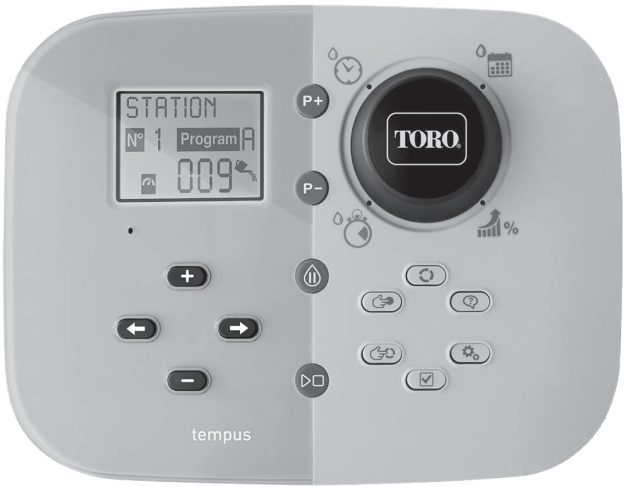
TORO®

# TEMPUS Controller 4–6–8

Residential Controller

English

## User's Guide



# TEMPUS Controller 4–6–8

## TEMPUS Controller Features

- Modular solution:
  - Universal Programming Module TEMP-MOD for the TEMPUS family of Irrigation Controllers
  - Programming Module Automatically adapts to each Back model:
    - TEMP-B-4: 4 Station plus MV, Indoor
    - TEMP-B-6: 6 Station plus MV, Indoor
    - TEMP-B-8: 8 Station plus MV, Indoor
    - TEMP-B-4-EXT: 4 Station plus MV, Outdoor
    - TEMP-B-6-EXT: 6 Station plus MV, Outdoor
    - TEMP-B-8-EXT: 8 Station plus MV, Outdoor
- 2 Independent Watering Programs, A and B
- Watering Schedule by 7 Day Calendar, Day Interval or Odd/Even Days
- 3 Start Times per Program
- Run Time up to 8 hours with 1 min increment
- User Set Budget and Optional Pre-Set Seasonal Budget
- Multi-language Display Option: English, French, Spanish, Italian, German
- 24-hour Date and Time Keep Alive Without Battery
- Automatic Short Circuit Detection
- Full Electric Test for the Valve Solenoid: Open/Short Circuit, Current Reading
- RAIN Delay Mode
- Rain Sensor Ready
- Wi-Fi Remote Control Ready

# Specifications

## DIMENSIONS

- **Controller**
  186 mm W
  140 mm H
  67 mm D
- **Programming Module TEMP-MOD**
  186 mm W
  140 mm H
  47 mm D
- **Back Module TEMP-B-4 /B-6 / B-8 INDOOR**
  149 mm W
  104 mm H
  37 mm D

## POWER

- **Back Module TEMP-B-4 /B-6 / B-8**
  **Power Supply**: 24 VAC 50/60Hz @ 0.625 Amps
  **Output to Each Solenoid Valve and to MV**: 24 VAC @ 250mA
  Maximum 2 Outputs ON at the same time, including MV
  **Sensor Input**: N.C. Dry Switch - 24 VAC @ 15mA
- **Programming Module TEMP-MOD**
  **Power Supply**: 24 VAC 50/60Hz @ 150mA
- **Wi-Fi Module (Optional)**
  **Power supply**: 3.3 VDC @ 150mA

## USE

- Programming Module and Back Module (**TEMP-B-4, TEMP-B-6, TEMP-B-8**) work as a matching pair only.

## WORKING TEMPERATURE

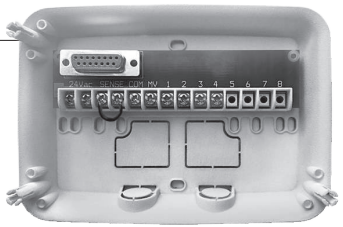
- From -10°C to 60°C

- Disconnection means: Type 1Y
- Pollution degree: 2
- Rated impulse voltage: 330V

# Back Module Models

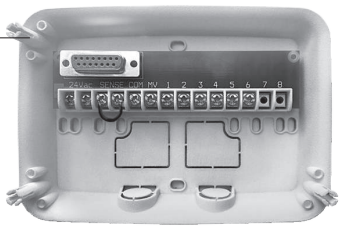
- **TEMP-B-4**

4 Station+MV



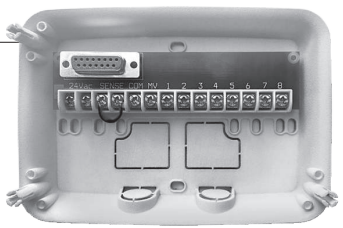

- **TEMP-B-6**

6 Station+MV




- **TEMP-B-8**

8 Station+MV



# TEMPUS Controller 4–6–8

## Table of Contents

## Back Module Components

**1.** Terminal board.

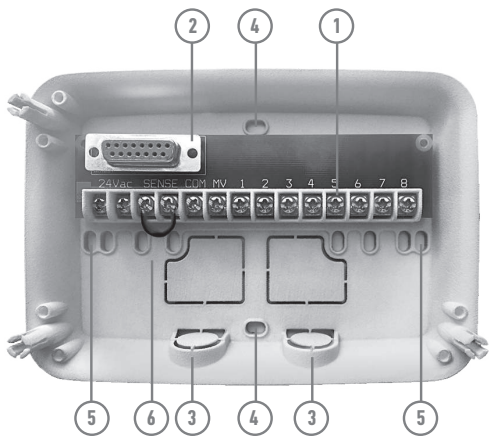
**2.** DB15 Connector to the Programming Module.

**3.** Conduit knockout.

**4.** Mounting holes for wall installation.

**5.** Mounting holes for electrical wall box installation or for alternative wall installation.

**6.** Jumper to be connected to the SENSOR terminals if no Rain Sensor is used.




## Back Module Installation

**1.** For safe, reliable operation, select an installation site which can ideally provide the following conditions:

- Inside a garage or other structure which will provide protection from the weather.
- Access to a grounded AC power source (within 1.2 m) which is not controlled by a light switch or utilized by a high current load appliance, such as a refrigerator or air conditioner.
- Access to the sprinkler control valve wiring and optional accessory wiring.

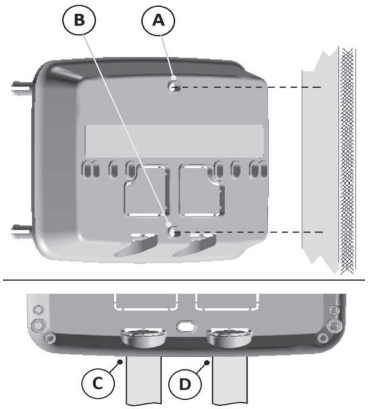
**2.** Position the Back Module on the wall at eye level and drive the first wood screw through the top opening (A). Position the Back Module horizontally and drive the second wood screw through the opening (B). See **Figure 1**.

**Note:** If installing the controller on drywall or masonry, install screw anchors. Install the lower screw anchor 73 mm directly below the top screw anchor.

**Note:** Conduit and adapters are not provided. Install conduit as required by local electrical codes.

**6.** Remove the conduit knockout. Install 13 mm conduit (C) and (D) for 24 VAC power wires and for valve wires.

Figure 1

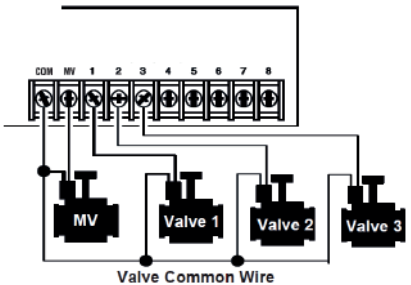



## Connecting the Valves

1. Route the valve wires or wire cable from the valves, into the controller cabinet.

   **Note:** although up to 2 $mm^2$ wire can be used, it is recommended to use a 2 $mm^2$ multi-wire sprinkler valve connection. This cable is insulated for direct burial and is color-coded to simplify installation. It can be routed directly into the controller through the access hole provided for valve wire conduit (if conduit is not used).

Figure 2




2. Attach the red color-coded wire from each valve solenoid (either solenoid wire can be used connection) to a single cable wire. This is called the "Valve Common" wire. See **Figure 2**.

3. Attach a separate cable wire to the remaining wire from each valve solenoid. Note the wire color code used for each valve and the watering station it controls. You will need to have this information when connecting the valve wires to the controller.

4. Secure all wire splices using wire nut connectors. To prevent corrosion and possible short circuits, always use an insulated wire nut, grease cap or similar waterproofing method.

5. At the controller end of the valve connection cable, strip back 6 mm of insulation from all cable wires.

6. Secure the Valve Common wire to the terminal labeled **COM**. Connect the individual valve wires to the appropriate station terminals. Connect the master valve wire (if applicable) to the terminal labeled **MV.**

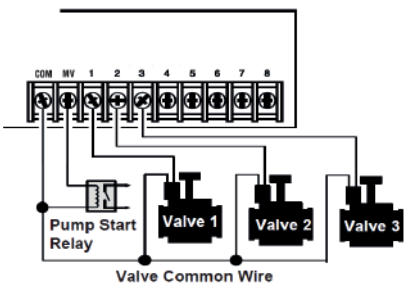
   **Note:** Connecting a master valve or pump start relay is optional and may not be required for your sprinkler system.

## Connecting a Pump Start Relay

**⚠ CAUTION: To prevent controller damage, ensure the pump start relay current draw does not exceed 0.3 amps. Do not connect the pump motor starter directly to the controller.**

1. Connect a wire pair to the 24 VAC pump start relay. Route the wires into the controller housing with the valve wires.
2. Connect one wire to the terminal labeled **COM**. Connect the remaining wire to the terminal labeled **MV**. See **Figure 3**.

Figure 3



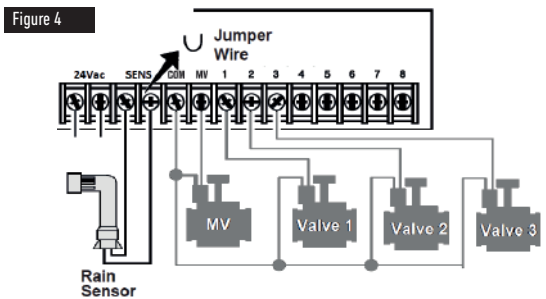

**⚠ CAUTION: To prevent pump damage due to "Dead-heading," connect a jumper wire from any unused station terminal to a station terminal with a valve connected. See Figure 3**

## Rain Sensor Installation

A rain sensor can be connected directly to the TEMPUS Controller to automatically interrupt watering when it begins to rain. When the rain sensor absorbs rain water, it automatically signals the TEMPUS Controller to suspend all watering operations. The display will alternately show (sensor).

1. Route the wire cable from the rain switch sensor into the controller along with the valve wires.
2. Remove the jumper wire from the sensor terminals.
3. Referring to the instructions provided with the rain sensor, connect two wires from the rain sensor designated for "Normally Closed" applications to the sensor terminals. See **Figure 4**.

Figure 4



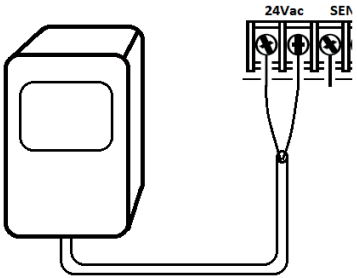
**BACK MODULE**

## Connecting the Power Source

1. Route 10 cm of the transformer wire cable into the controller through the conduit (C) of Figure 1 or through the knockout (if conduit is not used).
2. Connect the transformer cable brown and blue to the terminals labeled "24 VAC". See **Figure 5**.
3. Plug the transformer into the wall plug socket.

AUS: 230-240 VAC 50Hz
EU: 220-240 VAC 50Hz
US: 120 VAC 60Hz

Figure 5

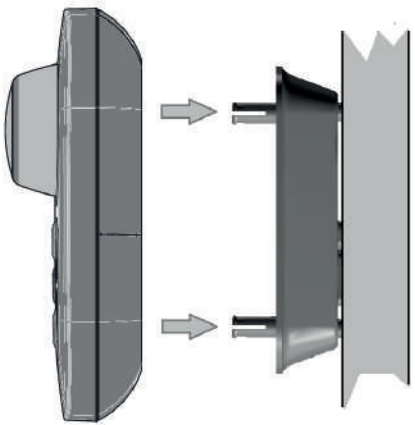



## Connecting the TEMPUS Programming Module

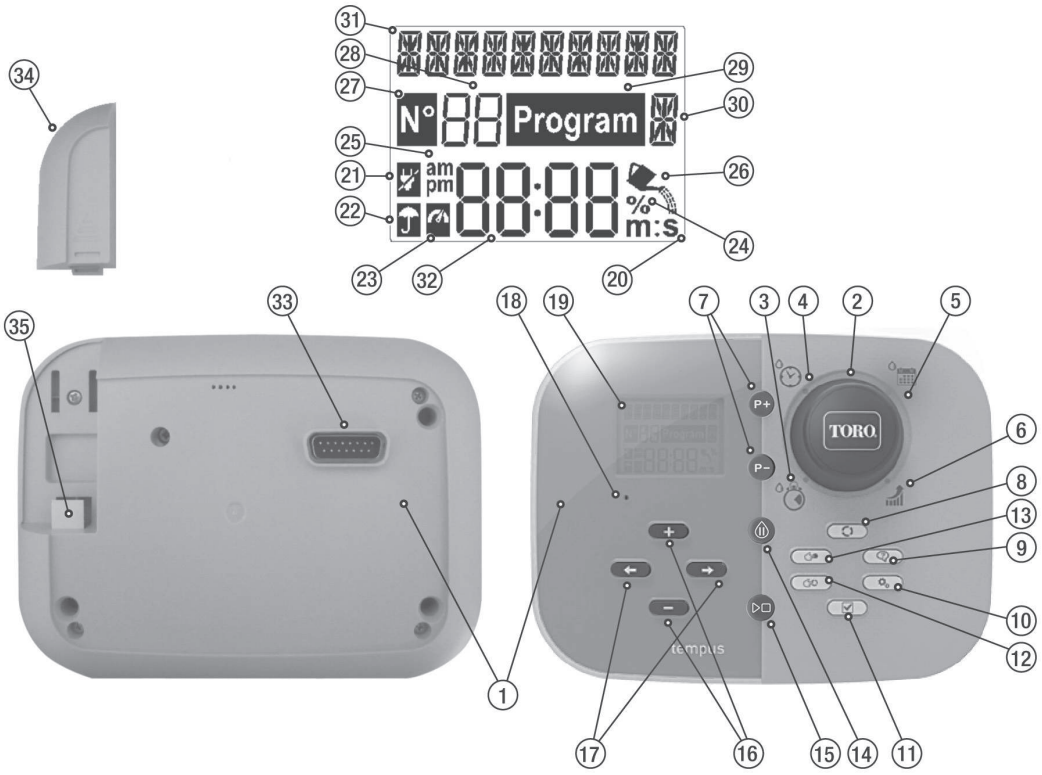
In order to complete the TEMPUS Controller assembly connect the Programming Module onto the Back Module by simply aligning the two and pressing them together.

Programming Module may be programmed also when detought from back module. In order to work in this way, programming module needs to be recharged for 5 minutes minimum (attached to the back module) the first time it is operated or after 24H of power absense.

Figure 6



## PROGRAMMING MODULE



# Programming Module Components

1. **Programming Module**
2. **Programming Dial** - To select irrigation functions.

   **Control Dial Positions:**
3. **Run Time** - To set station run time duration.
4. **Start Time** - To set start times(s) for automatic watering program.
5. **Water Days** - To set individual days of the week for automatic watering.
6. **Watering Budget** % - To set Watering Budget adjustment for run time duration.
7. **P+** and **P- Buttons** - Select next/previous irrigation programs.
8. **Auto Button** - To select automatic operation.
9. **Help Button** - To show help text on LCD display.
10. **Settings Button** - To set Controller's parameters.
11. **Test Button** - To run a program to check hydraulic and electric station operation.
12. **Manual Program(s) Button** - To select watering programs for manual operation.
13. **Manual Station(s) Button** - To select station(s) for manual operation.
14. **Pause Button** - Turn off and prevents automatic station operation.
15. **Start/Stop Button** - To start or stop manual program(s) and station(s) and test program(s).
16. + and − **Button** - Press to increase or decrease display number values and various functions.
17. ← and → **Button** - Press to select next or previous function parameter.
18. **Reset Button** - Momentarily insert a clip to press the hidden Reset button to restart operations.
19. **LCD Display**
20. m:s **Symbol** - Displayed when the Time duration shown is in minutes and seconds.
21. **Symbol** - Displayed when 24 VAC is missing or the Control Module is removed from the Back Module.
22. **Symbol** - Diplayed when automatic irrigation is on Pause.*
23. **Symbol** - Displayed when sensor is active.*
24. % **Symbol** - Displayed when a Watering Budget run time duration adjustment is in use.
25. am pm **Symbol** - Displayed when 12H time format is used.
26. **Symbol** - Displayed when irrigation currently on.
27. N° **Symbol** - Displayed to identify the number of the selection within a function.
28. **2-digit** - Number representing the shown selection.
29. Program **Symbol** - Diplayed when an irrigation program is selected.
30. **1-Character** - Identifies the irrigation Program selected or M for Master Valve.
31. **10-Character** - Multi-language Text for function description and help info.
32. **Main Display** - Shows various time values and controller information.
33. DB15 connector to Back Module.
34. Wi-Fi Module (optional).
35. USB Type A Plug for connecting the Wi-Fi Module (optional).

* When both displayed, Rain Sensor is active

**Note: for best results it is recommended to customize the Controller's SETTINGS first.**

## Setting Language

- Press the ⚙ button to access the Controller's Settings.
- Press the ← or → buttons to select LANGUAGE
  Many display information can be viewed in any of the 5 languages: ENGLISH, ITALIANO, FRANCAIS, ESPANOL, GERMAN.
- Press the + or − buttons to select the language.

## Setting Current Time and Date

- Press the ⚙ button to access the Controller's Settings.
- Press the ← or → buttons to select 12H – 24H.
- Press the + or − buttons to select 12 H or 24 H.
- Press the → button to select SET TIME.
- Press the + or − buttons to set the current time.
- Press the → button to select SET DAY.
- Press the + or − buttons to set the day of the month.
- Press the → button to select SET MONTH.
- Press the + or − buttons to set the month.
- Press the → button to select SET YEAR.
- Press the + or − buttons to set the year.
- To exit Settings press the AUTO ↻ button.

## Planning Your Watering Schedule

It is often helpful to plan your watering schedule on paper before beginning the programming steps.

**Filling out the Watering Schedule Form**

When filling out the form provided on page 10, use a pencil so changes can be easily made.

Refer to the example shown on the opposite page and fill out your form in a similar manner. Include the following information:

- **Location** - Identify the location of each watering station area and the type of plant being watered.
  **Note:** Enter the following information for each program. If the program is not needed, leave its information column blank.
- **Watering Day Schedule** - For a Calendar schedule, indicate which day(s) of the week watering is desired.
  For a Day Interval schedule indicate the desired Interval number (1–31). For Odd or Even day watering schedule, simply mark the appropriate box.
- **Station Run Time Duration** - Indicate the amount of run time (1 minute to 8 hours) for each station. Write "Off" for any station which you do not want to run in the program.
- **Program Start Times** - Indicate the time(s) of day to start the program. Each program can have up to three start times per watering day.
- **Water Budget** - indicates the percentage to decrease or increase the run time duration currently set for each station assigned to a selected program.
  ⚠ Important note: refer to Settings Important note 1 on page 12 and Settings Important note 2 on this page.

# Watering Schedule Form

| Watering Schedule Form | | | Program A | Program B |
|---|---|---|---|---|
| Watering Day Schedule<br>Select Calendar or Interval or Even/Odd | Calendar Days ☒ | | S M T W T F S<br>☒ ☐ ☒ ☐ ☐ ☐ ☒ | S M T W T F S<br>☐ ☒ ☐ ☒ ☐ ☐ ☒ |
| | Day Interval ☐ | | | |
| | Odd/Even ☐ | | Odd ☐ Even ☐ | Odd ☐ Even ☐ |
| Select Water Budget ☒ or Seasonal ☐ | | | | |
| Station | Location | | Run Time | Run Time |
| 1 | Parkway Lawn | | 0:10 min | Off |
| 2 | Front Lawn | | Off | 0:10 min |
| 3 | Front Shrubs | | Off | 0:10 min |
| 4 | Back Lawn | | 0:25 min | Off |
| 5 | Garden | | Off | 1:00 hour |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| Program Start Times | | 1 | 5:00 AM | 4:00 PM |
| | | 2 | Off | Off |
| | | 3 | Off | Off |
| | | 4 | Off | Off |

| Watering Schedule Form | | | Program A | Program B |
|---|---|---|---|---|
| Watering Day Schedule<br>Select Calendar or Interval or Even/Odd | Calendar Days ☐ | | S M T W T F S ☐☐☐☐☐☐☐ | S M T W T F S ☐☐☐☐☐☐☐ |
| | Day Interval ☐ | | | |
| | Odd/Even ☐ | | Odd☐ Even☐ | Odd☐ Even☐ |
| Select Water Budget ☐ or Seasonal ☐ | | | | |
| Station | | | | |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| Program Start Times | | 1 | | |
| | | 2 | | |
| | | 3 | | |
| | | 4 | | |

## About the TEMPUS Controller Memory

When not powered due to power outages or when the Programming Module has been removed from its Back Module, the **TEMPUS Controller**:

- permanently retains the programmed watering schedule;
- keeps the clock active for up to 24 hours.

**Back up time**

How long the time keeping lasts depends on:

- how long the back-up power has being fully charged by the 24 VAC power (30 min charge is enough for 1 hour back up time, while 3 days guarantees the maximum back up time).
- The programming activities on the Programming Module while not powered by the 24 VAC.

Back-up power is fully discharged

When TEMPUS Controller is powered again after the back-up power was fully discharged, the controller will resume normal operation starting at the time the power became fully discharged. Current date and time must be set.

This permanent memory feature enables your landscape to continue being watered with your programmed watering schedule if a prolonged power outage occurs while you are away. Just set the current time and date and the TEMPUS Controller is ready to control your sprinkler system automatically.

## Setting a Calendar Day Schedule

The Calendar Day schedule enables you to set each day of the week as an active or inactive watering day. Each day can be active or inactive in each program **A** and **B**.

**1.** Turn the control dial to the Day Schedule position.

**2.** Press **P+** or **P–** buttons to select the desired program **A** or **B**. Program letter **A** or **B** will be displayed.

**3.** Press either the ← or → button to select the day of the week.

**4.** Press either the + or — button to set the day On or Off.

**5.** Repeat steps 3 and 4 for each day of the week.

**6.** Repeat steps 2-5 for each program as needed.

**7.** Press the **Auto** button when finished.

## Setting an Odd or Even Day Schedule

Using an Odd or Even Day watering schedule enables either odd numbered days (1st, 3rd, etc.) or even numbered days (2nd, 4th, etc.) to be selected to water.

**Note:** DAY MODE in Settings must be set to EVEN/ODD.

Turn the control dial to the Day Schedule position.

Press **P+** or **P–** buttons to select the desired program **A** or **B**. Program letter **A** or **B** will be displayed.

Press either + or — button to set the **Odd Days** or **Even Days**.

Repeat steps 2 and 3 for each program as needed.

Press the **Auto** button when finished.

## Setting a Day Interval Schedule

A Day Interval schedule enables watering days to be set without regard to the actual days of the week. For example, a 1-day cycle will water every day, a 2-day cycle will water every other day and so on up to a 31-day cycle, which will water only once a month.

**The active watering day is the last day of the Cycle.**

In order to establish a reference point for the beginning of the Day Cycle, the number of days left before watering occurs are also entered. For example, if a 3-day cycle is selected and "Days left" is entered as -1, then watering will occur tomorrow.

**Note:** DAY MODE in Settings must be set to INTERVAL.

1. Turn the control dial to the Day Schedule position.
2. Press **P+** or **P-** buttons to select the desired program **A** or **B**. Program letter **A** or **B** will be displayed.
3. Press either the ← or → button to select the Day Cycle.
4. Press either the + or − button to set the number of days for Day Cycle.
5. Press either the ← or → button to select the Days Left.
6. Press either the + or − button to set the number of days left (0 days left is Day ON or the watering day of the cycle).
7. Repeat steps 2–6 for each program as needed.
8. Press the **Auto** button when finished.

## Setting Program Start Time

The program start time is the time of day you select to begin an automatic watering program cycle.

When a program starts, each station with a designated run time duration in the program will operate in numerical order, one station at a time.

Sometimes it is necessary to run a watering program more than once per day. For example, when watering a new lawn.

The TEMPUS Controller provides 3 independent start times per day for each program.

1. Turn the control dial to the Start Time position.
2. Press **P+** or **P-** buttons to select the desired program **A** or **B**. The selected Start Time number and the program letter **A** or **B** will be displayed.
3. Press either the ← or → button to select the desired Start Time number: 1, 2 or 3.
4. Press either the + or − button to set the start time.
5. Repeat steps 3 and 4 for each Start Time number, as needed.
   - To remove a Start Time from the program, decrease the Start Time below 12:00AM (0:00) or increase it above 11:59PM (23:59).
6. Repeat steps 2–5 for each program as needed.
7. Press the **Auto** button when finished.

**PROGRAMMING**

## Setting Station Run Time Duration

The station run time duration is the amount of time a station will operate once it has been started. A station is assigned to a program when it is given a designated run time duration ranging from 1 minute to 8 hours. Each station can have a different run time duration in each program.

1. Turn the control dial to the Run Time position.
2. Press **P+** or **P–** buttons to select the desired program **A** or **B**. The selected station Run Time number and the program letter **A** or **B** will be displayed.
3. Press either the ← or → button to select the desired Run Time number from 1 to the maximum number of stations of the TEMPUS Controller model: 4, 6 or 8.
4. Press either the + or − button to set the run time.
   - To remove the station from the program, decrease the run time duration to less than 1 minute to display OFF.
5. Repeat steps 3 and 4 for each Run Time number, if desired.
6. Repeat steps 2–5 for each program as needed.
7. Press the **Auto** button when finished.

## Setting the Water Budget

Water Budget enables you to conveniently decrease or increase the run time duration currently set for each station assigned to a selected program. The adjustment can be made in 10% increments from 0% (program Off) to 200% of the normal (100%) run time.

**Note:** Water Budget is applied to programs **A** and **B** independently. For example, applying Water Budget to program **A** will not alter the run time duration of any stations assigned to Program **B**.

1. Turn the control dial to the Water Budget %.
2. Press **P+** or **P–** buttons to select the desired program **A** or **B**. The program letter **A** or **B** and the currently set percentage for the program will be displayed.

   **Note:** if SEASONAL has been selected in SETTINGS, the percentage shown is the factory pre-set value, the same for Program **A** and **B**. No manual adjustment is allowed.
3. Press either the + or − button to select the desired adjustment percentage; i.e., 90% equals a 10% reduction of station run time and 200% doubles the station run time.
4. Repeat steps 2 and 3 for each program as needed.
5. Press the **Auto** button when finished.

   **Note:** During operation, the display will show the adjusted run time for each station as it starts running. As a reminder of Water Budget setting (other than 100%), the **%** symbol will be displayed with the current time.

**SPECIAL SETTINGS**

Additional settings is available to better meet your needs.

## Setting Scheduled Days Mode

- Press the button to access the Controller's Settings.
- Press the ← or → buttons to select **DAY MODE**
- Press the + or − buttons to set the type of watering schedule:

**WEEKLY**

indicate which day(s) of the week watering is desired

**CYCLIC**

indicate the desired day cycle number

**EVEN / ODD**

indicate that watering will occur on the even or odd day of the month.

# Setting Max Number of Stations ON at the Same Time

- Press the ⚙ button to access the Controller's Settings.
- Press the ← or → buttons to select **MAX STN ON** TEMPUS Controller can turn ON a maximum of 2 valve solenoids at the same time, that is:

**1 Station with MV or 2 Stations without MV.**

Press the + or − buttons to select:

**1-V YES-MV**, 1 Valve and Master Valve

**2-V NO-MV**, 2 Valves and no Master Valve

⚠ **Important note 1:** selecting **1-V YES-MV** a Program **A** or **B** that is automatically or manually started while a watering cycle of the other Program **B** or **A** is in progress, will be delayed (stacked) until the current Program's watering cycle is finished. If this happens, it may appear that the sprinklers are not shutting off or that they are running at an unexpected time of day. To avoid stacking make sure that each program **A** or **B** watering cycle will be able to run completely before the next start time of the other Program **B** or **A** occurs.

This can be easily determined by totaling up the run time duration of all stations that will operate during the program (**A** or **B**), then selecting for Program **B**, or **A**, a start time that can accommodate the completion of the initial watering program. If Water Budget is used to increase run time duration, this must also be considered in the total run time. Refer back to this information when setting program start times as described on page 12 and Water Budget on page16.

Selecting **2-V NO-MV** a Program that is automatically or manually started while a watering cycle is in progress will be started. If this could occur, make sure there is enough water pressure to eventually run two different solenoid valves at the same time. If not select 1V YES-MV.

⚠ **Important note 2:** when setting more than a start time for the same Program (A or B) make sure each start time is set after the previous irrigation cycle is completed otherwise the start time will be discarded.This can be easily determined by totaling up the run time duration of all stations that will operate during the program, then selecting the next start time that can accommodate the completion of the initial watering cycle. If Water Budget is used to increase run time duration, this must also be considered in the total run time. Refer back to this information when setting program start times as described on page 12 and Water Budget on page16.

# Setting Seasonal Water Budget

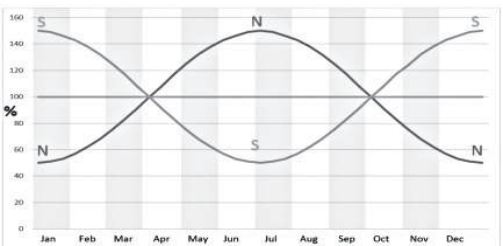
TEMPUS controller has been pre-set to automatically adjust the Budget to follow the average seasonal weather changes. A different value of a Budget is set every 10 days of each month., for a total of 36 different budget values for the all year.

- Press the ⚙ button to access the Controller's Settings.
- Press the ← or → buttons to select **SEASONAL**
- Press the + or − buttons to select:

  **SEASONAL OFF**,

  **HEMISPH-N On**, if the Controller is in the North Hemisphere,

  **HEMISPH-S On**, if the Controller is in the South Hemisphere.



# Controller Operation

The TEMPUS Controller has five modes of operation:

**Automatic**, **Manual Station(s)**, **Manual Program(s)**, **Test** and **Pause** (Off).

In the Automatic mode, the controller tracks the time and day and operates the automatic watering schedules as programmed. The Manual Station(s) mode enables an individual station to be started and controlled manually. Manual Program(s) mode enables watering programs to be started manually. Test mode enables a quick, temporary, program to be run to test the operation of each station control valve and a quick test of the electrical network. The Pause(Off) mode prevents all station operation.

Priority for modes of operation:

1. Entering **Pause (Off)** mode of operation will stop and prevent from being entered Test, Manual Station(s), Manual Program(s) and Automatic watering schedules.
2. Entering the **Test** mode of operation will stop and prevent from being started Manual Station(s), Manual Program(s) and Automatic watering schedules.
3. Entering **Manual Station(s)** mode of operation will stop and prevent from being started Manual Program(s) and Automatic watering schedules.

**Note:** in Pause (Off), Test and Manual Station(s) modes of operation AUTO mode can be entered just to show current time and date but no automatic watering schedule will be allowed.

# Automatic Operation

Automatic operation will occur whenever the programmed start time and watering day matches the TEMPUS Controller internal clock and calendar.

Pres the **Auto** button when automatic operation is desired. Also the TEMPUS Controller automatically returns to AUTO control after 3 minutes from last pressure of any button. However, the TEMPUS Controller will operate automatically in any mode of operation other than **Pause (Off)**.

While in Auto operation the display will show the current time and date.

When 12H time format it is used the date is MM-DD-YYYY.

When 24H time format it is used the date is DD-MM-YYYY.

When there is an extra INFO, the word “INFO” will replace the year number YYYY.

Press the ← or → button to view the INFO(s) or return to current time and date.

Possible INFO are:

**NO 24 VAC**: during power outage or when the Control Module is removed.

**MANUAL ON**: when a station has been turned ON manually.

**IRRIGAT ON**: when an irrigation cycle is running.

**TEST ON**: when the TEST program is running. PAUSE ON: when the controller mode of operation is PAUSE (Off).

**SHORT CIRC**: when at least a station line has been found short circuited.

# Manual Station Operation

Manual controller operations will override all currently active automatic operation and sensor input. Any automatic program start time that occurs during a manual operation will be cancelled.

Manual operation enables any stations to be given a temporary station run time duration. Manual operation stops any running watering cycle.

1. Press the Manual Station button.

   The selected station number and a Manual run time will be displayed.

   Press either the ← or → button to select the desired station number. Station numbers go from 1 to the maximum number of stations of the TEMPUS Controller model: 4, 6 or 8.

2. To manually start a station that is currently OFF (the symbol is off to indicate the station is OFF), press either the + or − button to set the run time from 1 minute (0:01) to 8 hours (8:00) and press the Start/Stop ▷□ button. The symbol is turned on to indicate the station is ON. Note: if the maximum number of stations that can be turned ON has been reached, pressing the Start/Stop ▷□ button. The symbol is turned on to indicate the station is ON.

   **Note:** The temporary station run time will not affect the station's run time within any automatic program.

3. To manually stop a station that is currently ON (the symbo is on to indicate the station is ON), press the Start/Stop ▷□ button to stop the selected station. The symbol is turned off to indicate the station is OFF.

4. Repeat steps 2–4 for additional stations.

5. Press the **Auto** button when finished.

# Manual Program Operation

Manual program operation enables automatic watering programs to be manually started.

1. Press the Manual Program button.

   The selected program number will be displayed.

2. Press either the + or − button to select the desired program, A or B, to be turned ON manually.

3. To manually start a watering cycle for a program that is currently OFF (the symbol is off to indicate the program's watering cycle is OFF) press the Start/Stop ▷□ button. The symbol is turned on to indicate the watering cycle is ON.Note: if the maximum number of stations that can be turned ON has been reached, pressing the Start/Stop ▷□ button will not start the watering cycle and the display shows STACK. The watering cycles will be delayed (STACKed) until the current watering cycle is finished.

4. To manually advance through the station sequence, for the selected program, press the → button.

5. To manually cancel the STACK condition for the selected program and set it back to OFF, press the Start/Stop button.

6. To manually terminate a watering cycle for a program that is currently ON (the symbol is on to indicate the program's watering cycle is ON), press the Start/Stop ▷□ button. The symbol is turned off to indicate the watering cycle is OFF.

7. Repeat steps 2–6 for additional programs.

Press the **Auto** button when finished.

# Test Mode

Selecting this function enables you to run a quick temporary watering program to test the operation of each watering station or to test the operation of each electrical line to the valve solenoid. Starting a Test stops any running watering cycle or manual station operations.

1. Press the Test ☑ button.
2. Press either the ← or → button to select the desired test: VALVE TEST or ELECTRIC TEST.

**Valve Test (testing the watering stations)**

3. Select VALVE TEST.
4. To manually start the Valve Test when currently OFF (the symbol is off to indicate the Valve Test's watering cycle is OFF) press either the + or − button to set the run time from 1 second (0:01 m:s ) to 8 minutes (8:00 m:s ) and press the Start/Stop ▷□ button. The symbol is turned on to indicate the Valve Test's watering cycle is ON.
5. To manually terminate the Valve Test's watering cycle when currently ON (the symbol is on to indicate the Valve Test's watering cycle is ON), press the Start/Stop ▷□ button. The symbol is turned off to indicate the watering cycle is OFF.

**Electric Test (testing the electrical line to the valve solenoids)**

6. Select ELECTRIC TEST.
7. To manually start the Electric Test press the Start/Stop ▷□ button. The test starts and ends automatically.
8. Press either the + or − button to view the status of each line:

- OPEN
- SHORTED
- Current value in mA

9. Press the **Auto** button when finished.

# Pause or set to OFF the TEMPUS Controller

This feature enables all automatic watering operations to be delayed from 1 to 31 days or to be turned to OFF. The OFF condition is indicated as PAUSED with no number of paused days show.

**To set the TEMPUS Controller to Pause or OFF:**

1. Press the Pause button.
2. Press either the + or − button to select the desired number of days from 1 to 31 or to select OFF (PAUSED). When in Pause or in OFF the symbol is turned on.
3. Press the Auto button when finished.

**To remove the TEMPUS Controller from Pause or OFF:**

4. Press the **Auto** button and then the Pause button

# HELP Function

TEMPUS Controller has an HELP feature that provide instant help for the current function.

- Press and keep it pressed the the HELP button to start viewing the help text on the display. NOTE: the help text repeat itself as long as the HELP butoon is pressed.
- Release the HELP button when finished.

**Note:** when in SETTINGS the help suggests to check this User Guide.

AUTOMATIC CIRCUIT BREAKER

# Automatic Circuit Breaker

The TEMPUS Controller features an electronic circuit breaker which automatically detects an overload condition on a station terminal during operation and turns off the station before controller damage can occur. The TEMPUS Controller advances to the next programmed station in sequence to continue the watering cycle.When a station is found short circuited, INFO-SHORT CIRC will be displayed while in Automatic operation mode.

Run an Electric Test to verify current wiring conditions. When **all station numbers** are displayed as short circuited, the master valve is malfunctioning. When a short circuited station is found not short circuited any more the INFO-SHORT CIRC is removed.

**Important:** The most common cause of an overload condition is a short circuit in the valve wiring or a malfunctioning valve solenoid. The cause of the overload condition should be corrected before continuing to operate the controller.

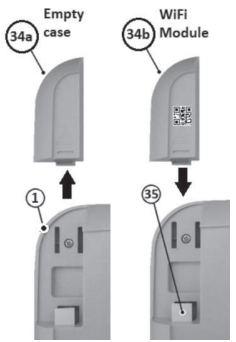
LOCAL WI-FI MODULE

# Local Wi-Fi Module

With the optional Wi-Fi Module the TEMPUS Controller can be accessed locally via Wi-Fi from a Smartphone.

## Installing the optional Wi-Fi Module

- Remove the Empy case 34a from the rear of the Programming Module 1 by sliding it up.
- Connect the optional Wi-Fi Module 34b in the same location where the Empty case was by sliding it down.




## Installing the App on your Smartphone


- Go to your APP Store and search for “TEMPUS Controller”.
- Download and install on your Smartphone the APP “TEMPUS Controller”.
- Start the APP “TEMPUS Controller” and follow the procedure for login and for matching the APP to the TEMPUS Controller.

## TROUBLESHOOTING

| Problems | Probable Cause | Remedy |
|---|---|---|
| Display is blank and controller does not operate. | Power is disconnected. | Check transformer connections.<br>Check the AC service panel for a tripped circuit breaker or GFI and reset. |
| Display not responding to commands (frozen). | Microprocessor stopped. | Press Reset with a pointed tool (clip through the hole below the LCD display. |
| Valve does not turn on. | Faulty control valve wire connections.<br>Sensor switch in Active position without a sensor or jumper installed.<br>No station run time duration set. | Check the wire connections at control valve and controller.<br>Set sensor switch to Bypass position.<br>Check station run times. |
| Valve does not turn off. | Control valve problem. | Inspect, clean and/or replace the valve solenoid and/or diaphragm. |
| Watering program(s) start at unexpected times. | Watering program schedules have overlapping start times.<br>Water Budget setting over 100% can cause delayed start times. | Check program start time schedules. Shorten station run times and/or space start times farther apart.<br>Check Water Budget and decrease adjustment o/o factor as necessary. |

## Correct Disposal of this product

This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.

**NOTE**

**For Technical Assistance:**

*www.toro.com/tempus*

TORO®

# TEMPUS Controller 4–6–8

Residential Controller