

# TORK®

## DIGITAL CONTROLS



JUNE 2007

A DIVISION OF **NSi** NSi INDUSTRIES, LLC

## LEGEND

D	DAY
H	HOURS
MIL	MILITARY
MO	MONTH
T	TOTAL
W	WEEK
YR	YEAR
P	PROGRAMMED
DC	DRY CONTACTS
WC	WET CONTACTS

# DIGITAL CONTROLS

	E100B SERIES	E100PB SERIES	EH 10/20B	DG180	DG100	DG120	DWZ100B	DW200B	DGM100	DGU100	DGUM100	DGS100	DGS180	
<b>Number of Channels</b>	1	1	1	1	1	1	1	2	1	1	1	1	1	
<b>ON/OFF Operations</b>	20	20	20	288	32	32	99	99	32	32	32	32	288	
<b>Auto Daylight Savings Adj.</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>Removeable Memory Module</b>														
<b>AM/PM/Military Time</b>	AM-PM	AM-PM	AM-PM	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	AM-PM MIL.	
<b>Holidays, Temporary: B = Block Mode</b>					Special Day Schedule	Special Day Schedule	24	24	Special Day Schedule	Special Day Schedule	Special Day Schedule	Special Day Schedule		
<b>Manual Override</b>	YES	YES	YES INTERNAL EXTERNAL	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	TO NEXT EVENT	
<b>365 Day / 7 Day Scheduling</b>	EW is 7D		7D	DAY OMIT	7D	7D	365D	365D	7D	7D	7D	7D	DAY OMIT	
<b>Momentary (MO) [1-2 sec. fixed duration] or Maintained (MA) Output</b>	MA	MA	MA	MA	MA	MA	MA	MA	MO	MA	MO	SIGNAL DURATION	SIGNAL DURATION	
<b>Duty Cycling</b>														
<b>Visual Load Status Indicators</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>Remote Override</b>										UNIVERSAL INPUT	UNIVERSAL INPUT			
<b>Service Switches</b>														
<b>Automatic Leap Year</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>Astronomic</b>							Yes							
<b>Signal Control: Bell, Buzzer, Ring</b>												2 Durations	2 Durations	
<b>Skip-A-Day</b>				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
<b>Staggered Start</b>														
<b>Output Contact: Amps Resistive</b>	40A**	30A*	40A	20A. NO 10A. NC	20A. NO 10A. NC	15A. NO 10A. NC	20A. NO 10A. NC	20A. N.O 10A. NC	15A. NO 10A. NC	20A. NO 10A. NC	15A. NO 10A. NC	20A. NO 10A. NC	20A. NO 10A. NC	
<b>Contact Type: Dry Unpowered</b>	SPST DPST SPDT	SPST DPST SPDT	EH10B-SPST EH20B-DPST	SPDT	SPDT	DPDT	SPDT	SPDT	2-SPDT	SPDT	2-SPDT	SPDT	SPDT	
<b>Voltage Input A.C.</b>	24 120 208 240 277	120 VAC only	120 240	24 120 240 277 12VDC	24 120 240 277 12VDC	24 120 240	24 120 240 277 12VDC	24 120 208 240 277 12VDC	24 120 208 240 277 12VDC	24 120 240 277 12VDC	24 120 240 277 12VDC	24 120 240 277 12VDC	120 240	
<b>Battery Back-up: real time</b>	100H rechargeable SuperCapacitor	100H rechargeable SuperCapacitor	100H rechargeable SuperCapacitor	450H Lithium 175H Alkaline	450H Lithium 175H Alkaline	450H Lithium 175H Alkaline	100H rechargeable SuperCapacitor	100H rechargeable SuperCapacitor	450H Lithium 175H Alkaline	275H Lithium 100H Alkaline	275H Lithium 100H Alkaline	450H Lithium 175H Alkaline	450H Lithium 175H Alkaline	
<b>Schedule retention without power</b>	Permanent	Permanent	Permanent				Permanent	Permanent						

\* E120PB Series – 20A. NO - 10A. NC  
 \*\* E120B Series - 30A

# FEATURES AND SPECIFICATIONS

	EWZ 100 SERIES		EWZ 200	DLC400BP	DGLC	DIN 100A	DIN 101B/201B	DZS 100BP	DZS 200BP	DTS 100B	DTS 200B	DZM 200BP	DZS 400BP	DTS 400B	K 400/600 800Z	K 401/601 801Z
	1	2	4	2 circuit	1	1/2	1	2	1	2	2	4	4/6/8			
	20		99	32	20	30/40	99		99		99	99		40/W*		
	Yes		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes		Yes		
			Yes				Yes				Yes	Yes	No			
	AM-PM		AM-PM MIL.	AM-PM MIL.	AM-PM	AM-PM	AM-PM MIL.		AM-PM MIL.		AM-PM MIL.	AM-PM MIL.		AM-PM		
			24 4S	Special Day Schedule			24 4S		24 4S		24 4S	24 4S		40 8B	40 8S	
	Yes		TO NEXT EVENT	TO NEXT EVENT	YES	YES	TO NEXT EVENT		TO NEXT EVENT		TO NEXT EVENT	TO NEXT EVENT		YES		
	7D		365D	7D	7D	7D	365D		365D		365D	365D		365D		
	MA	MA (MO: 1 channel)	MA	MA	MA	Signal duration or MA	Signal duration or MA	Signal duration or MA	MO		Signal duration or MA	2 Sec. or MA		Signal duration or MA		
						Yes								Yes		
	Yes		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes		Yes		
			PHOTOCELL/DIGITAL INPUT	PHOTOCELL INPUT										TIMED		
														Yes		
	Yes		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes		Yes		
	Yes		Yes				Yes				Yes	Yes	No			
						Yes	2 Durations	2 Durations			2 Durations		2 Sec. Only	Yes		
	Yes		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes		Yes		
														Yes		
	40A		30A	15A. NO 10A. NC	16A	16A	20A. NO 10A. NC		20A. NO 10A. NC		10A	10A .25DC		10A		
	SPST		4 SPDT	2 SPDT	SPDT	SPDT	2 DPDT SPDT		2 DPDT SPDT		2 SPDT	4 SPDT		4/6/8 SPDT		
	24 120 208 240 277		120 208 240 277	120	120	120	24 120 208 240 277 12VDC		24 120 208 240 277 12VDC		24 120 208 240 277 12VDC	24 120 208 240 277 2VDC		120  240		
	100H rechargeable SuperCapacitor		6MO Lithium	275H Lithium 100H Alkaline	Lithium 3 yrs cumulative	Lithium 3 yrs cumulative	100H rechargeable SuperCapacitor		100H rechargeable SuperCapacitor		100H rch SuperCap	100H rechargeable SuperCapacitor		6MO Lithium		
	Permanent		Permanent				Permanent		Permanent		Permanent	Permanent				

\* Per Channel  
\*\* Din Rail Mounting

# TORK DIGITAL CONTROLS: OVER 80 YEARS OF EXPERIENCE PACKED INTO EVERY SINGLE BOX.

**EXCELLENCE THAT THE FIELD HAS COME TO EXPECT FROM TORK, SINCE 1922. ONE SIMPLE GOAL: EXTRAORDINARY PRODUCTS COMBINED WITH EXTRAORDINARY SERVICE, MAKING YOUR LIFE IN THE FIELD EASIER, EVERY DAY.**

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

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## MECHANISMS

AND ENCLOSURE DIMENSIONS p 39, 40

**DIN SERIES**   
DIN RAIL OR SURFACE MOUNT  
**1 OR 2 CHANNEL**  
**7 DAY SCHEDULING**  
**SIGNAL/PULSE AND DUTY CYCLE AVAILABLE**

**DIN100A**  
**DIN101B**  
**DIN201B**

**APPLICATIONS**

- Ideal for Panel Builders
- Indoor/Outdoor Lighting
- Security Systems
- HVAC Equipment

**FEATURES**

- DISPLAY:** LCD
- CLOCK FORMAT:** AM/PM or 24 hour format
- DAYLIGHT SAVINGS:** Automatic adjustment (can be omitted)
- SIGNAL /PULSE:** 1-99 seconds or minutes (DIN101B / 201B only)
- DUTY CYCLE:** 1-99 seconds or minutes total ON+OFF duration (DIN101B / 201B only)
- MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF or PERMANENTLY.
- POWER OUTAGE BACKUP:** Battery back-up retains schedules; uses lithium, averages 3 years cumulative.

**SPECIFICATIONS**

- POWER CONSUMPTION:** 5VA max.
- CONTACT RATING:** 16A resistive
- CONTACT CONFIGURATION:** SPDT
- OPERATING TEMPERATURE:** -40 to +158°F (-40° to +70°C.)
- ACCURACY AT 68°F:** +/- 2.5 sec/day

**WEIGHT:**

- DIN101A/101B: 4.0 oz
- DIN201B: 5.2 oz

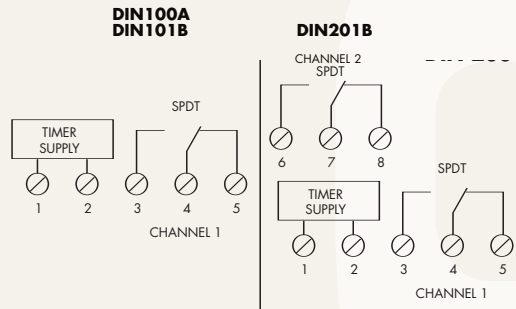
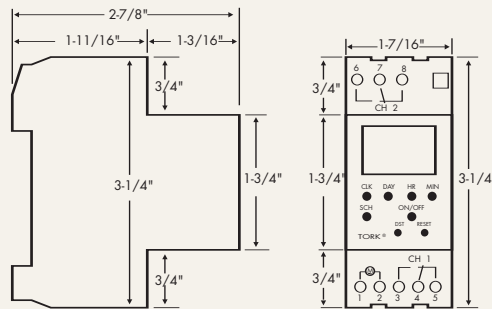
**MOUNTING:** DIN rail #50022 (35mm) or flat surface using supplied adapter plate.



MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS

and ASHRAE 90.1 1999

**DIMENSIONS AND WIRING**



CATALOG NO	UPC CODE	DRY CONTACTS	PULSE & CYCLING	CLOCK INPUT 50/60Hz	NO. OF CHANNELS	TOTAL # PER DAY OR WEEK
DIN100A	82165	SPDT	NO	120VAC	1	20
DIN101B	82177	SPDT	YES	120VAC	1	30
DIN201B	82166	SPDT	YES	120VAC	2	40

# E100B SERIES MULTIPURPOSE CONTROLS 1 CHANNEL

**MULTI-VOLTAGE INPUT 120-277VAC**  
**PATENTED 40 AMP CONTACTS**  
**INDOOR/OUTDOOR ENCLOSURE STANDARD**

**APPLICATIONS:**

**24 HOUR**

- Signs
- Lighting
- Air Conditioning
- Sump Pumps
- Ventilating Fans

**7 DAY**

- Outdoor Signs
- Display Lighting
- Security Systems
- Heating and Air Conditioning

**FEATURES**

**DISPLAY:** LCD

**PROGRAMMING:** Simple, with brief easy-to-follow instructions.

**DAYLIGHT SAVING TIME:** Automatic (can be changed or omitted)

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

**CLOCK FORMAT:** AM/PM

**POWER OUTAGE BACKUP:** Permanent Schedule Retention. Supercapacitor maintains real time clock for 100 hours.

**E101B EW101B**  
**E103B EW103B**  
**E120B EW120B**



**SUPERCAPACITOR BACKUP!**

**PERMANENT SCHEDULE RETENTION!**

**MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS**

**and ASHRAE 90.1 1999**

**24 HOUR**  
Capable of same schedules each day of the week  
**ON & OFF SET POINTS:** 20 per day, minimum setting is one minute.

**7 DAY**  
Capable of different schedules each day of the week  
**ON & OFF SET POINTS:** 20 per day or week, minimum setting is one minute.

**SPECIFICATIONS**

**TIMING ACCURACY:** Line Frequency

**OPERATING TEMPERATURE:**  
-40 to +149°F (-40° to +65°C.)

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

**RELATIVE HUMIDITY:** 0 to 90% RH

**ENCLOSURE:** Indoor/Outdoor NEMA 3R plastic is standard

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

**POWER CONSUMPTION:** 6VA max.

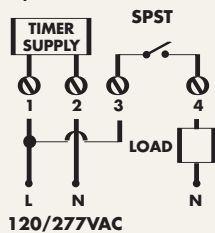
**OTHER MOUNTINGS:**

- Metal Indoor, add suffix Y
- Plastic Indoor/Outdoor with clear window
- NEMA 3R: add suffix C
- Metal Indoor/Outdoor – NEMA 3: add suffix O
- Flush with lock and key: add suffix FLG
- Bracket mounting – specify mechanism only with bracket

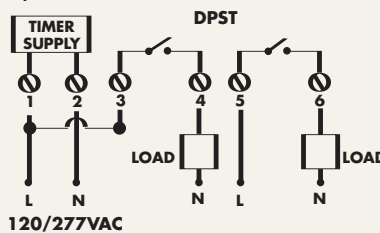
TYPE	CATALOG NO	UPC CODE	DRY CONTACTS	SCHEDULING	SET POINTS	MIN SETTING
24 HOUR	E101B	82401	SPST	SAME EVERYDAY	20	1 MIN
	E103B	82411	DPST	SAME EVERYDAY	20	1 MIN
	E120B	82406	SPDT	SAME EVERYDAY	20	1 MIN
7 DAY	EW101B	82431	SPST	capable of DIFFERENT SCHEDULES each day of the week	20	1 MIN
	EW103B	82441	DPST	capable of DIFFERENT SCHEDULES each day of the week	20	1 MIN
	EW120B	82436	SPDT	capable of DIFFERENT SCHEDULES each day of the week	20	1 MIN

## WIRING DIAGRAMS

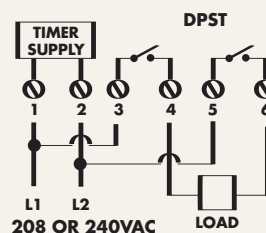
E, EW101B SERIES



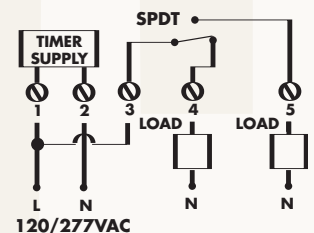
E, EW103B SERIES



E, EW103B SERIES



E, EW120B SERIES



### SERIES E, EW 101B (SPST) SERIES E, EW 103B (DPST)

### DRY CONTACT RATINGS

LOAD TYPE	120VAC	208-277VAC
Resistive	40A	40A
Inductive	40A	40A
Ballast	30A	20A
Tungsten	15A	
Pilot Duty	720VA	720VA
Motor	1HP	1½HP@208VAC 2HP@240-277VAC

30A resistive @28VDC

### SERIES E, EW 120B (SPDT)

### DRY CONTACT RATINGS

LOAD TYPE	120VAC		208-277VAC	
	NO	NC	NO	NC
Resistive	30A	30A	30A	30A
Inductive	30A	30A	30A	30A
Ballast	30A	10A	20A	10A
Tungsten	15A	2A		
Pilot Duty	720VA	720VA	720VA	720VA
Motor	1HP	1HP	1½HP@208VAC 2HP@240-277VAC	

all NO/NC 30A resistive @28VDC

## SPECIFICATION WRITER'S GUIDES

### Series E100B

- Furnish and install a TORK digital time switch with (40 Amp SPST contacts, model E101B) (40 Amp DPST contacts, model E103B) (30 Amp SPDT contacts, model E120B).
- Unit shall be capable of 20 set points.
- Unit shall repeat the same schedule each day.  
WRITE 4-9 AS BELOW

### Series EW100B

- Furnish and install a TORK digital time switch with (40 Amp SPST contacts, model EW101B) (40 Amp DPST contacts, model EW103B) (30 Amp SPDT contacts, model EW120B).
- Unit shall be capable of 20 set points.
- Unit shall be capable of a different schedule each day of the week.  
WRITE 4-9 AS BELOW

### APPLIES TO ALL MODELS:

- Unit shall have automatic Daylight Savings Time and Leap Year compensation.
- Unit shall program in AM/PM format.
- Unit shall have LCD display.
- Unit shall have permanent schedule retention.
- Unit real time clock shall be retained by supercapacitor for 100 hours in a power failure.
- Unit shall be capable of manual override ON or OFF either to the next scheduled event or permanently.
- Unit shall have a NEMA 3R indoor/outdoor plastic enclosure.
- Unit shall have Load Status indication.
- Unit shall have Power Failure indication.

# E100PB SERIES 120VAC 50/60Hz 1 CHANNEL

# E101PB/E103PB/E120PB

**SUPERCAPACITOR BACKUP!**

**PERMANENT SCHEDULE RETENTION**



Upgrade from electromechanical to digital with this simple-to-set unit. E100PB Series gives the advantage of accuracy to-the-minute, an easy to read display, and supercapacitor backup. 30 amp contacts (SPST, DPST), 20 amp contacts (SPDT) models.

**APPLICATIONS:**

- Signs
- Air Conditioning
- Ventilating Fans
- Lighting
- Sump Pumps

**FEATURES**

- SCHEDULING:** 24 Hour - same ON/OFF times each day
- ON & OFF EVENTS:** 20 events
- MINIMUM SETTING:** 1 minute
- DISPLAY:** LCD
- DAYLIGHT SAVING:** Automatic (can be changed or omitted)
- LEAP YEAR:** Automatic Compensation
- MANUAL OVERRIDE:** Until the next regularly scheduled ON or OFF when automatic operation then resumes or permanently if desired.
- CLOCK FORMAT:** AM/PM
- POWER OUTAGE BACKUP:** Permanent Schedule Retention. Supercapacitor maintains real time clock for 100 hours.

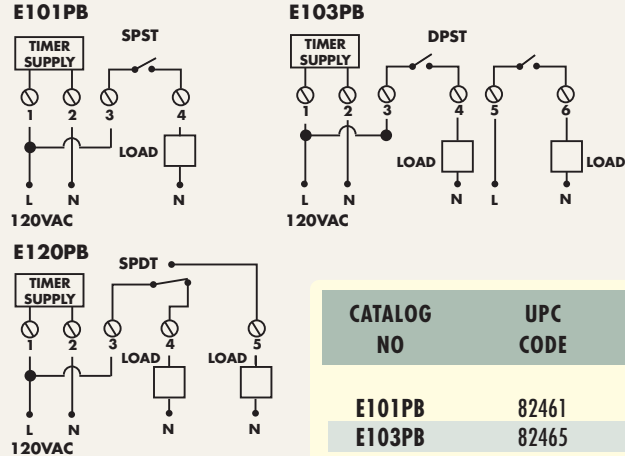
**SPECIFICATIONS**

- TIMING ACCURACY:** Line Frequency
- OPERATING TEMPERATURE:** -40 to +149°F (-40° to +65°C.)
- STORAGE TEMPERATURE:** -40° to +158°F (-40° to +70°C.)
- RELATIVE HUMIDITY:** 0 to 90% RH
- ENCLOSURE:** Gen. Purpose NEMA 1 plastic is standard
- INPUT VOLTAGE:** 120VAC, 50/60Hz
- POWER CONSUMPTION:** 6VA max.

**OTHER MOUNTINGS:**

- Metal Indoor: add suffix Y
- Plastic Indoor with clear cover: add suffix C
- Flush with lock and key: add suffix FLG
- Bracket mounting – specify mechanism only with bracket

**WIRING DIAGRAMS**



CATALOG NO	UPC CODE	DRY CONTACTS	SCHEDULING	SET POINTS	CLOCK INPUT 50/60Hz	MIN SETTING
E101PB	82461	SPST	SAME EVERYDAY	20	120VAC	1 MIN
E103PB	82465	DPST	SAME EVERYDAY	20	120VAC	1 MIN
E120PB	82469	SPDT	SAME EVERYDAY	20	120VAC	1 MIN

LOAD TYPE	DRY CONTACT RATINGS		
	120VAC	240VAC	277VAC
Resistive	30A	30A	12A
Inductive	30A	30A	12A
Ballast	20A	6A	6A
Tungsten	5A	5A	5A
Pilot Duty	470VA	470VA	690VA
Motor	1HP	2HP	

all are 20A resistive @28VDC

LOAD TYPE	DRY CONTACT RATINGS					
	120VAC		240VAC		277VAC	
	NO	NC	NO	NC	NO	NC
Resistive	20A	10A	20A	10A	6A	3A
Inductive	20A	10A	20A	10A	6A	3A
Ballast	6A	3A	6A	3A	6A	3A
Tungsten	5A	3A	5A	3A		
Pilot Duty	470VA	275VA	470VA	275VA	690VA	
Motor	1HP	½HP	2HP	½HP		

NO 20A resistive @ 28VDC, NC 20A resistive @ 28VDC

**SPECIFICATION WRITER'S GUIDE: E100PB SERIES**

1. Furnish and install a TORK digital time switch with (30 Amp SPST contacts, model E101PB) (30 Amp DPST contacts, model E103PB) (20 Amp SPDT contacts, model E120PB).
2. Unit shall have automatic Daylight Savings Time and Leap Year compensation.
3. Unit shall be capable of 20 set points.
4. Unit shall repeat the same schedule each day.
5. Unit shall program in AM/PM format.

6. Unit shall be retained for 100 hours by supercapacitor in a power failure.
7. Unit shall have LCD display.
8. Unit shall have Permanent Schedule Retention.
9. Unit shall be capable of manual override ON or OFF either to the next scheduled event or permanently.
10. Unit shall have a heavy duty General Purpose (NEMA1) non metallic enclosure.



**NEW!**

# EWZ SERIES MULTIPURPOSE CONTROLS 1 OR 2 CHANNEL

**7 DAY SCHEDULING, ASTRONOMIC OPTION  
MULTI-VOLTAGE INPUT 120-277VAC  
PATENTED 40 AMP CONTACTS**

Capable of different schedules each day of the week **ON & OFF SET POINTS:** 20 per day or week, min. setting is one minute.

**FEATURES**

**MOMENTARY OPTION:** For mechanically held contactors: Model EWZ201 only. CAUTION: unit must be configured for momentary.)

**DAYLIGHT SAVING:** Automatic (can be changed or omitted)

**LEAP YEAR:** Automatic Compensation

**DISPLAY:** LCD • **CLOCK FORMAT:** AM/PM

**ASTRONOMIC:** 1. Adjustable 10°-60° Northern or Southern latitudes  
2. Can be individually offset +/- 1-299 minutes from both sunset and sunrise times.

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

**POWER OUTAGE BACKUP:** Permanent Schedule Retention. Supercapacitor maintains real time clock for 100 hours.

**SPECIFICATIONS**

**TIMING ACCURACY:** Line Frequency

**OPERATING TEMPERATURE:** -40 to +149°F (-40° to +65°C.)

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

**RELATIVE HUMIDITY:** 0 to 90% RH

**ENCLOSURE:** Indoor/Outdoor NEMA 3R plastic is standard

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

**POWER CONSUMPTION:** 6VA max.

# EWZ101 EWZ120 EWZ201

**APPLICATIONS**

- Outdoor signs
- Security Lighting
- Canopy Lighting
- Parking Lot Lighting

**SUPERCAPACITOR BACKUP!**

**PERMANENT SCHEDULE RETENTION**

**MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS**

*and*  
**ASHRAE 90.1 1999**

**PATENTED 40 AMP CONTACTS**



**OTHER MOUNTINGS:**

Metal Indoor, add suffix Y

Plastic Indoor/Outdoor with clear window

NEMA 3R: add suffix C

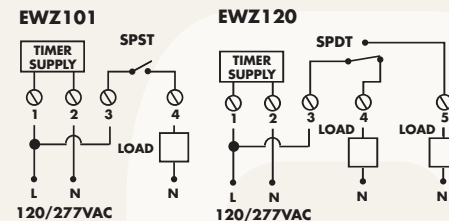
Metal Indoor/Outdoor – NEMA 3: add suffix O

Flush with lock and key: add suffix FLG

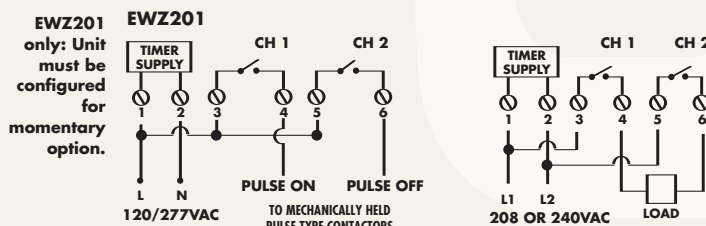
Bracket mounting – specify mechanism only with bracket

SERIES EWZ101 (SPST) SERIES EWZ201 (DPST)			SERIES EWZ120 (SPDT)				DRY CONTACT RATINGS	
LOAD TYPE	cULus		LOAD TYPE	120VAC		208-277VAC		
	120VAC	208-277VAC		NO	NC	NO	NC	
Resistive	40A	40A	Resistive	30A	30A	30A	30A	
Inductive	40A	40A	Inductive	30A	30A	30A	30A	
Ballast	30A	20A	Ballast	30A	10A	20A	10A	
Tungsten	15A		Tungsten	15A	2A			
Pilot Duty	720VA	720VA	Pilot Duty	720VA	720VA	720VA	720VA	
Motor	1HP	1½HP@208VAC	Motor	1HP	1HP	1½HP@208VAC		
30A resistive @28VDC		2HP@240-277VAC	all NO/NC 30A resistive @28VDC		2HP@240-277VAC			

**WIRING DIAGRAMS**



CATALOG NO	UPC CODE	TYPE	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
EWZ101	82470	1 CHANNEL	120-277VAC	SPST
EWZ120	82471	1 CHANNEL	120-277VAC	SPDT
EWZ201	82472	2 CHANNEL	120-277VAC	SPST



**SPECIFICATION WRITER'S GUIDES**

**EWZ SERIES**

1. Furnish and install TORK digital time switch with (40 AMP contacts, models EWZ101/201) (30 AMP contacts, model EWZ120).
2. Unit shall be capable of 20 set points.
3. Unit shall be capable of a different schedule for each day of the week.
4. Unit shall be have astronomic option adjustable from 1°-60° northern or southern latitudes.
5. Unit shall be have astronomic option with offset up to 4 hours and 59 minutes, before or after sunrise.
6. (Model EWZ201 ONLY) Unit shall be capable of being a 2 channel maintained or a 1 channel momentary.
7. Unit shall have automatic Daylight Savings Time and Leap Year compensation.
8. Unit shall program in AM/PM format.
9. Display shall be of LCD type.
10. Unit shall have permanent schedule retention.
11. Unit real time clock shall be retained by capacitor for 100 hours in a power failure.
12. Unit shall be capable of manual override ON or OFF either in the next scheduled event or permanently.
13. Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard.
14. Unit shall have Load Status indication.
15. Unit shall have Power Failure indication.
16. To order specify TORK Model EWZ101 (EWZ120) (EWZ201).

**EH SERIES** 

# TIME OF DAY WATER HEATER CONTROL

**WITH MANUAL ON/OFF PUSHBUTTON AND LOAD STATUS LIGHT ON OUTSIDE OF CASE**

**EH10B  
EH20B**



**APPLICATIONS**

Ideal for taking advantage of time-of-day utility rates. Control can be set to repeat the same schedule Monday through Friday and automatically allows a constant ON or OFF during weekends. The unit's unique manual override control (ON or OFF) is accessible from outside the enclosure.

**FEATURES**

- 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 maintains real time for 100 hours.

**SPECIFICATIONS**

**POWER CONSUMPTION:** 6VA max.

**CONTACT RATINGS:**

- 40 AMP Resistive @ 120/240VAC
- 1HP @120VAC, 2HP @240VAC

**TIMING ACCURACY:** Line Frequency

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

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

**RELATIVE HUMIDITY:** 0 to 90% RH (non-condensing)

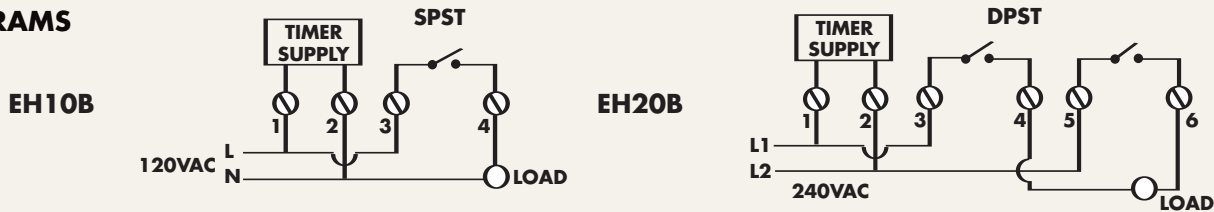
**ENCLOSURE:** General Purpose NEMA 1 metal is standard.

**SET POINTS:** 20 per day,  
minimum setting 1 minute.

**SUPERCAPACITOR BACKUP!**

**PERMANENT SCHEDULE RETENTION**

**WIRING DIAGRAMS**



CATALOG NO	UPC CODE	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
EH10B	82310	120VAC	SPST – NO
EH20B	82311	208-240VAC	DPST – NO

**SPECIFICATION WRITER'S GUIDE**

**EH SERIES**

1. Furnish and install TORK digital time switch with (SPST contacts, model EH10B) (DPST contacts, model EH20B).
2. Unit shall be capable of 20 set points.
3. Unit can be set to repeat the same schedule M, TU, W, TH, F, and maintain the last ON or OFF schedule from midnight Friday through midnight Sunday.
4. Unit shall be capable of being scheduled ON or OFF permanently.
5. Unit shall program in AM/PM format.
6. Unit shall be capable of automatic Daylight Saving adjustment or Leap Year compensation for real time clock and permanent schedule retention.
7. Unit shall have LCD display.
8. Unit shall have supercapacitor backup.
9. Unit shall be capable of manual override ON or OFF to the next scheduled event.
10. Unit shall have manual ON/OFF control and LED load status indicator on outside of enclosure.
11. Unit shall have heavy duty metal (NEMA 1) enclosure.
12. To order specify TORK Model EH10B (EH20B).

# DGS SERIES

## SIGNAL TIMERS/PULSE OUTPUT 1 CHANNEL

**TORK**  
DIGITAL  
CONTROLS

### DGS100 (7 DAY)

**MEETS CALIFORNIA  
ENERGY COMMISSION'S  
TITLE 24 REQUIREMENTS**

and  
**ASHRAE  
90.1 1999**

Capable of different schedules each day of the week.  
Unique holiday schedule for optional use on any days.

**SIGNALS OR PULSES:** 32 per week,  
minimum setting is one minute.

### DGS180 (24 HOUR)

Same schedule every day, can omit operation on  
selected days.

**SIGNALS OR PULSES:** 288 per day,  
minimum setting is five minutes.

### FEATURES

**SIGNAL OR PULSE DURATIONS:** Either of 2 different settings of 1-99 seconds can be assigned to each signal or pulse.

**MANUAL OVERRIDE:** Activates signal/pulse #1 duration

**DISPLAY:** LCD

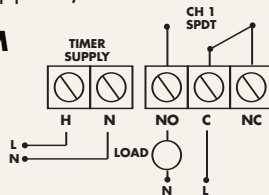
**DAYLIGHT SAVING:** Automatic adjustment (can be omitted).

**LEAP YEAR:** Automatic Compensation

**CLOCK FORMAT:** AM/PM (can be set to 24 hour if required)

**POWER OUTAGE BACKUP:** Battery back-up retains schedules  
Standard 9V conveniently accessible from the front.  
Lithium averages 450 hours. Alkaline averages 175  
hours (Battery not supplied).

### WIRING DIAGRAM



### APPLICATIONS

Bell or horn sounding  
in schools and factories.  
Two duration settings  
can differentiate  
between different types  
of breaks. Also use for:

- Misting
- Spraying insecticides
- Roof Cooling
- Clock Correction  
Systems
- Process Functions



## DGS100/180

### SPECIFICATIONS

**TIMING ACCURACY:**

Line Frequency

**OPERATING TEMPERATURE:**

-4 to +122°F (-20° to +50°C.)

**STORAGE TEMPERATURE:**

-22° to +167°F (-30° to +75°C.)

**RELATIVE HUMIDITY:** 0 to 90% RH (non-condensing)

**POWER CONSUMPTION:** 4VA max.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard.

### OTHER MOUNTINGS:

Metal Indoor: add suffix Y

Metal Indoor/Outdoor – NEMA 3R: add suffix O

Flush with lock and key: add suffix FLG

Bracket mounting – specify mechanism only with bracket

CATALOG NO	UPC CODE	TYPE	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
DGS180	82106	24 HOUR	120VAC	SPDT
DGS100	82102	7 DAY	120VAC	SPDT

Units are available in: 240VAC: add suffix "2"  
12VDC: add suffix "12" 277VAC: add suffix "3"  
24VAC: add suffix "24"

LOAD TYPE	UL				CSA		
	NO	NC	NO		NC		
Resistive or Inductive	120/240VAC	20A	10A	General Purpose	125VAC	15A	15A
	277VAC	6A	3A		240VAC	10A	10A
					277VAC	6A	3A
Resistive Pilot Duty	28VDC	20A	10A	Resistive Pilot Duty	28VDC	20A	10A
	120/240VAC	470VA	275VA		120/240VAC	470VA	275VA
	277VAC	690VA			277VAC	690VA	
Motor Load	120VAC	1HP	½HP	Motor Load	120VAC	½HP	½HP
	240VAC	2HP	½HP		240VAC	1HP	½HP
Ballast	277VAC	6A	3A				

### SPECIFICATION WRITER'S GUIDES

#### DGS180

1. Furnish and install TORK Model DGS180 24 HR with skip-a-day digital signal/pulse timer with a choice of 2 different durations of 1-99 seconds.
2. Controller shall be capable of 288 set points.
3. Controller shall program in 5 minute resolution.
4. Controller shall repeat the same schedule each day or be capable of omitting any selected days.  
WRITE 5-11 AS SHOWN BELOW

#### DGS100:

1. Furnish and install TORK Model DGS100 7-day digital signal/pulse timer with a choice of 2 different durations of 1-99 seconds.
2. Controller shall be capable of 32 set points.
3. Controller shall program in 1 minute resolution.
4. Controller shall be capable of a different schedule each day of the week.  
WRITE 5-11 AS SHOWN BELOW

#### APPLIES TO BOTH MODELS

5. Controller shall program in AM/PM or 24 Hour format.
6. Display shall be LCD.
7. Controller shall have daylight saving or standard time.
8. Controller shall have automatic leap year compensation.
9. Controller shall have battery backup capability of 450 hours with Lithium or 175 hours with Alkaline battery.
10. Controller shall be capable of manual override to activate pulse #1 duration.
11. Unit shall have an indoor/outdoor Noryl enclosure as standard.

# DG SERIES MULTIPURPOSE CONTROLS 1 CHANNEL

# DG180/100/120 DGM100

## APPLICATIONS

**DG180**  
**ONE CHANNEL, 24 HOUR**  
Ideal for single circuit HVAC unit.  
Use to control:

- Compressors
- Pumps
- Billboard Signs
- Ventilating Fans
- Security Systems
- SAME SCHEDULE EVERYDAY; CAN OMIT OPERATION ON SELECTED DAYS

## APPLICATIONS

**DGM100**  
**MOMENTARY CONTACTS**  
**ONE CHANNEL, 7 DAY**  
2 SPDT MOMENTARY CONTACT (2 SECOND)  
OUTPUTS: 1 FOR ON, 1 FOR OFF.

- Ideal for use with:
- Low voltage latching relays
  - Mechanically held contactors
  - Magnetically held contactors

## FEATURES

- DISPLAY:** LCD  
**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 (can be set to 24 hour if required)  
**POWER OUTAGE BACKUP:** Battery back-up retains schedules: standard 9V conveniently accessible from the front. Lithium averages 450 hours. Alkaline averages 175 hours (Battery not supplied).

**DG100/120**  
**ONE CHANNEL, 7 DAY**  
Indoor/Outdoor lighting and HVAC equipment:

- School warning and other traffic lights
- Water Heaters in offices, churches and factories
- CAPABLE OF DIFFERENT SCHEDULES EACH DAY OF THE WEEK; HOLIDAY SCHEDULE CAN BE EXECUTED AT ANY TIME FOR ANY NUMBER OF DAYS.

- Building sweep OFF of low voltage systems
- Direct wire to motor starters, eliminating the need for any other momentary interface device.
- CAPABLE OF DIFFERENT SCHEDULES EACH DAY OF THE WEEK; HOLIDAY SCHEDULE CAN BE EXECUTED AT ANY TIME FOR ANY NUMBER OF DAYS.



MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS

and ASHRAE 90.1 1999

## SPECIFICATIONS

- TIMING ACCURACY:** Line Frequency  
**OPERATING TEMPERATURE:** -4 to +122°F (-20° to +50°C.)  
**STORAGE TEMPERATURE:** -22° to +167°F (-30° to +75°C.)  
**RELATIVE HUMIDITY:** 0 to 90% RH (non-condensing)  
**POWER CONSUMPTION:** 4VA max.  
**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard.

## OTHER MOUNTINGS:

- Metal Indoor: add suffix Y  
Metal Indoor/Outdoor – NEMA 3R: add suffix O  
Flush with lock and key: add suffix FLG  
Bracket mounting – specify mechanism only with bracket

### DG 100, DG180

LOAD TYPE	UL				CSA		
	NO	NC	NO		NC		
Resistive or Inductive	120/240VAC†	20A	10A	General Purpose	125VAC	15A	15A
	277VAC††	6A	3A		240VAC	10A	10A
Resistive Pilot Duty	28VDC†	20A	10A	Resistive Pilot Duty	28VDC†	20A	10A
	120/240VAC†† 277VAC	470VA 690VA	275VA		120/240VAC 277VAC	470VA 690VA	275VA
Motor Load	120VAC	1HP	½HP	Motor Load	120VAC	½HP	½HP
	240VAC	2HP	¾HP		240VAC	1HP	¾HP
Ballast	277VAC††	6A	3A				

† Model DG120 is 15A  
†† Does not apply to Model DG120

### DG 120, DGM100

LOAD TYPE	UL				CSA		
	NO	NC	NO		NC		
Resistive or Inductive	120/240VAC	15A	10A	General Purpose	125VAC	10A	10A
	28VDC	15A	10A		28VDC	10A	10A
Resistive Pilot Duty	120/240VAC	470VA	275VA	Resistive Pilot Duty	120/240VAC	470VA	275VA
	277VAC	690VA			277VAC	690VA	
Motor Load	120VAC	1HP	½HP	Motor Load	120VAC	½HP	½HP
	240VAC	2HP	¾HP		240VAC	1HP	¾HP

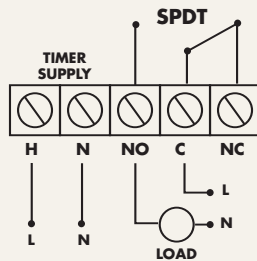
CATALOG NO	UPC CODE	TYPE	ON & OFF SET POINTS		CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
			TOTAL PER WEEK	MIN. SETTING		
DG180*	82105	24 HOUR	288	5 minutes	120VAC	SPDT
DG100*	82101	7 DAY	32	1 minute	120VAC	SPDT
DG120**	82201	7 DAY	32	1 minute	120VAC	DPDT
DG120-2	82202	7 DAY	32	1 minute	240VAC	DPDT
DGM100	82103	MOMENTARY	32	1 minute	120VAC	2 SPDT

\*Models DG100 and DG180 are available in:  
240VAC: add suffix 2  
277VAC: add suffix 3  
24 VAC: add suffix 24  
12 VDC: add suffix 12

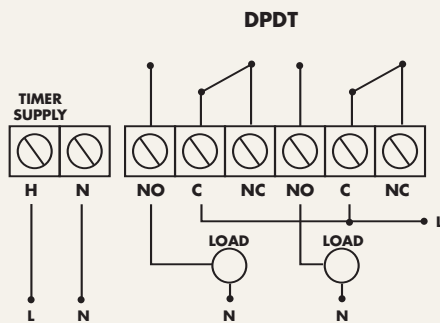
\*\*Model DG120 is available in 24VAC: consult factory.  
Model DG120 is not available in 277VAC

## WIRING DIAGRAMS

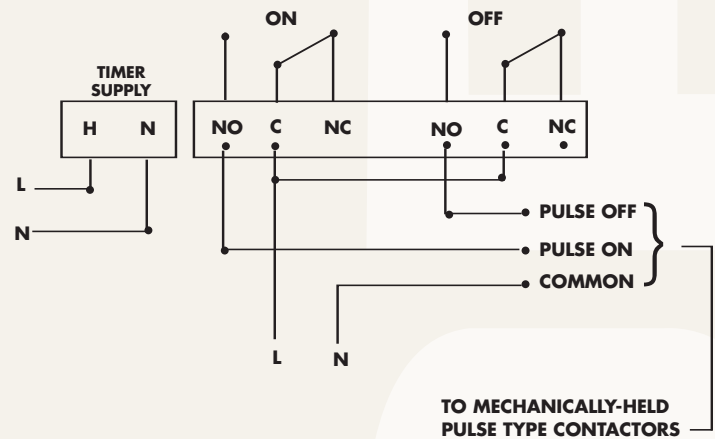
### DG100, DG180



### DG120



### DGM100



## SPECIFICATION WRITER'S GUIDES

### DG180

1. Furnish and install TORK Model DG180, 24 hour with skip-a-day digital time switch.
2. Controller shall be capable of 288 set points.
3. Controller shall program in 5 minute resolution.
4. Controller shall repeat the same schedule each day or be capable of omitting any selected days.
5. Controller shall program in AM/PM or 24 Hour format.
6. Display shall be LCD.
7. Controller shall have daylight saving or standard time.
8. Controller shall have automatic leap year compensation.
9. Controller shall have battery backup capability of 450 hours with Lithium or 175 hours with Alkaline battery.
10. Controller shall be capable of manual override ON or OFF to the next scheduled event.
11. Unit shall have an indoor/outdoor Noryl enclosure as standard.

### DG100/DG120

1. Furnish and install TORK Model DG100/DG120, 7-day digital time switch.
2. Controller shall be capable of 32 set points.
3. Controller shall program in 1 minute resolution.
4. Controller shall be capable of a different schedule each day of the week.
5. Controller shall program in AM/PM or 24 Hour format.
6. Display shall be LCD.
7. Controller shall have daylight saving or standard time.
8. Controller shall have automatic leap year compensation.
9. Controller shall have battery backup capability of 450 hours with Lithium or 175 hours with Alkaline battery.
10. Controller shall be capable of manual override ON or OFF to the next scheduled event.
11. Unit shall have an indoor/outdoor Noryl enclosure as standard.

### DGM100:

1. Furnish and install TORK Model DGM100, 7-day digital time switch with momentary contact capabilities.
2. Controller shall be capable of 32 set points.
3. Controller shall program in 1 minute resolution.
4. Controller shall be capable of a different schedule each day of the week.
5. Controller shall program in AM/PM or 24 Hour format.
6. Display shall be LCD.
7. Controller shall have daylight saving or standard time.
8. Controller shall have automatic leap year compensation.
9. Controller shall have battery backup capability of 450 hours with Lithium or 175 hours with Alkaline battery.
10. Controller shall be capable of manual override ON or OFF to the next scheduled event.
11. Unit shall have an indoor/outdoor Noryl enclosure as standard.

# DGU SERIES

## UNIVERSAL INPUT • 1 CHANNEL

### 7 DAY SCHEDULING

### MAINTAINED OR MOMENTARY CONTACTS

# DGU100

# DGUM100

Capable of different schedules each day of the week  
**ON & OFF SET POINTS:** 32 per week,  
 minimum setting is one minute.

#### APPLICATIONS

Accepts photocell (TORK Model EPC1) or any dry maintained contact closure input. Great for outdoor lighting (photocell ON/time OFF) and HVAC with thermostat input for remote temperature override.

#### MAINTAINED CONTACT: DGU100

- Electrically held contactor
- Mechanically held coil clearing contactor

#### MOMENTARY CONTACT: DGUM100

- Mechanically held contactor – 2 coil
- Pulse latched contactor
- Low voltage latching relay

#### FEATURES

**HOLIDAY:** 1 special schedule can be executed for any number of days

**DISPLAY:** LCD

**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 (can be set to 24 hour if required)

**POWER OUTAGE BACKUP:** Battery back-up retains schedules – standard 9V conveniently accessible from the front. Lithium averages 450 hours. Alkaline averages 175 hours (Battery not supplied).

**THREE POSITION SLIDE SWITCH:** For various types of input:

1. Photocell input delayed response
2. Photocell input quick response
3. Dry contact closure

#### SPECIFICATIONS

**TIMING ACCURACY:** Line Frequency

**OPERATING TEMPERATURE:** -4 to +122°F (-20° to +50°C.)

**STORAGE TEMPERATURE:** -22° to +167°F (-30° to +75°C.)

**RELATIVE HUMIDITY:** 0 to 90% RH (non-condensing)

**POWER CONSUMPTION:** 4VA max.

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard.



MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS

and ASHRAE 90.1 1999

**EPC1 PHOTOCELL:** Photocell is enclosed in a tough Lexan® housing for 1/2" conduit mounting and 180° swivel. It is used as a photocell input for models DGU100 and DGUM100. A 1-100FC light level adjustment is available at the time switch. Maximum run length of twisted pair wire: 250FT with 22 AWG, 500FT with 18 AWG.

#### OTHER MOUNTINGS:

Metal Indoor: add suffix Y

Metal Indoor/Outdoor – NEMA 3R: add suffix O

Flush with lock and key: add suffix FLG

Bracket mounting – specify mechanism only with bracket

CATALOG NO	UPC CODE	CONTACT TYPE	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
DGU100	82104	MAINTAINED	120VAC	SPDT
DGUM100	82114	MOMENTARY	120VAC	2-SPDT

## DGU100

## CONTACT RATINGS

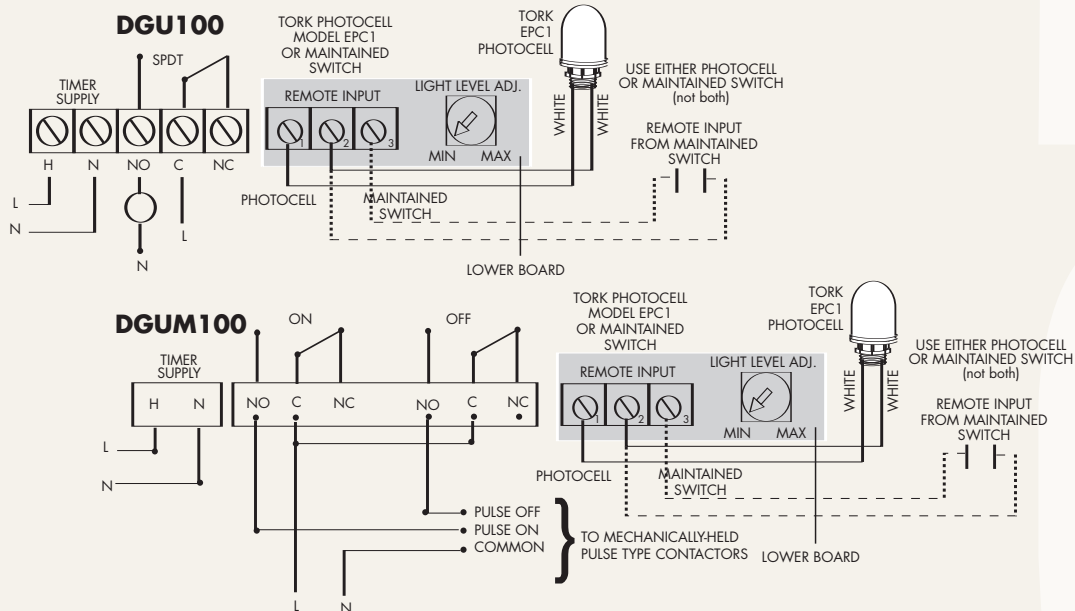
LOAD TYPE	UL				CSA		
		NO	NC			NO	NC
Resistive or Inductive	120/240VAC	20A	10A	General Purpose	125VAC	15A	15A
	277VAC	6A	3A		240VAC	10A	10A
Resistive Pilot Duty	28VDC	20A	10A	Resistive Pilot Duty	28VDC	20A	10A
	120/240VAC 277VAC	470VA 690VA	275VA		120/240VAC 277VAC	470VA 690VA	275VA
Motor Load	120VAC	1HP	½HP	Motor Load	120VAC	½HP	½HP
	240VAC	2HP	½HP		240VAC	1HP	½HP
Ballast	277VAC	6A	3A				

## DGUM100

## CONTACT RATINGS

LOAD TYPE	UL				CSA		
		NO	NC			NO	NC
Resistive or Inductive	120/240VAC	15A	10A	General Purpose	125VAC	10A	10A
Resistive Pilot Duty	28VDC	15A	10A	Resistive Pilot Duty	28VDC	10A	10A
	120/240VAC 277VAC	470VA 690VA	275VA		120/240VAC 277VAC	470VA 690VA	275VA
Motor Load	120VAC	1HP	½HP	Motor Load	120VAC	½HP	½HP
	240VAC	2HP	½HP		240VAC	1HP	½HP

## WIRING DIAGRAMS



## SPECIFICATION WRITER'S GUIDES

### DGU100

- Furnish and install TORK Model DGU100 digital time switch with universal input (TORK's EPC1 photocell or dry contact closure).
- Controller shall be capable of 32 set points.
- Controller shall program in 1 minute resolution.
- Controller shall be capable of a different schedule each day of the week.
- Controller shall program in AM/PM or 24 Hour format.
- Display shall be LCD.
- Controller shall have daylight saving or standard time.
- Controller shall have automatic leap year compensation.
- Controller shall have battery backup capability of 275 hours with Lithium or 100 hours with Alkaline battery.
- Controller shall be capable of manual override ON or OFF to the next scheduled event.
- Unit shall have an indoor/outdoor Noryl enclosure as standard.

### DGUM100:

- Furnish and install TORK Model DGUM100 digital time switch with universal input (Tork's EPC1 photocell or dry contact closure) and momentary output contacts.
- Controller shall be capable of 32 set points.
- Controller shall program in 1 minute resolution.
- Controller shall be capable of a different schedule each day of the week.
- Controller shall program in AM/PM or 24 Hour format.
- Display shall be LCD.
- Controller shall have daylight saving or standard time.
- Controller shall have automatic leap year compensation.
- Controller shall have battery backup capability of 275 hours with Lithium or 100 hours with Alkaline battery.
- Controller shall be capable of manual override ON or OFF to the next scheduled event.
- Unit shall have an indoor/outdoor Noryl enclosure as standard.

# DGLC SERIES OUTDOOR LIGHTING CONTROLLER WITH SENSOR INPUT

## DGLC DGLC-3

### APPLICATIONS

Offers combination light level and time-of-day for 1 circuit and photocontrol operation for a 2nd circuit.

Use Circuit #1 for outdoor signs or displays where dusk-ON and preset time OFF is desired, perhaps on certain days.

Use Circuit #2 for all night safety or security lighting where dusk-ON, daylight-OFF is desired everyday.

Circuit #1: Photocontrol ON/Time OFF  
Time ON/Photocontrol OFF

Circuit #2: Photocontrol ON/Photocontrol OFF

**NOTE:** Display shows the scheduled status of the load which is connected to circuit #1. Circuit #2 load will turn ON at sunset and OFF at sunrise every day of the week.

### ADDITIONAL EXAMPLES OF AREAS NEEDING LIGHTING CONTROL:

- Parking Lots
- Walkways
- Building Perimeters
- Show windows
- Store Fronts
- Patios
- Backyards
- Lawns
- Swimming Pools
- Hotel Grounds

Capable of different schedules each day of the week.

**ON AND OFF SET POINTS:** 32 per week, minimum setting is one minute.

### FEATURES

**DISPLAY:** LCD

**HOLIDAYS:** 1 special schedule can be executed for 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 (can be set to 24 hour if required)

**POWER OUTAGE BACKUP:** Battery back-up retains schedules – standard 9V conveniently accessible from the front. Lithium averages 450 hours. Alkaline averages 175 hours (Battery not supplied).

### SPECIFICATIONS

**POWER CONSUMPTION:** 4VA max.

**OPERATING TEMPERATURE:** -4 to +122°F (-20° to +50°C.)

**STORAGE TEMPERATURE:** -22° to +167°F (-30° to +75°C.)

**RELATIVE HUMIDITY:** 0 to 90% RH (non-condensing)

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard.

Metal Indoor, add suffix Y, Model 63100

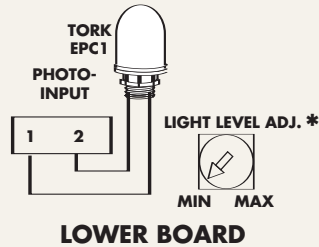
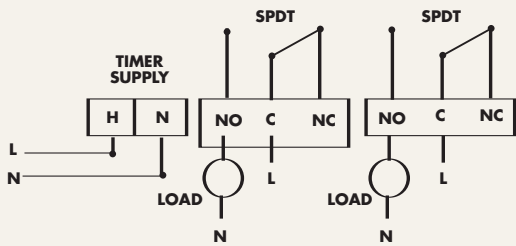


DGLC SERIES		CONTACT RATINGS	
TYPE	VOLTAGE	RATING	
		NO	NC
Resistive or Inductive	120/240VAC	15A	10A
Resistive	28VDC	15A	10A
Ballast	120/240/277VAC	6A	3A
Pilot Duty	120/240VAC	470VA	275VA
	277VAC	690VA	

CATALOG NO	UPC CODE	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
DGLC	82107	120VAC	2 SPDT
DGLC-3	82108	277VAC	2 SPDT

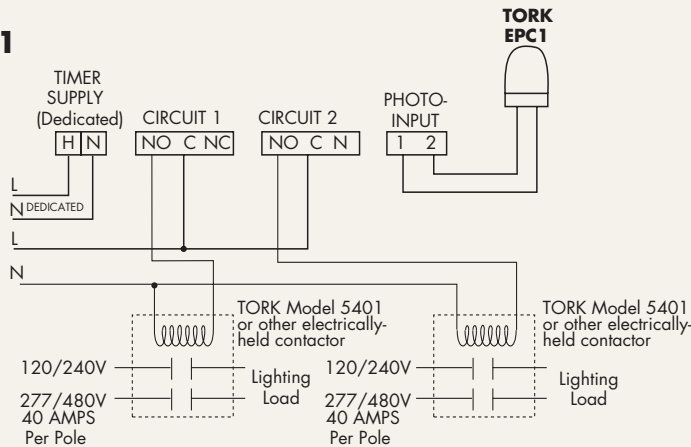


## WIRING DIAGRAMS



\* ON RELAY WILL CLOSE AS FOLLOWS: **MIN POSITION: 1 OR TWO FOOTCANDLES**  
**MAX POSITION: 100 FOOTCANDLES**

**FIG. 1**

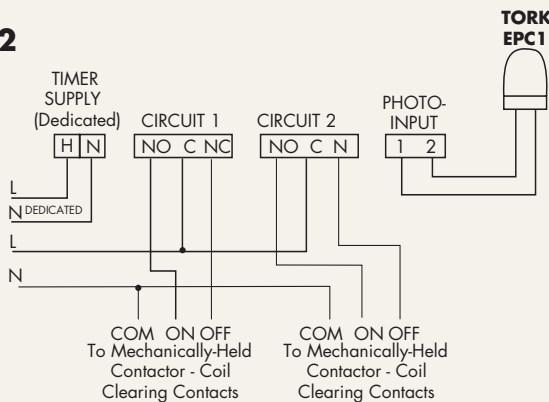


## TYPICAL APPLICATIONS

**FIGURE 1  
FOR WIRING TO  
ELECTRICALLY-HELD  
CONTACTOR**

**FIGURES 1 AND 2  
ONE CIRCUIT CAN BE USED TO  
CONTROL ELECTRICALLY-HELD  
CONTACTOR WHILE THE  
OTHER CIRCUIT CONTROLS A  
MECHANICALLY-HELD  
CONTACTOR**

**FIG. 2**



**FIGURE 2  
FOR COIL CLEARING  
MECHANICALLY-HELD  
CONTACTOR**

**FIGURES 1 AND 2**

**CIRCUIT 1 OPERATION PROVIDED**

- photo ON/time OFF or
- photo ON/time OFF/time ON/photo OFF

**CIRCUIT 2 OPERATION PROVIDED**

- photo ON/photo OFF

NOTE: an ON event must be set prior to sunset in order for Circuit 1 to turn on automatically at dusk.

**SPECIFICATION WRITER'S GUIDE**

**DGLC SERIES**

Furnish and install an electronic control and light sensor with dual outputs for 2 lighting zones. Zone #1 shall be capable of automatically turning ON at dusk and OFF at a user selectable time on any or all days of the week. Zone #1 shall also be capable of turning back ON at another user selectable time and then OFF at dawn. Zone #2 shall automatically turn ON at dusk and OFF at dawn every day. Control shall be capable of 32 ON and OFF set points with minimum settings of 1 minute. Control shall automatically adjust for daylight savings time and leap years. Battery backup shall retain schedules during power outage. Install Tork Model DGLC (120VAC), DGLC-3 (277VAC).

# DZS SERIES

## MULTIPURPOSE CONTROLS

### 1, 2 OR 4 CHANNEL

365 DAY ADVANCE SINGLE HOLIDAY AND SEASONAL SCHEDULING WITH ASTRONOMIC FEATURE

**DZS100BP**  
**DZS200BP**  
**DZS400BP**



- APPLICATIONS**
- HVAC Equipment
  - Horns, Bells
  - Interior Lighting
  - Electric Motors

- Outdoor Lighting and signs
- Refrigeration defrost control: Condensers, Heaters

**SPECIAL FEATURES!**

**SUPERCAPACITOR BACKUP!**

**PERMANENT SCHEDULE RETENTION**

**MEMORY MODULE** can be programmed at any one location and inserted into another DZS series unit with MM socket in any other location!

**MM**

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

(OPTIONAL) Windows-based program and **MEMORY MODULE PROGRAMMER (MMP)** can be used to program the memory module.

**optional MMP**

**MEMORY MODULE PROGRAMMER (MMP) OPTIONAL**



Capable of different schedules each day of the week

**ON & OFF SET POINTS:** 99 per week, minimum setting is one minute.

**ASTRONOMIC OFFSET:** 299 minutes

MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS

and **ASHRAE 90.1 1999**

**FEATURES**

**DISPLAY:** LCD

**ASTRONOMIC:**

1. Adjustable 10°-60° Northern or Southern latitudes
2. Can be individually offset +/- 1-299 minutes from both sunset and sunrise times.

**HOLIDAYS:** 1 to 24 individual dates

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

**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

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

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

**POWER OUTAGE BACKUP:** Permanent Schedule Retention: Supercapacitor maintains real time.

**SPECIFICATIONS**

**TIMING ACCURACY:** Line Frequency

**OPERATING TEMPERATURE:**

-40 to +158°F (-40° to +70°C.)

**POWER CONSUMPTION:**

DZS100/200BP: 5VA max

DZS400BP: 6VA max

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R standard.

**OTHER MOUNTINGS:**

Metal Indoor: add suffix Y

Metal Indoor/Outdoor – NEMA 3R: add suffix O

Flush with lock and key: add suffix FLG

Bracket mounting – specify mechanism only with bracket

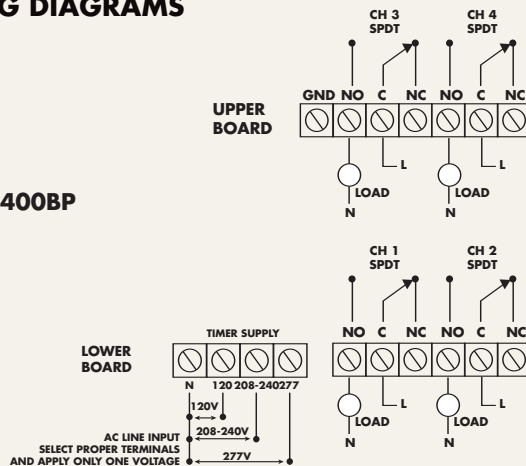
CATALOG NO	UPC CODE	TYPE	VOLTAGE (VAC)	DRY CONTACTS (UNPOWERED)
DZS100BP	82182	1 CHANNEL	120/(208-240)/277	DPDT
DZS200BP	82183	2 CHANNEL	120/(208-240)/277	SPDT
DZS400BP	82184	4 CHANNEL	120/(208-240)/277	SPDT
MMP	82181	MEMORY MODULE PROGRAMMER	120V	(includes software)

Units are available in: 12VDC: add suffix "12" 24VAC: add suffix "24"

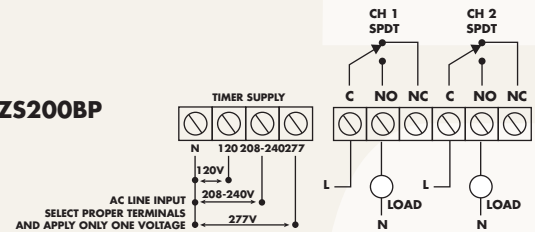
DZS100BP, DZS200BP				DZS400BP		
TYPE	VOLTAGE	RATING		TYPE	VOLTAGE	RATING
		NO	NC			
Ballast	120VAC	20A	10A	General Purpose	24-277VAC, 30VDC	10A
	208-277VAC	10A	3A			
Tungsten	120-277VAC	5A	3A	Tungsten	120VAC	360 watts
	277VAC	12A	6A			
General Purpose	24-240VAC	20A	10A	Pilot Duty	120-277VAC	360VA
	277VAC	12A	6A			
Pilot Duty	120-240VAC	470VA	275VA	Motor Load	120VAC	1/2HP
	277VAC	690VA				
Motor Load	120VAC	1HP	1/2HP	Motor Load	208-240VAC	1/2HP
	208-240VAC	2HP	1/2HP			
	277VAC	1HP				
Resistive	28VDC	20A	10A			

## WIRING DIAGRAMS

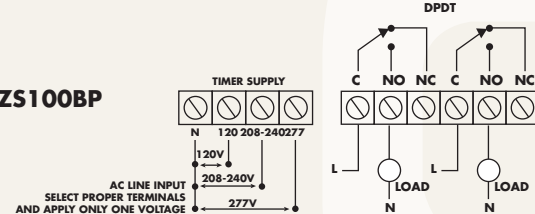
DZS400BP



DZS200BP



DZS100BP



## SPECIFICATION WRITER'S GUIDE

### DZS SERIES

- Furnish and install where noted a 4 (2) (1) channel digital time switch with portable Memory Module on front panel.
- 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.
- 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
- 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.
- Controller shall program in AM/PM (12 hour) or Military (24 hour) formats.
- Controller shall program in one minute resolution.
- Display shall be of LCD type.
- Controller shall be capable of 99 set points; separate scheduling for each day of the week.
- Controller shall have 365 day holiday capabilities with 24 single dates and 4 seasons of unlimited duration.
- Different daily schedules shall be programmable within each season.
- Controller shall have Daylight Saving or Standard time.
- Controller shall have automatic Leap Year correction.
- Controller shall have Permanent Schedule Retention.
- Controller shall have 100 hours backup for real time with built in supercapacitor.
- Controller shall be capable of manual override ON or OFF to the next scheduled event using 1 button for each channel.
- Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard.
- Controller shall be capable of having 2 different pulse durations 1-99 seconds, user settable and assignable to each channel.
- Controller shall be capable of having astronomic on one (or all) channels with 1-299 minutes, plus or minus offset from Sunrise or Sunset.
- Controller shall be capable of being configured to copy to multiple memory modules.
- To order specify TORK Model DZS100BP (DZS200BP) (DZS400BP).

# DTS SERIES

## MULTIPURPOSE CONTROLS

### 1, 2 OR 4 CHANNEL

#### 365 DAY ADVANCE SINGLE HOLIDAY AND SEASONAL SCHEDULING

**DTS100B**  
**DTS200B**  
**DTS400B**

#### APPLICATIONS

- Indoor and Outdoor Lighting
- Heating and Air Conditioning
- Security Systems
- Horns & Bells
- Low voltage Lighting
- Mistig & Spraying
- Roof Cooling
- Clock Correction Systems
- Process Functions

#### FEATURES

- DISPLAY:** LCD
- HOLIDAYS:** 1 to 24 individual dates
- SEASONS:** 1 to 4 with different daily schedules which can wrap around into the new year
- DAYLIGHT SAVING:** Automatic adjustment (can be omitted).
- LEAP YEAR:** Automatic Compensation
- MANUAL OVERRIDE:** Activates signal/pulse
- CLOCK FORMAT:** AM/PM or military time
- POWER OUTAGE BACKUP:** Permanent Schedule Retention. Supercapacitor maintains real time.
- SIGNAL/PULSE DURATION:** 2 different settings per channel, each 1-99 seconds



MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS

and **ASHRAE 90.1 1999**

Capable of different schedules each day of the week  
**SIGNALS OR PULSES:** 99 per week, minimum setting is one minute.

**SUPERCAPACITOR BACKUP!**  
**PERMANENT SCHEDULE RETENTION**

CATALOG NO	UPC CODE	TYPE	VOLTAGE (VAC) 50/60Hz	DRY CONTACTS (UNPOWERED)
DTS100B	82185	1 CHANNEL	120/(208-240)/277	DPDT
DTS200B	82186	2 CHANNEL	120/(208-240)/277	SPDT
DTS400B	82187	4 CHANNEL	120/(208-240)/277	SPDT
Units are available in: 12VDC: add suffix "12" 24VAC: add suffix "24"				

#### SPECIFICATIONS

- TIMING ACCURACY:** Line Frequency
- OPERATING TEMPERATURE:** -40 to +158°F (-40° to +70°C.)
- POWER CONSUMPTION:** 5VA max: DTS100/200B  
6VA max: DTS400B
- ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard.

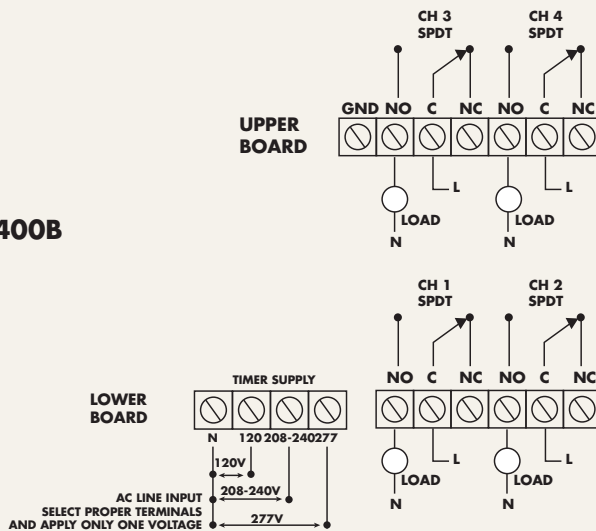
#### OTHER MOUNTINGS:

- Metal Indoor: add suffix Y
- Metal Indoor/Outdoor – NEMA 3R: add suffix O
- Flush with lock and key: add suffix FLG
- Bracket mounting – specify mechanism only with bracket

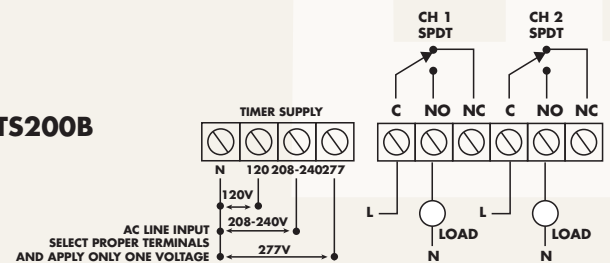
DTS100B, DTS200B				DTS400B		CONTACT RATINGS	
TYPE	VOLTAGE	RATING		TYPE	VOLTAGE	RATING	
		NO	NC				
Ballast	120VAC	20A	10A	General Purpose	24-277VAC, 30VDC	10A	
	208-277VAC	10A	3A				
Tungsten	120-277VAC	5A	3A	Tungsten	120VAC	360 watts	
General Purpose	24-240VAC	20A	10A				
	277VAC	12A	6A				
Pilot Duty	120-240VAC	470VA	275VA	Pilot Duty	120-277VAC	360VA	
	277VAC	690VA					
Motor Load	120VAC	1HP	½HP	Motor Load	120VAC	½HP	
	208-240VAC	2HP	¾HP				
	277VAC	1HP					
Resistive	28VDC	20A	10A				

## WIRING DIAGRAMS

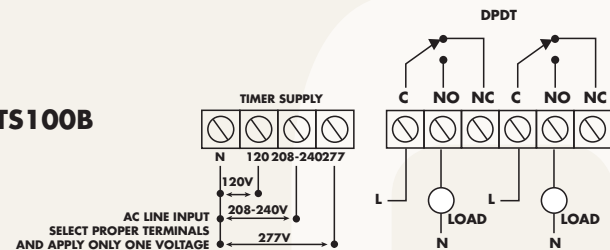
### DTS400B



### DTS200B



### DTS100B



## SPECIFICATION WRITER'S GUIDE

### DTS SERIES

- Furnish and install where noted a 4 (2) (1) channel digital time switch.
- Controller shall program in AM/PM (12 hour) or Military (24 hour) formats.
- Controller shall program in one minute resolution.
- Display shall be of LCD type.
- Controller shall be capable of 99 set points; separate scheduling for each day of the week.
- Controller shall have 365 day holiday capabilities with 24 single dates and 4 seasons of unlimited duration.
- Different daily schedules shall be programmable within each season.
- Controller shall have Daylight Saving or Standard time.
- Controller shall have automatic Leap Year correction.
- Controller shall have Permanent Schedule Retention.
- Controller shall have 100 hours backup for real time with built in supercapacitor.
- Controller shall be capable of manual override ON to activate pulse #1 duration.
- Unit shall have NEMA Type 3 indoor/outdoor enclosure as standard.
- Controller shall be capable of having 2 different pulse durations 1-99 seconds, user settable and assignable to each channel.
- To order specify TORK Model DTS100B (200B) (400B).

# DW SERIES

## MULTIPURPOSE CONTROLS

### 1 OR 2 CHANNEL

**7 DAY FORMAT**  
**365 DAY ADVANCE HOLIDAY SCHEDULING**  
**DWZ100B HAS ASTRONOMIC FEATURE**

# DWZ100B

# DW200B

**APPLICATIONS:**

**ONE CHANNEL**

- Outdoor Signs
- Security Lighting
- Parking Lot Lighting
- Canopy Lighting

**APPLICATIONS:**

**TWO CHANNEL**

- HVAC Equipment
- Interior Lighting
- Electric Motors
- Refrigerator Defrost Control: Condensers, Heaters

**FEATURES**

- DISPLAY: LCD
- HOLIDAYS: 1 to 24 individual dates
- DAYLIGHT SAVINGS: Automatic Adjustment
- 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 Schedule Retention. Supercapacitor maintains real time.
- ASTRONOMIC (DWZ100B Series only):
  1. Adjustable 10°-60° Northern or Southern latitudes
  2. Can be individually offset +/- 1-299 minutes from both sunset and sunrise times.

**SPECIFICATIONS**

- POWER CONSUMPTION: 5VA MAX
- OPERATING TEMPERATURE: -40 to +158°F (-40° to +70°C.)
- ENCLOSURE: Noryl® Indoor/Outdoor NEMA 3R plastic is standard.

**OTHER MOUNTINGS:**

- Metal Indoor: add suffix Y
- Metal Indoor/Outdoor – NEMA 3R: add suffix O
- Flush with lock and key: add suffix FLG
- Bracket mounting – specify mechanism only with bracket



**MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS** and **ASHRAE 90.1 1999**

**SUPERCAPACITOR BACKUP!**

**PERMANENT SCHEDULE RETENTION**

Capable of different schedules each day of the week  
**ON & OFF SET POINTS:** 99 per week, minimum setting is one minute.

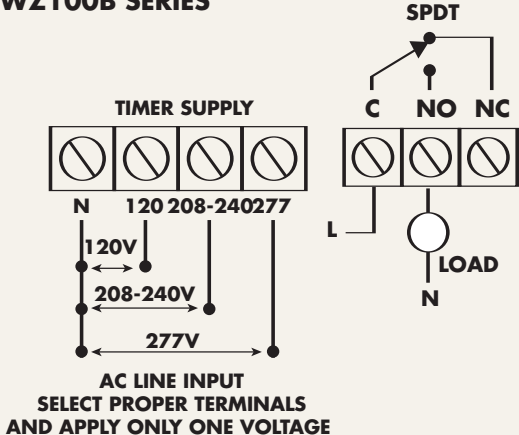
CATALOG NO	UPC CODE	ASTRONOMIC FEATURE	CLOCK INPUT	DRY CONTACTS (UNPOWERED)
DWZ100B	82189	YES	120/(208-240)/277VAC, 50/60Hz	SPDT
DW200B	82190	NO	120/(208-240)/277VAC, 50/60Hz	SPDT

Units are available in: 12VDC: add suffix "12" 24VAC: add suffix "24"

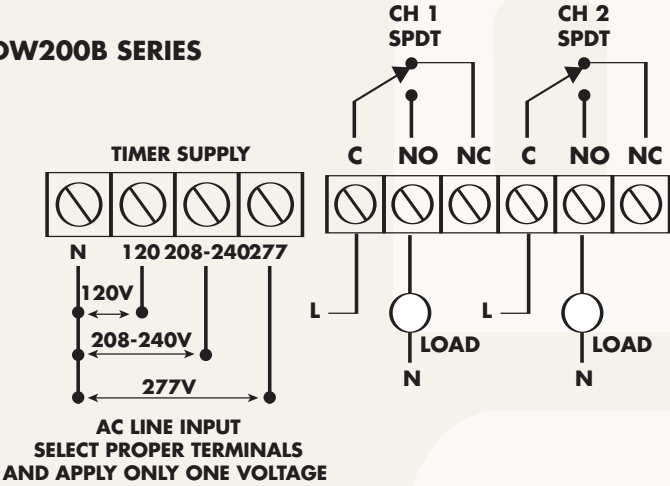
DW SERIES	VOLTAGE	CONTACT RATINGS	
		NO	NC
Ballast	120VAC	20A	10A
	208-277VAC	10A	3A
Tungsten	120-277VAC	5A	3A
General Purpose	24-240VAC	20A	10A
	277VAC	12A	6A
Pilot Duty	120-240VAC	470VA	275VA
	277VAC	690VA	
Motor Load	120VAC	1HP	½HP
	208-240VAC	2HP	½HP
	277VAC	1HP	
Resistive	28VDC	20A	10A

## WIRING DIAGRAMS

### DWZ100B SERIES



### DW200B SERIES



## SPECIFICATION WRITER'S GUIDES

### 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 100 hours 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 1-299 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 100 hours 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. To order specify TORK Model DW200B.

# DLC400BP

## 4 ZONE LIGHTING CONTROLLER

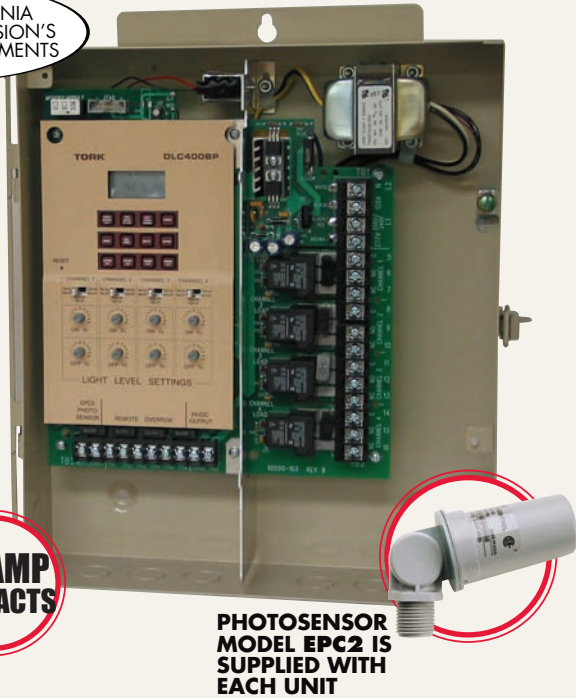
### WITH INPUT FROM PHOTOCENSOR OR BASED ON TIME OF DAY

# DLC400BP

The DLC400BP is a multi-voltage, dedicated 4 zone lighting controller with photocell input in a NEMA 3R enclosure. The unit has heavy duty 30 Amp SPDT contacts, thereby eliminating the need for costly contactors in most applications. Each zone can be actuated by 1) the photocensor, or 2) time of day, or 3) a combination of both. Light level settings at which loads turn ON and OFF as well as time schedules are assigned independently to each zone, with the additional capability of remote override inputs from external switches or local override at the keypad.

MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS

and ASHRAE 90.1 1999



30 AMP CONTACTS

PHOTOCENSOR MODEL EPC2 IS SUPPLIED WITH EACH UNIT

**3-POSITION SLIDE SWITCH FOR EACH ZONE:**  
 Time of day ON, Time of day OFF  
 Light Level ON, Time of day OFF  
 Light Level ON, Light Level OFF

**SPECIFICATIONS**  
**OPERATING TEMPERATURE:** -40 to +158°F (-40° to +70°C.)  
**POWER CONSUMPTION:** 30 VA max  
**ENCLOSURE:** Metal Indoor/Outdoor NEMA 3 is standard.  
**SIZE:** 15 1/8" H x 13 1/8" W x 3 3/16" D

DLC 400BP	VOLTAGE	CONTACT RATINGS	
		NO	NC
General Purpose	24-277VAC, 30VDC	30A	30A
Ballast	120-277VAC	20A	10A
Tungsten	120VAC	10A	
Pilot Duty	120-277VAC	720VA	720VA

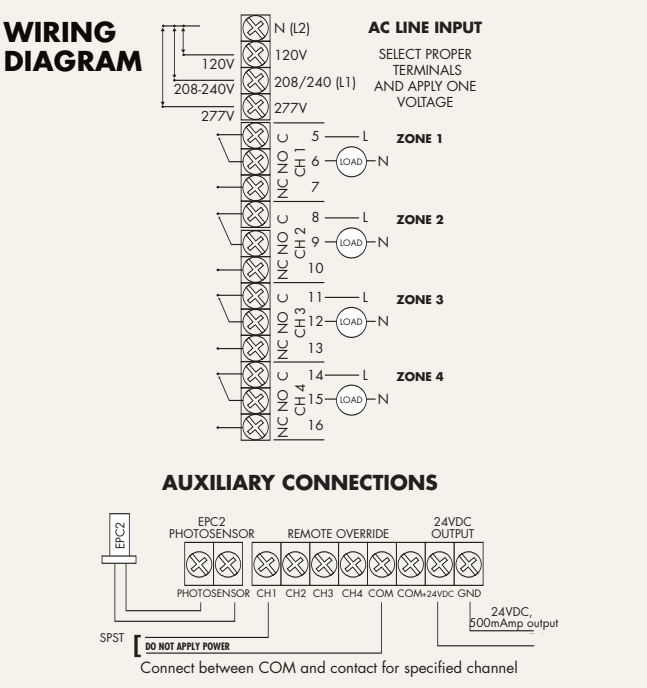
**MEMORY MODULE** can be programmed at any one location and inserted into another DZS series unit with MM socket in any other location!

(OPTIONAL) Windows-based program and MEMORY MODULE PROGRAMMER can be used to program the memory module.

**optional MMP**  
see page 23

MM

**PERMANENT SCHEDULE RETENTION**



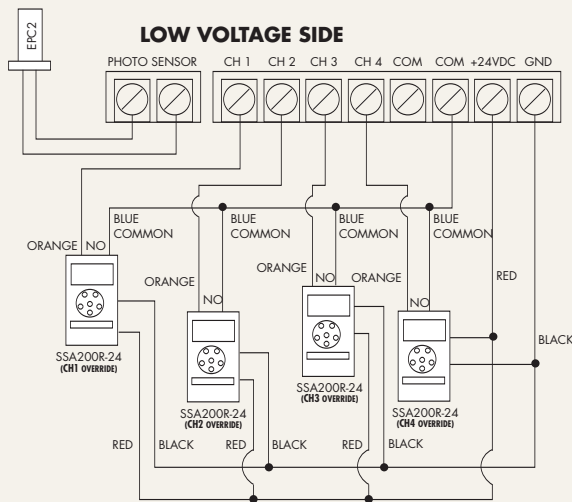
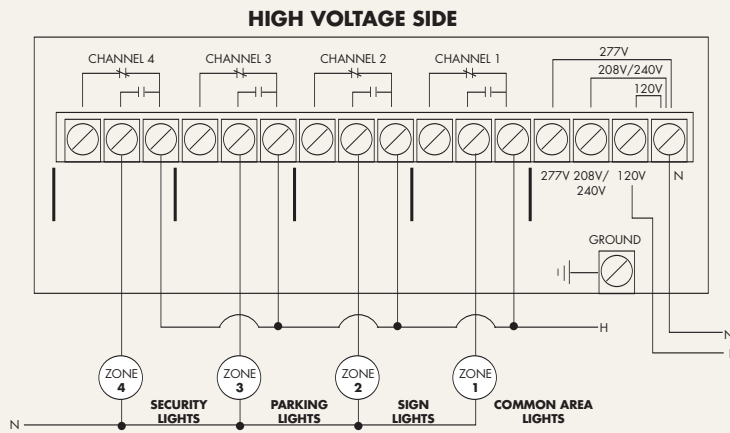
**FEATURES**

- LIGHT LEVEL ADJUSTMENT:** 1-100 footcandles for ON and OFF independent for each zone
- ASTRONOMIC:**
  - Adjustable 10°-60° Northern or Southern latitudes
  - Can be individually offset +/- 1-299 minutes from both sunset and sunrise times.
- HOLIDAYS:** 1 to 24 individual dates
- SEASONS:** 1 to 4 with different daily schedules which can wrap around into the new year
- DAYLIGHT SAVING:** Automatic adjustment (can be omitted).
- LEAP YEAR:** Automatic Compensation
- REMOTE OVERRIDE:** Maintained dry contact closure or use TORQ Model SSA200R-24 for timed override
- LOCAL OVERRIDE:** Until the next regularly scheduled ON or OFF. Automatic operation then resumes.
- POWER OUTAGE BACKUP:** Permanent Schedule Retention. Snap-in lithium battery maintains real time.

CATALOG NO	UPC CODE	CLOCK INPUT 50/60Hz	ISOLATED CONTACTS (UNPOWERED)
DLC400BP	82191	120/(208-240)/277V	SPDT
MMP	82181	120V	Memory Module Programmer



## APPLICATION WIRING DIAGRAM



**MEMORY MODULE PROGRAMMER (MMP) OPTIONAL**



### APPLICATION EXAMPLE: SHOPPING MALL WITH FOUR ZONE NEEDS:

- 1 Common area lighting to be ON M-F from 8:30am 11:00pm, Saturday from 7:30am-11:30pm, and Sunday from 9:00am to 7:00pm.
  - 2 Sign Lighting needs to be ON from sunset (astronomically) and OFF at midnight.
  - 3 Parking lights need to be ON when ambient lighting drops to 5 footcandles (photocell) and OFF M-F at 11:00pm, Saturday at midnight and Sunday at 8pm.
  - 4 Security lighting needs to be ON when ambient lighting drops to 5 footcandles and can turn off at 10 footcandles.
- All four lighting zones use TORK Model SSA200R-24 to provide timed override when an extension of time is required.

### APPLICATION EXAMPLE USING OPTIONAL SSA200R-24 FOR REMOTE TIMED OVERRIDE:

- CH 1** Common area lighting may need to be overridden ON after hours for a timed 2 hour period. The lighting will flicker before turn-off as a warning.
- CH 2** Sign lighting may need to be overridden ON after hours for a timed 3 hour period. A beep warning will sound before turn-off.
- CH 3** Parking lights may be needed after hours for a time period of 2 hours. A beep warning will sound prior to the lights going OFF.
- CH 4** Security lighting needs the capability of being overridden ON after hours for a timed 2 hour period. A warning will occur before turn-off.

### ADDITIONAL EXAMPLES OF AREAS NEEDING LIGHTING CONTROL:

#### INTERIOR LIGHTING

- Offices
- Hallways
- Meeting Areas
- Sales Areas
- Stock Rooms
- Warehouse

#### EXTERIOR LIGHTING

- Signs
- Security
- Canopy
- Parking Lot
- Show Windows

### 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 + 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.
16. Controller shall be capable of being configured to copy to multiple memory modules.
17. Specify TORK model DLC400BP.

# DZM200BP

## 2 CHANNEL LIGHTING CONTROLLER

### 365 DAY ADVANCE SINGLE HOLIDAY AND SEASONAL SCHEDULING ASTRONOMIC OPTION

MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS *and* ASHRAE 90.1 1999



#### APPLICATIONS

Ideal for use with:

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

#### FEATURES

**SCHEDULING:** 365 day, 99 ON & OFF set points, min setting is 1 min.

#### ASTRONOMIC:

1. Adjustable 10°-60° Northern or Southern latitudes
2. Can be individually offset +/- 1-299 minutes from both sunset and sunrise times.

**HOLIDAYS:** 1 to 24 individual dates

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

**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.

**DISPLAY:** LCD, **CLOCK FORMAT:** AM/PM OR MILITARY

**POWER OUTAGE BACKUP:** Permanent Schedule Retention. Supercapacitor maintains real time.

#### ADDITIONAL EXAMPLES OF AREAS NEEDING LIGHTING CONTROL:

- Storage Rooms
- Warehouses
- Show windows
- Shopping malls
- Industrial Yards
- Landscape Lighting
- Indoor Pools
- Roof Recreation
- Outdoor Tennis Courts

MEMORY MODULE PROGRAMMER (MMP) OPTIONAL



**SUPERCAPACITOR BACKUP!**

PERMANENT SCHEDULE RETENTION

#### SPECIFICATIONS

**POWER CONSUMPTION:** 4VA max.

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

**ENCLOSURE:** Noryl® Indoor/Outdoor NEMA 3R is standard.



**MEMORY MODULE** can be programmed at any one location and inserted into another DZM200BP unit with MM socket in any other location!

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

(OPTIONAL) Windows-based program and MEMORY MODULE PROGRAMMER can be used to program the memory module.



#### OTHER MOUNTINGS:

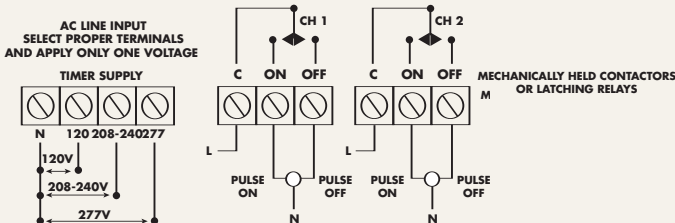
Metal Indoor: add suffix Y

Metal Indoor/Outdoor – NEMA 3R: add suffix O

Flush with lock and key: add suffix FLG

Bracket mounting – specify mechanism only with bracket

#### WIRING DIAGRAM



DZM200B		CONTACT RATINGS
TYPE	VOLTAGE	RATING
General Purpose	120-277VAC	10A
Resistive	30VDC	10A
Pilot Duty	120-277VAC	360VA

CATALOG NO	UPC CODE	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
DZM200BP	82188	120/(208-240)/277	SPDT
MMP	82181	120V	Memory Module Programmer

#### SPECIFICATION WRITER'S GUIDE

##### DZM200BP

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 100 hours backup for real time with built in supercapacitor.
15. Controller 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.
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.

# K SERIES

## MULTIPURPOSE CONTROLS

### 4, 6 AND 8 CHANNEL

#### 365 DAY ADVANCE SINGLE AND BLOCK HOLIDAY SCHEDULING & ASTRONOMIC FEATURE



### APPLICATIONS

The K Series LCD display is truly self prompting. Easy as YES-NO-ENTER, settings are confirmed with an audible signal. Incorrect entries are not accepted and are confirmed as incorrect by an error signal.

Capable of different schedules each day of the week  
**ON & OFF SET POINTS:** 40 per CHANNEL, minimum setting is one minute.  
**ASTRONOMIC OFFSET:** 99 minutes

- Banks
- Schools
- Shopping Malls
- Hospitals
- Strip shopping centers

### FEATURES

**DISPLAY:** LCD  
**ASTRONOMIC:**

1. Available on any or all channels
2. Adjustable 10°-60° Northern or Southern latitudes
3. Can be individually offset +/- 1-99 minutes from both sunset and sunrise times.
4. Multiple ON/OFFs can be set between sunset and sunrise.

**HOLIDAYS:** 1 to 40 individual dates with one common schedule. 8 blocks, each capable of a different schedule.

**REMOTE MANUAL OVERRIDE:** Requires only single momentary contact pushbutton which may be set from 1-255 minutes.

**DUTY CYCLE:** Ratio from 1-99 minutes, 9 different patterns.

**DAYLIGHT SAVING:** Automatic if selected.

**LEAP YEAR:** Automatic Compensation

**PULSE SWITCHING:** 2 second pulse (K800Z series); 1-99 seconds signal duration (K801Z series).

**SAFETY OVERRIDE SWITCH:** For each channel.

**CLOCK FORMAT:** AM/PM or military time

**POWER OUTAGE BACKUP:** Battery backup for 6 months cumulative.

## K800Z/K600Z, K400Z K801Z, K601Z, K401Z

**MEETS CALIFORNIA ENERGY COMMISSION'S TITLE 24 REQUIREMENTS** and **ASHRAE 90.1 1999**

### SPECIFICATIONS

#### CONTACT RATINGS:

Resistive: 120/240VAC, 28VDC = 10A  
 Motor Load: 120VAC = 1/2HP

**POWER CONSUMPTION:** 36VA max

**ENCLOSURE:** NEMA 1

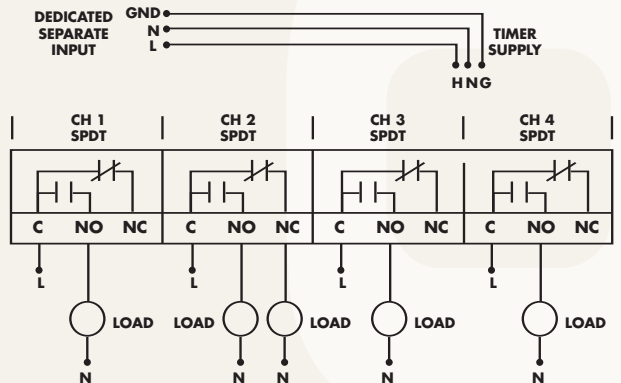
**SIZE:** 15" h x 10 3/4" w x 4" d

**KNOCKOUTS:** 1/8" and 3/4" on sides and bottom

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

### WIRING DIAGRAM

**K400Z or K401Z**  
 Also Typical of Models (K600Z, K601Z, K800Z, K801Z)



CATALOG NO	UPC CODE	NO. OF CHANNELS	CLOCK INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
------------	----------	-----------------	---------------------	--------------------------

K800Z	82011	8	120VAC	SPDT
K600Z	82012	6	120VAC	SPDT
K400Z	82013	4	120VAC	SPDT

**NEW!**

WITH SEASONAL PROGRAMMING, allowing for different daily schedules during 8 various periods of the year, and NEW SIGNAL TIMER CAPABILITY, allowing for different signal (pulsed) durations on each channel.

K801Z	82037	8	120VAC	SPDT
K601Z	82036	6	120VAC	SPDT
K401Z	82035	4	120VAC	SPDT

### SPECIFICATION WRITER'S GUIDE K SERIES

1. Furnish and install where indicated a Microprocessor-based Digital Controller with (4), (6), or (8) channels, each channel programmable for each day of the week on a separate schedule, or repeat function for everyday of week, with one setting.
2. Program entries shall be made by mechanical push-button and an acknowledgement of each entry into the unit shall be by audible signal.
3. Override switches shall be provided for continuous ON or OFF and automatic and visual indicators for each channel.
4. Controller shall provide 365 day programming in advance with up to 40 Holiday dates with 8th Day Holiday schedule. In addition K800Z series shall have 8 holiday blocks of unlimited duration, each capable of a different 24 hour schedule or (K801Z series shall have 8 seasons of unlimited duration each capable of different 7 day schedules).
5. Each channel shall have individual astronomic capability, adjustable from 10°-60° Northern or Southern latitude. Each zone can additionally be offset 1 - 99 minutes for both sunset and sunrise.

6. Each channel shall have independent programming with 40 ON/OFF operations per week.
7. Each channel shall have 1-255 minutes remote timed override-user settable - up to 250 feet of 18 AWG twisted pair wire.
8. Controller shall have AM/PM or 24 hour military time, user selectable - up to 250 feet of 18 AWG twisted pair wire.
9. Controller shall have automatic daylight saving or standard time. Daylight Saving option will offer U.S. option (first Sunday in April/last Sunday in October) or any user selectable dates.
10. Controller shall have up to nine different duty cycle patterns settable from 1-99 minutes ON/OFF.
11. Controller shall have a 2 second pulse (K800Z Series) or user settable 1-99 seconds signal duration (K801Z series).
12. Controller shall have plain English self-prompting display.
13. Furnish and install TORK model K \_ \_ \_ Z (to fit requirement).

# LD SERIES LIGHTING REACTIVATION SWITCHES

# LDS LDSH

**WITH WARNING BEFORE LIGHTING TURNS OFF AND CAPABILITY OF A TIMED-ON EXTENSION IDEALLY SUITED TO MEET ENERGY CONSERVATION CONSTRUCTION CODES RELATIVE TO CONTROL OF LIGHTING AND HVAC FOR AFTER HOURS USE.**



### FEATURES: LDS FOR LIGHTING LOADS

The LDS / LDS-A Lighting Delay Switch can be an accessory to any TORK maintained contact time switch and is used to *extend the lighting time* when the main time switch is about to turn OFF a lighting circuit. An approximate 1/2 second blink will occur as a warning that the lighting will go OFF in (user selectable) 1 or 5 minute warning period.

The Lighting Delay Switch can be operated as a stand alone control using remote ON/OFF momentary push-buttons. Remote momentary ON/OFF push button switches can be connected to the designated terminal of the Lighting Delay Switch using low voltage # 18 - 22 AWG twisted pair wires. Pressing the remote ON button momentarily during the 1 or 5 minute warning period (before the lights go out) will extend the time ON for a user selectable 1/2 hour, 1 hour, 1-1/2 hour, 2 hours, 6 hours, 9 hours, or 12 hours. At the end of the extended time a warning blink will again occur, allowing personnel to repeat another 1/2 - 12 hour extension if necessary. Pressing the remote OFF button for 3 to 4 seconds will terminate the extension of time, and initiate the warning blink. The lights will turn OFF after the 1 or 5 minute warning period.

When starting up after a power failure (if time switch is not ON), lighting will be turned ON for 10 minutes. At the end of the 10 minute period a warning blink will occur. The lights will remain ON for the 1 or 5 minute warning period. If an extension of time is required, press the remote ON button momentarily.



### FEATURES: LDSH FOR LIGHTING, HVAC AND MAIN BUILDING LOADS

To be used when flickering of lights as a means of warning before time out is inappropriate i.e. for HID lighting or for non-lighting loads. The LDSH / LDSH-A Lighting Delay Switch can be an accessory to any TORK maintained contact time switch and is used to *extend the time on of lighting, HVAC, and other main building loads* when the time switch is about to turn OFF. An auxiliary contact closes, turning on a user selected signal device (i.e. bell, horn, light, or other warning device), which turns off along with the main load at the end of the user selected 4 seconds, 1 minute, or 5 minute warning period.

The Lighting Delay Switch can be operated as a stand alone control using remote ON/OFF momentary pushbuttons. Remote momentary ON/OFF push button switches can be connected to the designated terminal of the Lighting Delay Switch using low voltage #18 - 22 AWG twisted pair wires. Pressing the remote ON button momentarily during the 1 or 5 minute warning period will extend the time on (main load) for a user selectable 1/2 hour, 1 hour, 1-1/2 hour, 2 hours, 6 hours, 9 hours, or 12 hours. At the end of the extended time the user selected signal device will again turn on, allowing personnel to repeat another 1/2 - 12 hour extension of the main load if necessary. Pressing the remote OFF button for 3 to 4 seconds will terminate the extension of time for the main load, and turn on the auxiliary warning circuit. The warning circuit will turn off after the 4 second, 1 minute, or 5 minute period. The main load will turn OFF after the 1 or 5 minute warning period.

When starting up after a power failure (if time switch is not ON), the main load will be turned ON for 10 minutes. At the end of the 10 minute period, the warning circuit will turn on. The main load and warning circuit will remain ON for the 1 or 5 minute warning period. If an extension of time is required for the main load, press the remote ON button momentarily. The auxiliary warning circuit will turn off, and the main load will remain on for an additional 1/2 - 12 hour extension of time.

### SPECIFICATIONS

**INPUT:** 120/(208-240)/277VAC ± 10%, 50/60 Hz, 4VA

**OUTPUT:** SPDT dry contacts (unpowered)

**CONTACT RATINGS:** (Main Load): see table

**CONTACT RATINGS:** (Aux. Load)

10 Amp Resistive, 360VA @ 120-277VAC, 50/60 Hz.

10 Amp Resistive @ 28VDC, 24VAC

**OPERATING TEMP:** -22°F to 150°F (-30°C to 65°C)

**STORAGE TEMP:** -40°F to 158°F (-40°C to 70°C)

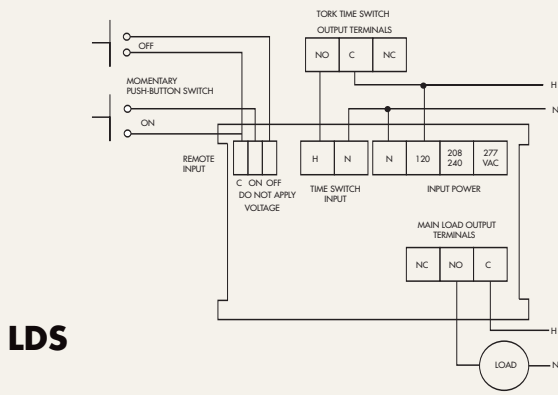
**MECHANISM DIMENSIONS:**

3-13/32"W x 5-5/16"H x 1-3/32"D

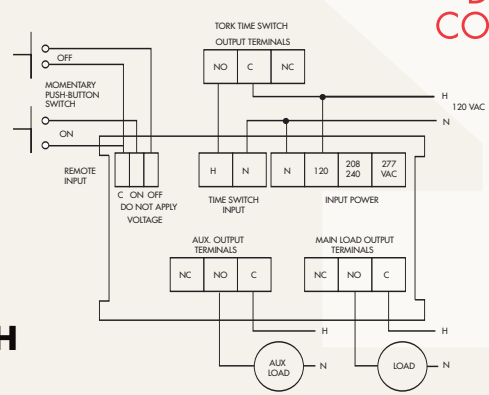
CATALOG NO	UPC CODE	WARNING BEFORE TIME OUT
LDS	81025	flicker of lights
LDSH	81028	user selected signaling device
LDS-A	81026	(same as LDS) in metal enclosure
LDSH-A	81031	(same as LDSH) in metal enclosure

LD SERIES	VOLTAGE	CONTACT RATINGS	
		NO	NC
Ballast	120VAC	20A	10A
	208-277VAC	10A	3A
Tungsten	120-277VAC	5A	3A
	General Purpose	24-240VAC	20A
Pilot Duty		277VAC	12A
	120-240VAC	470VA	275VA
	277VAC	690VA	
Resistive	28VDC	20A	10A

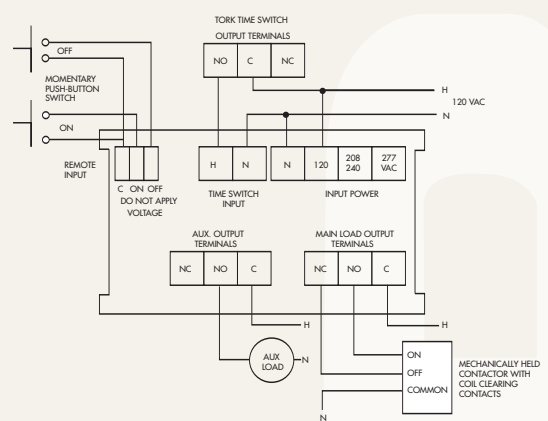
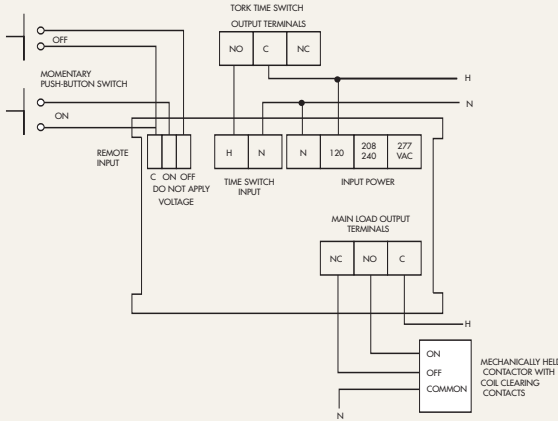
## WIRING DIAGRAMS



**LDS**



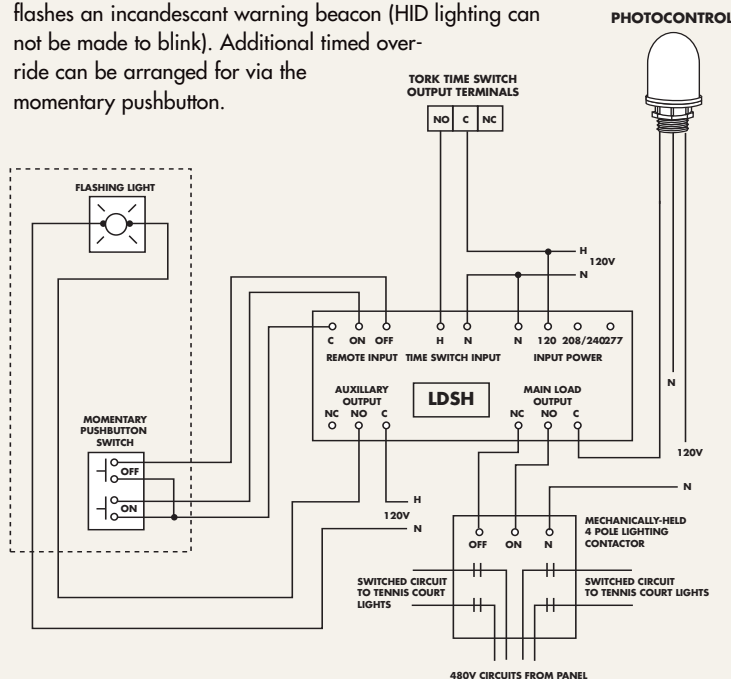
**LDSH**



**MULTIPLE REMOTE MOMENTARY PUSHBUTTONS MAY BE WIRED TO THE SAME TERMINALS FOR ACCESS FROM DIFFERENT LOCATIONS. IF TIME OF DAY CONTROL IS ALSO REQUIRED, SEE WIRING DIAGRAM FOR TIME SWITCH INTERFACE.**

### FIGURES 1 AND 2 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.



### SPECIFICATION WRITER'S GUIDE LDS

Furnish and install where shown, a Lighting Delay Switch with OFF blink warning to operate a mechanically held (with coil clearing contacts), or electrically held contactors of maximum size. Control shall include four terminals for input power (120/(208-240)/277VAC), two for remote Time-of-Day control via any of Tork's maintained contact time switches, three for load output wiring, and three input terminals that will accept a momentary contact closure for remote override. Control shall function to turn on and off Load output lighting per Time-of-Day schedules, or via remote override input for a user preset time period of 1/2, 1, 1-1/2, 2, 6, 9, or 12 hours. Control shall blink the lights when an off command is received, which shall warn the user to activate an extension of time via its remote override input. If extension of time is not activated the lights will turn off in the user preset time delay of 1 or 5 minutes.

Control shall be TORK Model LDS (with metal enclosure Model LDS-A).

### LDSH

Furnish and install where shown, a Lighting Delay Switch to extend the time on of lighting, HVAC, and other main building loads. Unit shall include auxiliary contacts to turn on a user selected signal device as a warning prior to the main load turning off. Unit shall be capable of operating a mechanically held (with coil clearing contacts), or electrically held contactors of maximum size. Control shall include four terminals for input power (120/(208-240)/277VAC), two for remote Time-of-Day control via any of Tork's maintained contact time switches, three for load output wiring, three input terminals that will accept a momentary contact closure for remote override and three for auxiliary contacts. Control shall function to turn on and off Load output per Time-of-Day schedules, or via remote override input for a user preset time period of 1/2, 1, 1-1/2, 2, 6, 9, or 12 hours. Control shall close the auxiliary contacts when an off command is received, which shall warn the user to activate an extension of time via its remote override input. If extension of time is not activated the load will turn off in the user preset time delay of 1 or 5 minutes.

Control shall be TORK Model LDSH (with metal enclosure Model LDSH-A).

# LC200 SERIES

## USER SETTABLE LIGHT LEVEL/ TIME OF DAY OPERATION OF 2 LIGHTING ZONES

# LC200 LC200M

The LC200 consists of an electronic control and an electronic light sensor interacting. The unit offers separate control of two lighting zones, each with user settable light level setpoints. The Electronic control also offers two digital inputs which will accept a contact closure from any Tork Timer(s), or existing EMS system to provide for independent Time-of-Day override.

### APPLICATIONS

- Use to control two different outdoor lighting circuits utilizing the one photocell. Sign lighting can turn on at one ambient light level while parking lot lighting turns on at a different light level.
- Use to control two different indoor lighting circuits. During the first stage when ambient light drops partially, a limited amount of electrical lights turns on. During the second stage when ambient light drops significantly, additional electrical lighting turns on.
- Use in conjunction with a time switch for photo-cell ON of 2 different lighting circuits at different ambient light levels, then time-of-day OFF.

### FOR USE IN:

- Retail Stores
- Warehouses
- Schools
- 24 hour convenience stores
- Open wall parking structures
- Walkways
- Building Perimeters
- Show windows
- Offices
- Atriums
- Factories
- Hotel Grounds

### FEATURES

Single electronic LIGHT SENSOR with swivel (Model EPC-1) which can be mounted up to 1000 feet from controller.

DUAL OUTPUTS with independent turn-ON adjustment from 2 to 100 footcandles.

Turn-ON to turn-OFF ratio is 1:2.

Two independent "TIME-OF-DAY" INPUTS.

30 SECOND DELAY on start-up.

POWER-ON status indicator and LOAD STATUS indication for each load.

**CONTROLS TWO DIFFERENT LIGHTING CIRCUITS:** During first stage when ambient light drops partially, a limited amount of electrical lights turn on. During the second stage when ambient light drops significantly, additional electrical lighting turns on.

Can be used IN CONJUNCTION WITH A TIME SWITCH for photocell ON of two different lighting circuits at different ambient light levels, then time-of-day OFF.

### SPECIFICATIONS

**POWER CONSUMPTION:** 5VA max.

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

**ENCLOSURE:** General Purpose NEMA 1 drawn steel, beige enamel with combination 1/2" and 3/4" KOs on top, bottom and back. Lockable hasp.

### SPECIFICATION WRITER'S GUIDE LC200 SERIES

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 setpoint 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.

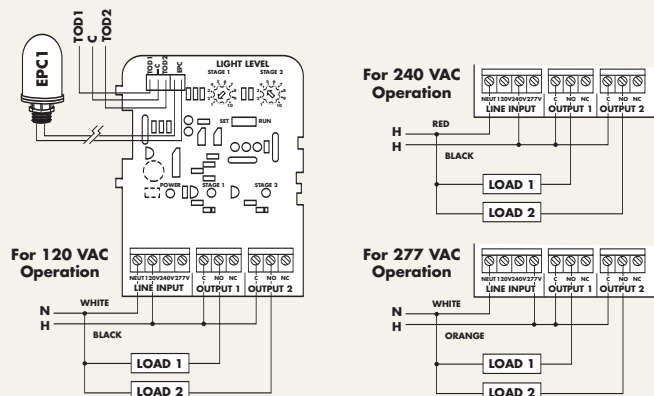


**PHOTOSENSOR  
MODEL EPC1 IS  
SUPPLIED WITH  
EACH UNIT**

CATALOG NO	UPC CODE		INPUT 50/60Hz	DRY CONTACTS (UNPOWERED)
LC200	82111	unit & enclosure	120/240/277	SPDT
LC200M	82113	unit only	120/240/277	SPDT

LC200 SERIES			CONTACT RATINGS	
TYPE	VOLTAGE	NO	- RATING -	NC
Ballast	120VAC	20A		10A
	240/277VAC	6A		3A
Tungsten	120/240/277VAC	5A		3A
	Resistive	120/240VAC	20A	10A
Pilot Duty	277VAC	12A		
	120/240VAC	470VA		275VA
	277VAC	690VA		

### WIRING DIAGRAM



# SMC SERIES MOMENTARY CONTACT ADAPTERS FOR CONVERSION OF MAINTAINED TO PULSED SWITCHING

**TORK**  
DIGITAL  
CONTROLS



A device to convert maintained SPST 120VAC input to momentary (2 second ON and OFF) operations. Input connections are made to a two position terminal strip. There are two sets of SPDT terminals for connecting to dry contacts (unpowered)—one set for "ON" pulse and one set for "OFF" pulse.

Makes possible conversion to manual pushbutton stations. Example: control for present installation has SPDT contacts, to operate a mechanically-held contactor or an electrically-held contactor with a holding circuit, with no remote manual stations required. Changing needs make manual stations desirable. Add SMC-3D series to the existing system to convert present maintained contact to a two-second momentary contact.

**Note: Up to 5 model SMC-3D units may be controlled in parallel with one SPST maintained control input.**

## SPECIFICATIONS

**INPUT VOLTAGE:** 120VAC

**MOMENTARY CONTACTS (UNPOWERED) CAPACITY:**

- 30 Amps Inrush, 120VAC • 30 Amps Inrush, 277VAC
- 30 Amps Inrush, 240VAC • 30 Amps Inrush, 30VDC

**NOMINAL CONTACT RATING:** 10 AMP: 30 VDC, 120VAC, 240VAC, 277VAC and 24VAC.

Factory preset 2 SECOND PULSE, no adjustment required. DRY CONTACT SWITCHING (unpowered).

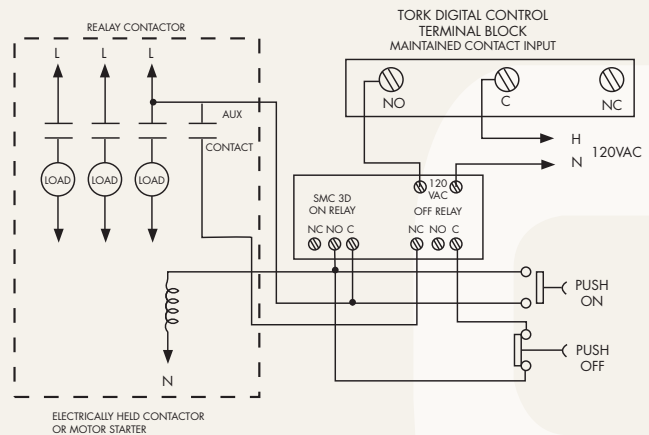
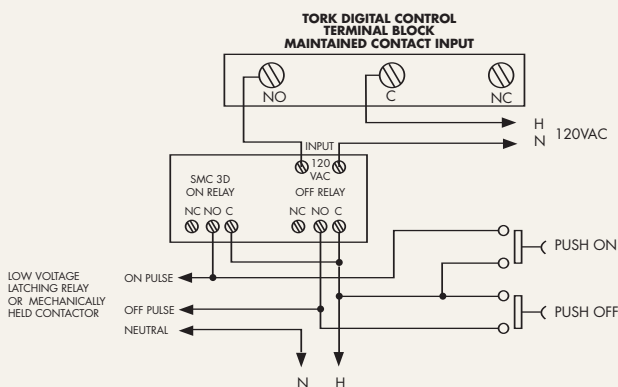
**TERMINALS:** Terminal strip will accommodate up to #12 AWG wire.

**ENCLOSURE:** Noryl® Indoor/Outdoor (NEMA 3R). Lockable hasp. Combination 1/2"-3/4" knockouts in bottom, and sides. Ample wiring room. Removable cover. Also available: Flush, with lock and key (suffix FL1) or mechanism only with snap-in bracket for panel mounting (specify).

## WIRING DIAGRAMS

### SMC 3D

**Input – Sustained voltage 120VAC**      **120VAC, 240VAC**  
**Momentary Contacts (unpowered)**      **277VAC, 30VDC**  
**30 Amps inrush**



## SPECIFICATION WRITER'S GUIDE SMC SERIES

Furnish and install where shown, a Momentary Contact adapter control which shall be suitable to operate a remote mechanically-held or electrically-held contactor of maximum size. Control shall include terminal block with two terminals for input, six for line and connection to ON and OFF terminals of controlling SPDT device. Control shall

function to provide a switch closure not in excess of two seconds to both ON and OFF contactor coil terminals whenever controlling device turns to respective ON and OFF positions. Contactor coil circuits shall be suitable for 30 amperes inrush current at 120V, 30 amperes at 208-240V, 30 amperes at 277 volts and 30 amperes at 30VDC. Enclosure shall be NEMA 3R surface (or flush) type, with provision for padlocking and/or sealing. Control shall be TORK Model SMC-3D.

CATALOG NO	UPC CODE	INPUT VOLTAGE
SMC3D	52011	120VAC
FOR 277VAC, ADD -3 to the part number, for 240VAC add -2 to the part number.		

# ACT SERIES

## ADJUSTABLE CYCLE TIMER

1 UNIT OFFERS OVER 900 CYCLE VARIATIONS  
WITHOUT BOTHERSOME JUMPERS

DETENT KNOBS SET PRECISE REAL TIME  
WITHOUT CONFUSING PERCENTAGES

NEMA 4X, CORROSION RESISTANT

DUAL VOLTAGE 120/240 VAC

SINGLE POLE DOUBLE THROW RELAY  
CAN CYCLE 2 LOADS OPPOSITELY



**THE ONLY NEMA 4X RATED UNIT!**

# ACT30/120M ACT120S ACT30/120MFS ACT120/SFS



### APPLICATION EXAMPLES:

- Poultry farms for feeding of chickens at set intervals to fatten them; to run clean water through coops; for egg collection on a routine basis.
- Oil well pumping, alternating pumps to prolong motor life.
- Roof cool down for more efficient building cooling by spraying water for set intervals.
- Irrigation for crops in the field and for plants, flowers and vegetables in a greenhouse or nursery.
- Misting of fruits and vegetables in a supermarket to keep them fresh.
- Sewage treatment plant alternates between water pump and aerating fans.
- Machinery receives a shot of lubrication periodically to keep it running efficiently.
- Process control, i.e. a conveyor belt starting and stopping at set intervals.
- Laboratory experiments require light exposure at different cycle variations.
- Ventilation fans cycle ON and OFF for efficient area cooling.

### FEATURES

#### OVER 900 CYCLE VARIATIONS IN 1 UNIT

...without bothersome jumpers!

Timer is capable of alternately cycling electrical loads on and off repetitively with electronic accuracy. Each unit offers a choice of 31 different on times and 31 different off times all field selectable while the load is ON and without changing any jumpers. Different models offer cycle increments in 2 seconds, 1/2 minute, or 2 minutes.

#### DETENT KNOBS SET PRECISE REAL TIME

...without confusing percentages!

Settings are simple using 2 control knobs, one for ON and one for OFF each in straight forward real time with NO confusing percentages to figure out. Each knob offers a "hold setting" **for manual on or off**. If both knobs are set to "hold", the off takes priority. Whenever the off hold is removed, the timer will go to its on time setting. Any power interruption will reset the timer to the beginning of its on cycle. **Green and red LED's indicate load status.**

### SPECIFICATIONS

**OPERATING TEMPERATURE:** 14 to +140°F (-10° to +60°C)

**STORAGE TEMPERATURE:** -22 to +158°F (-30° to +70°C)

#### NEMA 4X and CORROSION RESISTANT\*

When mounted in FS box or other suitable enclosure, timers are sealed and designed for severe environments, including dusty or ammonia-rich areas. This includes indoor use in areas requiring wash downs. \* FOR INDOOR USE.

#### DUAL VOLTAGE 120/240 VAC

All models are available in either dual voltage 120/208-240VAC or in 24VAC. Relay output is isolated from the supply power, enabling switching of loads with a different voltage than the supply voltage. Surge protection is provided for up to 6,000 volts, 10,000 amps.

#### SINGLE POLE DOUBLE THROW RELAY CAN CYCLE 2 LOADS OPPOSITELY

One unit can alternately cycle 2 different loads (*unlike competitor's unit*) i.e. to prolong motor life or to switch between water flushing and aeration.

**RELATIVE HUMIDITY:** 0-100% non-condensing

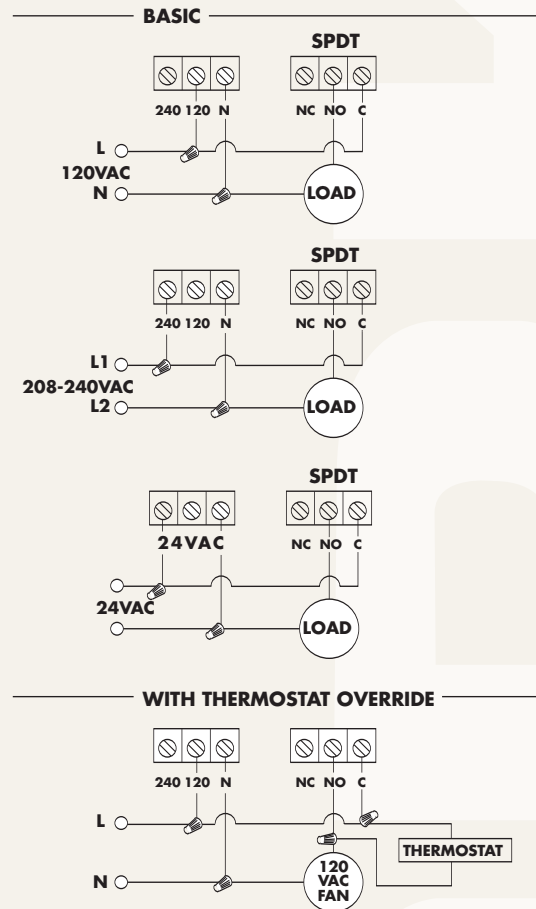
**ENCLOSURE:** FS box – NEMA 4X Indoor

**OTHER MOUNTING:** Panel mount – NEMA 4X Indoor

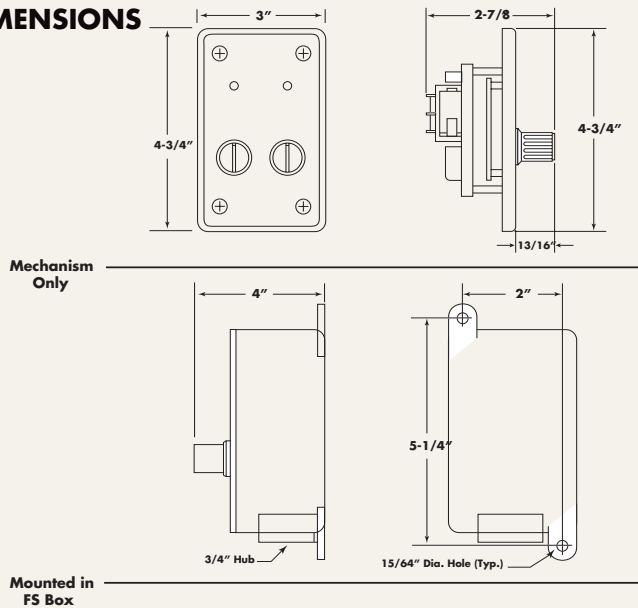


ACT SERIES	SPDT relay	CONTACT RATINGS	
		NO RATING	NC
General Purpose (resistive)	120/240VAC	20A	10A
	277VAC	12A	6A
Motor Load	120VAC	1HP	½HP
	208-240VAC	2HP	½HP
Ballast	120VAC	20A	10A
	240/277VAC	10A	3A
Tungsten	120VAC	5A	3A
Pilot Duty	120/240VAC	470VA	275VA

## WIRING DIAGRAMS



## DIMENSIONS



CATALOG NO	UPC CODE	SETTING INCREMENTS	TOTAL CYCLE TIME	MIN ON	MIN OFF	MAX ON	MAX OFF	INPUT VAC 50/60HZ 4VA MAX
ACT30MFS	82500	½ min	30 min	½ min	½ min	15½ min	15½ min	120/208-240
ACT30MFS-24	82501	½ min	30 min	½ min	½ min	15½ min	15½ min	24
ACT120MFS	82502	2 min	120 min	2 min	2 min	62 min	62 min	120/208-240
ACT120MFS-24	82503	2 min	120 min	2 min	2 min	62 min	62 min	24
ACT120SFS	82504	2 sec	120 sec	2 sec	2 sec	62 sec	62 sec	120/208-240
ACT120SFS-24	82505	2 sec	120 sec	2 sec	2 sec	62 sec	62 sec	24
<b>WITHOUT FS BOX</b>								
ACT30M	82506	½ min	30 min	½ min	½ min	15½ min	15½ min	120/208-240
ACT30M-24	82507	½ min	30 min	½ min	½ min	15½ min	15½ min	24
ACT120M	82508	2 min	120 min	2 min	2 min	62 min	62 min	120/208-240
ACT120M-24	82509	2 min	120 min	2 min	2 min	62 min	62 min	24
ACT120S	82510	2 sec	120 sec	2 sec	2 sec	62 sec	62 sec	120/208-240
ACT120S-24	82511	2 sec	120 sec	2 sec	2 sec	62 sec	62 sec	24

## SPECIFICATION WRITER'S GUIDE ACT SERIES

Furnish and install an electronic cycle timer capable of alternately turning electrical loads on and off continuously at the same or different intervals. Switch contacts shall be SPDT to allow 2 different loads to alternate status. Unit shall be NEMA 4X rated and able to withstand direct low pressure water wash down conditions. Unit shall be UL listed for both USA and Canada. Unit shall be capable of 960 cycle variations, all changeable from the front while the loads remains on. Settings shall be made in precise real time using 2 control knobs with detent positions which are also capable of holding the load on or off, the latter of which takes priority if both are engaged. Timer shall always start with on cycle when power is first applied. Unit shall contain green and red LED's to indicate the load status. Unit shall be capable of 120 or 240 VAC input. Relay output shall be isolated from the input enabling switching of loads at a different voltage from the input. Surge protection shall be provided up to 6,000 volts, 10,000 amps. Control shall be TORK Model ACT( )

# SSA SERIES DIGITAL ELITE TIMERS™

8 TIMERS IN ONE!

# SSA100 SSA200 SSA200R-24



### APPLICATIONS: SSA100 AND SSA200

For energy savings to control lighting or motor loads where an occupancy sensor is not suitable.

- Fluorescent and incandescent lighting in areas such as offices, meeting rooms, library aisles, stock rooms, equipment rooms.
- Timed override of lighting and HVAC for after hours cleaning crews.
- Exhaust fans in work areas, utility rooms, bathrooms.
- Hot tub heaters and circulating pumps.
- Timed override of loads controlled by electromechanical or digital time switches.

### APPLICATIONS: SSA200R-24

- Interfaces with low voltage HVAC and lighting control systems.
- Switches 20 Amp fluorescent and incandescent lighting when operated with TORK TRP transformer relay powerpacks.
- Provides switching for loads controlled by BAS/EMS building management systems.
- Provides timed override of lighting and HVAC for after hours use.
- Can be overridden ON or OFF from remote locations using simple momentary switches.

MEETS ADA GUIDELINES FOR CONTROLS & MECHANISMS 4.27.4

**CAN INTERFACE WITH LOW VOLTAGE SYSTEMS  
REMOTE OVERRIDE VIA SIMPLE PUSHBUTTONS**

### FEATURES: ALL SSA MODELS

- Liquid Crystal Display stands out strongly in lighted areas and is electroluminescent backlit for dark areas.
- Tamper resistant time-on interval can be preset. In addition, a manual scroll-up mode (in 10 minute intervals) can override the dip switch setting temporarily – this feature can be disabled, **providing a fixed interval timer.**
- In addition to numerical read-out LCD displays 10 bars at start of time on period. As interval counts down, one bar at a time turns off in 10% decrements.
- Flicker of lights and/or beep warning begins 2 minutes

before time out (either or both can be disabled). See specifications below for details.

- No minimum load required.
- White decorator type face with matching wallplate included.

### SSA100, SSA200 ALSO FEATURE:

- Zero Power switching prolongs life of relay contacts by switching high inrush equipment at or close to zero power.
- Compatible with electronic ballasts, incandescent lighting, or motor loads.

### EASY INSTALLATION

Easy installation; fits standard 2½" wallbox.  
Easily replaces wall switch in existing installation.  
For use in single or multi-gang applications.  
White decorator wallplate included.

DIP SWITCH #	1	2	3	DIP SWITCH #			4	5	6
5 MIN	▲▲▲	▲▲	▲	FLICKER ON	▼				
15 MIN	▲▲▲	▲▲	▲	FLICKER OFF	▲				
30 MIN	▲▲▲	▲▲	▲	BEEPER ON	▼				
1 HR	▲▲▲	▲▲	▲	BEEPER OFF	▲				
3 HR	▲▲▲	▲▲	▲	SCROLL ON	▼				
6 HR	▲▲▲	▲▲	▲	SCROLL OFF	▲				
9 HR	▲▲▲	▲▲	▲						
12 HR	▲▲▲	▲▲	▲						

At the time of installation, a preset time-on interval and other features are selected using a set of dip switches.

One simple pushbutton on the face can then do the following:

- 1 Push momentarily and the load comes on for the preset interval.
- 2 Push momentarily **while the load is on** and it will turn off.
- 3 Hold the pushbutton in for 1 or 2 seconds while the load is on and the timer resets up to its original preset interval.
- 4 Hold the pushbutton in for over 3 seconds and the timer begins to scroll up from 10 minutes to its maximum setting.

NOTE: This feature can be disabled using a tamper resistant dip switch, providing a fixed interval timer. Timing on this chart (above) is for SSA100 Unit.

CATALOG NO	UPC CODE	SETTABLE INTERVALS
SSA100	14010	MINUTES: 5, 15, 30 HOURS: 1, 3, 6, 9, 12
SSA200	14011	MINUTES: 10, 20, 40, 60, 90 HOURS: 2, 4, 6, 8
SSA200R-24	14014	MINUTES: 10, 20, 40, 60, 90 HOURS: 2, 4, 6, 8

## SPECIFICATIONS & WIRING DIAGRAM: SSA100, SSA200

Note: unit is not suitable for lamps which require long striking periods i.e. HID type.

**INPUT:** Multi-voltage 120/277 VAC, 50/60Hz

### CONTACT RATINGS:

type	120VAC	277VAC
tungsten	800W	
ballast	800W	1200W
motor	1/6HP	
pilot duty	240VA	

**TIMING ACCURACY:** .002%

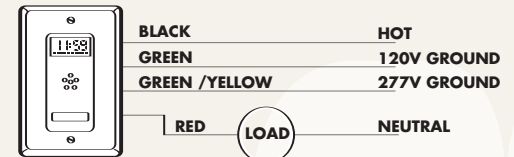
**OPERATING TEMPERATURE:** 0° - 100° F • **OPERATING HUMIDITY:** 90% RH Non-condensing

**COLOR** of faceplate and wallplate: white

**WARNING BEFORE TIME OUT:** Flicker feature turns load off for 1 second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.

**BEEP FEATURE** will sound a ½ second beep every 12 seconds during the last 2 minutes of timed cycle.

## SSA100/200



## SPECIFICATIONS & WIRING DIAGRAM: SSA200R-24

**INPUT VOLTAGE:** 24VAC / VDC (No Minimum Load)

**CURRENT DRAW:** 16ma max. @ 24VDC

22ma max. @ 24VAC

**CONTACTS:** Single Pole, Double Throw

Isolated Contacts

**CONTACT RATING:** 1 A 30V Maximum  
100µA @ 1V Minimum

**TIMING ACCURACY:** .002%

**OPERATING TEMPERATURE:** 0°- 100° F

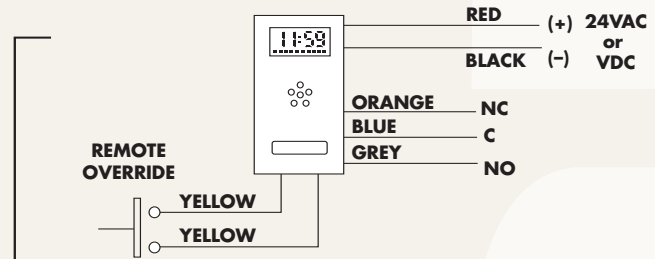
**OPERATING HUMIDITY:** 90% RH Non-condensing

**COLOR** of faceplate and wallplate: white

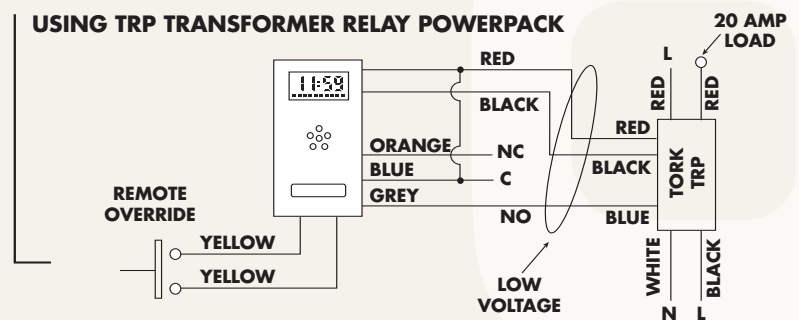
**WARNING BEFORE TIME OUT:** Flicker feature turns load off for 1 second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.

**BEEP FEATURE** will sound a ½ second beep every 12 seconds during the last 2 minutes of timed cycle.

## SSA200R-24



### USING TRP TRANSFORMER RELAY POWERPACK



### SPECIFICATION WRITER'S GUIDE SSA100, SSA200

Furnish and install a solid state interval time switch with backlit LCD display. Intervals can be preset using a series of dip switches. A tamper resistant manual scroll-up mode must be provided to override the dip switch setting temporarily. Unit shall be capable of a user selectable audible and/or visual warning beginning 2 minutes prior to time out. Unit design to provide zero power switching for the contacts. Unit to accept 120/277VAC, 50/60 Hz. A white decorator wallplate to be included.

### SPECIFICATION WRITER'S GUIDE SSA200R-24

Furnish and install a solid state interval time switch with backlit LCD display. Intervals can be preset using a series of dip switches. A tamper resistant manual scroll-up mode must be provided to override the dip switch setting temporarily. Unit shall be capable of a user selectable audible and/or visual warning beginning 2 minutes prior to time out. Unit to accept 24VAC/ DC. A white decorator wallplate to be included.

# SS SERIES

## IN-WALL SOLID STATE TIMERS

A flick of the switch turns ON the load and the timer turns it OFF even when people forget or are unavailable. Ideal for control of lighting or motor loads or where an occupancy sensor is not suitable. Automatically turns off load at end of preset time which is adjustable from 1 minute to 18 hours. Time adjustment is located behind the switchplate.

### APPLICATIONS

- Flicker or beep warning features available on select models.
- Fluorescent and incandescent lighting in areas such as stock rooms.
- Timed override of lighting and HVAC for after hours cleaning crews.
- Lamps or televisions which are plugged into receptacles controlled by a wall switch.
- Exhaust Fans in bathrooms, kitchens, or work areas.
- Timed override of loads controlled by electromechanical or digital time switches.
- Hotels, motels, hospitals, schools, offices, industrial plants, retail stores, private homes.

### FEATURES

- Simple setting of timed interval (1 minute to 18 hours) using small screwdriver.
- Tamper resistant timer adjustment is hidden behind wallplate.
- Switches fluorescent lights with electronic or electromagnetic ballasts, incandescent lights, or small motor loads.
- Multi-voltage input from 24VAC to 277VAC, 50/60 Hz.
- Fits standard wallbox and toggle switchplate. For single or multi-gang installations.
- Easily installs in just minutes.
- Neutral colored white toggle switch.
- Energy and cost savings offer fast return on investment.

### SPECIFICATIONS

NOTE:

1. Units require minimum loads as indicated in the tables below. To calculate maximum wattage, multiply the maximum amperage by the appropriate voltage.
2. Units are not suitable for lamps which require long striking periods i.e. HID type.
3. Units are not to be used in precision timing applications where inaccurate timing could have dangerous consequences (i.e. sun lamp, sauna, etc.)

**INPUT:** Multi-voltage 24/120/(208-240)/277VAC, 50/60 Hz.

**REPEATABLE TIMING ACCURACY:** ±5% @ 60° to 80°F

**OPERATING TEMPERATURE:** 0°F to 100°F

**OPERATING HUMIDITY:** 90% RH – non-condensing

**DIMENSIONS (WITHOUT MOUNTING STRAP):**

2 5/8" L x 1 1/16" W x 1 1/2" D.

**COLOR** of toggle switch: White (wallplate not provided)

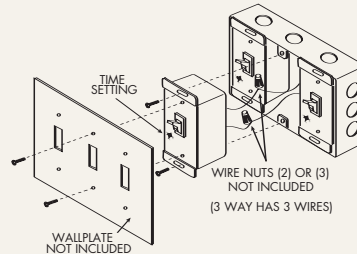
**SS20  
SS20F  
SS13F  
SS13B**



MEETS ADA GUIDELINES FOR CONTROLS & MECHANISMS 4.27.4

SS700				CONTACT RATINGS
MODEL	TYPE	VOLTS AC	MIN LOAD WATTS	RATINGS
SS13F & SS13B	3 way	24	6	.25-4.00A resistive
		120	30	.25-4.00A ballast
		208	50	.25-4.00A tungsten
		240	60	1/8HP @ 120VAC
		277	70	1/8HP @ 240VAC
SS20 & SS20F	single pole	24	12	.50-7.25A resistive
		120	60	.50-7.25A ballast
		208	105	.50-4.00A tungsten
		240	120	1/8HP @ 120VAC
		277	150	1/8HP @ 240VAC

### MECHANICAL ASSEMBLY



FITS 2-1/2 INCH DEEP WALL BOX – SINGLE GANG OR MULTIPLE GANG.

INSTALLS AS EASILY AS A COMMON WALL SWITCH.

ACCEPTS STANDARD TOGGLE SWITCHPLATE, SINGLE OR MULTI-GANG.

CATALOG NO	UPC CODE	SWITCH	WARNING BEFORE TIME OUT
SS20	14005	single pole	none
SS20F	14008	single pole	*flicker
SS13F	14007	3 way	*flicker
SS13B	14006	3 way	**beep

\* Flicker feature turns load off for 1/2 second, 2 minutes before end of timed cycle and again 1 minute before end of timed cycle.  
 \*\* Beep feature will begin a 1/2 second buzz every 12 seconds during the last 2 minutes of timed cycle.

### SPECIFICATION WRITER'S GUIDE SS SERIES

Furnish and install where indicated a TORK electronic interval timer with a manually operated toggle switch. Switch contacts shall break the current at the end of a preset time which is user adjustable from 1 minute to 18 hours. Unit shall fit into a standard 2-1/2 inch deep wall box and accept a standard toggle switchplate. Timer adjustment shall be hidden after wallplate is installed. Unit shall be capable of switching fluorescent lights with electronic or electromagnetic ballasts, incandescent lights, or motor loads. Unit shall accept input of 24, 120, 208-240, or 277 volts AC at 50/60 Hz. Timer shall be TORK (model SS20 single pole) (model SS20F single pole with flicker warning before time out) (model SS13F 3-way with flicker warning before time out) (model SS13B 3-way with beep warning before time out).

# SS700Z SERIES

## IN-WALL, IN-LINE DIGITAL 7 DAY TIMER WITH ASTRONOMIC FEATURE

**TORK**  
DIGITAL  
CONTROLS



MEETS CALIFORNIA  
ENERGY COMMISSION'S  
TITLE 24 REQUIREMENTS

HEAVY DUTY  
15 AMP  
CAPACITY

### APPLICATIONS: For Controlling:

- Indoor/Outdoor lighting including fluorescent, incandescent PAR lamps and HID.
- Ventilating fans in ceilings, bathrooms, windows and whole house types.
- Lamps, radio, or TV to give the home a "lived-in" look while away.
- Appliances such as space heaters, coffee makers and entertainment equipment.

### FEATURES

- 6 daily ON and OFF settings, 42 per week.
- Automatic DST feature
- Set once and never set it again. Follows seasonal changes in sunrise and sunset times.
- Can be used as a 24 hour or 7 day time switch
- True in line timer – no minimum load required
- One timer switches 120/240/277VAC, 60Hz.
- Matching protective cover over pushbuttons.
- Manual ON/OFF capability
- To-the-minute digital accuracy
- Display continuously shows time of day, timer mode, and load status
- Battery backup (battery is supplied)
- For single pole and 3 way applications up to 100 feet
- Uses standard decorator wallplate in single or multigang installations
- White and almond color

### CONTACT RATINGS

Resistive: 15A, 120-277VAC  
Tungsten: 15A, 120VAC, 6A, 208-277VAC  
Ballast: 8A, 120VAC, 4A, 208-277VAC  
Motor: 1HP, 120VAC, 2HP, 240VAC  
DC Loads: 4A, 12VDC, 2A, 28VDC

### SPECIFICATION WRITER'S GUIDE SS700Z SERIES

Furnish and install an in-wall, in-line digital 7 day timer, Model SS700Z, capable of 6 different on and off set points per day with varied schedules for each day of the week. Unit must be capable of accepting settings in minimum 1-minute increments. All settings shall be made using 4 pushbuttons on the face of the unit. A manual override must be available using 1 of the pushbuttons. When in the run mode, a liquid crystal display shall continuously show time of day, timer mode, and load status. In case of power failure, memory must be maintained by means of a battery which is supplied with the unit. Unit shall be constructed with 3 wires and capable of use as a stand-alone time switch or in conjunction with multiple standard switches in 3-way or with any standard dimmer switch for 2 or more switch control points with 1 dimming control point. Unit shall have an isolated single pole single throw switch which allows it to switch any load type including PAR lamps and motor loads from 120 to 277 volts AC or 12 to 28 volts DC within the specified ratings. Units shall be capable of operating in ambient temperatures ranging from +32 degrees to +104 degrees F. Enclosure shall be white (or almond) with a matching protective cover over the pushbuttons. Time switch shall be capable of installation in a standard wall switch box in single or multigang installations and accepting a decorator type wallplate. Install TORK Model SS700Z (SS700ZA).

CATALOG NO	UPC CODE	COLOR
SS700Z	14019	White
SS700ZA	14020	Almond

# SS720A SERIES

## IN-WALL DIGITAL 7 DAY TIMER

### APPLICATIONS: FOR CONTROLLING:

For controlling indoor/outdoor lighting, fans and appliances.

### FEATURES

- 7 daily ON and OFF settings, 49 per week.
- Manual ON/OFF capability
- **Requires neutral wire**
- Matching protective cover over pushbuttons
- To the minute accuracy
- Single pole applications
- Battery backup (rechargeable Ni-MH battery)
- Display continually shows time, day of the week and timer status
- Supplied with standard single gang decorator wallplate
- White and almond colors available





### CONTACT RATINGS

125VAC, 15A Resistive, Tungsten and General Purpose, 1HP



CATALOG NO	UPC CODE	COLOR
SS720A	14017	White
SS720AA	14018	Almond

# INDOOR/OUTDOOR TIMERS

	DESCRIPTION	CATALOG NO	UPC CODE
	<b>451D 7 DAY DIGITAL TIMER</b> Grounded plug and receptacle. 125VAC, 15A General Purpose 125VAC, 15A Resistive 125VAC, 1/2HP	451D	16007
	<b>631D: TWO OUTLETS 7 DAY DIGITAL OUTDOOR TIMER</b> ON; OFF; ON at dusk, OFF 2, 4, 6, 8 hours later or at dawn. GROUNDED plug and receptacle with 2 outlets on bottom of timer. 18" cord. 125VAC, 15A Resistive, 1000W Tungsten	631D	16027
	<b>653A: ONE OUTLET PHOTOCELL CONTROLLED DIGITAL OUTDOOR TIMER</b> ON; OFF; ON at dusk, OFF 1-9 hours later or at random times or at dawn. GROUNDED plug and receptacle with outlet on bottom of timer, 6.5" cord. 125VAC, 15A Resistive, 1000W Tungsten	653A	16023
	<b>654A: TWO OUTLETS PHOTOCELL CONTROLLED DIGITAL OUTDOOR TIMER</b> ON; OFF; ON at dusk, OFF 1-9 hours later or at random times or at dawn. GROUNDED plug and receptacle with 2 outlets on bottom of timer, 6.5" cord. 125VAC, 15A Resistive, 1000W Tungsten	654A	16025

# TORK PHOTOTIMER PLUS

THE MOST FLEXIBLE PHOTOTIMER FOR MAXIMUM ENERGY SAVINGS AND ALL **ON/OFF** NEEDS!

## 5737TZ

The **TORK Phototimer 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. See Photocontrols Catalog for more information.



# 40 AMP CONTACTORS

FOR INCREASED VOLTAGE AND/OR  
AMPERAGE SWITCHING - 3PST

**5440**  
**5401**  
**5441**

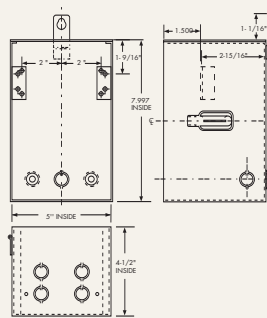
CATALOG NO	UPC CODE	COIL VOLTS	NO. OF CONTACTORS
5440	81002	24	4
5401	81021	120	1
5441	81022	120	4

Can switch up to 40 Amps per pole from 120VAC to 480VAC, one or two circuits simultaneously. Can be wired close to or remote from controller. Use for lighting loads, exhaust fans, electric heaters, hot water heaters, refrigeration, ambient defrosting.

## 5401 REMOTE CONTACTOR

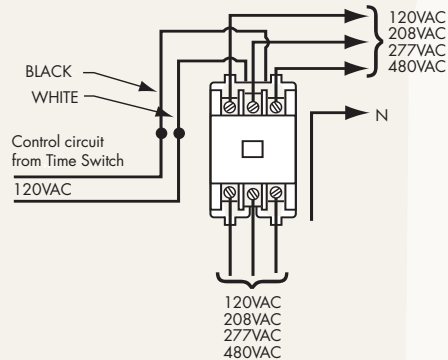


### DIMENSIONS



## WIRING DIAGRAMS

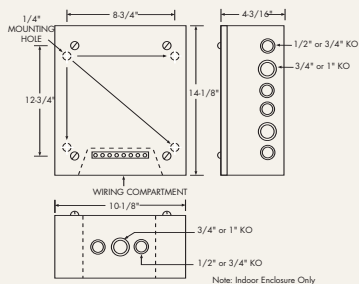
### 5401



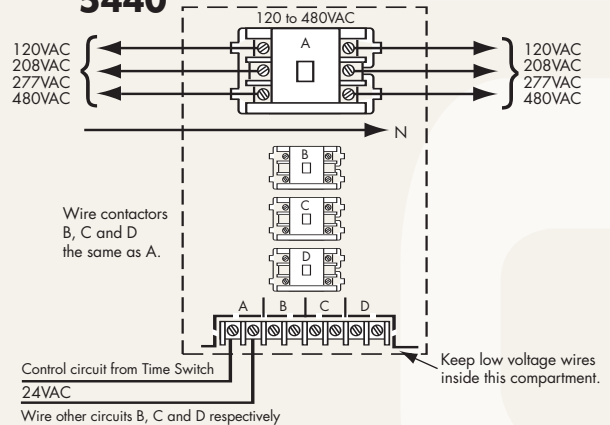
## 5440 AND 5441 REMOTE CONTACTORS



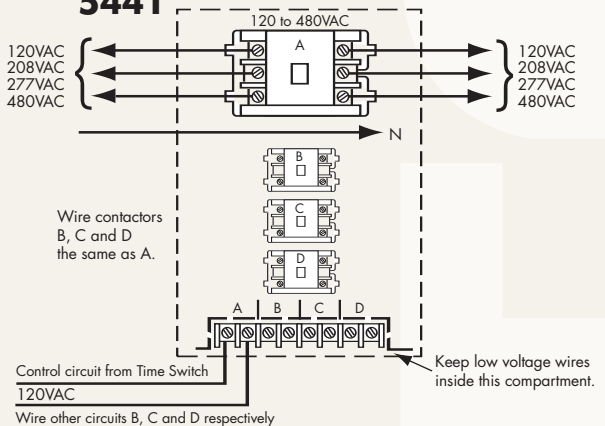
### DIMENSIONS



### 5440



### 5441



# HPS STARTER FOR HIGH PRESSURE SODIUM LAMPS

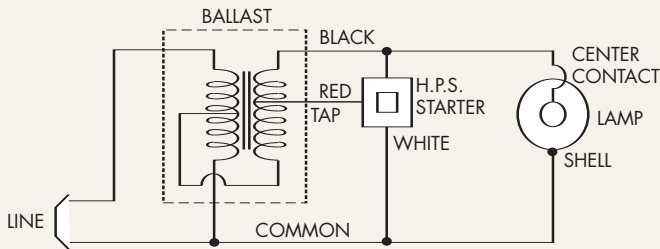


Designed to operate as a starting aid to all H.P.S. ballasts from 35 to 400 watts and with lamp voltages of 55 or 100 volts.

## FEATURES

- Delivers appropriate trigger spikes for lamp ignition, then reduces voltage to good lamps.
- Continues to feed voltage spikes to old or poorly working lamps.
- All components are sealed with high grade die-electric material to protect against contaminants and other adverse environmental conditions.
- Durable, high temperature Lexan housing.
- Universal 3 wire design, color coded for ease of installation.

## WIRING DIAGRAM



## SPECIFICATIONS

<b>LINE VOLTAGE:</b>	105-347VAC
<b>LAMP VOLTAGE:</b>	55 or 100VA
<b>LAMP WATTAGE:</b>	35 to 400 watts
<b>OPERATING TEMP.</b>	-40° to 221°F (-40° to 105°C)
<b>LEAD LENGTH:</b>	9 inches

CATALOG NO	UPC CODE	DESCRIPTION
HPS30	81030	HIGH PRESSURE SODIUM STARTER

# TRP SERIES TRANSFORMER RELAY POWER PACKS



Self contained transformer and relay with SPST contacts rated at 20 Amp 120VAC or 277VAC. Internal power source provides for low voltage control of line voltage contacts, eliminating the need for a separate step down transformer.

## 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.
- For simple installation of low voltage wiring between 3-way switches.
- Low voltage switching by digital or mechanical controls for higher amperage loads including those of two different voltages.

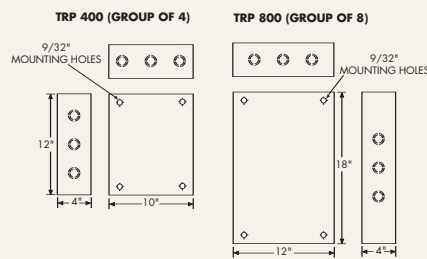
For multi-channel digital controls, TORK offers TRPs which are available in groups of 4 or 8, conveniently prewired in metal enclosure. Panels are not UL listed.

## SPECIFICATIONS

<b>CONTACTS:</b>	SPST Contacts
<b>CONTACT RATING:</b>	20 Amps Ballast @ 120 or 277VAC 15 Amps Tungsten @ 120VAC 1.0 Horsepower @ 120VAC
<b>TEMPERATURE RANGE:</b>	0° to 150°F (-18° to 66°C)
<b>SIZE (SINGLE TRP):</b>	2 3/4" x 1 1/2" x 1 5/8" can be mounted in standard junction box or recess lighting fixture.

**WEIGHT:** 7 oz.

## ENCLOSURE DIMENSIONS

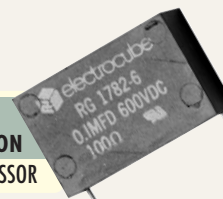


CATALOG NO	UPC CODE	DESCRIPTION	INPUT VOLTAGE
TRP-1	82032	SINGLE TRANSFORMER RELAY POWERPACK	120VAC
TRP-2	82033	SINGLE TRANSFORMER RELAY POWERPACK	277VAC
*TRP400	82132	FOUR TRANSFORMER RELAY POWERPACKS	120VAC
*TRP402	82133	FOUR TRANSFORMER RELAY POWERPACKS	277VAC
*TRP800	82135	EIGHT TRANSFORMER RELAY POWERPACKS	120VAC
*TRP802	82136	EIGHT TRANSFORMER RELAY POWERPACKS	277VAC

\*NOT FOR USE WITH OCCUPANCY SENSORS

# SURGE SUPPRESSOR FOR HIGH ELECTRICAL NOISE INTERFERENCE, RECOMMENDED FOR ALL DIGITAL CONTROLS

CATALOG NO	UPC CODE	DESCRIPTION
90058-1	81024	SURGE SUPPRESSOR

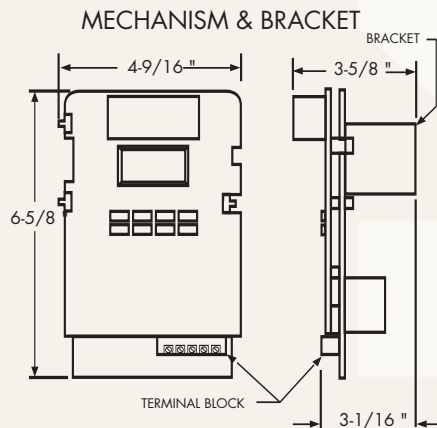
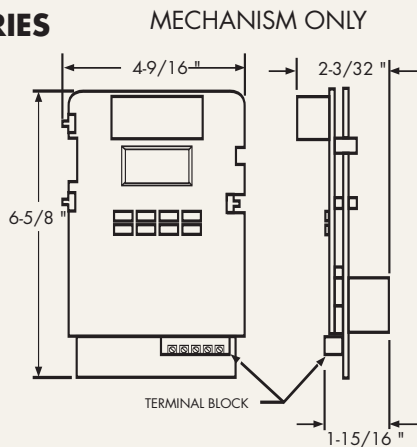




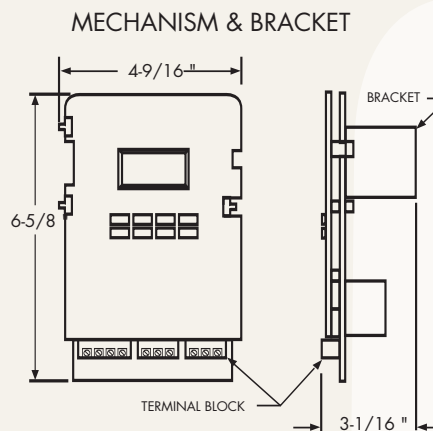
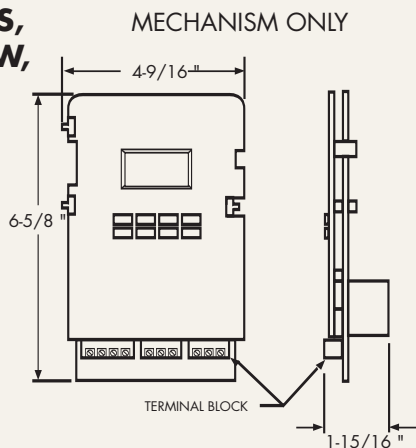
# MECHANISM DIMENSIONS

**TORK**  
DIGITAL  
CONTROLS

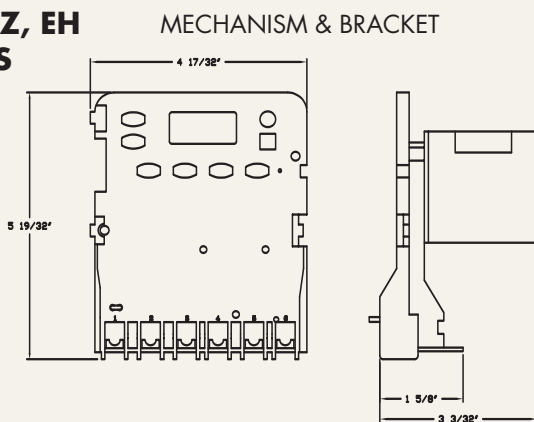
## DG SERIES



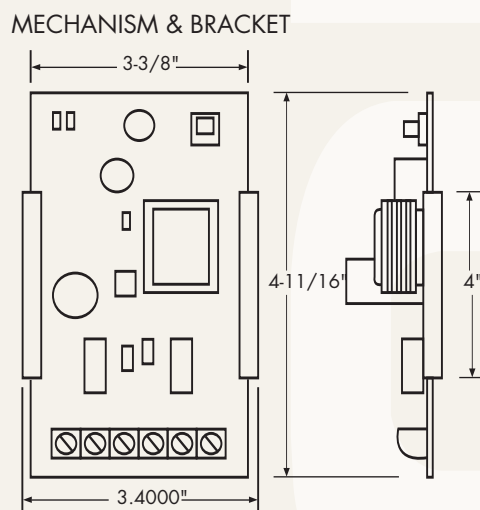
## DZS, DTS, DZM, DW, DWZ SERIES



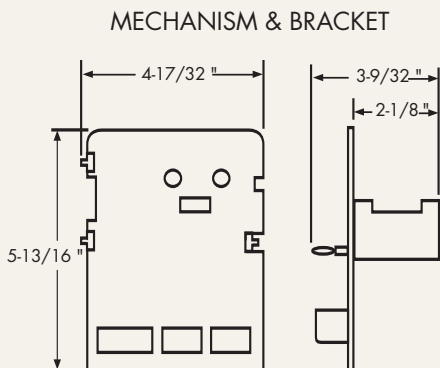
## E, EWZ, EH SERIES



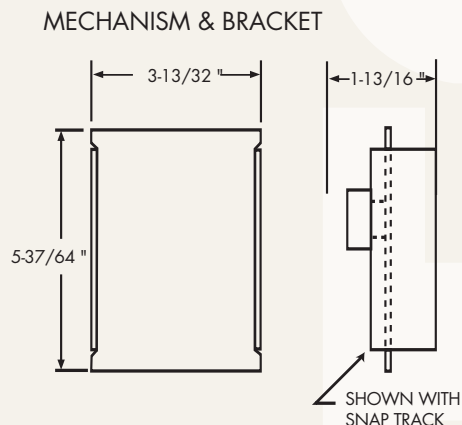
## SMC-3D



## LC200M



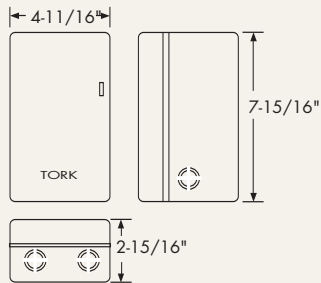
## LDS LDSH



# ENCLOSURE DIMENSIONS

## METAL INDOOR NEMA 1 #68229

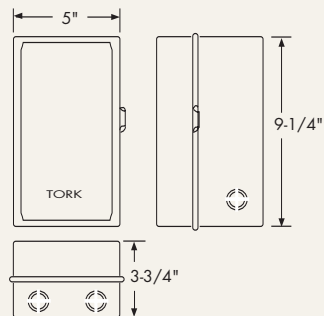
STANDARD FOR MODELS  
EH10B, EH20B



## METAL INDOOR NEMA 1 #63100

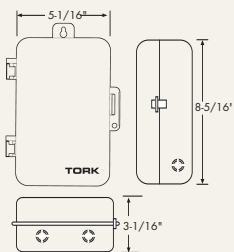
STANDARD FOR MODELS  
LC200  
LDS-A  
LDSH-A

AVAILABLE FOR MODELS  
DW, DWZ, DZS, DTS Series  
DG Series



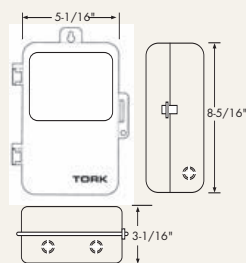
## PLASTIC INDOOR NEMA 1 Model 1000P

STANDARD FOR E100PB SERIES



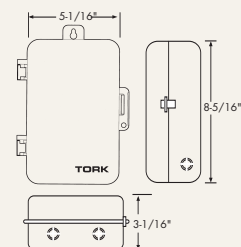
## PLASTIC INDOOR NEMA 1 WITH CLEAR WINDOW Model 1000PC

AVAILABLE FOR E100PB SERIES



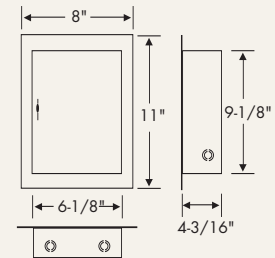
## PLASTIC INDOOR/OUTDOOR NEMA 3R Model 9000P

STANDARD FOR SERIES:  
E100B  
EW100B  
EWZ101/201/120



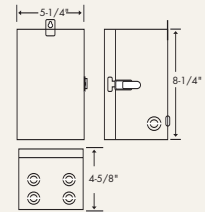
## METAL FLUSH NEMA 1 Model 9011 – Suffix FLG

AVAILABLE FOR MODELS  
DG Series (except DGU,  
DGUM, DGLC)  
DZS Series  
DTS Series  
DW Series  
DWZ Series  
E Series



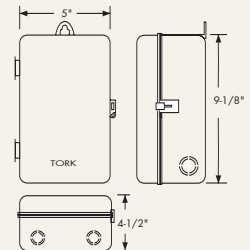
## METAL INDOOR/OUTDOOR NEMA 3 Model 9000A – Suffix O

AVAILABLE FOR MODELS  
DW, DWZ, DZS, DTS Series  
E100B Series  
E100PB Series  
EW100B  
EWZ Series  
DG Series  
(except DGU,  
DGUM, DGLC)



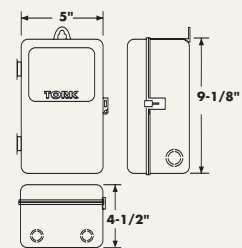
## NORYL® INDOOR/OUTDOOR NEMA 3R Model 9000N – Suffix N

STANDARD FOR MODELS  
DG Series    DWZ Series  
DZS Series    SMC-3D  
DTS Series  
DW Series



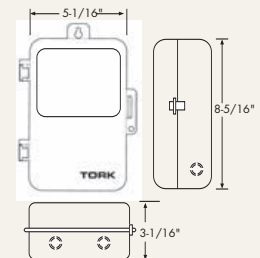
## NORYL® INDOOR/OUTDOOR NEMA 3R WITH LEXAN® CLEAR WINDOW Model 9000NC

AVAILABLE FOR MODELS  
DW, DWZ, DZS, DTS Series  
DG Series



## PLASTIC INDOOR/OUTDOOR NEMA 3R WITH CLEAR WINDOW Model 9000PC

AVAILABLE FOR SERIES:  
E100B  
EW100B  
EWZ101/201/120



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2. Prices do not include any sales tax.
3. Freight charges will be prepaid on all orders \$250.00 and over shipping within continental USA using standard shipping methods and service.
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5. Claims for shortage, erroneous charges or price corrections shall be deemed waived unless made in writing, delivered to NSi within 30 days of invoice.
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7. Warranties – NSi guarantees all products to be free of defects in material and workmanship for a period of 1 year from date of sale. Any claims for defective material must be agreed to in writing by NSi. Defective material will be replaced on an F.O.B. – our factory basis. NSi disclaims the implied warranty of fitness for a particular application.

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