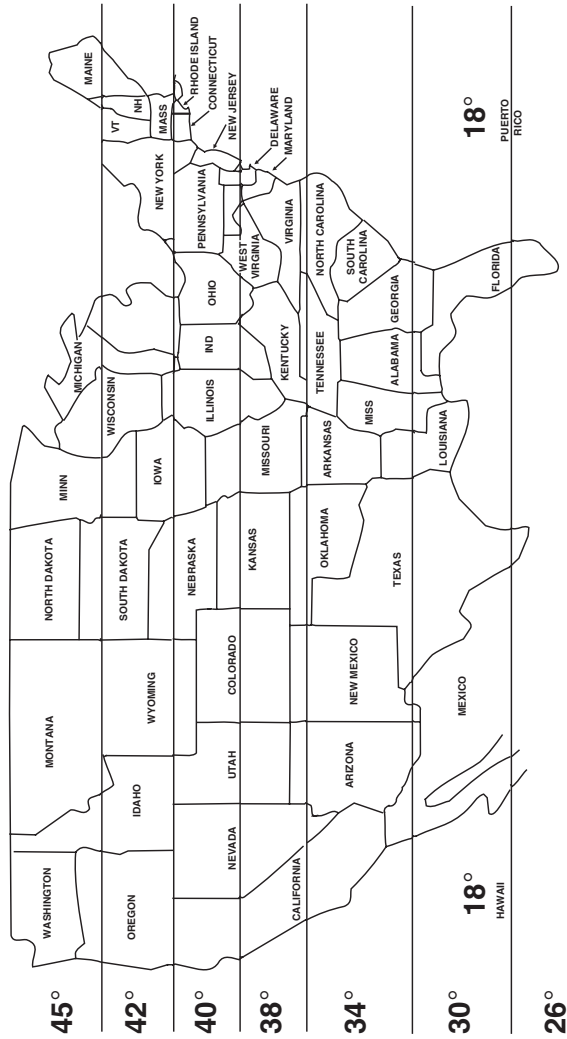


TORK® ASTRONOMIC LATITUDE ZONES



TORK®

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ML1-186(A)

TORK® INSTRUCTION MANUAL



DIGITAL TIME SWITCH **DWZ100B**



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ASTRONOMIC SCHEDULE

		Sunrise		Sunset	
		Offset		Offset	
Latitude	H				
	SU				
	SA				
	FR				
	TH				
	WE				
	TU				
	MO				
	Sch. #				

Holiday (H)		
#	Date	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

TORK MODEL DWZ100B
1 CHANNEL DIGITAL TIME SWITCH
CAPABILITIES & FEATURES

CAPABILITIES

365 Day Advance, Single Day Holiday Scheduling.

ON and OFF set points:

- Combined total for both channels – 99 per week
- Minimum setting – 1 minute

Capable of different schedules each day of the week.

Astronomic Option: For Automatic ON at sunset, OFF at sunrise for outdoor lighting.

FEATURES

Holidays 1 to 24 individual dates.

Daylight Saving Automatic (can be adjusted).

Leap Year Automatic compensation.

Display LCD

Manual Override Until the next regular scheduled ON of OFF. Automatic operation then resumes.

Clock Format AM/PM or 24 Hour

Look Back Automatically executes the last command after power failure.

Power Outage Permanent schedule retention for up to 40 years.

Clock maintained for 4 days by supercapacitor (no battery needed).

INSTALLATION INSTRUCTIONS

1. Remove unit from enclosure by pushing the inside tab (located near the outside hasp) to the right. Swing unit to left and remove.
2. Five combination 1/2" and 3/4" knockouts are provided on this enclosure. Remove the 1/2" (inner) knockout by inserting a screwdriver in the slot provided and pound screwdriver handle with a hammer. Remove knock-out with pliers and smooth hole edges with file and knife if necessary. When the 3/4" outer knockout is required, place screwdriver in groove and pound screwdriver handle with hammer. Remove loose knock-out with pliers and smooth hole edges with file or knife if necessary.

Disconnect power at main panel prior to installing or servicing this time switch or the equipment connected to it. Connect in accordance with national and local electrical codes. Installation by a licensed electrical contractor is recommended.

3. When attaching conduit to enclosure, exercise care to align and support conduit in order to prevent unnecessary stress on enclosure.
4. Reinstall unit by reversing step 1 above and connect wires according to wiring diagram on inside case label.

GROUNDING

National Electrical Code requires that grounding must be continuous and in proper electrical contact in all grounding conductors, metallic conduits and grounding terminals. When using metal conduits, install the proper size approved grounding bushings. The minimum size copper grounding conductors must be #10 AWG if the circuit breaker or fuse is 30 or 40 amp, #12AWG if 20 amps, and #14 AWG if 15 amp.

NOTE: Do not use top entry for wiring

WE SUGGEST YOU MAKE COPIES OF THE SCHEDULE SHEETS LOCATED IN BACK OF THIS BOOKLET AND COMPLETE THEM PRIOR TO SETTING THE UNIT.

[illegible]

EVENT (in the RUN mode) key is used to update the load status. It will execute the last scheduled event. The display will only show the last scheduled event. If there is no schedule programmed, the display will show: —:—

NOTES:

1. Unit will go to RUN MODE automatically if no key is pressed for five minutes.
2. Unit has a look back feature. If you have just finished setting the unit and an output is to be updated, press the **EVENT** key. Unit will automatically pick up the last schedule.
3. Clear all memory. To clear all memory, while in the RUN mode, press **ENTER**, display will show:

The LCD display shows the word 'OFF' on the left, followed by 'CLEAR' in large characters, and a small 'P' on the right.

Press **EVENT**, the display will show:

The LCD display shows the word 'ON' on the left, followed by 'CLEAR' in large characters, and a small 'P' on the right.

Press **ENTER** briefly and everything in the timer memory is wiped off including real time and date. 12HOUR will flash.

NOTE: AFTER MAKING ANY CHANGES TO THE PROGRAM, PRESS **MODE** TO GO TO RUN MODE AND THEN PRESS **EVENT** TO UPDATE THE LOAD STATUS.

INSTRUCTIONS FOR SETTING THE UNIT

Connect unit to main power source prior to entering the settings. When powering up the unit for the first time, allow 1-2 minutes for supercap to charge and the display will show 12 HOUR.

The LCD display shows '12:40' in large characters, with 'UP' on the right.

Press **HOUR** to change to 24 hour (military format) or Press **ENTER** to set 12 hour (AM/PM format).

NOTES:

1. During the RUN mode, the Hour, Minutes, Seconds, Day of week and flashing colons will be displayed.
2. Unit will not go into run mode unless the clock and date information has been entered. In any other mode, if no entry is made for 5 minutes, the unit will automatically revert to the run mode.
3. Unit will display "PF" (Power Failure) in the absence of AC power. A minimum of 8 hours is required to fully charge the super cap.
4. When previously programmed unit comes back from a power failure, it will "look back" and update the schedule, executing the last scheduled event. If a signal setting was scheduled, after power failure the unit will execute the last scheduled signal. Settings can be manually updated by pressing the **EVENT** key in the run mode.

After pressing **ENTER** the unit will display:

The LCD display shows 'SEt' in large characters, with 'CLK' on the right.

NOTE: AFTER MAKING ANY CHANGES TO THE PROGRAM, PRESS **MODE** TO GO TO RUN MODE AND THEN PRESS **EVENT** TO UPDATE THE LOAD STATUS.

1.0 TO SET THE CLOCK

Press **HOURL** and **MIN** to advance to the present hour and mins. Check AM/PM, and press **ENTER**.

1.1 TO MODIFY CLOCK

Press **MODE** until the display shows: CLK. Press **HOURL** and **MIN**. to modify clock and press **ENTER**.

2.0 TO SET DATE

If you are setting for the first time, display will show:



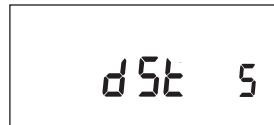
Press **MONTH**, **DATE**, and **YEAR** key to advance to the desired month, date and year, then press **ENTER**. **NOTE:** The day of the week will be automatically set once the date is set.

2.1 TO MODIFY DATE

Press **MODE** until the display shows DATE. Press **MONTH**, **DATE** and **YEAR** to modify present settings and then press **ENTER**.

3.0 DAYLIGHT SAVING TIME

After setting or modifying the date, display will show:



NOTE: If daylight saving time (DST) is NOT required, press **MODE**, display will show:



to select desired days, holiday and then press **ENTER**.

ASTRO OFF:

Set astronomic OFF per sections 6.0 and 6.1

7.0 REVIEW, MODIFY AND DELETE

Press **MODE** to advance to any of the following MODES:

1. **CLOCK MODE:** Press **HOURL** and **MIN** to modify existing settings. Press **ENTER**.
2. **DATE MODE:** Press **MONTH**, **DATE** and **YEAR** to modify existing settings. Press **ENTER**. DAY is automatically adjusted.
3. **DST Daylight Saving Time:** To review press **ENTER**. To modify press **MONTH**, **DATE** and **DAY** to change existing setting. Press **ENTER**.
4. **HOLIDAY MODE:** Press **ENTER** to advance to desired holiday. Press **MONTH** and **DATE** to modify, **DEL** to delete. Press **ENTER**.
5. **SCHEDULE MODE:** Press **ENTER** to advance to undesired schedule. Press **HOURL**, **MIN**, **EVENT** to modify time settings. Press **SELCT** and **DAY** to modify days, holiday, **DEL** to delete. Press **ENTER** after each modification.
6. **ASTRO MODE:** Press **LAT** to change latitude. Press **ENTER**. Press **DAY** and **SELCT** to add or delete days in the sunset mode. Press **ENTER**. Press **HOURL** and/or **MIN** to change offset time for sunset. Press **EVENT** to change offset from + to -. Press **ENTER** and follow the same procedure above to modify or review sunrise settings.
7. **RUN MODE:** Time, day and seconds are displayed. If today is a programmed holiday, an H (Holiday) will be displayed steady.
- 8.0 **OVR1** (override key) is effective only in the **run mode**. If the load is scheduled for ON/OFF, the present load status will change until the next scheduled event. CH1 will flash when the load is overridden from scheduled event.

NOTE: A + sign will turn load ON that many hours and/or minutes after sunset. A - sign will turn load ON that many hours and/or minutes before sunset. The display will show:



Press **SELCT** and then **ENTER** to activate sunrise time.

NOTE: To turn load OFF at a preset OFF time, leave this field bank. Press **ENTER**. The display will show:



If an offset to sunrise time is required, press **HOURL** and **MIN**. Offset can be set to 4 hours and 59 minutes max. Press **EVENT** to select + or - and then press **ENTER**.

NOTE: A + sign will turn load OFF that many hours and/or minutes after sunrise. A - sign will turn load OFF that many hours and/or minutes before sunrise.

6.2 ASTRONOMIC ON AND TIME OFF

Set astronomic ON per sections 6.0 and 6.1

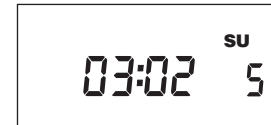
TIME OFF:

Press **MODE** until "sch01" appears. Press **ENTER** until a blank schedule appears. Press **HOURL** and **MIN** to set desired OFF time. Press **SELCT** to select desired days, holiday and then press **ENTER**.

6.3 TIME ON AND ASTRONOMIC OFF

Press **MODE** until "sch01" appears. Press **ENTER** until a blank schedule appears. Press **HOURL**, **MIN** and **EVENT** to set desired ON time. Press **SELCT**

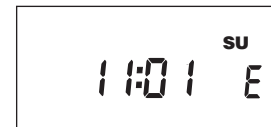
If daylight savings is required, press **ENTER**, display will show:



Press **ENTER** to accept default dates (second Sunday in March) or press **MONTH**, **DATE**, and **DAY** to modify DST settings and press **ENTER**. The display will show:



Press **ENTER**, display will show:



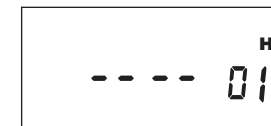
Press **ENTER** to accept default dates (first Sunday in November) or press **MONTH**, **DATE**, and **DAY** to modify DST settings and press **ENTER**. Press **MODE**, the display will show:



NOTE: DST OFF indicates Daylight Savings Time was not set.

4.0 SET INDIVIDUAL HOLIDAY DATES

Press **MODE** until display shows:



Press **MONTH** and **DATE** to set holiday 1 and then press **ENTER**.

The display will show:



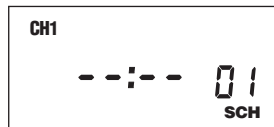
To delete any holiday press **DEL** and press **ENTER**.

NOTE:

- a. A total of 24 holidays can be set, all following the same schedule.
- b. For any holiday to be used, the **MONTH** and **DATE** must be preset.

5.0 SCHEDULE SET MODE

Press **MODE** until display shows:



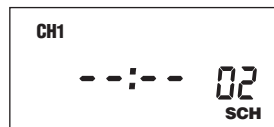
5.1 SETTING HOURS AND MINUTES

- a. Press **HOUR** and **MIN** to set desired time.
- A Press **EVENT** to set desired event.

5.2 SETTING DAYS AND HOLIDAY

Press **SELCT** to select the flashing desired days or holiday, otherwise press **DAY** to skip and then press **ENTER**. To delete entry, press **DAY** until previously selected entry flashes, press **SELCT** and then press **ENTER**.

The display will show:



Follow the same procedures above to set more schedule entries.

6.0 TO SET ASTRONOMIC SCHEDULE

Press **MODE** until display shows:



Press the **LAT** key to advance to the desired degree of latitude, from 0° to 60° north or 0° to 60° south. Press **ENTER**.

6.1 SELECTING ASTRO DAYS

Press **SELCT** to select desired days or holiday in which you want the load turn ON at sunset and then press **ENTER**.

Display will show:



NOTE: Sunset Time will be based on Date and Latitude entered.

Press **ENTER**. The display will show:



If an offset to sunset time is required, press **HOUR** and **MIN**. Offset can be set to 4 hours and 59 minutes max. Press **EVENT** to select + or – and then press **ENTER**.