



# TORK<sup>®</sup>

## PRODUCT CATALOG

### 2011



A DIVISION OF **NSI** NSI INDUSTRIES, LLC



## *About Us*

Since 1975, **NSi**'s strength is in the unique products that we bring to the market, combined with our exceptional ability to provide quality **TORK®** brand products manufactured in the company's Mount Vernon facility. **TORK®** is **NSi Industries** largest brand, covering the categories of Electromechanical and Digital Time Switches, Signaling and Alert Devices, Pool and Spa Controls, Residential Timers, Photocontrols and Occupancy Sensors.

For over 85 years, **TORK** brand recognition and *reputation for quality* and design make it the most specified brand in the industry. The **TORK** brand has a rich history beginning in the 1920s when the company introduced the first electromechanical time switch to the marketplace. Currently, **TORK's** time switches maintain energy efficiency through lighting control in such high profile places as the Empire State Building, Washington DC Parks and Recreation, The Triborough Bridge, The Met Life Building and many more institutions across the country. As the *most specified brand of time switches* in the industry, **TORK** enjoys the hearty respect of engineers and project planners across all channels of distribution.

In the past several years, we've introduced a number of **TORK** time switches, in-wall and plug-in timers to meet increasingly specific needs in the marketplace. We've also added a line of installer-friendly pool and spa panels and time switches, and are proud to offer essential pool safety products that meet and exceed federal requirements for safe pools. We look forward to designing and engineering more of our Responsible Energy products, *helping save money and the environment* through responsible and minimal use of energy.

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# ENERGY CODE REFERENCE GUIDE



< **Responsible Energy** is the mark of TORK's commitment to developing and manufacturing energy saving, environmentally friendly products.



< Use the Quick Reference **Energy Code Guide** for approved products.



## **Responsible Energy**

Each of these marked products have features that decrease energy consumption and/or damage to the environment by one or more of the following:

- Timed control, Photocontrol and/or Astronomic control of on and off functions of lighting, fans, pumps and appliances
- Timed control of systems or multiple zones of lighting
- Photo or occupancy sensing control of lighting
- Supercapacitor backup, no batteries to replace or dispose.
- Helps meet CA Title 24, ASHRAE, IECC and other standards for responsible building products

## EXTERIOR LIGHTING ZONES

When ambient light levels drop at dusk, lighting is needed to provide safety and security. BUT: Does all lighting need to be on all night long? The proper selection of lighting controls is essential to ensuring that energy is only used when needed. An efficient lighting control design creates zones of light levels that can be varied by time at night.

**1**

### **ZONE 1: MINIMUM LIGHT LEVEL / DUSK TO DAWN**

**Security Lighting (all night):** Photocontrols, Photosensor controls

The first zone gives a minimum light level where security is the primary need. Determine what lighting is necessary, such as building-mounted wallpacks and a portion of the parking lot lighting. These should be on from dusk to dawn, and are best controlled by a photosensor device.

**2**

### **ZONE 2: HIGHER LIGHT LEVEL / DUSK TO TIME OFF**

**Safety & Architectural Lighting (not necessary all night):** Photosensor/Time-based controls, Astronomic controls

The second zone provides a higher light level for safety, when people are normally present. Maximum levels for the parking lot and all walkway lighting are needed. These lights are best controlled by a combination photosensor and time-based device to allow shut-off during the night. The astronomic-calculated sunset/time control can also be useful.

**3**

### **ZONE 3: ARCHITECTURAL / TIMED DUSK TO TIMED OFF**

**Building Facade, Landscape and Signage:** Astronomic controls

The third zone covers architectural lighting for building facade or landscape and signs. These are best controlled with an astronomic-calculated sunset/time control.

# INTERIOR LIGHTING ZONES

The first way to save energy begins with eliminating lighting when it isn't needed. As with exterior lighting, an efficient design matches controls to the typical use of the area.

1

## ZONE 1: SMALL SPACE

**Small Space, Meeting Rooms, Restrooms, Storage Spaces:** Occupancy Sensors, Interval Timers

The first zone includes small spaces such as offices, restrooms and storage areas - places where people may not occupy the space continuously. Individual wall switch replacement provides low cost installation, with occupancy sensors and interval timers as the best solution. In the event that wall switches provide proper coverage for the occupancy sensor, ceiling mounted options are available.

2

## ZONE 2: LARGE SPACE

**Small Space, Meeting Rooms, Restrooms, Storage Spaces:** Time of Day with Override, Occupancy Sensors

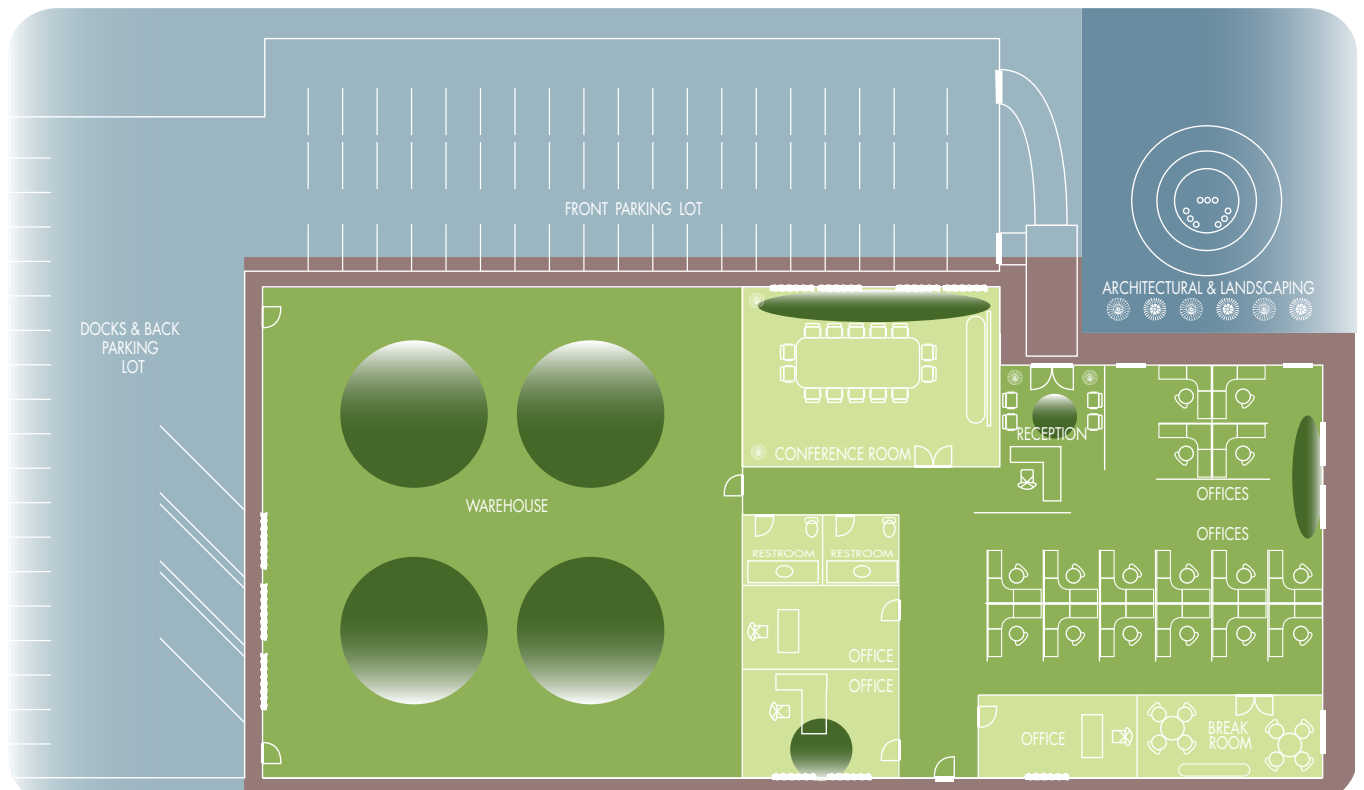
The first zone includes small spaces such as offices, restrooms and storage areas - places where people may not occupy the space continuously. Individual wall switch replacement provides low cost installation, with occupancy sensors and interval timers as the best solution. In the event that wall switches provide proper coverage for the occupancy sensor, ceiling mounted options are available.

3

## ZONE 3: HARVESTING LIGHT

**Large of Small Spaces with Natural Light:** Light Sensors, Light Sensors with Occupancy, Astronomic Timers.

A third zone that uses daylighting control can be added to wither of the first two zones. light sensors can shut off a portion of the lighting when windows or skylights contribute sufficient natural light to the area. This "harvesting" of light is an excellent, green way to conserve energy. (NOTE: Energy codes vary on the stated maximum time, but shorter times can give more energy savings).





**PHOTOCONTROLS**

# FEATURES

## QUICK LOOK

	2100 SERIES	2110 SERIES	2000 SERIES	2001 SERIES	2020 SERIES	3000 SERIES	5000M SERIES	2005A SERIES	5200 SERIES	5737 SERIES
Page	13	14	15	16	17	18	19	20	21	23
Mounting	Conduit	Conduit	Conduit	Conduit	Conduit	Flush	Turn-Lock	Turn-Lock	Turn-Lock	Turn-Lock
Adjustable Swivel				Yes	Yes					
Housing	Die Cast Zinc	Die Cast Aluminum	Lexan®	Lexan®	Lexan®	Lexan®	UV Stabilized Plastic	UV Stabilized Plastic	UV Stabilized Plastic	UV Stabilized Plastic
Turn ON Light Level	1 - 5 fc	1 - 5 fc	1 - 5 fc	1 - 5 fc	1 - 5 fc	1 - 5 fc	1 to 3 fc	1 to 3 fc	1.5 fc	5 fc
Adjustable light level adjustment	Yes	Yes	Yes	Yes						
Turn OFF Ratio	3:1	3:1	3:1	3:1	3:1	3:1	5:1	3:1	1.5:1	1.5:1
Time Delay ON	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Instant	Instant	Instant
Time Delay OFF	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Light Sensor	CdS	CdS	CdS	CdS	CdS	CdS	CdS	CdS	Silicon Diode	Silicon Diode
CFL Compatible	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Surge Protection							Yes	Yes	Yes	Yes
Photo Timer										Yes

# COMMON FEATURES

## CHOICE OF PHOTOCELLS



Cadmium sulphide, epoxy-sealed cells. Available in 1/2" and 1".

## TOUGH ENCLOSURES



All conduit and flush mounted models utilize die-cast zinc, die cast aluminum, or genuine Lexan® materials. All turn-lock models utilize high impact UV stabilized polypropylene, ABS, PBT or Lexan® materials.

## CHOICE OF MOUNTING ORIENTATION



Models are available in fixed position or 180° swivel.

## DEPENDABLE PERFORMANCE

Built-in time delay prevents false switching due to light from passing highway vehicles, lightning, etc. Instant response is available in turn-lock models (5200 Series).

## TURN-LOCKS MEET ANSI C136.10



All models meet the current ANSI requirements for locking-type prongs and color coded voltage designations. Locking prongs are solid brass.

### Color-Coded Dome

Grey	105-130VAC
Maroon	208-277VAC
Blue	105-285VAC
Yellow	480VAC
Green	347VAC

**TORK®** Photocontrols are designed and manufactured with components which adhere to the highest industry standards. Trained personnel and in-process quality procedures ensure that every unit meets our strictest quality standards.

# 2100 SERIES

SPECIFICATION GRADE  
1/2" CONDUIT MOUNTING  
DIE CAST ZINC  
PHOTOCONTROL



## APPLICATIONS



- Parking lot lighting
- Building perimeter lighting
- Outdoor signage

## FEATURES

**OPERATION:** Delay of up to two minutes to prevent false switching due to light from passing vehicles, lightning, etc.

**HOUSING:** Heavy Duty die cast zinc housing and base. Gasketed for maximum weather protection.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
2101	60012	120VAC
2104	60013	208-277VAC
2107	60031	120/277VAC
73866	62020	Mounting Bracket

## SPECIFICATIONS

**ON/OFF:** Turn ON is 1 to 5fc, Turn OFF is 3 to 15fc, without the slide in position. ON/OFF adjustment is easily made by moving a slide cover. No tools required.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide, epoxy-coated, 1" diameter.

**CONTACTS:** Remain closed between dusk and dawn. (The unit fails in the ON position).

**LEAD WIRES:** Three color coded, minimum 6" wire leads, #16AWG, rated for 105°C.

**POWER CONSUMPTION:**  
Averages under 1 watt.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

**FAIL MODE:** ON.

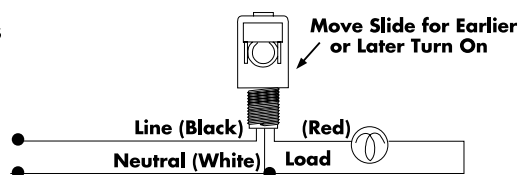
**WARRANTY:** 5 years.

## CONTACT RATINGS

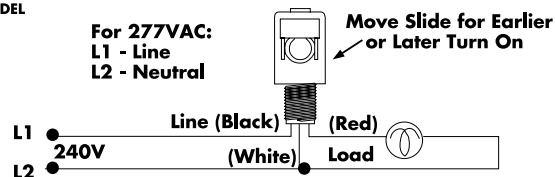
CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
2101	SPST	2000W	1800VA
2104	SPST	2000W	1800VA
2107	SPST	2000W	1800W

## WIRING DIAGRAMS

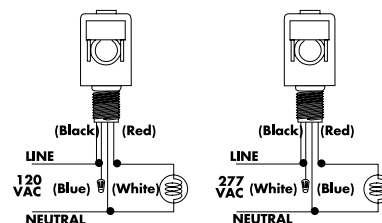
120V MODELS



208-277V MODEL



120/277V MODEL



# 2110 SERIES

## SPECIFICATION GRADE

### 1/2" CONDUIT MOUNTING

### DIE CAST ALUMINUM

### PHOTOCONTROL

## APPLICATIONS



- Parking lot lighting
- Building perimeter lighting
- Outdoor signage



2117

2115 & 2116

## SPECIFICATIONS

**ON/OFF:** Turn ON is 1 to 5fc, Turn OFF is 3 to 15fc, without the slide in position. ON/OFF adjustment is easily made by moving a slide cover. No tools required.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide, epoxy-coated, 1/2" diameter. Model 2117 is 1" cell.

**CONTACTS:** Remain closed between dusk and dawn (the unit fails in the ON position).

**LEAD WIRES:** Three color coded, minimum 6" wire leads, #16AWG, rated for 105°C. (2117 #10AWG red and black).

**POWER CONSUMPTION:**  
Averages under 1 watt.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

**FAIL MODE:** ON.

**WARRANTY:** 5 years.

## FEATURES

**OPERATION:** Delay of up to two minutes to prevent false switching due to light from passing vehicles, lightning, etc.

**HOUSING:** Die case aluminum housing and base. Gasketed for weather protection.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

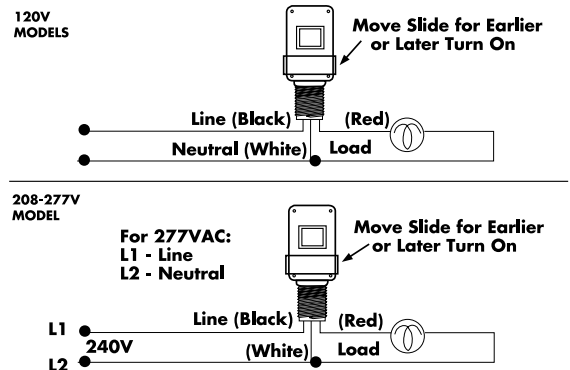
CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
2115	60032	120VAC
2116	60033	208-277VAC
2117*	60037	120VAC
73866	62020	Mounting Bracket

\*Not UL or CSA rated.

## CONTACT RATINGS

CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
2115	SPST	2000W	1800VA
2116	SPST	3470-4620W	2080-2770VA
2117*	SPST	3000W	3000VA

## WIRING DIAGRAMS



# 2000 SERIES

1/2" CONDUIT MOUNTING  
FIXED POSITION, LEXAN® HOUSING  
WITH WEATHERPROOF SEALANT  
PHOTOCONTROL



## APPLICATIONS



- Flood lamp
- Patio lamp
- Decorative lighting

## FEATURES

**OPERATION:** Delay up to two minutes to prevent false switching due to light from passing vehicles, lightning, etc.

**HOUSING:** All Lexan® enclosures are impact and vandal resistant. Translucent Lexan® Dome prolongs cell life by further screening out ultraviolet rays. Dome and base are ultrasonically welded for maximum strength.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
2000	60017	120
2000-2	60018	208-277
2000-7*	62023	120/277
73866	62020	Mounting Bracket

\*Model 2000-7 has a cadmium sulphide, 1" epoxy cell. Also UL listed and CSA certified.

## SPECIFICATIONS

**ON/OFF:** Turn ON is 1 to 5fc. Turn OFF is 3 to 15fc, without the slide in position. ON/OFF adjustment is easily made by moving a slide cover. No tools required.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide, epoxy-coated, 1/2" diameter.

**CONTACTS:** Remain closed between dusk and dawn. (The unit fails in the ON position).

**LEAD WIRES:** Three color coded, minimum 6" wire leads, #16AWG, rated for 105°C.

**POWER CONSUMPTION:**  
Averages under 1 watt.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

**FAIL MODE:** ON.

**WARRANTY:** 5 years.

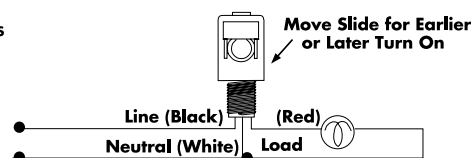
## CONTACT RATINGS

CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
2000	SPST	2000W	1800VA
2000-2	SPST	3470-4620W	2080-2770VA
2000-7*	SPST	2000W	1800VA

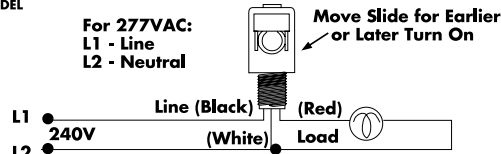
## WIRING DIAGRAMS

### 2000 SERIES

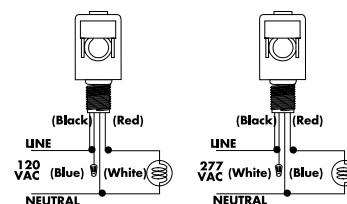
20V  
MODELS



08-277V  
MODEL



20/277V  
MODEL



# 2001 SERIES

1/2" CONDUIT MOUNTING  
180° SWIVEL, LEXAN® HOUSING  
PHOTOCONTROL



## APPLICATIONS



- Flood lamp
- Patio lamp
- Decorative lighting

## FEATURES

**OPERATION:** Delay up to two minutes to prevent false switching due to light from passing vehicles, lightning, etc.

**HOUSING:** All Lexan® enclosures are impact and vandal resistant. Translucent Lexan® Dome prolongs cell life by further screening out ultraviolet rays. Dome and base are ultrasonically welded for maximum strength.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
2001	60015	120
2002	60016	208-277
73866	62020	Mounting Bracket

## SPECIFICATIONS

**ON/OFF:** Turn ON is 1 to 5fc. Turn OFF is 3 to 15fc, without the slide in position. ON/OFF adjustment is easily made by moving a slide cover. No tools required.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide, epoxy-coated, 1/2" diameter.

**CONTACTS:** Remain closed between dusk and dawn. (The unit fails in the ON position).

**LEAD WIRES:** Three color coded, minimum 6" wire leads, #16AWG, rated for 105°C.

**POWER CONSUMPTION:**  
Averages under 1 watt.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

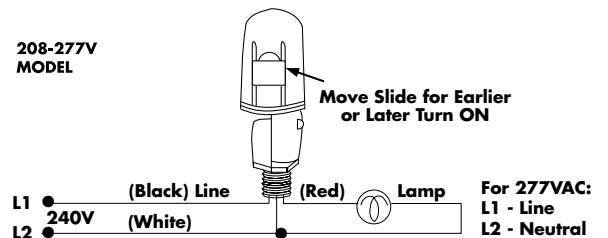
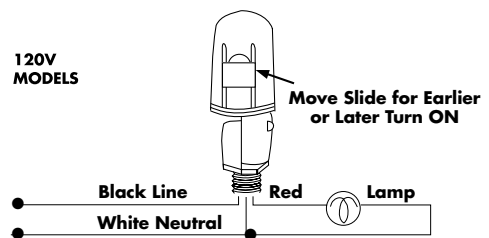
**FAIL MODE:** ON.

**WARRANTY:** 5 years.

## CONTACT RATINGS

CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
2001	SPST	2000W	1800VA
2002	SPST	3470-4620W	2080-2770VA

## WIRING DIAGRAMS



# 2020 SERIES

## 1/2" CONDUIT MOUNTING

### 180° SWIVEL, LEXAN® HOUSING

### PHOTOCONTROL



## APPLICATIONS



- Flood and patio lamps
- Decorative lighting
- Ideal for applications where it is essential to aim the photocell in an exact direction to sense natural light but avoid artificial light.

## FEATURES

**OPERATION:** Delay up to two minutes to prevent false switching due to light from passing vehicles, lightning, etc.

**HOUSING:** All Lexan® enclosures are impact and vandal resistant, cover and base are ultrasonically welded for maximum strength.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
2021	60024	120
2022	60025	208-277
73866	62020	Mounting Bracket

## SPECIFICATIONS

**ON/OFF:** Turn ON is 1 to 5fc. Turn OFF is 3 to 15fc.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide, epoxy-coated, 1/2" diameter.

**CONTACTS:** Normally closed (the unit fails in the ON position).

**LEAD WIRES:** Three color coded, minimum 6" wire leads, #16AWG, rated for 105°C.

**POWER CONSUMPTION:**  
Averages under 1 watt.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

**FAIL MODE:** ON.

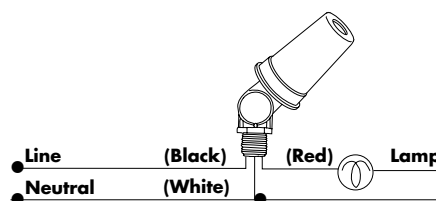
**WARRANTY:** 5 years.

## CONTACT RATINGS

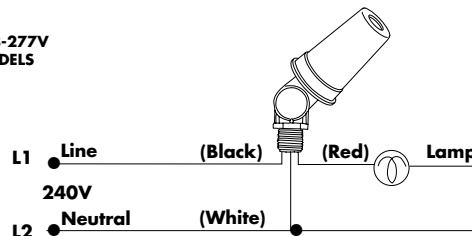
CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
2021	SPST	2000W	1800VA
2022	SPST	3470-4620W	2080-2770VA

## WIRING DIAGRAMS

120V MODELS



208-277V MODELS



For 277VAC  
L1 - Line  
L2 - Neutral

# 3000 SERIES

FLUSH MOUNTING

LEXAN® HOUSING

PHOTOCONTROL

## APPLICATIONS



- Pole lanterns
- Lawn lighting
- Walkways

Flush Mounting  
Model 3010

## FEATURES

**OPERATION:** Delay up to two minutes to prevent false switching due to light from passing vehicles, lightning, etc.

**HOUSING & MOUNTING:** Control housing is weather-resistant molded Lexan® with ultrasonically welded seams.

**MODEL 3000:** Flush mounting through .6875" hole in post lantern or lighting fixture, 3/8" NPT, stem 3/4" long. Gasket and nut supplied.

**MODEL 3010:** flush mounting into standard, raintight junction box. Includes plate and gasket to fit FS type outdoor junction box.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
3000	60020	120
3002	60019	208-277
3006*	60026	347
3010	60021	120

\*CSA certified only.

## SPECIFICATIONS

**ON/OFF:** Turn ON is 1 to 5fc. Turn OFF is 3 to 15fc.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide, epoxy-coated, 1/2" diameter.

**CONTACTS:** Normally closed (the unit fails in the ON position).

**LEAD WIRES:** Three color coded, minimum 6" wire leads, #16AWG, rated for 105°C.

**POWER CONSUMPTION:**  
Averages under 1 watt.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

**FAIL MODE:** ON.

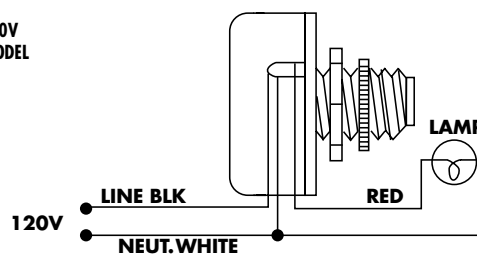
**WARRANTY:** 5 years.

## CONTACT RATINGS

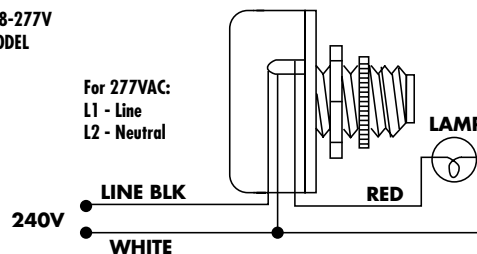
CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
3000	SPST	2000W	1800VA
3002	SPST	3470-4620W	2080-2770VA
3006*	SPST	1500W	1200VA
3010	SPST	2000W	1800VA

## WIRING DIAGRAMS

120V  
MODEL



208-277V  
MODEL



# 5000M SERIES

## DELAYED RESPONSE UTILITY GRADE MOV SURGE ARRESTOR PHOTOCONTROL



### SPECIFICATIONS

**ON/OFF:** Turn-ON is 1 to 3 ft. Turn-OFF to Turn-ON ratio is 5 max.

**TIME DELAY:** ON and OFF.

**CELL:** Cadmium sulphide photocell responds to the light spectrum near to that of a human eye. Resists effects of moisture and airborne contaminants.

**RELAY:** Bi-metal provides positive snap action switching, reducing bounce and prolonging contact life.

**SURGE ARRESTOR:** 380 joule MOV (metal oxide varistor) exceeds ANSI and NEMA requirements.

**LOCKING PRONGS:** Solid brass for maximum corrosion resistance and electrical conductivity.

**TEMPERATURE RANGE:**  
-40° to +140°F (-40° to +60°C).

**FAIL MODE:** ON.

**WARRANTY:** 3 years.

### APPLICATIONS



For use on streets, highways and other luminaries equipped with locking type receptacles, where most stringent surge protection is needed.

### FEATURES

**OPERATION:** Delayed response prevents false switching due to light from vehicles or lighting, etc.

**STANDARDS:** Meets ANSI C136.10 including color designations. Also meets EEI NEMA standards.

**HOUSING:** Lexan® UV Stabilized, permanent color with UV resistant clear acrylic window. Models 5026M and 5008M with polypropylene dome. Provides high impact, flammability resistance and electrically safe operation.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

### ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz	COLOR
5001M	61012	105-130	Grey
5004M	61013	208-277	Maroon
5007M	61014	105-130/208-285	Blue
5008M*	61017	480	Yellow
5021M	61015	105-130	Grey
5024M	61016	208-277	Maroon
5026M**	61045	347	Green

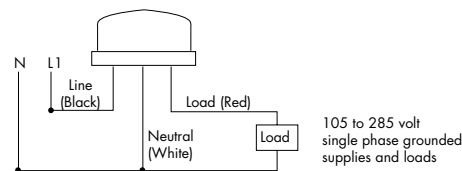
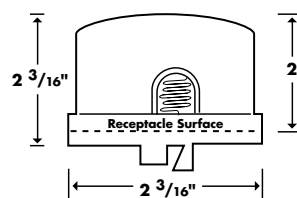
\*Not UL listed or CSA certified.

\*\*CSA certified only.

### CONTACT RATINGS

CATALOG NO.	LIGHT SENSOR	RATING	
		TUNGSTEN	BALLAST
5001M	1"	1200W	1800VA
5004M	1"	3470-4620W	2080-2770VA
5007M	1/2"	2000W 3470-4620W	1800VA 2080-2770VA
5008M*	1"	1000W	1800VA
5021M	1/2"	2000W	1800VA
5024M	1/2"	3470-4620W	2080-2770VA
5026M**	1/2"	1000W	1800VA

### WIRING DIAGRAMS



# 2005A, 2007A & 2008A

## QUICK RESPONSE TURN-LOCK MOUNTING PHOTOCONTROL



### APPLICATIONS



- For use on streets, highways and other luminaires equipped with locking type receptacles, where instant response is required.

Complies with ANSI C136.10 and EEL NEMA standards.

### FEATURES

**STANDARDS:** Meets ANSI C136.10 including color designations. Also meets EEL NEMA standards.

**HOUSING:** Polypropylene, UV Stabilized, permanent color with UV resistant clear acrylic window. Provides high impact, flammability resistance and electrically safe operation.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

### ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz	COLOR
2005A	62012	105-130	Grey
2007A	62013	105-285	Blue
2008A*	62014	400-550	Yellow

\*Not UL or CSA listed.

### SPECIFICATIONS

**ON/OFF:** Turn-ON is 1 to 3 fc. Turn-OFF to Turn-ON is 3 average.

**TIME DELAY:** Instant ON/3-5 seconds OFF.

**CELL:** Cadmium sulphide photocell responds to the light spectrum near to that of a human eye. Resists effects of moisture and airborne contaminants.

**CONTACTS:** Solid brass prongs for maximum corrosion resistance and electrical conductivity.

**SURGE ARRESTOR:** 360 joules MOV exceeds NEMA and ANSI requirements.

**RELAY:** Positive snap action switching, reducing bounce and prolonging contact life.

**TEMPERATURE RANGE:**  
-40° to +158°F (-40° to +70°C).

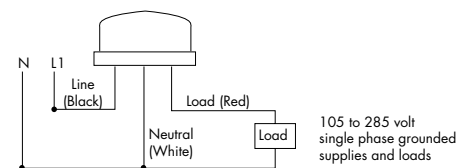
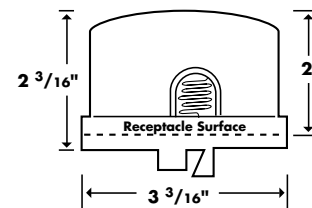
**FAIL MODE:** ON.

**WARRANTY:** 3 years.

### CONTACT RATINGS

CATALOG NO.	RATING	
	TUNGSTEN	BALLAST
2005A	1000W	1800VA
2007A	1000W	1800VA
2008A*	1000W	1800VA

### WIRING DIAGRAMS



# 5200 SERIES

## UTILITY GRADE ELECTRONIC WITH FAIL ON MODE PHOTOCONTROL



### APPLICATIONS

For use where the extreme accuracy and reliability of an electronic photocontrol is required and in the event of failure, light should stay ON for safety reasons.

### FEATURES

**STANDARDS:** Meets ANSI C136.10 including color designations. Also meets EEL NEMA standards.

**HOUSING:** UV stabilized, ANSI color-coded, high impact polypropylene dome. Cross-linked polypropylene gasket. High impact ABS base. High impact, UV stabilized acrylic window.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

### ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
5231	78885	105-130VAC
5237	78886	105-305VAC

### SPECIFICATIONS

**ON/OFF:** Turn ON is 1.5 foot candle +/- 0.2 OFF/ON ratio is 1.5:1 average\*.

**TIME DELAY:** Instant ON/3-5 second OFF\*.

**CELL:** Silicon photosensor assures drift-free operation, turning on and off at the same light level consistently throughout the life of the unit.

**CONTACTS:** DC relay has positive snap action switching, reducing bounce and prolonging contact life. Fail ON for safety.

**SURGE ARRESTOR:** 920 joule MOV (metal oxide varistor) exceeds ANSI and NEMA requirements.

**LOCKING PRONGS:** Solid brass for maximum corrosion resistance and electrical conductivity.

**POWER CONSUMPTION:** 1.0 watt average @ 120V.

**TEMPERATURE RANGE:**  
-40° to +158°F (-40° to +70°C).

**FAIL MODE:** ON.

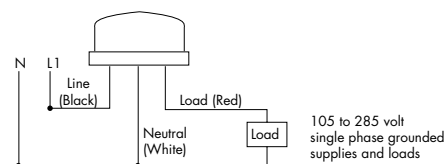
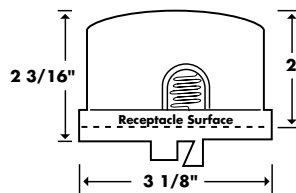
**WARRANTY:** 5 years.

\*Consult factory for other ratios and time delays.

### CONTACT RATINGS

CATALOG NO.	LIGHT SENSOR	RATING	
		TUNGSTEN	BALLAST
5231	Silicon Photosensor	1000W	1800VA
5237	Silicon Photosensor	1000W	1800VA

### WIRING DIAGRAMS



# 5400 SERIES

6000 WATT CONTACTORS  
WITH TURN-LOCK  
PHOTOCONTROL



## APPLICATIONS

- For street lighting. Controls all lighting loads in excess of the capacity of the photoelectric control contacts.

## FEATURES

**HOUSING:** Outdoor NEMA Type 3R. Beige enamel finish. Two  $\frac{1}{2}$ " -  $\frac{3}{4}$ " combination KO in bottom.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	PHOTOCONTROL INCLUDED	VOLTAGE 50-60Hz
5403	60009	5021M	105-130VAC
5404	60010	5024M	208-240VAC
5404-3	60011	5024M	277VAC
5420	60014	5021M	105-130VAC

## SPECIFICATIONS

**RECEPTACLE:** 3-prong turn-lock meets the requirements of EET NEMA.

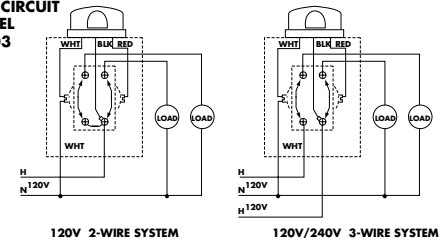
**POWER CONSUMPTION:** Maximum 3 watts during daylight.

## CONTACT RATINGS

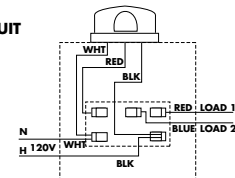
CATALOG NO.	SWITCH	CONTACT RATING PER POLE
5403	DPST	3000W
5404	DPST	3000W
5404-3	DPST	3000W
5420	SPDT	3000W

## WIRING DIAGRAMS

120 VOLT CIRCUIT  
MODEL 5403

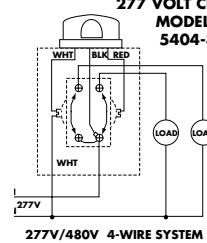


120 VOLT CIRCUIT  
MODEL 5420

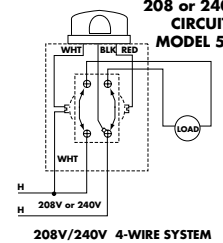


LOAD 1 CLOSSES AT DUSK, OPENS AT DAWN  
LOAD 2 CLOSSES AT DAWN, OPENS AT DUSK

277 VOLT CIRCUIT  
MODEL 5404-3

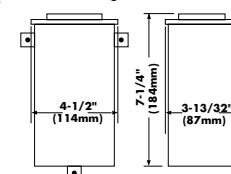


208 or 240 VOLT  
CIRCUIT  
MODEL 5404



## CASE DIMENSIONS

Add photoelectric control dimensions  
2" high x 3" diameter



# 5737 SERIES

ON AT DUSK, OFF AT MIDNIGHT  
ON EARLY MORNING,  
OFF AT DAWN  
PHOTO-TIMERS



## APPLICATIONS

- Offices
- Restaurant signage
- Billboards
- Landscape and yard lighting
- Ideal for situations when visible traffic is reduced — lights ON at dusk and OFF at 11pm or later, then on again for early morning illumination.

## FEATURES

**OPERATION:** Microprocessor tracks the dusk and dawn times with the seasons and automatically determines midnight, NO PROGRAMMING REQUIRED. Automatically "re-learns" and resets after power outage, eliminating costly maintenance. DST correction built in.

**HOUSING:** UV stabilized, ANSI color-coded polypropylene dome. UV stabilized, clear acrylic window. ABS base. Cross-linked, polypropylene gasket.

**ENERGY SAVINGS:** Works with screw base CFLs and LED lamps.

## ORDERING INFO

CATALOG NO.	UPC CODE	VOLTAGE 50-60Hz
5737TZ	62010	105-305VAC
5737TM	62009	105-305VAC

## SPECIFICATIONS

**ON/OFF:** Turn ON at dusk is 5.0 foot candle +/- 0.5 OFF/ON ratio is 1.5:1 average.

**TIME DELAY:** Instant ON/3-5 seconds OFF.

**CELL:** Silicon photosensor

**Midnight OFF:** Allows user to adjust OFF time during the night. OFF time can be set for up to two hours before (for extra energy savings) or up to two hours after midnight. Use to stagger groups of lights to go OFF at different times during the night.

**Early Morning ON (5737TZ only):** Allows user to set number of hours after midnight (from 2-10 hours) that lights should turn back ON.

**CONTACTS:** DC Relay, normally closed. Provides chatter free operation. Solid brass Prongs for maximum corrosion resistance and electrical conductivity.

**TEMPERATURE RANGE:**  
-40° to +158°F (-40° to +70°C).

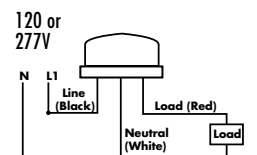
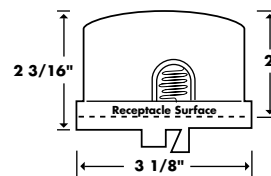
**FAIL MODE:** ON.

**WARRANTY:** 3 years.

## CONTACT RATINGS

CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
5737TZ	SPST	1000W	1800VA
5737TM	SPST	1000W	1800VA

## WIRING DIAGRAMS



105-305 VAC  
single phase grounded supplies and loads  
FOR 240V, N=L2, L1=L1

# TORK® 5737TZ PHOTO-TIMER

## THE MOST FLEXIBLE PHOTO-TIMER FOR MAXIMUM ENERGY SAVINGS AND ALL ON/OFF NEEDS!

The **TORK Photo-timer Plus** is the most flexible photocontrol ever, operating like a photocontrol AND a time switch! Ideal for retrofit without expensive rewiring. The unit turns the load ON at sunset and can be preset to turn the load OFF up to two hours before or two hours after midnight. It can also be set to turn the load back ON from two to ten hours after midnight and OFF at dawn.


No programming is required, the microprocessor tracks dusk and dawn times and automatically determines midnight, and corrects for Daylight Savings Time. It even re-learns and resets itself after a power outage, so that no maintenance is ever needed.



## PHOTOCONTROL ACCESSORIES FOR TURN-LOCK CONTROLS


### REPLACEMENT CAPS

5500 replaces photocontrol to change light fixture to always ON. 5500-OC replaces photocontrol to change light fixture to always OFF. Durable materials and gasket provide longevity and weatherproof protection.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION
	5500	61130	Shorting cap 480VAC max 1800 Tungsten 1800VA Ballast
	5500-OC	61132	Open cap 480VAC max (Black housing)


### RECEPTACLE

120-480V receptacle with color-coded #14 leads, mounting bracket and one mounting screw.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION
	2224	61026	Receptacle and mounting bracket


### RECEPTACLE

120-480V receptacle with color-coded #14 leads, neoprene gasket and two mounting screws.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION
	2223	61025	Receptacle with Neoprene gasket

### RECEPTACLE

120-480V receptacle with color-coded #14 leads, plastic housing, lock nut (with 1/2" NPT) and a mounting bracket.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION
	2421	61021	Receptacle with plastic housing and bracket



# **ELECTROMECHANICAL TIME SWITCHES**

# FEATURES

## QUICK LOOK

Series	Page No.	Clock Dial	Minimum Settings (Minutes)		Skip A Day	Manual Override	Sunrise/Sunset	Max On & Off Events Per Day	Switch Types				Ratings (Amps)	Reserve Power	
			On	Off											
TU40	29	24 Hour	15	15		Permanent		48	SPST	DPST	SPDT	DPDT		40	
1100	31	24 Hour	20	75		Yes		12	SPST	DPST				40	
7000	33	24 Hour	20	75	Yes	Yes		12	SPST	DPST	SPDT	DPDT	3PST	40	Available
7000Z	35	24 Hour	20 or 40 Minute Offset		Yes	Yes	Astronomic	1	SPST	DPST	SPDT	DPDT	3PST	40	Available
TZ	49	24 Hour	20 or 40 Minute Offset		Yes	Permanent by circuit	Astronomic	1				DPDT	3PST	20	Standard
W	43	7 Day	60	120	Yes	Yes		2	SPST	DPST	SPDT	DPDT	3PST 4PST	40	Available
TW	47	7 Day	60	120	Yes	Permanent by circuit		2				DPDT	3PST	20	Standard
T900	45	7 Day	60	120	Yes	Permanent by circuit	Photo Control	2					2 SPDT 3 SPDT	20	Standard
1847A	41	24 Hour	20	75	Yes			12		SPDT, Momentary Contact				10	Available
1847AZ	41	24 Hour	20 or 40 Minute Offset		Yes	Yes	Astronomic	1		SPDT, Momentary Contact				10	Available
1847AW	41	7 Day	60	120	Yes	Yes		2		SPDT, Momentary Contact				10	Available
8000	37	24 Hour	15	15	Available			48		SPDT				20	Available
8000	39	6, 12, 30 & 60 Min.	Varies by dial 6 sec. to 1 min.					30/dial		SPDT				20	
WH2	40	24 Hour	20	75		Yes		12		DPST				40	

# COMMON FEATURES

## EASY TO SET DIAL ASSEMBLY



Tork's 24 hour dial assembly allows the user to set the time switch more accurately, easily moving it by hand in small increments. Dial can provide up to 12 ON/OFFs per day with cycles as short as 20 minutes. AM and PM settings are easy to see by the light and dark areas of the dial.

## CAPTIVE TABS – DUTY CYCLE DIAL



For applications requiring many ON/OFF cycles per day, captive tabs on this dial tilt in and out just using your fingertip!

## FIELD UPGRADEABLE ASTRONOMIC DIALS



All Tork 24 Hour Time Switches can be upgraded in the field to astronomic operation.

## SPRING WOUND RESERVE



During power outages, precision spring mechanism takes over instantly and automatically. Keeps the mechanism on time up to 16 hours on 24 hour models and up to 24 hours on 7 day models. No resetting is needed after power resumes, and field installation is easy!

## ENCLOSED MOTOR



Time switch motors are enclosed to protect from dust and damage.

## REMOVABLE DOOR



Tork time switches feature removable doors to provide easy access for installation and wiring.

**TORK®** Electromechanical Controls are designed and manufactured with components which adhere to the highest industry standards. Trained personnel and in-process quality procedures ensure that every unit meets our strictest quality standards.

# TU40 SERIES

UNIVERSAL MULTI-VOLTAGE  
SAME ON/OFF TIMES EACH DAY  
24 HOUR TIME SWITCH



NEW!

MORE WIRING  
SPACE!

## APPLICATIONS



- Lighting
- Pumps
- Signs
- Air conditioning
- Water heaters
- Fans

## FEATURES

**MULTI-VOLTAGE:** Automatic input voltage detection.

**EASY SET:** Real time clock face and day/night markings for setting trippers.

**SCHEDULING:** Minimum ON is setting 15 minutes. Dial has 96 captive trippers.

**4 in 1 CONTACTS:** DPDT can also wire as SPST, SPDT, & DPST.

**BYPASS SWITCH:** Sets timer to permanent ON, OFF or timer operation.

**VACATION MODE:** Set timer OFF with no change of tripper settings.

**INDICATING LIGHTS:** Power ON green and load ON red and LED indicators.

## ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 60Hz	DRY CONTACTS (UNPOWERED)	ENCLOSURE TYPE
TU40	24000	120/208-240/277	DPDT	Plastic Indoor/Outdoor NEMA 3R
TU40-Y	24001	120/208-240/277	DPDT	Metal Indoor NEMA 1



## SPECIFICATIONS

**INPUT VOLTAGE:** 120/208-240/277VAC, 60Hz (auto detection).

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #18 AWG.

**OPERATING TEMPERATURE:** -31°F to 116°F (-35°C to +47°C).

**POWER CONSUMPTION:** 6 watts maximum.

**ENCLOSURE:** Polycarbonate Indoor/Outdoor NEMA 3R or -Y suffix metal indoor NEMA 1 enclosure. Both with lockable hasp standard (see page 153 for enclosure dimensions).

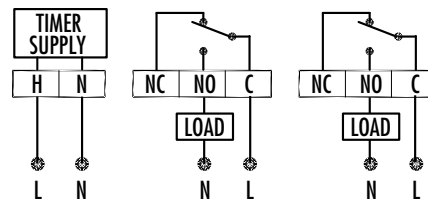
## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	120-277VAC	40A	30A
Inductive	120-277VAC	30A	15A
Ballast	120VAC	30A	10A
	277VAC	20A	10A
Tungsten	120VAC	15A	
Motor Load	120VAC	1HP, 30FLA, 90LRA	¼HP, 12FLA, 30LRA
	240VAC	2HP, 20FLA, 60LRA	½HP, 12FLA, 33LRA
Pilot Duty	120VAC	720VA	290VA
	240VAC	720VA	360VA
Resistive	28VDC	20A	
Max above 104°F	120-277VAC	30A	

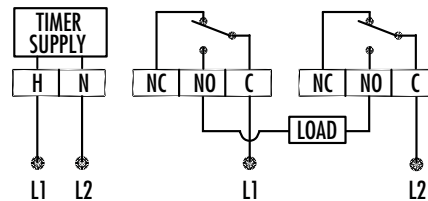
## WIRING DIAGRAMS

### DTU40

Typical Wiring Diagram, 120/277VAC Application



Typical Wiring Diagram, 208-240 VAC Application



## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a TORK time switch with 24 hour dial. The Time switch input shall be multi-voltage input 120/208/240/277VAC. Time Switch contacts shall be capable of switching 40 amperes per pole continuously up to 277 volts, and shall be DPDT, covering SPST, SPDT and DPST applications as required. Captive ON/OFF trippers shall accomplish 1-48 operation per day. 96 trippers permits 15 minutes switching changes. Enclosure shall be Heavy duty lockable plastic Indoor/Outdoor NEMA 3R surface type, finished in beige, with combination ½", ¾" knockouts on bottom sides and back. Provisions shall be made for positive padlocking. Terminal shall be capable of receiving #8-#18 AWG wire. The Time Switch shall be TORK Model TU40\_.

# 1100 SERIES

SAME DAY ON/OFF  
TIMES EACH DAY  
24 HOUR TIME SWITCH



## APPLICATIONS



- Lighting
- Pumps
- Signs
- Air conditioning
- Water heaters
- Fans
- Automatic ON/OFF control when operation is required at the same time every day.

## FEATURES

**SCHEDULING:** Minimum ON is setting 20 minutes with a minimum OFF setting of 75 minutes. Dial accommodates up to 12 pairs of trippers. One pair included.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF automatic operation then resumes.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
1101	10011	120	SPST	Metal Indoor NEMA 1
1101-N	10040	120	SPST	Noryl® Indoor/Outdoor NEMA 3R
1101-NC	10053	120	SPST	Noryl® Indoor/Outdoor w/ clear Lexan® cover
1101-O	10015	120	SPST	Metal Indoor/Outdoor NEMA 3
1101-M	10022	120	SPST	Mechanism
1101-M-IAP	10052	120	SPST	Mechanism and mounting plate
1101-7	10033	347	SPST	Metal Indoor NEMA 1
1102	10012	208-277	SPST	Metal Indoor NEMA 1
1102-N	10045	208-277	SPST	Noryl® Indoor/Outdoor NEMA 3R
1102-O	10046	208-277	SPST	Metal Indoor/Outdoor NEMA 3
1102-M	10035	208-277	SPST	Mechanism
1103	10013	120	DPST	Metal Indoor NEMA 1
1103-N	10041	120	DPST	Noryl® Indoor/Outdoor NEMA 3R
1103-NC	10054	120	DPST	Noryl® Indoor/Outdoor w/ clear Lexan® cover
1103-O	10016	120	DPST	Metal Indoor/Outdoor NEMA 3
1103-M	10023	120	DPST	Mechanism
1104	10014	208-277	DPST	Metal Indoor NEMA 1
1104-N	10042	208-277	DPST	Noryl® Indoor/Outdoor NEMA 3R
1104-NC	10055	208-277	DPST	Noryl® Indoor/Outdoor w/ clear Lexan® cover
1104-O	10017	208-277	DPST	Metal Indoor/Outdoor NEMA 3
1104-M	10014	208-277	DPST	Mechanism
1104-M-IAP	10051	208-277	DPST	Mechanism and mounting plate
Replacement Trippers	Order #P47 for a pair of ON/OFF trippers			
Replacement Motor	#101 (120V) & #201 (208-277V) For Astronomic Conversion: Order #Z KIT			

## SPECIFICATIONS

**INPUT VOLTAGE:** 120 or 208-277 VAC  
60 Hz, varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14 AWG.

**OPERATING TEMPERATURE:**  
-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:**  
3 watts maximum.

**ENCLOSURE:** Lockable hasp. Type varies by model (see page 153 for enclosure dimensions).

### OTHER MOUNTINGS:

Intermatic® Adaptor Plate model #IAP allows any 1100 series to fit into an Intermatic case.

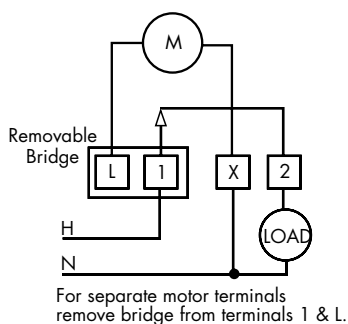
## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
General Purpose	120 -277VAC single phase	40A
Resistive	120 -277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120 -277VAC	1000VA
Motor	120VAC 240VAC	2HP 5HP

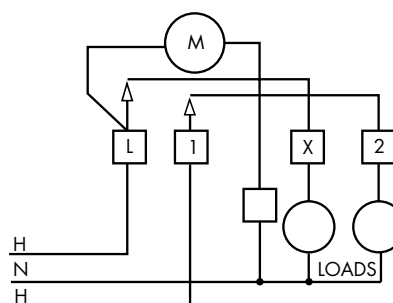
Model 1101-7 is 30 AMP inductive at 347 volts and CSA only.

## WIRING DIAGRAMS

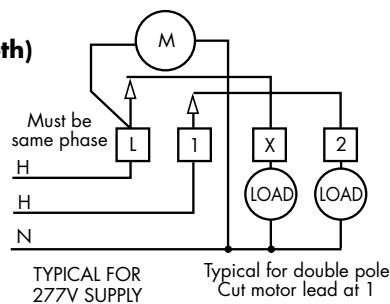
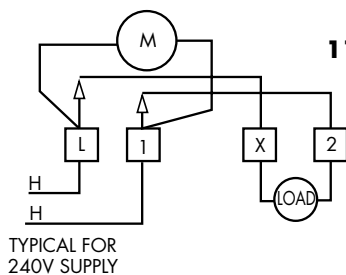
**1101 & 1102 (SPST)**



**1103 (DPST)**



**1104 (DPST) (Both)**



## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a TORK time switch with 24 hour dial. The time switch shall be powered by a self-starting synchronous motor. Time switch contacts shall be capable of switching 40 amperes per pole continuously at 277 volts and shall be SPST (DPST as required). Removable ON/OFF trippers shall make possible automatic operation with a minimum ON period of 20 minutes and a minimum of 75 minutes between one OFF period and the next. Enclosure shall be NEMA 1 surface type, finished in beige enamel, with combination 1/2", 3/4" knockouts on bottom, both sides and back. Provision shall be made for positive padlocking. Terminals shall be capable of receiving #8AWG wire. Time switch shall be TORK Model 11\_\_ (11\_\_ \_\_, etc, to fit requirement).

# 7000 SERIES

WITH SKIP-A-DAY FEATURE  
RESERVE POWER OPTIONAL  
24 HOUR TIME SWITCH



CALIFORNIA Title 24

ASHRAE 90.1

## APPLICATIONS



- Lighting
- Heating
- Pumps
- Air conditioning
- Signs
- Automatic ON/OFF control when operation is required at the same time every day, with optional versatility of one to six days omission.

## FEATURES

**SCHEDULING:** Minimum ON setting is 20 minutes with minimum OFF setting at 75 minutes. Dial accommodates up to 12 pairs of trippers. One pair included.

**SKIP-A-DAY:** Omit operations on any day with a 7-spoke wheel marked with days of week. 3 omitting screws included.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**OPTIONAL RESERVE POWER:** "L" models keep dial on time up to 16 hours during power outage.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
7100	10001	120	SPST	Metal Indoor NEMA 1
7102	10002	208-277	SPST	Metal Indoor NEMA 1
7200	11001	120	DPST	Metal Indoor NEMA 1
<b>NEW!</b> 7200-0	10512	120	DPST	Metal Indoor/Outdoor NEMA 3
7202	11002	208-277	DPST	Metal Indoor NEMA 1
<b>NEW!</b> 7202-0	10509	208-277	DPST	Metal Indoor/Outdoor NEMA 3
7300	12001	120	3PST	Metal Indoor/Outdoor NEMA 3
7302	12002	208-277	3PST	Metal Indoor/Outdoor NEMA 3
7120	13001	120	SPDT	Metal Indoor NEMA 1
7122	13002	208-277	SPDT	Metal Indoor NEMA 1
7220	14001	120	DPDT	Metal Indoor NEMA 1
7222	14002	208-277	DPDT	Metal Indoor NEMA 1
WITH RESERVE POWER				
7200L	19003	120	DPST	Metal Indoor NEMA 1
7202L	19004	208-277	DPST	Metal Indoor NEMA 1
7300L	19005	120	3PST	Metal Indoor/Outdoor NEMA 3
7302L	19006	208-277	3PST	Metal Indoor/Outdoor NEMA 3
7120L	19007	120	SPDT	Metal Indoor NEMA 1
7220L	19009	120	DPDT	Metal Indoor NEMA 1
7222L	19011	208-277	DPDT	Metal Indoor NEMA 1
Replacement Trippers	Order #P49 for a pair of ON/OFF per dial. Additional ON/OFF trippers per dial order #P47. 3 omitting screws #53005 supplied.			
Replacement Motor	#101 (120V) & #201 (208-277V). For "L" models #36 (120V) & #46 (208-277V). For Astronomic Conversion: Order #Z KIT for 7000 Series.			

## SPECIFICATIONS

**INPUT VOLTAGE:** 120 or 208-277 VAC  
60 Hz varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14 AWG.

**OPERATING TEMPERATURE:**  
-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 3 watts,  
5 watts for "L" models maximum.

**ENCLOSURE:** Lockable hasp. Type varies  
by model (see page 153 for enclosure  
dimensions).

### OTHER MOUNTINGS:

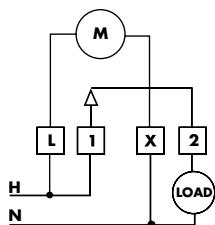
Intermatic® Adaptor Plate model #IAP  
allows any 7100 and 7200 series (except  
"L" models) to fit into an Intermatic case.

## CONTACT RATINGS

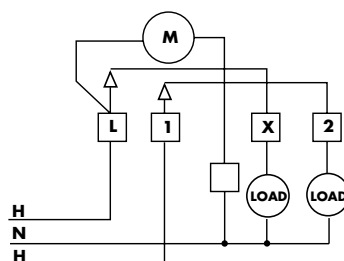
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120 -277VAC single phase	40A
Resistive	120 -277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120 -277VAC	1000VA
Motor	120VAC 240VAC	2HP 5HP

## WIRING DIAGRAMS

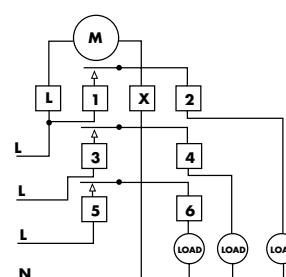
**7100 SPST**



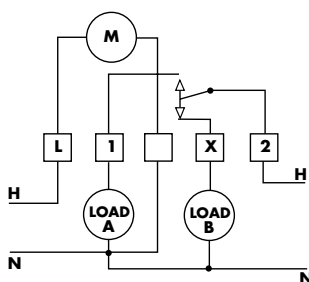
**7200 DPST**



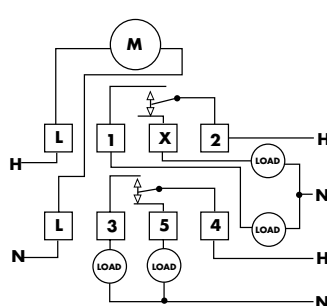
**7300 3PST**



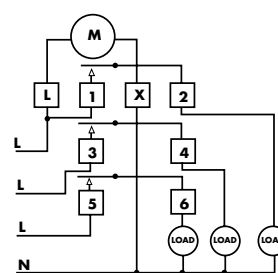
**7120 SPDT**



**7220 DPDT**



**7302 3PST**



FOR USE WITH 3 PHASE 4-WIRE  
120/208V SYSTEMS.

## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a TORK time switch with 24 hour dial and day-omitting device. The time switch shall be powered by a self-starting synchronous motor. Time switch contacts shall be capable of switching 40 amperes per pole continuously at 277 volts and shall be SPST (DPST, 3PST, DPST, SPDT, as required). Removable ON/OFF trippers shall make possible automatic operation with a minimum ON period of 20 minutes and a minimum of 75 minutes between one OFF period and the next. Enclosure shall be NEMA 1 surface type, finished in beige enamel, with combination 1/2", 3/4" knockouts on bottom, both sides and back. Provision shall be made for positive padlocking. Terminals shall be capable of receiving #8AWG wire. Time Switch shall be TORK Model 7\_\_\_ (to fit requirement). FOR RESERVE POWER (MODELS WITH SUFFIX "L"): Spring-driven reserve shall be provided sufficient to operate the time switch contacts at least 16 hours after power failure. On restoration of power, time switch shall transfer to synchronous motor drive and automatically rewind reserve power unit.

# 7000Z SERIES

WITH SKIP-A-DAY FEATURE  
RESERVE POWER OPTIONAL  
ASTRONOMIC TIME SWITCH

**ADJUSTS TO DAILY CHANGES  
IN SUNSET TIMES!**

## APPLICATIONS



CALIFORNIA Title 24

ASHRAE 90.1

- Parking lots
- Walkways
- Outdoor signage
- Window displays
- Canopy lighting
- Landscape lighting

Automatic ON at dusk, OFF at dawn. Control of outdoor lighting.

## FEATURES

**ASTRONOMIC SCHEDULING:** Turn ON at sunset and OFF at sunrise daily. OFF time can be set from 8:30PM to 2:30AM. Can be individually offset +/- 20 or 40 minutes from both sunset and OFF times. Available from 18° - 45° northern latitudes.

**SKIP-A-DAY:** Omit operations on any day with a 7 spoke wheel marked with days of the week. 3 omitting screws included.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**OPTIONAL RESERVE POWER:** "L" models keep dial on time up to 16 hours during power outage.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
7200Z-*	**	120	DPST	Noryl® Indoor/Outdoor NEMA 3R
7202Z-*	**	208-277	DPST	Noryl® Indoor/Outdoor NEMA 3R
7300Z-*	**	120	3PST	Metal Indoor/Outdoor NEMA 3
7302Z-*	**	208-277	3PST	Metal Indoor/Outdoor NEMA 3
7120Z-*	**	120	SPDT	Noryl® Indoor/Outdoor NEMA 3R
WITH RESERVE POWER				
7200ZL-*	**	120	DPST	Noryl® Indoor/Outdoor NEMA 3R
7202ZL-*	**	208-277	DPST	Noryl® Indoor/Outdoor NEMA 3R
7300ZL-*	**	120	3PST	Metal Indoor/Outdoor NEMA 3
7302ZL-*	**	208-277	3PST	Metal Indoor/Outdoor NEMA 3
7120ZL-*	**	120	SPDT	Noryl® Indoor/Outdoor NEMA 3R
7122ZL-*	**	208-277	SPDT	Noryl® Indoor/Outdoor NEMA 3R
Replacement Motor	#101 (120V) & #201 (208-277V). For "L" models #36 (120V) & #46 (208-277V)			

\*Add degrees latitude to complete number (18, 30, 34, 38, 40, 42, or 45).

\*\*Consult factory for UPC number.

ELECTROMECHANICAL  
CONTROLS



## SPECIFICATIONS

**INPUT VOLTAGE:** 120 or 208-277 VAC  
60 Hz, varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14 AWG.

**OPERATING TEMPERATURE:**  
-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 3 watts,  
5 watts for "L" models maximum.

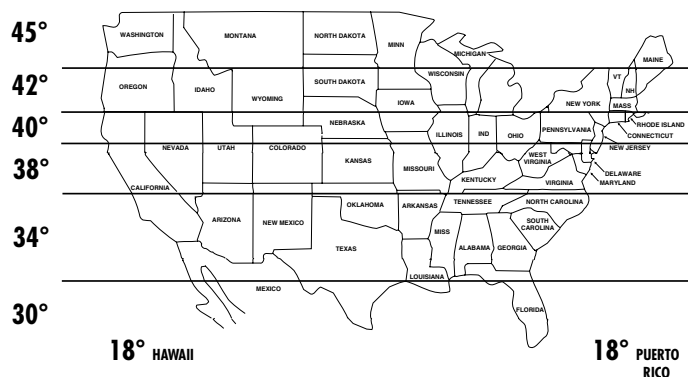
**ENCLOSURE:** Lockable hasp. Type varies  
by model (see page 153 for enclosure  
dimensions).

## CONTACT RATINGS

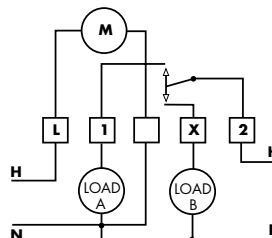
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120 -277VAC single phase	40A
Resistive	120 -277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120 -277VAC	1000VA
Motor	120VAC 240VAC	2HP 5HP

## WIRING DIAGRAMS

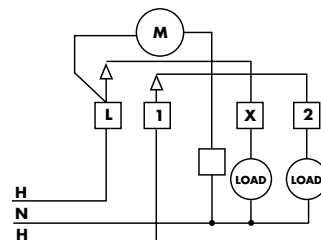
### ASTRONOMIC LATITUDE ZONES



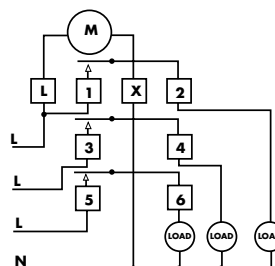
### 7120Z (SPDT)



### 7200Z (DPST)



### 7302 3PST



FOR USE WITH 3 PHASE 4-WIRE  
120/208V SYSTEMS.

## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a TORK time switch with Astronomic dial and day-omitting device powered by a self-starting synchronous motor. Time switch contacts shall be capable of switching 40 amperes per pole continuously at 277 volts and shall be (DPST, 3PST or SPDT) as required. ON operation shall occur automatically at sunset (in city of use). OFF operation shall be adjustable from 8:30 P.M. to 2:30 A.M. in one-half hour increments or at sunrise. Both ON and OFF shall have a range of adjustability of 20-40 minutes before or after sunset and sunrise. Enclosure shall be: DPST or SPDT is NEMA 3R indoor/outdoor – Noryl® – 3PST is NEMA 3 metal indoor/outdoor. Terminals shall be of the pressure type, capable of receiving #8 AWG wire. Time switch shall be TORK Model 7\_\_Z (to fit requirement).

**FOR RESERVE POWER (Add Suffix L):** Spring driven reserve shall be provided sufficient to operate the time switch contacts for at least 16 hours after power failure. On restoration of power, time switch shall transfer to synchronous motor drive and automatically rewind reserve power unit.

# 8000 SERIES

MANY DAILY ON/OFF  
OPERATIONS PER DAY

**DUTY CYCLE**

**24 HOUR TIME SWITCH**



8001-N

## APPLICATIONS



- Duty cycling
- Ventilating fans
- Pumping
- Irrigation
- Process control
- Laboratory experiments

- For one or multiple daily ON/OFF operations.

## FEATURES

**SCHEDULING:** Minimum ON setting is 15 minutes with minimum OFF setting at 15 minutes. Dial accommodates up to 96 captive tabs.

**DUTY CYCLE:** Adjustable from 1/2, 1, 2, 3, 4, 6, 12, and 24 hours.

**SKIP-A-DAY:** Some models include 7 day or 14 day wheel to omit selected days of the week.

**OPTIONAL RESERVE POWER:** "L" models keep dial on time up to 16 hours during power outage.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
8001	70001	120	SPDT	Metal Indoor NEMA 1
8001-N	70025	120	SPDT	Noryl® Indoor/Outdoor NEMA 3R
8001-NC	70009	120	SPDT	Noryl® Indoor/Outdoor NEMA 3R w/ clear Lexan® cover
8001-LC/WB	70010	120	SPDT	Mechanism and bracket
8001-O	70029	120	SPDT	Metal Indoor/Outdoor NEMA 3
8004	70002	208-277	SPDT	Metal Indoor NEMA 1
8001U	70003	480/120 Trans.	SPDT	Metal Indoor NEMA 1
<b>NEW!</b> 8001U-N	70014	480/120 Trans.	SPDT	Noryl® Indoor/Outdoor NEMA 3R
<b>NEW!</b> 8001U-O	70011	480/120 Trans.	SPDT	Metal Indoor/Outdoor NEMA 3
24 HOUR WITH 7 DAY OMIT				
8007	70005	120	SPDT	Metal Indoor NEMA 1
8007-O	70012	120	SPDT	Metal Indoor/Outdoor NEMA 3
8008	70006	208-277	SPDT	Metal Indoor NEMA 1
<b>NEW!</b> 8007U	70008	480/120 Trans.	SPDT	Metal Indoor NEMA 1
<b>NEW!</b> 8007U-O	70028	480/120 Trans.	SPDT	Metal Indoor/Outdoor NEMA 3
24 HOUR WITH 7 DAY OMIT & RESERVE POWER				
8007L	70015	120	SPDT	Metal Indoor NEMA 1
8008L	70016	208-277	SPDT	Metal Indoor NEMA 1
24 HOUR WITH 14 DAY OMIT				
8007V	70007	120	SPDT	Metal Indoor NEMA 1
24 HOUR WITH 14 DAY OMIT & RESERVE POWER				
8007VL	70017	120	SPDT	Metal Indoor NEMA 1
Replacement Motor	#101 (120V) & #201 (208-277V). For "L" models #36 (120V) & #46 (208-277V)			

## SPECIFICATIONS

**INPUT VOLTAGE:** 120, 208-277VAC or 480VAC, 60Hz, varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14AWG.

**OPERATING TEMPERATURE:**  
-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 3 watts, 5 watts for "L" models maximum.

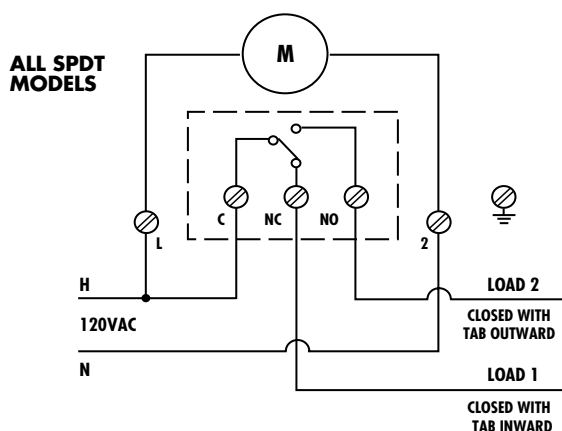
**ENCLOSURE:** Lockable hasp. Type varies by model (see page 153 for enclosure dimensions).

**OTHER MOUNTINGS:** Intermatic® Adaptor Plate model #IAP allows 8001 & 8004 to fit into an Intermatic case.

## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
Resistive	120 or 240VAC	20A
	480VAC	20A
Motor	120VAC	3/4 HP

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

The time switches shall be of duty cycle type, capable of programming at 15 minute intervals of the day. Scheduled tabs shall be captive on the dial, and shall be easily set by hand without tools to obtain or to change the desired schedule. The switching condition shall be maintained when adjacent tabs are set alike. The unit shall be powered by a self-starting enclosed 120 (or 208-277) volt synchronous motor capable of continuous accurate operation. The switch mechanism shall be a self-contained unit rated at not less than 20 amps, 120 volts, single pole, double throw, and shall be readily replaceable in the field. FOR 8001 ADD: The time switch shall be similar and equal to Tork Model 8001. FOR 8007 AND 8007V ADD: An omitting device shall be furnished as an integral part of the time switch, to enable the switching operation to be skipped for any preselected day or days of the week. The time switch shall be similar and equal to Tork Model 8007 or (8007V.) FOR 8007L ADD: (Same description as for 8007). The unit shall incorporate an integral electrically wound spring reserve power unit, which shall power the clock mechanism for up to 16 hours on a power failure. The time switch shall be similar and equal to Tork Model 8007L. FOR 8001U: The unit shall be furnished with built-in 480-120V transformer to operate timing motor in parallel with 480 volt load. The time switch shall be Tork Model 8001U.

# 8000 SERIES

MULTIPLE ON/OFF CYCLES PER DAY  
**REPEATING VARIABLE CYCLE**  
 TIME SWITCH



## APPLICATIONS



- Duty cycling
- Ventilating fans
- Pumping
- Irrigation
- Process control
- Laboratory experiments
- For one or many daily ON/OFF operations.

## FEATURES

**SCHEDULING:** 60 captive tabs per dial with minimum ON/OFF settings:

- 60 minute dial with 1 minute tabs.
- 30 minute dial with 30 second tabs.
- 12 minute dial with 12 second tabs.
- 6 minute dial with 6 second tabs.

**DUTY CYCLE:** Settings of  $\frac{1}{60}$  th of dial speed.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	TYPE
8601	70034	120	SPDT	60 Minute
8301	70033	120	SPDT	30 Minute
8121	70032	120	SPDT	12 Minute
8061	70031	120	SPDT	6 Minute
Replacement Motor	For 8601 #102, for 8301 #108, for 8121 #107, and for 8061 #105.			
Replacement Trippers	#P49 for a pair with one ON and one OFF per dial for additional ON/OFF trippers per dial order #P47. 3 omitting screws #53005 supplied.			

## SPECIFICATIONS

**INPUT VOLTAGE:** 120VAC, 60Hz.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14AWG.

**OPERATING TEMPERATURE:**  
 -40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:**  
 3 watts maximum.

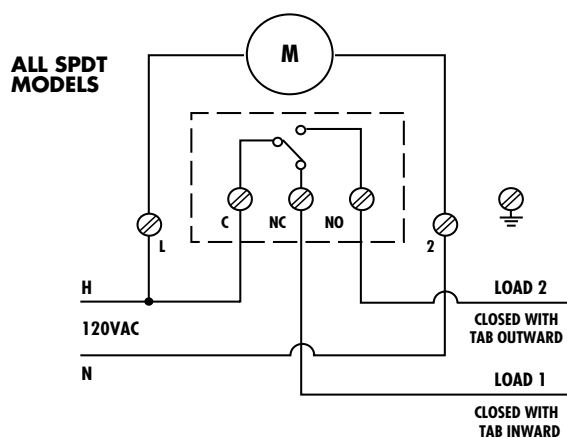
**REPLACEMENT TRIPPERS:** #P49 for a pair with one ON and one OFF per dial for additional ON/OFF trippers per dial order #P47. 3 omitting screws #53005 supplied.

**ENCLOSURE:** Indoor NEMA 1 Metal with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
Resistive	120 or 240VAC	20A
	480VAC	20A
Motor	120VAC	3/4 HP

## WIRING DIAGRAMS



# WH2

## 24 HOUR WATER HEATER TIME SWITCH



**SAVE ENERGY!**

Avoid utility peak rates  
Turn off when not needed

### APPLICATIONS



- Automatic ON/OFF control of electric water heaters. Schedules the water heater to turn ON only when needed, avoiding energy waste when hot water is not needed.

### FEATURES

**SCHEDULING:** Minimum ON is setting 20 minutes with a minimum OFF setting of 75 minutes. Dial accommodates up to 12 pairs. 3 pairs of trippers supplied.

**EXTERNAL MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF automatic operation then resumes.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
WH2	70042	208-250	DPST	Metal Indoor NEMA 1

### SPECIFICATIONS

**INPUT VOLTAGE:** 208 – 250V 60 Hz.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14AWG.

**OPERATING TEMPERATURE:**  
-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:**  
3 watts maximum.

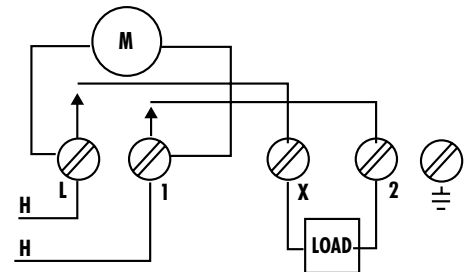
**ENCLOSURE:** Indoor NEMA 1 Metal with lockable hasp (see page 153 for enclosure dimensions).

### CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
Resistive	208-277VAC	40 A, 10,000W
Replacement Motor	#201 (208-277V)	
Replacement Trippers	Order #P47 for a pair of ON/OFF trippers	

### WIRING DIAGRAMS

TYPICAL FOR 240 VOLT SUPPLY



# 1800 SERIES

## FOR MECHANICALLY HELD CONTRACTORS AND LOW VOLTAGE REMOTE CONTROL MOMENTARY CONTACT TIME SWITCH



### APPLICATIONS



- Mechanically-held contractors
- 3-wire momentary lighting systems
- Remote station switching

CALIFORNIA Title 24

ASHRAE 90.1

### FEATURES

**SCHEDULING:** Choice of three types.

**24 HOUR SKIP-A-DAY:** Minimum ON setting is 20 minutes with minimum OFF setting at 75 minutes. Dial accommodates up to 12 pairs of trippers. Omit operations on any day with a 7 spoke wheel marked with days of week.

**ASTRONOMIC SCHEDULING:** Turn ON at sunset and OFF at sunrise daily. OFF time can be set from 8:30PM to 2:30AM. Can be individually offset +/- 20 or 40 minutes from both sunset and OFF times.

**7 DAY SCHEDULING:** Minimum ON setting is 1 hour with a minimum OFF setting of 2 hours. Minimum 8 hours between 2 OFF settings. 7 day calendar dial will accommodate up to 2 pairs on ON/OFF trippers per day - 7 pairs are supplied.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**OPTIONAL RESERVE POWER:** "L" models keep dial on time up to 16 hours during power outage.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	TYPE
1847A	52001	120	SPDT	24 Hour
1848A	52014	208-277	SPDT	24 Hour
1847AZ*	**	120	SPDT	Astronomic
1847AW	52005	120	SPDT	7 Day
WITH RESERVE POWER				
1847AL	52006	120	SPDT	24 Hour
1847AZL*	**	120	SPDT	Astronomic
1847AWL	52010	120	SPDT	7 Day
Replacement Trippers	For 24 hour models order #P49 for a pair ON/OFF per dial. Additional ON/OFF trippers per dial order #P47. 3 omitting screws #53005 supplied. 7 day models order #P69 for 7 pairs of ON/OFF trippers.			
Replacement Motor	#101 (120V) & #201 (208-277V). For "L" models #36 (120V)			

\*Add degrees latitude to complete number (18, 30, 34, or 42).

\*\*Consult factory for UPC number.

## SPECIFICATIONS

**INPUT VOLTAGE:** 120VAC or 208-277VAC, 60Hz, varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #12 - #22AWG.

**OPERATING TEMPERATURE:**

-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 3 watts, 5 watts for "L" models maximum.

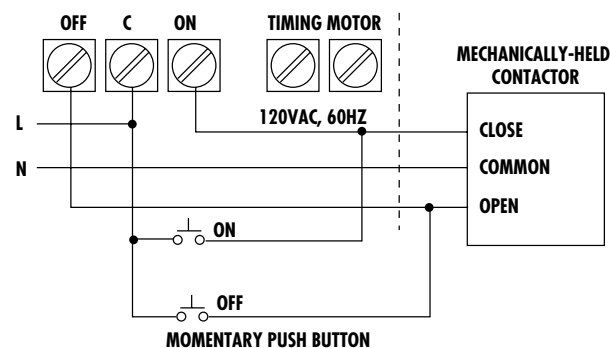
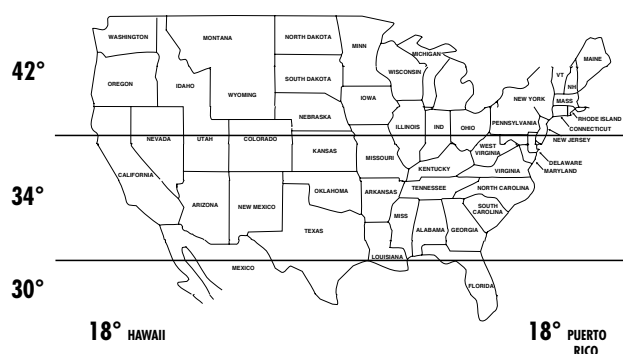
**ENCLOSURE:** NEMA 1 Metal with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
General Purpose	24-277VAC	10A
Pilot Duty	24-277VAC	360VA

## WIRING DIAGRAMS

ASTRONOMIC LATITUDE ZONES



## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a Momentary Contact time switch. Time switch shall have dial of the (24 hour with day omitting device) (Astronomic with day omitting device) (7 day calendar) type, which shall be suitable to operate mechanically-held contactor of maximum size. Terminal board shall enable fast and correct installation using screw terminals for up to #12AWG wire. Timing motor terminals shall be completely independent from momentary switching circuit. Spring driven reserve mechanism shall be provided sufficient to operate time switch controls at least 16 hours after power failure. On restoration of power, time switch shall transfer to synchronous motor drive and automatically rewind reserve. Time switch shall include solid state circuit to provide a switch closure not in excess of two seconds on both ON and OFF contactor coil terminals at such times as are set on dial: these settings to be made with removable trippers which can be added and removed without tools (except the astronomic dial). Contactor coil circuits shall be suitable for 10 Amp @ 24-277 VAC, 360 VA. Enclosures shall be NEMA 1 surface (or see other mountings), with provision for positive padlocking. Time switch shall be TORK Model 1847AL, 1848A, (AZL), (AWL).

# W SERIES

## DIFFERENT SCHEDULES EACH DAY

### 7 DAY TIME SWITCH



CALIFORNIA Title 24

ASHRAE 90.1

## APPLICATIONS



- Heating
- Air conditioning
- Display lighting
- Ventilating systems
- Lighted signage
- Storefront lighting

## FEATURES

**SCHEDULING:** Minimum ON setting is 1 hour with a minimum OFF setting of 2 hours. Minimum 8 hours between 2 OFF settings. Models W400A and W402A offer minimum ON/OFF settings of 3½ hours. 7 day calendar dial accommodates up to 2 pairs of ON/OFF trippers per day – 7 pairs are supplied.

**SKIP-A-DAY:** Omit operations on any day.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF automatic operation then resumes.

**OPTIONAL RESERVE POWER:** “L” models keep dial on time up to 24 hours during power outage.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
W100	30001	120	SPST	Metal Indoor NEMA 1
W120	33001	120	SPDT	
W200	31001	120	DPST	
W202	31011	208-277	DPST	
W220	34001	120	DPDT	
W222	34011	208-277	DPDT	
W300	32001	120	3PST	Metal Indoor/Outdoor NEMA 3
W300-0	32003	120	3PST	
W302	32002	208-277	3PST	Metal Indoor NEMA 1
W400A	35001	120	4PST	
W402A	35002	208-277	4PST	
WITH RESERVE POWER				
W220L	39009	120	DPDT	Metal Indoor NEMA 1
W222L	39010	208-277	DPDT	
W300L	39005	120	3PST	
W302L	39006	208-277	3PST	
W400AL	39007	120	4PST	
Replacement Trippers	Order #P69 for 7 pairs of ON/OFF trippers except W400 series use #P69i.			
Replacement Motor	#101 (120V) & #201 (208-277V). For W400 series units order #101i (120V) & #201i (208-277V). For "L" models order #36 (120V) and #46 (208-277V), except W400 series consult factory.			

## SPECIFICATIONS

**INPUT VOLTAGE:** 120 or 208-277VAC, 60Hz, varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14AWG.

**OPERATING TEMPERATURE:**

-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 3 watts, 5 watts for "L" models maximum.

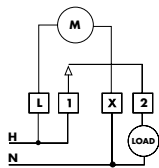
**ENCLOSURE:** Indoor NEMA 1 Metal with lockable hasp. Other enclosures include metal Indoor/Outdoor NEMA 3 with suffix "O" (see page 153 for enclosure dimensions).

## CONTACT RATINGS

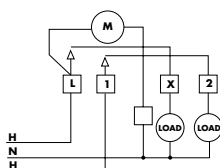
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120 -277VAC single phase	40A
Resistive	120 -277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120 -277VAC	1000VA
Motor	120VAC 240 VAC	2HP 5HP

## WIRING DIAGRAMS

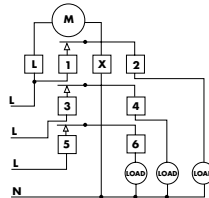
**W100 (SPST)**



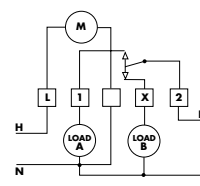
**W200 (DPST)**



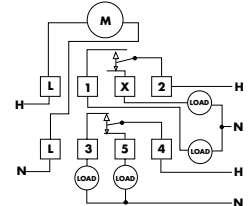
**W300 (3PST)**



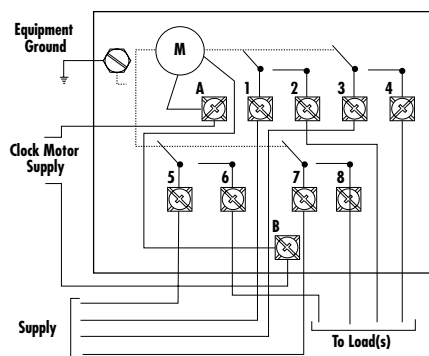
**W120 (SPDT)**



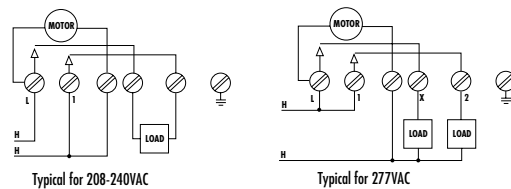
**W220 (DPDT)**



**W400A (4PST)**



**W202 (DPST)**



## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, TORK time switch of the 7 day type, powered by a self-starting synchronous motor, capable of being set for different ON/OFF times each day of the week, to an operating accuracy of plus or minus 15 minutes of the desired time. Time switch contacts shall be capable of switching 40 amperes per pole continuously at 277 volts and shall be SPST (DPST, 3PST, DPDT, SPDT, 4PST as required). Removable ON/OFF trippers shall make possible automatic operation with a minimum ON period of one hour and a minimum of 2 hours between one OFF operation and the next ON. Models W400 and W402 offer minimum ON and OFF settings of 3.5 hours. Enclosure shall be NEMA 1 surface, finished in baked beige enamel, with combination 1/2" - 3/4" knock-outs on bottom and both sides. Provision shall be made for positive padlocking. Terminals shall be capable of receiving #8AWG wire. Time switch shall be TORK Model W\_\_\_ (to fit requirement). FOR RESERVE POWER (Add suffix L): Spring-driven reserve shall be provided sufficient to operate the Time Switch contacts at least 24 hours after power failure (16 hour reserve power on 4PST models). On restoration of power, time switch shall transfer to synchronous motor driven and automatically rewind reserve power unit.

# T900 SERIES

PHOTOELECTRIC & 7 DAY CONTROL COMBO  
DIFFERENT SCHEDULES EACH DAY  
RESERVE POWER STANDARD  
2 & 3 CIRCUIT LIGHTING  
CONTROL CENTERS

## APPLICATIONS

- Parking lot lighting
- HVAC
- Display lighting
- Security lighting
- Lighted signage
- Storefront lighting



Optional "E" cover

Model 2101  
supplied with unit.

## FEATURES

### SCHEDULING:

**CIRCUIT 1:** ON automatically at dusk, OFF at individual preset times each day, including skipping days when desired. Unit can be set to turn ON before dawn for early morning lighting.

**CIRCUIT 2:** ON at dusk, OFF at dawn automatically, daily.

**CIRCUIT 3:** Individual daily ON and OFF settings at desired times, including skipping any desired day or days. Minimum ON is setting 1 hour with a minimum OFF setting of 2 hours. Minimum 8 hours between 2 OFF settings. 7 day calendar dial will accommodate up to 2 pairs of ON-OFF trippers per day — 7 pairs are supplied.

**SKIP-A-DAY:** Omit operations on any day.

**MANUAL BY-PASS SWITCHES:** Single pole, 20 Amps — one per circuit. Factory pre-wired to terminal strip. ON/OFF/AUTO positions for each circuit is independent — will not disturb automatic settings.

**RESERVE POWER:** Standard feature on all models keep dial on time up to 24 hours during power outage.

**NOTE:** All models are designed to control a contactor circuit and are not recommended for direct switching of most lighting loads.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
T920L	41033	120	2 SPDT	Metal Indoor NEMA 1
T920L-E	41034	120	2 SPDT	Metal Indoor NEMA 1 with switch access
T920L-O	41035	120	2 SPDT	Metal Indoor/outdoor NEMA 3
T930L	41055	120	3 SPDT	Metal Indoor NEMA 1
T930L-E	41056	120	3 SPDT	Metal Indoor NEMA 1 with switch access
T930L-O	41057	120	3 SPDT	Metal Indoor/outdoor NEMA 3
Replacement Trippers		#P69 for 7 pairs of ON/OFF trippers.		
Replacement Motor		#36 (120V)		
Replacement Bypass Switch		#66061		

## SPECIFICATIONS

**INPUT VOLTAGE:** 120 or 208-277VAC, 60 Hz, varies by model.

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14AWG.

**OPERATING TEMPERATURE:**

-40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 5 watts maximum.

**ENCLOSURE:** Indoor NEMA 1 Metal with lockable hasp. Other enclosures include cover for access to by-pass switches with suffix "E" or Indoor/Outdoor NEMA 3 metal with suffix "O" (see page 153 for enclosure dimensions).

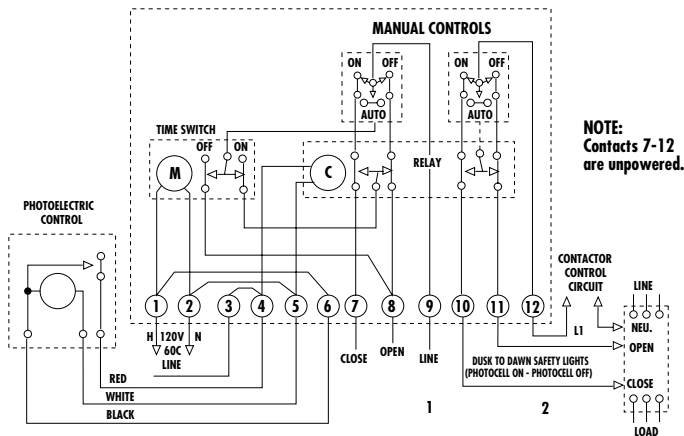
## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
General Purpose	120/277VAC	20A
Motor	120VAC 240VAC	1HP 2HP

## WIRING DIAGRAMS

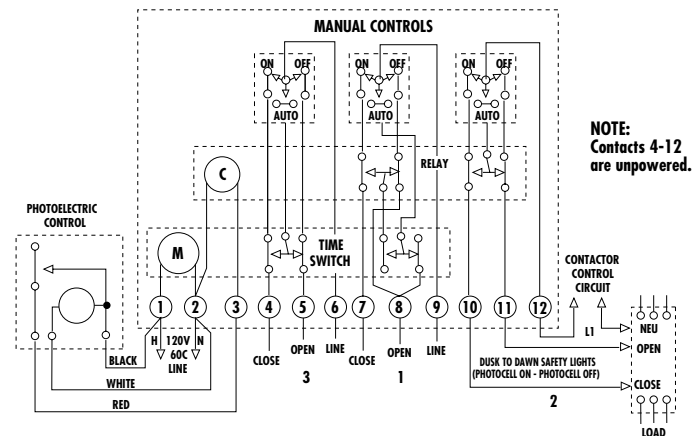
### T920L

ONLY CIRCUITS 1 AND 2 ARE INCLUDED IN T920L



### T930L

ALL 3 CIRCUITS ARE INCLUDED IN T930L

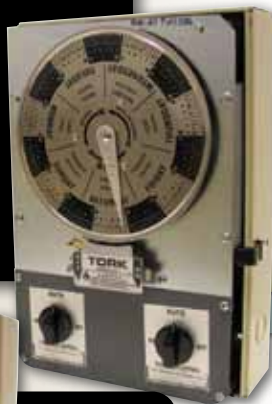


## SPECIFICATION WRITER'S GUIDE

**T900 SERIES** — Furnish and install, where shown, a TORK Photo/Time Control of the 7 Day Calendar dial type, which shall be suitable to operate mechanically-held contactor(s). Photo/Time Control shall be pre-wired to a central terminal block which provides connecting terminals for Photocontrol and independent contactor control circuit(s). Time switch shall function to prevent energization of lighting for preset periods each day. Time switch dial shall permit different ON/OFF settings for each day of the week, with provision for omitting selected days. Control shall include pre-wired manual switching for each contactor circuit specified. Enclosure shall be NEMA 1 surface. Photocontrol to be remotely installed in appropriate outside location. It shall be fully temperature compensated and shall provide for time delay of at least 15 seconds to prevent false switching. Photocontrol shall operate control center to energize whenever natural lighting falls below 1.5 - 5.5 foot candles turn on. Spring driven reserve timing motor shall be provided sufficient to operate time switch controls at least 24 hours after power failure. On restoration of power, time switch shall transfer to synchronous motor drive and automatically rewind reserve power unit. **FOR DUSK-TO-DAWN LIGHTS:** Control shall provide additional contactor circuit to above specifications except that it shall be responsive to Photocontrol only. Tork Model T-920L or equal. **FOR PRESET ON/PRESET OFF:** Control shall provide for additional contactor circuit to above specification except that it shall be responsive to time switch only. Tork Model T-930L.

# TW SERIES

DIFFERENT SCHEDULES EACH DAY  
MANUAL BYPASS SWITCHES  
RESERVE POWER STANDARD  
7 DAY TIME SWITCH



CALIFORNIA Title 24

ASHRAE 90.1



Optional "E" cover

## APPLICATIONS

- Heating
- Air conditioning
- Display lighting
- Ventilating systems
- Lighted signage
- Storefront lighting

## FEATURES

**SCHEDULING:** Minimum ON setting is 1 hour with a minimum OFF setting of 2 hours. Minimum 8 hours between 2 OFF settings. 7 day calendar dial accommodates up to 2 pairs of ON-OFF trippers per day — 7 pairs are supplied.

**SKIP-A-DAY:** Omit operations on any day.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**MANUAL BY-PASS SWITCHES:** Single pole, 20 Amps — one per circuit. Factory pre-wired to terminal strip. ON/OFF/AUTO positions for each circuit is independent — will not disturb automatic settings.

**RESERVE POWER:** Standard feature on all models keep dial on time up to 24 hours during power outage.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
TW-220L	39013	120	DPDT	Metal Indoor NEMA 1
TW-220L-E	39021	120	DPDT	Metal Indoor NEMA 1 with switch access
TW-222L	39014	208-277	DPDT	Metal Indoor NEMA 1
TW-300L	39015	120	3PST	Metal Indoor NEMA 1
TW-302L	39016	208-277	3PST	Metal Indoor NEMA 1
Replacement Trippers	Order #P69 for 7 pairs of ON/OFF trippers.			
Replacement Motor	#36 (120V) & #46 (208-277V)			
Replacement Bypass Switch	#66061			

**NOTE:** All models are designed to control a contactor circuit and are not recommended for direct switching of most lighting loads.

ELECTROMECHANICAL  
CONTROLS



## SPECIFICATIONS

### INPUT VOLTAGE:

120 or 208 - 277VAC, 60Hz, varies by model.

### TIMING ACCURACY:

Line frequency.

### TERMINAL RANGE: #8 - #14AWG.

### OPERATING TEMPERATURE:

-40° to 165°F (-40° to +74°C).

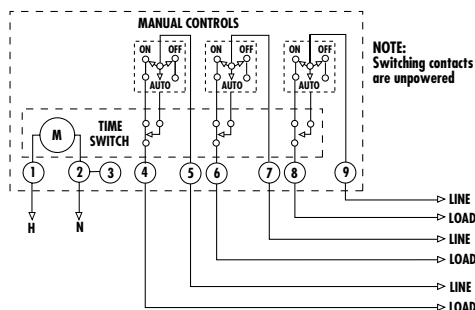
### POWER CONSUMPTION: 5 watts maximum.

**ENCLOSURE:** Indoor NEMA 1 Metal with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

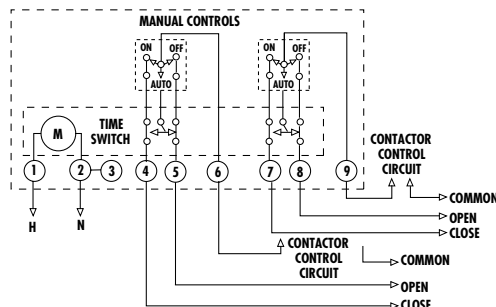
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120/277VAC	20A
Motor	120VAC 240VAC	1HP 2HP

## WIRING DIAGRAMS



### TW300L

When single line source is used, jumper terminals 1-5-7-9 and connect all commons to terminals 2 and 3.



### TW220L

Wiring shown is for mechanically-held contactors. Use CLOSE terminal only for magnetically-held contactors and to control direct loads not exceeding 2000 watts.

## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a TORK time switch of the 7 day type, capable of being set for different ON/OFF times each day of the week, to an operating accuracy of plus or minus 15 minutes of the desired time. The time switch shall be powered by a self-starting synchronous motor with spring-driven reserve, which shall be sufficient to operate the time switch contacts at least 24 hours after power outage. On restoration of power, time switch shall transfer to synchronous motor drive and automatically rewind reserve power unit. Time switch shall provide for automatic operation with a minimum of one hour between an ON/OFF operation with minimum of four ON/OFF operations per day. ON/OFF operations shall be accomplished by removable ON/OFF trippers on the dial. Time switch contacts shall be capable of carrying a minimum 20 amperes per pole continuously at 277 volts and shall be DPDT or 3PST. Manual switches shall be provided as an integral part of the time switch, one for each pole, and shall permit manual switching to maintained ON or OFF positions until manually returned to AUTOMATIC position. Terminal strip shall be capable of receiving #10AWG wires. Enclosure shall be NEMA 1 surface type, finished in beige enamel, and with 1/2" - 3/4" combination knock-outs on bottom, both sides and top. Provision shall be made for positive padlocking. (Specify "E" door for manual switches to be accessible when case is locked). Shall be TORK Model TW (to fit switch requirement) or equal in general purpose NEMA 1, (general purpose metal) or (Indoor/Outdoor NEMA 3) enclosure.

# TZ SERIES

## MANUAL BYPASS SWITCHES

## RESERVE POWER STANDARD

## ASTRONOMIC TIME SWITCH



CALIFORNIA Title 24

ASHRAE 90.1

### APPLICATIONS

- Schools
- Industrial yards
- Shop windows
- Parking lots
- Highway signs
- Bridges

### FEATURES

**SCHEDULING:** Turn ON at sunset and OFF at sunrise daily. OFF time can be set from 8:30PM to 2:30AM. Can be individually offset +/- 20 or 40 minutes from both sunset and OFF times. Available from 18° - 45° northern latitudes.

**SKIP-A-DAY:** Omit operations on any day with a 7 spoke wheel marked with days of the week. 3 omitting screws included.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**MANUAL BYPASS SWITCHES:** Single pole, 20 Amps - one per circuit. Factory pre-wired to terminal strip. ON/OFF/AUTO positions for each circuit is independent, will not disturb automatic settings.

**RESERVE POWER:** Standard feature on all models keep dial on time up to 24 hours during power outage.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
TZ-220L*	**	120	DPDT	Metal Indoor NEMA 1
TZ-220L-0*	**	120	DPDT	Metal Indoor/outdoor NEMA 3
TZ-222L*	**	208 - 277	DPDT	Metal Indoor NEMA 1
TZ-300L*	**	120	3PST	Metal Indoor NEMA 1
TZ-300L-0*	**	120	3PST	Metal Indoor/outdoor NEMA 3
TZ-302L*	**	208 - 277	3PST	Metal Indoor NEMA 1
Replacement Motor	For "L" models #36 (120V) & #46 (208-277V)			

Replacement Bypass Switch #66061

\*Add degrees latitude to complete number (18, 30, 34, 38, 40, 42, or 45).

\*\*Consult factory for UPC number.

**NOTE:** All models are designed to control a contactor circuit and are not recommended for direct switching of most lighting loads.

## SPECIFICATIONS

### INPUT VOLTAGE:

120 or 208 - 277VAC, 60Hz, varies by model.

### TIMING ACCURACY:

Line frequency.

### TERMINAL RANGE:

#8 - #14AWG.

### OPERATING TEMPERATURE:

-40° to 165°F (-40° to +74°C).

### POWER CONSUMPTION:

5 watts maximum.

### ENCLOSURE:

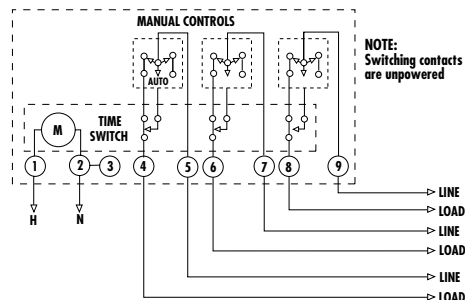
Indoor NEMA 1 Metal with lockable hasp and for some models enclosures is Indoor/Outdoor NEMA 3 metal with suffix "O" (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
General Purpose	120/277VAC	20A
Motor	120VAC 240VAC	1HP 2HP

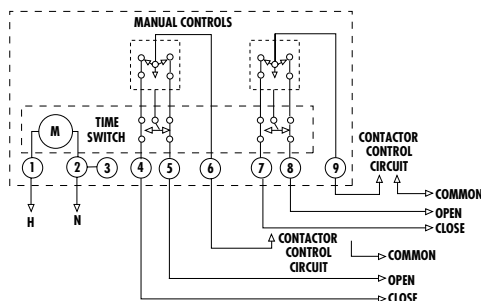
## WIRING DIAGRAMS

### ASTRONOMIC LATITUDE ZONES



### TZ300L

When single line source is used, jumper terminals 1, 5, 7, 9 and connect all commons to terminals 2 and 3.



### TZ220L

Wiring shown is for mechanically held contactors. Use CLOSE terminal only for magnetically held contactors and to control direct loads not exceeding 2000 watts.

## SPECIFICATION WRITER'S GUIDE

Furnish and install, where shown, a TORK time switch with Astronomic dial and day-omitting device, and a 3-way manual switch for each circuit. The time switch shall be powered by a self-starting synchronous motor with spring-driven reserve, which shall be sufficient to operate the time switch contacts at least 16 hours after power failure. On restoration of power, time switch shall transfer to synchronous motor drive and automatically rewind reserve. ON operation shall occur automatically at sunset in (city of use). OFF operation shall be adjustable from 8:30 P.M. to 2:30 A.M. in one-half hour increments or at sunrise. Both ON and OFF shall have a range of adjustability of 20 or 40 minutes before or after sunset and sunrise. Time switch contacts shall be capable of carrying a minimum of 20 amperes per pole continuously at 277 volts and shall be DPST (3PST). Manual switches shall be provided as an integral part of the time switch, one for each pole, and shall permit manual switching to maintained ON or OFF positions until manually returned to AUTOMATIC position. Terminal strip shall be capable of receiving #10AWG wires. Enclosure shall be NEMA 1 surface type, finished in beige enamel, and with 1/2" - 3/4" combination knock-outs on bottom, both sides and top. Provision shall be made for positive padlocking. (Specify "E" door for manual switches to be accessible when case is locked). Time switch shall be TORK Model TZ- \_\_\_\_ (to fit requirement).



# **DIGITAL TIME SWITCHES**

# FEATURES

## QUICK LOOK

	DTU40	DTWH40	E-PB	E	EW	EWZ	DG	DGM	DZS	DTS	DWZ
Page No.	55	55	57	57	59	61	63	63	65	67	69
Number of Channels	1	1	1	1 or 2	1 or 2	1 or 2	1 or 2	1	1, 2, or 4	1, 2, or 4	1
ON/OFF Set Points	7 pair (98)	7 pair (98)	20 (140)	20	20	20	56	56	99	99	99
365 Day/7 Day Scheduling	7 day	7 day	24 hour	24 hour	7 day	7 day	7/365 day	7/365 day	7/365 day	7/365 day	7/365 day
Automatic Daylight Savings Adjustment	Manual	Manual	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Leap Year			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual Holiday Schedules									24	24	24
Block Holiday							9	9			
Season Scheduling									4	4	
Astronomic (Sunrise/Sunset)						Yes			Yes		Yes
Photosensor Input											
Remote Override Input											
User Defined Input											
Signal/Pulse Duration									Yes	Yes	
Momentary for Contactors				Option	Option	Option		Yes			
Duty Cycle											
31 Day Cycle											
Manual Override	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clock Format	AM/PM	AM/PM	AM/PM	AM/PM	AM/PM	AM/PM	12/24	12/24	12/24	12/24	12/24
Power Outage Backup	Rechargeable Battery	Rechargeable Battery	4 day Super Capacitor	4 day Super Capacitor	4 day Super Capacitor	4 day Super Capacitor	7 day Super Capacitor	7 day Super Capacitor	7 day Super Capacitor	7 day Super Capacitor	7 day Super Capacitor
Schedule Retention without power	Battery	Battery	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent
Staggered Start			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Memory Module									Yes		
Computer Programming Software									Yes		
Output Contacts: Amps Resistive or General Purpose	40A	40A	30A	40A	40A	40A	20A	20A	30A/20A	30A/20A	30A
Contact Type: Dry Unpowered	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voltage Input AC	120/208-240/277	120/208-240/277	120	120-277	120-277	120-277	120-277	120-277	120/208-240/277	120/208-240/277	120/208-240/277
Low Voltage Input (select models)									12VDC 24VAC		

			ENERGY/LIGHTING CONTROLS		LIGHTING CONTROLS				CYCLE - SIGNAL TIMER		
	DW	DZM	ELC71/72	ELC74/78/712	DGU	DGUM	DGLC	DLC400	DG	DGS	DIN
Page No.	69	71	73	75	79	79	79	81	85	85	89
Number of Channels	2	2	1 or 2	4, 8, or 12	1	1	1 or 2	4	1 or 2	1	1 or 2
ON/OFF Set Points	99	99	128	128	56	56	56	99	56	56	8 pair 3 pair/ch
365 Day/7 Day Scheduling	7/365 day	7/365 day	7/365 day	7/365 day	7/365 day	7/365 day	7/365 day	7/365 day	24 Hour	7 Day	7 Day
Automatic Daylight Savings Adjustment	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Leap Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Individual Holiday Schedules	24	24	26	26				24			
Block Holiday			10	10	9	9	9				
Season Scheduling		4						4			
Astronomic (Sunrise/Sunset)		Yes	Yes	Yes				Yes			
Photosensor Input			Yes	Yes	Yes	Yes	Yes	Yes			
Remote Override Input			Yes	Yes	Yes	Yes	Yes	Yes			
User Defined Input			Yes	Yes							
Signal/Pulse Duration			Yes	Yes					Yes	Yes	
Momentary for Contactors		Yes	Yes	Yes		Yes					
Duty Cycle			Yes	Yes					Yes	Yes	
31 Day Cycle									Yes		
Manual Override	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clock Format	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	12/24	AM/PM
Power Outage Backup	7 day Super Capacitor	7 day Super Capacitor	7 day Super Capacitor	2 day Capacitor 1 year battery	7 day Super Capacitor	7 day Super Capacitor	7 day Super Capacitor	6 month battery	7 day Super Capacitor	7 day Super Capacitor	8 year battery
Schedule Retention without power	Permanent	Permanent	Capacitor	Battery	Permanent	Permanent	Permanent	Permanent	Permanent	Permanent	Battery
Staggered Start	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Memory Module		Yes						Yes			
Computer Programming Software		Yes		Yes				Yes			
Output Contacts: Amps Resistive or General Purpose	30A	30A	20A	20A	20A	20A	20A	30A	20A	20A	16A
Contact Type: Dry Unpowered	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Voltage Input AC	120/208-240/277	120/208-240/277	120/208-240/277	24/120/208-240/277	120-277	120-277	120-277	120/208-240/277	120-277	120-277	120
Low Voltage Input (select models)				24VAC All Models					12VDC 24VAC	24VAC	

# DT SERIES

## AUTOMATIC VOLTAGE DETECTION 24 HOUR OR 7 DAY HOUR TIME SWITCH

### APPLICATIONS



#### DTU40

- Pumps, motors, fans
- Signs and lighting
- Water heaters
- Heating and air conditioning

#### DTWH40

- Water Heaters
- This timer turns OFF when rates are high and turns OFF when no one is home.



DTU40

DTWH40

Avoid utility peak rates  
Turn off when not needed

**MORE WIRING  
SPACE!**

### FEATURES

**SCHEDULING:** 7 ON & OFF pairs of set points for individual programs on each day of the week. Minimum setting is 1 minute.

**DAYLIGHT SAVING:** Manual button push for one hour adjustment.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**EXTERNAL MANUAL OVERRIDE:** DTWH40 only on clear door. Override without opening case.

**RANDOM MODE:** Varies ON and OFF times to create "lived-in" look when away.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Battery retains time and schedule.

### ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 60Hz	NO. OF CHANNELS	DRY CONTACTS (UNPOWERED)
DTU40	24004	120/208-240/277	1	DPDT
DTWH40	24005	120/240	1	DPDT

## SPECIFICATIONS

**INPUT VOLTAGE:** 120/208-240/277 VAC, 50/60 Hz (auto detection). DTWH40 is 120/240VAC (auto detection).

**TERMINAL RANGE:** #8 - #18AWG.

**OPERATING TEMPERATURE:** -31°F to 116°F (-35°C to +47°C).

**POWER CONSUMPTION:** 6VA Max.

**ENCLOSURE:** DTU40 polycarbonate Indoor/ Outdoor NEMA 3R. DTWH40 polycarbonate indoor NEMA 1 enclosure with clear cover. Both with lockable hasp (see page 153 for enclosure dimensions).

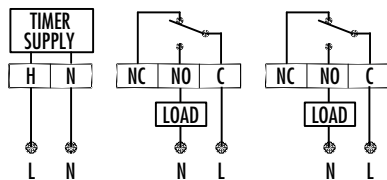
## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	120-277VAC	40A	30A
Inductive	120-277VAC	30A	15A
Ballast	120VAC	30A	10A
	277VAC	20A	10A
Tungsten	120VAC	15A	
Motor	120VAC	1 HP/30FLA/90LRA	1/4HP/12FLA/30LRA
	240VAC	2HP/20FLA/60LRA	1/2HP/12FLA/33LRA
Pilot duty	120VAC	720VA	290VA
	240VAC	720VA	260VA
Resistive	28VDC	20A	
Max above 104°	120-277VAC	30A	

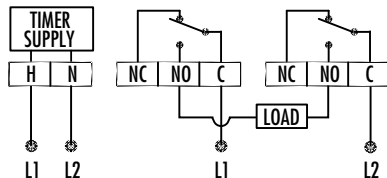
## WIRING DIAGRAMS

### DTWH40

Typical Wiring Diagram, 120VAC

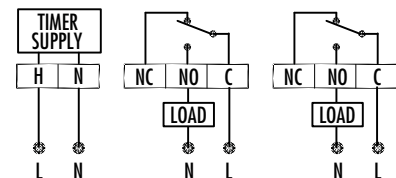


Typical Wiring Diagram, 240VAC

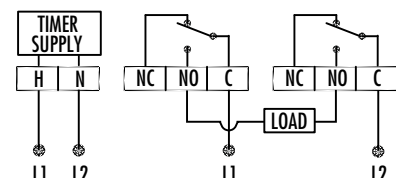


### DTU40

Typical Wiring Diagram, 120/277VAC Application



Typical Wiring Diagram, 208-240 VAC Application



# E & E-PB SERIES

## MULTIPURPOSE CONTROLS

### 1 OR 2 CHANNEL

### 24 HOUR TIME SWITCH



**BACK-UP WITHOUT BATTERY,  
ECO FRIENDLY!**

#### APPLICATIONS



- Signs
- Air conditioning
- Lighting
- Sump pumps
- Ventilating fans

#### FEATURES

**SCHEDULING:** 20 ON/OFF set points repeat each day. Minimum setting 1 minute.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 4 days of real time backup.

**MOMENTARY OPTION:** For mechanically held contractors: Model E201B only. Configure with simple jumper change for single-channel momentary operation.

#### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	OUTPUT DRY CONTACTS
E101B	82401	120-277	1	SPST
E103B	82411	120-277	1	DPST
E120B	82406	120-277	1	SPDT
E201B	82466	120-277	2	SPST
E101PB	82461	120	1	SPST



## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:**

**E SERIES**

120 - 277VAC, 50/60Hz (automatic detection).

**E-PB**

120VAC, 50/60Hz.

**TERMINAL RANGE:** #8 - #16AWG.

**OPERATING TEMPERATURE:**

-40° to +149°F (-40° to +65°C).

**POWER CONSUMPTION:** 6VA Max.

**ENCLOSURE:** Plastic Indoor/Outdoor NEMA 3R

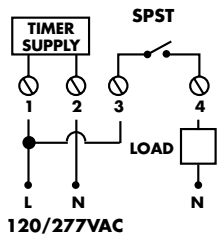
is standard with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

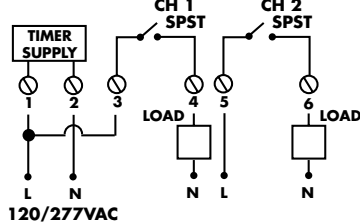
TYPE	E101B, E103B, E201B VOLTAGE	E201B RATING NO	E120B RATING NO NC	E101PB VOLTAGE	E101PB RATING NO
General Purpose	120-277VAC	40A	30A	30A	120/240VAC 277VAC 30A 12A
Inductive	120-277VAC	40A	30A	30A	120/240VAC 277VAC 30A 12A
Ballast	120VAC 208-277VAC	30A 20A	30A 20A	10A 10A	120VAC 277VAC 20A 6A
Tungsten	120VAC	15A	15A	2A	120VAC 5A
Pilot Duty	120-277VAC	720VA	720VA	720VA	120-277VAC 470VA
Motor	120VAC 208VAC 240-277VAC	1HP 1½HP 2HP	1HP 1½HP 2HP	1HP 1½HP 2HP	120VAC 240VAC 1HP 2HP
Resistive	28VDC	30A	30A	30A	28VDC 20A

## WIRING DIAGRAMS

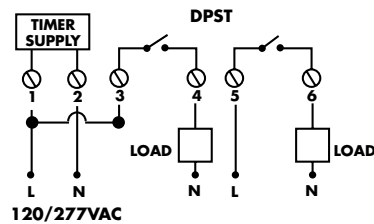
**E101B**



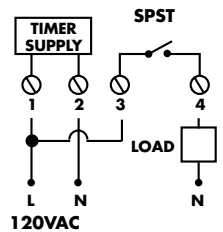
**E201B**



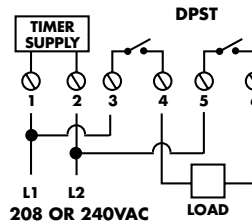
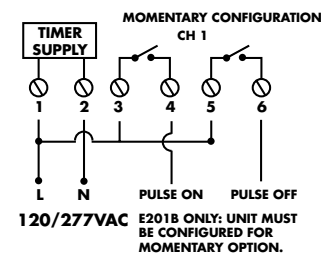
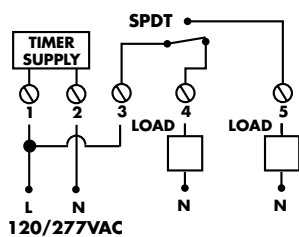
**E103B**



**E101PB**



**E120B**



## SPECIFICATION WRITER'S GUIDE

E100B only — 1. Furnish and install a TORK digital time switch with (40 Amp SPST contacts, model E101B,E201B) (40 Amp DPST contacts, model E103B) (30 Amp SPST contacts, model E120B). 2. Unit shall be capable of 20 set points. 3. Unit shall repeat the same schedule each day. 4. (Model E201B ONLY) Unit shall be capable of being a 2 channel maintained or a 1 channel momentary 5. Unit shall have automatic Daylight Savings Time and Leap Year compensation. 6. Unit shall program in AM/PM format. 7. Unit shall have LCD display. 8. Unit shall have permanent schedule retention. 9. Unit real time clock shall be retained by super capacitor for 100 hours in a power failure. 10. Unit shall be capable of manual override ON or OFF either to the next scheduled event or permanently. 11. Unit shall have a NEMA 3R Indoor/Outdoor plastic enclosure. 12. Unit shall have Load Status indication. 13. Unit shall have Power Failure indication. 14. To order specify TORK Model E101B (E103B) (E120B) (E201B).

# EW SERIES

## MULTIPURPOSE CONTROL

### 1 OR 2 CHANNEL

### 7 DAY TIME SWITCH



**AUTOMATIC DST - SAVES TIME  
CHANGES TWICE A YEAR**

#### APPLICATIONS



- Outdoor signs
- Lighting security
- Heating and air conditioning



CALIFORNIA Title 24

ASHRAE 90.1

#### FEATURES

**SCHEDULING:** 20 ON & OFF set points for individual programs for each day of the week. Minimum setting is 1 minute.

**DAYLIGHT SAVING:**  
Automatic (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 4 days of real time backup.

**MOMENTARY OPTION:** For mechanically held contractors: Model EW201B only. Configure with simple jumper change for single-channel momentary operation.

#### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	OUTPUT DRY CONTACTS
EW101B	82431	120-277	1	SPST
EW103B	82441	120-277	1	DPST
EW120B	82436	120-277	1	SPDT
EW201B	82467	120-277	2	SPST
EW103B-C	82253	120-277	1	DPST
EW103B-Y	82255	120-277	1	DPST
EW120B-C	82437	120-277	1	SPDT
EW120B-Y	82261	120-277	1	SPDT
EW201B-Y	82299	120-277	2	SPST

DIGITAL  
CONTROLS

## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:**

120 - 277VAC, 50/60Hz (automatic detection).

**TERMINAL RANGE:** #8 - #16AWG.

**OPERATING TEMPERATURE:**

-40° to +149° (-40° to +65°C).

**POWER CONSUMPTION:** 6VA Max.

**ENCLOSURE:** Plastic Indoor/Outdoor NEMA 3R.

Suffix -C plastic clear cover Indoor/Outdoor NEMA

3R. Suffix -Y metal Indoor enclosure NEMA 1. All

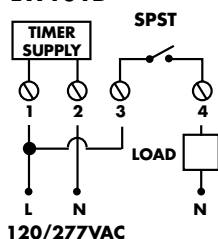
with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

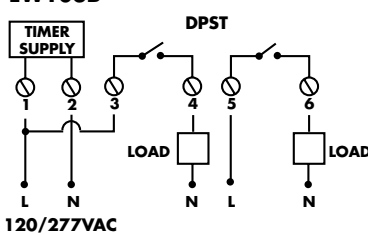
TYPE	EW101B, EW103B, EW201B		EW120B		
	VOLTAGE	RATING NO	VOLTAGE	RATING NO	RATING NC
General Purpose	120-277VAC	40A	120-277 VAC	30A	30A
Inductive	120-277VAC	40A	120-277 VAC	30A	30A
Ballast	120VAC	30A	120VAC	30A	10A
	208-277VAC	20A	208-277VAC	20A	10A
Tungsten	120VAC	15A	120VAC	15A	2A
Pilot Duty	120-277VAC	720VA	120-277 VAC	720VA	720VA
Motor	120VAC	1HP	120VAC	1HP	1HP
	208VAC	1 1/2HP	208VAC	1 1/2HP	1 1/2HP
	240-277VAC	2HP	240-277VAC	2HP	2HP
Resistive	28VDC	30A	28 VDC	30A	30A

## WIRING DIAGRAMS

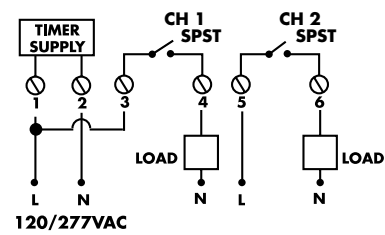
**EW101B**



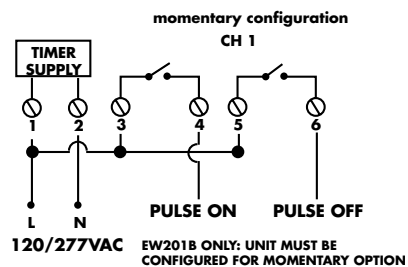
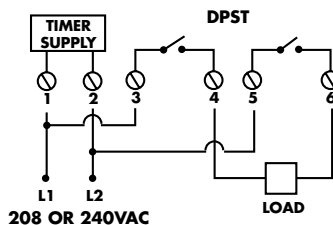
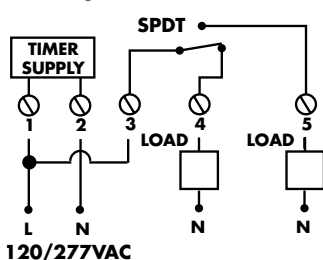
**EW103B**



**EW201B**



**EW120B**



## SPECIFICATION WRITER'S GUIDE

EW SERIES – 1. Furnish and install a TORK digital time switch with (40 Amp SPST contacts, model EW101B, EW210B) (40 Amp DPST contacts, model EW103B) (30 Amp SPDT contacts, model EW120B). 2. Unit shall be capable of 20 set points. 3. Unit shall be capable of a different schedule each day of the week. 4. (Model EW201B ONLY) Unit shall be capable of being a 2 channel maintained or a 1 channel momentary. 5. Unit shall have automatic Daylight Savings Time and Leap Year compensation. 6. Unit shall program in AM/PM format. 7. Unit shall have LCD display. 8. Unit shall have permanent schedule retention. 9. Unit real time clock shall be retained by super capacitor for 100 hours in a power failure. 10. Unit shall be capable of manual override ON or OFF either to the next scheduled event or permanently. 11. Unit shall have a NEMA 3R Indoor/Outdoor plastic enclosure. 12. Unit shall have Load Status indication. 13. Unit shall have Power Failure indication. 14. To order specify TORK Model EW101B (EW103B) (EW120B) (EW201B).

# EWZ SERIES

## MULTIPURPOSE CONTROL

### 1 OR 2 CHANNEL, ASTRONOMIC

### 7 DAY TIME SWITCH



**PREFERRED FOR**  
**OUTDOOR LIGHTING**

## APPLICATIONS



CALIFORNIA Title 24

ASHRAE 90.1

- Outdoor signs
- Lighting security
- Heating and air conditioning

## FEATURES

**SCHEDULING:** 20 ON & OFF set points for individual programs for each day of the week. Minimum setting is 1 minute.

**ASTRONOMIC:** Adjustable 10° - 60° Northern or Southern latitudes. Can be individually offset +/- 1-240 minutes from both sunset and sunrise times.

**DAYLIGHT SAVING:** Automatic (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 4 days of real time backup.

**MOMENTARY OPTION:** For mechanically held contactors: Model EWZ201 only. Configure with simple jumper change for single-channel momentary operation.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	OUTPUT DRY CONTACTS
EWZ101	82470	120-277	1	SPST
EWZ103	82473	120-277	1	DPST
EWZ120	82471	120-277	1	SPDT
EWZ201	82472	120-277	2	SPST
EWZ101-MB	82263	120-277	1	SPST
EWZ103-MB	82269	120-277	1	DPST
EWZ120-MB	82275	120-277	1	SPDT
EWZ201-MB	82281	120-277	2	SPST

DIGITAL  
CONTROLS

TORK 61

USA • 800.321.5847 • [www.nsiindustries.com](http://www.nsiindustries.com)

## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:**

120 - 277VAC, 50/60Hz (automatic detection).

**TERMINAL RANGE:** #8 - #16AWG.

**OPERATING TEMPERATURE:**

-40° to +149° (-40° to +65°C).

**POWER CONSUMPTION:** 6VA Max.

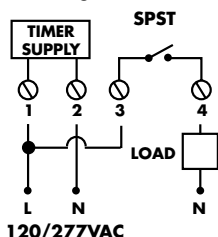
**ENCLOSURE:** Plastic Indoor/Outdoor NEMA 3R is standard with lockable hasp (see page 153 for enclosure dimensions). Suffix -MB without enclosure and includes mounting bracket.

## CONTACT RATINGS

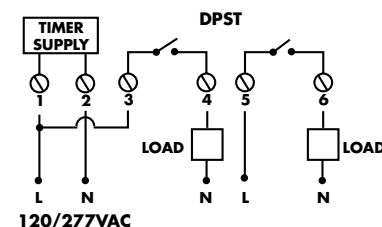
TYPE	EWZ101,EWZ103, EWZ201		EWZ120	
	VOLTAGE	RATING NO	VOLTAGE	RATING NO NC
General Purpose	120-277VAC	40A	120-277 VAC	30A 30A
Inductive	120-277VAC	40A	120-277 VAC	30A 30A
Ballast	120VAC	30A	120VAC	30A 10A
	208-277VAC	20A	208-277VAC	20A 10A
Tungsten	120VAC	15A	120VAC	15A 2A
Pilot Duty	120-277VAC	720VA	120-277 VAC	720VA 720VA
Motor	120VAC	1HP	120VAC	1HP 1HP
	208VAC	1 1/2HP	208VAC	1 1/2HP 1 1/2HP
	240-277VAC	2HP	240-277VAC	2HP 2HP
Resistive	28VDC	30A	28 VDC	30A 30A

## WIRING DIAGRAMS

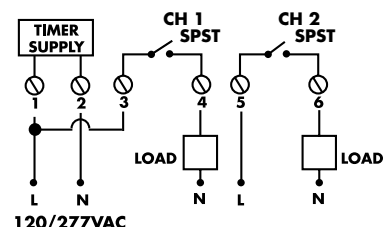
**EWZ101**



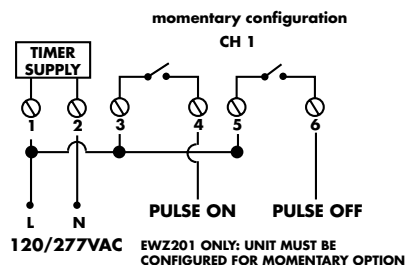
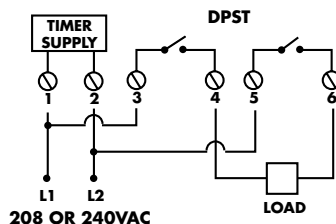
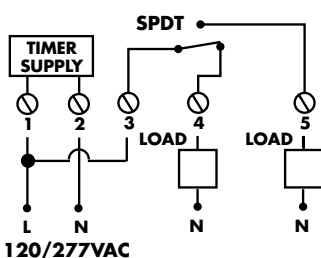
**EWZ103**



**EWZ201**



**EWZ120**



## SPECIFICATION WRITER'S GUIDE

EWZ SERIES – 1. Furnish and install TORK digital time switch with (40 AMP contacts, models EWZ101, EWZ201) (40 Amp DPST contacts, model EWZ103) (30 AMP contacts, model EWZ120). 2. Unit shall be capable of 20 set points. 3. Unit shall be capable of a different schedule for each day of the week. 4. Unit shall be have astronomic option adjustable from 1° - 60° northern or southern latitudes. 5. Unit shall be have astronomic option with offset up to 4 hours and 59 minutes, before or after sunrise. 6. (Model EWZ201 ONLY) Unit shall be capable of being a 2 channel maintained or a 1 channel momentary. 7. Unit shall have automatic Daylight Savings Time and Leap Year compensation. 8. Unit shall program in AM/PM format. 9. Display shall be of LCD type. 10. Unit shall have permanent schedule retention. 11. Unit real time clock shall be retained by capacitor for 100 hours in a power failure. 12. Unit shall be capable of manual override ON or OFF either in the next scheduled event or permanently. 13. Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard. 14. Unit shall have Load Status indication. 15. Unit shall have Power Failure indication. 16. To order specify TORK Model EWZ101 (EWZ103) (EWZ120) (EWZ201).

# DG100 SERIES

## MULTIPURPOSE CONTROLS

### 1 OR 2 CHANNEL

### 365/7 DAY

### TIME SWITCH



**HOLIDAY PROGRAMMING  
FOR MORE SAVINGS!**

## APPLICATIONS



- Indoor/Outdoor lighting
- HVAC equipment
- School warning and other
- Traffic lights
- Water heaters in offices, churches and factories

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	OUTPUT CONTACTS
DG100A	82201	120-277VAC	1	DPDT
DG200A	82209	120-277VAC	2	SPDT
DGM100A	82210	120-277VAC	1	SPDT Momentary
DGM100A-Y	82222	120-277VAC	1	SPDT Momentary

## FEATURES

**SCHEDULING:** 56 ON & OFF set points provide individual programs for each day of the week. Minimum setting is 1 minute.

**MOMENTARY CONTACT:** DGM100A has 2 second contact closures for ON & OFF control of mechanically held contactors or latching relays.

**BLOCK HOLIDAY:** 9 holiday blocks can be set for individual days or for duration of any number of days.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM or 24 Hour format.

**POWER OUTAGE BACKUP:** Permanent schedule retention is provided. Supercapacitor provides 7 days of real time back up.



## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:**

120 - 277VAC, 50/60Hz (automatic detection).

**TERMINAL RANGE:** #12 - #18AWG.

**OPERATING TEMPERATURE:**

-31° to +131°F (-35° to +55°C).

**POWER CONSUMPTION:** 6VA Max.

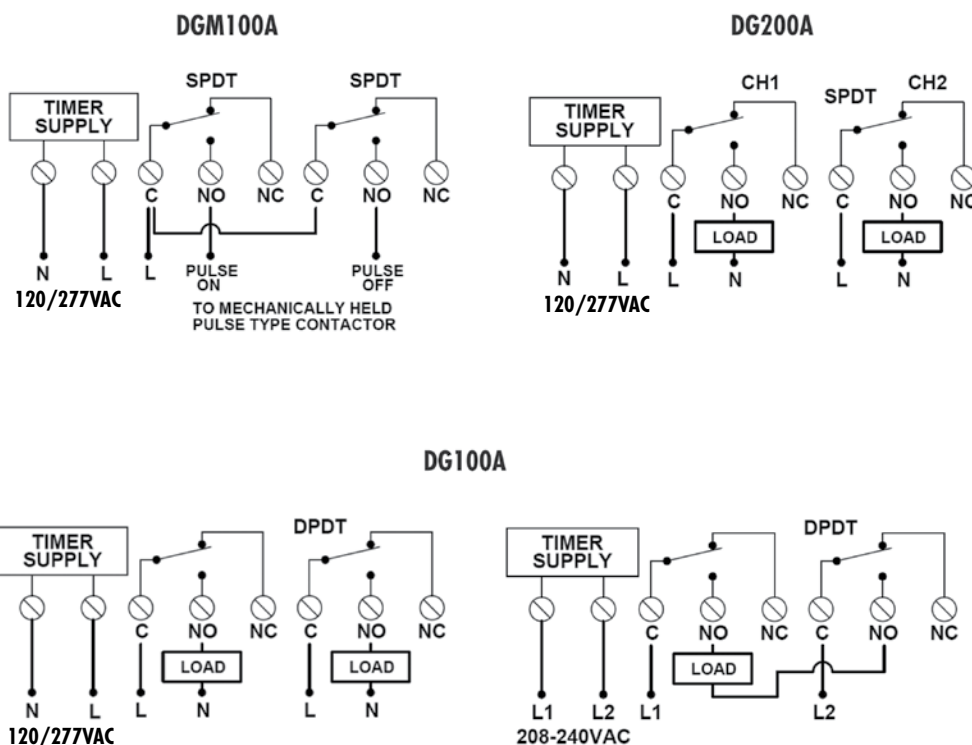
**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA

3R. Suffix -Y metal indoor enclosure NEMA 1. All with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	24-277VAC	20A	10A
Ballast	120 VAC 277 VAC	20A	10A
Tungsten	120VAC	15A	
Pilot Duty	120VAC 240VAC	720VA	290VA 360VA
Motor	120VAC 240VAC	1HP 2HP	1/4HP 1/2HP
Resistive	28VDC	20A	10A

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

DG100/200A SERIES – 1. Furnish and install, where noted, a 1 (2) channel 7-day programmable digital time switch. 2. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 3. Unit shall be capable of switching 20 amps ballast loads at 277VAC. 4. Controller shall be capable to 56 set points; separate scheduling for each day of the week with one minute resolution. 5. Controller shall have 365 day holiday capabilities with 9 block holidays for individual or duration of any number of days. 6. Controller shall be able to select USA Standard Daylight Saving, Standard time, or programmable dates. 7. Controller shall have automatic Leap Year correction. 8. Controller shall have Permanent Schedule Retention. 9. Controller shall have 7 days backup for real time with built in super capacitor; no batteries to maintain. 10. Controller shall be capable of Manual Override ON or OFF to the next scheduled event using 1 button for each channel. 11. Unit shall have NEMA Type 3R indoor/outdoor enclosure as standard. 12. To order specify TORK Model DG100A (DG200A). 13. To order momentary contact closure for latching contactor control specify DGM100A.

# DZS SERIES

## MULTIPURPOSE CONTROLS

### 1, 2 OR 4 CHANNEL

### 365 / 7 DAY ADVANCED

### TIME SWITCH

**REMOVABLE MEMORY  
MODULE FOR COMPUTER  
PROGRAMMING!**

## APPLICATIONS



- HVAC equipment
- Horns and bells
- Interior lighting
- Electric motors
- Outdoor lighting and signs



CALIFORNIA Title 24

ASHRAE 90.1

## FEATURES

**SCHEDULING:** 99 ON & OFF set points allow individual programs for each day of the week at a minimum 1 minute apart.

**ASTRONOMIC:** Adjustable 10° - 60° Northern or Southern latitudes can be individually offset +/- 1 to 240 minutes from both sunset and sunrise times.

**SEASONS:** 1 to 4 with different daily schedules which can wrap around into the new year.

**HOLIDAYS:** 1 to 24 individual dates.

**SIGNAL/PULSE DURATION:** 2 different settings per channel: 1-99 seconds.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes. In signal mode, activates pulse.

**CLOCK FORMAT:** AM/PM or Military time.

**POWER OUTAGE BACKUP:** Permanent schedule retention with memory module. Supercapacitor provides 7 days of real time backup.

**MEMORY MODULE:** Removable MM can be programmed at any one location and inserted into another DZS series unit.

**COPY FEATURE:** Unit can be configured to copy program schedule to multiple memory modules.

**OPTION:** Memory Module Programmer with software for computer connection programming. Also allows stand alone battery operation for portable copy feature.

## ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	DRY CONTACTS (UNPOWERED)
DZS100BP	82182	120/208-240/277	1	DPDT
DZS200BP	82183	120/208-240/277	2	SPDT
DZS400BP	82184	120/208-240/277	4	SPDT
USB-MMP	82196		Memory Module Programmer	Includes software
DZS100BP-0	82215	120/208-240/277	1	DPDT
DZS200BP-0	82227	120/208-240/277	2	SPDT
DZS200BP-12	82228	12VDC	2	SPDT
DZS200BP-24	82229	24VAC	2	SPDT
DZS400BP-0	82230	120/208-240/277	4	SPDT

## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:** 120/208-240/277VAC,  
50/60Hz.

**TERMINAL RANGE:**

#14-#16AWG for line input.

#12-#16AWG load outputs.

**OPERATING TEMPERATURE:**

-40° to +158°F (-40° to 70°C).

**POWER CONSUMPTION:**

5VA Max: DZS100/200BP.

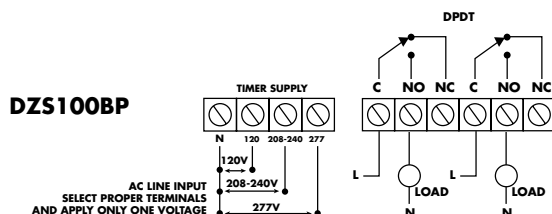
6VA Max: DZS400BP.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA  
3R. Suffix -0 metal Indoor/Outdoor NEMA 3. All  
with lockable hasp (see page 153 for enclosure  
dimensions).

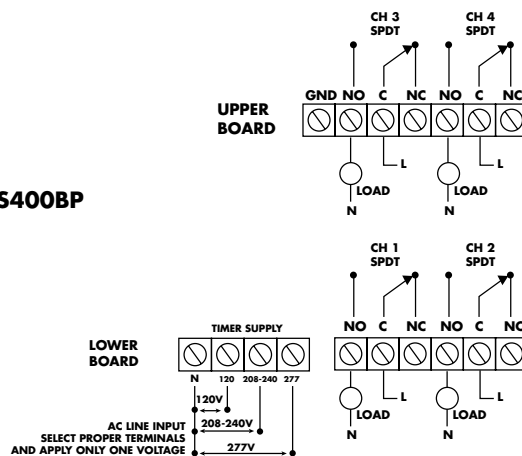
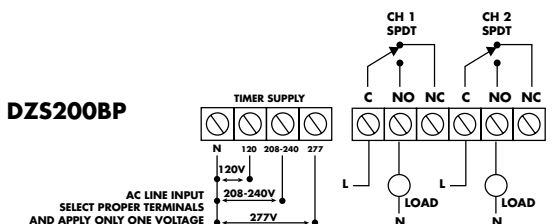
## CONTACT RATINGS

TYPE	DZS100BP, DZS200BP			DZS400BP		
	VOLTAGE	RATING NO	RATING NC	VOLTAGE	RATING NO	RATING NC
General Purpose	24-277VAC	30A	30A	24-277VAC	20A	20A
Ballast	120VAC	30A	10A	120-277VAC	13A	
	277VAC	20A	10A			
Tungsten	120-277VAC	15A	2A	120VAC	8A	
Motor Load	120VAC	1HP	1HP	120-277VAC	1HP	1HP
	208-277VAC	2HP	2HP			
Pilot Duty	120-277VAC	720VA	720VA	12-277VAC	720VA	720VA
Resistive	28VDC	30A	30A			

## WIRING DIAGRAMS



**DZS400BP**



## SPECIFICATION WRITER'S GUIDE

DZS SERIES – 1. Furnish and install, where noted, a 4 (2) (1) channel digital time switch with portable Memory Module on front panel. 2. Memory Module shall be capable of being programmed at any one location and inserted into DZS100BP, 200BP, 400BP Series (with memory module socket) in any other remote location. 3. Optional programmer shall be available (Model MMP), capable of accomplishing Windows based settings on a PC for easy duplication of Memory Modules or individualized programs for multiple locations 4. Unit shall have copy feature: Can be configured to copy program schedules from one memory module to another without use of the optional memory module programmer. 5. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 6. Controller shall program in one minute resolution. 7. Display shall be of LCD type. 8. Controller shall be capable of 99 set points; separate scheduling for each day of the week. 9. Controller shall have 365 day holiday capabilities with 24 single dates and 4 seasons of unlimited duration. 10. Different daily schedules shall be programmable within each season. 11. Controller shall have Daylight Saving or Standard time. 12. Controller shall have automatic Leap Year correction. 13. Controller shall have Permanent Schedule Retention. 14. Controller shall have 7 day backup for real time with built in super capacitor. 15. Controller shall be capable of manual override ON or OFF to the next Scheduled event using 1 button for each channel. 16. Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard. 17. Controller shall be capable of having 2 different pulse durations 1-99 seconds, user settable and assignable to each channel. 18. Controller shall be capable of having astronomic on one (or all) channels with 1-240 minutes, plus or minus offset from Sunrise or Sunset. 19. Controller shall be capable of being configured to copy to multiple memory modules. 20. To order specify TORK Model DZS100BP (DZS200BP) (DZS400BP).

# DTS SERIES

## MULTIPURPOSE CONTROLS

### 1, 2 OR 4 CHANNEL

### 365 / 7 DAY ADVANCE

### TIME SWITCH

**MAINTAINED AND  
SIGNAL TIMING**

#### APPLICATIONS



- Indoor and outdoor lighting
- Heating and air conditioning
- Security systems
- Horns and bells
- Low voltage lighting
- Misting and spraying
- Roof cooling
- Clock correction systems
- Process functions



CALIFORNIA Title 24

ASHRAE 90.1

#### FEATURES

**SCHEDULING:** 99 ON/OFF set points allow individual programs for each day of the week at a minimum 1 minute apart.

**SEASONS:** 1 to 4 with different daily schedules which can wrap around into the new year.

**HOLIDAYS:** 1 to 24 individual dates.

**SIGNAL/PULSE DURATION:** 2 different settings per channel: each 1-99 seconds.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes. In signal mode, activates pulse.

**CLOCK FORMAT:** AM/PM or Military time.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 7 days of real time back up.

#### ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	DRY CONTACTS (UNPOWERED)
DTS100B	82185	120/208-240/277	1	DPDT
DTS200B	82186	120/208-240/277	2	SPDT
DTS400B	82187	120/208-240/277	4	SPDT



## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:** 120/208-277VAC,  
50/60Hz.

**TERMINAL RANGE:**

#14 - #16AWG for line input.

#12 - #16AWG load outputs.

**OPERATING TEMPERATURE:**

-40° to +149° (-40° to +65°C).

**POWER CONSUMPTION:** 6VA Max.

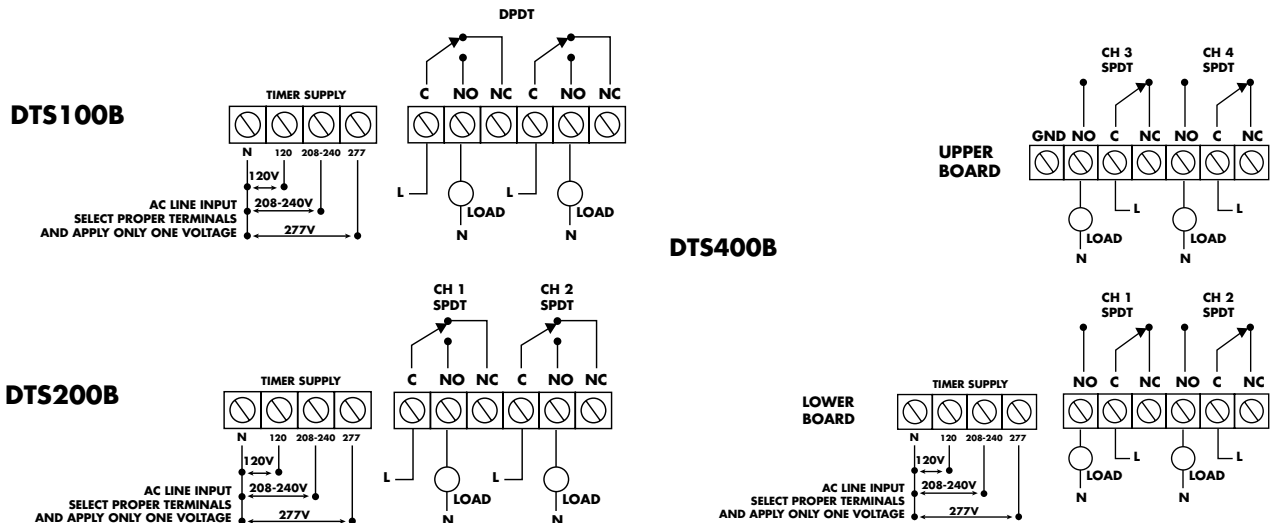
**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA

3R with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	DTS100B, DTS200B			DTS400B		
	VOLTAGE	RATING NO	NC	VOLTAGE	RATING NO	NC
General Purpose	24-277VAC	30A	30A	24-277VAC	20A	20A
Ballast	120VAC 277VAC	30A 20A	10A 10A	120-277VAC	13A	
Tungsten	120-277VAC	15A	2A	120VAC	8A	
Pilot Duty	120-277VAC	720VA	720VA	12-277VAC	720VA	720VA
Motor Load	120VAC 208-277VAC	1HP 2HP	1HP 2HP	120-277VAC	1HP	1HP
Resistive	28VDC	30A	30A			

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

DTS SERIES — 1. Furnish and install, where noted, a 4 (2) (1) channel digital time switch. 2. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 3. Controller shall program in one minute resolution. 4. Display shall be of LCD type. 5. Controller shall be capable of 99 set points; separate scheduling for each day of the week. 6. Controller shall have 365 day holiday capabilities with 24 single dates and 4 seasons of unlimited duration. 7. Different daily schedules shall be programmable within each season. 8. Controller shall have Daylight Saving or Standard time. 9. Controller shall have automatic Leap Year correction. 10. Controller shall have Permanent Schedule Retention. 11. Controller shall have 7 day backup for real time with built in super capacitor. 12. Controller shall be capable of manual override ON to activate pulse #1 duration. 13. Unit shall have NEMA Type 3 Indoor/Outdoor enclosure as standard. 14. Controller shall be capable of having two different pulse durations 1-99 seconds, user settable and assignable to each channel. 15. To order specify TORK Model DTS100B (200B) (400B).

# DW SERIES

## MULTIPURPOSE CONTROLS

### 365 / 7 DAY ADVANCED 1 OR 2 CHANNEL TIME SWITCHES

**SPECIFICATION  
FAVORITE!**

#### APPLICATIONS



##### 1 CHANNEL

- Outdoor lighting
- Security lighting
- Parking lot lighting
- Canopy lighting

##### 2 CHANNEL

- HVAC equipment
- Interior lighting
- Electric motors
- Refrigerator defrost control:  
condensers, heaters.



#### FEATURES

**SCHEDULING:** 99 ON & OFF set points allow individual programs for each day of the week at a minimum 1 minute apart.

**ASTRONOMIC (DWZ100B only):** Adjustable 10°- 60° Northern or Southern latitudes. Can be individually offset +/- 1 to 240 minutes from both sunset and sunrise times.

**HOLIDAYS:** 1 to 24 individual dates.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation scheduled ON or OFF, automatic operation then resumes.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM or Military time.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 7 days of real time backup.

#### ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	DRY CONTACTS (UNPOWERED)
DWZ100B	82189	120/208-240/277VAC	1	SPDT
DW200B	82190	120/208-240/277VAC	2	SPDT
DW200B-0	82231	120/208-240/277VAC	2	SPDT

## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:**

120/208-240-277VAC, 50/60Hz.

**TERMINAL RANGE:**

#14 - #16AWG for line input.

#12 - #16AWG load outputs.

**OPERATING TEMPERATURE:**

-40° to +158°(-40° to 70°C).

**POWER CONSUMPTION:** 5VA Max.

**ENCLOSURE:** Noryl® Indoor/Outdoor

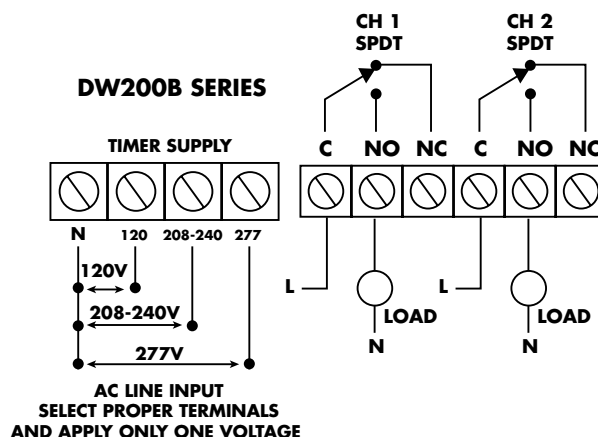
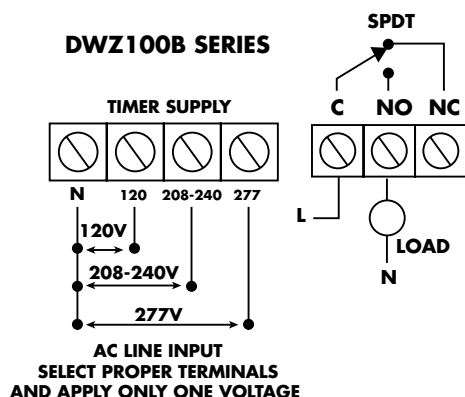
NEMA 3R. Suffix -0 metal Indoor/Outdoor NEMA

3. All with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	24-277VAC	30A	30A
Ballast	120VAC	30A	10A
	277VAC	20A	10A
Tungsten	120-277VAC	15A	2A
Pilot Duty	120-277VAC	720VA	720VA
Motor Load	120VAC	1HP	1HP
	208-277VAC	2HP	2HP
Resistive	28VDC	30A	30A

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

**DWZ100B** — 1. Furnish and install, where noted, a 1 channel digital time switch. 2. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 3. Controller shall program in one minute resolution. 4. Display shall be of LCD type. 5. Controller shall be capable of 99 set points; separate scheduling for each day of the week. 6. Controller shall have 365 day holiday capabilities with 24 single dates. 7. Controller shall have Daylight Saving or Standard time. 8. Controller shall have automatic Leap Year correction. 9. Controller shall have Permanent Schedule Retention. 10. Controller shall have 7 day backup for real time with built in supercapacitor. 11. Controller shall be capable of manual override ON or OFF to the next scheduled event using 1 button. 12. Unit shall have NEMA Type 3 Indoor/Outdoor enclosure as standard. 13. Controller shall be capable of having astronomic with 1-240 minutes, plus or minus offset from sunrise or sunset. 14. To order specify TORK Model DWZ100B.

**DW200B** — 1. Furnish and install, where noted, a 2 channel digital time switch. 2. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 3. Controller shall program in one minute resolution. 4. Display shall be of LCD type. 5. Controller shall be capable of 99 set points; separate scheduling for each day of the week. 6. Controller shall have 365 day holiday capabilities with 24 single dates. 7. Controller shall have Daylight Saving or Standard time. 8. Controller shall have automatic Leap Year correction. 9. Controller shall have Permanent Schedule Retention. 10. Controller shall have 7 day backup for real time with built in supercapacitor. 11. Controller shall be capable of manual override ON or OFF to the next scheduled event using 1 button. 12. Unit shall have NEMA Type 3 Indoor/Outdoor enclosure.

# DZM SERIES

## MOMENTARY OUTPUT

### 365 / 7 DAY ADVANCED LIGHTING CONTROL TIME SWITCH

**GREAT FOR LATCHING CONTACTORS**



CALIFORNIA Title 24

ASHRAE 90.1

## APPLICATIONS



- Low voltage latching relays
- Direct wire to mechanically held contactors

## FEATURES

**SCHEDULING:** 99 ON & OFF set points allow individual programs for each day of the week at a minimum 1 minute apart.

**ASTRONOMIC:** Adjustable 10° - 60° Northern or Southern latitudes can be individually offset +/- 1 to 240 minutes from both sunset and sunrise times.

**SEASONS:** 1 to 4 with different daily schedules which can wrap around into the new year.

**HOLIDAYS:** 1 to 24 individual dates.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM or Military time.

**POWER OUTAGE BACKUP:** Permanent scheduled retention with memory module. Supercapacitor provides 7 days of real time backup.

**MEMORY MODULE:** Removable MM can be programmed at any one location and inserted into another DZM series unit.

**COPY FEATURE:** Unit can be configured to copy program schedule to multiple memory modules.

**OPTION:** Memory Module Programmer with software for computer connection programming. Also allows stand alone battery operation for portable copy feature.

## ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	DRY CONTACTS (UNPOWERED)
DZM200BP	82188	120/208-240/277	2	SPDT Momentary
DZM200BP-0	82232	120/208-240/277	2	SPDT Momentary
USB-MMP	82196		Memory Module Programmer	Includes software

DIGITAL  
CONTROLS

## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:** 120/208-240/277VAC,  
50/60Hz.

**TERMINAL RANGE:**

#14 - #16AWG for line input.

#12 - #16AWG load outputs.

**OPERATING TEMPERATURE:**

-40° to 158°F (-40° to +70°C).

**POWER CONSUMPTION:** 4VA Max.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA

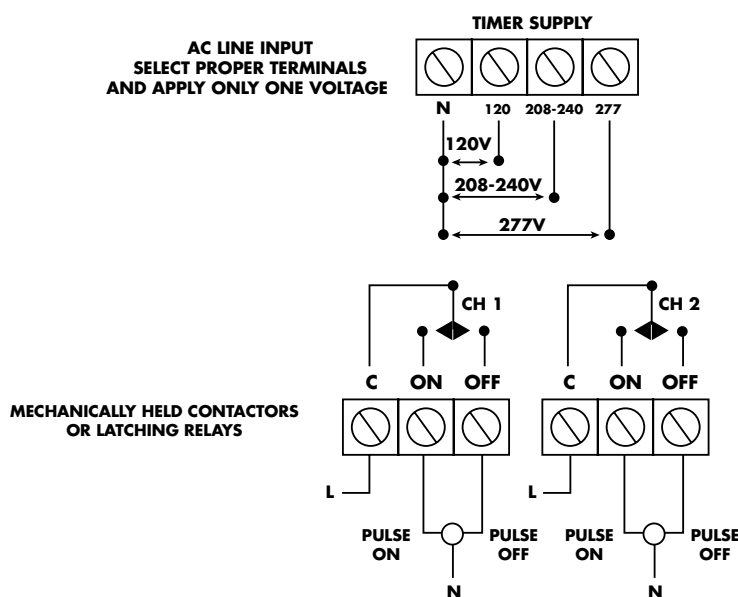
3R. Suffix -0 metal Indoor/Outdoor NEMA 3. All

with lockable hasp (see page 153 for dimensions).

## CONTACT RATINGS

TYPE	DZM200BP	
	VOLTAGE	RATING
General Purpose	120-277VAC	20A
Pilot Duty	120-277VAC	720VA

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

DZM 200BP only — 1. Furnish and install, where noted, a 2 channel digital time switch with portable Memory Module on front panel. 2. Memory Module shall be capable of being programmed at any one location and inserted into DZM200BP (with memory module socket) in any other remote location. 3. Optional programmer shall be available (Model MMP), capable of accomplishing Windows based settings on a PC for easy duplication of Memory Modules or individualized programs for multiple locations. 4. Unit shall have copy feature: Can be configured to copy program schedules from one memory module to another without use of the optional memory module programmer. 5. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 6. Controller shall program in one minute resolution. 7. Display shall be of LCD type. 8. Controller shall be capable of 99 set points; separate scheduling for each day of the week. 9. Controller shall have 365 day holiday capabilities with 24 single dates and 4 seasons of unlimited duration. 10. Different daily schedules shall be programmable within each season. 11. Controller shall have Daylight Saving or Standard time. 12. Controller shall have automatic Leap Year correction. 13. Controller shall have Permanent Schedule Retention. 14. Controller shall have 7 day backup for real time with built in super capacitor. 15. Controller shall be capable of astronomic function, adjustable from 10 — 60 degrees Northern or Southern latitude. Each zone can additionally be offset 1 - 240 minutes for both sunset and sunrise. 16. Controller shall be capable of manual override ON or OFF to the next scheduled event using 1 button for each channel. 17. Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard. 18. Controller shall be capable of 2 independent momentary outputs - ON and OFF for each channel. 19. To order specify TORK Model DZM200BP.

# ELC SERIES

## ENERGY AND LIGHTING CONTROL

### 1 & 2 ZONE

## LIGHTING CONTROL

## TIME SWITCH



NEW!



CALIFORNIA Title 24

ASHRAE 90.1

THE **DO-IT-ALL** ENERGY  
& LIGHTING CONTROLLER

### APPLICATIONS



- HVAC equipment
- Indoor/Outdoor lighting
- Meets indoor/outdoor lighting energy code requirements

### ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	OUTPUT CONTACTS
ELC71PC/120	82517	120	1	DPDT
ELC71PC/208-240	82518	208-240	1	DPDT
ELC71PC/277	82519	277	1	DPDT
ELC72PC/120	82520	120	2	SPDT
ELC72PC/208-240	82521	208-240	2	SPDT
ELC72PC/277	82522	277	2	SPDT
EPC-LC	82233	Accessory Photo Sensor		
LCS115M	82082	Accessory Momentary Switch		SPST

### FEATURES

**SCHEDULING:** 128 time based events allow individual programs for each day of the week at a minimum 1 minute apart. Event types include ON, OFF, Duration, or Duty Cycle.

**SENSOR EVENT:** 32 sensor driven events allow individual programs for each day of the week.

**ASTRONOMIC:** Adjustable 10° - 70° Northern or Southern latitudes. Settings can be offset from both sunset and sunrise times.

**UNIVERSAL INPUT:** 2 inputs may be assigned to any channel.

**SWITCHED INPUT:** Accepts input from optional momentary or maintained switch.

**PHOTOSENSOR INPUT:** Accepts input from optional sensor. EPC-LC (indoor/outdoor) has a range from 0 to 200 foot-candles.

**USER DEFINED INPUT:** Accepts user supplied 4 – 20 milliamp sensor.

**MOMENTARY CONTACT:** May be configured for momentary ON/OFF operation to control latching contactors. The ELC71/72 operates as a single-channel unit.

**HOLIDAYS:** 26 holidays may be set using 10 individual dates, 10 month type (last Monday in May), or 6 specific holidays with one of 3 independent holiday schedules.

**BLOCK HOLIDAY:** 10 holiday blocks can be set for individual days or for duration of any number of days and may use one of 3 holiday schedules.

**PULSE/TIME DURATION:** 4 different ON settings from 1 second to 23 hours, 59 minutes, 59 seconds.

**DUTY CYCLE:** 4 different ON and OFF patterns from 1 second to 23 hours, 59 minutes, 59 seconds.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**REMOTE OVERRIDE:** Universal input may be programmed for timed override from a momentary or maintained dry contact switch.

**MANUAL OVERRIDE:** Keyboard button control until the next regularly scheduled ON or OFF, automatic operation then resumes.

**STAGGERED START:** Optional stagger up time between channels, after a power outage; selectable from 5 seconds, 15 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, and 15 minutes.

**CLOCK FORMAT:** AM/PM or 24 hour format

**POWER OUTAGE BACKUP:** Capacitor provides minimum of 1 week of real time backup for program and time of day.

DIGITAL  
CONTROLS

## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:**

120, 208-240, 277 50/60Hz (model specific).

**TERMINAL RANGE:**

#10 - #16AWG for line/load.

#14 - #22AWG universal input.

**OPERATING TEMPERATURE:**

-20°F to +140°F (-29°C to + 60°C).

**POWER CONSUMPTION:** 6VA Maximum.

**ENCLOSURE:** Noryl® clear cover Indoor/

Outdoor NEMA 3R with lockable hasp (see page

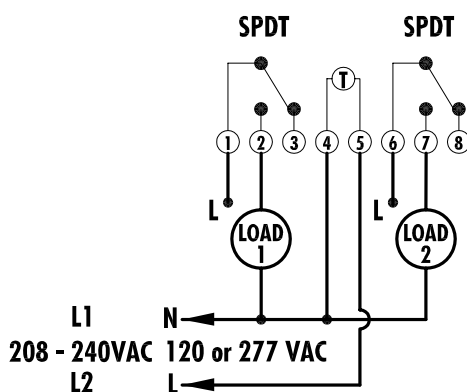
153 for enclosure dimensions).

## CONTACT RATINGS

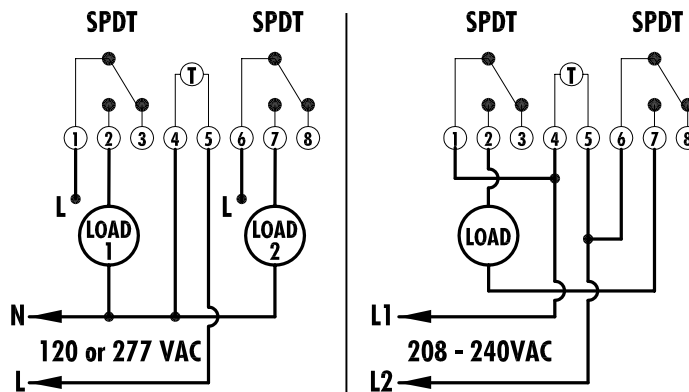
TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	120/277VAC	20 A	10 A
Ballast	120VAC 208-277VAC	20A 10A	10A
Tungsten	120-277VAC	5A	
Pilot Duty	120-240VAC	470VA	275VA
Motor	120VAC 208-277VAC	1HP 2HP	1/4HP 1/2HP

## WIRING DIAGRAMS

ELC72



ELC71



## SPECIFICATION WRITER'S GUIDE

Installer shall furnish and install Tork ELC71 single-channel (or ELC72, two-channel) electronic time control. The control shall have 24 hour, 7 day, 365 day, or astronomic 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 astronomic features plus 30 definable holidays and 6 pre-programmed holidays. Controller shall have 7 day backup for real time with built in supercapacitor. 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. Wiring terminals shall have the capability to accommodate #16 to #10 AWG wire. Control shall be housed in NEMA 3R enclosure with clear-view cover and shall be lockable to guard against vandalism or tampering.

# ELC SERIES

## ENERGY AND LIGHTING CONTROL

### 4, 8 & 12 ZONE

## LIGHTING CONTROL

## TIME SWITCH



**THE DO-IT-ALL ENERGY & LIGHTING CONTROLLER**

### APPLICATIONS



- HVAC equipment
- Indoor/Outdoor lighting
- Meets indoor/outdoor lighting energy code requirements

### ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 50/60Hz	NO. OF CHANNELS	OUTPUT CONTACTS
ELC74*	82523	24/120/208-240/277	4	SPDT
ELC78	82524	24/120/208-240/277	8	SPDT
ELC712	82525	24/120/208-240/277	12	SPDT
EPC-LC	82233	Accessory Photo Sensor		
LCS115M	82082	Accessory Momentary Switch		SPST

\*Also CSA certified.

### FEATURES

**SCHEDULING:** 128 time based events allow individual programs for each day of the week at a minimum 1 minute apart. Event types include ON, OFF, Duration, or Duty Cycle.

**SENSOR EVENT:** 32 sensor driven events allow individual programs for each day of the week.

**ASTRONOMIC:** Adjustable 10° - 70° Northern or Southern latitudes. Settings can be offset from both sunset and sunrise times.

**UNIVERSAL INPUT:** 8 inputs may be assigned to any channel. ELC74 includes 4.

**SWITCHED INPUT:** Accepts input from optional momentary or maintained switch.

**PHOTOSENSOR INPUT:** Accepts input from optional sensor. EPC-LC (indoor/outdoor) has a range from 0 - 200 foot-candels.

**USER DEFINED INPUT:** Accepts user supplied 4 - 20 milliamp sensor.

**MOMENTARY CONTACT:** May be configured for momentary ON/OFF operation to control latching contactors. The ELC74 operates as a two channel unit. The ELC78 operates as a four channel unit. The ELC712 operates as a six channel unit.

**HOLIDAYS:** 26 holidays may be set using 10 individual dates, 10 month type (last Monday in May), or 6 specific holidays with one of 3 independent holiday schedules.

**BLOCK HOLIDAY:** 10 holiday blocks can be set for individual days or for duration of any number of days and may use one of 3 holiday schedules.

**PULSE/TIME DURATION:** 4 different ON settings from 1 second to 23 hours, 59 minutes, 59 seconds.

**DUTY CYCLE:** 4 different ON and OFF patterns from 1 second to 23 hours, 59 minutes, 59 seconds.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**REMOTE OVERRIDE:** Universal input may be programmed for timed override from a momentary or maintained dry contact switch.

**MANUAL OVERRIDE:** Keyboard button control until the next regularly scheduled ON or OFF, automatic operation then resumes.

**STAGGERED START:** Optional stagger up time between channels, after a power outage; selectable from 5 seconds, 15 seconds, 30 seconds, 1 minute, 5 minutes, 10 minutes, and 15 minutes.

**CLOCK FORMAT:** AM/PM or 24 hour format.

**POWER OUTAGE BACKUP:** The program and time of day are maintained for a minimum of 2 days by means of a capacitor. After two days, a lithium battery takes over and provides a minimum accumulated time of 1 year. The lithium battery should provide over 10 years of protection.

**COMPUTER INTERFACE:** Unit may be programmed with a PC.

DIGITAL  
CONTROLS

## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:**

24/120/208-240/277VAC, 50/60Hz.

**TERMINAL RANGE:**

#10 - #16AWG for line input.

#10 - #16AWG for load output.

#14 - #22AWG universal input.

**OPERATING TEMPERATURE:**

-20°F to +140°F (-29°C to +60°C).

**POWER CONSUMPTION:** 10VA Maximum.

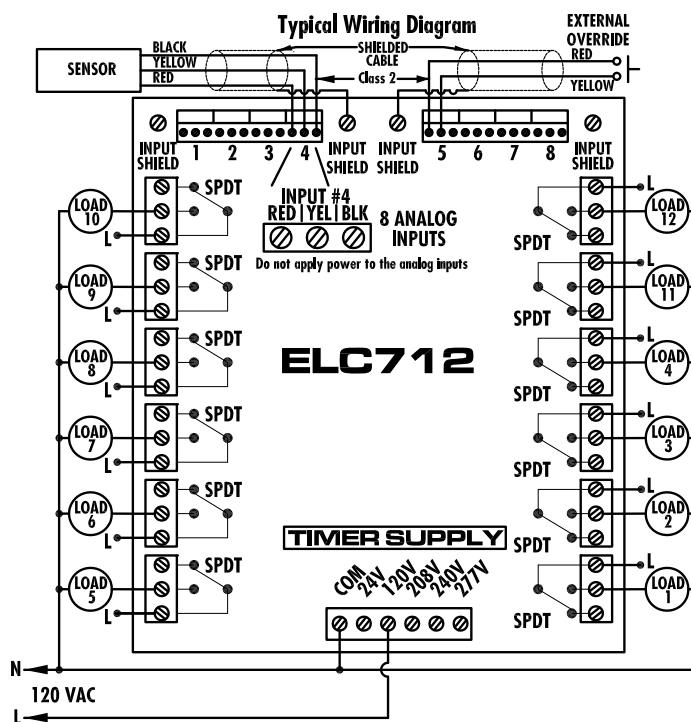
**ENCLOSURE:** Metal Indoor NEMA 1 with

lockable hasp (see page 153 for dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	120 - 277VAC	20A	10A
Ballast	120 VAC	20A	10A
	208-277 VAC	10A	3A
Tungsten	120-277VAC	5A	
Pilot Duty	120-240VAC	470VA	275VA
Motor	120VAC	1HP	1/4HP
	208-277VAC	2HP	1/2HP

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

Installer shall furnish and install Tork ELC74 four channel (ELC78 eight channel or ELC712 twelve channel) electronic time control. The control shall have 24 hour, 7 day, 365 day or astronomic capability with 128 events available. It shall also have 4 (8) user-definable durations and duty cycle lengths plus automatic daylight saving 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 astronomic features plus 30 definable holidays and 6 pre-programmed holidays. Control shall provide 2 days of power outage carry-over without a battery. Control shall provide 10 years of power outage protection with 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. Control shall be housed in a NEMA 1, lockable steel enclosure, to guard against vandalism or tampering.

# LC200 SERIES

LIGHT LEVEL / TIME OF DAY OPTION  
2 ZONES LIGHTING CONTROL  
TIME SWITCH

STAGE LIGHTING  
TURN ON LEVEL

## APPLICATIONS



EPC1 sensor  
supplied with unit.



ASHRAE 90.1

- 24 hour convenience stores
- Open wall parking structures
- Large canopies
- Building perimeters
- Atriums
- Use to control two different outdoor lighting circuits utilizing one photocell. Sign lighting can turn ON at one ambient light level while parking lot lighting turns ON at a different light level.

## FEATURES

**PHOTOSENSOR INPUT:** EPC1 included.

**DUAL OUTPUTS:** with independent turn-ON adjustment for Stage1 and Stage 2.

**LIGHT LEVEL ACTIVATION:** Turn ON is user settable from 2 to 100 footcandle; Independent light level adjustment for each zone. Turn OFF is a maximum of 2 times turn ON level. Built-in delay ON of 30 seconds to avoid reaction to lightning or headlights.

**SWITCHED INPUT:** Can be used with a time switch for photocell ON of two different lighting circuits at different ambient light levels, then time-of-day OFF.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	NO. OF ZONES	OUTPUT CONTACTS
LC200	82111	120/240/277VAC	2	SPDT
LC200M	82113	120/240/277VAC	2	SPDT

DIGITAL  
CONTROLS

TORK 77

USA • 800.321.5847 • [www.nsiindustries.com](http://www.nsiindustries.com)

## SPECIFICATIONS

### INPUT VOLTAGE:

120/240/277VAC, 50/60Hz.

**TERMINAL RANGE:** Relay #12AWG; input power terminals #14 - #22AWG; TOD/sensor terminals accept #18 - #22AWG.

### OPERATING TEMPERATURE:

-40°F to +140°F (-40°C to + 60°C).

**POWER CONSUMPTION:** 5VA Maximum.

**ENCLOSURE:** LC200 includes metal Indoor NEMA 1 with lockable hasp (see page 153 for dimensions).

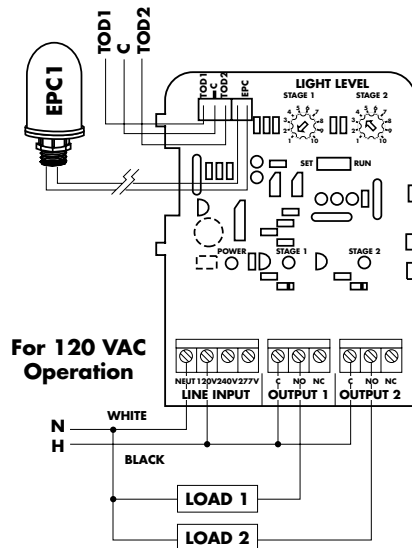
### OTHER MOUNTINGS:

LC200M mechanism only.

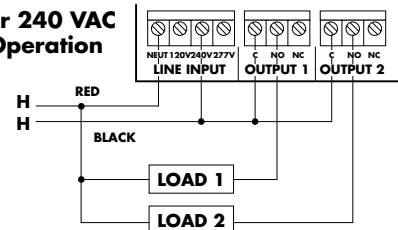
## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	120/240VAC	20A	10A
	277VAC	12A	
Ballast	120VAC	20A	10A
	240/277VAC	6A	3A
Tungsten	120/240/277VAC	5A	3A
Pilot Duty	120/240VAC	470VA	275VA
	277VAC	690VA	

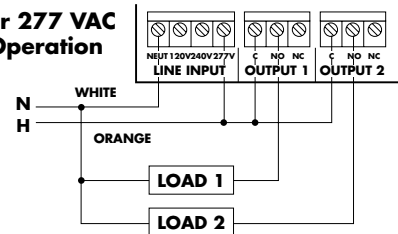
## WIRING DIAGRAMS



### For 240 VAC Operation



### For 277 VAC Operation



## SPECIFICATION WRITER'S GUIDE

Furnish and install an electronic light sensor and control with dual outputs for two lighting zones. Each output shall be capable of a different user settable turn ON light level set points from 2 to 100 footcandles. Turn ON to turn OFF ratio shall be 1:2. Controller shall also offer two digital inputs, which can accept a contact closure from an independent time switch or EMS system, thereby allowing for independent time of day control.

# DGU & DGLC SERIES

LIGHTING CONTROL WITH PHOTO OR OVERRIDE INPUT, 7 DAY 7 DAY LIGHTING CONTROL TIME SWITCH

NEW!

CODE SOLUTION FOR SMALL PROJECTS

## APPLICATIONS



### INTERIOR LIGHTING

- Open office zoning
- Hallways
- Meeting and sales areas
- Stock rooms and warehouses

### EXTERIOR LIGHTING

- Signage and store windows
- Security
- Parking lots



Model EPC-A supplied with DGLC-A unit.



With optional Timed Override

CALIFORNIA Title 24

ASHRAE 90.1

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60 Hz	NO. OF CHANNELS	OUTPUT CONTACTS
DGU100A-Y	82211	120-277VAC	1	DPDT
DGUM100A	82212	120-277VAC	1	SPDT Momentary
DGUM100A-Y	82224	120-277VAC	1	SPDT Momentary
DGLC100A-NC	82223	120-277VAC	1	DPDT
DGLC200A-NC	82213	120-277VAC	2	SPDT
EPC-A	82112	Accessory Photo Sensor		
SSA200R-24	14015	24VAC/24VDC		SPDT
TRP-U	82030	120/277VAC	Transformer Power Pack	SPST

## FEATURES

**SCHEDULING:** 56 ON & OFF set points provide individual programs for each day of the week. Minimum setting is 1 minute.

**PHOTOSENSOR INPUT:** Unique push button set-up assures accurate operation with automatic calibration that adjusts for wire size and distance. EPC-A photo sensor is included with the DGLC-A and may be ordered as an option for use with model DGU100A & DGUM100A.

**LIGHT LEVEL ACTIVATION:** Turn ON is user settable from 1 to 100 footcandle; Turn OFF is a maximum of 2 times turn ON level. Each channel has an independent setting. Includes a user settable delay before ON or OFF between 1 – 90 seconds.

**REMOTE OVERRIDE ON:** Each channel has independent input for a maintained dry-contact closure. May use TORK model SSA200R-24 and TRP-U for timed override. May use with occupancy sensor as override.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**MOMENTARY CONTACT - DGUM100A:** 2 second contact closure ON & OFF to control mechanically held contactors or latching relays.

**BLOCK HOLIDAY:** 9 holiday blocks can be set for individual days or for duration of any number of days.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**CLOCK FORMAT:** AM/PM or 24 Hour format.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 7 days of real time backup.

DIGITAL CONTROLS

## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:** 120-277VAC, 50/60Hz  
(auto detection).

**TERMINAL RANGE:**

#12 - #18AWG for line/load.

#18 - #26AWG sensor/switch input.

**OPERATING TEMPERATURE:**

-31°F to +131°F (-35°C to + 55°C).

**POWER CONSUMPTION:** 6VA Maximum.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA

3R . Suffix -NC Noryl® Indoor/Outdoor NEMA

3R with clear Lexan® cover. Suffix -Y metal

Indoor enclosure NEMA 1. All with lockable

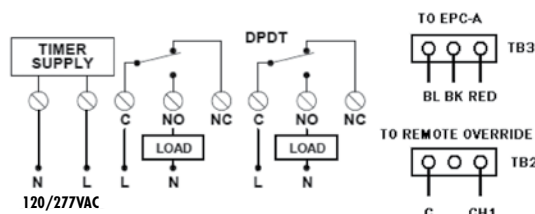
hasp (see page 153 for dimensions).

## CONTACT RATINGS

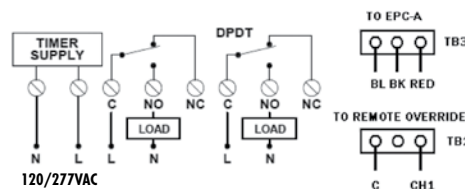
TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	24-277VAC	20A	10A
Ballast	120VAC 277VAC	20A	10A
Tungsten	120VAC	15A	
Pilot Duty	120VAC 240VAC	720VA	290VA 360VA
Motor	120VAC 240VAC	1HP 2HP	1/4HP 1/2HP
Resistive	28VDC	20A	10A

## WIRING DIAGRAMS

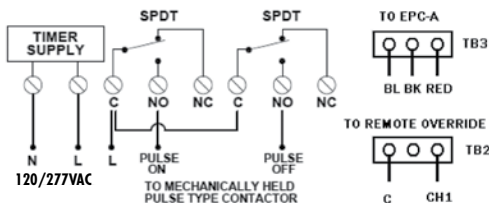
DGU100A



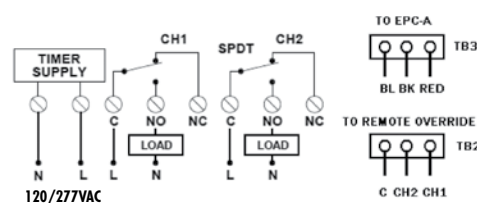
DGLC100A



DGUM100A



DGLC200A



## SPECIFICATION WRITER'S GUIDE

DGU and DGLC SERIES - 1. Furnish and install, where noted, a 1 (2) channel 7 day programmable digital time switch. 2. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 3. Unit shall be capable of switching 20 amps ballast load at 277VAC. 4. Controller shall be capable of 56 set points; separate scheduling for each day of the week with one minute resolution. 5. Controller shall have photo sensor input user adjustable per circuit between 1 and 100 footcandle turn ON level. 6. Each channel shall have and switched input to override circuit ON. 7. Controller shall have 365 day holiday capabilities with 9 block holidays for individual or duration of any number of days. 8. Controller shall be able to select USA Standard Daylight Saving, Standard time, or programmable dates. 9. Controller shall have automatic Leap Year correction. 10. Controller shall have Permanent Schedule Retention. 11. Controller shall have 7 days backup for real time with built in super capacitor; no batteries to maintain. 12. Controller shall be capable of Manual Override ON and OFF to the next scheduled event using 1 button for each channel. 13. Unit shall have NEMA type 3R indoor/outdoor enclosure standard. 14. To order specify TORK Model DGU100A. (Alt 14. To order 1 channel momentary contact closure for latching contactor control specify DGUM100A). (Alt 14. To order controller with EPC-A photo sensor included in package specify TORK Model DGLC100A-NC (DGLC200A) with clear cover.

# DLC400BP

## 4 ZONE LIGHTING CONTROL TIME SWITCH

**FLEXIBLE INDOOR/  
OUTDOOR LIGHTING  
CONTROLLER**

### APPLICATIONS

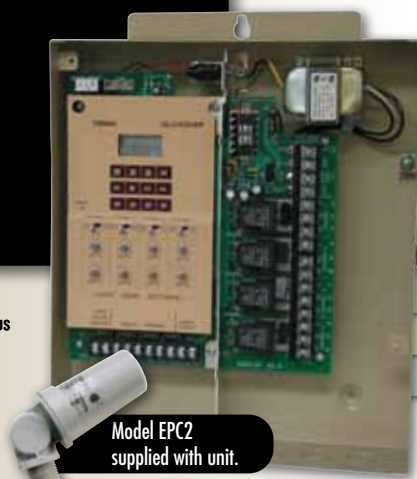


#### INTERIOR LIGHTING

- Open office zoning
- Hallways
- Meeting and sales areas
- Stock rooms and warehouses

#### EXTERIOR LIGHTING

- Signage and store windows
- Security
- Parking lots



Model EPC2  
supplied with unit.



Memory Module  
Programmer optional



CALIFORNIA Title 24

ASHRAE 90.1



With optional  
Timed Override

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60 Hz	NO. OF CHANNELS	OUTPUT CONTACTS
DLC400BP	82191	120/208-240/277	4	SPDT
USB-MMP	82196	Memory Module Programmer	Includes Software	
SSA200R-24	14015	24VAC/24VDC		SPDT

### FEATURES

**CONFIGURABLE ZONES:** Simple three position slide switch sets logic for each zone: Time ON/Time OFF, Photo ON/Photo OFF, or Photo ON/ Time OFF.

**SCHEDULING:** 99 ON & OFF set points allow individual programs for each day of the week. Minimum 1 minute apart.

**ASTRONOMIC:** 1. Adjustable 10° - 60° Northern or Southern latitudes. 2. Can be individually offset +/-1-240 minutes from both sunset and sunrise times.

**PHOTOSENSOR INPUT:** EPC2 photo sensor included.

**LIGHT LEVEL ACTIVATION:** Turn ON and OFF level is user settable from 1 to 100 footcandle. Each channel has an independent setting.

**REMOTE OVERRIDE:** Maintained dry contact closure or use TORK Model SSA200R-24 for timed override with flash warning before OFF. May use with occupancy sensor as override.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**SEASONS:** 1 to 4 with different daily schedules which can wrap around into the new year.

**HOLIDAYS:** 1 to 24 individual dates.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**POWER OUTAGE BACKUP:** Permanent schedule retention with memory module. Battery provides real time backup for 6 months cumulative.

**MEMORY MODULE:** Removable MM can be programmed at any one location and inserted into another DZS series unit.

**OPTION:** Memory Module Programmer with software for computer connection programming. Also allows stand alone battery operation for portable copy feature.



## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:**

120/208 - 240/277VAC, 50/60Hz.

**TERMINAL RANGE:** #10 - #14AWG.

**OPERATING TEMPERATURE:**

-40°F to +158°F (-40°C to + 55°C).

**POWER CONSUMPTION:** 30VA Maximum.

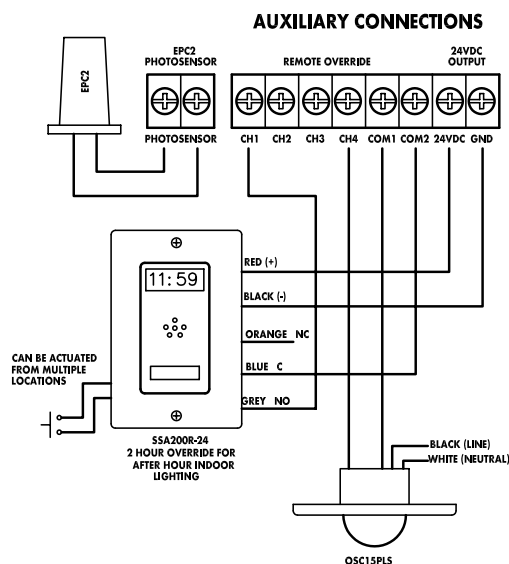
**ENCLOSURE:** Metal Indoor/Outdoor NEMA 3 with

lockable hasp (see page 153 for dimensions).

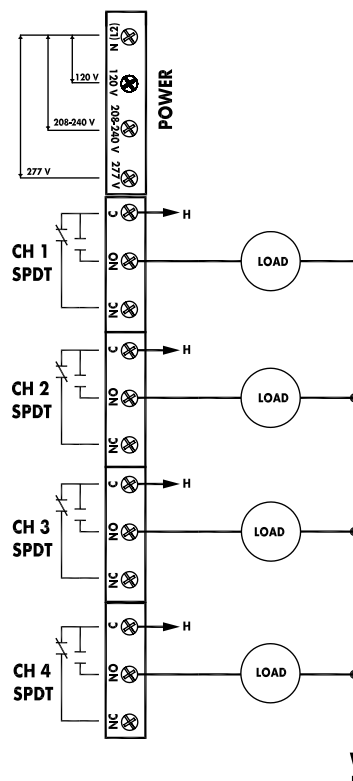
## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	24-277VAC, 30VDC	30A	30A
Ballast	120-277VAC	20A	10A
Tungsten	120VAC	10A	
Pilot Duty	120-277VAC	720VA	720VA

## WIRING DIAGRAMS



**TORK DIGITAL CONTROL  
TERMINAL BLOCK**



## SPECIFICATION WRITER'S GUIDE

DLC400BP – 1. Furnish and install, where noted, a 4 zone lighting controller with photosensor input (TORK model EPC2 photosensor to be supplied with controller). 2. Memory Module shall be capable of being programmed at any one location and inserted into DLC400BP (with memory module socket) in any other remote location. 3. Optional programmer shall be available (Model MMP), capable of accomplishing Windows based settings on a PC for easy duplication of Memory Modules or individualized programs for multiple locations 4. Each zone shall be capable of independent, user settable turn ON and turn OFF light level set points ranging from 1 to 100 footcandles. 5. Three position slide switches shall be provided for each of the 4 zones allowing for user settings based on a) time of day or b) combination time of day and light level or c) light level. 6. Controller shall provide 30 Amp General Purpose isolated contacts (unpowered) for each zone as well as a 500 ma, 24VDC output. 7. Controller shall have 1 digital input per channel for: a) remote contact closure which can be used to turn corresponding outputs ON/OFF outside of the normal control time or b) remote timed override which can be accomplished for the corresponding outputs with the use of TORK model SSA200R-24. 8. Enclosure shall provide separate wiring compartments for power connections and auxiliary connections. 9. Controller shall be capable of local override ON or OFF to the next scheduled event using the keypad for each zone. 10. Each zone shall be capable of astronomic function, adjustable from 10 – 60 degrees Northern or Southern latitude. Each zone can additionally be offset +/- 1–299 minutes for both sunset and sunrise. 11. Controller shall provide automatic daylight saving time (which can be omitted). Leap year adjustment shall be compensated for automatically. 12. Controller shall have 365 day holiday capability with 24 single dates and 4 seasons of unlimited duration. 13. Controller shall be capable of 99 set points with separate scheduling for each day of the week. 14. Controller shall have back-up capability: a) Schedule shall be retained for 40 years without power, b) real time shall be retained for 6 months using a field replaceable 9V lithium battery. 15. Unit shall have a NEMA type 3, metal indoor/outdoor enclosure.

# LD SERIES

## EXTENDED LIGHTING CONTROL LIGHTING DELAY TIME SWITCH



ASHRAE 90.1

**ADD A WARNING BLINK  
TO ANY CONTROL**

### APPLICATIONS



- Open offices
- Gymnasiums
- Warehouses
- Outdoor recreation courts
- User-activated lights with time limits
- Match with photocontrol and timer to limit hours of use

### FEATURES

#### MAINTAINED INPUT WITH LOAD WARNING BLINK:

LDS Series controls output load contacts based on power applied to the time switch input contact. At removal of power from the time switch input, LDS Series provides 1 second blink then keeps load contacts closed for an extra 1 or 5 minutes (user selectable) before turn off.

#### MAINTAINED INPUT WITH AUXILIARY WARNING:

LDSH Series controls output load contacts based on power applied to the time switch input contact. At removal of power from the time switch input, LDSH Series closes a second set of contacts for a user supplied audible or visual warning device. The warning circuit closes for a selected time of 4 seconds (best for audible device or continuous, then keeps load contacts closed for an extra 1 or 5 minutes (user selectable) before turn OFF.

**MOMENTARY INPUT:** Provides timed override when time switch input contact is unpowered (timer OFF). When activated during the warning period, load contacts are kept closed and timing starts. Both series can accept momentary input contact closure for ON to start the timing and OFF to end the timing.

**TIMED OVERRIDE SETTINGS:** User may select override times of 1/2, 1, 1 1/2, 2, 6, 9, or 12 hours. Warning before OFF is always active after override time.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60 Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
LDS-A	81026	120/208-240/277	SPDT	Metal Indoor NEMA 1
LDS	81025	120/208-240/277	SPDT	Mechanism
LDSH-A	81031	120/208-240/277	SPDT	Metal Indoor NEMA 1
LDSH	81028	120/208-240/277	SPDT	Mechanism

## SPECIFICATIONS

### INPUT VOLTAGE:

120/208/240/277VAC, 50/60Hz.

### TERMINAL RANGE: #10 - #16AWG.

### OPERATING TEMPERATURE:

-22° to 150°F (-30° to +65°C).

### POWER CONSUMPTION: 5VA Maximum.

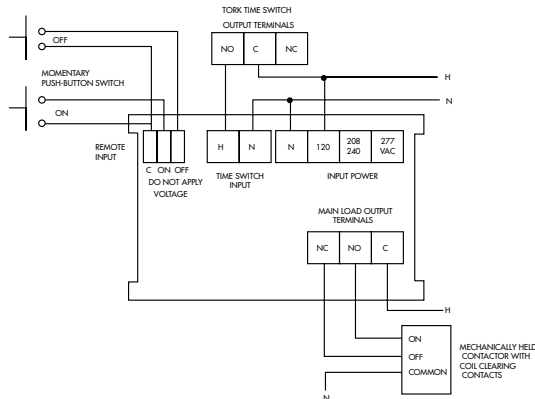
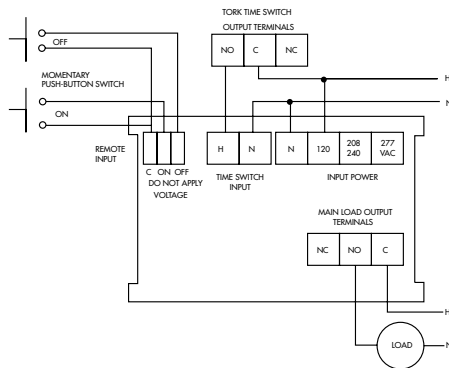
**ENCLOSURE:** Metal Indoor NEMA 1 with lockable hasp (see page 153 for dimensions).

## CONTACT RATINGS

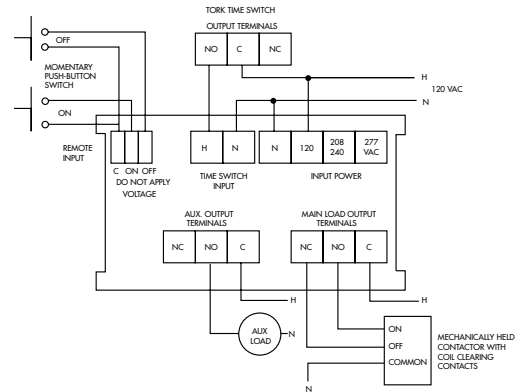
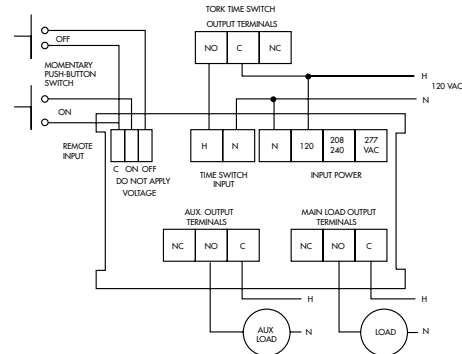
TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	24/240VAC 277VAC	20A 20A	10A 3A
Ballast	120VAC 208-277VAC	20A 10A	10A 3A
Tungsten	120-277VAC	5A	3A
Pilot Duty	120-240VAC 27VAC	470VA 690VA	275VA
Resistive	28VDC	20A	10A

## WIRING DIAGRAMS

### LDS WIRING



### LDSH WIRING



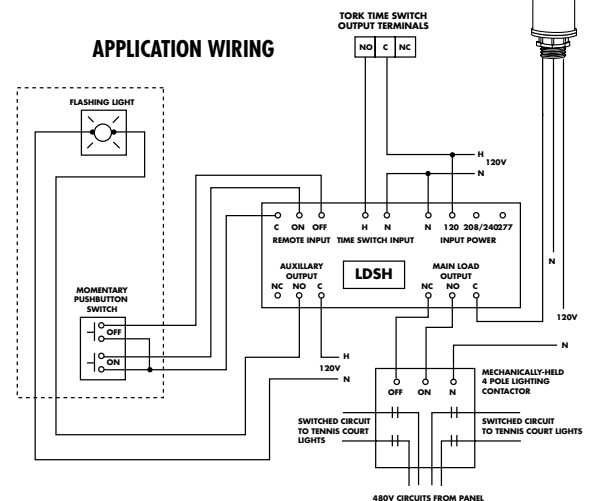
### PHOTOCONTROL



### APPLICATION EXAMPLE

Lighting for a high school's tennis courts turns on during normal class hours when natural light diminishes using a 7 day time switch and photocell. After 3pm, staff members sometimes use the courts (the time switch is then off). A momentary pushbutton activates the LDSH for timed override of HID lighting. Five minutes before the lights go out, an auxiliary contact flashes an incandescent warning beacon (HID lighting can not be made to blink). Additional timed override can be arranged for via the momentary pushbutton.

### APPLICATION WIRING



# DGS SERIES

SIGNALING AND DUTY CYCLE  
24 HOUR OR 7 DAY  
TIME SWITCH



NEW!

**31 DAY CYCLE TIME:  
AN INDUSTRY FIRST!**

## APPLICATIONS



- Signaling
- Duty cycle

## FEATURES

**DG180A & DG280A:** 56 ON & OFF set points provide individual daily programs. Minimum setting is 1 minute.

**DGS100A:** 56 ON & OFF set points provide individual programs for each day of the week. Minimum setting is 1 minute.

**DUTY CYCLE:** Two different ON/OFF patterns or signal durations may be programmed. The durations can be up to 23 hours, 59 minutes and 59 seconds in length.

**SKIP FUNCTION (24 HOUR UNITS ONLY):** Each channel can be set for ACTIVE/SKIP operations that alternate from 1 - 31 days. This becomes an effective way to cycle loads on varying days within the month. Using the two-circuit DG280A, two loads can be set to operate on alternate days in a simple manner.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM or 24 hour.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 7 days of real time backup.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60 Hz	NO. OF CHANNELS	OUTPUT CONTACTS
24 HOUR MODELS				
DG180A	82206	120-277VAC	1	DPDT
DG280A	82207	120-277VAC	2	SPDT
DG280A-24	82220	24VAC	2	SPDT
7 DAY MODELS				
DGS100A	82205	120-277VAC	1	DPDT
DGS100A-12	82218	12VDC	1	DPDT
DGS100A-24	82219	24VAC	1	DPDT



## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:**

120 - 277 VAC, 50/60 Hz (auto detection).

**TERMINAL RANGE:** #12 - #18AWG.

**OPERATING TEMPERATURE:**

-31°F to +131°F (-35°C to + 55°C).

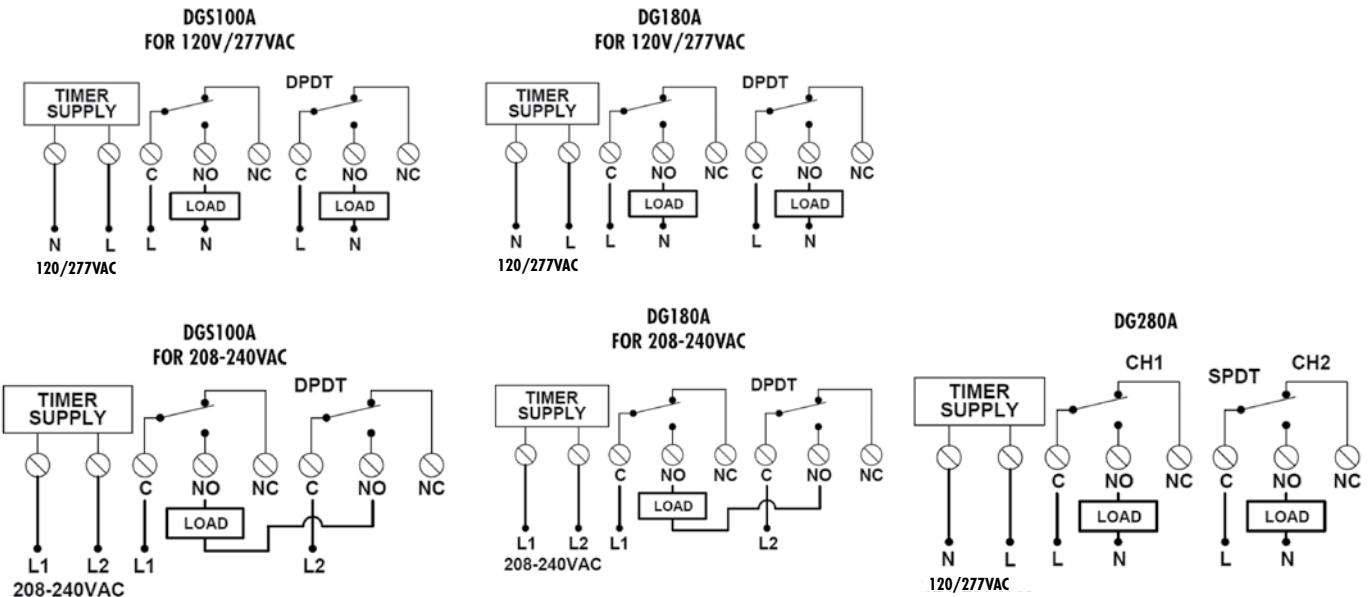
**POWER CONSUMPTION:** 6VA Maximum.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R with lockable hasp (see page 153 for enclosure dimensions).

## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	24-277VAC	20A	10A
Ballast	120VAC 277VAC	20A	10A
Tungsten	120 VAC	15 A	
Pilot Duty	120 VAC 240VAC	720VA	290VA 360VA
Motor	120VAC 240VAC	1HP 2HP	1/4HP 1/2HP
Resistive	28VDC	20A	10A

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDE

DGS100A SERIES — 1. Furnish and install, where noted, a 1 channel 7 day programmable digital time switch. (Alt 1 DG180 Series 1. Furnish and install, where noted, a 1 (2) channel 24 hour programmable digital time switch. 2. Controller shall program in AM/PM (12 hour) or Military (24 hour) formats. 3. Unit shall be capable of switching 20 amps ballast load at 277VAC. 4. Controller shall be capable of 56 set points; separate scheduling for each day of the week with one minute resolution. 5. unit shall be capable of two duty cycle or signal durations from 1 second to 23 hours, 59 minutes and 59 seconds. 6. Controller shall be able to select USA Standard Daylight Saving, Standard time or programmable dates. 7. Controller shall have automatic Leap Year correction. 8. Controller shall have Permanent Schedule Retention. 9. Controller shall have 7 days backup for real time with built in super capacitor; no batteries to maintain. 10. Controller shall be capable of Manual Override ON and OFF to the next scheduled event using 1 button for each channel. 11. Unit shall have NEMA type 3R indoor/outdoor enclosure as standard. 12. To order specify TORK Model DGS100A (Alt 12. Controller shall have a 31 day cycle to alternate days that programs are active or to be omitted. 13. To order specify TORK Model DG180A [DG280A]).

# EJWT & E500T SERIES

DELAY, INTERVAL &  
PERCENTAGE TIME CYCLE  
TIME SWITCHES

**NEW!**

**PERFECT FOR  
PROCESS CONTROL**

## APPLICATIONS



EJWT



E502T



E501T

- Poultry and livestock
- Agriculture or greenhouse
- Oil well pumping
- Ventilation
- Process control

## FEATURES

### EJWT – PERCENTAGE TIMER

- 960 time combinations with two dials.
- Cycle Time Dial sets 32 repeating cycles from 15 seconds to 24 hours.
- Percentage ON Dial has 32 steps from 0% to 100%.
- Repeats cycle as long as power is applied.

### E500T – ON DELAY TIMER

- Dial sets 32 time delay durations from 5 seconds to 3 hours.
- External switch activated starts delay to ON.
- Runs until external switch turns OFF.

### E501T – AUTO OFF INTERVAL TIMER

- Dial sets 32 time durations from 10 seconds to 12 hours.
- Start/Stop button or External switch starts interval ON.
- Automatically turns OFF at end of preset time.
- START/STOP or External switch turns OFF.

### E502T – OFF DELAY TIME

- Dial sets 32 time durations from 5 seconds to 3 hours.
- External switch starts interval ON.
- Automatically turns OFF at end of preset time.
- External switch turns OFF.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60 Hz	OUTPUT CONTACT
EJWT	82513	120-240VAC	SPDT
E500T	82514	120-240VAC	SPDT
E501T	82515	120-240VAC	SPDT
E502T	82516	120-240VAC	SPDT

DIGITAL  
CONTROLS

## SPECIFICATIONS

**TIMING ACCURACY:** 1% of timing range.

**INPUT VOLTAGE:** 120/240VAC, 60Hz.

**TERMINAL RANGE: #12 - #18AWG.**

**OPERATING TEMPERATURE:**

32°F to +122°F (0°C to + 50°C).

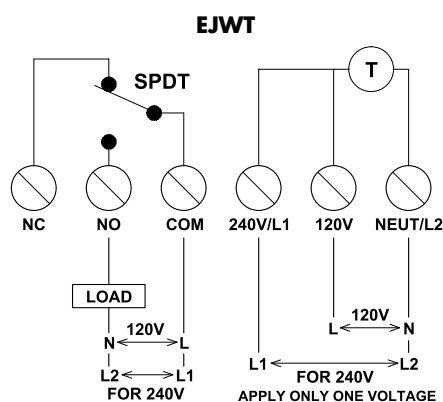
**POWER CONSUMPTION:** 1.6VA Maximum.

**ENCLOSURE:** Indoor NEMA 4X is standard (see page 153 for enclosure dimensions).

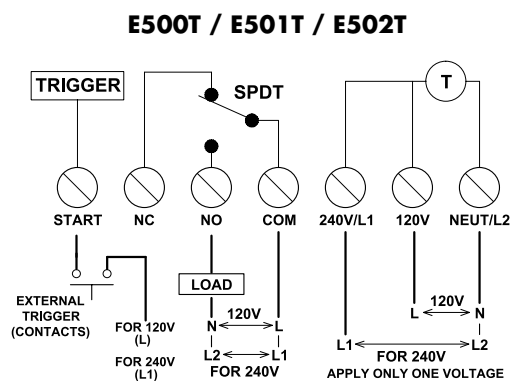
## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	120-240VAC	20A	10A
Resistive	120-240VAC	20A	10A
Motor	120VAC	1HP	1/4HP
	208-240VAC	2HP	1/2HP
Pilot Duty	120/240VAC	470VA	275VA

## WIRING DIAGRAMS



Use copper conductors. For supply connections use AWG #12 wire rated for at least 90°C (194°F) or equivalent.



**Use copper conductors. For supply connections use AWG #12 wire rated for at least 90°C (194°F) or equivalent.**

# DIN SERIES

## 1 OR 2 CHANNEL 7 DAY TIME SWITCH

**NEW!**

CALIFORNIA Title 24

ASHRAE 90.1

**PANEL BUILDERS  
CHOICE**

### APPLICATIONS



DIN100B

CALIFORNIA Title 24

ASHRAE 90.1

DIN200B

- Panel builders
- Indoor/Outdoor lighting
- Security systems
- HVAC equipment

### FEATURES

**SCHEDULING:** 8 ON and OFF pairs of set points for DIN100B. 4 ON and OFF (CH A) and 3 ON and OFF (CH B) pairs of set points for DIN200B. Individual programs on each day of the week. Minimum setting is 1 minute.

**MANUAL OVERRIDE:** Until the next regular scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Battery retains time and schedule.

### ORDERING INFO

CATALOG NO.	UPC CODE	DRY CONTACTS	CLOCK INPUT 50/60 Hz	NO. OF CHANNELS	NUMBER OF ON/OFF
DIN100B	82193	SPDT	120VAC	1	8
DIN200B	82192	SPDT	120VAC	2	4 Channel A 3 Channel B

DIGITAL  
CONTROLS

## SPECIFICATIONS

**INPUT VOLTAGE:** 120VAC, 50/60Hz.

**TERMINAL RANGE:** #12 - #18AWG.

**OPERATING TEMPERATURE:**

DIN100B: 14° - 131°F (-10° - +55°C).

DIN200B: 14° - 113°F (-10° - +45°C).

**POWER CONSUMPTION:** 4VA Maximum.

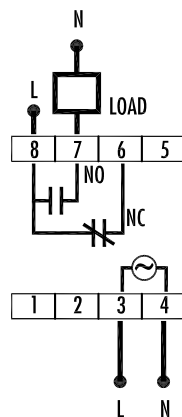
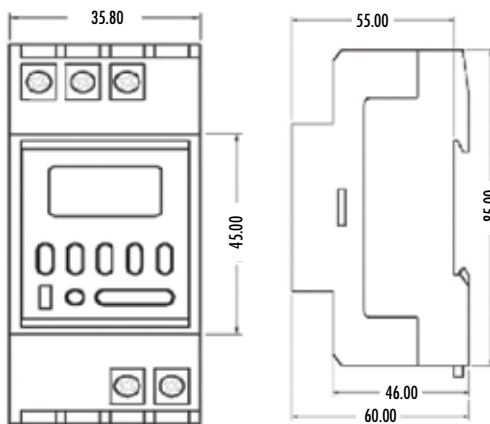
**MOUNTING:** DIN rail #50022 (35mm) or flat surface using supplied adapter.

## CONTACT RATINGS

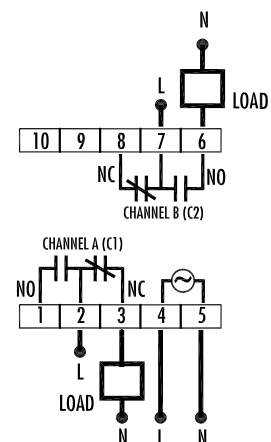
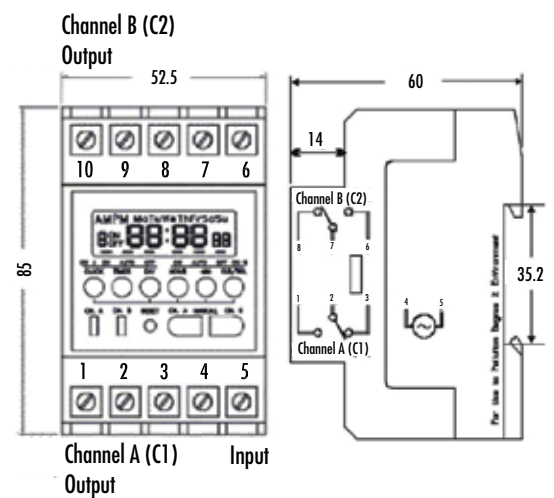
TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	120VAC	16A	16A
General Purpose	120VAC	8A	8A
Motor (DIN100 only)	120VAC	1½HP	

## WIRING DIAGRAMS

**DIN100B**



**DIN200B**



# SMC SERIES MOMENTARY CONTACT ADAPTER



## APPLICATIONS

- Converts maintained contacts for pulse switching
- Timer to latching contactor control
- Photocell to latching contactor control
- Signaling

## FEATURES

**MAINTAINED INPUT:** SMC3D accepts maintained input power from any 120 volt control. When power is applied or removed a short contact closure (pulse) is created on the dry output contacts.

**MOMENTARY OUTPUT:** SMC3D provides two dry output contacts. The ON contact provides a 2 second contact closure (pulse) when power is applied to the input contacts. The OFF contact provides a 2 second pulse when power is removed from the input contacts.

## SPECIFICATIONS

**INPUT VOLTAGE:** 120VAC, 50/60Hz.

**TERMINAL RANGE:** #12 - #18AWG.

**OPERATING TEMPERATURE:**  
-31°F to +131°F (-35°C to +55°C).

**POWER CONSUMPTION:** 6VA max.

**ENCLOSURE:** Noryl® Indoor/Outdoor  
NEMA 3R with lockable hasp (see page 153 for dimensions).

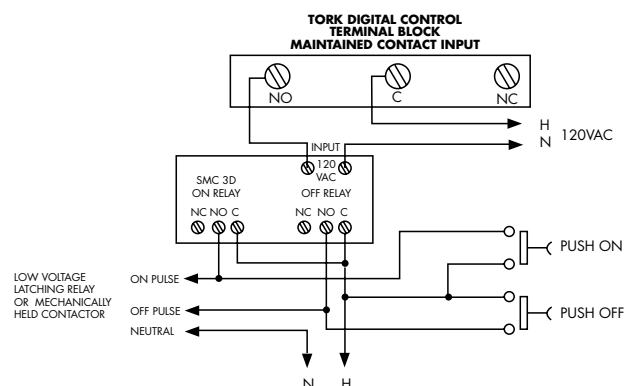
## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	OUTPUT CONTACTS
SMC3D	52011	120	SPDT Momentary

## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	120VAC	10A	10A
General Purpose	120VAC	10A	10A
Motor	120VAC	1/4HP	

## WIRING DIAGRAMS



# 5401 SERIES

## INCREASED AMPERAGE & VOLTAGE SWITCHING

### 40 AMP CONTACTORS

#### APPLICATIONS

- Lighting loads
- Exhaust fans
- Electric and hot water heaters
- Refrigeration and defrosting

5401

5441

#### CONTACT RATINGS

TYPE	VOLTAGE	RATING
Resistive	120-600VAC	50A
FLA	120-600VAC	40A
Motor	120VAC	3HP
	240VAC	7.5HP
	480VAC	20HP
	600VAC	25HP

Coil Data: 120VAC @ 60Hz  
6VA Holding/seal; 60VA inrush

#### FEATURES

**CONTACT RATINGS:** Can switch up to 40 AMPS per pole from 120VAC to 600VAC, one to three circuits simultaneously.

**EASY WIRING:** Includes 120 volt control wiring compartment. 5441 has terminal strip pre-mounted for quick connection.

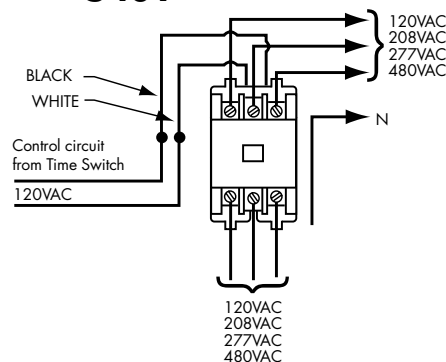
**ENCLOSURE:** 5401 - Metal NEMA 3 enclosure. 5441 - Metal NEMA 1 Indoor enclosure (see page 153 for enclosure dimensions).

#### ORDERING INFO

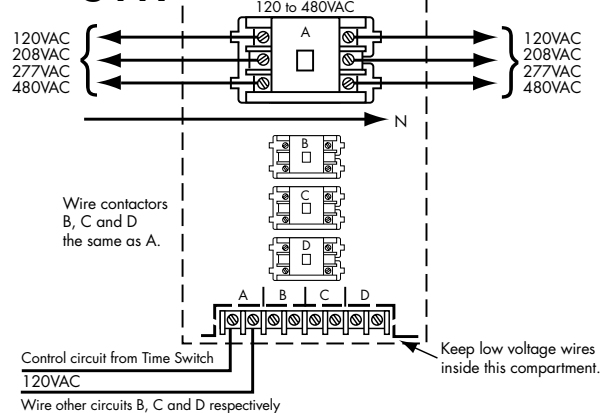
CATALOG NO.	UPC CODE	COIL VOLTS	NO. OF CONTACTORS	OUTPUT CONTACTS
5401	81021	120	1	3PST
5441	81022	120	4	3PST

#### WIRING DIAGRAMS

##### 5401



##### 5441



# HPS STARTER

## FOR HIGH PRESSURE SODIUM LAMPS STARTING AID



### SPECIFICATIONS

**LINE VOLTAGE:** 105 - 347VAC.

**LAMP VOLTAGE:** 55 or 100VAC.

**LAMP WATTAGE:** 35 to 400 watts.

**OPERATING TEMPERATURE:**  
-40°F to +221°F (-40°C to + 105°C).

**LEAD LENGTH:** 9 inches.

**ENCLOSURE:** Durable, high temperature  
Lexan® housing.

### APPLICATIONS

- Designed to operate as a starting aid, for all H.P.S. ballasts from 35 to 400 watts, with lamp voltage of 55 or 100 volts.

### FEATURES

**SMART VOLTAGE:** Delivers appropriate trigger spikes for lamp ignition, then reduces voltage to good lamps. Continues to feed voltage spikes to old or poorly working lamps.

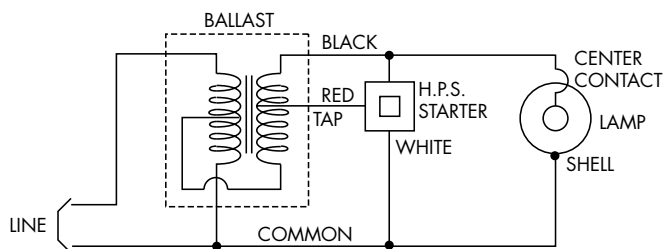
**HIGH GRADE MATERIAL:** All components are sealed with high grade die-electric material to protect against contaminants and other adverse environmental conditions.

**EASY INSTALLATION:** Universal 3 wire design, color coded for ease of installation.

### ORDERING INFO

CATALOG NO.	UPC CODE	DESCRIPTION
HPS30	81030	High Pressure Sodium Starter

### WIRING DIAGRAMS



## TRP SERIES

### LOW VOLTAGE SWITCHING TRANSFORMER RELAY POWER PACKS



Pre-wired in metal enclosure.

#### APPLICATIONS

- Low voltage switching of line voltage lighting circuits up to 20 Amp ballasts or 15 amp tungsten loads. Also up to 1.0 HP motors for ventilating and exhaust fans.
- Low voltage switching by digital or mechanical controls for higher amperage loads including those of two different voltages.

#### SPECIFICATIONS

**CONTACTS:** SPST contacts.

**CONTACT RATING:**

20 Amps Ballast @ 120 or 277VAC.

15 Amps Tungsten @ 120VAC.

1.0 Horsepower @ 120VAC.

**TEMPERATURE RANGE:**

0° to 150°F (–18° to 66°C).

**WEIGHT:** 7 oz.

**ENCLOSURE:** Metal NEMA 1 Indoor enclosure (see page 153 for enclosure dimensions).

#### ORDERING INFO

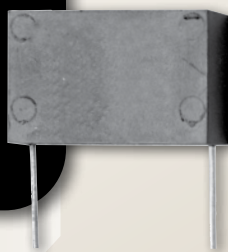
CATALOG NO.	UPC CODE	DESCRIPTION	INPUT VOLTAGE
TRP-1**	82032	Single Transformer Relay Powerpack	120VAC
TRP-2**	82033	Single Transformer Relay Powerpack	277VAC
TRP400*	82132	Four Transformer Relay Powerpack	120VAC
TRP402*	82133	Four Transformer Relay Powerpack	277VAC
TRP800*	82135	Eight Transformer Relay Powerpack	120VAC
TRP802*	82136	Eight Transformer Relay Powerpack	277VAC

\*Not for use with occupancy sensors.

\*\*For replacement parts only. For newer style Transformer Relay Power Pack, see TRP-U on page 116.

## SURGE SUPPRESSOR

### FOR HIGH ELECTRICAL NOISE



#### APPLICATIONS

- For high electrical noise interference, recommended for all digital controls.

#### ORDERING INFO

CATALOG NO.	UPC CODE	DESCRIPTION
90058-1	81024	Surge Suppressor



**IN-WALL TIMERS**

# FEATURES

## QUICK LOOK

		SS700Z	SS721Z	SS720A	701A	SSA	SSA-R24	SS	D1060 D212	A	C
Page No.		99	99	98	101	102	102	103	104	105	106
Timer Type		7 Day Digital	7 Day Digital	7 Day Digital	24 Hour Mechanical	Auto OFF Digital	Auto OFF Digital	Auto OFF Electronic	Auto OFF Electronic	Auto OFF Mechanical	Auto OFF Mechanical
Voltage		120/277	120/277	120	120	120/277	24	24/120/ 208-240/277	120	125/250/277	125/250/277
Minimum Settings	ON	1 min.	1 min.	1 min.	30 min.	5 min-12 hr 10 min-8 hr	5 min-12 hr 10 min-8 hr	1 min-18 hr	10-60 min. 2-12 hr	Various 2 min-12 hr	Various 2 min-12 hr
	OFF	1 min.	1 min.	1 min.	30 min.						
Manual Override		Yes	Yes	Yes	Yes						
Sunrise/Sunset		Yes	Yes								
ON/OFF Set Points		10 Pair	10 Pair	7 Pair	24						
Flash Warning						Yes	Yes	Yes			
Audible Warning						Yes	Yes	Yes			
Power Outage Backup		Capacitor	Capacitor	Battery		Capacitor	Capacitor				
Switch Type		SPST	SPST	SPST	SPST	SPST	SPDT	SPST or SPDT	SPST	SPST	SPST or DPST
Resistive Ratings		16A	16A	15A	15 & 20A	800W/1200W	1A	4A or 7.5A	15	20/10/10A	20/10/10A

# SS720A SERIES

## 24 HOUR OR 7 DAY DIGITAL IN-WALL TIME SWITCH



### APPLICATIONS



- Outdoor security lighting
- Interior lights for lived-in look
- Fans and motors
- Appliances

### FEATURES

**SCHEDULING:** 7 ON and OFF pairs of set points for individual programs on each day of the week. Minimum setting is 1 minute.

**RANDOM MODE:** Varies ON and OFF times to create "lived in" look when away.

**DAYLIGHT SAVING:** Manual button push for one hour adjustment.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**WIRING:** Requires a neutral.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Rechargeable Ni-MH battery retains time and schedule.

**WALL PLATE:** Supplied with standard single gang decorator wall plate.

### SPECIFICATIONS


**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:** 125VAC, 60Hz.

**WIRE SIZE:** #14AWG.

**OPERATING TEMPERATURE:**  
32°F to +104°F (0°C to +40°C).

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60 Hz	COLOR
SS720A	14017	120	White
 SS720AA	14018	120	Light Almond

### CONTACT RATINGS

TYPE	VOLTAGE	RATING
General Purpose	120VAC	15A
Resistive	120VAC	15A
Tungsten	120VAC	15A
Motor	120VAC	1 HP
Electronic Ballast	120VAC	500VA

# SS700Z & SS721Z SERIES

SUNSET / SUNRISE, ASTRONOMIC  
7 DAY IN-WALL TIMER

NEW!

BACKUP WITHOUT  
BATTERY, ECO FRIENDLY!

## APPLICATIONS



- Outdoor security lighting
- Interior lights for lived-in look
- Fans and motors
- Appliances



With wall plate  
(not included)



CALIFORNIA Title 24

ASHRAE 90.1

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60 Hz	SWITCH TYPE	COLOR
SS700Z	14019	120/277	SPST	White
SS700ZA	14020	120/277	SPST	Light Almond
SS721Z	14027	120/277	SPST	White
SS721ZA	14028	120/277	SPST	Light Almond

## FEATURES

**SCHEDULING:** 10 ON and OFF pairs of set points for individual programs on each day of the week. 11 day groups speed programming. Minimum setting is 1 minute.

**ASTRONOMIC:** Sunset and sunrise times are adjustable from 10° - 60° Northern or Southern latitudes. Can be individually offset +/- 1-240 minutes for earlier or later operation.

**RANDOM MODE:** Varies ON and OFF times to create lived in look when away.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**MANUAL MODE:** Does not run programs until set to AUTO (automatic) mode.

**VACATION MODE:** No operation when away.

### EASY WIRING:

**SS700Z** does not require a neutral, can be used as a 3-way switch.

**SS721Z** Requires a neutral, can be used as a 3-way switch.

**CLOCK FORMAT:** AM/PM.

**POWER OUTAGE BACKUP:** Permanent schedule retention. Supercapacitor provides 2 days of real time backup.

**COMMERCIAL GRADE SPECS:** Control lighting contactors and 277VAC loads. Compatible with CFL lamps.

## SPECIFICATIONS

**TIMING ACCURACY:** Line frequency.

**INPUT VOLTAGE:** 120/277VAC, 50/60Hz.

**WIRE SIZE:** #12AWG input/output - #16AWG  
3-way (remote).

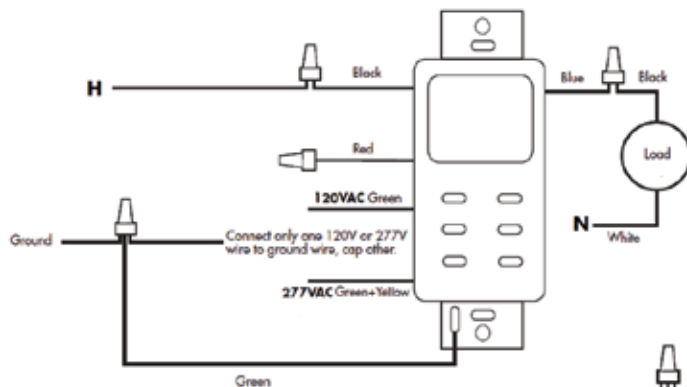
**OPERATING TEMPERATURE:**  
32°F to +104°F (0°C to + 40°C).

## CONTACT RATINGS

TYPE	SS700Z SERIES	VOLTAGE	SS721Z SERIES
	RATING		RATING
Resistive	16A	120/277VAC	16A
Ballast	10A	120/277VAC	13A
Tungsten	8A	120VAC	8A
Pilot Duty	360VA	120VAC	720VA
Motor	1½HP	120VAC	1HP

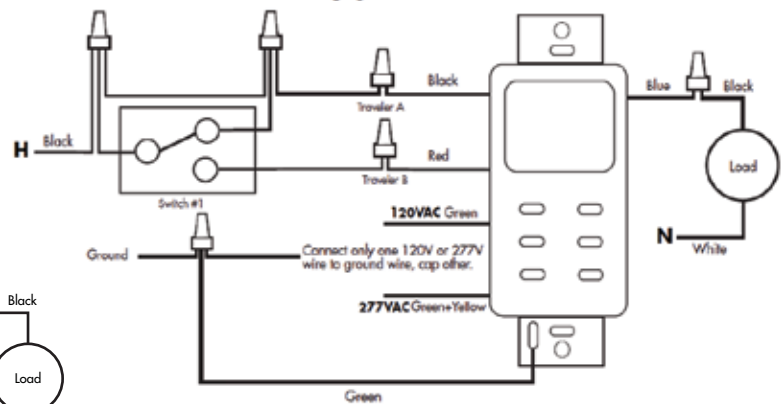
## WIRING DIAGRAMS

WIRING DIAGRAM: INSTALLATION SS700Z

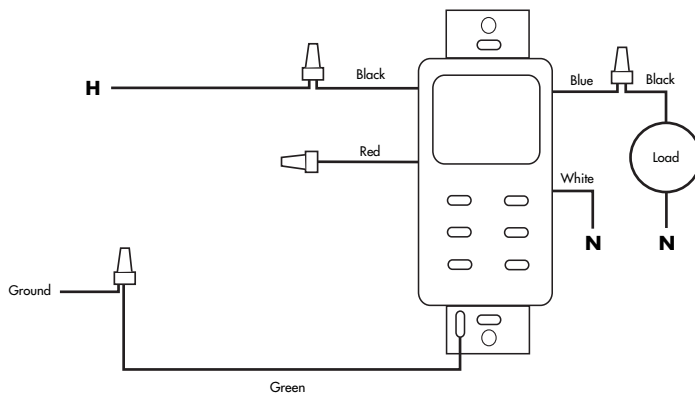


WIRING DIAGRAM: THREE-WAY INSTALLATION SS700Z

Connect a wire inside the gang-box between Traveler A and Hot.

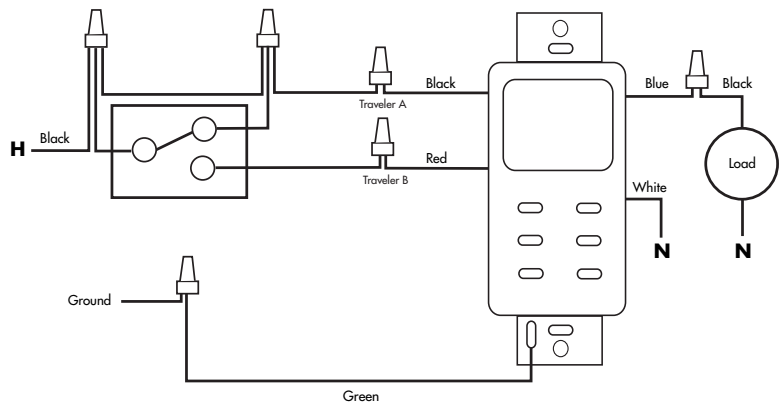


WIRING DIAGRAM: INSTALLATION SS721Z



WIRING DIAGRAM: THREE-WAY INSTALLATION SS721Z

Connect a wire inside the gang-box between Traveler A and Hot.



# 701A & 711A SERIES

24 HOUR

IN-WALL TIME SWITCH



## SPECIFICATIONS

**INPUT VOLTAGE:** 125VAC, 60Hz.

**WIRE SIZE:** #14AWG.

**OPERATING TEMPERATURE:**  
32°F to +104°F (0°C to +40°C).

## APPLICATIONS



- Porch or patio
- Doorway
- Pool
- Outdoor security lighting

## FEATURES

**SCHEDULING:** Minimum ON setting is 30 minutes. Dial has 48 captive trippers.

**BYPASS SWITCH:** Slide switch for ON, OFF, or TIMER (automatic) operation.

**VACATION MODE:** Set timer OFF with no change of tripper settings.

**WIRING:** Requires a neutral.

**CLOCK FORMAT:** AM/PM marked on dial.

**WALL PLATE:** Supplied with single gang wallplate.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60 Hz	COLOR
701A	10113	125	White
701AA	10118	125	Light Almond
711A	10114	125	White



## CONTACT RATINGS

TYPE	VOLTAGE	RATING	
		701A SERIES	711A SERIES
General Purpose	125 VAC	20A	15A
Resistive	125 VAC	20A	15A
Tungsten	125 VAC	1500W	1250W
Motor	125 VAC	1 HP	1/2HP

IN-WALL TIMERS

# SSA SERIES

## DIGITAL AUTO OFF IN-WALL TIME SWITCH



### APPLICATIONS



- Offices, meeting rooms, library aisles
- Stock and equipment rooms
- Exhaust fans – work areas, utility rooms, bathrooms
- Hot tub heaters and circulating pumps
- Timed override lighting and HVAC for after hours and for loads controlled by electromechanical or digital time switches.

### FEATURES

**8-IN-1 TIMING:** Choose from 8 preset ON intervals.

**MANUAL SCROLL-UP:** Option allows adjustment in 10 minute intervals.

**FLASH WARNING:** Optional flicker feature turns load off for 1 second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.

**AUDIBLE WARNING:** Optional beep will sound every 12 seconds during the last 2 minutes of timed cycle.

**TAMPER RESISTANT:** Time ON interval preset hidden behind wall plate.

**EASY SET:** Dip switches provide quick set-up of timing and options.

**EASY WIRING:** No neutral needed, great for retrofit.

**BACKLIT DISPLAY:** Numerical read-out of time remaining includes graphic bar showing time remaining in 10% increments. Stands out strongly in lighted and dark areas.

**WALL PLATE:** Supplied with white standard single gang decorator wall plate.

**SSA-R24:** Offers low voltage control with SPDT output and includes momentary input.

### SPECIFICATIONS

**TIMING ACCURACY:** .002%.

**INPUT VOLTAGE:**  
120/277 VAC, 50/60Hz.

**WIRE SIZE:** #18AWG.

**OPERATING TEMPERATURE:**  
0°F to +100°F (-17°C to +37°C).

### ORDERING INFO

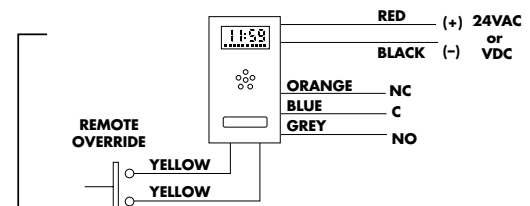
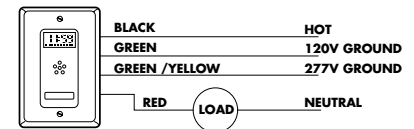
CATALOG NO.	UPC CODE	INPUT SUPPLY	TIME SETTINGS	OUTPUT CONTACTS
SSA100	14010	120/277 VAC	Minutes: 5, 15, 30 Hours: 1, 3, 6, 9, 12	SPST
SSA200	14011	120/277 VAC	Minutes: 10, 20, 40 Hours: 1, 1½, 2, 4, 8	SPST
SSA100R-24	14014	24VAC/24VDC	Minutes: 5, 15, 30 Hours: 1, 3, 6, 9, 12	SPDT
SSA200R-24	14015	24VAC/24VDC	Minutes: 10, 20, 40 Hours: 1, 1½, 2, 4, 8	SPDT
LCS115M	82082		Momentary Switch for Override (white)	SPST

### CONTACT RATINGS

	TYPE	VOLTAGE	RATING
SSA100/200	Tungsten	120VAC	800W
	Ballast	120VAC	800W
		277VAC	1200W
	Motor	120VAC	1/6HP
SSA100/200R-24	Pilot Duty	120VAC	240VA
	30V	30V	1A
	1V min.	1V min.	100µA

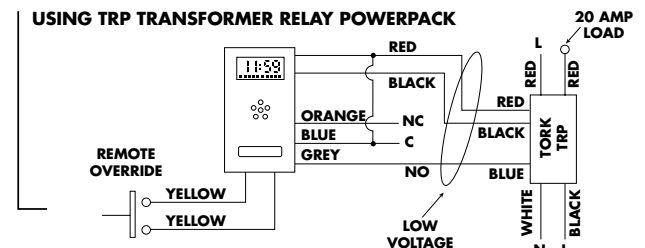
### WIRING DIAGRAMS

#### SSA100/200



#### SSA200R-24

##### USING TRP TRANSFORMER RELAY POWERPACK



# SS SERIES

## AUTO OFF IN-WALL TIME SWITCH



### APPLICATIONS



- Bathroom fans and lights
- Indoor/Outdoor lighting
- Storage areas
- Hospitality areas

### FEATURES

**VARIABLE TIMING:** Choose from 1 minute to 18 hours.

**FLASH WARNING:** "F" suffix models with flicker feature turns load off for 1/2 second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.

**AUDIBLE WARNING:** "B" suffix model will buzz that every 12 seconds during the last 2 minutes of timed cycle.

**TAMPER RESISTANT:** Time ON interval preset is hidden behind wall plate.

**EASY SET:** Small screw driver adjustment provides quick set-up of timing.

**EASY WIRING:** No neutral needed, great for retrofit.

**3-WAY:** SS13 SERIES replaces standard 3-way switch with no re-wiring.

**COLOR:** White.

### SPECIFICATIONS

#### TIMING ACCURACY:

±5% @ 60° to 80°F.

#### INPUT VOLTAGE:

24/120/208-240/277VAC, 50/60Hz.

#### WIRE SIZE:

#18AWG.

#### OPERATING TEMPERATURE:

0°F to +100°F (-17°C to +37°C).

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 50/60Hz	WARNING BEFORE TIME OUT	SWITCH TYPE
SS20	14005	24/120/208-240/277	None	Single pole
SS20F	14008	24/120/208-240/277	*Flicker	Single pole
SS13F	14007	24/120/208-240/277	*Flicker	3-way
SS13B	14006	24/120/208-240/277	**Beep	3-way

\*Flicker feature turns load OFF for 1/2 second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.

\*\*Beep feature will begin a 1/2 second audible warning every 12 seconds during the last 2 minutes of timed cycle.

### CONTACT RATINGS

TYPE	CONTACT RATINGS	MINIMUM LOAD	
		VOLTS	WATTS
SS13F & SS13B	.25-4.0A Resistive	24	6
	.25-4.0A Ballast*	120	30
	.25-4.0A Tungsten	208	50
	1/8HP @ 120VAC	240	60
	1/3HP @ 240VAC	277	70
SS20 & SS20F	.50-7.25A Resistive	24	12
	.50-7.25A Ballast*	120	60
	.50-4.0A Tungsten	208	105
	1/6HP @ 120VAC	240	120
	1/2HP @ 204VAC	277	150

\*Not compatible with compact fluorescent lamps (CFL) and electronic fluorescent ballasts.

# D SERIES

## ELECTRONIC AUTO OFF

### IN-WALL TIME SWITCH



## SPECIFICATIONS

**TIMING ACCURACY:** Line voltage.

**INPUT VOLTAGE:** 120VAC, 60Hz.

**WIRE SIZE:** #14AWG.

**OPERATING TEMPERATURE:**  
32°F to 122°F (0°C to 50°C).

## APPLICATIONS



- Whole house fans
- Indoor/Outdoor lighting
- Bathroom fans and lights
- Self storage

## FEATURES

### VARIABLE TIMING:

Button push changes time ON setting.

**D1060M:** 10, 20, 30, 60 minute.

**D212H:** 2, 4, 8, 12 hour.

**LED DISPLAY:** Indicator moves to new range as timer counts down.

**TAMPER RESISTANT:** Time ON interval preset.

**EASY SET:** No adjustments, just wire and go!

**WIRING:** Requires a neutral.

**THREE COLORS:** Ivory, Light Almond, White.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	TIME SETTINGS	OUTPUT CONTACTS
D212H	14021	120	Ivory	2, 4, 8, 12 HOURS
D212HA	14022	120	Light Almond	2, 4, 8, 12 HOURS
D212HW	14023	120	White	2, 4, 8, 12 HOURS
D1060M	14025	120	Ivory	10, 20, 30, 60 MINUTES
D1060LA	14024	120	Light Almond	10, 20, 30, 60 MINUTES
D1060MW	14025	120	White	10, 20, 30, 60 MINUTES

## CONTACT RATINGS

TYPE	VOLTAGE	RATING
General Purpose	120VAC	15A
Resistive	120VAC	1000W
Tungsten	120VAC	1000W
Motor	120VAC	1/4HP

# A SERIES

## SPRINGWOUND AUTO OFF IN-WALL TIME SWITCH



Wallplate not  
included

### APPLICATIONS



- Whole house fans
- Indoor/Outdoor lighting
- Bathroom fans and lights
- Self storage

### FEATURES

**VARIABLE TIMING:** Twist knob for time ON setting. Time ON lengths from 15 minutes to 12 hour vary by model.

**HOLD FEATURE:** Some models have position for constant ON.

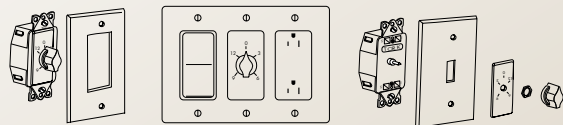
**EASY SET:** No adjustments. Just wire and go!

**EASY WIRING:** No neutral required. Great for retrofit! Use as single or in multi-gang box with no de-rating.

**SWITCH TYPE:** SPST.

**COLOR:** Ivory, Light Almond, White.

**WALL PLATE:** Fits standard or decorator style wall plates, see below (not included).



**CAUTION:** This timer is not to be used in precision timing applications where inaccurate timing could have dangerous consequences (i.e. sun lamp, sauna, etc.).

### CONTACT RATINGS

TYPE	VOLTAGE	RATING
Resistive	125VAC	20A
	250VAC	10A
	277VAC	10A
Inductive	125VAC	20A
	250VAC	10A
	277VAC	10A
Tungsten	125VAC	7A
Motor	125VAC	1HP
	250VAC	2HP

### SPECIFICATIONS

**INPUT VOLTAGE:**  
125/250/277VAC, 50/60Hz.

**TERMINAL SIZE:** #12AWG.

**OPERATING TEMPERATURE:**  
32°F to 122°F (0°C to 50°C).

### ORDERING INFO

CATALOG NO.	UPC CODE	HOLD FEATURE	COLOR
15 MINUTE MAX.			
A515MH	15020	With Hold	Ivory
A515MHW	15120		White
A515M	15013	No Hold	Ivory
A515MW	15113		White
A515MA	15127		Light Almond
30 MINUTE MAX.			
A530MH	15021	With Hold	Ivory
A530MHW	15121		White
A530M	15014	No Hold	Ivory
A530MW	15114		White
A530MA	15128		Light Almond
60 MINUTE MAX.			
A560MH	15022	With Hold	Ivory
A560MHW	15122		White
A560M	15015	No Hold	Ivory
A560MW	15115		White
2 HOUR MAX.			
A502HHW	15123	With Hold	White
A502H	15016	No Hold	Ivory
A502HW	15116		White
6 HOUR MAX.			
A506HHW	15125	With Hold	White
A506H	15018	No Hold	Ivory
A506HW	15118		White
12 HOUR MAX.			
A512HH	15026	With Hold	Ivory
A512HHW	15126		White
A512H	15019	No Hold	Ivory
A512HW	15119		White

All A Series timers have SPST switch type.

# C SERIES

## COMMERCIAL STYLE

### SPRINGWOUND AUTO OFF

### IN-WALL TIME SWITCH



Wallplate included

## APPLICATIONS



- Ventilating fans
- HVAC
- Whirlpools
- Self storage
- Motors and pumps

## FEATURES

**VARIABLE TIMING:** Twist knob for time ON setting. Time ON lengths from 15 minutes to 12 hour vary by model.

**HOLD FEATURE:** Some models have position for constant ON.

**EASY SET:** No adjustments. Just wire and go!

**EASY WIRING:** No neutral required. Great for retrofit!

**SWITCH TYPE:** SPST, except C460M and C412H – DPST

**COLOR:** Metal-brushed aluminum.

**WALL PLATE:** Includes real metal wall plate with screw mounting, to add extra security for commercial applications.

## CONTACT RATINGS

TYPE	VOLTAGE	RATING
Resistive	125VAC	20A
	250VAC	10A
	277VAC	10A
Inductive	125VAC	20A
	250VAC	10A
	277VAC	10A
Tungsten	125VAC	7A
Motor	125VAC	1HP
	250VAC	2HP

## SPECIFICATIONS

### INPUT VOLTAGE:

125/250/277VAC, 50/60Hz.

**TERMINAL SIZE:** #12AWG.

### OPERATING TEMPERATURE:

32°F to 122°F (0°C to 50°C).

## ORDERING INFO

CATALOG NO.	UPC CODE	HOLD FEATURE
-------------	----------	--------------

### 15 MINUTE MAX.

C515M	15501	No Hold
-------	-------	---------

### 30 MINUTE MAX.

C530M	15503	No Hold
-------	-------	---------

### 60 MINUTE MAX.

C560M	15505	No Hold
-------	-------	---------

C560MH	15506	With Hold
--------	-------	-----------



C460M*	15011	No Hold
--------	-------	---------

### 2 HOUR MAX.

C502H	15507	No Hold
-------	-------	---------

### 6 HOUR MAX.

C506H	15511	No Hold
-------	-------	---------

### 12 HOUR MAX.

C512H	15513	No Hold
-------	-------	---------

C512HH	15514	With Hold
--------	-------	-----------



C412H*	15010	No Hold
--------	-------	---------

\*DPST switch type.

**CAUTION:** This timer is not to be used in precision timing applications where inaccurate timing could have dangerous consequences (i.e. sun lamp, sauna, etc.).



**OCCUPANCY SENSORS**

# SENSOR TECHNOLOGY & PLACEMENT GUIDE

## TECHNOLOGY PIR AND ULTRASONIC

A **Passive Infrared Sensor** (PIR sensor), is a device that measures infrared radiation (IR), or heat, from objects in its field of view. Because it only receives information, it is considered passive. The IR sensor views a human body as an IR generating object. The lens of the occupancy sensor breaks up the field of view into IR sensitive bands. The occupancy sensor is designed to only react when heat is sensed moving from band to band. For PIR occupancy sensors to work object must have direct "line of sight" to the PIR sensor.

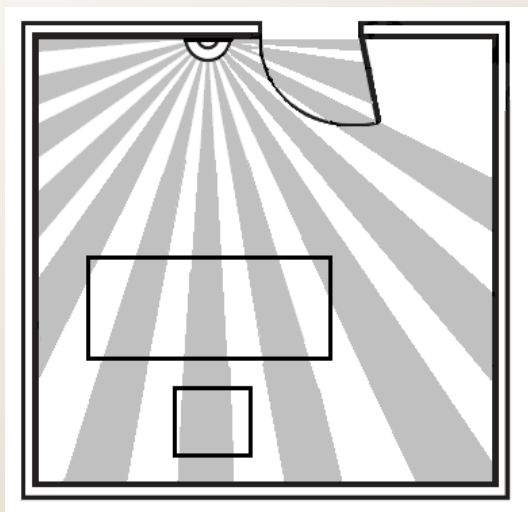
An **Ultrasonic Sensors** (US sensor) is a technology that works on a principle similar to radar or sonar. It is an active technology that sends and receives. It emits an inaudible high-frequency sound wave and evaluates the echo which is received back after bouncing around in the room. This allows the sensor to evaluate the whole room and can "look" over walls and obstructions to identify movement.

Both technologies show higher sensitivity closer to the sensor to allow small movements to be noticed. Sensitivity reduces further away from the sensor and may require a walking step to activate the sensor.

## PLACEMENT GUIDELINES WALL SENSOR

A **Wall Switch Sensor** provides a 180° coverage pattern, extending outward from the sensor. This will allow for instant turn ON when an occupant enters the space. Total area covered will be over 400 square feet.

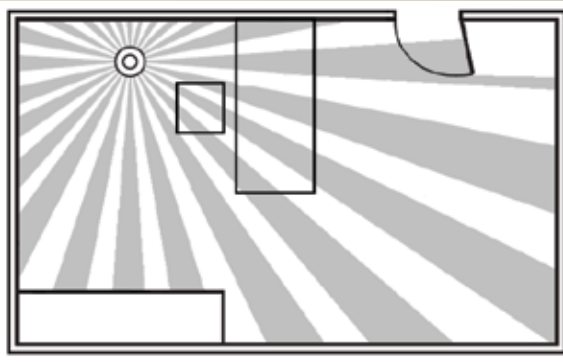
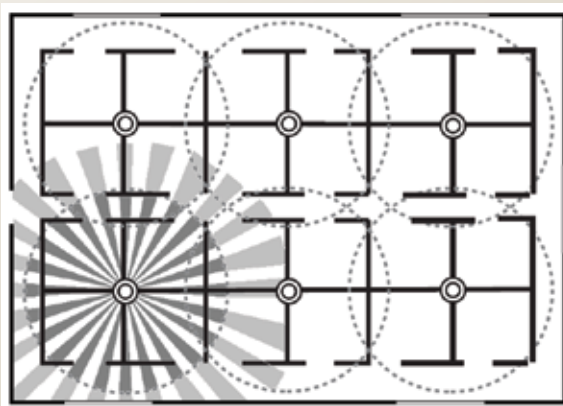
- Proper placement gives the sensor a clear line of sight to the entry door without viewing the hallway.
- The occupant must be able to see the sensor from their normal work position otherwise the sensor will not be able to detect their presence.
- For offices where there are other obstructions between the sensor and the occupant or the entry door, a ceiling sensor is required.



## PLACEMENT GUIDELINES CEILING SENSOR

A **Ceiling Sensor** provides a 360° coverage pattern of up to 1200 square feet when using passive infrared only. When using dual technology the coverage pattern extends to over 2000 square feet. Barriers within the space that block line-of-sight to sensor detection will decrease coverage area when using passive infrared by itself, ultrasonic dual technology will allow the sensor to get around the obstructions.

- Designed for ceiling mounting at a height of 8-10 feet (mounting sensor at greater heights decreases the sensitivity to motion, while lower mounting height will decrease range).
- The sensor needs a visually unobstructed view of the normally occupied workspace and entry door(s).
- Avoid sensor placement with a direct view out a doorway. Placing the sensor offset from the center and away from the door is recommended.
- If the occupant cannot see a PIR sensor from their normal work position, the sensor will not be able to detect their presence.
- File cabinets, partitions, or walls are typical types of obstructions. If there are other obstructions between the sensor and the occupant, an ultra-sonic or dual technology ceiling sensor is recommended.
- When the light level feature is used, mount within 15 feet of the windows or skylight and avoid mounting the sensor close to lighting fixtures.
- Place the sensor no closer than 5 feet to an HVAC air duct when using dual technology sensors.
- Open office designs encourage placement of the sensors to allow overlapping coverage of small motion range and a clear view into each cubicle. Walking step motion may cover the entry to the space. Dual technology units provide added sensitivity to small motion.



# OSWS SERIES

## PIR SENSOR, DECORATOR STYLE IN-WALL OCCUPANCY SENSOR



CALIFORNIA Title 24

ASHRAE 90.1

## SPECIFICATIONS

### CONTACT RATINGS:

OSWS9P-120: 1000W Ballast, 800W Incandescent, 1/8HP at 120VAC.

OSWS9P-277: 1800W Ballast at 277VAC.

OSWS9PD & OSWS9PDM: 1000W Ballast, 800W Incandescent, 1/8HP at 120VAC, 1800W Ballast at 277VAC.

### ADJUSTABLE TIME DELAY:

30 seconds - 30 minutes.

### OPERATING TEMPERATURE:

32° to 131°F (0° to 55°C).

### MOUNTING:

Box mount.

## APPLICATIONS



- Offices and hotels
- Classrooms
- Conference rooms
- Lavatories
- Hallways

## FEATURES

### OSWS9P-120, OSWS9P-277 & OSWS9PD:

**OPERATION:** Automatic ON and automatic OFF based on occupancy detection.

**OFF DELAY:** Selectable from 30 seconds to 30 minutes.

**MANUAL OVERRIDE:** Includes ON and OFF switch.

**EASY WIRING:** No neutral required. Great for retrofit.

### OSWS9PD ALSO INCLUDES:

**SENSITIVITY ADJUSTMENT:** For PIR range.

**DAYLIGHTING MODE:** Adjustable level to keep lights OFF even when occupancy is sensed if adequate light exists in the room from windows or skylights.

### OSWS9PDM - VACANCY SENSOR:

**OPERATION:** Manual push button on and then automatic OFF.

**OFF DELAY:** Selectable from 30 seconds to 30 minutes.

**SENSITIVITY ADJUSTMENT:** For PIR range.

**DAYLIGHTING MODE:** Adjustable level to keep lights OFF even when occupancy is sensed if adequate light exists in the room from windows or skylights.

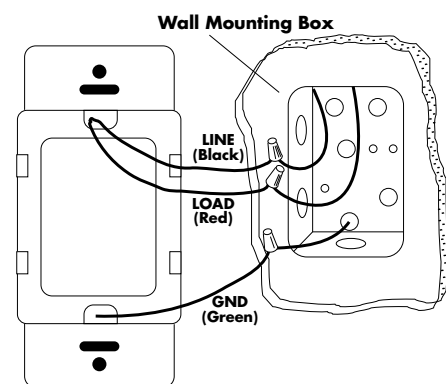
**MANUAL OVERRIDE:** Includes ON and OFF switch.

**EASY WIRING:** No neutral required.

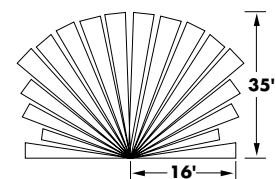
## ORDERING INFO

CATALOG NO.	UPC CODE	DESCRIPTION	OUTPUT CONTACTS
OSWS9P-120	82077	PIR in-line wall switch	120VAC
OSWS9P-277	82078	PIR in-line wall switch	277VAC
OSWS9PD	82079	PIR in-line wall switch with ambient light sensor	120/277VAC
OSWS9PDM	82080	PIR in-line wall switch manually activated	120/277VAC

## WIRING & COVERAGE DIAGRAMS



Top and Side Coverage Pattern Diagrams



180° Coverage

# OSC15PLS

PIR SENSOR, WITH AMBIENT LIGHT  
OVERRIDE, MULTI-VOLTAGE  
INTEGRAL POWERPACK,  
CEILING MOUNTED  
OCCUPANCY SENSOR



CALIFORNIA Title 24

ASHRAE 90.1

## SPECIFICATIONS

**VOLTAGE:** 120 - 347VAC.

**ADJUSTABLE LIGHT LEVEL:** 5FC - 200FC.

**ADJUSTABLE TIME DELAY:** 30 seconds -  
30 minutes (DIP switch).

**TEST MODE:** 5 seconds, upon initial power-up  
or DIP switch reset.

**PIR COVERAGE:** 1200 sq. ft.

**SENSITIVITY ADJUSTMENT:**  
Full or 50% low (DIP switch).

**OPERATING TEMPERATURE:**  
32° to 131°F (0° to 55°C).

**MOUNTING:** Ceiling or box mount.

**CONTACTS:** SPST dry contacts.

**CONTACT RATINGS:** 800W Incandescent,  
1000W ballast at 120VAC. 1800W Ballast at  
277VAC. 2200W Ballast at 347VAC.

## APPLICATIONS



- Offices and hotels
- Classrooms
- Conference rooms
- Lavatories
- Hallways

## FEATURES

**OPERATION:** Automatic ON and automatic  
OFF based on occupancy detection.

**OFF DELAY:** Selectable from 30 seconds to  
30 minutes.

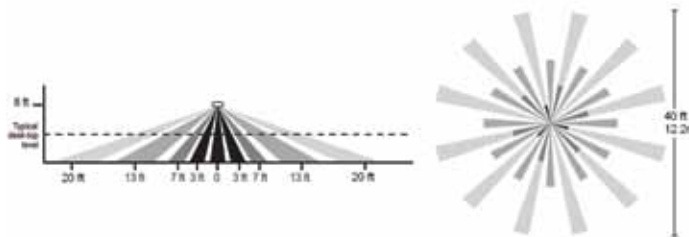
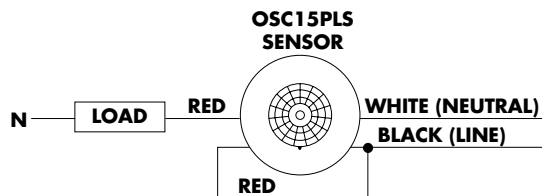
**DAYLIGHTING MODE:** Selectable to  
keeps lights off when occupancy is sensed  
if adequate light exists in the room from  
windows or skylights.

**POWER SWITCHING:** Built-in power pack  
for direct line voltage control.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	COVERAGE (FEET)	DESCRIPTION
OSC15PLS	82076	120-347VAC	1200	WHITE

## WIRING & COVERAGE DIAGRAMS



OCCUPANCY  
SENSORS



## ASHRAE 90.1



- ## FEATURES

**POWER SWITCHING:** Transformer relay power pack (TRP-U) required to power sensor and provides line voltage switching. (see page 116 for product information).

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	COVERAGE (FEET)	DESCRIPTION
OSC5PL	82083	24VDC	500	White
OSC12PL	82081	24VDC	1200	White
TRP-U	82030	120/277VAC		Power Pack
LCS115M	82082	Momentary Switch		

## COVERAGE DIAGRAMS

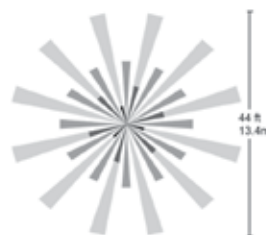
Sensitivity	1
50%	↓
100%	↑
Walk Through	5
Disabled	↓
Enabled	↑
Vacancy	6
Disabled	↓
Enabled	↑

Time Delay	2	3	4
5 Sec/EcoSet	↓	↓	↓
30 Seconds	↓	↓	↑
5 Minutes	↓	↑	↓
10 Minutes	↓	↑	↑
15 Minutes	↑	↓	↓
20 Minutes	↑	↑	↑
25 Minutes	↑	↑	↑
30 Minutes	↑	↑	↑

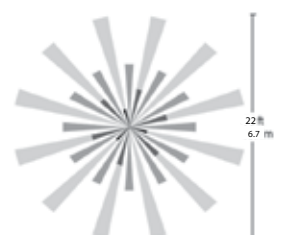
↓ = OFF    ↑ = ON    ◀ Factory Setting

Audible Alert	7	
Disabled	↓	◀
Enabled	↑	
Visible Alert	8	
Disabled	↓	
Enabled	↑	◀
Hold ON	9	
Disabled	↓	◀
Enabled	↑	

**OSC12PL**



**OSC5PL**



**OPERATING TEMPERATURE:**  
32° to 131°F (0° to 55°C).

# OSC20UP

## DUAL TECHNOLOGY CEILING MOUNTED PIR/ULTRASONIC OCCUPANCY SENSOR



CALIFORNIA Title 24

ASHRAE 90.1

### APPLICATIONS



- Offices and hotels
- Classrooms
- Conference rooms
- Lavatories
- Hallways

### FEATURES

**OPERATION:** Automatic ON and automatic OFF based on occupancy detection.

**OFF DELAY:** Selectable from 8 to 40 minutes.

**ECOSSETTING:** Learns typical use patterns and adjusts the OFF delay for the most efficient time.

**MOTION INDICATION:** Red for infrared motion, Green for ultrasonic motion. Indicators may be disabled.

**POWER SWITCHING:** Transformer relay power pack (TRP-U) is required to power sensor and provide line voltage switching (see page 116 for product information).

### SPECIFICATIONS

**VOLTAGE:** 24VDC.

**CURRENT CONSUMPTION:** 33mA.

**POWER SUPPLY:** TRP-U Power Pack (up to 3 units).

**ADJUSTABLE TIME DELAY:**  
8 - 40 minutes.

**TEST MODE:** 8 seconds, upon initial power-up for 1 hour.

**US COVERAGE:** 2000 sq. ft. (adjustable).

**PIR COVERAGE:** 1500 sq. ft. (adjustable).

**SENSITIVITY ADJUSTMENT:** Individual setting range for ultrasonic of 50% and PIR of 75%.

**ULTRASONIC OUTPUT:** 32Hz

**MOUNTING:** Ceiling or box mount.

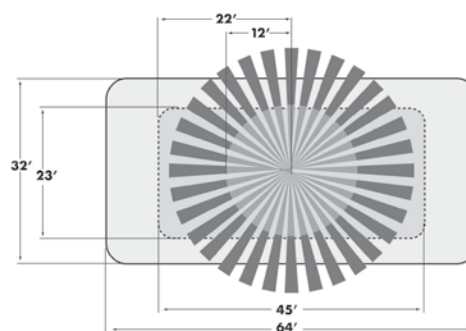
**OPERATING TEMPERATURE:**  
32° to 131°F (0° to 55°C).

**HUMIDITY:** 0 to 95% R.H. non-condensing for indoor use only.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	COVERAGE (FEET)	DESCRIPTION
OSC20UP	82075	24VDC	2000 ft US 1500 ft PIR	White
TRP-U	82030	120/277VAC		Power Pack

### COVERAGE DIAGRAMS



# OSC SERIES

## ULTRASONIC, CEILING MOUNTING OCCUPANCY SENSORS



CALIFORNIA Title 24

ASHRAE 90.1

### APPLICATIONS



- Offices and hotels
- Classrooms
- Conference rooms
- Lavatories
- Hallways

### FEATURES

**OPERATION:** Automatic ON and automatic OFF based on occupancy detection.

**OFF DELAY:** Selectable from 8 to 40 minutes.

**ECOSSETTING:** Learns typical use patterns and adjusts the OFF delay for the most efficient time.

**MOTION INDICATION:** Green for ultrasonic motion. Indicator may be disabled.

**POWER SWITCHING:** Transformer relay power pack (TRP-U) is required to power sensor and provide line voltage switching (see page 116 for product information).

### SPECIFICATIONS

**VOLTAGE:** 24VDC.

**CURRENT CONSUMPTION:** 33mA.

**POWER SUPPLY:** TRP-U Power Pack (up to 4 units).

**ADJUSTABLE TIME DELAY:**  
8 - 40 minutes.

**TEST MODE:** 8 seconds, upon initial power-up for 1 hour.

**US COVERAGE:** 2000 sq. ft. (adjustable).

**SENSITIVITY ADJUSTMENT:** Manual setting range of 50%.

**ULTRASONIC OUTPUT:**

OSC5U: 40kHz

OSC10U/OSC20U: 32kHz

**MOUNTING:** Ceiling or box mount.

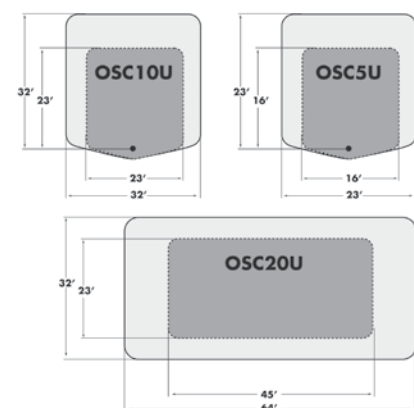
**OPERATING TEMPERATURE:**  
32° to 104°F (0° to 40°C).

**HUMIDITY:** 0 to 95% R.H. non-condensing for indoor use only.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	COVERAGE (FEET)	DESCRIPTION
OSC5U	82072	24VDC	500 SQ FT	White
OSC10U	82073	24VDC	1000 SQ FT	White
OSC20U	82074	24VDC	2000 SQ FT	White
TRP-U	82030	120/277VAC		Power Pack

### COVERAGE DIAGRAMS



# ELS INDOOR LIGHT LEVEL ELECTRONIC LIGHT SENSOR



CALIFORNIA Title 24

ASHRAE 90.1

## SPECIFICATIONS

**VOLTAGE:** 24VDC.

**CURRENT CONSUMPTION:** 9mA.

**POWER SUPPLY:** TRP-U Power Pack (up to 4 units).

**OPERATING TEMPERATURE:**  
50° to 104°F (10° to 40°C).

**MOUNTING:** Ceiling or box mount.

## APPLICATIONS

- Offices
- Classrooms
- Conference rooms
- Hallways

## FEATURES

**DAYLIGHTING CONTROL:** Turns OFF when sufficient daylight present.

**ADJUSTABLE LIGHT LEVEL:**  
10FC - 250FC (DIP switch).

**EASY MOUNTING:** Low voltage Class 2 wiring allows recommended mounting about 3 feet from daylight sources.

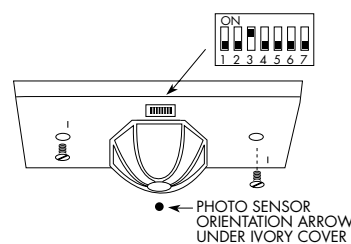
**ADJUSTABLE OFF DELAY:**  
Set from 3 to 15 minutes.

**PRESET ON DELAY:** 30 seconds prevents false triggering.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	DESCRIPTION
ELS-1	82049	24VDC	Indoor Daylight Sensor
TRP-U	82030	120/277VAC	Power Pack

## WIRING DIAGRAMS



### PROGRAMMABLE 7-SECTION SLIDE SWITCH FOOT CANDLE SELECTION\*

SLIDE	FOOT CANDLE	FOR
#1	10FC	Warehouse
#2	25FC	Corridors
#3	50FC	Machine equipment display showroom (such as automobile and farm equipment) LOBBY (such as airport waiting area).
#4	75FC	Classrooms, common office areas
#5	100FC	Drafting rooms
#6	150FC	Retail display areas
#7	250FC	High critical areas, product sorting and grading, paint quality control.

\*Slide only one switch to ON for selection, all other switches remain OFF.

OCCUPANCY  
SENSORS

# TRP-U INTELLIGENT POWER PACK



## APPLICATIONS



- Power and switching for occupancy sensors
- Power and switching for SSA R-24 series
- BAS input compatible
- Demand shedding applications
- Device override to hold on
- Momentary switched override
- Low voltage 3-way wiring

## FEATURES

**OPERATION:** Switches line voltage loads ON/OFF based on a contact closure from an occupancy sensor, AUTO OFF switch, or relay.

**INTELLIGENT INPUT:** Three additional input wires:  
1. Hold OFF for demand shed control.  
2. Hold ON override of local devices such as sensors.  
3. Momentary switch input for remote override.

**MULTI-VOLTAGE:** Tri-voltage input for flexibility.

**QUICK MOUNTING:** Snaps into 1/2" box KO.

## SPECIFICATIONS

**VOLTAGE:** 120/230/277VAC, 50/60Hz.

### LOAD REQUIREMENTS:

Ballast 20amp @120/277VAC.

Incandescent 20amp@120VAC.

Motor 1HP @120/240VAC.

Output 150mA @24VDC (with relay connected).

### LOW VOLTAGE INPUT:

Control ON: 12 - 24VDC

Hold ON: 12 - 24VDC

Hold OFF: 12 - 24VDC

**MOUNTING:** Box mount to 1/2" KO.

### OPERATING TEMPERATURE:

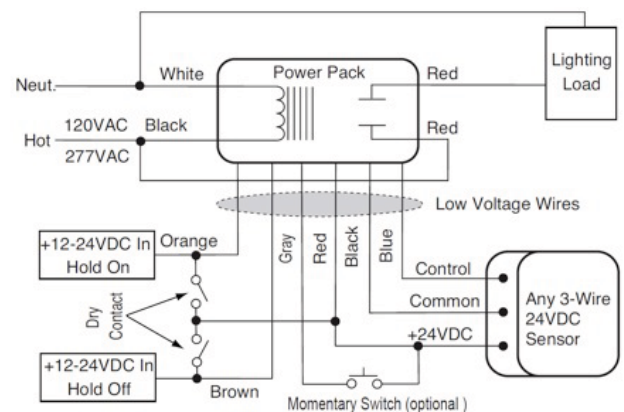
32° to 131°F (0° to 55°C).

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	DESCRIPTION
TRP-U	82030	120/277VAC	Power Pack
LCS115M	82082		Momentary Switch

## WIRING DIAGRAMS

TRP-U  
LOW VOLTAGE WIRING





**PLUG-IN TIMERS**

# 400A SERIES

## INDOOR GENERAL PURPOSE 1875W MECHANICAL MULTIPLE ON/OFF TIMERS

### APPLICATIONS



- Lamps, radios, televisions  
Appliances
- Automatically turn ON/OFF items  
in the home, gives the home a  
"lived in" look while away.

### FEATURES

**REPEAT SCHEDULE:** Daily.

**VARIABLE TIMING:** Multiple ON/OFF times.

**ON/OFF:** Manual ON/TIMER switch.

**ENERGY SAVINGS:** Works with CFLs and LED lamps.



401A



405A



402A



422A



403A

### ORDERING INFO

CATALOG NO.	UPC CODE	RATINGS	NO. OF OUTLETS (▶)	TYPE OF PLUG	DESCRIPTION	VARIABLE TIMING SEGMENTS
401A	16001		1	Polarized	Multiple ON/OFF Lighting Timer	15 minute
402A	16002	125 VAC, 15A, 1875W Resistive 125VAC, 10A, 1250W Tungsten	1	Grounded	Heavy Duty 24 hour Timer	15 minute
403A	16013	125VAC, 1/3HP	1	Polarized	Powerful & Compact Automatic Timer	30 minute
405A	16014		2	Grounded	Heavy Duty 15 AMP Automatic Timer	15 minute
422A	16019	125VAC 15A, 1875W Resistive 125VAC 500W Tungsten 125VAC TV-4	1	Grounded	Heavy Duty 24 hour 15AMP Timer	30 minute

**NOTE:** "▲" = Indicates outlet location.

# 400D SERIES

## INDOOR GENERAL PURPOSE 1800W DIGITAL PROGRAMMABLE ON/OFF TIMERS

**NEW!**



CALIFORNIA Title 24

ASHRAE 90.1

### APPLICATIONS



- Lamps, radios, televisions
- Appliances
- Automatically turn ON/OFF items in the home, gives the home a "lived in" look while away.

### FEATURES

**REPEAT SCHEDULE:** 7 day programming.

#### VARIABLE TIMING:

**460D, 454D, 455D:** Manual Daylight Savings adjustment. Random mode for lived-in look. Manual Override ON/OFF.

**457Z:** Turns ON at Sunset; turns OFF at Sunrise or other times; automatic DST adjustment; Random Mode for lived-in look; Manual Override ON/OFF.

**BACKUP:** Battery back-up.

**ENERGY SAVINGS:** Works with CFLs and LED lamps.

**ACCURACY:** Digital accuracy to 1 minute.



460D



455D



454D



457Z

### ORDERING INFO

CATALOG NO.	UPC CODE	RATINGS	NO. OF OUTLETS (▶)	TYPE OF PLUG	DESCRIPTION	VARIABLE TIMING SEGMENTS
460D	16017	120VAC, 15A, 1800W General Purpose	1	Polarized	Daily Programmable Digital Timer	24 ON/OFFs
454D	16009	120VAC, 15A, 1800W Resistive 120VAC, 1000W Tungsten	1	Grounded	Daily Programmable Digital Timer	Different schedule for each day of the week.
455D	16015	120VAC, 1/3HP, TV-5	2	Grounded	Daily Programmable Digital Timer	Multiple ON/OFFs
457Z	16016	120VAC, 15A, 1800W General Purpose 120VAC, 15A, 1800W Resistive 120VAC, 960W Tungsten 120VAC, 1/3HP TV-5	2	Grounded	Ultimate Plug-In 2-Outlet Timer	20 ON/OFFs Different schedule for each day of the week. ON at Sunset OFF at Sunrise

**NOTE:** "▲" = Indicates outlet location.

# 600A SERIES

OUTDOOR GENERAL PURPOSE 1875W  
MECHANICAL PLUG-IN  
PHOTOCELL COUNTDOWN  
TIMERS

## APPLICATIONS



- Landscape or Christmas lighting
- Controls small pumps, fountains, motors

## FEATURES

**REPEAT SCHEDULE:** Daily.

**VARIABLE TIMING:** Multiple ON/OFFs, Manual ON/TIMER switch.

**PHOTO TIMER:** Two styles

652A - Dial setting. ON at dusk and OFF 2, 4, 6, or 8 hours later. 654A - Digital setting. ON dusk and OFF 1 to 9 hours later or at random times.

**ENERGY SAVINGS:** Works with CFLs and LED lamps.



## ORDERING INFO

CATALOG NO.	UPC CODE	RATINGS	NO. OF OUTLETS (▷)	TYPE OF PLUG	DESCRIPTION	VARIABLE TIMING SEGMENTS
601A	16020	125 VAC, 15A, 1875W General Purpose 125VAC, 15A, 1875W Resistive 125VAC, 10A, 1250W Tungsten 125VAC, 1/2HP	1	Grounded	Mechanical Outdoor Timer, with 18" cord	15 minutes Multiple ON/OFFs
602A	16021		2	Grounded	Mechanical Outdoor Timer, with 18" cord	15 minutes Multiple ON/OFFs
611A*	16022		1	Grounded	Wall Mountable Mechanical Outdoor Timer, with 24" cord	15 minutes Multiple ON/OFFs
652A	16026	125VAC, 15A, 1875W General Purpose 125VAC, 15A, 1875W Resistive 125VAC, 650W Tungsten 125VAC, 1/3HP, TV-5	2	Grounded	Photocell Outdoor Timer with 6.5" cord	Photo ON Dawn or timed OFF
654A	16025		2	Grounded	Photocell Outdoor Timer with 6.5" cord	Photo ON Dawn or timed OFF

\*611A: 1/3HP

**NOTE:** "▲" = Indicates outlet location.

# 600D SERIES

## OUTDOOR

### GENERAL PURPOSE 1875W

### 7 DAY DIGITAL WITH

### PHOTOCELL, 7 DAY DIGITAL

### OUTDOOR TIMERS

**NEW!**



CALIFORNIA Title 24

ASHRAE 90.1

## APPLICATIONS



- Landscape and Christmas lighting
- Control small pumps, fountains, motors, etc.
- Energy saving

## FEATURES

**REPEAT SCHEDULE:** 7 day programming.

**VARIABLE TIMING:** Manual Daylight Savings adjustment. Random mode for lived-in look. Manual ON/TIMER switch. Multiple ON/OFF for each day of the week.

**BACKUP:** Battery back-up.

**ACCURACY:** Digital accuracy to 1 minute.

**PHOTOCELL:** 611D and 631D have built-in photocell to always turn ON at dusk and OFF at dawn. Add a time OFF schedule

**WIRELESS REMOTE:** 655D receives ON/OFF signal up to 80 feet away.



**621D & 631D**  
(621D without photocell)

**611D**



**655D**

**655D**  
Remote



## ORDERING INFO

CATALOG NO.	UPC CODE	RATINGS	NO. OF OUTLETS (▷)	TYPE OF PLUG	DESCRIPTION	VARIABLE TIMING SEGMENTS
611D	16018	125 VAC, 15A, 1875W General Purpose	1	Grounded	Wall Mountable Photocell & 7 Day Digital 2-in-1 Timer, with 24" cord	Photo ON Dawn or timed OFF
621D	16056	125VAC, 15A, 1875W Resistive 125VAC, 1000W Tungsten 125VAC, 8A Ballast	2	Grounded	Wall Mountable, 7 Day Digital Timer, with 18" cord	Multiple ON/OFFs for each day of the week
631D	16027	125VAC, 1/2HP	2	Grounded	Wall Mountable Photocell & 7 Day Digital 2-in-1 Timer, with 18" cord	Photo ON Dawn or timed OFF
655D*	16042	125VAC, 5A, 625W Resistive 125VAC, 600W Tungsten	2	Grounded	Remote control indoor/outdoor receiver	Handheld remote ON/OFF

\* ETL listed for U.S. and Canada.

**NOTE:** "▲" = Indicates outlet location.

# 800 SERIES

## OUTDOOR GENERAL PURPOSE 1875W MECHANICAL & DIGITAL STAKE TIMERS

NEW!

### APPLICATIONS



- Landscape and Christmas lighting
- Other outdoor lighting
- Energy saving



803B



806B



806D

### FEATURES

**REPEAT SCHEDULE:** Mechanical timer 24 hours. Digital timer 7 day programming.

**MECHANICAL TIMING:** Multiple ON/OFFs, Manual ON/TIMER switch.

**DIGITAL TIMING:** Manual ON/TIMER switch. Multiple ON/OFF for each day of the week.

**PHOTOCELL:** 806D has optional built-in photocell to always turn ON at dusk and OFF at dawn or 1 to 12 hours later.

**ENERGY SAVINGS:** Works with CFLs and LED lamps.

### ORDERING INFO

CATALOG NO.	UPC CODE	RATINGS	NO. OF OUTLETS (▶)	TYPE OF PLUG	DESCRIPTION	VARIABLE TIMING SEGMENTS
803B	16057	125VAC, 15A, 1875W Resistive 125VAC, 10A, 1250W Tungsten	3	Grounded	Mechanical Outdoor Stake Timer, with 2' cord	15 minutes Multiple ON/OFFs
806B	16037		6	Grounded	Mechanical Outdoor Stake Timer, with 2' cord. 3 timed outlets and 3 untimed.	15 minutes Multiple ON/OFFs
806D	16038	125VAC, 15A, 1875W Resistive	6	Grounded	Digital Outdoor Stake Timer, with 6' cord. 3 timed outlets and 3 untimed.	Multiple ON/OFFs for each day of the week or Photo ON and Dawn or 1-12 hours OFF.

NOTE: "▶" = Indicates outlet location.





**TORKALERT™**

# MECHANICAL STROBE HORNS

## APPLICATIONS



- High performance for industrial signaling applications. Offers high sound output, low current draw and dependable operation. Strobes use xenon flashtube, ideal for maximum efficiency and reliability.



TA880-N5

TA5508H-G1

## FEATURES

**ALARM:** Penetrating mechanical sound.

**WIRING:** Low current draw.

**MOUNTING:** 4" square surface mounting.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT VOLTAGE	INPUT CURRENT (AMPS)	dB @10 FEET	CANDELA
TA880-N5	96015	120VAC	0.115	96	15
TA5508H-G1	96071	24VDC	.059	strobe only	15/75

**NOTE:** TA880-N5 For outdoor use, unit must be mounted in a TA-WBBF outdoor backbox. See page 138 for ordering. TA5508H-G1 for indoor mounting only.

# MECHANICAL HORNS

## APPLICATIONS



- Loud tone with typical decibel output of 103 dB. Low frequency resonance for strong penetration of noisy areas like boiler rooms, water pumping stations, elevators and air compressor rooms.



## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT VOLTAGE	INPUT CURRENT (AMPS)
SURFACE TYPE			
TA874-N5	96023	120VAC, 60Hz	0.070
TA874-N5R (Red)	97613	120VAC, 60Hz	0.070
TA875-G1	97687	24VDC	0.035
WITH WEATHERPROOF BACKBOX TA-WBBF UL LISTED FOR OUTDOOR USE			
TA876-N5	96026	120VAC, 60Hz	0.070

## FEATURES

**INPUT VOLTAGE:** Wide input voltage ratings for compatibility with unregulated power supplies.

**WIRING:** Screw terminals for convenient IN/OUT wiring. Low current draw for minimizing power supply and wiring cost.

**NOTE:** Use TORK signal timers for 24 hour or 7 day scheduling, see page 85.

**HOUSING:** Steel, painted Dawn Mist. Resonant grill design for high sound output.

**MOUNTING:** To indoor box TA-BBSF or outdoor box TA-WBBF, see accessories page 13\*.

# MULTI-TONE ELECTRONIC HORNS

## 24VDC & 115VAC

TA875-1G1



TA-MTS



### APPLICATIONS

- For indoor and outdoor use. Superior sound penetration for various room conditions. Screw terminals accept #12AWG.

### FEATURES

#### OPERATING TEMPERATURE:

TA-MTS: -31°F to +150°F (-35°C to +66°C).

#### DIMENSIONS AND MOUNTING:

TA-MTS: 4 1/8"H x 4 1/8"W x 3 17/32"D

Can be mounted on ceiling or wall.

TA875-1G1: 4 3/4"H x 4 3/4"W x 1 3/8"D

1 gang, 2 gang or 4" square backbox.

### ALARM SOUNDS

#### TA875-1G1 24VDC HORN

ALARM TONE	CURRENT (AMPS)	TYPICAL dB @10 FEET
BELL	0.020	91
HI-LO	0.025	96
CHIME	0.028	93
SINGLE STROKE BELL	0.026	93
HORN	0.023	97
3 BEEPS, PAUSE	0.023	97
SIREN	0.040	95
SLOW WHOOP	0.040	96

#### TA-MTS 115VAC HORN

ALARM TONE	AMPS @ 120VAC HIGH	STANDARD	TYPICAL dB @10 FEET HIGH OUTPUT	STANDARD OUTPUT
HORN	0.050	0.042	85	82
BELL	0.041	0.039	82	75
HORN 2	0.050	0.040	85	79
CODE 3 HORN	0.050	0.042	82	75
CODE 3 TONE	0.042	0.040	79	75
SLOW WHOOP	0.050	0.042	85	82
SIREN	0.045	0.041	85	82
HI-LO	0.042	0.039	82	79

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT VOLTAGE	DESCRIPTION
TA875-1G1	97641	20-31VDC, 24VDC	Multi-tone Electric Horn
TA-MTS	97674	115 VAC	Multi-tone Electric Horn

# HEAVY DUTY BELLS

## 4", 6", 10" DIAMETERS AC VIBRATING BELLS

### APPLICATIONS



- For indoor or outdoor applications. High sound output, durable and dependable performance. Ideal for schools and hospitals.

### FEATURES

**TERMINAL SIZE:** #12 - 22 AWG.

**WIRING:** Screw terminals permit fast IN/OUT field wiring.

**HOUSING:** Steel gong and cast aluminum. See page 138 for dimensional drawings.

NOTE: Use TORK signal timers for 24 hour or 7 day scheduling, see page 85.

### ORDERING INFO

CATALOG NO.	UPC CODE	SHELL SIZE	VOLTAGE	INPUT CURRENT (AMPS)	dB @ 10 FEET	COLOR
TA340-4G5	96001	4"	24VAC	0.320	81-90	Dawn Mist
TA340-4N5	96002	4"	120VAC	0.065	81-90	Dawn Mist
TA340-6G5	96003	6"	24VAC	0.320	81-95	Dawn Mist
TA340-6N5	96004	6"	120VAC	0.065	81-95	Dawn Mist
TA340-10G5	96005	10"	24VAC	0.320	84-98	Dawn Mist
TA434-4N5	98005	4"	120VAC	0.065	81-95	Red
TA434-6N5	97521	6"	120VAC	0.065	81-95	Red
TA434-10N5	96522	10"	120VAC	0.065	84-98	Red

# LIGHT DUTY AND GENERAL PURPOSE BELLS & BUZZER



## APPLICATIONS

- Designed to operate on either bell ringing transformers or batteries. Non-adjustable sound.

## FEATURES

**ALARM:** Bell ringing, non-adjustable sound.

**DIMENSIONS FOR TA725:**  
3" H x 2½" W x 1" D.

**MOUNTING:** Fully enclosed sturdy steel bases and covers. Base and cover snap together, no screws required.

## ORDERING INFO

CATALOG NO.	UPC CODE	SWITCH	VAC	VDC	AMPS	dB
TA740	96228	2½" Gong	8-16	3-6	1	76 @ 10'
TA744	96230	4" Gong	8-16	3-6	1	78 @ 10'
TA725	96226	Buzzer	8-16	3-6	1	88 @ 3'

# CHIMES & CHIME KITS



## APPLICATIONS

- Powerful and loud, pleasant sounding push-button chimes. Ideal for homes, apartments and offices.

## FEATURES

**INPUT:** 16V, 10VA, 120VAC.

**ALARM:** Chime.

**MOUNTING:** Fully enclosed sturdy steel bases.

## ORDERING INFO

CATALOG NO.	UPC CODE	DESCRIPTION	DIMENSIONS
TAC212WS	96064	16VAC Chime + Push Button clip for Stucco + 10VA Transformer	7¾"L x 4"W x 2"D
TAC212WL	96054	16VAC Chime + 2 Push-buttons + 10VA Transformer	7¼"L x 4¾"W x 2½"D
TAC210W	96052	16VAC Chime	7¼"L x 4¾"W x 2½"D



# WEATHERPROOF MOTOR DRIVEN SIREN



## APPLICATIONS



- For industrial and outdoor use. Ideal for evacuation and warning systems.

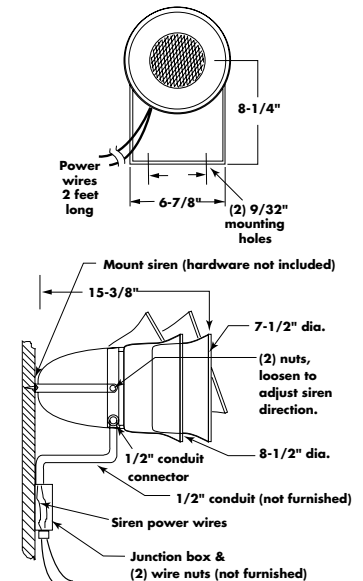
## FEATURES

**INPUT VOLTAGE:** 120AC & DC, 60Hz.

**ALARM:** Loud, distinctive tone. Designed to be effective over standard horns or bells.

**HOUSING:** Red enamel paint over heavy gauge aluminum housing. Fully enclosed motor. 180° swivel and adjustable direction.

## DIMENSIONS



## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT VOLTAGE	dB @ 10 FEET	AMPS	VA
TA315-1N5	96599	120VAC/DC	117	2.5	300

# MANUAL FIRE ALARM PULL-DOWN STATION



## APPLICATIONS



- Designed for indoor use. Ideal for schools, hospitals, industrial plants, warehouses and retail stores. Key required to close and reset device. Meets requirements, BSA, MEA, CA and UL.

## FEATURES

**ALARM:** Loud, distinctive tone. Designed to be compatible with any control panel to initiate local alarm signals, trip municipal fire alarm box and start fire pumps.

**MOUNTING:** Sturdy metal construction, mounts to a standard single gang electrical box.

## ORDERING INFO

CATALOG NO.	UPC CODE	SWITCH	VOLTS	AMPS
TA270A	96521	SPST, NO	30V AC/DC	1

# TELEPHONE STROBE



## APPLICATIONS



- For single-line analog phone lines. Emits a high intensity flashing light when the telephone rings. Ideal for alerting the hearing impaired, high ambient noise environments and quiet zones. ADA compliant.

## FEATURES

### PLUG:

RJ-11C connection.  
TA-B-KHD-120VAC, includes 120VAC power cord.

**MOUNTING:** Easily mounts to interior surfaces, for indoor use.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT TELEPHONE RING VOLTAGE	POWER	RINGER EQUIVALENCE	PEAK CANDLEPOWER
TA-B-KHD-120VAC	97101	45-130V, 20-30Hz	120VAC	0.4	70,000
TA-B-KHD-1000-PP	97102	50-130V, 20-30Hz	Analog line ring voltage	1.5	8,000



# TELEPHONE RELAY



## APPLICATIONS



- This device activates appliances when a telephone ring voltage is detected. For indoor and outdoor use with horns, bells or strobes. Recommended use where ambient noise levels are high. FCC approved.

## FEATURES

**INPUT:** Accepts RJ-11C phone plug.

**WIRING:** Hard wire connections, for analog phone lines.

**MOUNTING:** Weatherproof, indoor and outdoor, includes mounting bracket.

## ORDERING INFO

CATALOG NO.	UPC CODE	INPUT TELEPHONE RING VOLTAGE	AC INPUT VOLTAGE	RINGER EQUIVALENCE	PEAK CANDLEPOWER
TA-B-8332	97100	39-150V/20-30Hz	115VAC-5A, 230VAC-2A	Up to 115VDC-500MA	0.6

# WALL CLOCKS QUARTZ & ELECTRIC



## APPLICATIONS

- Each model meets United States Government Specifications. All Clocks provide second hand for accurate timing.

## FEATURES

### QUARTZ

Accurate to one minute per year. Low power consumption for long battery life. Uses AA battery (not supplied).

### ELECTRIC

110VAC, 60 Hz synchronous motor. 66 inch line cord and plug. Does not require grounding.

**MOUNTING:** Concealed mounting brackets allow for simple, neat placement on walls.

## ORDERING INFO

QUARTZ CLOCK				
CATALOG NO.	UPC CODE	TYPE	SIZE	FRAME COLOR
TA1886 G	96156	QUARTZ	8"	Grey
TA1886 B	96155	QUARTZ	8"	Brown
TA1887 G	96159	QUARTZ	12"	Grey
TA1887 B	96157	QUARTZ	12"	Brown
TA1887 BK	96158	QUARTZ	12"	Black
ELECTRIC CLOCK				
CATALOG NO.	UPC CODE	TYPE	SIZE	FRAME COLOR
TA1880 G	96152	ELECTRIC	8"	Grey
TA1880 B	96151	ELECTRIC	8"	Brown
TA1882 G	96154	ELECTRIC	12"	Grey
TA1882 B	96153	ELECTRIC	12"	Brown


# ELECTRIC DOOR OPENERS REMOTE CONTROL & CONTACT DEVICES

## APPLICATIONS

- For unlocking or locking metal or wooden doors using low voltage wiring. For AC, use TA591 or TA592 transformer.


## MAGNETIC SWITCH CONTACTS

For activating a variety of signals, ideal for limiting space applications. Self-insulating and can be mounted in any direction. All units include companion magnet. Dimensions:  $2\frac{3}{16}$ "L x  $\frac{1}{2}$ "W x  $\frac{1}{2}$ "D

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS MAX.
	TA60	96975	Circuit closed with magnet engaged		
	TA61	96976	Make & break NO and NC	24VAC 12VDC	.5
	TA62	96977	Circuit open with magnet engaged		


## DOOR/WINDOW CONTACTS, ROLLING BALL TYPE

Signals automatically with the opening and closing of doors, windows and transoms. Operates from pressure in any direction. Non-tilt, non-jamming design. Fits  $\frac{3}{4}$ " hole; no need to mortise.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS MAX.
	TA44	96995	Normally closed Push to open		
	TA45	96996	Normally open Push to close	12-24V AC/DC	2
	TA46	96997	Momentary contact Push to make & break		


## ELECTRIC DOOR SWITCH

For turning lights/signals on or off when doors are opened or closed. Ideal for closets, dark rooms, storage areas of walk-in refrigeration. Rust resistant steel case with 4 knockouts, antique brass plate. Box dimensions:  $1\frac{1}{4}$ "W x  $3\frac{7}{8}$ "H x 2"D. Plate dimensions:  $1\frac{1}{4}$ "W

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS MAX.
	TA502	96964	Light ON when door is open	125VAC 250VAC	6 3
	TA503	96965	Light OFF when door is open	125VAC 250VAC	6 3


## MORTISE TYPE REMOTE OPENER

Reversible for right or left hand door. Use with mortise entrance locks having a latch bolt with up to  $\frac{1}{2}$ " width and throw. Dimensional drawings available on page 138.

DEVICE	CATALOG NO.	UPC CODE	VOLTS	AMPS
	TA09	96960	8-16VAC 3-6VDC	.95-1.75 1.25-1.80
	TA154	96962	16VAC 3-6VDC	.95-1.75 1.25-1.80


## RIM TYPE REMOTE OPENER

Reversible for right or left hand door. Standard surface type used with lock latches with up to  $\frac{5}{8}$ " width and throw. 6" wire leads. Dimensional drawings available on page 138.

DEVICE	CATALOG NO.	UPC CODE	VOLTS
	TA152	96961	8-16VAC, 3-6VDC

## DOOR TRIP SWITCH

Signals automatically as door is openend. Commonly used on store doors to announce entrance of customers. Mounts on top of door frame. Solid cast brass. Size:  $3 \times 1\frac{5}{8}$ "

DEVICE	CATALOG NO.	UPC CODE	VOLTS	AMPS MAX.
	TA236	96963	12-24VAC	2

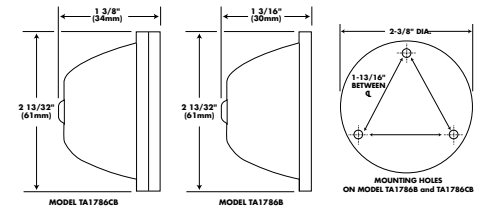
# PUSH-BUTTONS ILLUMINATED, NON-ILLUMINATED & WEATHERPROOF

## APPLICATIONS


For outdoor use to activate low voltage bells, buzzers, horns or any other audible signal. Ideal for factory doors, receiving departments, small office buildings, limited access retail stores and private homes.

## DIMENSIONS

### TA1786B ONLY












## WEATHERPROOF PUSH-BUTTONS / SOLID CAST BRASS

BUTTON	CATALOG NO.	UPC CODE	DESCRIPTION	INPUT VOLTAGE
	TA1786B	96090	Without conduit backplate	Momentary Contacts 4 amps AC/DC @ 12V 4 amps AC, 2 amps DC @ 24V
	TA1786CB	96091	With conduit backplate	2 amps AC 1 amp DC @ 48V

## ILLUMINATED PUSH-BUTTONS, UP TO 16VAC

BUTTON	CATALOG NO.	UPC CODE	COLOR	SIZE
	TA603L	96035	Gold	1 3/4" (diameter)
	TA631L	96089	White	2 3/4 x 7/8"
	TA656B	96039	Gold	1 5/16 x 2 3/4"
	TA215LB	96031	Brass	1 1/4 x 2"
	TA620L*	96037	Chrome	5/8" (diameter)
	TA620LB*	96038	Brass	5/8" (diameter)

## NON-ILLUMINATED PUSH-BUTTONS, UP TO 24VAC

BUTTON	CATALOG NO.	UPC CODE	COLOR	SIZE
	TA600	96041	Polished Brass	2 1/4" (diameter)
	TA603	96044	Polished Brass	1 3/4" (diameter)
	TA631	96088	White	2 3/4 x 7/8"
	TA635	96047	Ivory, black bar	2 3/4 x 7/8"
	TA666BK	96048	Black, ivory bar	2 3/4 x 2 3/4"
	TA602	96043	Polished Brass	1 3/8 x 5 1/4"
	TA601	96042	Sprayed Brass	2 x 2 9/16"
	TA620*	96045	Chrome	5/8" (diameter)
	TA620B*	96046	Brass	5/8" (diameter)

\*Stainless steel plate to fit TA620 models: Order TA 147-1

# WARNING LIGHTS INDUSTRIAL UNITS

## APPLICATIONS


1/2" conduit mounting. Full selection of dome colors, see "Ordering Info". For outdoor use. All units must be mounted vertically with base at bottom.

## ORDERING INFO

COLOR	LETTER TO REPLACE "*" "
Red	R
Amber	A
Clear	C
Blue	B


### TA47\*N5 / TA47\*R5 – ALL PURPOSE 360° BEACON

Large parabolic reflector rotates around a 100 watt bulb. Long range beam. Use to indicate equipment malfunctions, security intrusion, etc.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS
	TA47RN5	96061	90 FPM Corrosion resistant/Outdoor use Glass filled polypropylene housing	117VAC	
	TA47AN5	96161	Acrylic dome Tamper resistant dome clamps	117VAC	.9
	TA47AR5	96162	Nominal current draw 9 1/2"H x 8 1/2" diameter	240VAC, 60Hz	


### TA52\*N5 – COMPACT ROTATING BEACON

Light intensifying reflector rotates around a low current 25 watt bulb. Bayonet socket for easy lamp replacement. Ideal for restricted or dangerous areas.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS
	TA52RN5	96063	80-90 FPM 360° rotation		
	TA52AN5	96163	Dependable belt & turntable design Acrylic dome	117VAC	.21
	TA52BN5	96263	Nominal current draw 6 1/2"H x 5 5/8" diameter		


### TA93-2\*N5 – MIDI-STROBE

Solid state circuitry in a low profile design. No moving parts means less Maintenance!

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS
	TA93-2RN5	99622	70-80 FPM Solid state electronic circuitry		
	TA93-2AN5	97623	High output 3-4 watt, 3.6 joules Vertically mounted flash tube	117VAC	.04
	TA93-2CN5	96968	Snap out socket base for 360° Fresnel dome optics		
	TA93-2BN5	97624	Nominal current draw 6 1/2"H x 5 1/8" diameter		


### TA371L\*N5 – ROTATING SEALED TWIN BEAMS

Heavy Duty, double sealed beam, revolving light with 30 watt lamps. Each 35,000 CP bulb provides long range visibility.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS
	TA371LRN5	96500	80-90 FPM Lexan® dome Quiet belt drive motor Anodized aluminum housing with polished aluminum, non-tarnishing base Snap lock retaining ring for quick & economical changeout	117 VAC	.8

### TA94\*N5 – ELECTRONIC STROBE

High intensity strobe tube with inner fluted lens for maximum brilliance. No moving parts makes it immune to shock and vibration. Ideal for security alert.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS
	TA94RN5	97626	70-80 FPM Solid state electronic circuitry High output 3-4 watt, 3.6 joules		
	TA94AN5	97627	Acrylic dome Glass filled polypropylene housing	117VAC	.04
	TA94BN5	97628	Suitable for outdoor use 9 1/2"H x 8 1/2" diameter		

# WARNING LIGHTS VEHICULAR UNITS

## ORDERING INFO


COLOR	LETTER TO REPLACE "*"
Red	R
Amber	A

## APPLICATIONS

- 1/2" conduit mounting. Full selection of dome colors, see "Ordering Info". For outdoor use. All units must be mounted vertically with base at bottom.


### TA53\*E1 – ROTATING BEACON

Single point shock-mounting. Ideal for use on security or service vehicles.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS
	TA53RE1	96083	90-100 FPM	12VDC
	TA53AE1	96183	Dependable belt & turntable design	
	TA53AF1	96185	25 watt lamp Acrylic Dome Nominal current draw	36VDC
	TA53AG1	96184	7 1/2" H x 6" diameter	24VDC

### TA54\*E1 – PORTABLE, MAGNETIC, ROTATING BEACON


Single point shock-mounting. Ideal for use on security or service vehicles.

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS
	TA54AE1	96187	75 FPM, 12 watt lamp Quiet belt-drive motor.	12VDC
	TA54RE1	96087	Teardrop design fits under windshields. Includes glare shield, velcro tape 4 1/2" H x 7 1/2" diameter	

### TA131D\*N5 / TA131D\*U1 – DOUBLE FLASH SUPER STROBE


Ideal for industrial applications requiring extremely high visibility. One model covers all popular mounting methods: 1/2" pipe, surface, flange, electrical box.



DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS	AMPS
	TA131DRN5	96510	60 FPM, 7.5 JPF	120VAC	.2
	TA131DAN5	96610	High intensity 85,000 peak CP Flashtube Rated at 7000-8000 hrs.		
	TA131DRU1	96511	Durable Lexan® housing	10.5-31.0VDC	
	TA131DAU1	97611	5" H x 7 1/4" diameter		

### TA879 – VEHICULAR BACKUP ALARM

Solid state electronic unit. Helps to comply with OSHA and State regulations. Makes distinctive noise, ideal for extreme variations in background noise

DEVICE	CATALOG NO.	UPC CODE	DESCRIPTION	VOLTS
	TA879	96102	2 sound levels 97 or 87 dB +/- dB at 4ft Multi-voltage Water-resistant housing	12 to 48VDC

**NOTE:** "FPM" = Flashes per minute  
"JPF" = Joules per flash

For replacement parts and accessories, see page 138.

# POWER SUPPLY UNITS

## 24 VDC UNITS



TA640



TA606



### APPLICATIONS

- Units provide power to multiple signaling devices depending on requirements.

### FEATURES

#### TA606

Regulated and filtered 24VDC up to 600mA. Easy to use screw terminals, accepts #16-24AWG. No conduit is required for installation.

#### TA640

Dual output unit, each providing 2 Amps to current. If connected in parallel, will provide up to 4Amps. Circuit breaker provides input protection.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	REGULATION	RIPPLE VOLTAGE
TA606	96109	117VAC	24VDC	600mA		
TA640	96110	115VAC	24VDC	4A	+/-5%	10mVRMS

# TRANSFORMERS



### APPLICATIONS



- Engineered to ensure long use on bells, buzzers and chimes.

### ORDERING INFO

CATALOG NO.	UPC CODE	TYPE	VOLTS-AMPS (VA)	PRIMARY VOLTAGE	SECONDARY VOLTAGE	Hz
TA590	96104	Bell	5	120	10	60
TA591	96105	Chime	10	120	16	60
TA592	96106	Tri-Volt	10-10-20	120	8-16-24	50/60
TA598	96602	Tri-Volt	20-30-30	120	8-16-24	60
TA599	96108	Heavy Duty	40	120	24	60
TA1245Y-50	96166	Heavy Duty	50VA	120/208/240	24	60
TA1245Y-75	96167	Heavy Duty	75VA	120/208/240	24	60

# ACCESSORIES, REPLACEMENT PARTS & DIMENSIONS

COLOR	LETTER TO REPLACE " " "
Red	R
Amber	A
Clear	C
Blue	B
Green	G
White	W

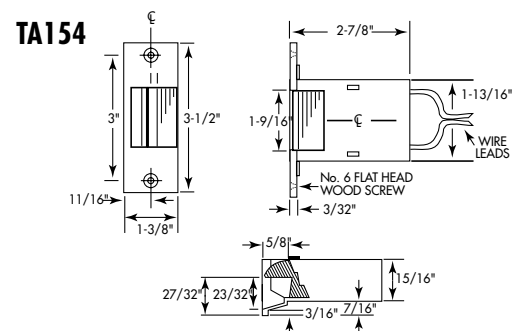
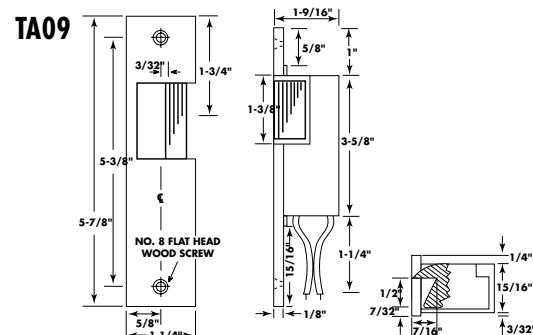
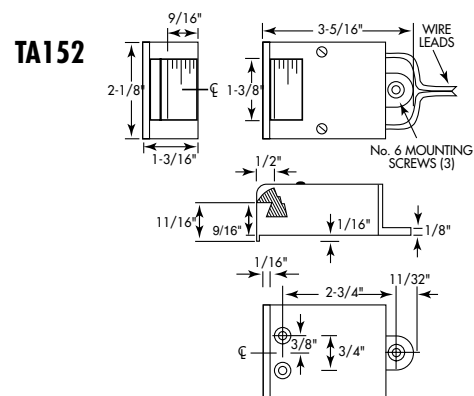
< Full selection of dome colors.  
To designate color, place desired  
letter in place of " " "

## ORDERING INFO

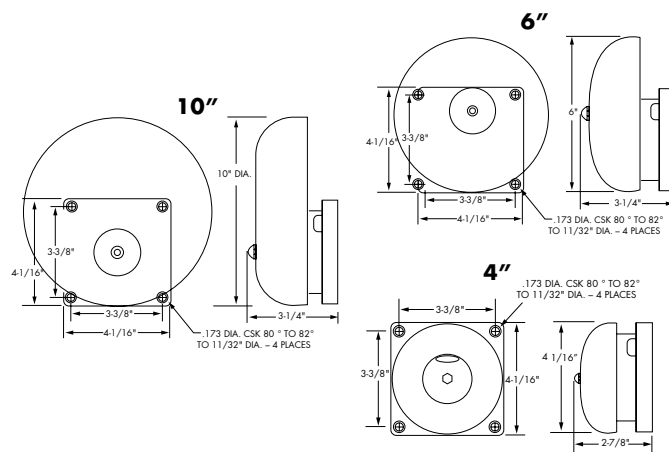
UNIT	CATALOG NO.	UPC CODE	DESCRIPTION
TA131D	TA-D8A	96971	Acrylic Dome – Amber
TA53	TA-M1	96138	12VDC Motor
TA53, TA54	TA-B1	96114	Small Drive Belts
TA53, TA54	TA-B2	96115	Large Drive Belts
TA371L	TA-B3	96116	Drive Belts
TA53, TA54	TA-L3	96129	12VDC Bulb
TA53	TA-L4	96130	24VDC Bulb
TA93-2	TA-L6-2	96982	110VAC Xenon Flash Tube
TA52	TA-L8	96134	110VAC Bulb
TA47	TA-L9	96135	110VAC Bulb
TA94	TA-L10	96136	110VAC Xenon Flash Tube
TA-94	TA-L10-1	96981	110VAC Xenon Flash Tube
TA371L	TA-L12	97625	110VAC Bulb
TA502	TA502-BX	96967	Backbox
TA502	TA502SW	96966	Replacement switch
TA503	TA503SW	96969	Replacement switchH
TA874 Series	TA-BBSF	97694	Backbox – 4" painted Dawn Mist
TA874 Series	TA-WBBF	97692	Weatherproof Backbox – .5" KO's 4" painted Dawn Mist
TA-BBSF, TA-WBBF	TA-SFPF	97707	Semi-Flush plate – Dawn Mist
TA-BBSF, TA-WBBF	TA-SFPFR	97697	Semi-Flush plate – Red
TA47, TA94	TA-ADR	96111	Acrylic Dome – Red
TA47, TA94	TA-ADA	96311	Acrylic Dome – Amber
TA47, TA94	TA-ADB	96411	Acrylic Dome – Blue
TA52, TA53	TA-D5B	96419	Acrylic Dome – Blue
TA54	TA-D6R	96120	Dome – Red
TA54	TA-D6A	96320	Dome – Amber
TA54	TA-D6C	96422	Dome – Clear
TA93, TA94	TA-D7R	96121	Fresnal Dome – Red
TA93, TA94	TA-D7A	96321	Fresnal Dome – Amber
TA93, TA94	TA-D7C	96621	Fresnal Dome – Clear
TA93, TA94	TA-D7B	96421	Fresnal Dome – Blue
TA131D	TA-D8R	96970	Acrylic Dome – Red

## DIMENSIONS

### REMOTE CONTROL DOOR OPENERS



### HEAVY DUTY BELLS





**POOL&SPA CONTROLS**

# PP PANEL SERIES

## POOL AND SPA PANELS WITH TIME SWITCHES

### APPLICATIONS

- Pumps
- Swimming pools
- Fountains
- Ponds



PP-20R-P4

PP-20R-2P4

PP-10R-M-GFCI

### FEATURES

**COMBINATION PANEL:** The PP panel series provides a flexible platform to create a custom pool and spa control at an off the shelf price. Start with a blank panel and add timers, freeze controls, circuit breakers, switches and outlets for a custom installation. Or select a pre-assembled timer/panel available in many popular combinations.

**PP-10R:** 15 amp timed GFCI protected outlet with additional GFCI outlet.

**PP-20R:** 20 amp load center 120-240V, 1/2 circuit breaker base.

**PP-100R:** 100 amp load center 120-240V, 5/10 circuit breaker base.

**PP-125R:** 125 amp load center 120-240V, 8/16 circuit breaker base.

**CONTROLS:** Freeze protection or mechanical and digital timers are all available with unique features not found elsewhere in the industry. Find specification details on pages 147 and 148.

**BREAKERS:** Listed for Cutler Hammer (BR), GE (THQL), Murray/Siemens (MP) and Square D (HOM) (not included).

**REVERSIBLE DOOR:** Easy-Hinge patented removable and reversible door. Change from left to right opening. Solves installation issues in the field.

**WHILE-IN-USE COMPARTMENT:** Inside mounting for two devices with cord exit.

**DEVICE MOUNTING:** Provision for mounting one or two devices in any combination accepts toggle, GFCI, X-10 and UPB type devices in, PP-100R and PP-125R enclosures.

**TRANSFORMER:** Select panels include 120V input: 100 watt with output 12V/13V or 300 watt with output 12V/13V/14V.

**COMPACT 2-IN-1:** PP-20R-2P1 and PP-20R-2P4 includes two timers in a compact housing. Interlock switch allows second timer to turn ON only if first timer is in operation.

**ENCLOSURE:** Metal NEMA 3R with lockable hasp. See page 153 for dimensions.

**NOTE:** "▲" = Indicates freeze protection.



PP-100R-P4



PP-125R-P4



PP-125R-P4-100X

## ORDERING INFO

CATALOG NO.	UPC CODE	CONTROL #1	CONTROL INPUT	CONTROL #2	CONTROL INPUT	ADDITIONAL INFORMATION
PP-10R-M-GFCI	53010	Mechanical 24 hour timer	120VAC	N/A		Rated for 15A, 1/2HP @ 120VAC
PP-10R-E-GFCI	53011	Digital 7 day timer	120VAC	N/A		Rated for 15A, 1/2HP @ 120VAC
PP-20R	94015	N/A	120/240VAC	N/A		Panel only. Add controls from page 147 and 148.
PP-20R-P1	53000	P1101-M	120VAC	N/A		
PP-20R-P4	53001	P1104-M	240VAC	N/A		
PP-20R-2P1	53002	P1101-2M	120VAC	Included with control #1 mechanism	120VAC	Two timers design 50A panel
PP-20R-2P4	53003	P1104-2M	240 VAC	Included with control #1 mechanism	240VAC	Two timers design 60A panel
PP-100R	94016	N/A	120/240VAC			Panel only. Add controls from page 147 and 148.
PP-100R-P4	53004	P1104-M	240VAC			Add another control from page 147 and 148.
PP-100R-P4P1	53005	P1104-M	240VAC	P1101-M	120VAC	
PP-100R-2P4	53006	P1104-M	240VAC	P1104-M	240VAC	
PP-100R-P4P4FM	53009	P1104-M	240VAC	P1104FM-M	240VAC	Timer 2 includes Fireman Switch
PP-125R	94017	N/A	120/240VAC			Panel only. Add controls from page 147 and 148.
PP-125R-P4	53007	P1104-M	240VAC			Add another control from page 147 and 148.
PP-125-2P4	53008	P1104-M	240VAC	P1104-M	240VAC	
PP-125R-P4-100X	94018	P1104-M	240VAC			Includes 100 watt Low Voltage Transformer
PP-125R-P4-300X	94019	P1104-M	240VAC			Includes 300 watt Low Voltage Transformer

# PFP SERIES

## POOL FREEZE PROTECTION

### SWIMMING POOL

### TIME SWITCHES



#### APPLICATIONS



- Pumps
- Swimming pools
- Fountains
- Ponds

#### FEATURES

**FREEZE PROTECTION ONLY:** Sensor turns on load when outdoor air temperature drops to user settable level between 33°F to 42°F. Moving water prevents costly freeze damage.

#### TIMERS WITH FREEZE PROTECTION:

Control loads with mechanical or digital timer with regular on and off schedule. Built-in temperature sensor forces load on if outdoor air temperature drops to user settable level between 33°F to 42°F.

#### COMBINATION PANEL

Combination of timers, freeze protection, breaker base, and device mountings.

PP-20R: 20 amp load center 120-240V, 1/2 circuit breaker base.

PP-100R: 100 amp load center 120-240V, 5/10 circuit breaker base.

**BEAKERS:** Listed for Cutler Hammer (BR), GE (THQL), Murray/Siemens (MP) and Square D (HOM) (not included).

**WHILE-IN-USE COMPARTMENT:** Inside mounting for two devices with cord exit.

**DEVICE MOUNTING:** Provision for mounting one or two devices in any combination accepts toggle, GFCI, X-10 and UPB type devices.

#### ORDERING INFO

CATALOG NO.	UPC CODE	CONTROL	CONTROL INPUT	NOTES
PFP2	94035	PFP2-M	240VAC	Freeze protection only
PFP3	94036	PFP3-M	120/240 w/neutral	Freeze protection only
PFP1102	94037	PFP1102-M	240VAC	Freeze protection with timer
PFP1103	94038	PFP1103-M	120/240 w/neutral	Freeze protection with timer
PFPEW1102	94039	PFPEW1102-M	240VAC	Freeze protection with Digital timer
PFPEW1103	94040	PFPEW1103-M	120/240 w/neutral	Freeze protection with Digital timer
PP-20R-F2	94033	PFP1102-M	240VAC	Freeze protection with timer
PP-100R-F2F4FM	94034	PFP1102-M & P1104FM-M	240VAC	Timer 2 includes Fireman Switch
PFPT	94028		120/240VAC	Thermostat accessory

**NOTE:** " " = Indicates Freeze Protection.

# 1100 SERIES

## SAME ON/OFF TIMES EACH DAY

## SWIMMING POOL

## TIME SWITCHES

### APPLICATIONS



- Pool pumps
- Heaters
- Lighting

### FEATURES

**SCHEDULING:** Minimum ON setting is 20 minutes with a minimum OFF setting of 75 minutes. Dial accommodates up to 12 pairs of trippers. One pair included.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF automatic operation then resumes.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	OUTPUT CONTACTS	ENCLOSURE TYPE
1101	10011	120	SPST	Metal Indoor NEMA 1
1101-M-IAP	10052	120	SPST	Mechanism and mounting plate
1104	10014	208-277	DPST	Metal Indoor NEMA 1
1104-N	10042	208-277	DPST	Noryl® Indoor/Outdoor NEMA 3R
1104-O	10017	208-277	DPST	Metal Indoor/Outdoor NEMA 3
1104-M-IAP	10051	240	DPST	Mechanism and mounting plate
1101FM-N	10043	120	SPST	Noryl® Indoor/Outdoor NEMA 3R with fireman switch
1104FM-N	10044	208-277	DPST	Noryl® Indoor/Outdoor NEMA 3R with fireman switch
1101FM-M	10043	120	SPST	Mechanism with fireman switch
1104FM-M	10044	208-277	DPST	Mechanism with fireman switch
1101D	10028	120	Two 1101 SPST each	Metal Indoor/Outdoor NEMA 3R
1104D	10029	208-277	Two 1104 DPST each	Metal Indoor/Outdoor NEMA 3R
1104DF	10032	208-277	One 1104 One 1104FM	Metal Indoor/Outdoor NEMA 3R
Replacement Trippers	Order #P47 for a pair of ON/OFF trippers Order #PF48 for a pair of ON/OFF trippers for 1100FM series			
Replacement Motor	#101 (120V) & #201 (208-277V)			

### SPECIFICATIONS

**INPUT VOLTAGE:** 120 or 208-277VAC, 60Hz (varies by model).

**TIMING ACCURACY:** Line frequency.

**TERMINAL RANGE:** #8 - #14AWG.

**OPERATING TEMPERATURE:** -40° to 165°F (-40° to +74°C).

**POWER CONSUMPTION:** 3 watt max.

**ENCLOSURE:** Lockable hasp. Type varies by model. See page 153 for dimensions and additional enclosure information.

### CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
General Purpose	120-277VAC single phase	40A
Resistive	120-277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120-277VAC	1000VA
Motor	120VAC 240VAC	2HP 5HP

# DW200B TIMER

## TWO SPEED PUMP CONTROL TIME SWITCH



### APPLICATIONS



- Two speed pumps
- SVRS device

### FEATURES

**TWO CHANNEL:** Two programmable contacts for independent control of pool equipment and SVR or coordinated control for two speed pumps.

**SCHEDULING:** 99 ON & OFF set points allow individual programs for each day of the week at a minimum 1 minute apart.

**HOLIDAYS:** 1 to 24 individual dates for preprogrammed longer run times for heavy use times.

**DAYLIGHT SAVING:** Automatic adjustment (can be omitted) for year-round pools.

**MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF, automatic operation then resumes.

**CLOCK FORMAT:** AM/PM or Military time

**POWER OUTAGE BACKUP:** Permanent schedule retention when timer is powered down at the end of the season. Super capacitor provides 7 days of real time backup.

### ORDERING INFO

CATALOG NO.	UPC CODE	TIMER SUPPLY (VAC) 60Hz	NO. OF CHANNELS	DRY CONTACTS (UNPOWERED)
DW200B	82190	120/208-240/277VAC	2	SPDT
DW200B-0	82231	120/208-240/277VAC	2	SPDT

## SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency.

**INPUT VOLTAGE:**

120/208-240/277VAC, 50/60Hz.

**TERMINAL RANGE:** #12 - #16AWG.

**OPERATING TEMPERATURE:**

-40°F to 158°F (-40°C to +70°C).

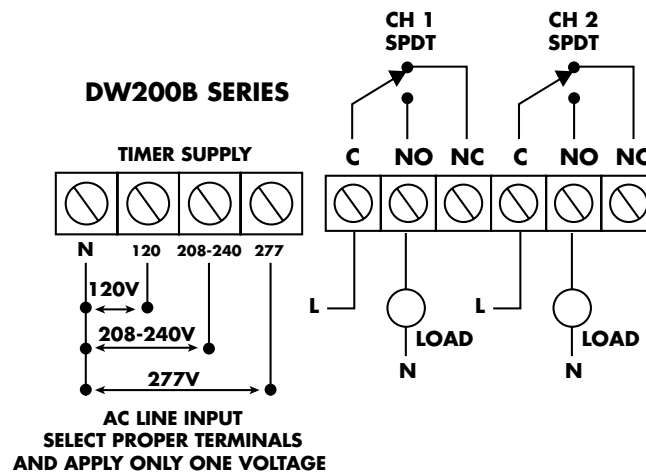
**POWER CONSUMPTION:** 5VA max.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard with lockable hasp. See page 153 for enclosure dimensions and accessories.

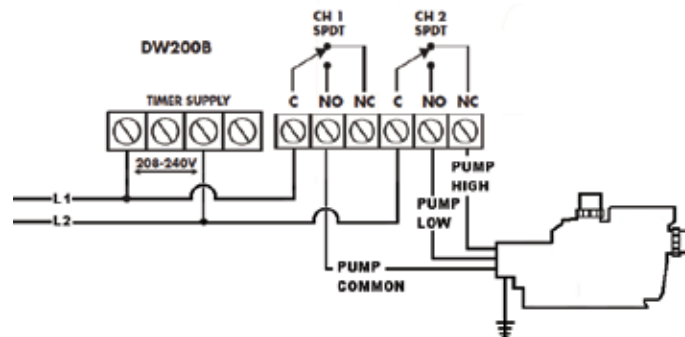
## CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING	
		NO	NC
General Purpose	24-277VAC	30A	30A
Ballast	120VAC	30A	10A
	277VAC	20A	10A
Tungsten	120-277VAC	15A	2A
Pilot Duty	120-277VAC	720VA	720VA
Motor Load	120VAC	1HP	1HP
	208-277VAC	2HP	2HP
Resistive	28VDC	30A	30A

## WIRING DIAGRAMS



## TWO SPEED PUMP WIRING



# P1100 SERIES

## SWIMMING POOL TIMERS, 24 HOUR ELECTROMECHANICAL CONTROL



- QUICK INSTALL/RELEASE LEVER:** For easy installation and removal when installing into pool panels.
- LOAD INDICATOR LAMP**
- CONVENIENT EXTERNAL ROCKER SWITCH:** 3 position switch: OFF/ON/AUTO. Use switch to turn OFF pump at the end of pool season.
- REAL TIME SWITCH FACE:** Easy to set and check time.
- CAPTIVE TRIPPERS:** 15 minute intervals, no lost trippers.
- HEATER CONTACTS:** FM suffix includes "Fireman Switch" to turn off pool heater 20-30 minutes before timer turns OFF. Contact rates SPST, 15A @120V.
- THERMOSTAT:** PFP models include built in Freeze Protection. No extra wiring. Thermostat turns on load at user settable level between 33°F and 42°F. Moving water prevents costly freeze damage.
- ACCESSORY CONTACT:** PF models include extra contact to accept PFPT Freeze Protection Accessory. Thermostat turns ON load at user settable level between 33°F and 42°F. Moving water prevents costly freeze damage.
- TIMER INTERLOCK:** Makes one second timer dependant on operation of another timer.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	CONTACTS	RESISTIVE/INDUCTIVE RATINGS	HP RATING	NOTES
PFP2-M	94026	240	DPST	40A	7.5HP @ 240V	Thermostat only
PFP3-M	94027	120/240 w/neutral	DPST	40A	3 HP @ 120V 7.5HP @ 240V	Thermostat only
P1101-M	10056	120	DPST	40A	3 HP @ 120V	
P1101FM-M	10060	120	DPST	40A	3 HP @ 120V	Fireman Switch
PF1101-M	94020	120	DPST	40A	3 HP @ 120V	Accepts PFPT thermostat input
PF1101FM-M	94024	120	DPST	40A	3 HP @ 120V	Fireman Switch & Accepts PFPT thermostat input
PFP1102-M	94022	240	DPST	40A	7.5HP @ 240V	Freeze Protection included
PFP1103-M	94023	120/240 w/neutral	DPST	40A	3 HP @ 120V 7.5HP @ 240V	Freeze Protection included
P1104-M	10057	240	DPST	40A	7.5HP @ 240V	
P1104FM-M	10061	240	DPST	40A	7.5HP @ 240V	Fireman Switch
PF1104-M	94021	240	DPST	40A	7.5HP @ 240V	Accepts PFPT thermostat input
PF1104FM-M	94025	240	DPST	40A	7.5HP @ 240V	Fireman Switch & Accepts PFPT thermostat input
P1101-2M	10058	120	DPST	40A	2HP @ 120V	Replacement for PP-20R-2P1
P1104-2M	10059	240	DPST	40A	5HP @ 240V	Replacement for PP-20R-2P4

**NOTE:** "  " = Indicates Freeze Protection.

# P1 100 SERIES

## SWIMMING POOL TIMERS, 7 DAY

### DIGITAL CONTROL



**QUICK INSTALL/RELEASE LEVER:** For easy installation and removal when installing into pool panels.

**LOAD INDICATOR LAMP**

**LARGE LCD DISPLAY**

**LARGE "MANUAL" BUTTON:** 3 operating modes available: OFF/ON/AUTO. Using the OFF mode, the pool can be closed down without disrupting the time settings.

**POWER OUTAGE BACKUP:** Battery retains time and schedule.

**7 DAY PROGRAMMING ONE MINUTE INTERVAL:** Allows for the control of various electrical equipment on a 7 day schedule. 15 schedule weekly programs.

**THERMOSTAT:** PFPEW models include built in Freeze Protection. No extra wiring. Thermostat turns on load at user settable level between 33°F and 42°F. Moving water prevents costly freeze damage.

**ACCESSORY CONTACT:** PFPEW models include extra contact to accept PFPT Freeze Protection Accessory. Thermostat turns ON load at user settable level between 33°F and 42°F. Moving water prevents costly freeze damage.

**TIMER INTERLOCK:** Makes one timer dependant on operation of another timer.

### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	CONTACTS	RESISTIVE/ INDUCTIVE RATINGS	HP RATING	NOTES
PEW101-M	82432	120	DPST	40A	3 HP @ 120	
PFEW101-M	94029	120	DPST	40A	3 HP @ 120	Accepts PFPT thermostat input
PFPEW1102-M	94031	240	DPST	40A	7.5HP @ 240V	Freeze protection included
PFPEW1103-M	94032	120/240 w/neutral	DPST	40A	3 HP @ 120V 7.5HP @ 240V	Freeze protection included
PEW104-M	82442	240	DPST	40A	7.5HP @ 240V	
PFEW104-M	94030	240	DPST	40A	7.5HP @ 240V	Accepts PFPT thermostat input

**NOTE:** "❄️" = Indicates Freeze Protection.

## POOL & SPA JUNCTION BOXES

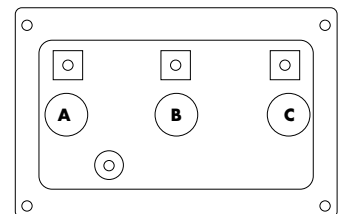


### APPLICATIONS



For installation of underwater pool lights or low voltage connections. Solid brass with grounded post and 3 ground terminals for use with metallic or PVC conduit.

### WIRING DIAGRAMS



### ORDERING INFO

CATALOG NO.	UPC CODE	NPF CONDUIT HUB A / B / C	PIPE INPUT SIZE
PB-50	94041	1/2" / 1/2" / 1/2"	1/2"
PB-75	94042	3/4" / 3/4" / 3/4"	3/4"
PB-100	94043	3/4" / 1" / 3/4"	3/4" & 1"

# SR-500 & SR-500PS



## SAFETY VACUUM RELEASE SYSTEMS



### APPLICATIONS



A Safety Vacuum Release System (SVRS) works by monitoring the vacuum on the suction side of the pool or spa pump. When a blockage occurs in the main drain or skimmer, a sudden rise in vacuum will cause the SR-500 and SR-500PS to shut down and activate an audible alarm. The pump will remain off with the alarm sounding until manually reset.

### Commercial & Residential

- Swimming pools and spas
- Fountains
- Ponds
- Any pump size

### FEATURES

#### PROTECTION:

- Provides an important layer of protection, reducing entrapment risk.
- Turns off pump in milliseconds upon detecting sudden vacuum change.
- Vacuum monitored 128 times per second, rapid response and accurate readings.
- Power monitored 50/60 times per second, insures continuous power detection.
- Newest state-of-art NEC microprocessor technology-- guaranteed reliability and performance.

**WARNING ALARM:** Multiple audible alarm capabilities — allows for quicker alert to harmful situations.

**AUXILIARY CONTACTS:** Accessible extra dry contact — auxiliary equipment can be added.

**EQUIPMENT PROTECTION:** Low vacuum sensing - (prevents cavitations or running the pump dry, eliminating costly equipment failure).

**SCHEDULING:** Programmable 24 hour timer, or as stand-alone SVRS working in conjunction with existing pool controller.

**POWER OUTAGE BACKUP:** Insures settings and reading will be saved, 30 minute rapid recharge.

**MAINTENANCE OVERRIDE:** 30 minute maintenance override - (for pool or spa service).

**BUILT-IN DIAGNOSTICS:** Displays error codes, prevents guessing during troubleshooting.

**EASY RETROFIT:** Integrates with common existing timer box Trouble free installation, no pipes to cut or glue.

**COMPLIANCE:** ASME/ANSI 112.19.17 as required by the International Building Codes (IBC) and the International residential Codes (IRC). Meets all current codes and standards for SVRSs on new and existing pools and spas.

**ENCLOSURE:** Plastic Indoor/Outdoor NEMA 3R with lockable hasp. See page 153 for dimensions and additional information.



Of all the protections you can put between your family and the risk of entrapment, the best protection is

**AT THE SOURCE.**

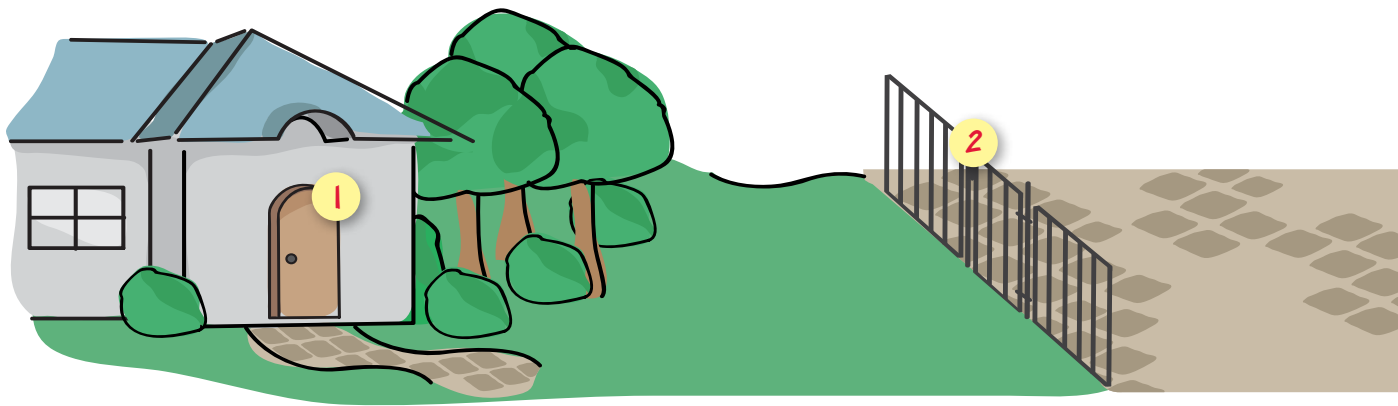


### ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60Hz	DRY CONTACTS (UNPOWERED)
SR-500	95425	120/240	DPST
SR-500PS	95426	120/240	DPST

### CONTACT RATINGS

TYPE	VOLTAGE	CONTACT RATING
General Purpose	120VAC 240VAC	20A
Motor	120VAC 240VAC	3HP



## *Make Your Pool & Spa Safer, Update your* **LAYERS OF PROTECTION**

### **1 DOOR ALARMS**

Door alarms on doors leading to the pool or spa area help to alert parents or staff to anyone entering the pool from the house or building.

Remote alarms linked to the Safety Vacuum Release System (SVRS) alert parents or attendants when the SVRS is activated, indicating that someone in the pool may need help.

### **2 FENCE & GATE**

Restrict access to a pool or spa by surrounding the area with fencing that is equip with a self-closing, self-latching gate closure. Utilize gate latches that are adjustable, magnetically operated as well as key lockable.

### **OUTSIDE THE POOL AREA**

*Keep children from  
accessing the pool  
or spa when  
unattended*

### **3 EMERGENCY STOP**

An emergency STOP button allows parents or attendants in the area to immediately and easily shut down the pump system in the event of entrapment.

### **4 SVRS**

The SVRS automatically shuts down the vacuum pump when sensing a rise in vacuum pressure – in some cases, reacting to potential entrapment conditions in **LESS THAN ONE SECOND!**

Audible alarms linked to the SVRS alert those nearby to a potential entrapment.

SVRS should meet or exceed ASME/ANSI A112.19.17 standards in order to comply with IRC and IBC codes.

### **5 DRAIN COVERS**

Minimize potential entrapments or “Differential Hold Down Forces,” thereby minimizing the potential for a swimmer to be entrapped.

Anti-entrapment drain covers should meet or exceed ASME and ANSI A112.19.8 2007 and 2007 Federal Pool & Spa Safety Act and have a Certified Safe Flow Rating. Many compliant drain covers are easily retrofitted to existing drains.

### **INSIDE THE POOL AREA**

*Minimize the  
risk of entrapment  
injuries or drowning*



**ALL ITEMS AVAILABLE FROM NSi/TORK!**

More details available in our **Safety Products** catalog and **Layers of Protection** brochure, ask your sales representative for more information.

# ANTI-ENTRAPMENT DRAIN COVERS

**NEW!**



DS360M



640-475XV



AV20X20 & AV26X26



DS12X12P



DS12X12H

## FEATURES

### DS360M DRAINSAFE

- Designed for use with suction outlet sumps up to 8" in size, will retrofit smaller 5" sumps using additional knockouts.
- Certified Safe flow of 123 GPM.
- ASME/ANSI A112.19.8 2007 Standard Compliant.

### DS12X12P DRAINSAFE

- Designed to retrofit Pentair style frames, and functions on dual drain as well as single suction outlets.
- Certified Safe flow of 250 GPM @ 1.5 FPS.
- ASME/ANSI A112.19.8 2007 Standard Compliant.

### DS12X12H DRAINSAFE

- Designed to retrofit Hayward style frames, and functions on dual drain as well as single suction outlets.
- Certified Safe flow of 250 GPM @ 1.5 FPS.
- ASME/ANSI A112.19.8 2007 Standard Compliant.

### 640-475XV WATERWAY

- Designed for single and multiple drain use, the 640-475XV works on dual drain as well as single suction outlets.
- Minimizes "Differential Hold Down Forces" of dual drain systems.
- Certified Safe flow rate of 540 GPM @ 1.09 FPS.

### AV20X20 & AV26X26 EUREKA

- Eureka drain covers unique grating system is designed for new construction and retrofit, to add protection from entrapment.
- ASME/ANSI A112.19.8 2007 Standard Compliant.
- Certified Safe flow rate of 223 GPM (20x20), 495 GPM (26x26).

## ORDERING INFO

CATALOG NO.	UPC CODE	DESCRIPTION	SURFACE AREA (SQ.IN)	RETROFIT FRAME
DS360M	95431	Drainsafe Anti-Entrapment Type Suction Outlet Cover	27	N/A
DS12X12P	95429	Drainsafe 12 x 12" Anti-Entrapment Type Suction Outlet Cover	53	Pentair
DS12X12H	95430	Drainsafe 12 x 12" Anti-Entrapment Type Suction Outlet Cover	53	Hayward
640-475XV	95432	Waterway 18 x 18" Anti-Entrapment Drain Cover	159.6	18 x 18
AV20X20	95433	Eureka 20 x 20" Anti-Entrapment Drain Cover	73.6	12 x 12 (9 x 9 minimum)
AV26X26	95434	Eureka 26 x 26" Anti-Entrapment Drain Cover	108.9	18 x 18 (12 x 12 minimum)

# SELF-LATCHING GATE CLOSURES & SELF-CLOSING GATE HINGES



**NEW!**



TCA1-MK2



TCHD1ARP-MK2



MLTPS2BGA

## FEATURES

### MAGNA-LATCH GATE CLOSURES

MagnaLatch quality latches are **self-latching** with permanent magnets which never lose power, for safer, child-resistant security for your swimming pool gate. The **Top Pull** model can be mounted so the release knob reaches the minimum code height, typically 54", on a shorter gate. It's adjustable for when the gate gets out of alignment. The **Vertical Pull** model is designed for gates and fences that are 60" or more in height.

### TRU-CLOSE GATE HINGES

TruClose® hinges are designed so the residential homeowner can quickly and easily adjust tension to support a 375lbs gate load and self-closes up to a 55lb gate, for the ultimate safety around pools and other areas **requiring self-closing gates**. Hinges are rust-free and are self-lubricating. Regular duty and heavy duty models available.

## ORDERING INFO

CATALOG NO.	UPC CODE	DESCRIPTION	FENCE MATERIAL	PACKAGING AVAILABLE
MLTPS2BGA	95439	MagnaLatch Top Pull Gate Latch		Wholesale
MLTPRP	95445	MagnaLatch Top Pull Gate Latch, 2" Gap Spacer included		Retail
MLVPS2BGA	95440	MagnaLatch Vertical Pull Gate Latch		Wholesale
MLVPRP	95444	MagnaLatch Vertical Pull Gate Latch, 2" Gap Spacer included		Retail
MLS2RPAKA	95446	Round Post Adapter Kit		Wholesale
MLSPACER	95447	MagnaLatch Gap Spacer		Retail
REGULAR DUTY MODELS				
TCA1RP-MK2	98018	TruClose® Regular Range Gate Hinge	Metal	Retail
TCA1-MK2	98026	TruClose® Regular Range Gate Hinge	Metal	Wholesale
TCA3RP-MK2	98019	TruClose® Regular Range Gate Hinge	Vinyl, Wood	Retail
TCA3-MK2	98027	TruClose® Regular Range Gate Hinge	Vinyl, Wood	Wholesale
TCAMA2RND	98024	TruClose® Regular Range Gate Hinge, adjustable gap	Round frames	Wholesale
HEAVY DUTY MODELS				
TCHD1ARP-MK2	98020	TruClose® Heavy Duty	Metal	Retail
TCHD1AL2-MK2	98021	TruClose® Heavy Duty, with 2 legs	Metal	Wholesale
TCHD2RP-MK2	98022	TruClose® Heavy Duty	Vinyl, Wood	Retail
TCHD2L2-MK2	98023	TruClose® Heavy Duty, with 2 legs	Vinyl, Wood	Wholesale
SAFETY ACCESSORIES				
SR-RA	95437	Remote Alarm		
SR-ESB	95438	Emergency Stop Button		
DS-AA	95435	Drainsafe Masonry Anchor Kit - for DS360M		
DS-MR	95436	Drainsafe Mud Rings, Universal Fit		

## POOL & SPA SAFETY ACCESSORIES



**ALL ITEMS AVAILABLE FROM NSI/TORK!**

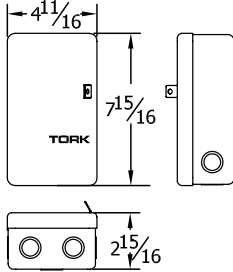
More details available in our **Safety Products** catalog and **Layers of Protection** brochure, ask your sales representative for more information.

# ENCLOSURES

## STANDARD FOR MODELS

## METAL INDOOR NEMA 1 ENCLOSURE #68229

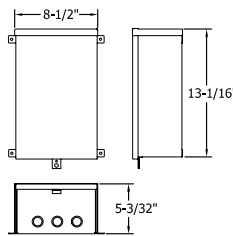
1101	7120
1102	7122
1103	8001
1104	8004
1101FM	8061
1104FM	8121
7100	8301
7102	8601
7200	8602
7202	TU40-Y
1101-7	EW201-Y
EW130B-Y	EW120B-Y



## STANDARD FOR MODELS

## METAL INDOOR/OUTDOOR NEMA 3 MODEL #9006

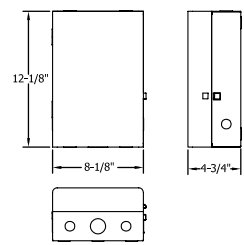
TZ220L-0	TZ300L-0
TZ300L-0	T920L-0
T930L-0	



## STANDARD FOR MODELS

## METAL INDOOR NEMA 1 ENCLOSURE #63016-1

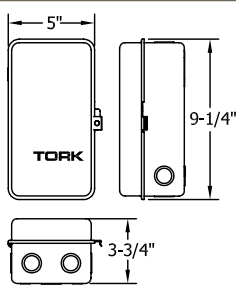
TZ220L	TW220L
TZ300L	TW300L
W300	T920L
W302	T930L
W300L	TW222L
W302L	TW302L
#62158 "E" DOOR	
T920L-E	T930L-E
TW220L-E	



## STANDARD FOR MODELS

## METAL INDOOR NEMA 1 ENCLOSURE #63100

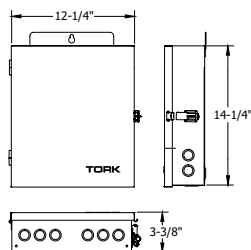
7220	1847AZL	LDS-A
7222	8007	LDSH-A
7200L	8007L	
7202L	8007V	
7120L	8150	
1847A	8150U	
1848A	8007U	
1849A	8007VL	
1847AZ	8008	
1847AL	8008L	



## STANDARD FOR MODELS

## DLC400BP

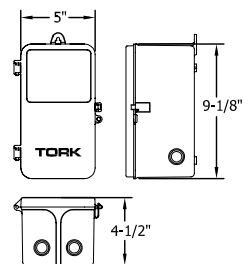
DLC400BP



## STANDARD FOR MODELS

## NORYL® & LEXAN® INDOOR/OUTDOOR NEMA 3R MODEL #9000NC

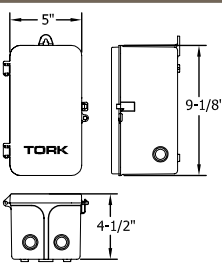
1101NC	DGLC100A-NC
1103NC	DGLC200A-NC
1104NC	
8001-NC	



## STANDARD FOR MODELS

## NORYL® INDOOR/OUTDOOR NEMA 3R MODEL #9000N

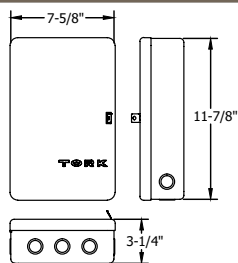
7200Z, ZL	1101-N
7202Z, ZL	1102-N
7120Z, ZL	1103-N
7122Z, ZL	1104-N
DG Series	DZS Series
8001-N	DTS Series
8001U-N	DW Series
SMC-3D	DWZ Series
DZM Series	



## STANDARD FOR MODELS

## METAL INDOOR NEMA 1 ENCLOSURE #70100

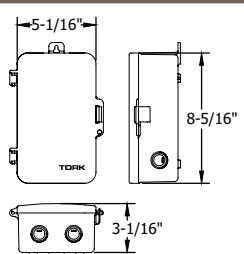
W100	W220L
W200	W222L
W202	1847AW
W120	1847AWL
W220	
W222	



## MODELS

## PLASTIC INDOOR/OUTDOOR NEMA 3R #9000P

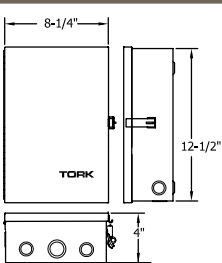
TU40	DTU40
E101PB	
E Series	
EW Series	
EWZ Series	



## STANDARD FOR MODELS

## METAL INDOOR NEMA 1 ENCLOSURE FOR W400 SERIES

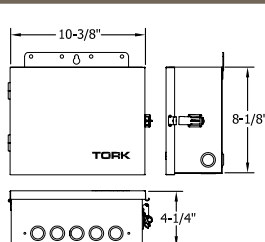
W400A	
W402A	
W400AL	



## STANDARD FOR MODELS

## METAL DUPLEX INDOOR/OUTDOOR NEMA 3 MODEL #9004L

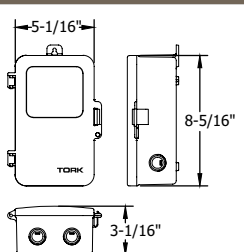
1101D	1101DF
1114D	1114DF
1104D	1104DF



## MODELS

## PLASTIC INDOOR/OUTDOOR NEMA 3R WITH CLEAR WINDOW

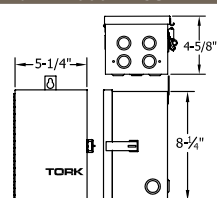
EW103B-C	EW120B-C
NEMA 1 ENCLOSURE	
STANDARD FOR MODELS	
DTWH40	



## STANDARD FOR MODELS

## METAL INDOOR/OUTDOOR NEMA 3 MODEL 9000A – SUFFIX "0"

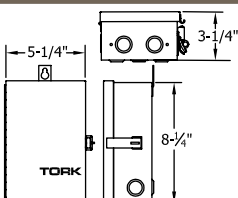
7300, L, Z, ZL	8001-0
7302, L, Z, ZL	8001U-0
8007U-0	8007-0
DZS100BP-0	DZS200BP-0
DZS200BP	DW200B-0
DZM200BP-0	5401



## STANDARD FOR MODELS

## METAL INDOOR/OUTDOOR NEMA 3 MODEL 9000B – SUFFIX "0"

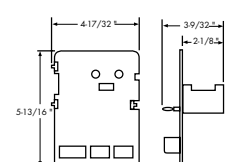
1101-0	1104-0
1102-0	7200-0
1103-0	7202-0



## MODELS

## LC200M MOUNTING WITH BRACKET

LC200M



## MODELS

## MECHANISM & MOUNTING BRACKET #62153-1

Use Bracket #64039

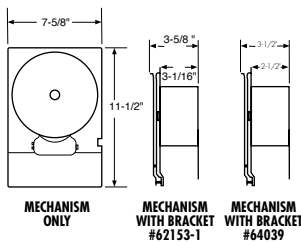
W100 W120

W200 W220

W202 W222

Use Bracket #62153-1

W300 W302



MECHANISM ONLY

MECHANISM WITH BRACKET #62153-1

MECHANISM WITH BRACKET #64039

## IAP BRACKET INTERMATIC ADAPTER PLATE

1101-M-IAP 7200

1104-M-IAP 7202

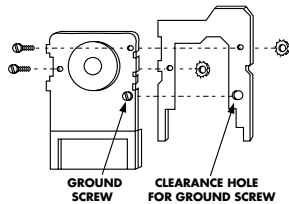
1102 7120

1103 7122

7100 E Series

7102 EW Series

EWZ Series



GROUND SCREW

CLEARANCE HOLE FOR GROUND SCREW

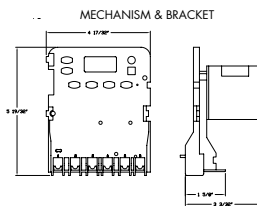
## EWZ SERIES

EWZ101-MB

EWZ103-MB

EWZ120-MB

EWZ201-MB



MECHANISM & BRACKET

## MODELS

## MECHANISM & MOUNTING BRACKET #65446

1101-M 1102-M

1103-M 1104-M

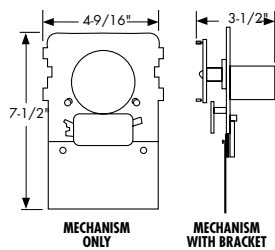
7000 Series 1847A, Z

1848A 8001-LC/WB

8601 8121

8602 8061

8301



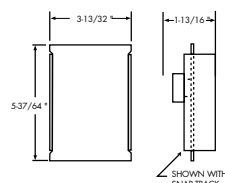
MECHANISM ONLY

MECHANISM WITH BRACKET

## MODELS

## LDS SERIES MOUNTING WITH BRACKET

LDS LDSH

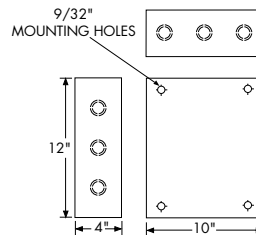


SHOWN WITH SNAP TRACK

## TRP400

TRP400

TRP402

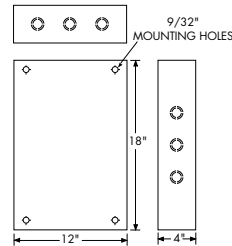


9/32" MOUNTING HOLES

## TRP800

TRP800

TRP800



9/32" MOUNTING HOLES

## ELC71 & ELC72 SERIES ENCLOSURE

ELC71PC/120

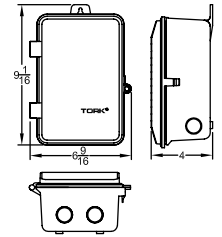
ELC71PC/208-240

ELC71PC/277

ELC72PC/120

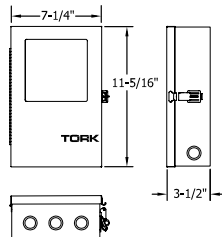
ELC72PC/208-240

ELC72PC/277



## ELC74 ENCLOSURE

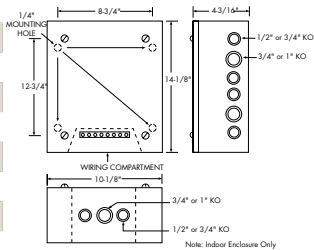
ELC74



## MODELS

## 5401 ENCLOSURE

5441



1/4" MOUNTING HOLE

1/2" or 3/4" KO

3/4" or 1" KO

WIRING COMPARTMENT

10-1/8"

3/4" or 1" KO

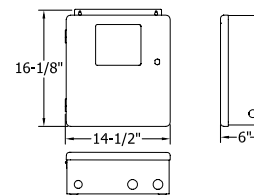
1/2" or 3/4" KO

Note: Indoor Enclosure Only

## ELC78 & ELC712 ENCLOSURE

ELC78

ELC712

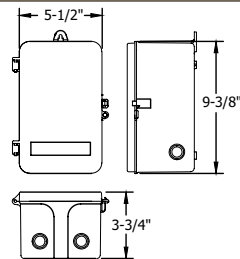


## MODELS

## STINGL SVRS ENCLOSURE

SR-500

SR-500PS



5-1/2"

9-3/8"

3-3/4"

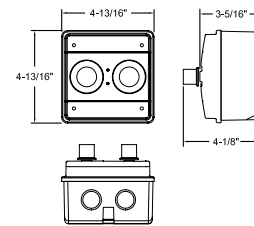
## EWJT & E500T SERIES ENCLOSURE

EJW

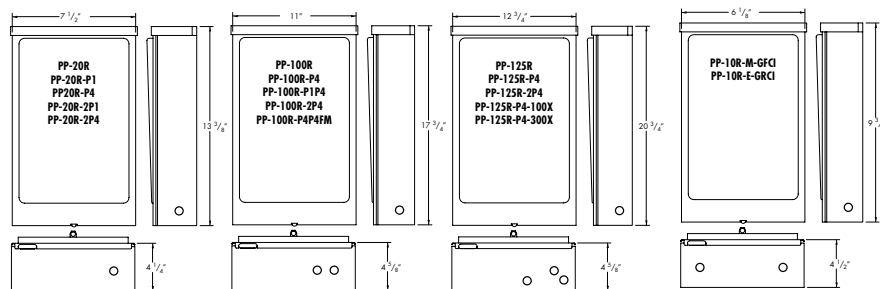
E500T

E501T

E502T



## POOL PANEL SERIES



PP-20R

PP-20R-P1

PP-20R-P4

PP-20R-2P1

PP-20R-2P4

PP-100R

PP-100R-P4

PP-100R-P1P4

PP-100R-2P4

PP-100R-P4P4FM

PP-125R

PP-125R-P4

PP-125R-2P4

PP-125R-P4-100X

PP-125R-P4-300X

PP-10R-M-GFCI

PP-10R-L-GFCI

PP-10R-E-GFCI

PP-10R-F-GFCI

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## **NOTES**



## TERMS OF SALE

**TORK VENDOR NUMBER:** 662381

1. Prices are F.O.B. our plant.
2. Prices do not include any sales tax.
3. Freight charges will be prepaid on all orders \$100.00 and over shipping within continental USA using standard shipping methods and service.
4. Minimum order – \$100.00.
5. Claims for shortage, erroneous charges or price corrections shall be deemed waived unless made in writing, delivered to NSi within 30 days of invoice.
6. Terms of payment – 2% 10th prox. net 25th following.
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NSi can provide many other products for special applications which are not listed in this catalog. If you require an item which you do not find listed, please contact us. We would be pleased to provide a quotation upon receipt of a drawing or a sample.



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## GUARANTEE

It is our goal to provide extraordinary products and services on a daily basis. If our products or service do not meet with your satisfaction, please let us know immediately and we promise to make every reasonable effort to remedy the situation.