channel	120 Vac
EL71/208-240	Single Channel	208-240 Vac
EL71/277	Single Channel	277 Vac
EL71PC/120	Single Channel	120 Vac
EL71PC/208-240	Single Channel	208-240 Vac
EL71PC/277	Single Channel	277 Vac
EL72/120	Two Channel	120 Vac
EL72/208-240	Two Channel	208-240 Vac
EL72/277	Two Channel	277 Vac
EL72PC/120	Two Channel	120 Vac
EL72PC/208-240	Two Channel	208-240 Vac
EL72PC/277	Two Channel	277 Vac

Note: PC suffix designates NEMA 3R non-metallic enclosure with Clear-View cover. All other models supplied in a NEMA 1 metal enclosure.

Frequency 50/60 Hz

Power Consumption 4 VA Max

Wiring Terminals Power input and relay contact terminals can accommodate 10-16 AWG.

Sensor/override input terminals can accommodate 14-22 AWG UL Listed, CSA Certified, and comply with FCC, part 15 rules.

Power Outage Carry-Over (No battery needed)

The program and time-of-day are maintained during a power outage for a minimum of 7 days. A built-in, special capacitor eliminates the inconvenience of battery replacement.

Output Switch Ratings

Normally open contacts:

20 amp resistive or inductive at 120-277 Vac
 1 Hp at 120 Vac
 2 Hp at 208-277 Vac
 5 amp tungsten at 120-240 Vac
 20 amp ballast at 120 Vac
 10 amp ballast at 208-277 Vac
 470 VA at 120-240 Vac

Normally closed contacts:

10 amp resistive or inductive at 120-277 Vac
 1/4 Hp at 120 Vac
 1/2 Hp at 208-277 Vac
 3 amp ballast at 120-277 Vac
 275 VA at 120-240 Vac

HOW TO SPECIFY

Installer shall furnish and install Paragon EL71 single-channel (or EL72, two-channel) Electronic Time Control. The control shall have 24-hour, 7-day, 365 day, or SunTracker™ capability with 128 events available. It shall also have 4 user-definable durations and duty cycle lengths plus automatic daylight savings time and leap year adjustments. Control shall have remote override capabilities (timed, toggle or enable type.) Control shall have keyboard override until overridden again or until next event is reached. It shall be capable of switching loads based on user-definable temperature and light levels with 32 events available. Control shall have momentary (latching relay) capability and shall have Astro features plus

ENVIRONMENTAL

Operating Temperature Range -20°F (-29°C) to 140°F (60°C)

Operating Humidity 0-95%RH non-condensing

Models in NEMA 1 enclosure should be mounted indoors in an environment that is free of excessive contaminants such as oil, moisture and dirt. Models in NEMA 3R non-metallic enclosure are suitable for both indoor and outdoor use.

OPTIONAL ACCESSORIES

Computer Interface Module

Model CIM1 Computer Interface Module allows two way communication between the EL71/EL72 and a personal computer. Programs can be written and stored on the PC and then loaded into the time control. Programs can also be copied from the time control into the PC to allow review and verification.

Computer Software

The Pecosoft.EL software program provides a quick and easy method of programming and reviewing the EL71/EL72 from a personal computer. Programs can be written and stored on the PC and then loaded into the time control. Programs can also be copied from the time control into the PC to allow easy review and verification.

PHYSICAL

EL71

Enclosure NEMA 1 drawn steel with lockable hasp
 Weight Approximately 2 lbs. (0.9 kg)
 Dimensions Width 4-1/4" (10.8 cm)
 Height 7-7/8" (20.0 cm)
 Depth 3" (7.6 cm)
 Display Size 2-5/8" x 3/4" (6.7 cm x 1.9 cm)

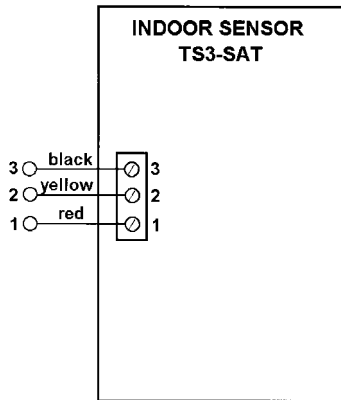
EL72

Enclosure NEMA 3R non-metallic, with Clear-View cover
 Weight Approximately 2-1/2 lbs. (1.1 kg)
 Dimensions Width 6-9/16" (16.7 cm)
 Height 9" (22.9 cm)
 Depth 3-7/8" (9.8 cm)
 Display Size 2-5/8" x 3/4" (6.7cm x 1.9 cm)

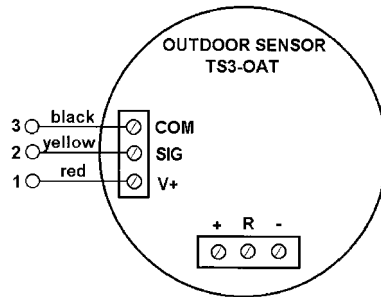
30 definable holidays and 6 pre-programmed holidays. Control shall typically provide 96 hours of power outage carry-over without a battery. The digital time display shall be 3/4" in height. Clock format shall be selectable, allowing a choice of 12 hour (AM/PM) or 24 hour format. Control shall be capable of interfacing (sending and receiving data) with a personal computer. Wiring terminals shall have the capability to accommodate #16 to #10 AWG wire. Control shall be housed in a NEMA 1, lockable steel enclosure or a NEMA 3R enclosure with Clear-View cover and shall be lockable to guard against vandalism or tampering.

EL71 & EL72 SERIES

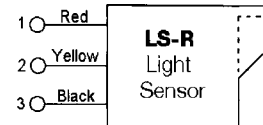
TEMPERATURE SENSORS AND LIGHT SENSOR






- 1. red (5V)
- 2. yellow (Signal)
- 3. black (GND)



- To the EL Series Time Control:
- V+ red (5V)
 - SIG yellow (Signal)
 - COM black (GND)



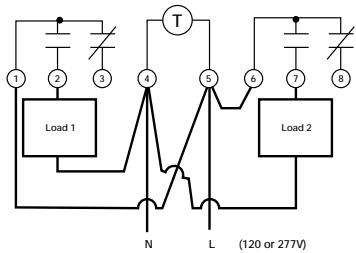
TEMPERATURE SENSORS AND LIGHT SENSOR

Model No.	Description	Wiring Diagram	
TS3-SAT	Solid-state temperature sensor for indoor use designed to interface directly with the EL71 and EL72. Operating temperature -40°F to 140°F (-40°C to 60°C), resolution 1.5F (1C). Dimensions: 4.5"H x 2.75"W x 1.25"D.	See above	
TS3-OAT	Solid-state temperature sensor, sealed for outdoor use, designed to interface directly with the EL71 and EL72. Operating temperature -40°F to 167°F (-40°C to 75°C), resolution 1.5F (1C). Dimensions: 6.25"H x 1.25"W x 4"D. This sensor comes complete with a 3.5"D x 1.75"H non-metallic electrical box.	See above	
LS-R	Solid-state light sensor designed to interface directly with the EL71 and EL72. It provides a relative light level to the control (0-88 L). The light sensor's range (0-300 foot candles) is adjustable to accommodate a wide variety of light sensing requirements. Dimensions: 2.5"L x 1.28"D. (Electrical box not included.)	See above	

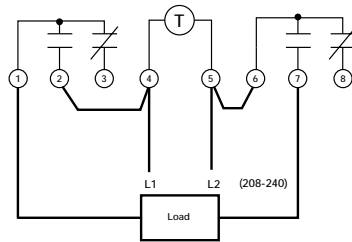
EL71 & EL72 SERIES



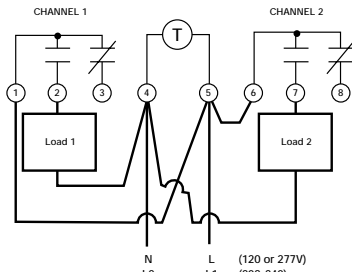
TYPICAL WIRING DIAGRAMS



EL71 - Single Channel Control
(Switching 2 loads with identical schedules)

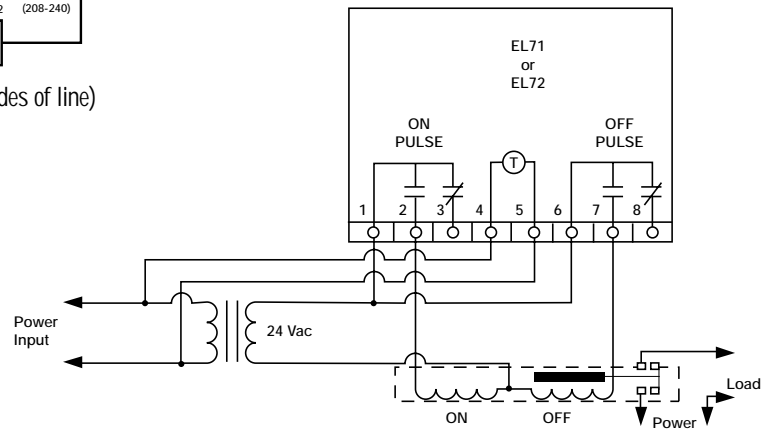


(Switching both sides of line)



EL72 - Two Channel Control

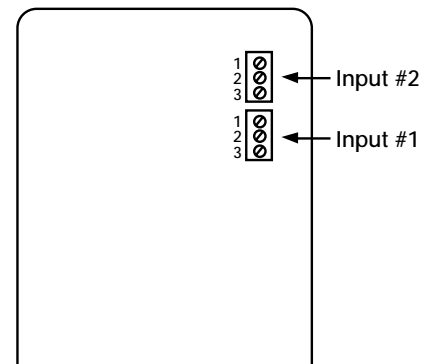
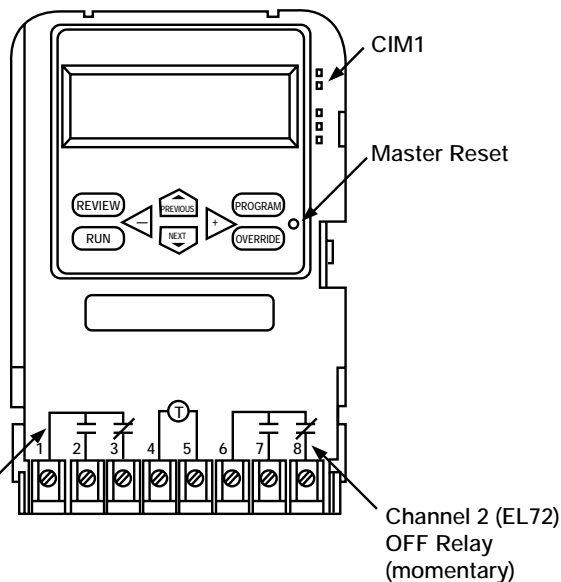
Typical wiring diagram for controlling Latching Relays (Momentary Contacts)



CONTROL LAYOUT

Program Header Menu

- TIME
- CONF
- ASTR
- EVNT
- INPT
- EVNT SENS
- HOL



- Sensor Connection:
1. red
 2. yellow
 3. black

External Override: use 1+2

NOTE: It is recommended that shielded cable be used for sensor and override input wiring. The shield should be tied to earth ground at the control.

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