



TORK[®]

PRODUCT CATALOG

2011

A DIVISION OF **NSi** NSi INDUSTRIES, LLC
 USA • 800.321.5847 • www.nsiindustries.com

TORK[®] POLARIS[™] EASY-TWIST[™] LIGHTING TORKALERT[™]



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.



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.



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.



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.



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.



ZONE 2: LARGE SPACE

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

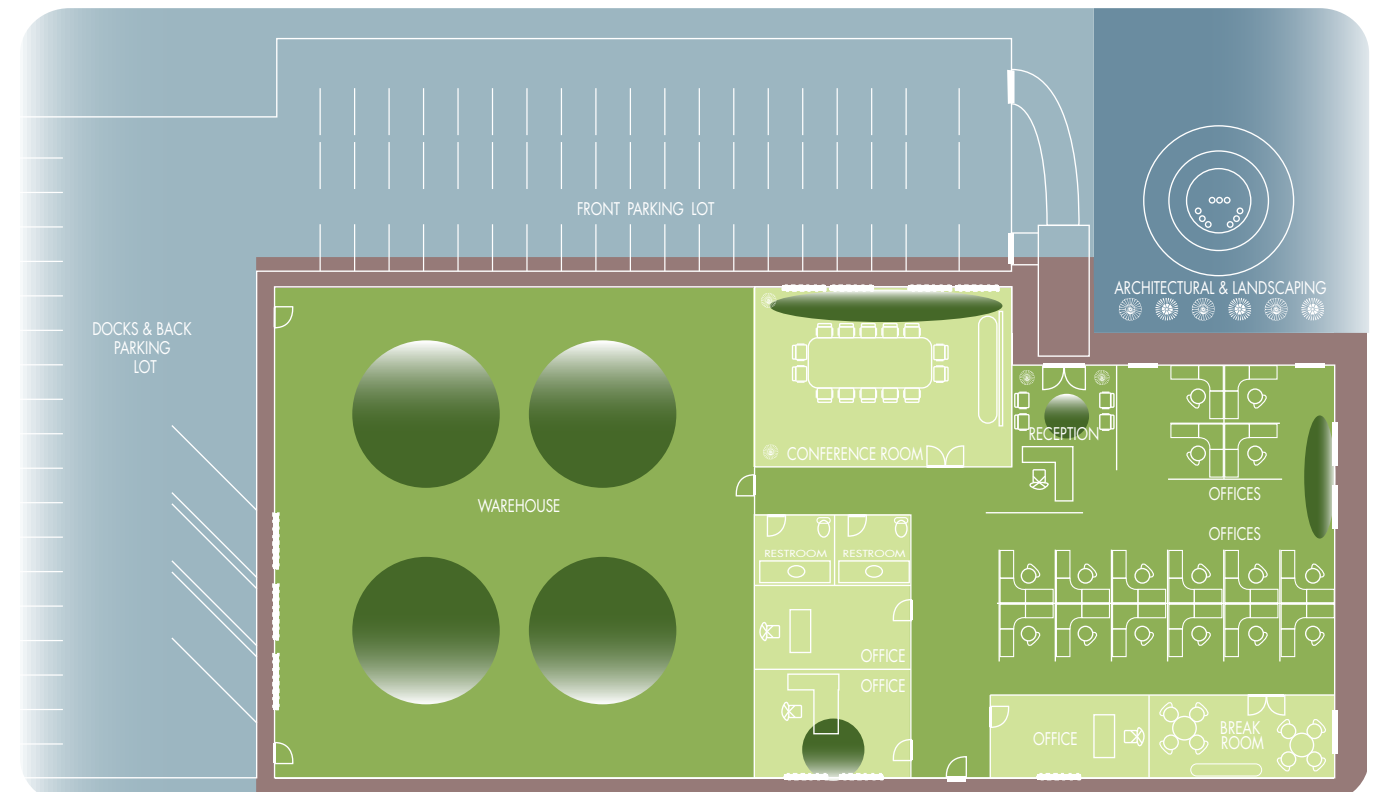
The first zone includes small spaces such as offices, restrooms and storage areas - places where people may not occupy the space continuously. Individual wall switch replacement provides low cost installation, with occupancy sensors and interval timers as the best solution. In the event that wall switches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



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).





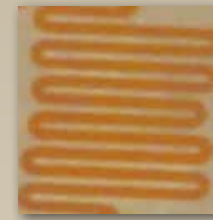
PHOTOCONTROLS

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).

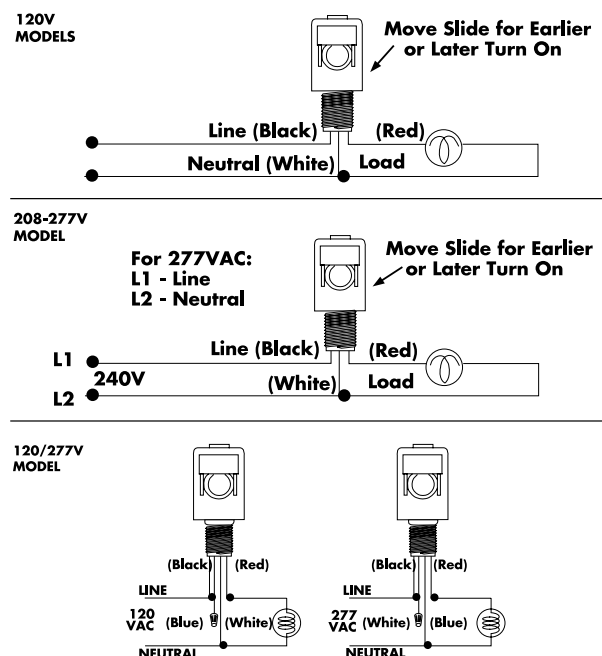
FAIL MODE: ON.

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



2110 SERIES

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



2117

2115 & 2116

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: 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.

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).

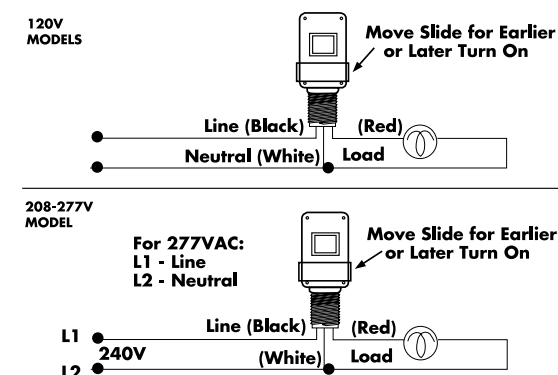
FAIL MODE: ON.

WARRANTY: 5 years.

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.

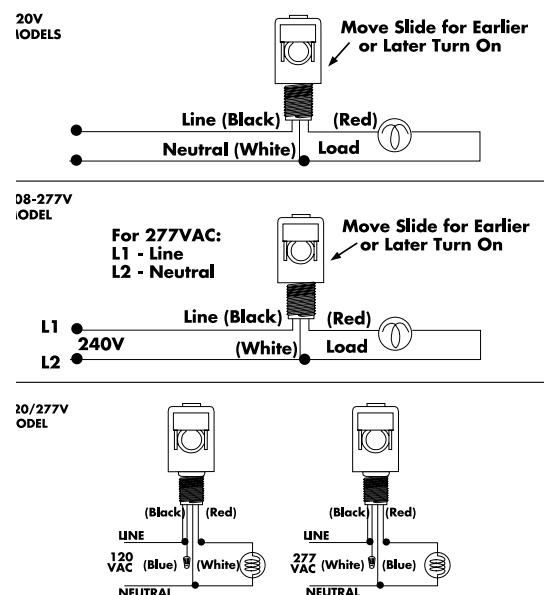
WARRANTY: 5 years.

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



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).

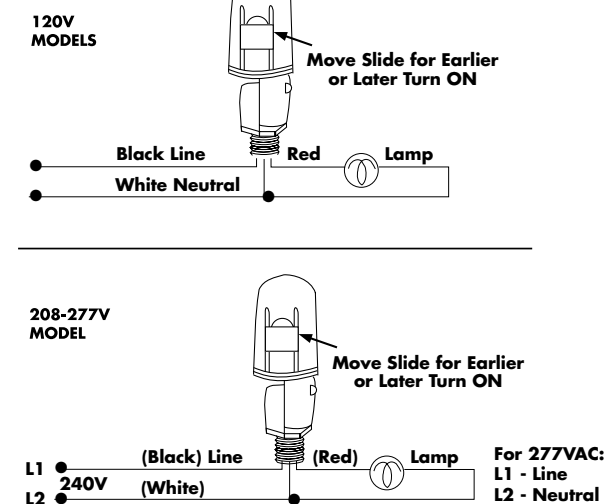
FAIL MODE: ON.

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.

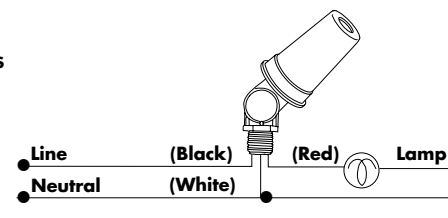
WARRANTY: 5 years.

CONTACT RATINGS

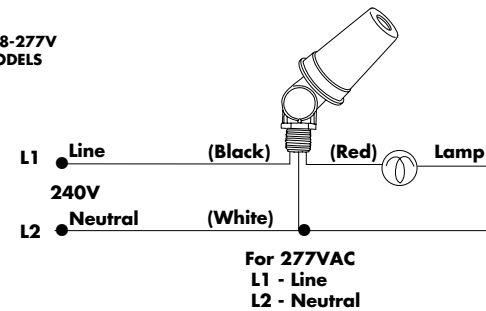
CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
2021	SPST	2000W	1800VA
2022	SPST	3470-4620W	2080-2770VA

WIRING DIAGRAMS

120V MODELS



208-277V MODELS



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.

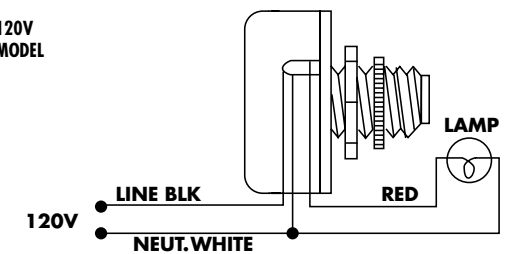
WARRANTY: 5 years.

CONTACT RATINGS

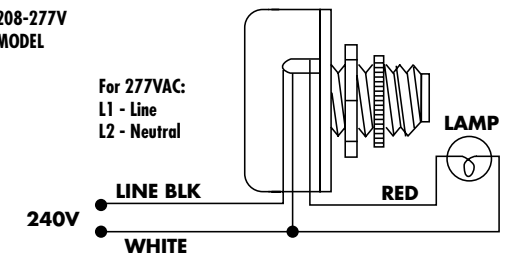
CATALOG NO.	SWITCH	RATING	
		TUNGSTEN	BALLAST
3000	SPST	2000W	1800VA
3002	SPST	3470-4620W	2080-2770VA
3006*	SPST	1500W	1200VA
3010	SPST	2000W	1800VA

WIRING DIAGRAMS

120V MODEL



208-277V MODEL



5000M SERIES

DELAYED RESPONSE UTILITY GRADE MOV SURGE ARRESTOR PHOTOCONTROL



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.

SPECIFICATIONS

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

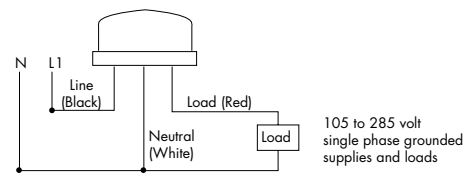
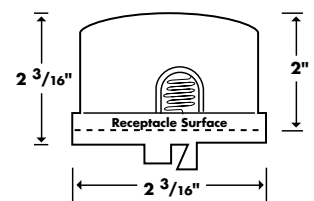
FAIL MODE: ON.

WARRANTY: 3 years.

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



105 to 285 volt
single phase grounded
supplies and loads

2005A, 2007A & 2008A

QUICK RESPONSE TURN-LOCK MOUNTING PHOTOCONTROL



APPLICATIONS



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

Complies with ANSI C136.10 and EEI NEMA standards.

FEATURES

STANDARDS: Meets ANSI C136.10 including color designations. Also meets EEI 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).

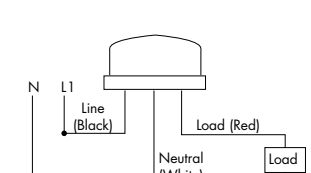
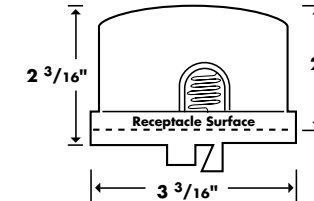
FAIL MODE: ON.

WARRANTY: 3 years.

CONTACT RATINGS

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

WIRING DIAGRAMS



105 to 285 volt
single phase grounded
supplies and loads

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.

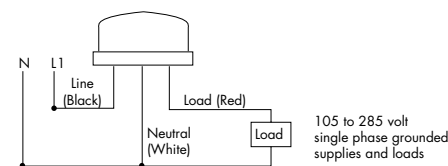
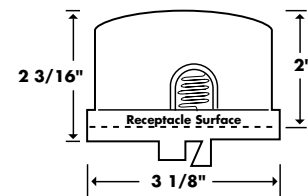
WARRANTY: 5 years.

*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 1/2" - 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

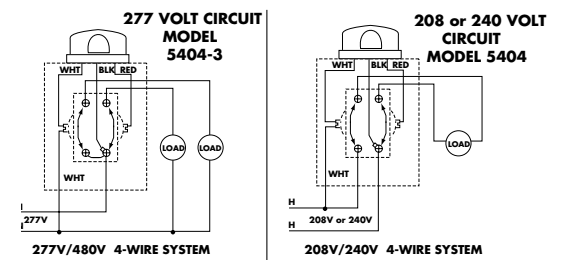
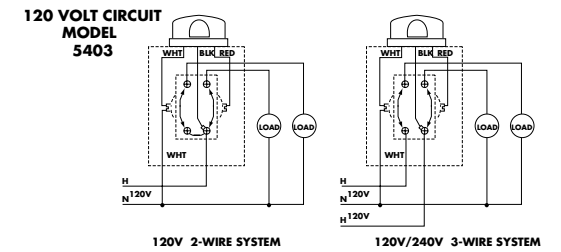
RECEPTACLE: 3-prong turn-lock meets the requirements of EEI NEMA.

POWER CONSUMPTION: Maximum 3 watts during daylight.

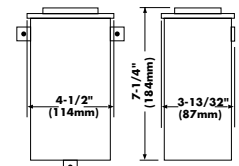
CONTACT RATINGS

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

WIRING DIAGRAMS



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 11 pm 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).

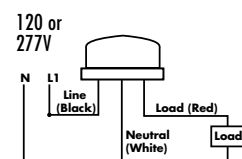
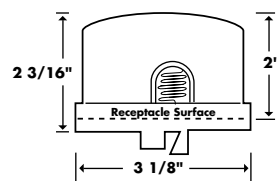
FAIL MODE: ON.

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					SPST	DPST	SPDT	DPDT		
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).

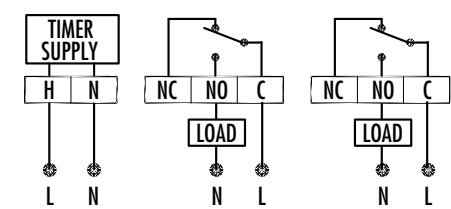
CONTACT RATINGS

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	

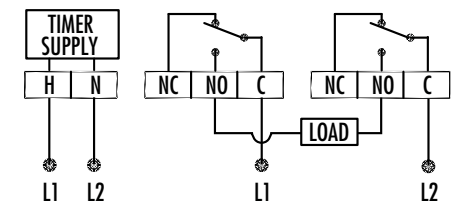
WIRING DIAGRAMS

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 1/2", 3/4" 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.

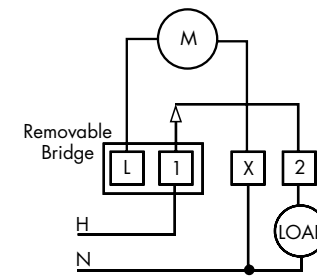
CONTACT RATINGS

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.

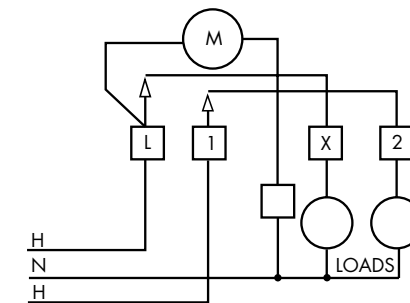
WIRING DIAGRAMS

1101 & 1102 (SPST)

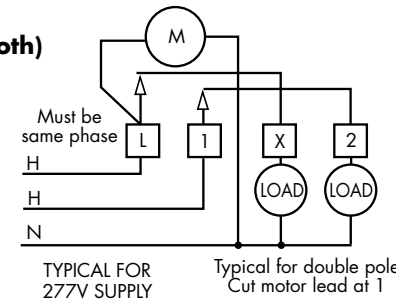
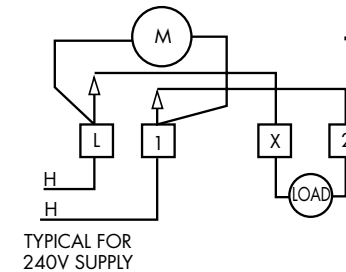


For separate motor terminals remove bridge from terminals 1 & L.

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
NEW! 7200-0	10512	120	DPST	Metal Indoor/Outdoor NEMA 3
7202	11002	208-277	DPST	Metal Indoor NEMA 1
NEW! 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.

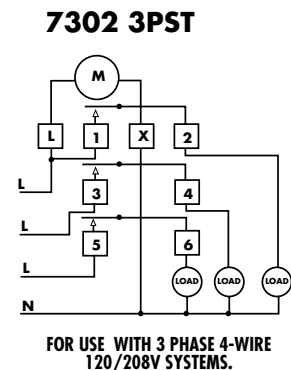
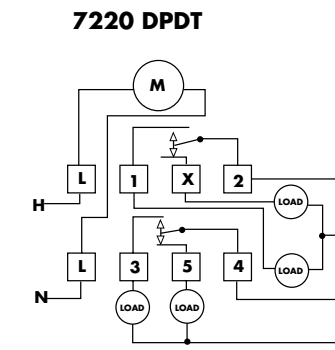
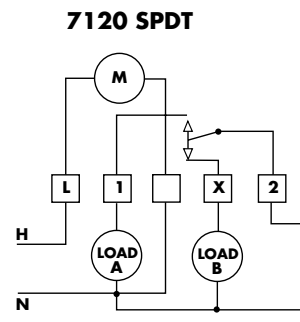
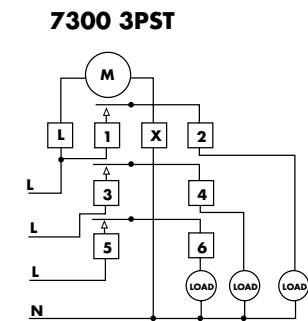
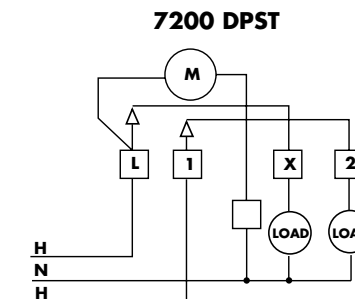
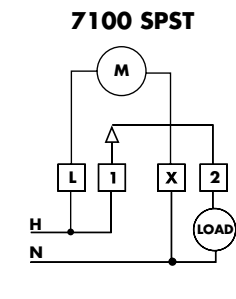
ENCLOSURE: Lockable hasp. Type varies by model (see page 153 for enclosure dimensions).

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	2HP
	240VAC	5HP

WIRING DIAGRAMS



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



CALIFORNIA Title 24
ASHRAE 90.1

APPLICATIONS



- Parking lots
 - Walkways
 - Outdoor signage
 - Window displays
 - Canopy lighting
 - Landscape lighting
- Automatic ON at dusk, OFF at dawn. Control of outdoor lighting.

ADJUSTS TO DAILY CHANGES
IN SUNSET TIMES!

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.

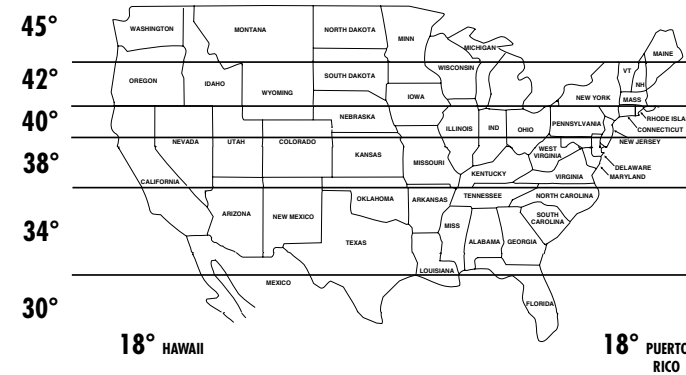
ENCLOSURE: Lockable hasp. Type varies
by model (see page 153 for enclosure
dimensions).

CONTACT RATINGS

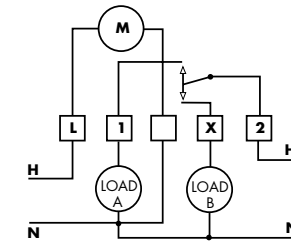
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120 -277VAC single phase	40A
Resistive	120 -277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120 -277VAC	1000VA
Motor	120VAC 240VAC	2HP 5HP

WIRING DIAGRAMS

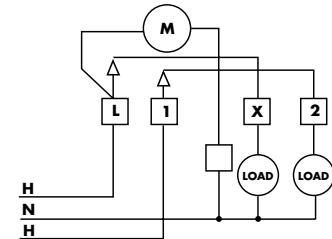
ASTRONOMIC LATITUDE ZONES



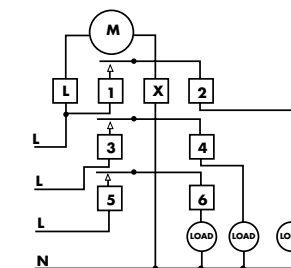
7120Z (SPDT)



7200Z (DPST)



7302 3PST



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

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.

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
NEW! 8001U-N	70014	480/120 Trans.	SPDT	Noryl® Indoor/Outdoor NEMA 3R
NEW! 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
NEW! 8007U	70008	480/120 Trans.	SPDT	Metal Indoor NEMA 1
NEW! 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.

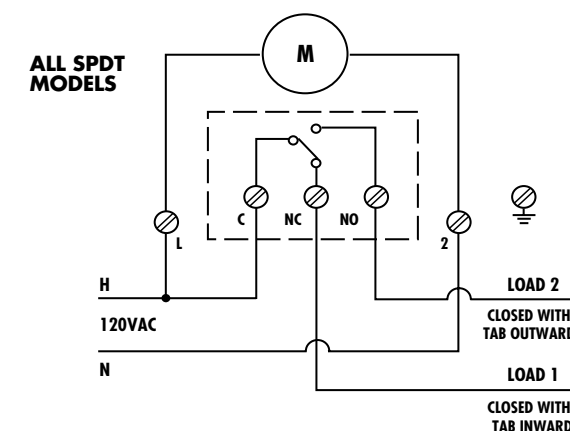
ENCLOSURE: Lockable hasp. Type varies by model (see page 153 for enclosure dimensions).

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 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.

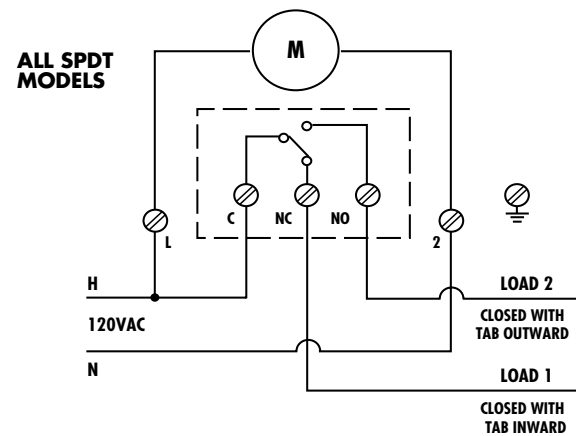
SPECIFICATIONS

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

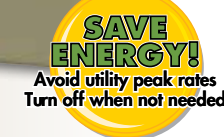
TYPE	VOLTAGE	CONTACT RATING
Resistive	120 or 240VAC	20A
	480VAC	20A
Motor	120VAC	3/4 HP

WIRING DIAGRAMS



WH2

24 HOUR WATER HEATER TIME SWITCH



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

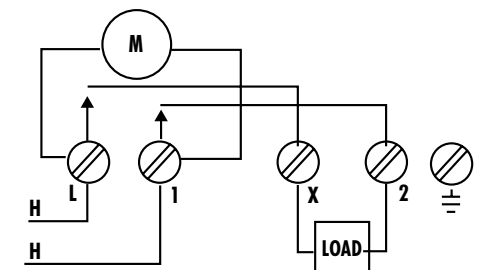
INPUT VOLTAGE: 208 – 250V 60 Hz.
TIMING ACCURACY: Line frequency.
TERMINAL RANGE: #8 - #14AWG.
OPERATING TEMPERATURE: -40° to 165°F (-40° to +74°C).
POWER CONSUMPTION: 3 watts maximum.
ENCLOSURE: Indoor NEMA 1 Metal with lockable hasp (see page 153 for enclosure dimensions).

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 CONTACTORS AND LOW VOLTAGE REMOTE CONTROL MOMENTARY CONTACT TIME SWITCH



CALIFORNIA Title 24

ASHRAE 90.1

APPLICATIONS



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

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).

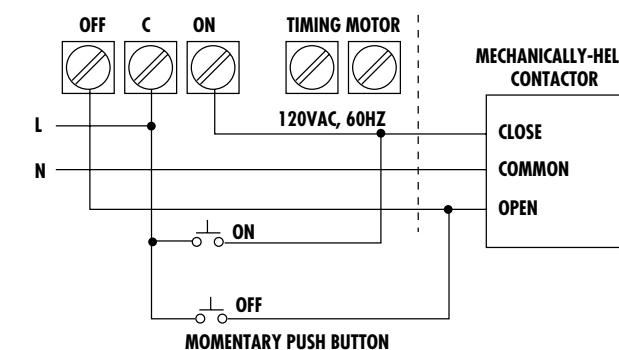
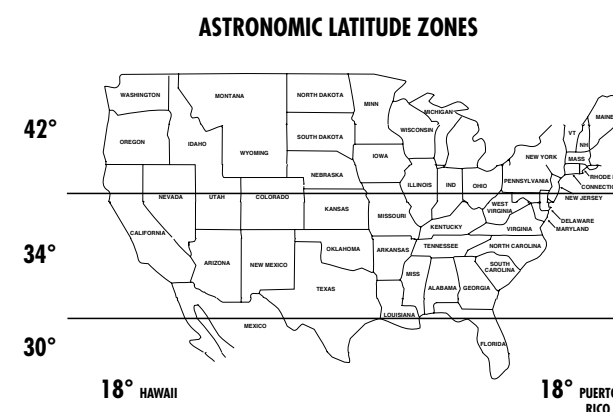
POWER CONSUMPTION: 3 watts, 5 watts for "L" models maximum.

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



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	
W400A	35001	120	4PST	Metal Indoor NEMA 1
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.

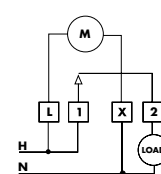
ENCLOSURE: Indoor NEMA 1 Metal with lockable hasp. Other enclosures include metal Indoor/Outdoor NEMA 3 with suffix "O" (see page 153 for enclosure dimensions).

CONTACT RATINGS

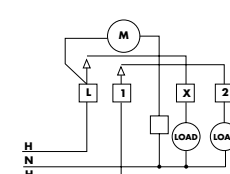
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120 -277VAC single phase	40A
Resistive	120 -277VAC single phase	40A
Tungsten	120VAC	40A
Inductive	120, 277VAC single phase	20A
Pilot Duty	120 -277VAC	1000VA
Motor	120VAC	2HP
	240 VAC	5HP

WIRING DIAGRAMS

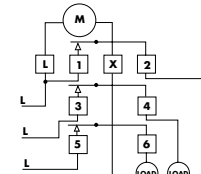
W100 (SPST)



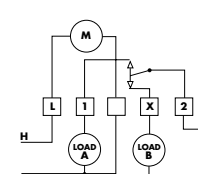
W200 (DPST)



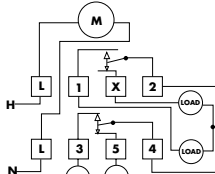
W300 (3PST)



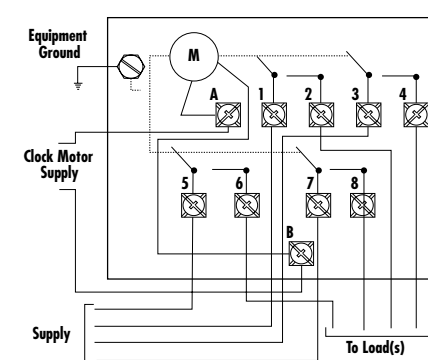
W120 (SPDT)



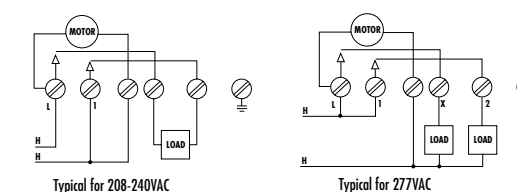
W220 (DPDT)



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 ½" - ¾" 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



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		

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.

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.

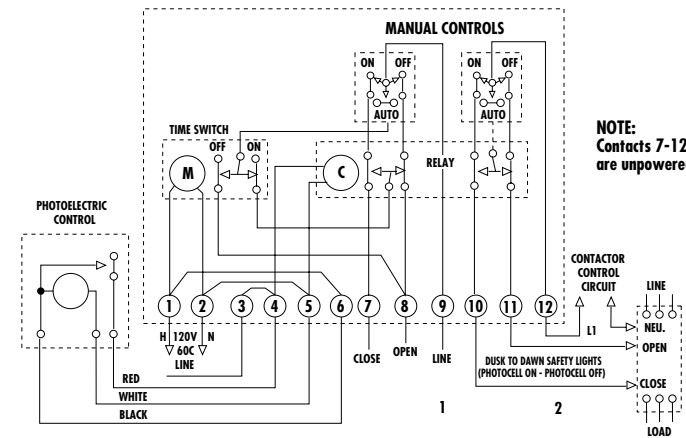
ENCLOSURE: Indoor NEMA 1 Metal with lockable hasp. Other enclosures include cover for access to by-pass switches with suffix "E" or Indoor/Outdoor NEMA 3 metal with suffix "O" (see page 153 for enclosure dimensions).

CONTACT RATINGS

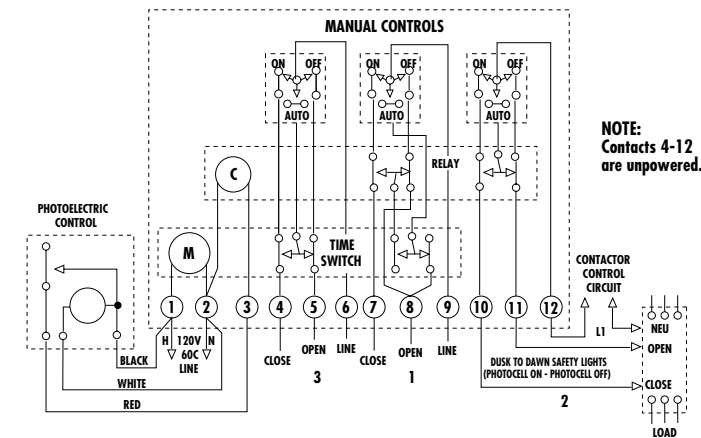
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120/277VAC	20A
Motor	120VAC	1HP
	240VAC	2HP

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.

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
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			

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).

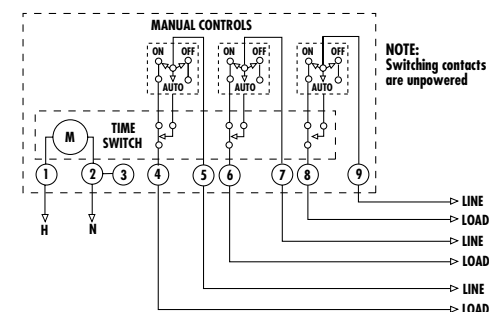
POWER CONSUMPTION: 5 watts maximum.

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

CONTACT RATINGS

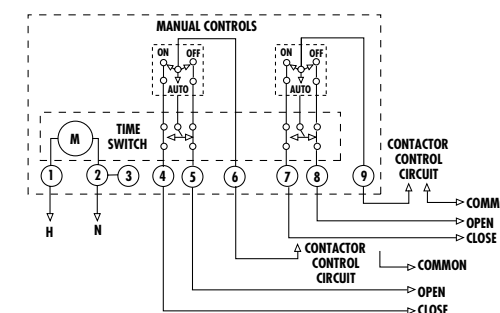
TYPE	VOLTAGE	CONTACT RATING
General Purpose	120/277VAC	20A
Motor	120VAC	1HP
	240VAC	2HP

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.

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
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.

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.

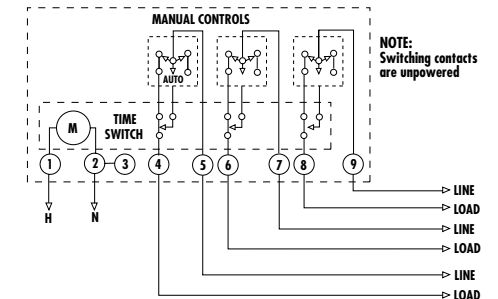
ENCLOSURE: Indoor NEMA 1 Metal with lockable hasp and for some models enclosures is Indoor/Outdoor NEMA 3 metal with suffix "0" (see page 153 for enclosure dimensions).

CONTACT RATINGS

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

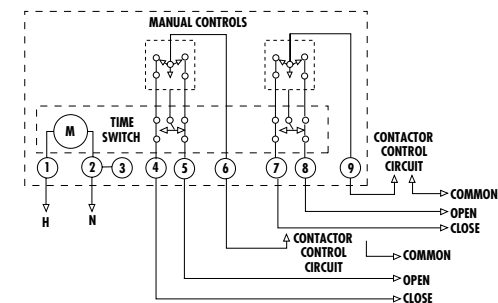
WIRING DIAGRAMS

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	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



MORE WIRING SPACE!

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.

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

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.

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).

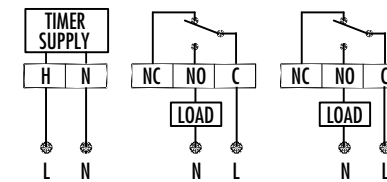
CONTACT RATINGS

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	1HP/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	

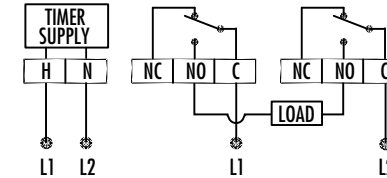
WIRING DIAGRAMS

DTWH40

Typical Wiring Diagram, 120VAC

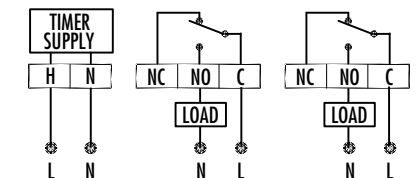


Typical Wiring Diagram, 240VAC

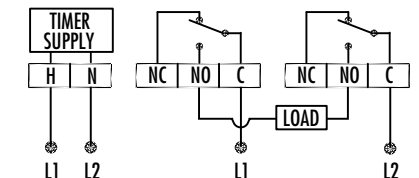


DTU40

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	82401	120-277	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).

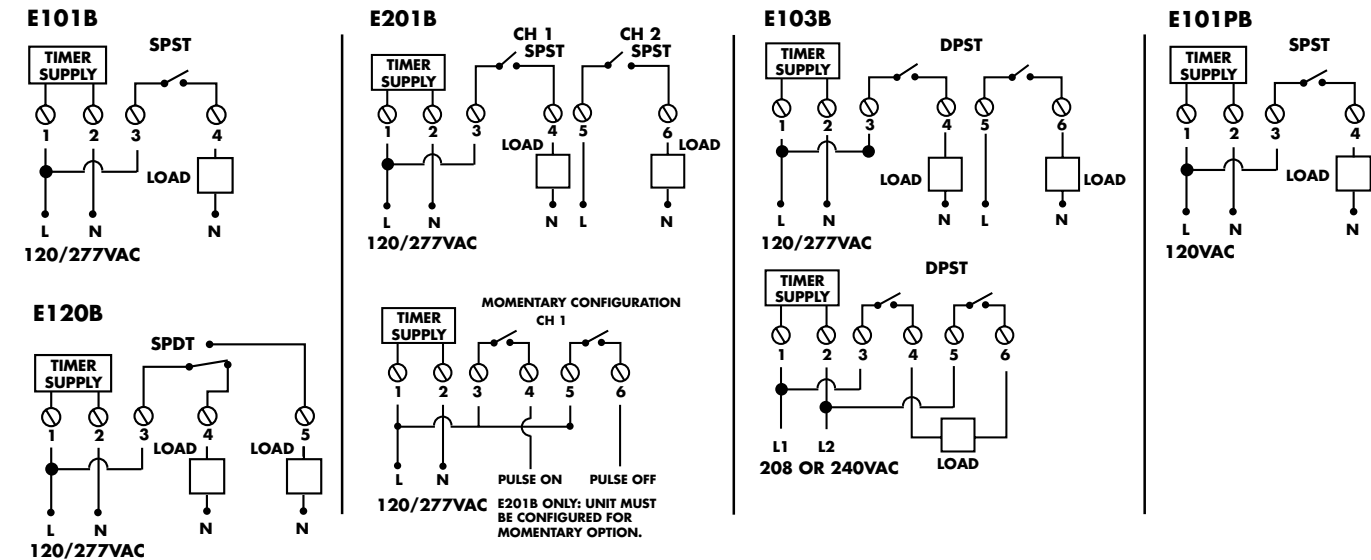
POWER CONSUMPTION: 6VA Max.

ENCLOSURE: Plastic Indoor/Outdoor NEMA 3R is standard with lockable hasp (see page 153 for enclosure dimensions).

CONTACT RATINGS

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

WIRING DIAGRAMS



SPECIFICATION WRITER'S GUIDE

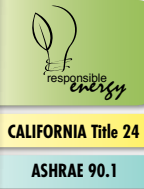
E100B only – 1. Furnish and install a TORK digital time switch with (40 Amp SPST contacts, model E101B, E201B) (40 Amp DPST contacts, model E103B) (30 Amp SPDT contacts, model E120B). 2. Unit shall be capable of 20 set points. 3. Unit shall repeat the same schedule each day. 4. (Model E201B ONLY) Unit 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



APPLICATIONS



- Outdoor signs
- Lighting security
- Heating and air conditioning

AUTOMATIC DST - SAVES TIME
CHANGES TWICE A YEAR

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.

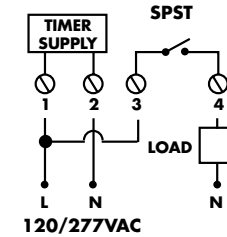
ENCLOSURE: Plastic Indoor/Outdoor NEMA 3R. Suffix -C plastic clear cover Indoor/Outdoor NEMA 3R. Suffix -Y metal Indoor enclosure NEMA 1. All with lockable hasp (see page 153 for enclosure dimensions).

CONTACT RATINGS

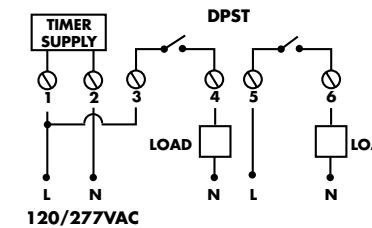
TYPE	EW101B, EW103B, EW201B		EW120B	
	VOLTAGE	RATING NO	VOLTAGE	RATING NO NC
General Purpose	120-277VAC	40A	120-277 VAC	30A 30A
Inductive	120-277VAC	40A	120-277 VAC	30A 30A
Ballast	120VAC	30A	120VAC	30A 10A
	208-277VAC	20A	208-277VAC	20A 10A
Tungsten	120VAC	15A	120VAC	15A 2A
Pilot Duty	120-277VAC	720VA	120-277 VAC	720VA 720VA
	120VAC	1HP	120VAC	1HP 1HP
Motor	208VAC	1½HP	208VAC	1½HP 1½HP
	240-277VAC	2HP	240-277VAC	2HP 2HP
Resistive	28VDC	30A	28 VDC	30A 30A

WIRING DIAGRAMS

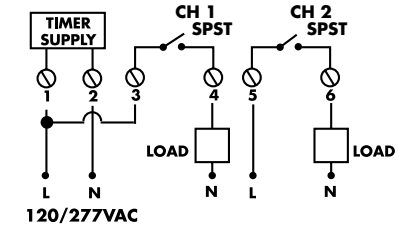
EW101B



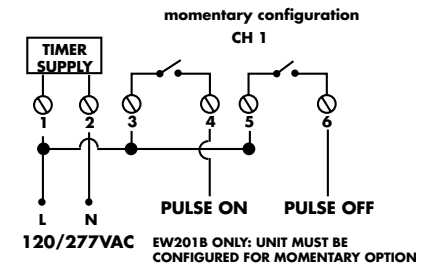
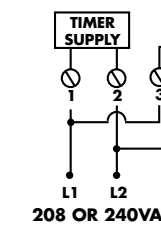
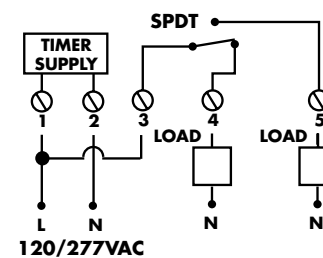
EW103B



EW201B



EW120B



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

SPECIFICATION WRITER'S GUIDE

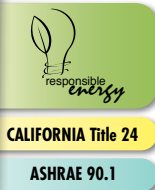
EW SERIES – 1. Furnish and install a TORK digital time switch with (40 Amp SPST contacts, model EW101B, EW210B) (40 Amp DPST contacts, model EW103B) (30 Amp SPDT contacts, model EW120B). 2. Unit shall be capable of 20 set points. 3. Unit shall be capable of a different schedule each day of the week. 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



- 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

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.

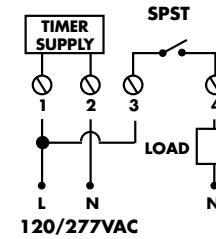
ENCLOSURE: Plastic Indoor/Outdoor NEMA 3R is standard with lockable hasp (see page 153 for enclosure dimensions). Suffix -MB without enclosure and includes mounting bracket.

CONTACT RATINGS

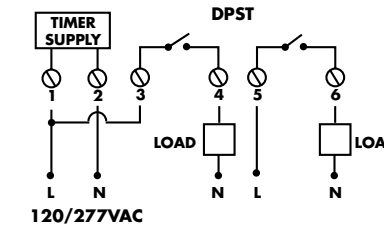
TYPE	EWZ101, EWZ103, EWZ201		EWZ120	
	VOLTAGE	RATING NO	VOLTAGE	RATING NO NC
General Purpose	120-277VAC	40A	120-277 VAC	30A 30A
Inductive	120-277VAC	40A	120-277 VAC	30A 30A
Ballast	120VAC	30A	120VAC	30A 10A
	208-277VAC	20A	208-277VAC	20A 10A
Tungsten	120VAC	15A	120VAC	15A 2A
Pilot Duty	120-277VAC	720VA	120-277 VAC	720VA 720VA
	120VAC	1HP	120VAC	1HP 1HP
Motor	208VAC	1½HP	208VAC	1½HP 1½HP
	240-277VAC	2HP	240-277VAC	2HP 2HP
Resistive	28VDC	30A	28 VDC	30A 30A

WIRING DIAGRAMS

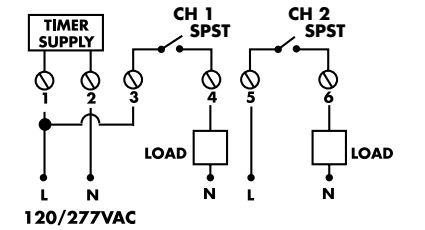
EWZ101



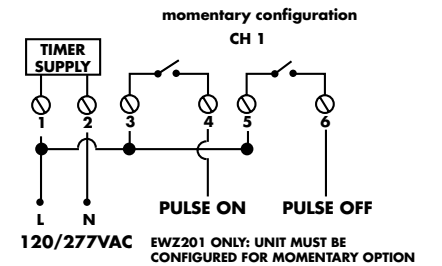
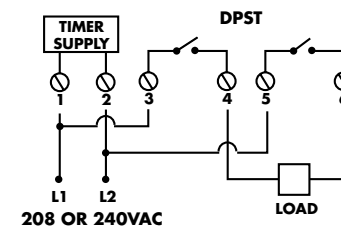
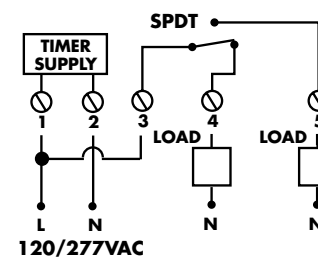
EWZ103



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 have astronomic option adjustable from 1° - 60° northern or southern latitudes. 5. Unit shall 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



NEW!

CALIFORNIA Title 24

ASHRAE 90.1

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).

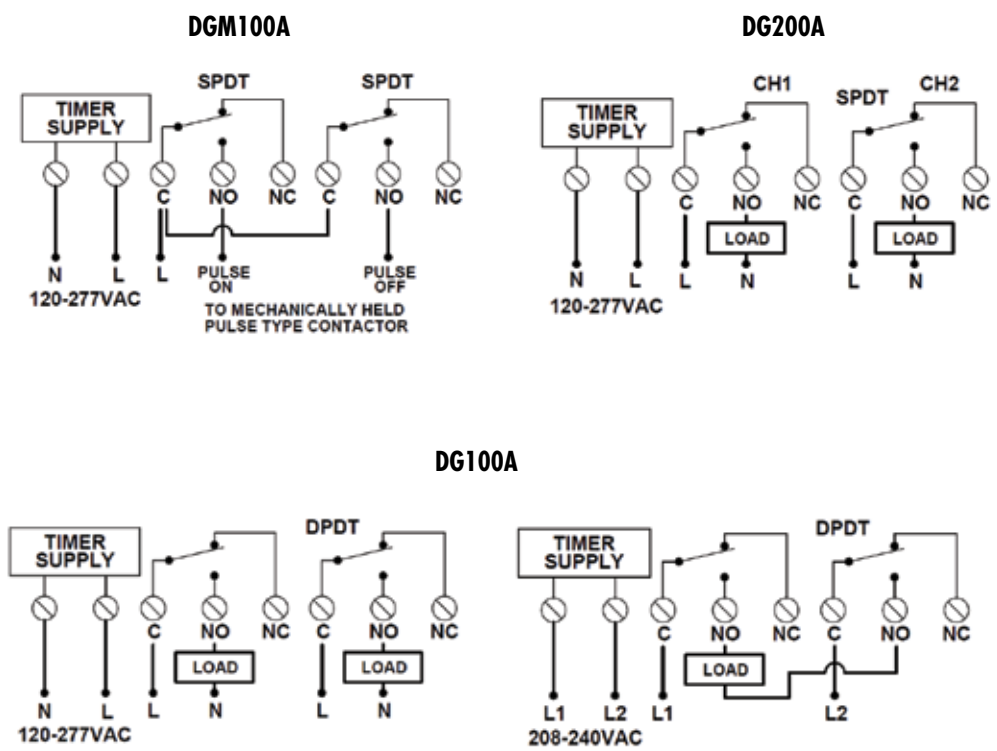
POWER CONSUMPTION: 6VA Max.

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 TORC Model DG100A (DG200A). 13. To order momentary contact closure for latching contactor control specify DGM100A.

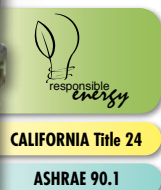


DZS SERIES

MULTIPURPOSE CONTROLS

1, 2 OR 4 CHANNEL

365 / 7 DAY ADVANCED TIME SWITCH



APPLICATIONS



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

REMOVABLE MEMORY MODULE FOR COMPUTER PROGRAMMING!

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

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.

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).

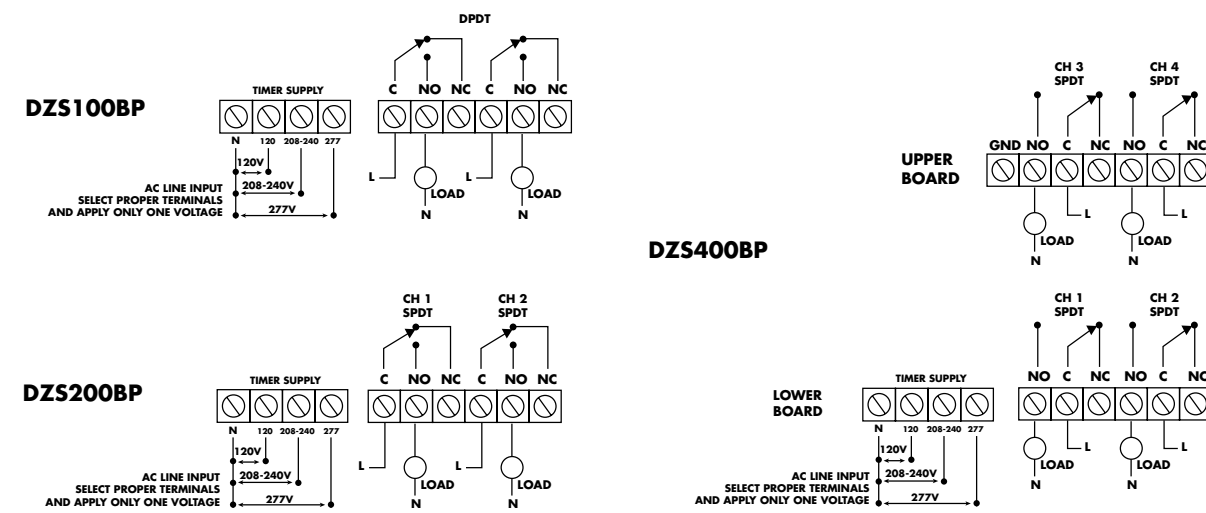
POWER CONSUMPTION:
5VA Max: DZS100/200BP.
6VA Max: DZS400BP.

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 277VAC	30A 20A	10A 10A	120-277VAC	13A	
Tungsten	120-277VAC	15A	2A	120VAC	8A	
Motor Load	120VAC 208-277VAC	1HP 2HP	1HP 2HP	120-277VAC	1HP	1HP
Pilot Duty	120-277VAC	720VA	720VA	12-277VAC	720VA	720VA
Resistive	28VDC	30A	30A			

WIRING DIAGRAMS



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 TORC Model DZS100BP (DZS200BP) (DZS400BP).

DTS SERIES

MULTIPURPOSE CONTROLS

1, 2 OR 4 CHANNEL

365 / 7 DAY ADVANCE

TIME SWITCH



CALIFORNIA Title 24

ASHRAE 90.1

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

MAINTAINED AND SIGNAL TIMING

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

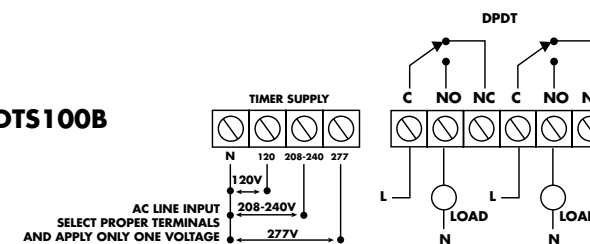
TYPE	DTS100B, DTS200B			DTS400B		
	VOLTAGE	RATING NO	RATING NC	VOLTAGE	RATING NO	RATING NC
General Purpose	24-277VAC	30A	30A	24-277VAC	20A	20A
Ballast	120VAC	30A	10A	120-277VAC	13A	
	277VAC	20A	10A			
Tungsten	120-277VAC	15A	2A	120VAC	8A	
Pilot Duty	120-277VAC	720VA	720VA	12-277VAC	720VA	720VA
Motor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

WIRING DIAGRAMS

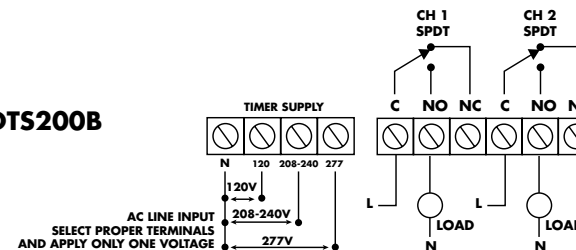
ORDERING INFO

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

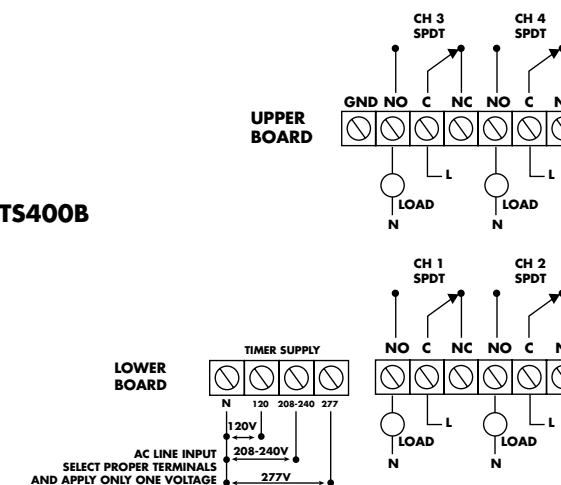
DTS100B



DTS200B



DTS400B



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



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.

SPECIFICATION FAVORITE!

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).

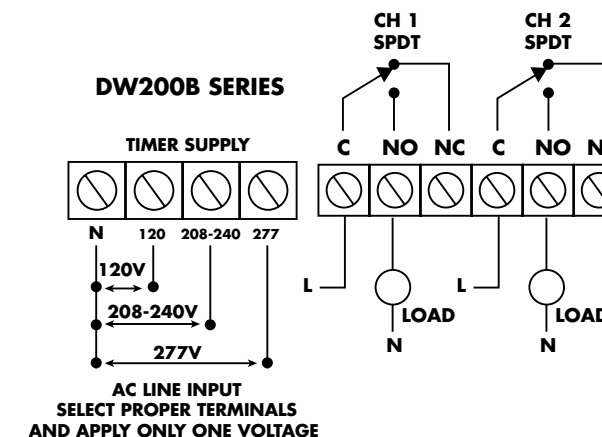
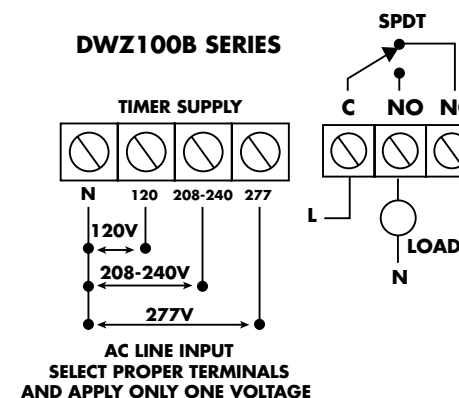
CONTACT RATINGS

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

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

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

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

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.

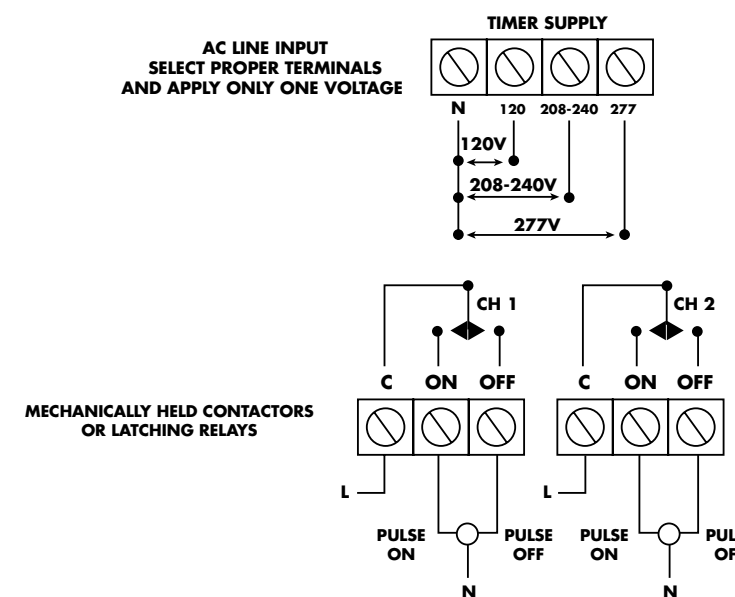
ENCLOSURE: Noryl® Indoor/Outdoor NEMA

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.

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).

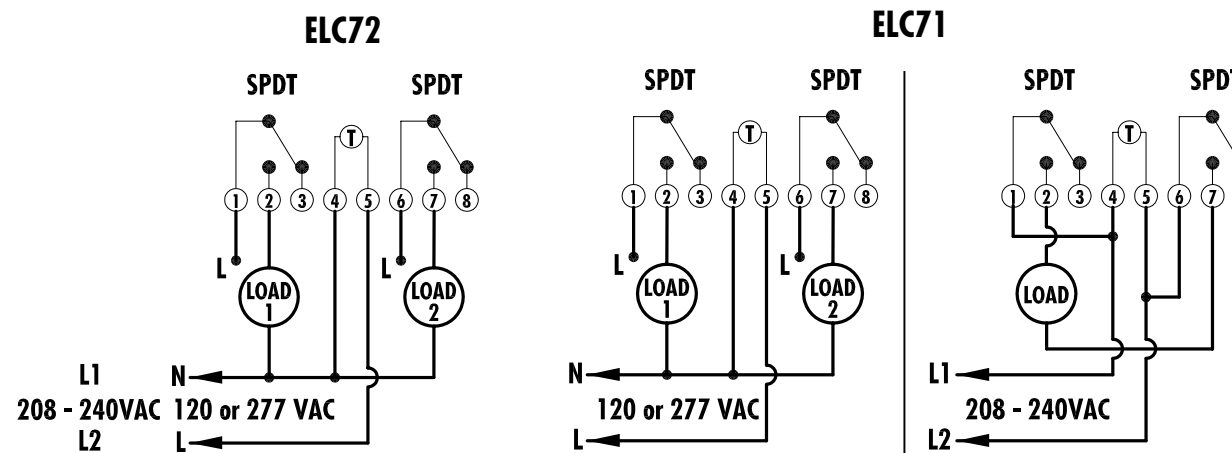
POWER CONSUMPTION: 6VA Maximum.

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



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.

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).

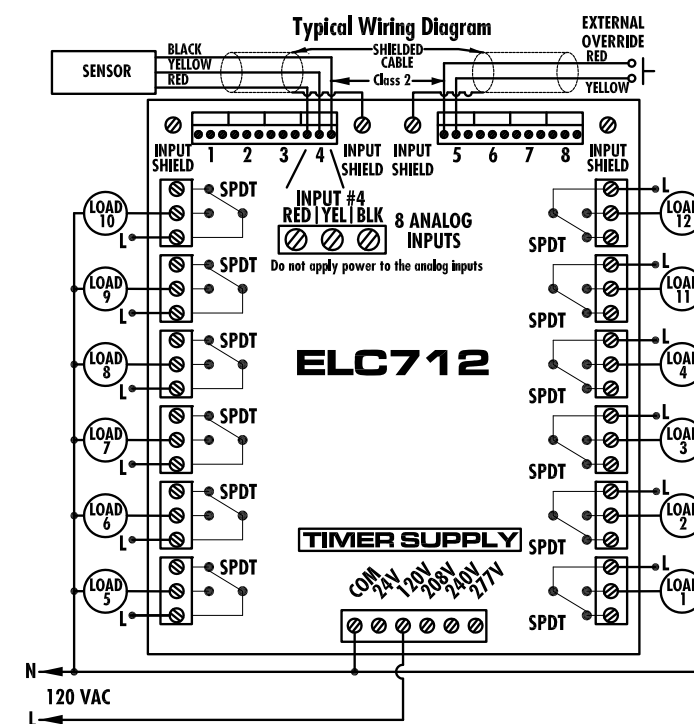
POWER CONSUMPTION: 10VA Maximum.

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 208-277 VAC	20A 10A	10A 3A
Tungsten	120-277VAC	5A	
Pilot Duty	120-240VAC	470VA	275VA
Motor	120VAC 208-277VAC	1HP 2HP	1/4HP 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.

- 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

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.

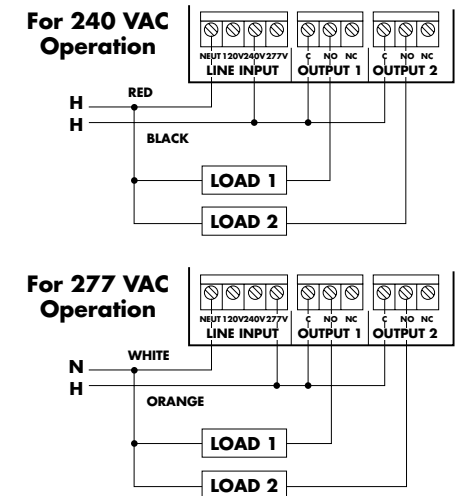
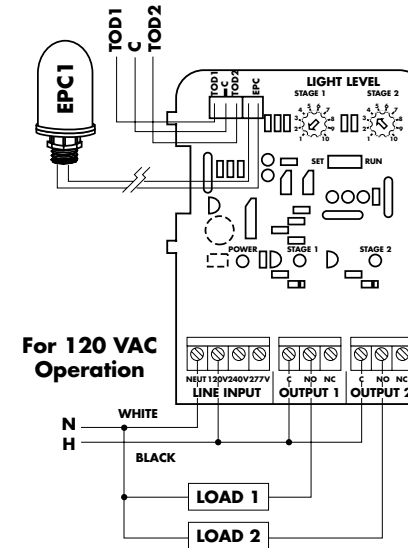
ENCLOSURE: LC200 includes metal Indoor NEMA 1 with lockable hasp (see page 153 for dimensions).

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



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

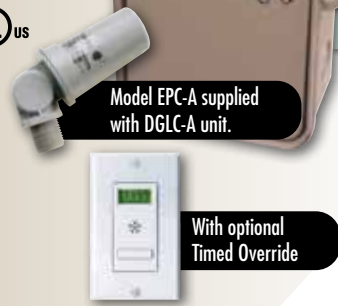
LIGHTING CONTROL WITH PHOTO OR OVERRIDE INPUT, 7 DAY 7 DAY LIGHTING CONTROL TIME SWITCH

NEW!



CALIFORNIA Title 24

ASHRAE 90.1



Model EPC-A supplied with DGLC-A unit.

With optional Timed Override

APPLICATIONS



INTERIOR LIGHTING

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

EXTERIOR LIGHTING

- Signage and store windows
- Security
- Parking lots

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.

CODE SOLUTION FOR SMALL PROJECTS

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

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).

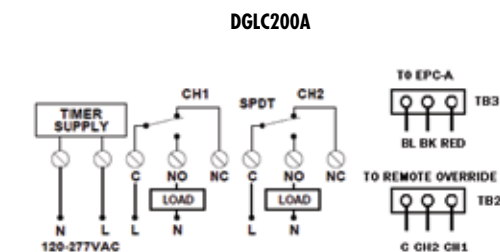
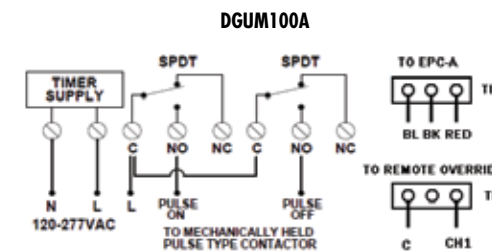
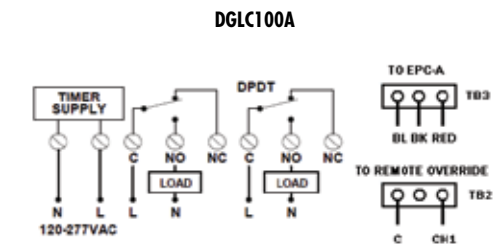
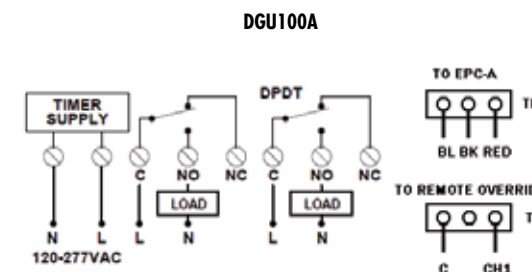
POWER CONSUMPTION: 6VA Maximum.

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

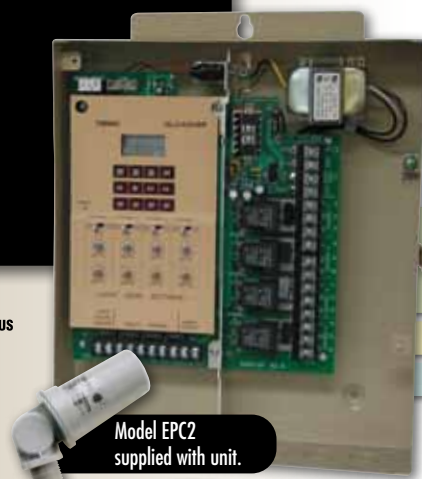


SPECIFICATION WRITER'S GUIDE

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



Model EPC2 supplied with unit.

Memory Module Programmer optional

With optional Timed Override

APPLICATIONS



INTERIOR LIGHTING

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

EXTERIOR LIGHTING

- Signage and store windows
- Security
- Parking lots

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 +/- 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.

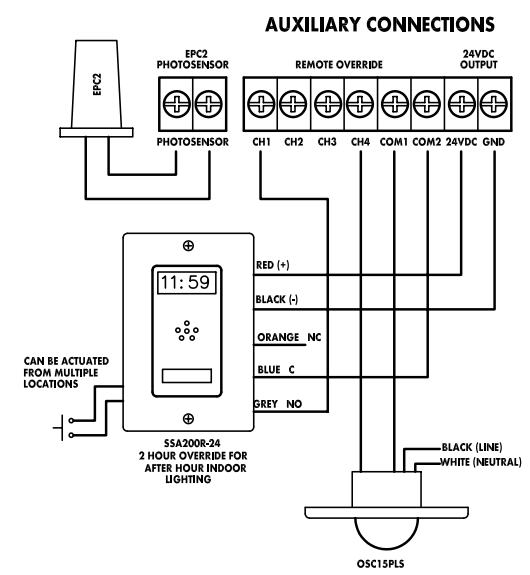
TERMINAL RANGE: #10 - #14AWG.

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).

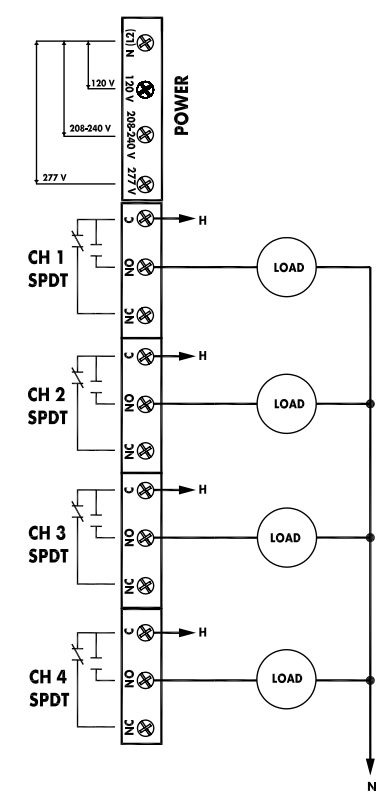
WIRING DIAGRAMS



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

TORK DIGITAL CONTROL TERMINAL BLOCK



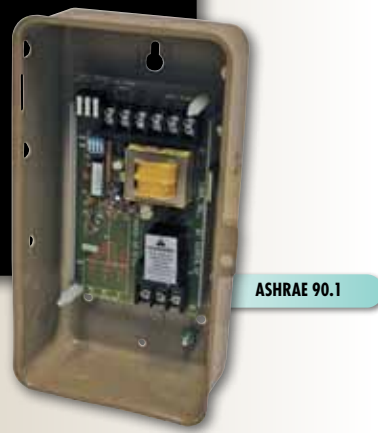
SPECIFICATION WRITER'S GUIDE

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

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.

ADD A WARNING BLINK
TO ANY CONTROL

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.

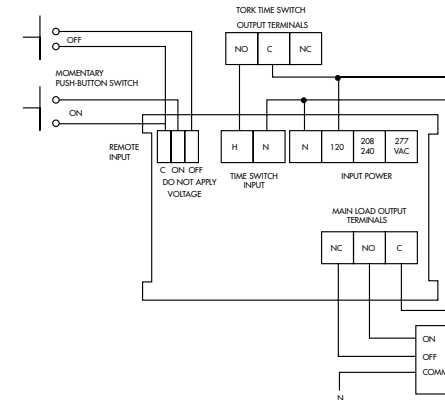
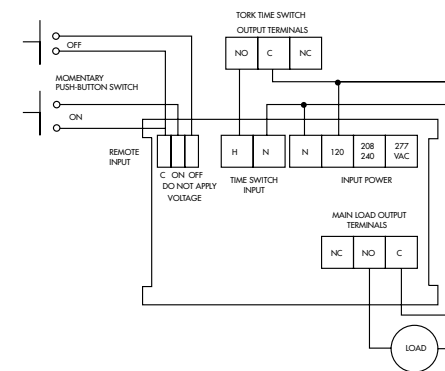
ENCLOSURE: Metal Indoor NEMA 1 with lockable hasp (see page 153 for dimensions).

CONTACT RATINGS

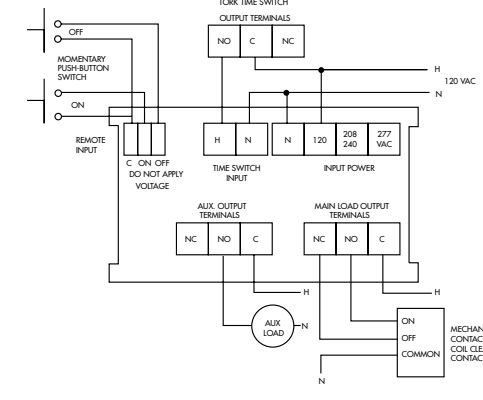
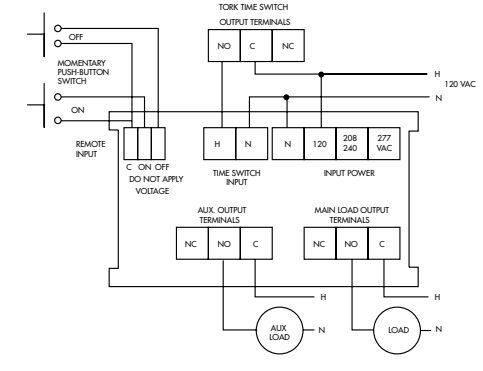
TYPE	VOLTAGE	RATING	
		NO	NC
General Purpose	24/240VAC	20A	10A
	277VAC	20A	3A
Ballast	120VAC	20A	10A
	208-277VAC	10A	3A
Tungsten	120-277VAC	5A	3A
Pilot Duty	120-240VAC	470VA	275VA
	27VAC	690VA	
Resistive	28VDC	20A	10A

WIRING DIAGRAMS

LDS WIRING



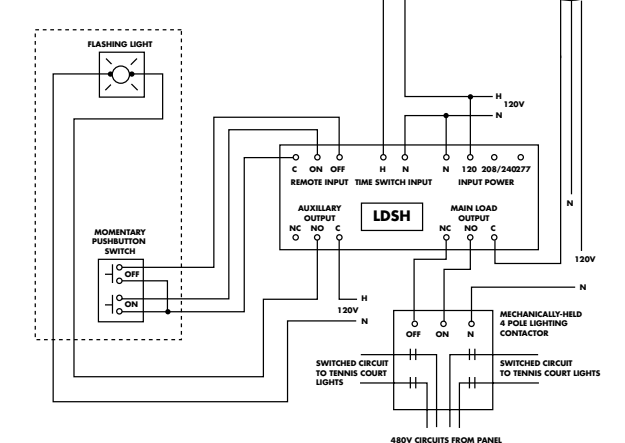
LDSH WIRING



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).

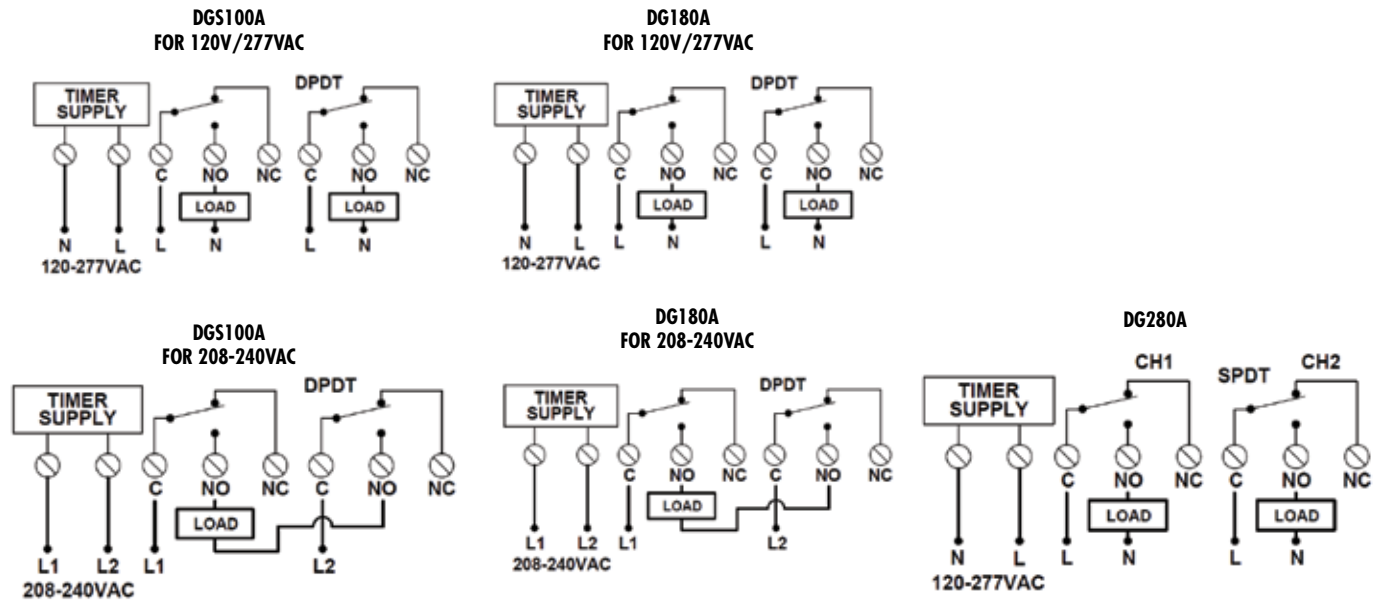
POWER CONSUMPTION: 6VA Maximum.

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



- 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

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).

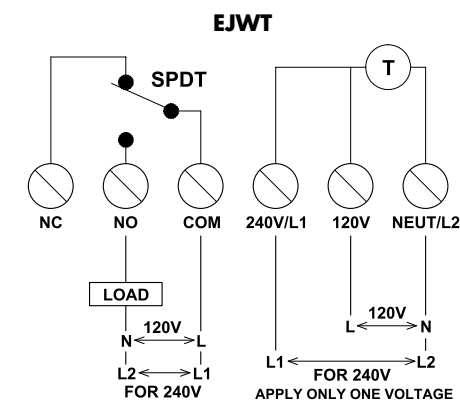
POWER CONSUMPTION: 1.6VA Maximum.

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

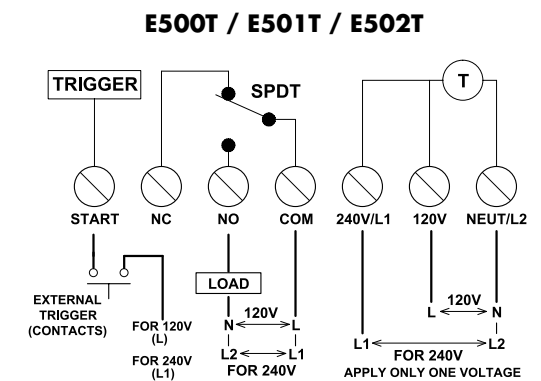
CONTACT RATINGS

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.

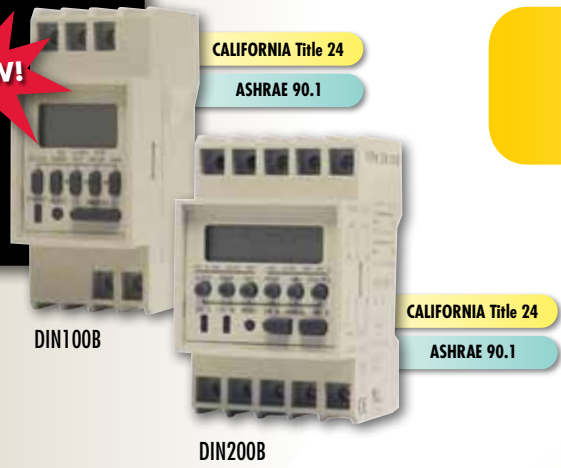


Use copper conductors. For supply connections use AWG #12 wire rated for at least 90°C (194°F) or equivalent.

DIN SERIES

1 OR 2 CHANNEL 7 DAY TIME SWITCH

NEW!



PANEL BUILDERS CHOICE

APPLICATIONS



- 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

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.

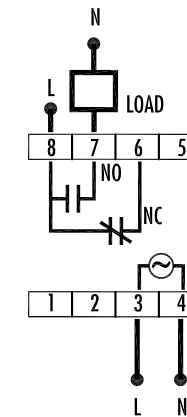
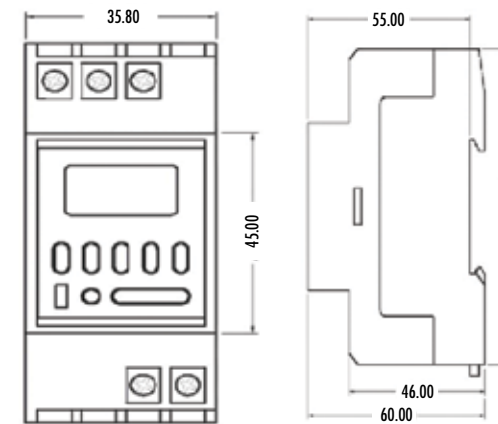
MOUNTING: DIN rail #50022 (35mm) or flat surface using supplied adapter.

CONTACT RATINGS

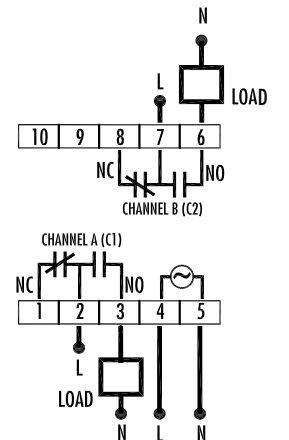
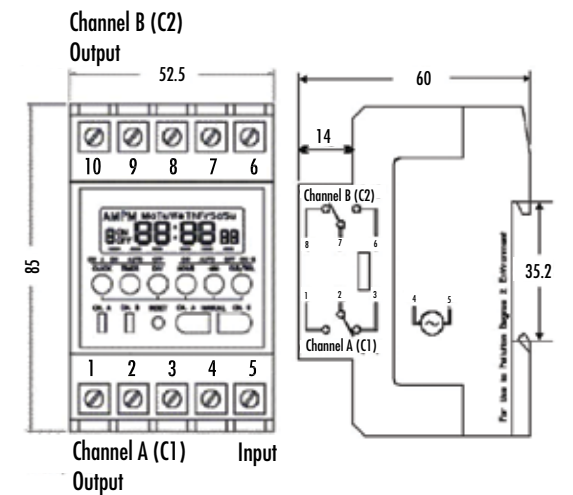
TYPE	VOLTAGE	RATING	
		NO	NC
Resistive	120VAC	16A	16A
General Purpose	120VAC	8A	8A
Motor (DIN100 only)	120VAC	1/2HP	

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).

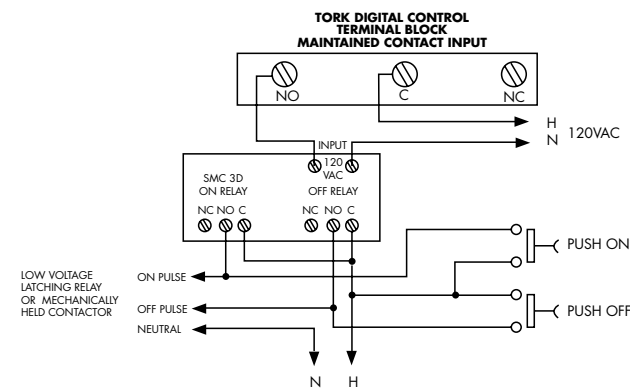
ORDERING INFO

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



5401

5441

APPLICATIONS

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

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.

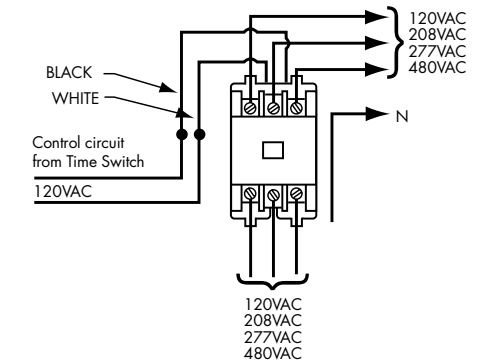
ENCLOSURE: 5401 - Metal NEMA 3 enclosure. 5441 - Metal NEMA 1 Indoor enclosure (see page 153 for enclosure dimensions).

ORDERING INFO

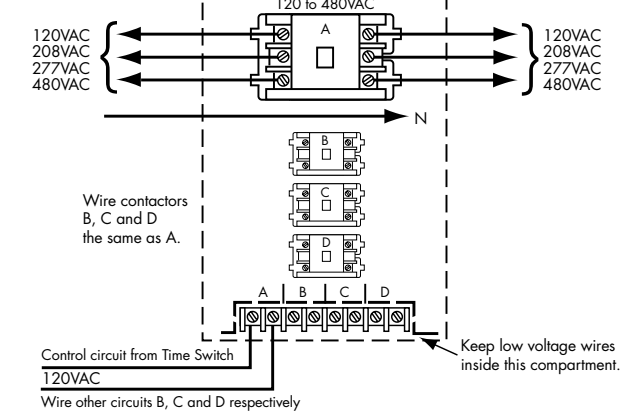
CATALOG NO.	UPC CODE	COIL VOLTS	NO. OF CONTACTORS	OUTPUT CONTACTS
5401	81021	120	1	3PST
5441	81022	120	4	3PST

WIRING DIAGRAMS

5401



5441



HPS STARTER FOR HIGH PRESSURE SODIUM LAMPS STARTING AID



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.

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).

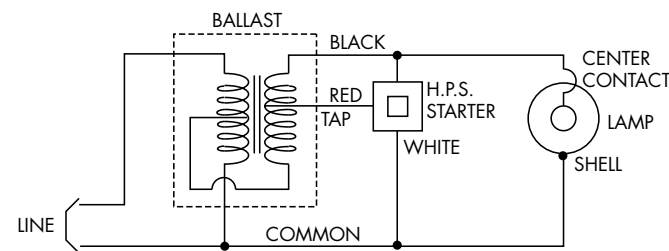
LEAD LENGTH: 9 inches.

ENCLOSURE: Durable, high temperature Lexan® housing.

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).

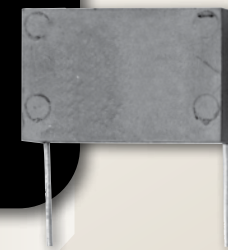
ORDERING INFO

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



SPECIFICATIONS

TIMING ACCURACY: Line frequency.

INPUT VOLTAGE: 125VAC, 60Hz.

WIRE SIZE: #14AWG.

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

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.

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	1HP
Electronic Ballast	120VAC	500VA

SS700Z & SS721Z SERIES

SUNSET / SUNRISE, ASTRONOMIC 7 DAY IN-WALL TIMER



NEW!



CALIFORNIA Title 24

ASHRAE 90.1

With wall plate (not included)

APPLICATIONS



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

BACKUP WITHOUT BATTERY, ECO FRIENDLY!

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).

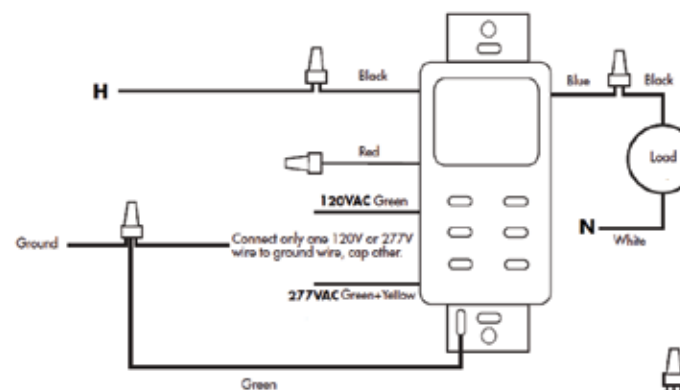
OPERATING TEMPERATURE: 32°F to +104°F (0°C to + 40°C).

CONTACT RATINGS

TYPE	SS700Z SERIES		SS721Z SERIES	
	RATING	VOLTAGE	RATING	
Resistive	16A	120/277VAC	16A	
Ballast	10A	120/277VAC	13A	
Tungsten	8A	120VAC	8A	
Pilot Duty	360VA	120VAC	720VA	
Motor	1/2HP	120VAC	1HP	

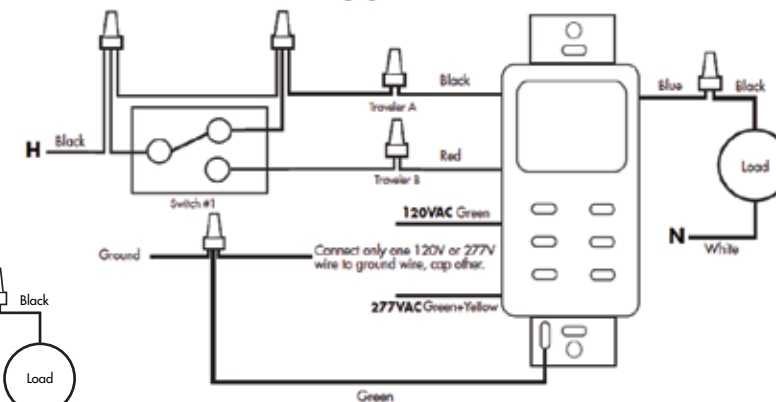
WIRING DIAGRAMS

WIRING DIAGRAM: INSTALLATION SS700Z

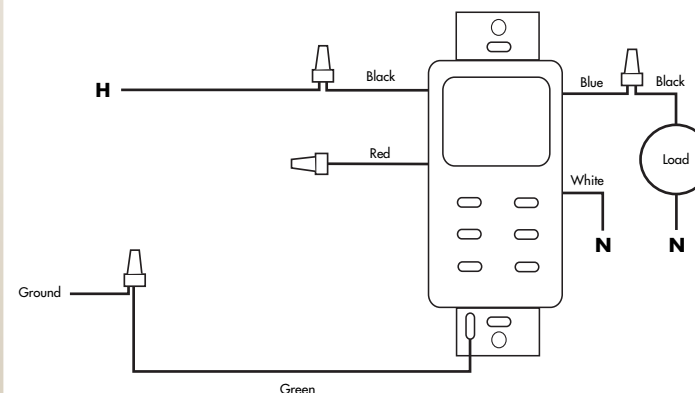


WIRING DIAGRAM: THREE-WAY INSTALLATION SS700Z

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

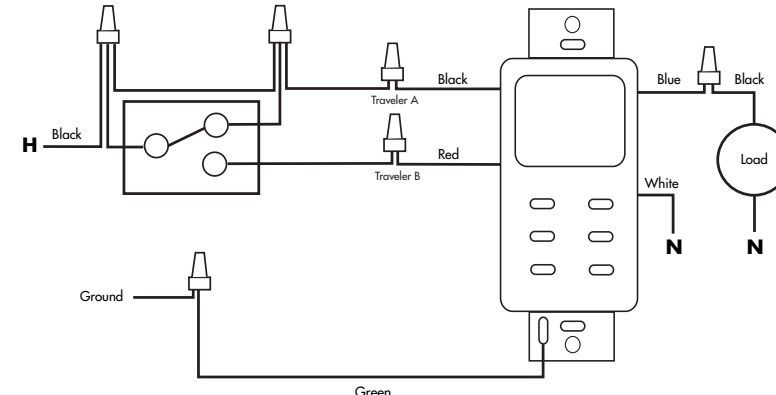


WIRING DIAGRAM: INSTALLATION SS721Z



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



APPLICATIONS



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

SPECIFICATIONS

INPUT VOLTAGE: 125VAC, 60Hz.
WIRE SIZE: #14AWG.
OPERATING TEMPERATURE: 32°F to +104°F (0°C to +40°C).

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.

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 277VAC	800W 1200W
	Motor	120VAC	1/8HP
	Pilot Duty	120VAC	240VA
SSA100/200R-24	30V	30V	1A
	1V min.	1V min.	100µA

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.

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

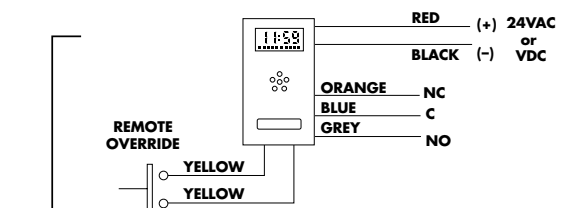
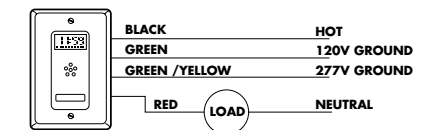
CATALOG NO.	UPC CODE	INPUT SUPPLY (VAC) 60 Hz	COLOR
701A	10113	125	White
701AA	10118	125	Light Almond
711A	10114	125	White

CONTACT RATINGS

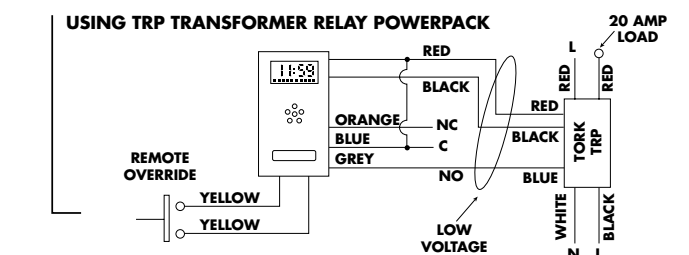
TYPE	VOLTAGE	RATING	
		701A SERIES	711A SERIES
General Purpose	125 VAC	20A	15A
Resistive	125 VAC	20A	15A
Tungsten	125 VAC	1500W	1250W
Motor	125 VAC	1 HP	1/2HP

WIRING DIAGRAMS

SSA100/200



SSA200R-24



SS SERIES

AUTO OFF IN-WALL TIME SWITCH



APPLICATIONS



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

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).

D SERIES

ELECTRONIC AUTO OFF IN-WALL TIME SWITCH



APPLICATIONS



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

SPECIFICATIONS

TIMING ACCURACY: Line voltage.

INPUT VOLTAGE: 120VAC, 60Hz.

WIRE SIZE: #14AWG.

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

FEATURES

VARIABLE TIMING: Choose from 1 minute to 18 hours.

FLASH WARNING: "F" suffix models with flicker feature turns load off for ½ 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.

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 ½ second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.

**Beep feature will begin a ½ 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
	½HP @ 120VAC	240	60
	½HP @ 240VAC	277	70
SS20 & SS20F	.50-7.25A Resistive	24	12
	.50-7.25A Ballast*	120	60
	.50-4.0A Tungsten	208	105
	½HP @ 120VAC	240	120
	½HP @ 204VAC	277	150

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

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	¼HP

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.

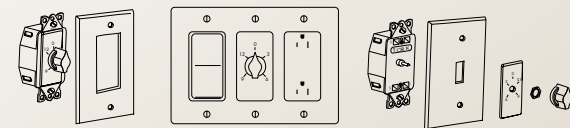
EASY SET: No adjustments. Just wire and go!

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		Ivory
A502HW	15116	No Hold	White
6 HOUR MAX.			
A506HHW	15125	With Hold	White
A506H	15018		Ivory
A506HW	15118	No Hold	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.

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.).

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
NEW! 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
NEW! C412H*	15010	No Hold

*DPST switch type.



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.

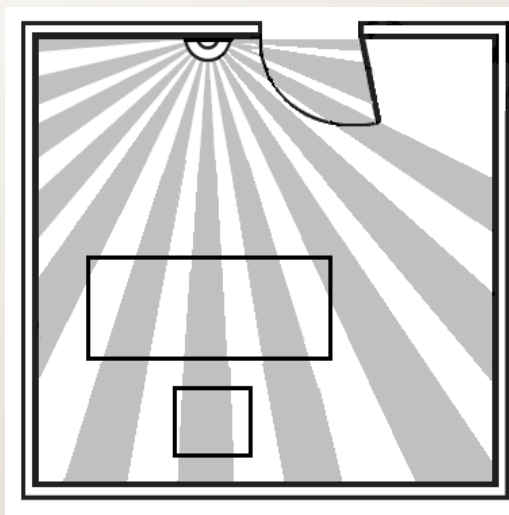
An **Ultrasonic Sensors** (US sensor) is a technology that works on a principle similar to radar or sonar. It is an active technology that sends and receives. It emits an inaudible high-frequency sound wave and evaluates the echo which is received back after bouncing around in the room. This allows the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

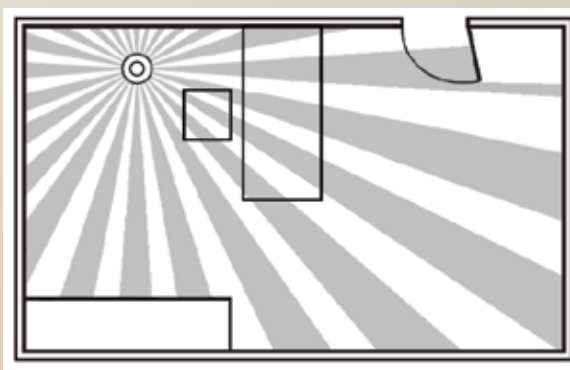
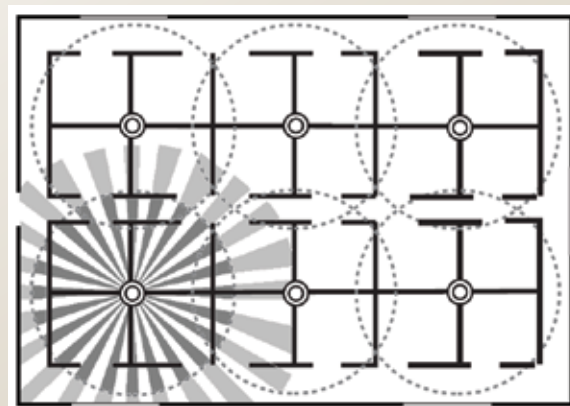
- Proper placement gives the sensor a clear line of sight to the entry door without viewing the hallway.
- The occupant must be able to see the sensor from their normal work position otherwise the sensor will not be able to detect their presence.
- For offices where there are other obstructions between 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

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.

SPECIFICATIONS

CONTACT RATINGS:

OSWS9P-120: 1000W Ballast, 800W Incandescent, 1/6HP at 120VAC.

OSWS9P-277: 1800W Ballast at 277VAC.

OSWS9PD & OSWS9PDM: 1000W Ballast, 800W Incandescent, 1/6HP at 120VAC, 1800W Ballast at 277VAC.

ADJUSTABLE TIME DELAY:

30 seconds - 30 minutes.

OPERATING TEMPERATURE:

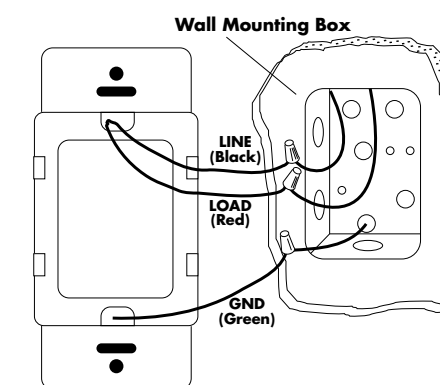
32° to 131°F (0° to 55°C).

MOUNTING: Box mount.

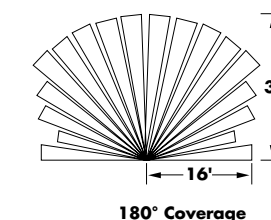
ORDERING INFO

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



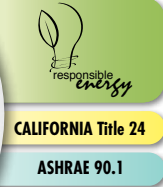
Top and Side Coverage Pattern Diagrams



180° Coverage

OSC15PLS

PIR SENSOR, WITH AMBIENT LIGHT
OVERRIDE, MULTI-VOLTAGE
INTEGRAL POWERPACK,
CEILING MOUNTED
OCCUPANCY SENSOR



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.

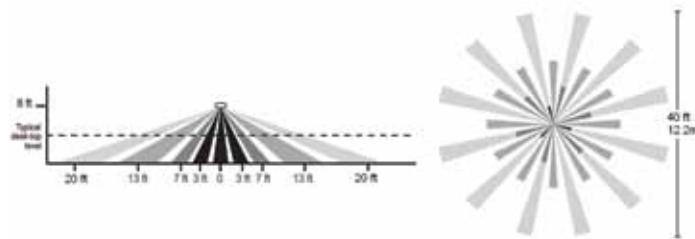
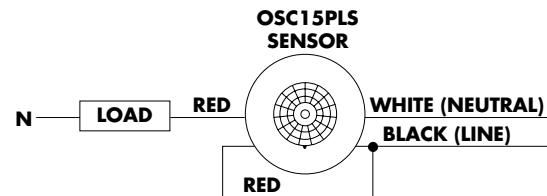
DAYLIGHTING MODE: Selectable to keep lights off when occupancy is sensed if adequate light exists in the room from windows or skylights.

POWER SWITCHING: Built-in power pack for direct line voltage control.

ORDERING INFO

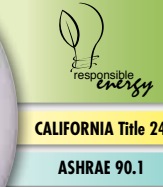
CATALOG NO.	UPC CODE	INPUT SUPPLY	COVERAGE (FEET)	DESCRIPTION
OSC15PLS	82076	120-347VAC	1200	WHITE

WIRING & COVERAGE DIAGRAMS



OSC12PL & OSC5PL

PIR SENSOR
CEILING MOUNTING
OCCUPANCY SENSORS



SPECIFICATIONS

VOLTAGE: 24VDC.

CURRENT CONSUMPTION: 9mA.

POWER SUPPLY: TRP-U Power Pack (up to 6 units).

ADJUSTABLE LIGHT LEVEL: 10FC - 150FC.

ADJUSTABLE TIME DELAY: 5 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).

MOUNTING: Ceiling or box mount.

OPERATING TEMPERATURE: 32° to 131°F (0° to 55°C).

APPLICATIONS



- Offices
- 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.

ECOSETTING: Learns typical use patterns and adjusts the OFF delay for the most efficient time.

WALK-THROUGH MODE: Selectable to turn lights OFF after only 3 minutes. If no activity is detected after 30 seconds of occupancy detection, lights turn OFF.

DAYLIGHTING MODE: Selectable to keep lights OFF when occupancy is sensed if adequate light exists in the room from windows or skylights.

PRESENTATION MODE: Optional MANUAL OFF by an accessory wall switch (LCS115M). Sensor will keep lights OFF while movement in room is detected, then return to automatic ON after 5 minutes.

VACANCY MODE: Optional MANUAL ON by an accessory wall switch (LCS115M) and then automatic OFF.

MANUAL OVERRIDE: Optional manual control by an accessory wall switch (LCS115M) for ON and OFF.

WARNING BEFORE OFF: Optional visual flash warning and/or audible beep warning one minute before turn OFF.

PLUG TERMINAL: Quick disconnect for sensor.

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

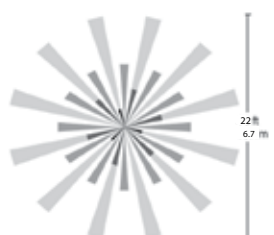
Sensitivity		Time Delay				Audible Alert	
50%	1	2	3	4	7		
100%	2	5 Sec/EcoSet	↓	↓	↓	Disabled	↓
		30 Seconds	↓	↓	↓	Enabled	↑
Walk Through	5	5 Minutes	↓	↑	↓	Visible Alert	8
Disabled	↓	10 Minutes	↓	↑	↓	Disabled	↓
Enabled	↑	15 Minutes	↓	↑	↓	Enabled	↑
Vacancy	6	20 Minutes	↑	↓	↑	Hold ON	9
Disabled	↓	25 Minutes	↑	↓	↑	Disabled	↓
Enabled	↑	30 Minutes	↑	↓	↑	Enabled	↑

↓ = OFF ↑ = ON ◀ Factory Setting ▶

OSC12PL



OSC5PL



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.

ECOSETTING: 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.

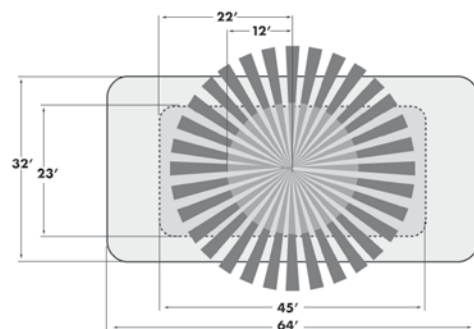
OPERATING TEMPERATURE: 32° to 131°F (0° to 55°C).

HUMIDITY: 0 to 95% R.H. non-condensing for indoor use only.

ORDERING INFO

CATALOG NO.	UPC CODE	INPUT SUPPLY	COVERAGE (FEET)	DESCRIPTION
OSCS20UP	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.

ECOSETTING: 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.

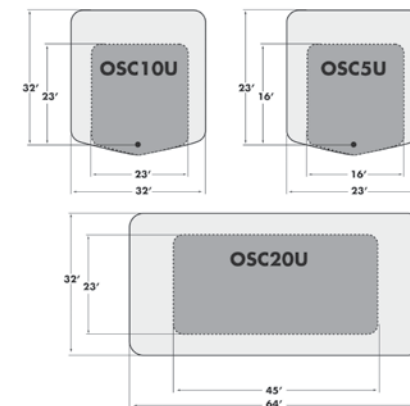
OPERATING TEMPERATURE: 32° to 104°F (0° to 40°C).

HUMIDITY: 0 to 95% R.H. non-condensing for indoor use only.

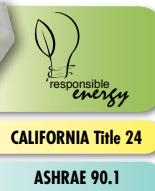
ORDERING INFO

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 OCCUPANCY SENSOR



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.

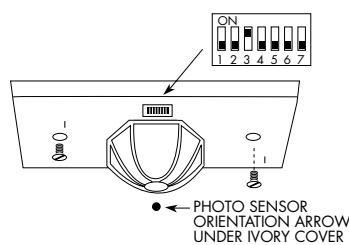
SPECIFICATIONS

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.

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



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.

TRP-U INTELEGEN 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.

INTELLEGEN 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.

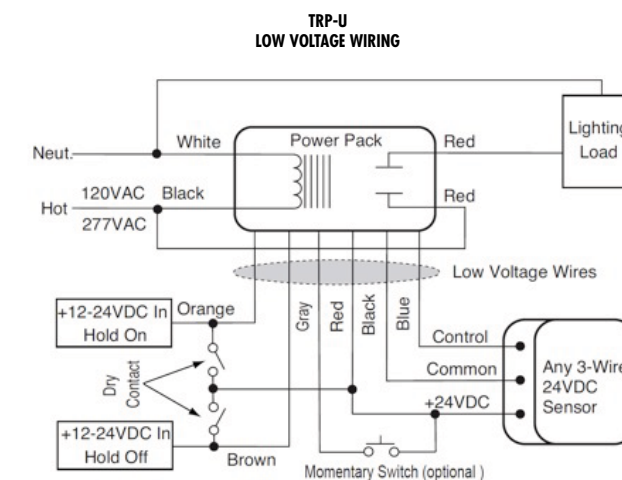
SPECIFICATIONS

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





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.



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.

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



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.

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 125VAC, 15A, 1875W Resistive 125VAC, 1000W Tungsten 125VAC, 8A Ballast 125VAC, 1/2HP	1	Grounded	Wall Mountable Photocell & 7 Day Digital 2-in-1 Timer, with 24" cord	Photo ON Dawn or timed OFF
621D	16056		2	Grounded	Wall Mountable, 7 Day Digital Timer, with 18" cord	Multiple ON/OFFs for each day of the week
631D	16027		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	125VAC, 15A, 1875W Resistive 125VAC, 10A, 1250W Tungsten	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.

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.

FEATURES

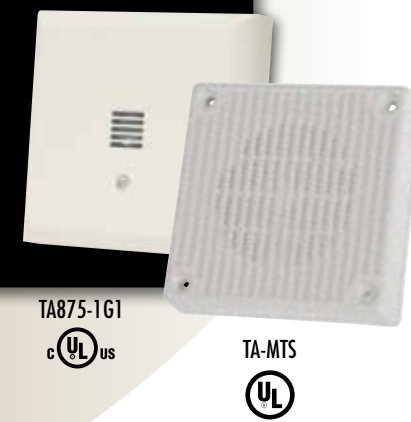
- INPUT VOLTAGE:** Wide input voltage ratings for compatibility with unregulated power supplies.
 - HOUSING:** Steel, painted Dawn Mist. Resonant grill design for high sound output.
 - WIRING:** Screw terminals for convenient IN/OUT wiring. Low current draw for minimizing power supply and wiring cost.
 - MOUNTING:** To indoor box TA-BBSF or outdoor box TA-WBBF, see accessories page 13*.
- NOTE:** Use TORK signal timers for 24 hour or 7 day scheduling, see page 85.

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

MULTI-TONE ELECTRONIC HORNS

24VDC & 115VAC



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		TYPICAL dB @ 10 FEET STANDARD OUTPUT	
	HIGH	STANDARD	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 2 1/2" 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	2 1/2" 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	7 3/8"L x 4"W x 2"D
TAC212WL	96054	16VAC Chime + 2 Push-buttons + 10VA Transformer	7 1/4"L x 4 3/4"W x 2 1/2"D
TAC210W	96052	16VAC Chime	7 1/4"L x 4 3/4"W x 2 1/2"D

WEATHERPROOF MOTOR DRIVEN SIREN



APPLICATIONS



- For industrial and outdoor use. Ideal for evacuation and warning systems.

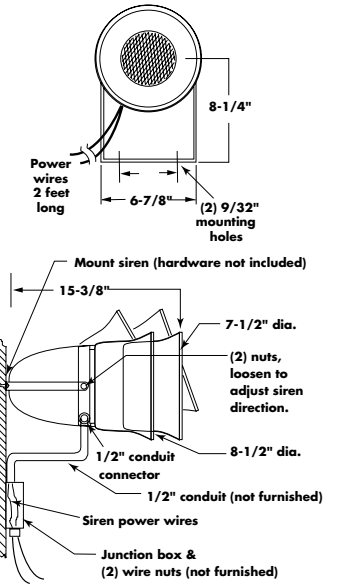
FEATURES

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 HORN



APPLICATIONS



- High quality compact signaling device. For indoor use. Easily connects to phone systems and enables locations with moderate to high ambient noise to have a loud telephone alert. FCC approved.

FEATURES

ALARM: Adjustable tone and volume.

PLUG: RJ-11C modular connection.

MOUNTING: Grey enclosure. For indoor use, surface mountable.

ORDERING INFO

CATALOG NO.	UPC CODE	INPUT TELEPHONE RING VOLTAGE	dB @ 3 FEET	RINGER EQUIVALENCE
TA-B-KHS-1000-PP	97103	50-130V, 20-30Hz	90	0.8

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 3/8" L x 1 1/2" W x 1 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 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 1/4" W x 3 7/8" H x 2" D. Plate dimensions: 1 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 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 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 opened. Commonly used on store doors to announce entrance of customers. Mounts on top of door frame. Solid cast brass. Size: 3 x 1 5/8"

DEVICE	CATALOG NO.	UPC CODE	VOLTS	AMPS MAX.
	TA236	96963	12-24VAC	2

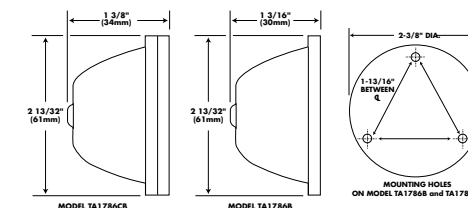
PUSH-BUTTONS ILLUMINATED, NON-ILLUMINATED & WEATHERPROOF

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 "X"
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	117 VAC	.8
			Anodized aluminum housing with polished aluminum, non-tarnishing base Snap lock retaining ring for quick & economical changeout		
			9 1/2"H x 8 1/2" diameter		

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

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 "X"
Red	R
Amber	A


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 25 watt lamp	
	TA53AF1	96185	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 5"H x 7 1/4" diameter	10.5- 31.0VDC	
	TA131DAU1	97611			

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
UL

TA606
UL SF

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 fo 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.

UL SF

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

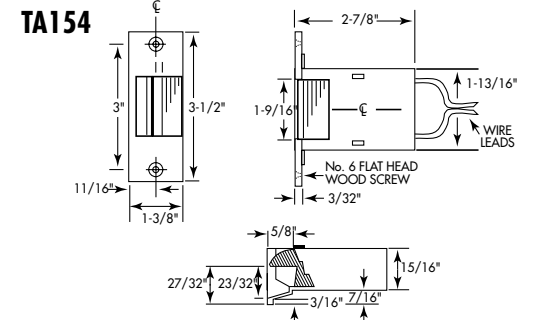
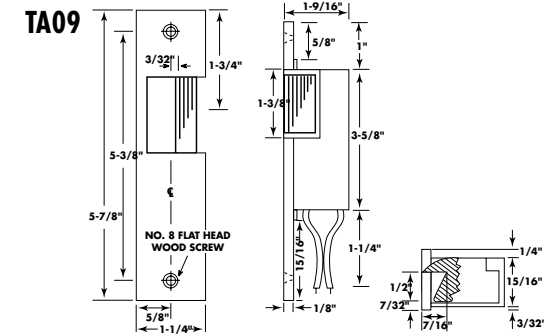
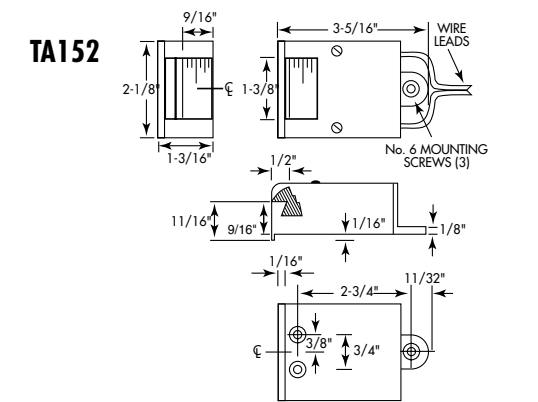
< Full selection of dome colors. To designate color, place desired letter in place of " * "

ORDERING INFO

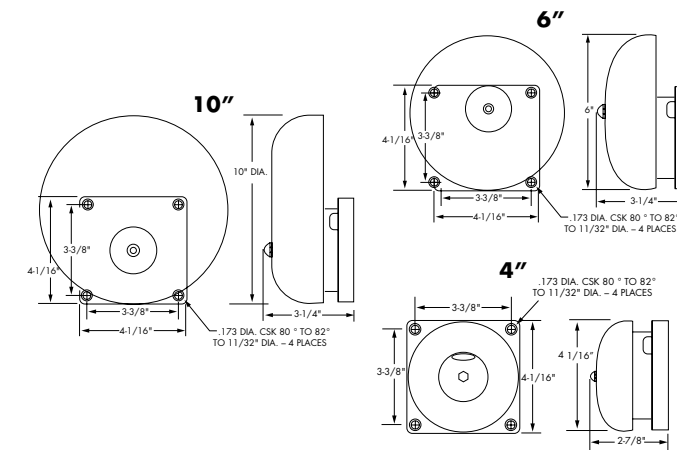
UNIT	CATALOG NO.	UPC CODE	DESCRIPTION
TA131D	TA-D8A	96971	Acrylic Dome – Amber
TA53	TA-M1	96138	12VDC Motor
TA53, TA54	TA-B1	96114	Small Drive Belts
TA53, TA54	TA-B2	96115	Large Drive Belts
TA371L	TA-B3	96116	Drive Belts
TA53, TA54	TA-L3	96129	12VDC Bulb
TA53	TA-L4	96130	24VDC Bulb
TA93-2	TA-L6-2	96982	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 switch
TA874 Series	TA-BBSF	97694	Backbox – 4" painted Dawn Mist
TA874 Series	TA-WBBF	97692	Weatherproof Backbox – .5" KOs 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, 5/8 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).

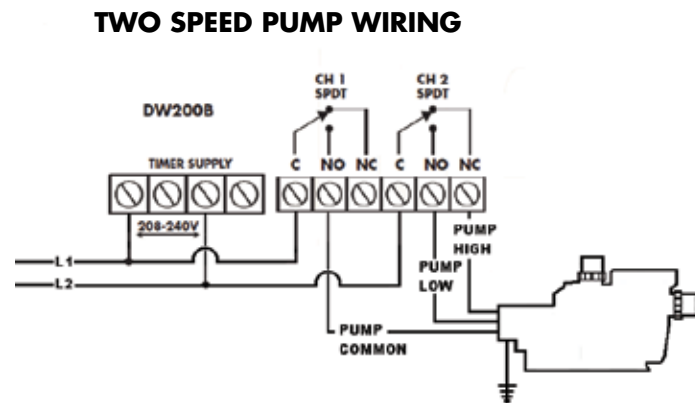
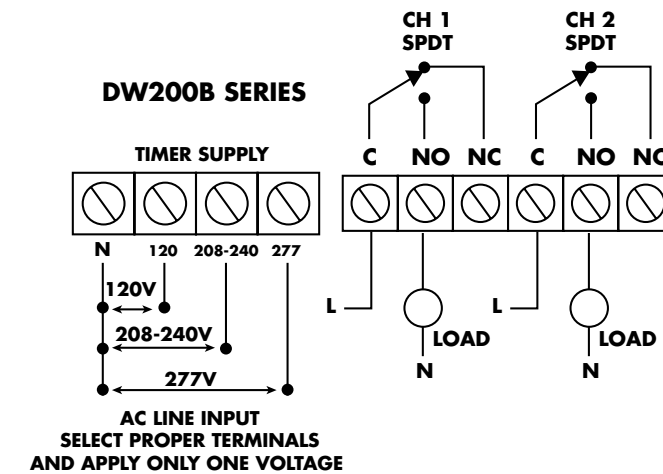
POWER CONSUMPTION: 5VA max.

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



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.

P1100 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	
PFWEW101-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	
PFWEW104-M	94030	240	DPST	40A	7.5HP @ 240V	Accepts PFPT thermostat input

NOTE: "☁" = Indicates Freeze Protection.

POOL & SPA JUNCTION BOXES

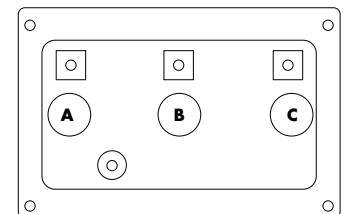


APPLICATIONS



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



Of all the protections you can put between your family and the risk of entrapment, the best protection is

AT THE SOURCE.



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.

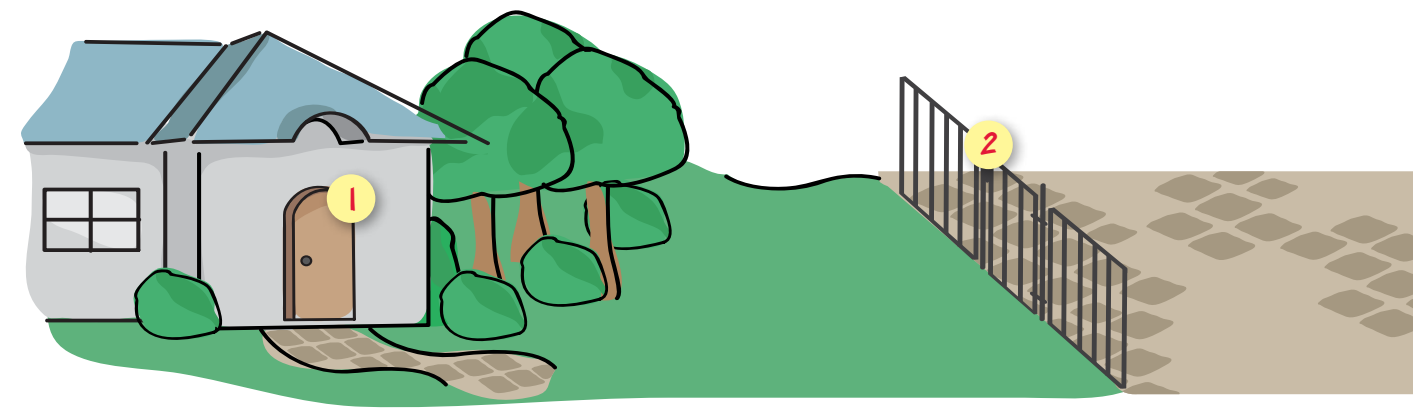
ENCLOSURE: Plastic Indoor/Outdoor NEMA 3R with lockable hasp. See page 153 for dimensions and additional information.

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 equipit 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



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



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



DS-MR

SR-RA

DS-AA

SR-ESB

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.

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 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 "O"

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 "O"

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

TRP400

TRP400
TRP402

ELC71 & ELC72 SERIES ENCLOSURE

ELC71PC/120
ELC71PC/208-240
ELC71PC/277
ELC72PC/120
ELC72PC/208-240
ELC72PC/277

MODELS

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

TRP800

TRP800

ELC74 ENCLOSURE

ELC74

MODELS

EWZ SERIES

EWZ101-MB
EWZ103-MB
EWZ120-MB
EWZ201-MB

MODELS

5401 ENCLOSURE

5441

ELC78 & ELC712 ENCLOSURE

ELC78
ELC712

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

MODELS

STINGL SVRS ENCLOSURE

SR-500
SR-500PS

EWJT & E500T SERIES ENCLOSURE

EJWT
E500T
E501T
E502T

MODELS

LDS SERIES MOUNTING WITH BRACKET

LDS LDSH

POOL PANEL SERIES

PP-20R
PP-20R-P1
PP-20R-P4
PP-20R-2P1
PP-20R-2P4
PP-100R
PP-125R-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-E-GFCI

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1101FM-N	144	2117	14	701AA	101
1101-M	31	2223	24	711A	101
1101-M-IAP	31, 144	2224	24	7100	33
1101-N	31	2421	24	7102	33
1101-NC	31	3000	18	7120	33
1101-O	31	3002	18	7120L	33
1102	31	3006	18	7120Z	35
1102-M	31	3010	18	7120ZL	35
1102-N	31	401A	119	7122	33
1102-O	31	402A	119	7122ZL	35
1103	31	403A	119	7200	33
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