TORK®

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INSTRUCTION MANUAL

DWZ200B
DIGITAL TIME SWITCH

CLOCK OPERATED SWITCH

C (UL) US

LISTED 469D

TABLE OF CONTENTS

TORK MODELS DWZ200B
2 CHANNEL DIGITAL TIME SWITCH

READ INSTRUCTIONS CAREFULLY BEFORE ATTEMPTING TO INSTALL TIME SWITCH. SEE WARNING ON FRONT PANEL – Failure to comply with instructions could result in personal injury and/or property damage.

CAPABILITIES:
- 365 Day Advance, Single Day Holiday
- 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.

FEATURES:

Holidays	1 to 24 individual dates.
Astronomic	Schedule with independent offset for each channel.
Daylight Saving	Automatic (can be adjusted).
Leap Year	Automatic compensation.
Display	LCD
Manual Override	Until the next regular scheduled ON or 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 7 days on super cap. 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 knockout 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 the 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, #12 AWG if 20 amps, and #14 AWG if 15 amps.

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.

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. Press reset button after 2 minutes if screen is blank.

$$12HO\ UP$$

Reset Location

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 the week and flashing colons will be displayed.
2. The unit will not go into run mode unless the clock and date are set. In any other mode, if no entries are made for 5 minutes, the unit will automatically go 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. Settings can be manually updated by pressing the **EVENT** key in the run mode.

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

$$SEt$$
CLK

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

2.0 TO SET DATE
If you are setting for the first time, display will show:

```
SEt
     DATE
```

Press the **MONTH**, **DATE**, and **YEAR** keys 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.

3.0 DAYLIGHT SAVING TIME
After setting or modifying the date, the display will show:

```
ON
  dSt
```
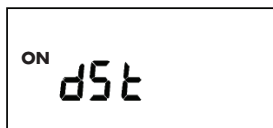
a. For standard USA daylight saving (DST), press **MODE** and go to step 4.0.
b. For dates other than standard USA dates, press **MONTH** and go to section 10.0.
c. If daylight saving time (DST) is NOT required, press **DEL** and the display will show:

```
OFF dSt
```
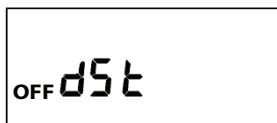
Press **ENTER** then go to step 4.0.

4

4.0 SET INDIVIDUAL HOLIDAY DATES

Press **MODE** until display shows:

$$---- \quad \boxed{01}^{\text{H}}$$
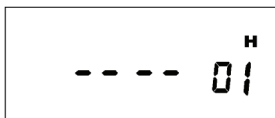
Press **MONTH** and **DATE** to set Holiday 1 and then press **ENTER**. The display will show:

$$--:-- \quad \boxed{02}^{\text{H}}$$
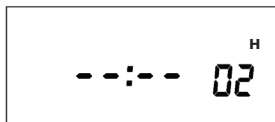
To delete any Holiday press **DEL** and press **ENTER**.

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:

CH1
$$--:-- \quad \boxed{01}_{\text{SCH}}$$
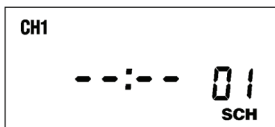
Press **SELCT** to select channel 1 or 2.

5.1 SETTING HOURS AND MINUTES
a. Press **HOUR** and **MIN** to set desired time.
b. Press **EVENT** to set desired event.

5.2 SETTING DAYS AND HOLIDAY

Press **SELCT** to select the flashing desired days and/or holiday, otherwise press **DAY** to skip and then press **ENTER**. To delete an entry, press **DAY** until the previously selected entry flashes, press **SELCT** and then press **ENTER**. The display will show:

```
CH1

    - -:- -    02
                 SCH
```
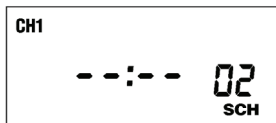
Follow the same procedures above to set more schedule entries for Channel 1. At the next blank screen press **SELCT** to select the desired channel and proceed with the steps above to set more schedule entries.

6.0 TO SET ASTRONOMIC SCHEDULE

Press the **MODE** key until display shows:

```
CH1    ASTRO

    LATN - -
```

Press **SELCT** to select desired Channel 1 or 2. Press the **LAT** key to advance to the desired degree of latitude, from 10º to 60º north or 10º to 60º south. Press **ENTER**.

6.1 SELECTING ASTRO DAYS

Display will show:

```
CH1    ASTRO
MO
ON )   - -:- -
```
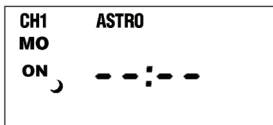
Press **SELCT** to show time. Press **SELCT** again to select the flashing desired days and/or holiday in which you want the indicated channel to turn ON at sunset, otherwise press **DAY** to skip and then press **ENTER**. To delete an entry, press **DAY** until the previously selected entry flashes, press **SELCT** and then press **ENTER**.

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

6

The display will show:

```
CH1     ASTRO
MO TU WE TH FR SA SU
ON ☽ 00:00  OF
```

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

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

```
CH1     ASTRO SEASON 1 2 3 4
 MO TU WE TH FR SA SU H
OFF ☀ - -:- -
```

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

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

```
CH1     ASTRO SEASON 1 2 3 4
MO TU WE TH FR SA SU H
OFF ☀ 00:00  OF
```

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

NOTE: A + sign will turn the load OFF that many hours and/or minutes after sunrise. A – sign will turn the 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 then press **SELCT** to select channel 1 or 2. Press **HOUR** and **MIN** to set desired OFF time. Press **SELCT** to select desired days, holiday and/or seasons and then press **ENTER**.

6.3 TIME ON AND ASTRONOMIC OFF

Press **MODE** until "sch01" appears. Press **ENTER** until a blank schedule appears then press **SELCT** to select channel 1 or 2. Press **HOUR**, **MIN** and **EVENT** to set desired ON time. Press **SELCT** to select desired days, holiday and/or seasons and then press **ENTER**.
ASTRO OFF:

Set astronomic OFF per sections 6.0 and 6.1.

7.0 REVIEW, MODIFY AND DELETE SCHEDULES

Press **MODE** to advance to any of the following MODES:
1. CLOCK MODE: Press **HOUR** 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 settings. Press **ENTER**.
4. HOLIDAY MODE: Press **ENTER** to advance to desired holiday. Press **MONTH** and **DATE** to modify, and **DEL** to delete. Press **ENTER**.
5. SCHEDULE MODE: Press **ENTER** to advance to desired schedule. Press **HOUR, MIN, EVENT** to modify schedule, and **DEL** to delete. Press **ENTER** after each modification.
6. ASTRO MODE: Press **SELCT** to select the desired channel. Press **LAT** to change latitude. Press **ENTER**. Press **DAY** and **SELCT** to add or delete days in the sunset mode. Press **ENTER**. Press **HOUR** 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 MANUAL OVERRIDE

NOTE: UNIT WILL GO INTO **RUN MODE** AUTOMATICALLY IF NO KEY IS PRESSED FOR 5 MINUTES. FOR MORE INFORMATION ON THE **RUN MODE**, SEE THE NOTES SECTION ON PAGE 3.

OVR1 and **OVR2** (override keys) are effective only in the **run mode**. If a channel is scheduled for ON/OFF, then the channel will change the present load status until the next scheduled event. CH# will flash when the load is overridden from a scheduled event.

EVENT (in the RUN mode) key is used to update the load status. It will execute the last scheduled event for CH1 and CH2.

The display will only show the last scheduled event for CH1. To view the last scheduled event for CH2, simply press the **EVENT** key again. If there is no schedule programmed for a specific channel, the display will show –:–

9.0 CLEAR ALL MEMORY

NOTE: UNIT WILL GO INTO **RUN MODE** AUTOMATICALLY IF NO KEY IS PRESSED FOR 5 MINUTES. FOR MORE INFORMATION ON THE **RUN MODE**, SEE THE NOTES SECTION ON PAGE 3.

To clear all memory, while in the RUN mode, press **ENTER**, and display will show:

$$\text{OFF } CLEAR$$

Use the **EVENT** key to display:

$$\text{ON } CLEAR$$
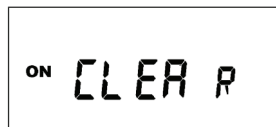
Press **ENTER** briefly and everything in the timer memory is wiped off including real time and date. 12HOUR will flash.

NOTE: THE 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.

10.0 MODIFY STANDARD DAYLIGHT SAVING TIME DATES

Press **MODE** to advance to Daylight Saving Time mode. For dates other than standard USA dates, press **MONTH.**

NOTE: The first two digits represent the month and the second set of digits represents the week in the month. Choices for the week are 01 (1st), 02 (2nd), 03 (3rd) or L (Last) week of the month. The default day is Sunday (SU). Once the modified date is set, the unit will automatically calculate the correct start dates in the future.

```
           SU
  03:02  S
```
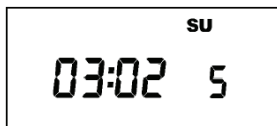
Now press the **MONTH** and **DATE** buttons to modify the starting DST settings. Pressing **DAY** changes the default day. EXAMPLE: A screen showing "04:01 SU S" represents April (04), the first week (01), Sunday (SU), and the Start (S) of daylight savings time.

Press **ENTER** to save and the display will show:

```
           SU
  11:01  E
```
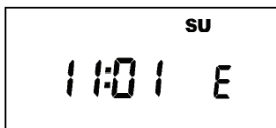
Now press the **MONTH** and **DATE** buttons to modify the ending DST settings. Pressing **DAY** changes the default day. EXAMPLE: A screen showing "10: L SU E" represents October (10), the Last week (L), Sunday (SU), and the End (E) of daylight savings time.

Press **ENTER** to save and the display will show the modified DST starting Date.

WIRING DIAGRAM

DWZ200B

CH 1 SPDT

CH 2 SPDT

C   NO   NC   C   NO   NC

TIMER SUPPLY

277V

208-240V

LIGHTING LOAD

N   120V
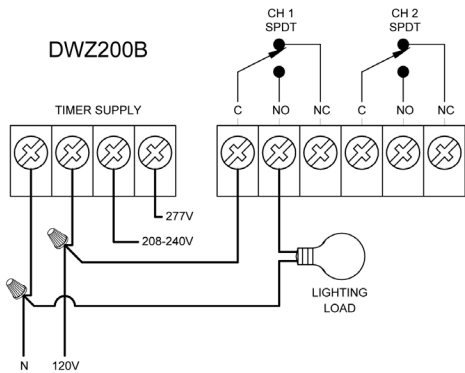
Holiday (H)		
#	Date	Description
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

Sch.#	Load Description	Time	ON	OFF	MO	TU	WE	TH	FR	SA	SU	H

Sch.#	Load Description	Time	ON	OFF	MO	TU	WE	TH	FR	SA	SU	H

Sch.#	Load Description	Time	ON	OFF	MO	TU	WE	TH	FR	SA	SU	H

Sch.#	Load Description	Time	ON	OFF	MO	TU	WE	TH	FR	SA	SU	H

Sch.#	Load Description	Time	ON	OFF	MO	TU	WE	TH	FR	SA	SU	H

ASTRONOMIC SCHEDULE

Latitude _____

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

ASTRONOMIC SCHEDULE

Latitude _____

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

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ASTRONOMIC LATITUDE ZONES

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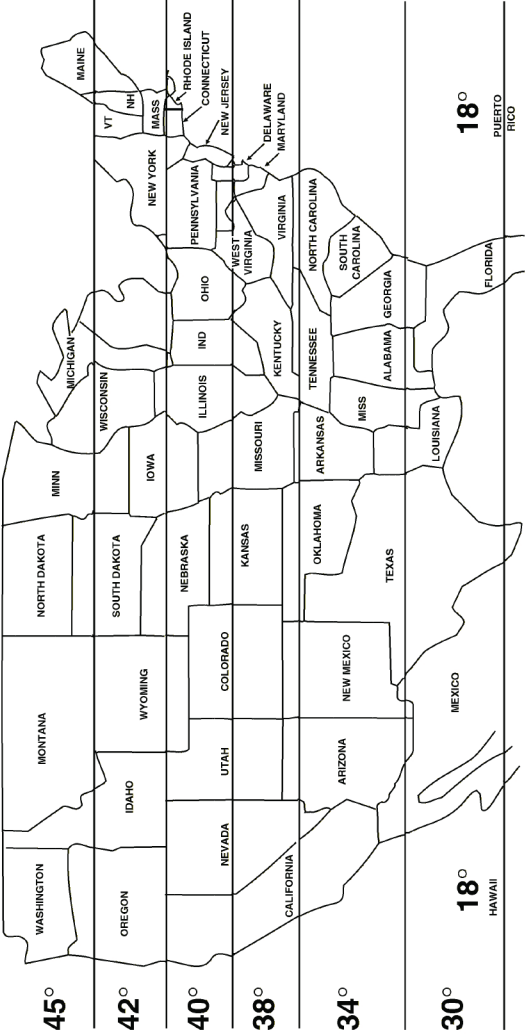
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1.18