TORO

TEMPUS AG Controller CT
1-2-6 Stations

TEMPUS-AG-CT

Controller
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LoRa™

USER'S GUIDE

INTRODUCTION

TEMPUS-AG-CT is a Bluetooth®/LoRa™, battery-powered, waterproof controller. It is available in 1, 2 or 6 stations. Its probe input allows the connection to a rain sensor or a flow meter / water meter or pressure switch.

SPECIFICATION

DIMENSIONS
Width: 10,8 cm
Height: 4,8 cm
Depth: 11,6 cm

INSTALLATION
Rain sensor or Water meter connection
or pressure switch
Master valve connection
9V latching solenoid compatible
Maximum wiring length with solenoids: 300 m
100% waterproof (rated IP68)

POWER SUPPLY
9V 6AM6 ou 6LR61 Alkaline battery (not included)
Current consumption : 0.1mA

USE
Ambient temperature of product use: -20°C to 50°C
Use in humid environment IP68
(test conditions: 1h at 1m depth)
Altitude use up to 2000m
Indoor and outdoor use
Polution level 2
Maximum relative humidity of 80% for temperatures
up to 31°C and linear decrease up to 50% of relative
humidity at 40°C

FEATURES
Bluetooth® Smart 4.0 Low Energy
LoRa™ radio communication
Permanent programming save
Internal clock saved in case of power failure < 30 s

Installing the wrong type of battery may cause an explosion or fire hazard.

INSTALLATION GUIDELINES

The TEMPUS-AG-CT is made for an outdoor use. You can place it in a buried valve box or set it on a wall (concrete, brick, cinder blocks) with 2 dowels and 2 countersunk screws of 4X40 not included.

In order to clean the TEMPUS-AG-CT, use soapy water with a sponge and then a soft cloth to wipe it off.

APP DOWNLOAD

1. On your smartphone or tablet, go to the «App Store» or to the «Play Store».

2. Search for «The Toro Company» in the search bar.

Developer
The Toro Company

3. Once found, download the MyToroTempus App

4. Once installed, activate the Bluetooth® of your smartphone or tablet.

CREATE AN ACCOUNT

To use TEMPUS-AG-4G / CT / MS, you need to create your MyToroTempus account.

1. Launch MyToroTempus app from your smartphone and/or tablet.

2. Go to «My account» by typing ⚙ on icon.

3. Follow the steps described on the app.

Note: if you already have an account on the MyToroTempusAG.com platform, you must use the same credentials.

Step 2

ASSOCIATION

1. Unscrew the TEMPUS-AG-CT 's cap

2. Plug the 9V 6LR61 ou 6AM6 battery and screw the cap

3. Launch MyToroTempus app from your smartphone or tablet.

4. Click on the «Add a controller» button or on the «+» button

5. Choose the TEMPUS-AG-CT from the availale controllers list.

6. (Optional) Define a name and a security key for your controller and click on the button «Validate».

7. To finish your TEMPUS-AG-CT pairing, follow the next steps described in the app.

Note: To identify your TEMPUS-AG-CT among the nearby controllers, please refer to the «Default name» present on its product label.

Security key

The security key allows to protect your controller. You can define it during the step 6 of the «ASSOCIATION» or access to further information by clicking on the icon ⬦ at the top right of your screen.

Step 3

PAIRING WITH TEMPUS-AG-4G/WF

To optimize the LoRa™ radio connection between the TEMPUS-AG-4G/WF and the TEMPUS-AG-CT controllers, we advise to install the TEMPUS-AG-CT under 800 meters to the TEMPUS-AG-4G/WF. We also advise to associate all your TEMPUS-AG Controller near the TEMPUS-AG-4G/WF before installing them in the valve boxes.

1. On the MyToroTempus mobile App, select your TEMPUS-AG-4G/WF, and enter pairing mode on the Information screen. (You must be connected via Bluetooth)

2. Select the TEMPUS-AG-CT previously installed.

3. Click on ⬦ the top right icon to access to the product's informations.

4. Click on «Remote Access».

5. Select the TEMPUS-AG-4G/WF you want to pair the controller with.

6. Click on the button «Send» or ➤ on the bottom of your screen to validate. Once the pairing finished, you can test the connection between your TEMPUS-AG-4G/WF and your TEMPUS-AG-CT

7. Go back to «Remote access» screen.

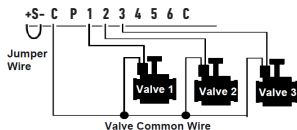**8.** Click on the button 🛜 to start the test.

Note:

- The message «Connection established» means that the connection is reliable.

- The message «No connection established» means that it is necessary to bring the TEMPUS-AG-CT closer to the TEMPUS-AG-4G/WF or vice versa.
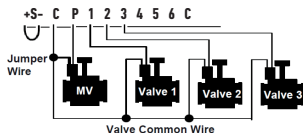
Step 4

WIRING

1. Connect the TEMPUS-AG-CT to the solenoids as described below. Use 9V pulse valves only.

2. You can connect on the P output a master valve or a Pump Start Relay. The output will automatically start 2s before the start of each station.


Step 5

SET SENSOR

⚠ **Warning, by default there are no sensor configured.**

The TEMPUS-AG-CT has a + S - sensor input on which you can connect a rain sensor or a flow meter/water meter or pressure switch after cutting the blue wire. Once the sensor is connected, it is necessary to configure it in the application.

1. Using the MyToroTempus mobile app, connect to your TEMPUS-AG-CT via Bluetooth.

2. Click on Add Sensor.

3. Select your sensor type and follow the instructions given by the application

5
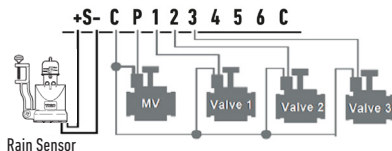
Step 6

SET FLOWMETER

1. Check the «Instant Value».

Instant Value: Ensures that the volume consumed indicated on the water meter is the same as the volume displayed on the application. If a gap is noted, check the wiring (polarity) or adjust the «COEFFICIENT» value.

2. Fill in the remaining fields.

High threshold (daily volume): maximum consumption (in liter) that you do not want to exceed in a period of **24h**. If the goal is exceeded you will be alerted immediately (by e-mail and notification smartphone and / or tablet).

Low threshold (daily volume): minimum consumption (in liters) that you want to achieve over a period of **24h**. If the goal is not reached you will be alerted the next day at 7am (by e-mail and notification smartphone and / or tablet).

Leak alert volume: water volume threshold (in liter) from which you want to be alerted.

Station flow: for each station, read the flowmeter at time T (Cpt1), then at time

T + 5mn (Cpt2).

Make the calculation **(Cpt2 – Cpt1) / 5 => Flow (L / min)**

In the application fill in the results.

High Threshold (Station Flow Alerts): Maximum consumption warning threshold in % of the calibrated flow of the channel. The «High threshold» alert is immediate as soon as it is reached.

Low threshold (Station Flow Alerts): Minimum consumption warning threshold in % of the calibrated flow of the channel. The «High threshold» alert is immediate as soon as it is reached. For each station flow alert you have the possibility to define the desired type of action:

• **No action:** watering continues.

• **Permanent OFF:** resuming watering requires a manual ON command (in the application on the programmer concerned).

• **Inhibit the output:** stops the station concerned, requires the acknowledgment of the alert (in the application on the programmer concerned) to reactivate the station.

Stabilization time:

Time required before the water flow is stable when starting and stopping the station. It eliminates the peak flow (start) or leak (stop). The time is the same for all stations.

During this period, the consumption is not taken into account for triggering alerts or actions.

Flowmeter, water meter
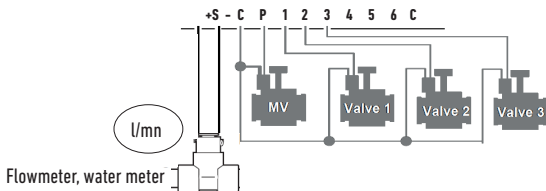
Connect your **+ S –** input to a water meter equipped with a flow sensor as shown above. Use dry contact flow sensors or equivalent. For polarized flow sensors, when wiring,observe the polarization :

Red wire -> + Black wire - > –   6

FAQ

What are the features required for the Bluetooth® product to work?
Android 4.3 (or more) Smartphones or tablets equipped with Bluetooth Smart 4.0 (or more). iOS 9.0 Apple iPhone or iPad running (or more) with Bluetooth Smart 4.0 (or more)

What is output P for?
You can connect a master valve or a pump through a relay, on P output. It will start automatically during each station watering.

What are the controller's output S (blue wire) for?
You can plug a rain sensor into S outputs, to do that you need to cut the blue wire.

How does the rain sensor work?
When connected to the wire the rain sensor acts on the stations. If it is raining, stations won't start; you must wait for the probe to dry before the programming star again. The manual control is not affected by the rain sensor conditions.

How can I restart the pairing or the pairing procedure?
To start the pairing procedure again, just bypass the 2 battery connector pins (battery removed) for 30s minimum

If my device has no more battery, do I lose my programming?
No, they are not lost, it is automatically saved.

GENERAL INFORMATION

LoRa™ This symbol indicates that the product uses a LoRa™ technology radio.

CE The symbol «CE» indicates that this device complies with the European standards on safety, health, environment and user protection. Devices with the symbol «CE» are intended for sale in Europe.

This symbol indicates that these types of electrical and electronic equipment must be disposed of separately in European countries. Do not dispose of this device with your household waste. Please use the collection and recycling points available in your Country when you no longer need this device.

! In case of contrary use to the indications given in this user manual, the device protection may be compromised.

This symbol indicates that the product is shock resistant.

This symbol indicates that the product is resistant to ultra violet.

This symbol indicates that the product is waterproof.

This symbol indicates that the supply voltage is a direct voltage.

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For Technical Assistance:
service.wb.emea@toro.com

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FCC/IC STATEMENT TEMPUS-AG-CT

This product contain a modular approval with FCC ID : YWW-BLEMOD, T9JRN2903 and IC : 9319A-BLEMOD, 6514A-RN2903.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions : (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Caution : the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note : this equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful inteference to radio or television reception which can be determined by tunning the equipment off and on ,the user is encouraged to try to correct interference by one or more of the following measures :

• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with innovation, science and Economic development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions : (1) this device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/recepteur exempt de license contenu dans le présent appareil est conforme aux CNR d'innovation, Science et Dévelopement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux condtions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est suceptible d'en compromettre le fonctionnement.

This device complies with FCC and ISED RF radiation exposure limits set forth for general population. This device must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Le present appareil est conforme aux niveaux limites d'exigences d'exposition RF aux personnes définies par ISDE. L'appareil doit être installé afin d'offrir une distance de séparation d'au moins 20cm avec les personnes et ne doit pas être installé à proximité ou être utilisé en conjonction avec une autre antenne ou un autre émetteur.

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